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BY
JOHN GOULD, F.R.S., &c.

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TO

THE RIGHT HONOURABLE

ROWLAND, VISCOUNT HILL,

OF HAWKSTONE,

LORD LIEUTENANT AND CUSTOS ROTULORUM, COUNTY OF SALOP,

THIS WORK

ON

THE BIRDS OF GREAT BRITAIN

Is Dedicated,

BY THE AUTHOR,

IN

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AND IN

COMMEMORATION OF AN UNINTERRUPTED FRIENDSHIP OF MORE THAN FORTY YEARS.

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PREFACE.

THE question may naturally suggest itself to some of my readers, what object I had in view in publishing a work on the Birds of Great Britain, when I had already completed a similar publication on the avifauna of Europe. My reasons are simply these:—Before the latter was completed the entire edition was all or nearly all sold; and very many persons interested in this department of science were disappointed in not being able to procure a copy of a work which they saw in the hands of so many others. Consequently, on the completion of my ‘Birds of Australia,’ at the solicitation of a large number of private friends and others, and influenced by the increased taste for natural history that had sprung up in the interim, I “returned to my old love” by publishing the British Birds, excluding those of the continent, thus complying with the wishes of those persons who have especially paid attention to our native ornithology. I also felt that there was an opportunity of greatly enriching the work by giving figures of the young of many of the species of various genera—a thing hitherto almost entirely neglected by authors; and I feel assured that this infantile age of bird-life will be of much interest for science, to my subscribers, and to readers generally.

That my efforts to render this publication a standard work have been successful is evidenced by its sale being double that of any other work I have given to the public. Many of the numerous ornithologists who have arisen within the last few years have rendered me much valuable information—a kindness which I duly acknowledge, and trust that, although not specially mentioned in this short Preface, they will take it for granted they have not been forgotten, and that their names have been generally associated with the various subjects to which their communications have reference.

Many of the public are quite unaware how the colouring of these large Plates is accomplished; and not a few believe that they are produced by some mechanical process or by chromo-lithography. This, however, is not the case; every sky with its varied tints and every feather of each bird were coloured by hand; and when it is considered that nearly two hundred and eighty thousand illustrations in the present work have been so treated, it will most likely cause some astonishment to those who give the subject a thought.

P R E F A C E.

I am truly and sincerely thankful for the blessing of health which has attended me during the course of my twelve years' labour on the present work; and it was only while the Introductory matter was going through the press that a severe blight fell upon me (the untimely death of my youngest son, Dr. Franklin Gould*), and cast a gloom over my future happiness. I should not have alluded to this painful subject here did I not feel it was only doing justice to his memory, as he rendered me great assistance in the composition of the following Introduction, which, from his varied acquirements, he was well qualified to give. His loss has called forth the sympathy of many kind friends, which has in some measure assuaged the sad affliction which has befallen me. If I am spared it is my intention not to be idle; for although I do not entertain the idea of entering upon any new enterprise, I shall still pursue the subject with the same energy I have hitherto done,—at one period of the year attending to the Birds of Asia, at another to the recent discoveries in the ornithology of Australia, pursuing the subject to New Guinea and the adjacent islands, the avifaunas of these latter countries being inseparable.

It gives me great pleasure to state that my Secretary, Mr. Prince, after twelve months of very severe illness, is again able to render me his assistance, that Mr. Wolf affords me the benefit of his talented pencil, and that Mr. Richter and Mr. Hart continue their services as heretofore.

JOHN GOULD.

November 1, 1873.

* Dr. F. Gould died of fever on board the Steamship 'Behar' on the 19th of March last, during his passage from India to Suez, and was buried the same day in the Red Sea.

INTRODUCTION.

IN the olden time when the wolf and the wild boar roamed over the primitive forests of Great Britain, when the beaver held its own in our silent and undisturbed streams and lakes, when the red deer followed our mountain-tracks in all the vigour of its pristine condition, when our marshes and great sedge-covered watery wastes were yearly visited by the Crane and the Spoonbill, the earliest dawn of natural history which was to herald the light of future ages had not yet broken upon the untutored Celt, who alone shared with those animals the possession of our islands. With the progress of civilization that obscurity has been gradually dispelled; and, happily for our country, from the time when Gilbert White wrote his charming account of Selborne, the study of natural history, more particularly with reference to our native birds, has gradually increased, until its pleasures have become widely known to both young and old. The talented Bewick rendered the subject still further attractive by his inimitable and truthful drawings; then followed in the same path Selby, Macgillivray, Thompson, and Yarrell, whose writings have made this branch of science so popular that it now engrosses the minds of thousands. Of the truth of this statement ample evidence is afforded by the numerous works (both great and small) which have been recently published, by the many local faunas which have lately appeared, and by the establishment of naturalists' clubs and associations in many parts of the country. Such has been the impetus given by these means to the study of natural history that it will scarcely be presumptuous in me to foretell that a period is not far distant when our native birds will be far more familiarly known to the people than they now are. For, although it may appear surprising to many of my readers, I assert that at the present time there are but few persons who could enumerate by name even a fourth part of the birds by which we are surrounded. Country people are familiar enough with the call of the Wryneck, the voice of the Cuckoo, and the crake of the Landrail; but few, very few, would recognize those birds if placed before them. Will it not, then, be well to encourage the formation

of natural-history societies to the utmost, and doing so enlighten the minds of those who have hitherto been much in ignorance? With this spread of knowledge, mythical traditions such as that of the hibernation in caves or under water of such a bird as our common Swallow (traditions not confined, as might be presumed, to a remote country village, but which from time to time have found utterance from the lips of educated people) will happily cease to exist; while the timid rustic, gradually freeing himself from the countless superstitions connected with many of our birds, will no longer pause with bated breath when started at night by the not very cheerful cry of the Screech-Owl. To be in the country and not to care to recognize or be able to discriminate between the musical notes of the Thrush, the plaintive song of the Blackbird, the carol of the Lark, or the exquisite lay of the Nightingale, is to me surprising; yet that such people exist is but too well known. Shakespeare and our earlier poets duly appreciated, however, the varying melodies of our feathered songsters, and have never been slow to accord to each its well-earned tribute of praise:—

“It was the nightingale, and not the lark,
That pierced the fearful hollow of thine ear;
Nightly she sings on yon pomegranate-tree;
Believe me, love, it was the nightingale.”—
Romeo and Juliet, act iii. scene 5.

Again:—

“The busy larke, messenger of daye,
Salueth in hire song the morwe gray:
And fyry Phebus ryseth up so bright,
That al the orient laugheth of the light.”—
CHAUCER, *Knights Tale*.

Or:—

“Hark how the cheerefull birds do chaunt theyr laies,
And carroll of loves praise.
The merry larke hir mattins sings aloft,
The thrush replies, the mavis descant playes,
The ouzell shrills, the ruddock warbles soft;
So goodly all agree with sweet consent
To this dayes merriment.”—
SPENCER, *Epithalamion*, 1595.

The study of natural history reveals to us a wide field, pregnant with interest and pleasure. The geologist, who, from the various aspects of nature, attempts to form a conception of how this planet has been formed, and the naturalist, whose senses are keenly alive to the beauty and importance of the manifold living objects which meet his gaze on every side, are pursuing a course calculated to lead to the highest and happiest results. Even the humble cottager who decorates his windows with flowers, and the artisan who keeps and encourages his little birds to sing and to solace him, are imbued with tastes of a superior order, which, if properly cultivated, cannot fail to induce a greater intellectual development, and consequently an increase in happiness.

Granted that the antiquary in poring over some dusty relic of a by-gone age experiences a thrill of pleasure denied to others, or that the wealthy man filling his rooms with the finest efforts of the artist's pencil, and his cabinets with articles of rare and costly workmanship, thereby experiences a very high degree of gratification, or even that the man of pleasure, fulfilling the daily routine demanded by fashion, finds in it some irresistible attraction—yet what are these enjoyments compared with those daily and hourly offered to the student of nature! Does he not see in the growth of a blade of grass, or in the mechanism which enables the tiny gnat to effect the countless vibrations of its gauzy wings, or in the majestic ease of the soaring eagle, evidences of a power and skill immeasurably superior to those ever originated by man? Can he walk in the fields without seeing and hearing around him sights and sounds which, while tending to make him more and more thoughtful, deeply impress him with the sense of the wisdom, the power, and the beneficence of his Creator? That man who has passed his allotted time in ignorance of the teeming worlds of life around him, has had denied to him pleasures and delights the experience of which must have gone far to elevate the noblest of God's created beings. “The study of ornithology has always been a favourite one with me,” says the late Mr. Wheelwright, “and is one of the few innocent pleasures of youth which follow a man into maturer years, and upon which he can look back in the decline of life with feelings of pure and unalloyed delight. Man's constant companions in every outdoor occupation, cheering him with their presence and their songs, and often affording him a principal means of subsistence, it is little wonder that the study of the habits and instincts of birds should be a favourite one with most persons; and to him whose time is quietly and happily spent in the forests and fields it adds one of the truest zests to rural life.”

Notwithstanding the limitation of area implied in a work entitled ‘The Birds of Great Britain,’ the most elementary student of natural history must acknowledge that in numbers and in interest, if not in beauty of marking, our avifauna will bear a favourable comparison with that of other countries of similar extent. The one most closely approximating to it would appear to be that of Japan—a fact sufficiently surprising when we remember the vast continent embracing many degrees of longitude stretching between the two. But the resemblance may possibly be explained by the similarity existing in their physical conditions and in the general character of their natural productions. Both countries are blessed with a temperate climate especially suited to similar forms of bird-life, some species identically the same occurring in each; but, in addition, Great Britain offers in its numerous islets, its rocky promontories and extensive marshes, its natural forests and heathy expanses, certain advantages of locality not perhaps enjoyed by Japan to the same extent, and which are singularly well adapted to forms of the most opposite kinds.

One feature of especial interest must always strike the naturalist in studying the birds of the temperate zone, viz. the alternation of its feathered immigrants, which lends such a charm to the scenery, a charm which is greatly enhanced when we reflect that these migratory movements are governed by certain infallible

laws. Thus the arrival and departure of the Swallow, the Cuckoo, the Landrail, &c. are as strictly regulated as the recurrence of the seasons :

“Yea, the Stork in the heavens knoweth her appointed times ; and the Turtle and the Crane and the Swallow observe the time of their coming.”

Besides being tenanted by about one hundred and fifty stationary species, Great Britain has migrants and occasional visitants from the four points of the compass. Thus in spring nearly fifty species visit us from the south ; whilst in the autumn our milder and more equable climate attracts a still larger number from the north, who instinctively know they will here find that food and shelter which the rigorous winters of more northern regions deny to them. In addition to this true and characteristic migration, our islands are occasionally resorted to by certain species which, from some unknown cause, make a movement from east to west ; whilst the pseudo-migration from west to east is exemplified in the rarely occurring American forms which from time to time have been recorded, and which, blown off from their native shore, find in the masses of seaweed, uprooted trees, and portions of wreck constantly approaching our coasts through the agency of the Gulf-stream, that means of rest and recruitment which finally enables a few of them to reach a welcome though far distant haven. A remarkable degree of capriciousness, which to me has always appeared mysterious, occurs in the choice of localities affected by certain of our migrants : thus the Pied Flycatcher will not rest until it has reached the middle and northern counties of England, while the Nightingale almost restricts its visit to the southern, eastern, and central ones, never favouring Cornwall with its presence, and but rarely going into Devonshire or Wales, or further north than Yorkshire or Durham. Again, some species, exemplified in many of the Plovers and Sandpipers, make our islands but a halting-place, pausing for rest only on their way to unknown and probably far distant regions.

The mysterious law or laws which govern migration must always be regarded by the naturalist with the utmost interest. Within our own islands hardly a month passes by without the movement of some species occurring to remind us of the existence of such a principle. In the early spring, before the Wheatear, that earliest of our visitors from the sunny south, has arrived, the Fieldfare and Redwing which during the winter have peopled our hedgerows and fields, the Geese, Ducks, and numerous wading-birds which have been frequenting our broads and rivers, have, in obedience to nature's prompting, commenced a movement northward, *en route* for localities better suited, by their quietude and by the nature of the food found there, for the propagation and rearing of their progeny. Then, as the rays of the life-inspiring sun strike upon our earth with daily increasing strength, we begin to welcome in quick succession those little feathered arrivals which make the spring and early summer seasons of so much enjoyment and anticipation to all true lovers of nature. March, besides the Wheatear, brings us the Chiffchaff and the Sand-Martin ; April's earliest day herald in the Swallow, Wryneck, and Martin ; by the middle of that month the Nightingale has made its

appearance, together with a host of other sylvan species; soon after, the Cuckoo and Landrail arrive; and on the joyous First of May the latest of all comers, the Swift, the Nightjar, and Flycatcher may be looked for. A pause of a few weeks follows; and, reproduction having been accomplished, then commences, as it were, the ebb of the great tide of migration. The Swift, which, as we have seen, was one of the latest to arrive, is the first to depart; then the Landrail makes good its retreat to the more southern country of Africa; other kinds follow in succession, all hastening to make their escape before such changes of climate and natural conditions have set in as would prove fatal to their existence, either on account of the lowering of the temperature or the cessation of suitable food. By the end of September the great mass have departed, and only a scanty remnant are to be met with. With this same ebb, the autumnal months bring to our sight again strings of grallatorial and natatorial birds, urged by similar causes from the northern regions back towards the south in search of that food and aquatic life which the icy hand of winter had already begun to grudge them and their progeny in their summer location. To follow the sun appears to be the course of true migration; but the promptings of instinct which lead the Swallow and many other species to quit our shores, after a brief sojourn, for Africa, or those which lead the Fieldfare and the Redwing to quit the Norwegian 'fjelds' for our cultivated lands, must surely be connected in some way with, if they have not for their sole object, the provision of food and climate suitable to the species. The Rev. H. B. Tristram remarks that "those species which have the most extended northerly have also the most southerly range, and that those which resort to the highest latitudes for nidification also pass further than others to the southward in winter. Thus the migratory Fieldfare and Redwing, visiting regions north of the limits of the Thrush and Blackbird, on their southern migrations likewise leave their more sedentary relatives behind. The Brambling, which passes the Chaffinch in Norway, leaves it also in Europe, and crosses the Mediterranean every winter to the Barbary states."—*Ibis*, 1865, p. 77.

The regularity, however, which occurs in the arrival of our summer visitants is not quite so strictly adhered to in their departures. Having accomplished the purpose for which they came, these depart again at varying periods, but mostly as soon as the renewal of their primaries will admit of their flying across the channel, leaving their young to follow instinctively (when their muscular development has been sufficiently matured) the same route by which their parents have preceded them. This apparent desertion of the young birds at a period when one would imagine the presence of their parents as leaders would be absolutely essential, seems to prevail amongst many of our migratory species. That the old birds should be able instinctively to wing their way back to whence they came is not half so marvellous as that the newly fledged nestling, urged by some mysterious power, should undertake a flight extending over hundreds of miles and many variations of climate in search of a temporary home it has never seen. This irresistible impulse, which prompts the necessity of a migration somewhither, is but too sadly seen in the restless actions and almost frantic efforts

of the caged Turtle Dove, Nightingale, or Whitethroat during the period at which, were they free, they would be leaving our shore ; once let that period be passed, their efforts cease, and apparent resignation to their prison ensues. “ It sometimes happens,” says Mr. R. Gray, “ that Swifts, obeying their unconquerable instincts, will at the close of a stormy season desert their unfledged young, and leave them to perish of hunger. Late breeds especially are subject to this unnatural desertion. Oftener than once I have seen the little round sooty faces of the young ones peering out of their holes and plaintively crying for food, after which they have crept back to die. In these very nests, on the return of another season, the same old birds have been known to rearrange their building-materials, a few straws being merely laid over the bones of the abandoned to receive a new family.”

It is a matter of surprise to some persons, as indeed it may be to the most astute philosopher, how such frail little birds as the Chiffchaff and its allies can cross the sea from France or Portugal without exhibiting any very apparent signs of fatigue ; yet we know that they do so, and moreover that a still smaller species, the Goldcrest (*Regulus cristatus*), effects a much longer passage when crossing the German Ocean in its migration from the opposite parts of the Continent. I must not omit to mention, however, that occasionally hundreds of these diminutive birds are found in an exhausted state in the early morning on the Northumberland and Norfolk coasts ; and in support of this I may quote here a very interesting passage from the work of the late gifted Mr. Selby, which runs thus :—“ On the 24th and 25th of October 1822, after a very severe gale, with thick fog, from the north-east (but veering towards its conclusion to the east and south-east), thousands of the Goldcrests were seen to arrive upon the seashore and sandbanks of the Northumbrian coast, many of them so fatigued by their flight or perhaps by the unfavourable shift of the wind, as to be unable to rise again from the ground ; and great numbers were in consequence caught or destroyed. The flight must have been immense in number, as its extent was traced through the whole length of the coasts of Northumberland and Durham. There appears little doubt of this having been a migration from the more northern provinces of Europe (probably furnished by the pine-forests of Norway, Sweden, &c.), from the circumstance of its arrival being simultaneous with that of large flights of the Woodcock, Fieldfare, and Redwing.”

Woodcocks, we know, generally arrive in fair condition on our north-eastern shores at dawn, with a wind that is either easterly or within a point or two of that direction ; but should the wind shift after their flight has commenced, the increased muscular effort required lands them on our coast in an exhausted and emaciated state. Assuming, however, that birds, both great and small, have availed themselves of a favourable slant of wind, no great amount of muscular effort would be requisite, inasmuch as those arriving from the south will require little more than an hour to cross the Channel, while the passage of the German

Ocean by those coming from the north may occupy a short night*. It is interesting to note that some of our migrants effect the passage to our shores during the night, and others by day: as a rule, it is the small sylvan birds which come at the former time, as is evidenced by numbers being found at the base of the various lighted beacons of our southern and south-eastern coasts, against which, attracted by the light, they have flown and killed themselves; the Swallows, the Cuckoo, and the Turtle Dove, on the other hand, wing their way across in broad day-light.

Besides the regular migration of certain species, a remarkable shifting of locality occurs with others, not only in our own, but in many other parts of the world, the cause of which is totally unknown. Starlings are now very abundant in Cornwall, and Missel-Thrushes in Scotland—in which they were formerly not to be seen. Such interchanges of locality are doubtless occasionally due to alterations in the face of the country: but this was not the cause in the case of Cornwall; for no county can have undergone less alteration; as it was in the days of Julius Cæsar, so it is now, unless we except the operations of mining, which naturally only affect the surface of a district to a small extent. The sudden appearance of Pallas's Sandgrouse (*Syrrhaptes paradoxus*) in our islands and on various parts of the Continent, in 1859–60, must be in the recollection of every one. This irruption of a strange bird from the distant country of Siberia, perhaps from China, was very astonishing; and it well illustrates my meaning, which may be further exemplified by the mention of two similar occurrences in Australia. In the year 1839 the whole of the southern and eastern portion of that country was suddenly visited by millions of the little Grass-Parrakeet (*Melopsittacus undulatus*); and a year or two later swarms of a species of Water-hen (*Tribonyx ventralis*) spread themselves like a cloud over the Swan-River district, destroying fields of corn and garden-produce and committing ravages unheard of before; and both these species have kept their hold until the present day, but of course in much smaller numbers. Although not necessarily bearing upon the preceding

* As an evidence that birds are capable of taking very long flights with apparent ease, I may quote a letter to 'The Times' of June 27, 1872, which further shows that the electric telegraph has not wholly deprived us of the usefulness of the Carrier Pigeon. The communication alluded to runs as follows:—

"SIR,—The promoters of the system of electric telegraphy insist on its immense superiority over the older plan of pigeon-despatches. How far these pretensions are founded on facts is shown by the results of the pigeon-race to Brussels, which started from the Crystal Palace on Thursday last, when 72 birds were flown at noon. Immediately on their departure I telegraphed to the secretary of the society whose members had forwarded the birds, announcing their departure. The first birds arrived in Brussels at 5.28 P.M., and the telegram at 5.30 P.M.

"Another example, and I have done. During the Crimean War the intelligence was conveyed to Colombo, Ceylon, 70 miles north of Point de Galle, where the ships to India landed their despatches; and the salute fired on the news of the fall of Sebastopol resulted from information brought by them. The electric telegraph was established, and the pigeon-post abolished. I have recently been requested to restock Colombo with Belgian "voyageurs," as the information brought by the electric wire is neither so speedy nor so correct as that conveyed by the birds. The Prussians, wise in their generation, have taken lessons from the Parisians, and established pigeon-posts in Metz and their other fortified towns. In the event of a war in which we may be engaged, what would be the value of birds that would convey messages to Jersey, Guernsey, &c. when the telegraphic wires had been cut by the enemy!

W. B. TEGETMEIER."

remarks, it may be here mentioned that young birds appear to wander further from their native homes during the first autumn or year of their existence than they do afterwards, going out, as it were, to see the world before settling down for the proper business of their lives; hence, doubtless, it is, that the young of so many of the rarer northern species (Eagles, Gulls, Divers, &c.) are found further to the south than the old birds.

With respect to the autumnal departure of many kinds of our smaller migrants, it would appear that most, if not all, of them assemble along our south coast ready for departure on the occurrence of a favourable wind. Having once crossed the Channel to France or Portugal, their further southern journey becomes an easy one, and is doubtless performed by short stages until they reach the shores of the Mediterranean, which in the case of our own birds is probably crossed at the narrowest portion, viz. Gibraltar, or some other promontory of Southern Spain, their destination being the coast of Morocco. On the other hand, those of Central Europe migrate by the way of Sicily and Malta to Algeria, while those which have passed the summer still further east proceed in a direct line to Egypt. North and south, and *vice versâ*, is in my opinion their instinctive movement; and this natural impulse is so blindly followed that the Quail, when migrating, will, if possible, fly through a house or over a mountain rather than turn aside from its course, which would not be the case were reason its guide; in this respect it resembles the Norwegian Lemming, whose onward course is stopped neither by lakes nor hills, and some species of ants, whose movements are equally undeviating.

The British Islands and Europe generally, however, to which the foregoing remarks on migration almost solely refer, are not the only portion of the globe subject to such interchanges of bird-life at different seasons of the year; the avifauna of the great continent of Asia, a continent having the loftiest mountains, the most elevated plateaux, and the richest forests in the world, exhibits similar phenomena. So, again, if we cross the equator and take a view of what occurs in the southern hemisphere, we shall find that a precisely analogous movement takes place there, but of course at opposite seasons, the antipodean summer being coincident with our winter. In many instances bird-life is there represented by species of a similar form to those we find in our own country, and which evince a tendency to a movement north and south at certain periods of the year as with us.

Although in the foregoing remarks I have used the terms migrant and migratory in their ordinary acceptation, it will be as well before quitting the subject of migration to place before my readers what I consider should be the strict meaning of the word migrant. The country a bird resorts to for the propagation of its species should be regarded as its true habitat: thus the Swallows and others, although they pass only half the year in the British Islands, are really not migrants in the same sense of the term as that in which we should so regard the Fieldfare and Redwing, who, although resident with us during the winter,

retire to Norway and other northern regions for the purpose of breeding, and who are impelled to visit our country solely to obtain the food necessary for their existence. But whilst regarding the species visiting us from the north during the winter months, such as the Woodcock, Ducks, Fieldfares, Redwings, &c., as true migrants only, it must be recollected that the Swallow, Chaffinch, Cuckoo, &c., species leaving us at the same portion of the year, are migrants so far as the countries they respectively winter in are concerned.

Could a census be taken of the smaller birds inhabiting Great Britain, such as Sparrows, Chaffinches, Buntings, &c., and of the same birds frequenting a similar area on the Continent, there can be little doubt that the former would greatly outnumber the latter—a circumstance which may be partly due to our islands affording many more favourable localities, and partly to the fact that our smaller birds are not, as a rule, killed or captured for the purposes of the table, a practice which prevails abroad. Of these the Wheatear and the Lark are almost the only kind that are thus utilized; but to form an estimate of the numbers of the latter obtained by means of the trammel-nets of the birdcatcher, or of the former captured on the downs of Sussex and Kent, is quite impossible. The numbers of many species are, indeed, so great that no just estimate of the whole can be formed. Thus it has been computed that the Gannets frequenting the Bass rock cannot be less than twenty thousand; how vast, then, must be the number of that species alone around our coasts, when we take into consideration that they are proportionally as numerous on Ailsa Craig and the other rocks on which they are known to breed! the myriads also of the Dunlin and other strand-loving birds frequenting our bays and inlets are beyond all computation.

Unfortunately, however, of late years vast numbers of certain species have been destroyed, either wantonly, or for senseless purposes of decoration instigated by fashion; and to such an extent has this been carried that it has become necessary to enact laws for their protection. Whether such enactments will tend to prevent the wholesale and cruel destruction of Robins, Kingfishers, Chaffinches, &c., is yet to be seen; at all events, if a law can be framed to put a stop to these proceedings, it will be most desirable. The magistrate, however, should have the power of acting according to his judgment when such malpractices are brought under his notice; for to say that the St.-Kildan (for whom, however, special exception has been made) should not take the Fulmar or its eggs, which constitute almost his sole subsistence, or that the proprietor of the Farn Islands should not collect the down of the Eider, though it may interfere with the health of the birds, or that those delicate morceaux, Plovers' eggs, should not be taken, would be absurd. Bird-catching should be restricted to certain seasons; the idler who spreads his nets for the capture of the Swallows that skim over the mead, or who hangs his invisible snare across the brook for the beautiful Kingfisher to fly into, the man who professedly catches every Chaffinch in a lane, and the clever scamp who prowls round the edge of every shrubbery at daybreak for the newly arrived Nightingale should be made to know that such practices

are inadmissible, and that they have no moral right to such a course of procedure, compared with which the conduct of the old Whitechapel bird-catcher is an honest calling.

The following extract from 'Land and Water' of August 29, 1868, embodying a letter to 'The Times,' aptly bears out my previous remarks on the wholesale destruction recently dealt out to certain species.

"No words can convey any adequate idea of the wanton, wicked cruelty perpetrated by these ruthless slayers of unoffending birds. Broken-winged birds are abandoned, and drift away to perish by slow degrees; badly wounded birds are allowed to flutter and struggle in the bottom of the boat, their sufferings unheeded and uncared for; while many fearfully hurt manage to reach the shore to die in lingering agony: and, lamentable to say, all this butchery is committed for no good purpose. We find a letter in 'The Times' headed 'A Plea for the Kittiwake,' in which it is remarked that 'some months ago a contributor to a popular journal of natural history, writing from Lincolnshire, disclosed the fact that London and provincial dealers now give one shilling per head for every "White Gull" forwarded—that one man (a stranger drawn thither for profitable occupation) boasted of having last year killed with his own gun at Flamborough Head 4000 of these gulls—and that another sea-fowl-shooter had an order from a London house for 10,000, all for the "plume trade." During the present summer,' it is added, 'one of these *plumassiers* has visited various breeding-stations of the Kittiwake in Scotland, and laid his plans for having supplies of birds sent to him. At Ailsa Craig alone, he gave an order for 1000 Gulls per week, and stated that he was prepared to take any quantity. To meet this demand the tacksman of the rock spread his nets while the birds were sitting on their newly hatched young, which were left in hundreds to perish on the ledges.' By reference to the letter from which the above is extracted, and which appeared in 'The Times' for August 21st, it will be seen that an Act has this year received the Royal Assent for the preservation of sea-fowl in the Isle of Man, and that its preamble states that 'the said birds are considered of great importance to the fishermen in guiding them to shoals of fish, and also for sanitary purposes by removing offal of fish from the harbours and shores.'"

Again, in a communication addressed to the 'Zoologist' for January 1869, Mr. John Cordeaux says:—"The following paragraph is copied from the 'Guardian' of November 18, 1868. Comment is unnecessary. 'On a strip of coast 18 miles long, near Flamborough Head, 107,250 sea-birds were destroyed by *pleasure parties* in four months, 12,000 by men who shoot them for their feathers to adorn women's hats, and 79,500 young birds *died of starvation* in emptied nests. Commander Knocker, there stationed, who reports these facts, saw two boats loaded above the gunwales with dead birds; and one party of eight guns killed 1100 in a week.'"

Nature on the other hand herself at times effects similar wholesale destruction. Thus a severe winter may

prove fatal to many thousands of the feathered creation: in support of this assertion I annex some extracts from various sources. Under the heading "Severity of the Weather" we read in 'Land and Water' for January 26, 1867.

"We receive from various parts of the country accounts of the effects of the recent cold upon all kinds of game. A correspondent of the 'Inverness Courier' says that in Strathnairn, in common with other parts of the country, not a sprig of heather is visible anywhere; and there can be no doubt that if the snow and frost continue any length of time the destruction among all kinds of game will be beyond all precedent. Already Muirfowl are flocking in thousands to the low-lying grounds; and on Saturday last we noticed the birch-wood around Craggie literally swarming with them. A farmer in Strathnairn told us that one day lately, as he entered his stable, the entire area of his courtyard was covered as 'thick as they could stand' with grouse picking up any thing they could get among the dung-heaps; and similar 'gatherings' could be told by many other farmers."

Again, in the same journal, for August 3, 1867, Mr. Henry Lee, writing of the "destruction of small birds by rain," says:—

"My friend Dr. Millar, of Bethnal House, Bethnal Green, writes me as follows:—'Good evidence of the severity of the rain during Thursday night (July 25th) has been afforded here in the destruction of nearly all the sparrows which congregate in our trees. My under-gardener picked up one hundred and twenty-four on the following morning; and in sweeping up the fallen leaves of to-day the dead birds are being found in considerable numbers. We estimate that more than two hundred were killed.'"

Mr. E. H. Rodd, writing to me from Penzance under the date of January 8, 1867, says, "I foresaw that there was hard weather somewhere, although the thermometer never showed a greater amount of frost than one degree, which was the lowest reading here; 60 miles to the eastward the reading was on Wednesday nine degrees above zero, and on Thursday only five: so much for our climate. The heavy weather to the eastward has driven millions of Linnets, Starlings, Larks, Redwings, Fieldfares, Peewits, and Golden Plovers to this district." As I was at the time on a visit to Lord Falmouth at Tregothnan, most of the facts mentioned by Mr. Rodd came under my own observation; and I may add that the destruction of these birds was immense; I myself saw lying dead on the frozen snow hundreds of Starlings, Song-Thrushes, Missel-Thrushes, Redwings and Fieldfares, but none of the Common Blackbird, and noticed that several of the weakly birds were attacked and eaten by the Rooks, which, themselves in an exhausted state, flocked round the house, and at times even approached the drawing-room windows.

Violent and heavy gales also frequently lend their aid towards the destruction of bird-life, as evidenced by

our shores being often found after their occurrence literally strewn with Guillemots, Razorbills, and other sea-birds ; in proof of which the following instances recorded in the 'Zoologist' for 1872 may be cited.

"After the severe storm of January," says Mr. H. Rogers (writing from the Isle of Wight), "our shores from Compton Bay to Watercombe Bay were lined with Razorbills, Guillemots, &c. I had upwards of a hundred brought to me between the 25th and 31st, most of them in a very bad condition, which had evidently perished for want of food. Seven Gannets were also picked up and brought to me : this I consider very remarkable. We do occasionally get a specimen in very hard winters ; but for seven of these powerful birds to be driven dead upon our shores shows the severity of the storm."

Mr. Stephen Clogg, writing from Looe two days later (February 20), says, "The south-eastern shores of Cornwall have been covered with the dead bodies of various birds during the present month. In a walk of about a mile I numbered no less than sixty-nine dead bodies of Razorbills, in various stages of decay. This state of things extends for upwards of ten miles ; and when we consider the great numbers that have been carried away for the purpose of making plumes for ladies' hats, and others that did not come ashore, I think we may safely conclude that thousands of the above-named species of birds have perished in this immediate neighbourhood within a fortnight ; and if such has been the case in other parts of England, how vast must have been the mortality amongst them !"

To the above instances Mr. Newman, the indefatigable editor of the 'Zoologist,' adds in a note, "This morning (February 21st) I met a man going over London Bridge with a clothes-basket full of Razorbills : he could not, or would not, tell me how he came by them ; but, by the blood on the plumage, I think they had come by a violent death."

Lastly disease, the greatest of all misfortunes, plays its sad part among birds as well as among quadrupeds and man. Grouse, as we all know, are frequently visited with great severity, and the sweeping hand of death is not satisfied until all but a remnant have succumbed to its ravages. Nature, in her wisdom, may cause all these various modes of destruction to take effect for some good end—to check, perhaps, an inordinate increase of a particular species : quite certain it is that she never intended that five thousand Grouse should be bred on a Lancashire moor, or that a thousand Blue Hares should inhabit the crown of a single Scottish hill, as is often the case.

This unnatural over-crowding of the Grouse and Hares may have arisen in the case of the former from the extreme care and attention bestowed upon them, and, as regards the latter, from the killing down of the Golden Eagles and Foxes, of whose food the Blue Hare constitutes a large proportion ; and upon its undue increase they were doubtless intended to afford a wholesome check.

"The jealous care," says Mr. Robert Gray, in his 'Birds of Western Scotland,' "with which this

beautiful bird is protected appears of late years to have affected the wellbeing of the species;" and "I cannot withhold expressing a fear that the Red Grouse of Scotland, if not soon left to its own resources, may ultimately become a victim to overprotection. The great changes that have taken place within the last thirty years in the management of moorland tracts, and the excessive rents now derived from such properties, induced both land-owners and lessees to clear the ground of all kinds of animals that would prey upon those birds which are not strong enough to protect themselves; hence sickly broods of Grouse perpetuate other broods, that year by year degenerate until disease ensues and in some instances almost depopulates an entire district. There can be no doubt that this unwarrantable destruction of Hawks and Buzzards affects adversely the condition of the birds with which our Scottish mountains are stocked—the number of wounded birds alone which survive the unprecedented annual slaughter through which the Red Grouse is now obliged to pass being an argument sufficient to show that such merciful agents are wanted to prevent the spread of enfeebled life. In other sections of the animal kingdom epidemics similar to that affecting Grouse have been noticed; and, so far as my own observations have enabled me to judge, I am disposed to regard these periodical outbreaks of disease as more or less associated with a derangement of Nature's laws. In almost every case where undue protection is given to certain animals by the rigorous destruction of others, man's interference is followed, sooner or later, by evils of a graver nature than those which the protective measures were intended to cure; and until some more rational plan is tried for the restoration of the Red Grouse to its original vigour, no one can say what may be the final issue of the somewhat anomalous position in which, as a species, the bird is now undoubtedly placed."

I can fully indorse the general remarks of Mr. Gray respecting the inconvenience arising from the undue protection afforded to certain species by the rigorous destruction of others. Strange as it may appear, the keeper who supposes that he is zealously guarding the interests of his employer by ruthlessly destroying all vermin from the estate is in some instances committing an error. As an example in point, and one not mentioned by the writer above quoted, I may remark upon the destruction of the White Owl, which, injuring the game to a very small extent, confers much compensatory benefit in the destruction of the mice, rats, and weasels upon which it feeds. Our pretty Kestrel, too, often suffers an ignominious fate without a reasonable excuse, its food generally consisting of moles, mice, lizards, frogs, and the larger insects. Considerable latitude, however, must be accorded to the keeper, who, with all his care and anxiety, is frequently nonplused by the continued loss of his young game, and that coming from a quarter little to be suspected. Some of the more intelligent of his class have, by constant watching, detected the Brown Owl habitually haunting the vicinity of their pens, and seizing, as occasion offered, two or three of their chicks. The Moorhen (*Gallinula chloropus*), too, stealthily threading its way through the grass, is no less to be dreaded, its presence among the coops not resulting solely in the abstraction of the scattered grain, but frequently in the

death of a chick from a blow of its pointed bill, a considerable portion of the victim being afterwards eaten. No one who has lived much on the Thames, or other localities frequented by this bird, can have failed to be struck by the fury and boldness with which it will attack a rat, a duck, or even so large a bird as a swan, if it approaches its nest.

“At the beginning of July,” says H. J. Partridge, Esq., of Hockham Hall, near Thetford, in Norfolk, “the keeper having lost several Pheasants about three weeks old from a copse, and having set traps in vain for winged and four-footed vermin, determined to keep watch for the aggressor, when, after some time, a Moorhen was seen walking about near the copse. The keeper, supposing it only came to eat the young Pheasants’ food, did not shoot it, until he saw the Moorhen strike a young Pheasant, which it killed immediately and devoured, except the leg- and wing-bones. The remains agreed exactly with eight found before. Perfect confidence may be placed in the correctness of this statement.”—*Zoologist*, 1854, p. 4255.

For further evidence in proof of the correctness of these statements see my account of the Moorhen in the fourth volume.

In case what I have here and there said respecting the pugnacious and carnivorous propensities of the Moorhen should excite surprise, I may mention that they appear to be shared in common with all the other members of the group to which it belongs, from the delicately formed Rail to the most robust *Porphyrio*; and that they are all of a combative disposition is evidenced by the possession of a sharp spur on the wing, short in some of the species, and prolonged in others.

The question has arisen whether, when we consider the present comparative scarcity of the Peregrine and other of their enemies, it will be really advisable to encourage the breeding of the marine or cliff birds, many persons being fearful that such a measure would lead to a great decrease in our edible fish, upon which they solely subsist. The daily quantity consumed by the Gannet and Cormorant, to say nothing of the Guillemots, Terns, &c., is greatly beyond conception, thus showing that both care and judgement are necessary with regard to the new laws about to be enacted.

Had a measure been passed fifty years ago and penalties enforced for killing the Great Auk and the few remaining Bustards that then stalked over our great plains, we should doubtless have still had these two fine birds gracing our islands; as it is, the former (*Alca impennis* or Gare Fowl) is wholly extirpated from the waters, not only of our own country, but of the universe. The Bustard still holds its own on the Continent, whence now and then in the course of a few years one strays over the seas, and visits the haunts of those of its kind which formerly existed here; its permanent residence again among us, however, is rendered impossible by the gradual disappearance under cultivation of the vast plains and wolds over which it roamed, whereby they have been rendered incompatible with its existence. The Capercaillie, which probably died

out from natural causes, was wholly absent for a hundred years; but, owing to the replanting of pine-forests, the conditions favourable to its welfare are returning, and a fresh introduction has reinstated it. Other birds, such as the Crane, Spoonbill, Bittern, Avocet, and the Ruff, which were once very common, have now, owing to the draining of our fens and marshes, no resting-places where they could dwell in peace and unmolested. Thus it will be seen that by man's industry in effecting improvements certain natural productions are greatly interfered with.

With regard to the exact enumeration of the birds frequenting the British Islands there must always be considerable difficulties, inasmuch as many persons would hesitate to include in our lists such species as have from time to time strayed over from America, or others which we may reasonably suppose to have escaped from confinement. With these difficulties in view I have restricted the additions to our list of native birds, with only a few exceptions, to those species pertaining to the fauna of the Old World which, without constantly residing in our islands, have from time to time appeared therein, and whose visits oft repeated may ultimately entitle them to a permanent place in our lists. I may state with tolerable accuracy that the total number of our species is about three hundred and fifty.

If the supposed number of birds inhabiting the globe be about 10,000, it must be admitted that the British Islands have their due proportion of them. Of course it would be quite out of place to institute a comparison between our country, or even the whole temperate region of either hemisphere, and the tropics, where bird-life is so redundant, in accordance with the profusion of fruits and insects upon which they mainly subsist.

It must be conceded by every one who has paid attention to general ornithology, that very considerable difficulties exist in the formation of a perfect scientific arrangement of the birds of the British Islands, since these are but an appendage of a vast tract embracing the two continents of Europe and Asia, sections of the world assimilating in their bird-life, not only as regards genera, but in many instances also with respect to species. Hence in our own lists there will be occasionally breaks, as it were, that would be filled up by forms which, while found not far distant from us, still have never been actually killed in our islands. Far wider gaps will of necessity occur through the absence of such genera as are peculiar to Australia (the Bower-, Lyre-, and Mound-raising birds), or of those which are confined exclusively to the New World (Toucans, Trogons, Humming-birds, &c.).

Man has frequently been induced to try his hand at the introduction of certain species the acquisition of which he has considered desirable; such attempts have generally proved futile. Nature having adapted each for a certain locality, the climate and the condition of the country must be altered and rendered fit for the reception of either bird or quadruped before there is the slightest chance of their successful naturalization. Many persons have been desirous of establishing the North-American Prairie-Hen (*Cupidonia cupido*)

on our moors, and the *Ortyx virginianus*, or American Partridge, in our fields and coverts; but what good would be effected thereby? the Prairie-Hen would but displace a better bird, the common Grouse; and the little Partridge would be no improvement upon our familiar species. There is no fear, however, that this will ever be accomplished; and the sooner such fallacies are ended the better. It would be far wiser were the efforts of our well-meaning patrons of acclimatization directed rather to that interchange of blood among the same species which is essential to the maintenance of a healthy stock. I am sure it is all-important with regard to our birds, particularly those that are stationary. It is well known that species which have lived long on an island without a sufficient interchange will diminish both in size and brilliancy of tints: and hence, perhaps, may be explained the smaller size and more subdued colouring of many of our birds, compared with continental examples. The Blackcock of Norway and Switzerland will be found to have the tone of its plumage more intensified than those inhabiting Scotland, the black being unmistakably of a darker hue, and the gloss of the feathers more resplendent. The Norwegian Ptarmigan, too, is of a purer white compared with our own bird, while its full summer dress is much darker. So, again, the Long-tailed Tit (*Mecistura caudata*) of Norway and Denmark differs in having a white head, while that of Great Britain has the crown and face dark or obscurely striped; and the Cole Tit (*Parus ater*) of Belgium in having the back grey, instead of the slight olive tint seen in British examples. To make such differences, however, grounds for specific distinction, as has in some cases been done, is in my opinion playing with science. That the drier and more rarified air of the Continent, coupled with the more direct influence of the solar rays, contributes to cause these slight differences, seems to me highly probable; and I am strengthened in this view by noticing that, among such groups as the *Trochilidæ* or Humming-birds of America, some of the richest and finest colours are seen in species that frequent lofty situations.

Most of the Pheasants now spread over every county of the British islands are mongrels, brought about by the interbreeding of three kinds; and their progeny are but too often rickety and sickly creatures. Those of our sportsmen who have flushed a true *Phasianus torquatus* in England, or killed the same bird in China—its native country, must have been astonished at the quickness of its arrow-like flight, and the wildness of its actions.

The scientific naturalist, of course, repudiates all varieties such as the Pheasants alluded to, no two of which are alike in colour or markings, and whose promiscuous interbreeding can lead to no important result. We see this intercrossing carried to a still greater extent in our domesticated Pigeons and Fowls; but beyond the acquisition of certain variations in plumage, or of qualities rendering them more highly esteemed for the table, nothing of interest is attained.

Whilst on the subject of interbreeding, I should wish to draw the attention of sportsmen to the advan-

tages likely to accrue from the interbreeding of our Grouse with that of Norway (*Tetrao saliceti*). Ornithologists are questioning whether these are not one and the same species, and if the differences existing between the two may not be due to the influence of climate. Should such be the case (and I think it probable), then the introduction of the original stock would doubtless effect an improvement in the health and vigour of our birds. Prof. Rasch, of Christiania, believes the two so-called species to be identical, and is introducing our Grouse into his country, partly to determine this point, and partly for the sake of the infusion of fresh blood; but more on this subject will be found in my account of the Red Grouse. As bearing upon their unity, I may mention that I made a journey to Norway for the sole purpose of studying the habits of *Tetrao saliceti*, and observed that they differed in little or no respect from those of our Grouse, and that its crow was also similar.

Mr. Robert Gray remarks that, as a rule, all the Grouse from Lewis, Harris, North and South Uist, Barra, &c. "may be said to be smaller and lighter in colour than those from moors on the mainland, especially the mountain-ranges of the north-east of Scotland, which invariably yield in good seasons the largest and most beautifully marked birds. In many districts the native Grouse partake of the coloration of the ground in their markings: thus the finest and darkest birds are those frequenting rich heathy tracts; while on broken ground of a rocky character, such as may be seen in Wigtownshire, the grouse are either more or less mottled, or are altogether lighter in colour, and less in size and weight."

Before closing my remarks on the *Tetrao saliceti* and the English Grouse, it may be interesting to note that the extent of the southern range of the former, whether we look at it in Norway, Sweden, or Russia, is restricted to much about the same degree of southern latitude as that of our own bird in England and Wales, thus adding one more indirect proof of their probable identity. On the other hand the Blackcock and Ptarmigan have a more extended southern range, both being found in Switzerland, if not in Northern Italy.

Although in a previous page I have discountenanced the introduction of new species, I may be here permitted to make an exception by advocating the claims of the Gelinotte or Hazel-Grouse (*Bonasa betulina*) to a trial of acclimatization in this country. Without putting forth this suggestion as original, I may state that having seen much of this excellent bird in Norway and other parts of Europe, and noticed that it there dwells in woods very similar to those which occur in Kent and other counties of England and Scotland, I see no reason why it should not be successfully naturalized; and I would suggest that those who are of the same opinion and have the means of making the experiment should do so.

"It is to me a mystery," says Mr. Llôyd, in his 'Game-birds and Wild Fowl of Sweden and Norway,' "why the Hazel-Hen, which, from its English name, would almost seem to have been a former inhabitant

of the British Isles, has not been naturalized with us, inasmuch as it is, of all game-birds, the most delicious, of consummate beauty, and of unconquerable hardihood, 'and adapted, moreover,' according to Mr. George Chichester Oxenden, who has seen and shot these birds in most European countries, 'to every variety of cover, from pine-forests to hazel- and oak-copses.' But it is not too late in the day for the Acclimatization Society to take the Hazel-Hen in hand; and if the localities were suitable for the purpose (and such there are, no doubt, in England and Scotland), and the attempt were made with from twenty to fifty brace of these birds, I see no reason why it should not succeed."

That the introduction of the Pheasant, the Guinea-fowl, and the Turkey has been to a certain extent successful must be admitted; but it is to a certain extent only; for it is believed by competent authorities that the Pheasant if left to itself would die out in thirty years, and the Guinea-fowl and Turkey in a much shorter time. Nursers, feeders, and watchers are absolutely necessary for the preservation of these three birds, just as the safety and health of the Elands in Lord Hill's Park at Hawkstone are dependent upon the keeper who feeds and nightly shelters them during inclement seasons.

Had I not had ample experience on the subject of naturalization, I should not have prolonged these remarks; but having for the last forty years been a close observer of the denizens of the Gardens of the Zoological Society of London, a Society justly popular for its interest and usefulness, I have not failed to note that, however high our hopes may have been raised respecting the probability of the successful introduction of many valuable species, nothing but bitter disappointment has been the result. Two or three instances will suffice. Soon after the arrival of the beautiful Mandarin Ducks they commenced laying, and hatched out several clutches of young. It was therefore only natural to infer that this lovely denizen of the Celestial Empire would hereafter grace our ponds and lakes; but such has not been the case, and very sparingly indeed does the bird breed after the second or third year of its introduction. Three species of the equally beautiful *Cerionithes*, or so-called Horned Pheasants, have at one time or other also graced the gardens. They gave early evidence that they would reproduce their kinds; and many of them did so; but, alas! the same result followed; for in a very few years all, both old and young, sickened and died. A like fate attended the fine *Crossoptilons*: they laid freely, and a numerous progeny were raised during the first two or three years; but they ultimately all perished; and thus these fine and rare members of the *Phasianidæ*, which formed unrivalled ornaments to the Gardens in 1870, were in 1872 not to be seen. Many other instances might be cited in support of this view of the impossibility of naturalizing a foreign species. Nature, as a rule, places each species in the locality best adapted to it; and its removal to any other is pretty certain to end in failure. The attempts at introduction of these and other birds by such a society as the Zoological, however, have this good end: they enable the public and the scientific ornithologist to view in a living state objects of which otherwise they could only inspect the dried skins—

and when they breed, to make themselves acquainted with the colour and markings of their eggs, the downy state of their young, and the changes of plumage they undergo until they attain that of the adult. Still it is to be regretted that their existence is not further prolonged.

Each season of the year possesses its peculiar attractions ; but spring has especial claims upon our notice. The sun, awakened from its wintry lethargy, ushers in this delightful season with its genial warmth ; and all nature greets with joy the presage of coming summer, and its many pleasing and interesting associations. The smaller birds are now prompted to exercise their vocal powers, filling the woods and hedge-rows with their joyous harmony ; and preparations for pairing forecast the breeding-season. The Grouse tribe resort to their “lek-ställes”*, the Ruffs to their hillocks ; the Rooks return to their ancestral elms, and the Daws to the nooks and crannies of the castellated tower.

It is at this particular season that birds assume their gayest colours, and oftentimes appear in accessory plumes. The Peacock now spreads his magnificent train to the greatest advantage ; the Ruffs display their curious neck-plumes, the Grebes their tippets, and the Egret its flowing back-feathers. In short, every species is now arrayed in its newest and most showy dress. Pairing having been accomplished, each species sets about the serious responsibilities implied in the propagation of its kind. Some, during this season, delight to nest in company, as seen in our own familiar Rook, which will occupy in immense numbers the lofty trees of many a noble avenue, returning, year after year, for centuries, to the same spot. Such places, again, as Ailsa Craig, Handa, and Flamborough Head attract myriads of cliff-haunting species, which evince a similar tendency to reproduce in colonies. Few more wonderful sights can be seen during the month of June than the precipitous face of one of these places, say Handa. Viewed from the sea, there may be descried tier upon tier of Guillemots and Razorbills, &c., almost jostling one another, from the manner in which they are closely packed. Each species constitutes a separate community, and strictly confines itself to its own ledges. The Cormorants and Gulls have also their selected situations. Far above all, in their curious rabbit-like burrows, in the sandy earth constituting the summit, congregate those oddest of all birds, the Puffins. The din and noise of such an assemblage is indescribable, and, when a gun is fired, almost unendurable ; while the circling, swooping flight of the countless myriads thus disturbed communicates the sensation of complete bewilderment. Usually among these great gatherings will breed a pair of some raptorial bird, such as the Peregrine, or more rarely the White-tailed Eagle, while in some of the more southern cliffs the Chough nestles, and adds its cackling cry to the universal hubbub. The Common Heron, again, is a bird nesting in communities, choosing, as a rule, large pine-woods,—notable examples being the

* Lek and lek-ställe are Norwegian terms, applied to localities “where affairs matrimonial are carried on.” We find them frequently used by Mr. Lloyd in his ‘Game-birds and Wild Fowl of Sweden and Norway,’ when alluding to the courting assemblies of the Capercaillie, Blackcock, Snipe, &c.

celebrated heronry on the property of Sir George Musgrave, Bart., at Eden Hall, in Cumberland, which comprises about one hundred nests, and the estate of W. Amhurst T. Amhurst, Esq., at Diddington Park, in Norfolk. Other and most interesting colonies of birds are to be seen, such as those of the Black-headed Gulls, in various counties, particularly at Scoulton and other meres in Norfolk.

With respect to the receptacles for their eggs when laid, birds offer many interesting peculiarities. Some will content themselves with the bare ledge of a rock, the pyriform shape of their eggs being the only safeguard against their falling over the precipice; others deposit their eggs on a mass of sea-weed or in a floating nest composed of rotten aquatic plants, as is the case with the Grebes. Where a more ambitious structure is erected, we find every degree of complication, from the loosely built platform of the Wood-Pigeon to the elegant lichen-crustured nest of the Long-tailed Tit. Each species shows in its nesting a most perfect adaptation to the exigencies of the situation. Where, like the nest of the Sedge-Warblers, it is swayed to and fro amidst the reeds by every passing wind, the deep purse-like shape of the interior is a safe provision against the eggs being blown out; under our eaves the homely Martin plasters its nest of mud; the Goldcrest hangs its hammock-like cradle beneath the tip of a pendent fir bough; and in holes of trees and walls the Tits delight to construct their felted nests.

I should fatigue my readers and exceed the latitude allowed me in this introduction, were I to dwell longer upon the situations affected by various species in their nidification, or the wondrous forms shown in the construction of their homes. Otherwise I might dilate upon the ingenuity displayed in the dome-like nests of the Magpie, in the approach to that shape seen in those of the common House-Sparrow when built in trees, or in the fish-bone floor of the Kingfisher's retreat; but all these will be found more fully dwelt upon in the descriptions attached to the representation of each species in the body of the work. I may, however, remark in passing that the structural skill displayed by many of our birds is far surpassed by that of certain foreign species; and we are struck with astonishment when we gaze upon such nests as those of the Tailorbird, the Sociable Grosbeak, the Weaverbird, the *Icteri* or Hang-nests.

In writing upon subjects connected with ornithology I find the associations of my boyhood ever flitting before me. Well can I recollect the dried body of the brightly coloured Kingfisher hanging from the cottager's ceiling, and supposed by its movements to point the direction of the wind*—a superstition now, like many others, happily abandoned. Well do I recollect also the particoloured strings of eggs with which I and my companions delighted to festoon the walls, and which were rigorously destroyed in our games before the termination of the year, in order to ward off the ill-luck otherwise supposed to ensue. I can still

* "But how now stands the wind?

Into what corner peers my halcyon's bill?"

MARLOWE'S *Jew of Malta*.

remember with what intense admiration I was filled in gazing upon the nest and lovely blue eggs of the common Hedge-Sparrow, and the pride I had in consigning them, when blown and thus bereft of half their beauty, to that string which was to hold so many of my subsequent findings. Coequally with the spread of natural history generally, has advanced the interest felt in the collecting of eggs—so much so that even amongst school-boys they now find their way into carefully appointed cabinets, in place of being used only as the plaything of an hour. The study of Oology at the present day may fairly claim an important place amongst the sciences; and, to speak more specially on the subject, I could name several men, whose studies have taken this direction, who follow their taste with such ardour that neither distance nor expense suffice to deter them. One of the most enthusiastic of these was the late Mr. John Wolley, who immured himself in the heart of Lapland for two or three winters for the sole purpose of being sufficiently early on the breeding-grounds to procure such rare eggs as those of the Gyrfalcon, Pine-Grosbeak, Waxen Chatterer, and Smew. To enhance still further the interest attaching to the study of oology, I have only to refer to the beautiful form, colour, and markings of most eggs, and to the difference in the number that are laid by various species. The Common Guillemot and the Razorbill lay but one, and that very large in comparison with the bird; on the other hand the Grouse will lay nearly a dozen; the Swift lays invariably two, and the Swallow four, while some of our Tits deposit from twelve to fourteen. Those eggs which are white are frequently placed in dark situations; but this is by no means a constant rule, since in the case of the Wood-Pigeon and Turtle Dove the eggs are not only fully exposed to light, but, owing to the slight structure of the nest, may be frequently descried through it. Their allies the Stock-Dove and Rock-Pigeon, however, lay theirs in the dark, as does also the Wryneck, all three having white eggs. On the other hand the Nuthatch, Creeper, and many of the Tits, producing speckled eggs, deposit them in holes of trees and other places inaccessible to the light of day.

From the egg to the chick is a natural sequence; and here commences a stage in the life of birds which has been regarded by myself with more than ordinary interest. If any one feature in my illustrations to the 'Birds of Great Britain' has special claims to originality, it is the representation of the young or infantine state of many of the species; and this, I trust, will be duly appreciated by those who possess the work. In the imagination of most people young birds are blind, callow, helpless creatures, depending in every way on the fostering care of their parents, and instinctively opening their gaping bills to receive the food assiduously brought to them. Such a helpless condition as this undoubtedly prevails amongst the young of nearly all, if not all, the *Insessorial* birds; but compare these with those of other forms, and what vast differences are seen! The tiny offspring of the Grebe, emerging from its bursting shell in all the vigour and activity of a fully organized being, is immediately capable of clambering, should danger approach, upon its mother's back, or of seeking security and concealment by diving under a floating leaf. Who is not familiar with the Duckling, which, from birth, equals, if it does not surpass, its parents in the quickness of its movements, and in the skill with which it darts over the surface of the water in pursuit of flies or other insects? As a

means to an end (that of continuing its existence unaided), the young Duck is as perfect as the old bird, though destitute of the power of flight, to be accorded to it hereafter. What the webbed feet and swimming-capabilities are to the immature birds above mentioned, the organs of flight are to the chick of the Gelinotte or Hazel-Hen, which, within a day of its exit from the shell, is endowed with such a development of its primaries and secondaries that it can fly from branch to branch, or dart after its parents through the wood, with an ease and rapidity equal to that of any other little bird. At this early stage the Gelinotte appears all wings, and, from the down which alone covers its body, presents somewhat the appearance of a gigantic moth. The young of the Heron exhibits a very low degree of perfection; but those of the Crane, the Bustard, and the Plover are agile on exclusion. The colouring of the downy stage of young birds is, in many instances, very beautiful, and fantastic indeed in form—exhibiting itself in stripings amongst the Grebes, yellow moss-like marblings amongst the true Plovers, paintings on the face of the Coot, and tortoise-shell blotches on the Black-headed Gull. This peculiar phase in bird-life exists but for a short period, six or eight days; a change then takes place, in the course of which the downy dress, with all its pretty markings, is thrown or, rather, pushed off by a succession of real feathers. In the Starling, among the Insectorial birds, it is exchanged for a uniform coat of brown, which, before the summer is over, is again transformed into a spangled dress of great beauty. In the Golden Plover the moss-like marbling is exchanged for a yellow speckled plumage; the Grebe loses its dorsal stripes, and assumes a silken white breast; the young Coot, deprived of its painted face, soon presents an approach to the colouring of its parent; the grey middle dress of the young Heron gradually merges into that of the adult; and the newly hatched Falcons, which are blind, sprawling creatures covered with white down, pass through a variety of changes between their birth and the commencement of the second year of their existence, when they attain their perfect adult plumage, never again to be altered. Changes of a similar description also occur among the Owls. Many, if not most, birds, in fact, undergo a succession of alterations in their costume between birth and maturity; but as there is no rule without an exception, so there are some birds which are not subject to any great change of this kind: for instance, the Kingfisher from the first is nearly as fine in colour as when adult, as are also the Roller, the Waxen Chatterer, the Tree-creeper, and the Nuthatch.

In the foregoing passages I have described some of the remarkable changes which birds undergo between youth and maturity; but however interesting and curious may be the details of their infantine states, their progress through middle life is not less so; while the culminating point, so far as costume is concerned, has not yet been reached; for, wonderful as are the phases through which they have progressed, these are as nothing compared with the assumption of the richer dress and colouring that obtains at the pairing-season. The transformations that take place in the Plovers and many other species at this period are indeed most remarkable, and, I believe, little known to any but ornithologists. The white breasts of the Golden and Grey Plovers now become of a jetty black, and the same part of the Godwits of a rusty red;

the Lesser Gulls have hoods of brown, and the Terns caps of glossy black, presenting a striking contrast to their coral-red feet ; the Divers doff their brown dress for a chequered one of black and white ; the Sparrow acquires a black bill, the Chaffinch and the Hawfinch blue ones ; and the whole are now decked for their summer duties, after the performance of which they again resume the garb of winter, and retain it until the following spring.

Of the myriads of created beings which adorn our globe, birds must necessarily rank highly in the estimation of man, and be to him at all times objects of the greatest interest, inasmuch as they not only contribute in a hundred ways to his delight, but many of them to his sustenance. The buoyant Eagle, soaring in aërial evolutions towards the sun, elicits his admiration ; and the rapid stoop of the Falcon excites his wonder. The Owl, which with noiseless flight crosses his path during its nocturnal prowlings, induces his surprise at the readiness with which it discerns the agile mouse and other small quadrupeds among the grass. If the fields attract him to roam in the daytime, the Lark and the Corn-Bunting are his companions ; and he hears the voice of the Yaffle, proclaiming the approach of rain. If in the woods he is induced to stroll, the coo of the Pigeon strikes his ear, or the tapping of the Woodpecker arrests his attention, the songs of the Thrush, the Ouzel, the Blackcap, and other sylvan birds, with the Nightingale at their head, afford food to his mind and sweet music to his ear ; the Crows, the Rooks, and the Daws attract his notice ; and he does not fail to observe the difference in their cries, actions, and economies. In the neighbourhood of streams the bright meteor-like flash of the Kingfisher, the heavy flutter of the Moorhen, and the skimming flight of the Summer Snipe induce him to note how differently birds pass through the air, and to contrast the comparatively slow movements of the latter with the sweeping flight of the Swift, which nearly outstrips the wind. On the shores of the ocean a flood of new objects meet his gaze—the fairy-like Tern, the more robust Gulls, with Cormorants and many other aquatic species. In the marsh he hears the Snipe drum, the Bittern boom, and the plain-coloured Reed Warblers pour forth a succession of querulous sounds when intruded upon. While enjoying the invigorating air of the downs, though now deprived of the pleasure of seeing the stately Bustard, perchance his attention is arrested by the trippings of the Dottrel ; the Stone-Plover may rise at his feet, and wing its way over the hill to a place of security ; or the Wheatear and the Furze-Chat may attract his notice, the former by the whiteness of its rump, and the latter by being perched on the very top of a furze bush ; and if it be autumn, the heavy, flapping flight of the Pewit will show him that its structure is not so well adapted for passing through the air as that of the sharp-winged Golden Plover.

In studying the denizens of our inland waters other opportunities for drawing a comparison will present themselves ; he will not fail to remark the wondrous principle of adaptation which enables the frightened Grebe after its plunge to progress with the aid of its wings as rapidly beneath the surface as the Coot with

drooping legs over it. Instances almost without end of the delight which the study of birds affords might be cited ; but I will now say a few words on their uses as articles of diet.

As a rule, birds are far less utilized in this country than on the Continent, where even the smallest are eaten, the Robin, the Wryneck, and the Wren not excepted, as a visit to the markets of Paris and Rome will testify, the sylvan Beccaficos and the Ortolans being specially regarded as *bonnes bouches*.

Among the water-birds, the Scoters and other diving ducks, being regarded as partly fish and partly fowl, are allowed to be eaten on fast-days, and are therefore in great request ; and Mr. Augustus Smith, of Scilly, tells me that the French sailors who land on those islands frequently ask his permission to kill Cormorants and Shags, considering them, as they do, the best of fowl. The Gannet is largely eaten in the northern parts of the kingdom ; while the Fulmar not only forms the principal diet of the St.-Kildan, but its feathers constitute his bed, and its oil furnishes him with medicine and the means of light. The late Mr. John Macgillivray states that the eggs “are much esteemed by the natives, who gratify their partiality by robbing all the nests in the month of May, and apparently trust to the bird laying a second time ;” “and,” adds Mr. Robert Gray, “the young is valued more than all the other tribes of birds taken together ; it may be said to be their staff of life. The 12th of August, if a notable day on the moors, is more so on the rocks of St. Kilda ; for it is the harvest of the people, who are aware that it will only last eight days ; and therefore sleep itself is banished for this space, seeing that the millions that may be left on the eighth day after the 12th are sure to be off to their own fairy world for a season. The number killed in this one week may be from *eighteen to twenty thousand*.” In a valuable paper on the Solan Goose or Gannet by Dr. R. O. Cunningham, published in ‘The Ibis’ for 1866, it is stated, on the authority of the celebrated Harvey, that “the young, when they attain the magnitude of the domestic Goose, are sweet and fit for eating ; but the flesh of the old birds is hard, lean, and dry.” And Ray in his ‘Itineraries’ mentions that “the young ones are esteemed a choice dish in Scotland. As the bird feeds upon mackerel and herring, the flesh of the young smells and tastes strong of these fish.”

At the present time, according to Dr. Cunningham, “from one to two thousand of the young birds are killed annually for sale, and after being plucked obtain prices of from sixpence to a shilling each. At one time they figured at the tables of the Scottish monarchs, and more recently were esteemed by the citizens of Edinburgh and other towns, being roasted and eaten as a relish before dinner. Now, I believe, their consumption is chiefly limited to the lower classes ; and I have been informed on good authority that, after being parboiled and having had their legs cut off, they are sold in considerable numbers to the Irish peasants who come over to Scotland at harvest time.”

It is quite impossible to give an estimate of the numbers of wild Ducks and Geese that are yearly

consumed in the three kingdoms; but that they are immense will be readily conceived when it is stated that from the various decoys, and from the Continent, hundreds, if not thousands, are weekly sent to the markets of the metropolis and other large towns, to which the professed wild-fowl shooter also transmits his quota of Widgeons, Pochards, and Brent Geese. The Common Pewit and the Golden Plover are largely consumed, as are also the Stints and other strand-loving birds. The supply of Snipes and Woodcocks is dependent in a great measure upon the nature of the season, as is also, to a certain extent, that of the Wood-Pigeon, the Partridge, the Grouse, the Pheasant and other game-birds. The Dottrel, which passes over our islands from south to north during the month of May, is subjected to a large annual toll, and, with the imported and fattened Quail and the Ortolans, form delicate viands for the tables of the wealthy and of the epicures who require such whets for their appetites, and who can afford their purchase. Besides the species above mentioned, many other kinds, and even the eggs of several, are diligently sought for—those of the Lapwing, Black-headed Gulls, and Guillemots, especially the former, being in great request. These remarks may appear trite, but they serve to show that many of our birds are extensively utilized.

Much has been written upon the classification, general structure, power of flight, and senses of birds; but were I to go into detail upon these matters I should only be reproducing what has been so ably treated by such men as Macgillivray, Owen, Jerdon, Flower, Huxley, Parker, and others. I cannot, however, conclude the present introduction without touching lightly on some of these points.

Most writers on Natural History have placed the class Aves immediately above the Reptiles and below the Mammals, from either of which they are clearly separated by the distinctive characteristics shown in their general form, habits, feathered covering, and powers of flight. It is in regard to some of these that I would now wish to say a few words. All those who have studied the anatomy of birds, even but cursorily, must have become specially aware of the wonderful adaptation shown by nature in fashioning the skeleton so as to enable the creature to support itself in the air with the least possible exertion, and propel its body with varying degrees of swiftness through that element; they will have noticed that this power of flight is aided to a considerable extent by the fact of the bones being hollow, and their cavities communicating for the most part with the cells of the lungs—a provision ensuring the maximum of strength with the minimum of weight.

The wings of birds modify in various ways the velocity with which they are capable of cleaving the air. Some, like the Land-Rail and the Bittern, with rounded wings, evince considerable reluctance to quit the ground, and, when they do so, merely fly to a short distance; others, such as the Auks and Penguins, have indeed but the rudiments of those organs; while others, again, have their wings and pectoral muscles

developed to such an extent that extraordinary rates of velocity and distances traversed have been recorded. Thus Mr. Charles Boner states, in his 'Forest Creatures,' that the flight of the Eagle is sixty feet per second, being at the rate of somewhat more than forty miles per hour; and my friend Mr. White Cooper mentions, in his 'Zoological Notes and Anecdotes,' that "the flight of a Hawk is calculated at one hundred and fifty miles an hour; and the anecdote of the Falcon belonging to Henry IV. of France, which flew, in one day, from Fontainebleau to Malta, a distance of thirteen hundred and fifty miles, is well authenticated."

Mr. Harting, in his interesting 'Ornithology of Shakespeare,' mentions that the flight of the Common Swallow (*Hirundo rustica*) has been computed to be at the rate of ninety miles an hour. If this be a just computation, that of the Alpine Swift must be twice as great; but these are as nothing when compared with the velocity of the Frigate bird (*Tachypetes aquilus*), which, says Audubon, "is possessed of a power of flight I conceive superior to that of perhaps any other bird. However swiftly the Cayenne Tern, the smaller Gulls, or the Jager move on the wing, it seems a matter of mere sport to it to overtake any of them."

"There are two facts observable in all birds of great and long-sustained powers of flight," remarks the Duke of Argyll, in his admirable 'Reign of Law.' "The first is that they are always provided with wings which are rather long than broad, and sometimes extremely narrow in proportion to their length; the second is that the wings are always sharply pointed at the ends. Let us look at the mechanical laws which absolutely require this structure for the purpose of powerful flight, and to meet which it has accordingly been devised and provided. One law appealed to in making wings rather long than broad is simply the law of leverage and a long wing is nothing but a long lever. The mechanical principle or law, as is well known, is this—that a very small amount of motion (or motion through a very small space) at the short end of a lever, produces a great amount of motion (through a long space) at the opposite or longer end. This action requires, indeed, a very intense force to be applied at the shorter end; but it applies that force with immense advantage for the purpose in view, because the motion which is transmitted to the end of a long wing is a motion acting at that point through a long space, and is therefore equivalent to a very heavy weight lifted through a short space at the end which is attached to the body of the bird. Now, this is precisely what is required for the purpose of flight." The preceding extract is sufficient for my present purpose; but my readers will find many other interesting remarks on the laws affecting and governing the flight of birds, in the work above mentioned, to which I would earnestly direct their attention.

Birds, like other animals, are endowed with the usual senses; but these vary in degree of perfection in accordance with the variety in their habits. That that of sight is very highly developed is amply testified in the Kestrel, whose eyes must be almost telescopic to enable it to see an insect or a mouse on the ground from the great elevation at which it usually hovers; the familiar Robin, who discovers the wriggling worm

at a distance of many yards, must also be endowed with acute powers of vision; nor can it be less perfect in the Shrike, who sallies forth from his chosen branch to secure with unerring aim the passing fly or beetle. The Vulture, provided with organs of equal if not even greater power, descries from an enormous distance a dying camel, a stranded sheep, or any other earthly creature which has met with misfortune, and by his peculiar motions gives the cue to others of its kind from still greater distances and various points of the compass; for “wheresoever the carcase is, there will the Eagles be gathered together.”

The sense of smell is most acute in the *Anatidæ* or Duck tribe, but, according to my experience, seems to be entirely wanting in the *Raptores* (Vultures, Eagles, &c.).

That of hearing would appear to be most perfect in the Owls, as testified by their highly developed auditory conch; at the same time it is by no means wanting in many other families of birds.

Neither can the sense of feeling be absent from the probing bill of the Woodcock and the members of the *Scolopacidæ* generally.

Should any of my readers wish to enrich their knowledge in this direction, I must refer them to the works of the writers mentioned above. In ‘The Birds of Great Britain’ my chief aim has been to give a faithful representation of the various species, and to record, in addition to the notes of others, such observations as my lengthened study in this branch of science has enabled me to make.

The following arrangement will give a general view of ‘The Birds of Great Britain.’ with some additional information respecting them obtained during the progress of the work, and notices of those species which have occurred in the British Islands, but which are not, in my opinion, entitled to a place in our fauna and consequently have not been figured.

The Vultures, a family of birds whose proper home is the warmer countries of the world, are but feebly represented in the British Islands, where, indeed, the appearance of the two species which have occurred therein must be regarded as purely accidental, our islands being fortunately exempt from those visitations which render the presence of these useful scavengers a matter of great importance. The family comprises about twenty-four species, divided among ten or twelve genera, the greater part of which inhabit Eastern Europe, Africa, and India; the remainder frequent America, and extend their range from the United States to Chile.

ORDER **RAPTORES.**Family **VULTURIDÆ.**Genus **NEOPHRON.**

1. **NEOPHRON PERCNOPTERUS** Vol. I. Pl. I.

EGYPTIAN VULTURE.

We have very positive evidence that this bird has been killed in Somersetshire and Essex, of which occurrences the particulars will be found in my account of the species.

Genus **GYPS.**

2. **GYPS FULVUS.**

Griffon Vulture.

This bird has still less claim to a place in the British Fauna than the Egyptian Vulture; I have therefore not given a plate of it, notwithstanding that its occurrence has been recorded by Thompson, and that Yarrell has figured it from a specimen “caught by a youth on the rocks near Cork harbour in the spring of 1843. The bird was full-grown; the plumage perfect, without any of the appearances consequent on confinement; it was very wild and savage, and was in perfect health.”

This Vulture is of large size and proportionate strength, possesses great sustaining powers of flight, and enjoys a widely extended geographical range, being found in Germany, France, on the Pyrenees, in Spain. It also occurs in the Grecian archipelago, Candia, Egypt, and other parts of North Africa; and Dr. Jerdon states that it also inhabits Western Asia and the Himalaya Mountains. It makes a large nest, 3 or 4 feet in diameter, on rocks and high trees, and lays two, or sometimes three, elongated white eggs nearly as large as those of a Goose.

Family **FALCONIDÆ.**Subfamily **AQUILINÆ.**

Eagles are very generally spread over the temperate and warmer portions of the globe. Four species frequent the British Islands—namely, two of the genus *Aquila*, one of *Haliaëtus*, and a *Pandion*.

Genus AQUILA.

3. AQUILA CHRYSÆTOS Vol. I. Pl. II.

GOLDEN EAGLE.

A bird of the northern portion of Britain, where it still breeds, as it formerly did in Derbyshire and is also said to have done in North Wales. The young are apt to wander southwards; and hence we occasionally see immature examples in England, but seldom adults.

4. AQUILA NÆVIA Vol. I. Pl. III.

SPOTTED EAGLE.

The native home of this bird is the eastern portion of Europe, North Africa, and India. To England its visits are purely accidental; yet it has been killed therein six or seven times—namely, once in Hampshire, twice in Cornwall, and thrice in Ireland.

When mentioning in my account of this species that the second Cornish example, killed near Carnanton, is now in the Truro museum, I ought to have added “to which institution it was presented by E. Brydges Willyams, Esq.”—an omission which I now rectify.

Genus HALIAËTUS.

5. HALIAËTUS ALBICILLA Vol. I. Pl. IV.

SEA-EAGLE.

Inhabits Greenland, Europe, and North Africa. More maritime in its habits than the Golden Eagle. Breeds in the north. Feeds on fish and garbage of any kind thrown up by the sea.

Since my account of the Sea-Eagle was printed, Captain Elwes has published, in ‘The Ibis’ for 1869, an interesting paper on the bird-stations of the Outer Hebrides.

Speaking of the Shiant Isles, “a small group lying in the Minch, about six miles from the coast of Lewis,” he says:—“There is a celebrated eyry of the White-tailed Eagle (*Haliaëtus albicilla*) here, which has been used from time immemorial and is mentioned by Martin, who wrote nearly two hundred years ago. I think it is as perfectly inaccessible as any nest can be, owing to the way in which the rock overhangs, and, if the birds are not destroyed, will remain in use for centuries.”

Genus PANDION.

6. PANDION HALIAËTUS Vol. I. Pl. V.

OSPREY.

Formerly common in Scotland (where its eyry might have been found on most of the ruined castles in the neighbourhood of, and on the islands in the lochs), it has now become scarce, and, unless it be protected, will soon be extirpated. If, as has been supposed, there is but one species of this form, then it may be said to be almost universally distributed over the other parts of the Old World, as it also is in the greater part of the New. Lives almost wholly on fish. Is a summer visitant, arriving at its breeding-places in the spring, and departing southward in autumn.

Subfamily BUTEONINÆ.

Buzzards are found in nearly every country of the globe. The fauna of Europe comprises three or four species, all of which have been killed in Britain; but of these, one has but slender claims to be enumerated among the birds of our islands.

Genus BUTEO.

7. BUTEO VULGARIS Vol. I. Pl. VI.

COMMON BUZZARD.

Formerly very common in many of our counties, it still breeds in some of them, particularly in certain parts of Kent.

8. BUTEO DESERTORUM.

Falco desertorum, Daud. Traité d'Orn. tom. ii. p. 162.

—— *cirtensis*, Levaill.

—— *vulpinus*, Licht.

—— *capensis*, part., Schleg.

—— *tachardus*, Bree, Birds of Eur. vol. i. p. 97.

—— *anceps*, Brehm.

Mr. J. Clarke Hawkshaw has favoured me with the skin of a Buzzard which, he tells me, was killed at Everley, in Wiltshire, in September 1864. After having made a careful examination of the specimen,

Mr. J. H. Gurney assures me that it is an example of the species to which the above names have been assigned by the various authors mentioned, that of *desertorum* having the precedence. The countries frequented by it are Algeria, Mogador, European Turkey, the mouths of the Volga, Syria, India, and Ceylon.

Mr. Gurney considers that there is no specific difference between this bird and that which is named in collections *Buteo cirtensis*. He came to this conclusion after examining specimens from Mogador, Tangiers, Erzeroum, and the mouths of the Volga. It is included by Schlegel in his 'Fauna Japonica;' so that it has a very wide range.

"The appearance of this bird when alive," says Mr. Gurney, "is less heavy and more elegant than that of *B. vulgaris*. My living specimen, which was dull-brown when I bought it, has moulted into a rich rufous plumage; and one that was alive in the Zoological Gardens a few years since, underwent a similar change." According to M. Favier, it nests among the rocks, and the male takes its turn in sitting. The egg has a strong resemblance to that of the Black Kite, but is a little more pointed, and the ground-colour a cream-white, that of the former having a greenish tinge.

Mr. Gurney states that "the cere, tarsi, and feet of this Buzzard are lemon-yellow; the irides are sometimes light-hazel, and at others yellow, probably assuming the latter colour as the bird advances in age; a similar variation, however, which exists in the irides of the Common Buzzard is not always referable to age, as I have ascertained by experience."

9. BUTEO LINEATUS.

Red-shouldered Buzzard.

It becomes necessary to notice this species, a single example having been shot at Kingussie, in Aberdeenshire, on the 26th of February, 1863. It is now in the collection of Mr. Newcombe, of Feltwell Hall, Brandon, Norfolk. As this is a strictly North-American species, I do not consider it necessary to figure it; but such of my readers as may desire to know its history can refer to the writings of Wilson, Audubon, and other authors on American birds.

Genus ARCHIBUTEO.

10. ARCHIBUTEO LAGOPUS Vol. I. Pl. VII.

ROUGH-LEGGED BUZZARD.

Arrives in the British Islands in autumn, occasionally in considerable numbers, when moving in

migratory flocks. Its nest is stated to have been once found near Hackness, in Yorkshire, and also in the neighbourhood of Banff (*vide* 'Ibis,' 1865, p. 12).

Genus PERNIS.

Of this form there are two very distinct species—one, the *P. apivorus*, inhabiting Europe, and the other the *P. cristatus* of India. The natural food of both, besides small quadrupeds, birds, and garbage, is honey, bees and wasps, and their larvæ.

11. PERNIS APIVORUS Vol. I. Pl. VIII.

HONEY-BUZZARD.

A summer visitant to us and to Central Europe, which, after breeding, migrates southwards to pass the winter.

Subfamily ASTURINÆ.

Genus ASTUR.

Of this form two species have been regarded as pertaining to the British fauna—namely, the *Astur palumbarius* of Europe, and the *A. atricapillus* of America. In the present work only the former has been figured.

12. ASTUR PALUMBARIUS Vol. I. Pl. IX.

GOSHAWK.

Very generally dispersed over Europe, North Africa, India, and China; occasionally killed in Scotland, where it sometimes breeds.

13. ASTUR ATRICAPILLUS.

American Goshawk.

This American wanderer has certainly been killed at least three times in the British Islands—once in Scotland and twice in Ireland. Respecting the first of these examples, Mr. R. Gray, in his recently published 'Birds of the West of Scotland,' says:—

"In May 1869, when visiting the town of Brechin, in Forfarshire, I was fortunate in finding a very

handsome specimen of this Goshawk in the hands of a bird-stuffer there, who had obtained it a short time previously from a keeper in Perthshire, along with a number of Snow-Buntings and other birds shot by him on the flanks of Schiehallion, and all recently skinned."

The following notes respecting the second example were published by Sir Victor A. Brooke in 'The Ibis' for 1870. "I have the pleasure of informing you of the occurrence in Ireland of *Astur atricapillus*, an example of which was shot in the Galtee Mountains in February last, and was at first believed to be a common Goshawk (*A. palumbarius*); but having since had the opportunity of examining some specimens of that species in Lord Lilford's collection, I immediately detected the difference between them and the Galtee bird. Upon returning to Ireland, with the kind permission of Dr. Carte I compared it with a specimen of *A. atricapillus* in the Dublin Society's collection, and cleared up any doubt that remained on my mind, the closely set transverse bars, the longitudinal streaks (stronger and bolder than in the European species), the general dusky appearance of the breast, and the dark slate-blue head removing all question on the subject. The bird was a mature female, and weighed 3 lb. 7 oz.; the ovary was somewhat enlarged; and the stomach contained the remains of a rabbit." Of the third example, all that has been recorded is that it was shot shortly after the above, near Parsonstown, King's County, and was also a female.

A certain amount of interest attaches to the occurrence of these Goshawks, inasmuch as it tends to show how frequently American birds cross the Atlantic to our shores; but if all such visitants were to be figured, how greatly extended would be the 'Birds of Great Britain.'

Subfamily ACCIPITRINÆ.

Genus ACCIPITER.

Of this genus only one species frequents the British Islands; but several others are found in Africa, India, China, North and South America. The whole of them are active, dashing birds, often flying near the ground and suddenly surprising the smaller insessorial species, upon which they principally prey. The sexes differ considerably in size, the males being much smaller than the females. A character by which they are at once distinguished from the *Asturinae* consists in the great length of their middle toes.

14. ACCIPITER NISUS. Vol. I. Pl. X.

SPARROW-HAWK.

A common, stationary species, breeding in all our counties.

Subfamily FALCONINÆ.

Genus FALCO.

The members of this genus are preeminently bold, courageous, and sanguinary, many of them, especially the Gyr Falcons and Peregrines, not hesitating to attack in the air birds much larger than themselves; and when trained for hawking, as they have been from time immemorial, their courage and daring is so much enhanced that they will engage with birds of even larger size than they do in their wild state. Structurally they are better adapted for a quick and arrow-like flight than any other of the Raptores.

One or other of the numerous species of this group inhabit nearly every portion of the globe. The Gyr Falcon and its immediate allies are almost solely confined to the high northern regions, whence they migrate during autumn and winter towards the equator, but never across it.

The Peregrines are much more generally dispersed than the Gyr Falcons, the various species frequenting most countries both north and south; thus the form exists in Europe, Asia, and Australia, in Africa also from the Atlas range to the Cape of Good Hope, and in America from the latitude of Hudson's Bay to Tierra del Fuego. The smaller Falcons, such as the Hobby and Merlin, are also more or less represented in each country, but generally, although not exclusively, are of different species.

15. FALCO ISLANDUS Vol. I. Pl. XI.

ICELAND FALCON.

The subject of the great northern Falcons will be found so fully treated of in the body of the work that it would be mere tautology to say more here than that this bird is, as its name implies, a native of Iceland, and, but more sparingly, of Greenland. It is also said to be found in Hudson's Bay and other of the extreme northern parts of America. Occasionally adults, but more frequently young birds of the year, wander as far south as the British Islands.

16. FALCO ISLANDUS Vol. I. Pl. XII.

ICELAND FALCON (young).

Appears to be darkly coloured from the nest, but never so deep in tint as that of the true Gyr Falcon.

17. *FALCO CANDICANS* Vol. I. Pl. XIII.

GREENLAND FALCON.

This species inhabits the icy regions of Greenland, Hudson's Bay, and other parts of Arctic America, and is less frequently seen in the British Islands in the adult state than the *F. islandus*, from which it is distinguished by the extreme whiteness of its plumage, and by the young being lightly coloured from the nest.

18. *FALCO CANDICANS* Vol. I. Pl. XIV.

GREENLAND FALCON (dark race).

My plate represents a supposed dark race of the preceding species ; but as the strongly defined marks on the back vary considerably in different individuals, and the tail-feathers differ still more so, some being wholly white, others barred, and others, again, having irregular dark markings, I am induced to regard these darkly marked birds as the result of a cross between *F. islandus* and *F. candicans*. The young appear to be lightly coloured from the nest ; but a considerable difference takes place at the first moult, when the feathers of the back are ornamented with long and broad blotches, offering a strong contrast to the narrow lunate cross markings of the old bird. I have been induced to give two figures of these unusually marked birds.

19. *FALCO CANDICANS* Vol. I. Pl. XV.

GREENLAND FALCON (dark race, young).

Lord Cawdor's bird, now in the British Museum, from which my figure of the Gyr Falcon in the 'Birds of Europe,' and Mr. Yarrell's in his 'British Birds,' were taken, is a young specimen of this race ; and it is in this stage that most of the individuals are found with us.

20. *FALCO GYRFALCO* Vol. I. Pl. XVI.

NORWEGIAN or GYR FALCON.

The true Gyr Falcon of Norway, Sweden, Finland, and Western Russia is a smaller bird than the three preceding ; and both the adult and young are darker in colour. As yet, it has not been found in the British Islands, although its native country is so near at hand. The plate has been given to show the differences which exist among these northern Falcons, to which Professor Kaup has applied the separate generic appellation of *Hierofalco*.

21. FALCO PEREGRINUS. Vol. I. Pl. XVII.

PEREGRINE FALCON.

Besides Great Britain, the Peregrine frequents Greenland, Iceland, the whole of Europe, North Africa, India, and China.

The following note, illustrative of one of the habits of this bird, kindly communicated to me by the Duke of Argyll, will prove of interest. It is dated from Inverary, June 4, 1868. "I find we are rich this year in nests of the *Falconidæ*:—two of the Peregrine; two of the Hen-Harrier, and a third, the spot not yet discovered; and one of the Merlin. One of my keepers, who is, I think, a reliable man, tells me that the day before yesterday, when he was watching one of the Peregrines' nests, he saw the male come from across Loch Fyne with a bird in his talons. When he cried, the hen bird came out of the precipice and joined him in the air, and took from the male the bird he was carrying. This must have been a pretty sight."

22. FALCO SUBBUTEO Vol. I. Pl. XVIII.

HOBBY.

A summer bird in our islands, where it breeds in woods, either in the forsaken nest of a Crow or in one which it builds for itself. I have received Hobbies from other countries besides Britain and the continent of Europe, viz. India, China, and Africa, but not from America, where, indeed, it is not found. This bird and some others of the same form have been deemed sufficiently distinct from the other Falcons to constitute it the type of a separate genus; by those authors, therefore, who adopt minute divisions of genera, it is termed *Hypotriorchis subbuteo*, instead of *Falco subbuteo*. It is less bold and sanguinary than the Peregrine or the Merlin, feeds on insects to a considerable extent, particularly Chafers, and consequently is somewhat crepuscular in its habits, such large insects being principally obtainable as they flit round the tops of great trees after sunset.

23. FALCO ÆSALON Vol. I. Pl. XIX.

MERLIN.

This bird has also been removed by Professor Kaup from the genus *Falco* into that of *Æsalon*, a division which, being a very natural one, the scientific ornithologist will not repudiate; but in a work on our native birds these minute divisions are scarcely admissible, since the finding of so many of their old friends under new appellations could scarcely be otherwise than distasteful to my readers. In many instances where I have departed from the practice of the older naturalists, I have been not lightly censured for the innovation; but

the time will come when the generic appellation bestowed upon each distinct form will be more generally adopted.

The Merlin of the British Islands is by no means the only representative of the genus *Æsalon*; for there are several very distinct species in other countries, the names of which would be given were I writing a work on general ornithology instead of one on the birds of a limited area.

The *F. æsalon* is a resident species, and very generally dispersed over the three kingdoms.

Genus ERYTHROPUS.

At least two species of this elegant form are known. Of these, one, *E. vespertinus*, is a native of South and South-eastern Europe, but occasionally wanders into Britain; the other, *E. amurensis*, is found on the Amur, in Nepaul, and over the greater part of South-eastern Africa. In disposition these birds are less sanguinary than the true Falcons; and their food consists principally of insects and their larvæ.

24. ERYTHROPUS VESPERTINUS Vol. I. Pl. XX

ORANGE-LEGGED HOBBY.

Although truly but an accidental visitor, at least thirty specimens have from time to time been killed in the British Islands, the greater number in England—Ireland and Scotland contributing only one each.

Genus TINNUNCULUS.

The birds trivially termed Kestrels comprise many species which are very generally dispersed over the Old World, Australia not excepted. In the New they are less numerous; and those that are there found have been formed by Professor Kaup into a distinct genus, that of *Pæcilornis*.

25. TINNUNCULUS ALAUDARIUS Vol. I. Pl. XXI.

KESTREL.

The “Windhover,” as this bird is also termed, is so well known to every one who visits the country and “has eyes to see, and a mind to observe,” that any special comment respecting it is unnecessary. The whole of Britain, the continent of Europe, Africa, India, and China are also frequented by it. Its food is much varied; for it eats insects, mollusks, fish occasionally, and the young of most of the field-loving birds which nest on the ground, and, when opportunity offers, does not object to the young of the Partridge and

Quail. Such propensities, however, are in my opinion but a trifling counterpoise to the usefulness of this elegant bird; in fact it deserves protection instead of that extermination which will be its fate if a more friendly feeling than at present exists cannot be created in its favour.

26. TINNUNCULUS CENCHRIS.

Lesser Kestrel.

In June 1868, the Museum of the Yorkshire Philosophical Society was "fortunate enough to obtain a fine specimen, killed within a few miles of York, of a species of Falcon, the occurrence of which in this country has, I believe, never before been authentically recorded, namely the Little Kestrel of South-eastern Europe (*Tinnunculus cenchris*, Naum.). The specimen, which is a mature but apparently not an old male, was presented to the Museum by Mr. John Harrison, of Wilstrop Hall, near Green Hammerton, who shot it upon his farm at that place, after having observed it for some little time flying about. The date, he thinks, was about the middle of last November; but of this he took no note, as he at first thought the bird was merely a small and curious variety of the common Kestrel. It, however, presents all the distinctive characters of *Tinnunculus cenchris*, among which the yellowish white claws may be mentioned as affording an easy means of identifying the bird."

This bird has been forwarded by the authorities of the Museum for my inspection; and I find it to be, as represented, an example of the above species. I have not, however, figured this bird; it would be desirable to see other examples.

27. TINNUNCULUS SPARVERIUS.

American Kestrel.

A specimen of this bird, killed in Yorkshire, is now in the possession of the Rev. C. Hudson, of Trowell Rectory, near Nottingham, who states that it has been in his possession for about twelve years, and that he purchased it from a joiner named Brown, formerly living at Thorpe Hall, who was an enthusiastic collector of birds, and in the habit of preparing them for people in that neighbourhood. Brown's account of the bird, which he denominated the "American Falcon," was that it was shot between Bridlington and Bridlington Quay, one Sunday morning, by a man who sold it to him for eighteen pence. Through the kindness of Mr. F. J. S. Foljambe, Mr. Hudson kindly sent up his bird for my inspection, when I found it to be a very fine adult male of the American Kestrel, and not, as supposed, a second example of the *T. cenchris*.

Subfamily MILVINÆ.

Genus MILVUS.

The true Kites, or the members of this genus as now restricted, are birds of the Old World, over which they are so generally distributed that, with the exception of New Zealand and Polynesia, one or other of the few species known are to be found in every part of it. Their disposition is less cruel than that of the true Falcons ; and they feed principally on garbage ; they are consequently useful scavengers, and, moreover, arrant thieves.

28. MILVUS REGALIS Vol. I. Pl. XXII.

KITE or GLEDE.

The common Kite of England, which in Shakspeare's time might probaby be hourly seen soaring over the metropolis, is now, thanks to the exterminating hand of man, rarely to be seen in any part of the country. If a solitary pair should occasionally be met with, they should be hailed with reverence as being almost the sole remnant of a departed race—so far as our islands are concerned ; for in Central and Eastern Europe, Asia Minor, and North Africa the species still exists. The Kites build large grotesque untidy nests of moss, wool, rags, and rubbish of every description ; and when our species was plentiful, it must have kept the housewife on the alert for her frills and furbelows hung out to dry on the village hedge, fully justifying Shakspeare's line :—

“When the Kite builds look to lesser linen.”

Inhabits Europe generally, Asia Minor, and North Africa.

29. MILVUS MIGRANS Vol. I. Pl. XXIII.

BLACK KITE.

I have mentioned above the approximate extermination of the English Kite ; and I may now state that, should such unhappily be the ultimate result, it seems likely that its place would be supplied by another species, the *Milvus migrans*, which would seem to show some indication of an intention to come among us, at least in one instance, as will be seen on reference to my plate of the species, which was taken from a specimen killed at Newcastle-on-Tyne.

Inhabits Central Europe, Siberia, Palestine, Africa, and Australia, in which latter country it is only an accidental visitor.

Genus NAUCLERUS.

The single species of this form is remarkably different from all the other Kites. Its more slender structure, lengthened wings, and long forked tail indicate that it possesses vast powers of flight, and that it would experience but little difficulty in making a transit from its native country to even very distant shores, when circumstances force it to leave its own.

30. NAUCLERUS FURCATUS.

Swallow-tailed Kite.

This bird is so strictly American that I have not given a figure of it ; notwithstanding it has been killed at least five times in our islands, the earliest of these occurrences having been at Ballachulish, in Argyleshire, in 1772, since which others have taken place at Wensleydale, at Farnham, in Cumberland, and on the Mersey.

Subfamily CIRCINÆ.

The Harriers, comprising numerous species, are so widely dispersed over the face of the globe as to warrant the use of the term universal with reference to their distribution. In each of the five great divisions of the globe one or other of the seventeen known species are to be found. In Europe there are four, three of which inhabit and breed in Britain. In habits and economy they do not resemble the Falcons, the Buzzards, or the Kites, but assimilate somewhat to the Strigidæ, or Owls. Their actions, indeed, are peculiar to themselves ; and their great flapping wings render them conspicuous objects when flying over a marsh or the sunny side of a moor, with keenly searching eyes, in pursuit of their food, which varies with the nature of the locality. If in the fen, reptiles, from the snake to the newt, are captured and eaten, as are frogs and insects ; at the breeding-season young Snipes, Moorhens, or other nestlings are fortunate if they escape their scrutinizing eyes. They nest chiefly on the ground, and lay four or five white eggs. Their flight is somewhat laboured and flapping.

Ornithologists have divided the Harriers into five different genera ; and even the three which inhabit Britain have each received a separate generic title, a procedure which may seem superfluous to some persons ; but before placing his veto upon it each objector should have all the known species before him, when he would perceive that the great Marsh-Harrier, with its brown plumage, differs considerably from the slender ash-coloured bird with its barred tail, and both from the uniformly coloured and stouter-built Hen-Harrier. Knowing how strong the feeling is against the multiplication of generic terms, I have in this work retained them all in the genus *Circus*.

31. *CIRCUS ÆRUGINOSUS* Vol. I. Pl. XXIV.

MARSH-HARRIER.

31*. *CIRCUS ÆRUGINOSUS* Vol. I. Pl. XXV.

MARSH-HARRIER (young).

The draining-operations which have been carried on of late years in various parts of the country have rendered many of the districts formerly adapted for the well-being of this and many other species no longer tenable by them; and from the great antipathy to this bird exhibited by every land-owner and game-keeper, it is now becoming scarce in this country; but in Holland and other low countries of Europe, Africa, India, and China it still holds its own. The plumage of the yearling and that of the adult birds differ so greatly that I have been induced to give two plates in illustration of these peculiar phases in their history.

32. *CIRCUS CYANEUS* Vol. I. Pl. XXVI.

HEN-HARRIER.

Formerly much more numerous than at present, the all-destroying hand of man being directed towards its extermination; but it still exists in its usual numbers in Scotland, where, Mr. Robert Gray states, it is very common “on all the islands of the Outer Hebrides group, and also throughout the inner islands, Skye, Mull, Islay, Jura, &c., where it is known by the Gaelic name of *Clamhan luch*, signifying mouse-hawk,” and adds that he has “seen twelve or fourteen specimens in one day on Benbecula and North Uist, where its hunting-grounds are of a similar nature.”

The following note on the nesting of this species, from the pen of the Duke of Argyll, will be found of interest. Writing to me respecting some nests of two or three species of *Falconidæ* observed by him at Inverary early in June 1868, his Grace says:—“The Harrier’s nest is on the face of a steep bank covered with long heather, and falling into a stream of considerable size. The nest itself is placed on a little bare shelf or ledge of *Sphagnum* moss, and with none of the heather bending over or concealing it; but the nature of the ground is such that it is not visible from the opposite bank of the stream; and on its own side the face is so steep that it would not be seen unless one were to come a few feet above it; but to birds flying over, the nest must be a conspicuous object. It contained six eggs, pure white, but with a slightly bluish tinge, which, I am told, is deeper when first laid. The nest was composed of dried twigs and stalks of heather as a foundation, and very nicely lined with straw, composed of dried ‘splits’ (or a kind of rush) and one or two bits of dried fern. The straws were nicely laid and bent round so as to take the shape of the nest. The bulk of the whole was small; but the cup was decided though shallow.

“The hen rose from the nest when we came nearly opposite to her, about 150 yards off. She was a fine

large Ringtail, and soared high over the hills. The eggs were all just *chipped* by the approaching extrusion of the young. I took one of the eggs, to see the development of the chick; it was quite naked, but the bill perfectly formed. The keeper tells me that the whole six eggs were laid twenty-seven days ago; therefore it must take about thirty days to hatch them."

33. *CIRCUS CINERASCENS* Vol. I. Pl. XXVII.

ASH-COLOURED HARRIER.

Although I have called this species by the above appellation, it is far better known to British ornithologists by the trivial name of Montagu's Harrier. The wings of this bird are long and curved; and its large fan-shaped tail, crossed by numerous chestnut-coloured bars, must render it very conspicuous during flight. Judging from the result of my own observations, I should say that this is the commonest of the Harriers, and that it is certainly the one most universally dispersed over our islands. Its breeding-places have been found more frequently in Cornwall and other southern and western counties than elsewhere. So widely does this bird range that it is to be found in most of the countries between Europe and China.

I have mentioned that reptiles form no inconsiderable portion of the food of the Harriers; and in confirmation I may quote the following passage from a letter addressed to me by my friend Mr. Gatcombe, on the 3rd of May, 1872:—"A few days since, I had a fine old male Montagu's Harrier brought to me. It was killed on Dartmoor; and from its crop and stomach I took no less than *fourteen* lizards, of two kinds, all nearly perfect, and each full 6 inches long."

Family STRIGIDÆ.

In round numbers there are about 200 different species of Owls distributed over the surface of the globe, only twelve of which were known to Linnæus, by whom they were included in one genus, *Strix*. The entire group are now divided into two great divisions, *Nocturni* and *Diurni*, and these again into minor subfamilies, genera, and subgenera, just as the ornithologist may please to consider them. In England there are ten species, belonging to as many genera. As might be supposed, so large a family of birds vary in size from that of a small Eagle to that of a Sparrow. So extensively are they distributed over the world, that it is almost only in the arctic and antarctic regions that they are not found. They are fewest in New Zealand and Polynesia, and are perhaps more abundant in Australia than elsewhere, not less than six species of true *Strix* inhabiting that country, besides others pertaining to different genera, all of which find a ready means of subsistence in the many small anomalous quadrupeds of that anomalous section of the earth's surface. The excess in the numbers of the White or Barn Owls, as we call our bird, doubtless keeps a wholesome check upon the undue increase of the small animals alluded to. How strange (is it not?) that the neigh-

bouring country of New Zealand should be destitute of small mammals and of White Owls! But this is not the place to enter into a disquisition on the subject; let us proceed to an enumeration of the Owls of our own country.

Genus STRIX.

34. STRIX FLAMMEA Vol. I. Pl. XXVIII.

BARN-OWL.

A strictly nocturnal species, living principally upon mice, insects, and reptiles. Distributed over the three kingdoms and Europe generally. The slight damage attributed to this bird is far over-balanced by the good it effects in the destruction of obnoxious animals.

Genus SYRNIUM.

35. SYRNIUM ALUCO Vol. I. Pl. XXIX.

TAWNY OR BROWN OWL.

Distributed over England and Scotland, but extremely rare in Ireland, if, indeed, it ever occurs there. Lives on mice, rats, moles, and other small quadrupeds; the edges of ponds, too, are frequently examined for any fish that may expose themselves, which it readily seizes. The less its general character is examined the better for its reputation; for, truth to tell, it is a stealthy thief, and commits great depredation among young game, robs the keeper's pens, and does not disdain a chicken; in fact, in its prowling habits it is not surpassed by any other species. It is a bird but seldom seen, either by day or night; and were it not for its merry hoot, uttered in the stillness of the evening, its presence and whereabouts would not be easily detected. It doubtless destroys rats, weasels, and young rabbits in abundance; and this is about all the good it can be said to effect. Besides our islands, the other parts of Europe are constantly frequented by this bird; but for any further particulars respecting it and its habits I must refer the reader to my account of the species accompanying the plate.

Genus BUBO.

The birds of this genus are but few in number; and of these only one favours Britain with its presence; but that one is the finest of the whole.

36. BUBO MAXIMUS Vol. I. Pl. XXX.

EAGLE OWL.

This truly magnificent Owl, which is not surpassed in size or beauty by any member of its family, is a

native of Norway, Sweden, Russia, Germany, the Italian States, Greece, and Siberia, but not India (where its place is occupied by the *Bubo bengalensis*), nor America (in which it is represented by the *Bubo virginianus*). It sometimes comes to England: and it is to be regretted that its visits are not more frequent; for so fine a bird must be an ornament to any country.

The learned are at variance as to whether this species or a little unpretending *Athene* was one of Minerva's favourite birds; both have always inhabited the country around Athens. I must leave it to those who take an interest in classic lore to settle this point to their own satisfaction.

Genus OTUS.

The members of this section of the Owls inhabit both the Old and the New World, but are not very numerous in species. Their fiery eyes and long cat-like ears render them conspicuous objects, whether seen amidst their native woods or as mounted specimens in a museum.

37. OTUS VULGARIS Vol. I. Pl. XXXI.

LONG-EARED OWL.

A constant resident, frequently deposits its eggs in the deserted nests of Crows and other birds, and is partial to pine trees. As its brilliantly coloured eyes indicate, it often flies in the daytime. Feeds upon mice, small birds, and such other food as is commonly eaten by Owls.

“The Long-eared Owl,” says Mr. Stevenson, “is another instance of the changes which have taken place in a few years from local causes in the habits of some of our feathered visitants. Whilst drainage and the plough are fast driving the Harriers and other fen-breeders from their accustomed haunts, the rapid increase in our fir plantations, especially near the coast, affords such inducements to this species to remain and breed with us that the autumn visitant of a few years since, only known to stay through the summer occasionally, may now be more properly termed a numerous resident, receiving additions to its numbers in autumn.”

Genus BRACHYOTUS.

Of this form but few species are known. They mostly fly near the ground, but will often mount high in the air. The action of their wings appears to be of a heavy flapping character, due probably to the rounded form of those organs.

38. BRACHYOTUS PALUSTRIS Vol. I. Pl. XXXII.

SHORT-EARED OWL.

This is both a resident and a migratory species; for, although it breeds in many parts of the British

Islands, particularly in Scotland, great numbers arrive in autumn, at the same time that the Woodcock appears; and hence it is known in some of our counties by the name of the Woodcock-Owl. Full particulars will be found in the pages of letterpress opposite the plate.

Inhabits the moorlands and not the woods, lives upon small quadrupeds and the young of the Grouse and other birds frequenting similar districts. In Norway it feeds upon lemming; it doubtless eats lizards also; and insects probably form part of its diet. Mr. Robert Gray states that in the west of Scotland he has seen this bird "hawking for prey in dull weather at midday over turnip-fields, looking probably for field-mice, which in the autumn months become rather numerous in some places. This Owl, indeed, may be looked upon as a useful friend to the farmer in the localities it frequents."

Genus SCOPS.

Several members of this genus inhabit the northern portions of the Old World; and others are found in the New. They are generally very prettily ornamented; and their bright yellow eyes, conspicuous ear-tufts, and the harmoniously blended grey and brown moth-like markings of their plumage render them objects of especial interest.

39. SCOPS ZORCA Vol. I. Pl. XXXIII.

SCOPS OWL.

As is the case with many other species of birds, it is difficult to define what is the proper home of this beautiful little Owl; but we may with certainty state that it is common in France and all the southern states of Europe. Although it may occasionally breed in England (and Mr. Harting has enumerated twenty instances of its occurrence), it can only be regarded as one of our chance visitors.

Mr. Robert Gray remarks:—"It is a somewhat curious feature in the history of the Scops Eared Owl that it lives wholly upon insects. It is therefore, in temperate countries, strictly migratory in its habits; and in France, where it is not uncommon, it is said to come and go with the Swallow."

40. SCOPS ASIO.

Mottled Owl.

A native of North America and Canada, which it is necessary to notice because it is said to have been twice killed in this country; but, as Mr. Harting remarks, "its occurrence in England must be considered doubtful."

“This small North-American species,” says Mr. Stevenson, “was first included among the accidental visitants to this country by the late Mr. Yarrell, in the third edition of his ‘British Birds,’ in which will be found the notice of a specimen shot in the neighbourhood of Leeds in 1852, of which a figure and description were given in the ‘Naturalist’ for the same year (p. 169). Mr. Gurney informs me that some years back he purchased from the late Mr. Thurtell an adult specimen of this rare Owl, said to have been killed near Yarmouth, but till then supposed to be only a European Scops Owl. This bird was unfortunately destroyed after it came into Mr. Gurney’s possession.”

Genus NYCTEA.

Of this form the single species known is exclusively an inhabitant of the high northern regions of both the Old and the New World.

41. NYCTEA NIVEA Vol. I. Pl. XXXIV.

SNOWY OWL.

I have always regarded this bird as an accidental visitor to England, Scotland, and Ireland; but Mr. J. H. Dunn informs me that forty-five years ago it bred every year on the hills about four miles from Stromness, and Mr. Robert Gray says it may almost be regarded as a regular spring visitant to the Hebrides. Its great size and powerful claws indicate that quadrupeds of considerable bulk are within the compass of its destructive powers; and hence the hare, the lemming, white grouse, and the ptarmigan have but little chance of escape when once enclosed within the grasp of its talons. Its proper home is the icebound regions of the north; in Lapland it follows the lemmings in their migration southwards.

“So little has been published in England,” says Professor Newton, when exhibiting some rare eggs at a meeting of the Zoological Society (Dec. 10, 1861), “respecting the Snowy Owl’s manner of nidification, that I hold myself excused for presenting the information I have been able to collect on the subject. . . . According to Herr Wallengren, Professor Lilljeborg, on June 3rd, 1843, found on the Dovrefjeld a nest of this bird containing seven eggs, placed on a little shelf on the top of a bare mountain far from the forest and easy of access. Professor Nilsson mentions, on the authority of Herr A. G. Nordvi, that the Lapps in East Finmark assert that the Snowy Owl lays from eight to ten eggs, in a little depression on the bare ground on the high mountains. These accounts were in every way corroborated by the information obtained by Mr. John Wolley during his long sojourn in Lapland. He several times met with persons who had found nests of this Owl, and states that he was told the old birds sometimes attack persons that approach their nests. . . . They seem to breed commonly, in the districts explored by him, only when the lemmings are unusually

abundant. From the 16th to the 24th of May is supposed to be the time when they usually breed; and in 1860 a Lapp, who was unfortunately not one of his collectors, found a nest with six eggs, which, instead of preserving, he ate.

“Many specimens, said to be eggs of this bird, have lately been received by European oologists, the majority of which are from the missionaries in Labrador. One of those I now exhibit I obtained from Herr Möschler. He received it, with several others, in 1860, from Okkak, one of the four stations maintained on the coast by the United Brethren. He has had in all more than two dozen from that quarter. The Esquimaux find and bring them to the missionaries; and the accounts they give tally exactly with those I have just quoted from other sources. The bird always breeds on the ground in bare places, and often lays a considerable number of eggs.”

Genus SURNIA.

Hitherto the birds of this form inhabiting Northern Europe and the northern parts of America have been regarded as identical, in which case the genus would consist of a single species; but at a recent meeting of the Zoological Society, Messrs. Sharpe and Dresser have endeavoured to show that the American bird is different from the European.

42. SURNIA FUNEREA Vol. I. Pl. XXXV.

HAWK OWL.

Six or seven instances of the occurrence of the Hawk Owl in Britain are on record.

Genus NYCTALE.

The only member of this genus known to have been found in England is the *Nyctale Tengmalmi*, of Northern Europe and North America.

43. NYCTALE TENGMALMI Vol. I. Pl. XXXVI.

TENGMALM'S OWL.

Although Mr. Harting enumerates twenty instances of the occurrence of this bird in various parts of our islands, it must still be regarded as a rare and uncertain visitor. Its range extends over Europe and Northern Asia, as far south as Nepaul; and if, as Mr. Elliot believes, the species known as *N. Richardsons* is identical with it, then the northern and arctic portions of North America must be included within the circuit of its domain.

Genus *ATHENE*.

This section of the Owls comprises many species, distributed over Europe, India, and other portions of the Old World. By modern systematists these have been subdivided into no less than fifteen subgenera, the particulars of which need not be detailed here, inasmuch as we have only to deal with the single species which visits our country.

44. *ATHENE NOCTUA* Vol. I. Pl. XXXVII.

LITTLE OWL.

A very common bird in France and other parts of Europe. In England it may have and doubtless has occurred more frequently than has been supposed; but it is a bird which cannot be easily detected, however diligently it may be searched for. Numerous instances of its occurrence are on record; and besides the nest mentioned by Hunt as having been taken at no great distance from Norwich, another is reported to have been met with in the New Forest, and the young taken and reared at Harrow.

ORDER INSESSORES.

Family CAPRIMULGIDÆ.

Members of this great family of nocturnal birds frequent the warmer portions of almost every part of the globe, and are nearly as varied in structure as they are numerous in species. In the New World the cave-loving *Steatornis* and the long-tailed *Hydropsales* are among the most conspicuous of the forms inhabiting that section of the world, as the great *Podargi* and the eared *Lyncornithes* are of those inhabiting the Old. Their food mainly consists of insects and their larvæ, with occasionally fruits and berries.

Genus *CAPRIMULGUS*.

The birds of this restricted form are confined to the Old World, over the greater portion of which they range. Two are found in Great Britain.

45. *CAPRIMULGUS EUROPEUS* Vol. II. Pl. I.

NIGHTJAR or GOAT-SUCKER.

The Nightjar, Goat-sucker, or Churn-Owl, by which trivial names this species is known, is a true migrant,

and is very generally dispersed over the British Islands from its arrival in May until its departure in September.

46. CAPRIMULGUS RUFICOLLIS Vol. II. Pl. II.

RED-NECKED GOAT-SUCKER.

An inhabitant of Spain, North Africa, and Palestine, which has once appeared in our islands.

Family CYPSELIDÆ.

The Swifts have been divided into two subfamilies, *Cypselinæ* and *Chæturinæ*. They are found both in the New and the Old World. Two of the *Cypselinæ* occur in Britain; and one of the *Chæturinæ* having in a single instance been killed here, it becomes necessary to include it in the list of our avifauna.

Genus CYPSELUS.

47. CYPSELUS APUS Vol. II. Pl. III.

SWIFT.

Arrives in May and departs southward in August or the early part of September, and is therefore a true migrant.

48. CYPSELUS MELBA Vol. II. Pl. IV.

ALPINE SWIFT.

A common migrant on the continent of Europe, particularly in its central and southern parts; it also inhabits Africa and India, and is an accidental visitor to Britain.

Genus CHÆTURA.

The members of this genus are generally dispersed over America; nor are they absent from Asia, Africa, or Australia. They have been divided into several subgenera; that of *Hirundapus* has been assigned to the single species which in a solitary instance has found its way to Britain; but I retain it under the older term by which it is more generally known.

49. CHÆTURA CAUDACUTA.

Spine-tailed Swift.

The solitary example above alluded to was “shot about 9 P.M. on the 8th of July, 1846, by a farmer’s son, near Colchester, in Essex; he saw it first in the evening of the 6th. He tells me it occasionally flew to a great height, was principally engaged in hawking for flies over a small wood and neighbouring trees; being only wounded, it cried very much as it fell, and, when he took it up, clung so tightly to some clover as to draw some stalks from the ground” (T. Catchpool, jun., in the ‘Zoologist’ for 1846, p. 1493).

If Indian, Chinese, and Australian examples are identical, as I believe they are, then the range of the present species is wide indeed; but possessing, as it does, vast wing-powers, there is no reason why it should not pass and repass from one country to another with the greatest ease. Distance being mere child’s play to a bird so largely endowed with the means of flight, its accidental occurrence in England need not excite surprise.

Family HIRUNDINIDÆ.

The members of this great family of air-frequenting birds are almost universally dispersed—so much so at least that Swallows and Martins are known to the inhabitants of most parts of the globe, except those of New Zealand and Polynesia, where, strange to say, none are to be found.

More than a hundred species are enumerated in our lists, in which large number many variations of form exist, each characterized by some peculiarity in habits, mode of life, kind of food they eat, construction of nest, or mode of nidification. Three migratory species, each pertaining to a distinct genus, make our islands a temporary resting-place during the months of summer.

Genus HIRUNDO.

The species of this form, of which our common Swallow is the type, inhabit Europe, India, China, and North America. They are distinguished for the elegance of their structure and the ease and buoyancy of their evolutions.

50. HIRUNDO RUSTICA Vol. II. Pl. V.

COMMON SWALLOW.

Comment upon this familiar species is quite unnecessary; we all know it arrives in spring, and, after

bracketing its cup-shaped nest in our chimneys and outhouses, and rearing its progeny upon the insects it captures in their neighbourhood, departs again in autumn to more southern climes, carrying with it our god-speed for its welfare until it returns to receive our renewed greeting.

Genus CHELIDON.

Other species besides the clothed-tarsed one frequenting our island are known; they are mostly from India, China, and Japan.

51. CHELIDON URBICA Vol. II. Pl. VI.
HOUSE-MARTIN.

This pretty fairy-like bird arrives about the middle of April, constructs a semiglobular nest of mud under the eaves of our dwellings, and, after rearing its progeny, departs again in the autumn to the warmer country of Africa—where the sun still vivifies an abundance of insect life, and thus furnishes a plentiful supply of food to these insectivorous birds.

Genus COTYLE.

A very distinct little group are the Sand-Martins, whose habits are peculiar and very different from those of the Swallow or the House-Martin. They inhabit the Old and the New World.

52. COTYLE RIPARIA Vol. II. Pl. VII.
SAND-MARTIN.

Arrives early in spring, assembles in flocks, breeds in colonies, makes a slight nest in a hole in a sandbank, and, after rearing its young, departs south on the first chilly days of August or September.

53. COTYLE RIPARIA Vol. II. Pl. VIII.
SAND-MARTIN (young)

as seen on the bank of the Thames, in the month of August, prior to departure south.

Genus POGNE.

54. PROGNE PURPUREA.
Purple Martin.

A strictly American form, of which four or five examples are said to have been killed in our islands—one near Dublin, one in Yorkshire, and two at Kingsbury in Middlesex.

Genus — ?

55. — BICOLOR.

White-bellied Swallow.

Another American form, for which a generic title has not yet been proposed. It is said that a specimen has been killed near Derby; vide Wolley, in the 'Zoologist' for 1853, p. 3806, and Newton in 'Proceedings of the Zoological Society' for 1860, p. 131.

Family MEROPIDÆ.

The members of this family are among the most ornamental of the Insectorial birds, and are as elegant in form as they are beautiful in colour. Europe, Asia, Africa, and Australia are the countries in which one or other of the not very numerous species are found. As the thinness of their plumage and the slightness of their form would indicate, they appear to be sensitive to cold; and most of them are resident in the tropical or warmer portions of the countries mentioned, though one species, the *Merops apiaster*, is very common in Spain. Insects of the various orders constitute their chief food. The species have been divided into several genera.

Genus MEROPS.

The species inhabiting Europe is the type of this form.

56. MEROPS APIASTER Vol. II. Pl. IX.

BEE-EATER.

Although there are many instances of the occurrence of this bird in Britain, it can only be regarded as an accidental visitor; and so uncertain are its visits, that years may elapse without an example being seen. It is common, and breeds in Spain, where it deposits its eggs in holes of sandbanks.

Family ALCEDINIDÆ.

The distribution of the Kingfishers may be said to be almost universal; but of the 125 species described, few are to be found in the New World, the family being very feebly represented in America. The various species have been much subdivided and received many generic appellations, their structure being as diverse as their modes of life and the kinds of food upon which they subsist. Water is by no means essential to the existence of many of them, especially those which dwell amidst the scoræ of volcanoes and on hot and

parched plains,—lizards and insects being the food of those affecting the former situations, while the huge *Dacelos* (frequenting the latter) eat snakes, small quadrupeds, and insects. Fish appears to be the chief food of the members of the restricted genus *Alcedo*, of which our well-known Kingfisher is the type.

Genus *ALCEDO*.

57. *ALCEDO ISPIDA* Vol. II. Pl. X.

KINGFISHER.

A resident species; common in all the central portion of England, more scarce in Scotland, and not a common bird in Ireland. Feeds on fish, crustaceans, and insects. It is the only species which habitually lives in Britain and on the continent of Europe, beyond which its range is not very far extended. Other species of this form inhabit India, some of its islands, and Africa.

Genus *CERYLE*.

A group of Kingfishers, of about a dozen or fifteen species.

58. *CERYLE ALCYON*.

This American bird has been twice killed in Ireland—once in the county of Meath in October 1845, and again in the county of Wicklow in November of the same year (Thompson, ‘Natural History of Ireland, Birds,’ vol. i. p. 373). These Transatlantic birds must be regarded as interlopers, since they have no just claims to a place in our fauna.

Family *CORACIIDÆ*.

No member of this family has yet been seen in the New World; and the Old may claim the form as one of its finest ornithological productions. There are even fewer species of this family than of the *Meropidæ*; and those few are all warm-country birds. They are abundant in Africa; one or two species frequent India; others the islands of the Eastern archipelago. Up to this time no true Roller has been found in Australia, where it is represented by the members of the genus *Eurystomus*.

Genus *CORACIAS*.

59. *CORACIAS GARRULA* Vol. II. Pl. XI.

ROLLER.

Although the Roller is a regular summer visitant to the centre of Germany and other parts of the Continent, its occurrences in England have been few and far between; here, therefore, it can only be regarded as an accidental visitor. It has nevertheless been occasionally killed in the three kingdoms.

Family UPUPIDÆ.

Varied indeed are the opinions entertained by ornithologists respecting the situation this family of birds should occupy in our systems. For my own part, I have always considered its proper place to be near to, if not associated with, the Hornbills (*Bucerotidæ*); hence this is perhaps not the situation in which it would appear in an arrangement of the birds of the world; but it is the best I can assign to it in a limited fauna like that of the British Islands.

Genus UPUPA.

About five species of this very singular form are known; they inhabit Europe, Asia, Africa, and Madagascar.

60. UPUPA EPOPS Vol. II. Pl. XII.

HOOPOE.

An accidental visitor to England, where it generally arrives in May; and its doom is sealed as soon as it makes its appearance: so attractive a creature immediately arresting attention, it soon falls a victim to the gunner; and its mounted skin is found in the houses of the men of Kent and other southern counties.

Family LANIIDÆ.

The Shrikes, comprising many species, are very generally distributed over the surface of the globe, particularly in the Old World. Some of the typical members inhabit Britain and North America, and are also found in Asia and Africa, but not in the islands of the Eastern archipelago, nor in Australia. They are all, to a certain extent, destroyers of other birds; but their chief food consists of insects, their larvæ, and mollusks. In disposition they are cruel, spitting their victims on thorns or between the interstices of the branches of trees; for what precise purpose is not well understood.

Genus LANIUS.

61. LANIUS EXCUBITOR Vol. II. Pl. XIII.

GREAT GREY SHRIKE.

An accidental visitor, which may occasionally, but does not usually, breed in this country. Its proper home is the continent of Europe, beyond the boundary of which it becomes more and more scarce.

62. LANIUS MINOR Vol. II. Pl. XIV.

ROSE-BREASTED SHRIKE.

A native of Spain, Turkey, and Greece, which has been killed two or three times in England.

Genus ENNEOCTONUS.

The members of this genus differ considerably from the preceding, inasmuch as, instead of the sexes being alike, they vary in colour and markings. Species of this form are found in Europe, Asia, and Africa.

63. ENNEOCTONUS COLLURIO Vol. II. Pl. XV.

BUTCHERBIRD.

A migrant from the south in May, and returning thither early in autumn.

64. ENNEOCTONUS RUFUS Vol. II. Pl. XVI.

WOOD-CHAT.

Although this bird has been killed in England several times, it can only be regarded as an accidental visitor. It is said to have bred in this country; but, for myself, I have never seen an authenticated egg which had been taken herein.

Family MUSCICAPIDÆ.

The various members of this family are very generally dispersed over the countries of the Old World.

When I published my Plates of the two following species, the late Mr. George R. Gray had recently indicated, in his 'Catalogue of British Birds,' that the old *Muscicapa atricapilla* pertained to the genus *Muscicapa*, and the *M. grisola* to the genus *Butalis*; but in his more recent 'Hand-list' he makes the latter the type of *Muscicapa*, and places the former under Sundevall's subgenus *Hedymela*.

Genus MUSCICAPA.

65. MUSCICAPA ATRICAPILLA Vol. II. Pl. XVII.

PIED FLYCATCHER.

A well-known migrant to Britain, chiefly frequenting the northern portion of England, where it breeds. It is rarely met with in Scotland, and never in Ireland. For an interesting note by Mr. Stevenson on a singular immigration of this species on the Suffolk coast in September 1869, see the 'Zoologist' for that year, p. 1492.

66. MUSCICAPA COLLARIS Vol. II. Pl. XVIII.

WHITE-COLLARED FLYCATCHER.

This species, which has once been killed in England, is a native of Eastern Europe.

Genus BUTALIS.

67. BUTALIS GRISOLA Vol. II. Pl. XIX.

SPOTTED FLYCATCHER.

Arrives late in the spring, spreads over the British Islands, and after breeding returns to whence it came, the northern part of Africa.

Genus ERYTHROSTERNA.

The members of this genus, which are but few in number, frequent Eastern Europe, India, and China. They are extremely delicate in structure; and it is marvellous how so frail a bird as the *E. parva* could have crossed the Channel, and thus laid claim to a place in the avifauna of Great Britain.

68. ERYTHROSTERNA PARVA Vol. II. Pl. XX.

RED-BREASTED FLYCATCHER.

For the particulars respecting the capture of three examples of this bird, I refer my readers to my account of the species opposite the Plate; but I may here mention that all were taken in Cornwall, and that they can only be regarded as accidental visitors.

69. VIREOSYLVA OLIVACEA.

Red-eyed Flycatcher.

In Mr. Harting's 'Handbook of British Birds' it is stated that two examples of this purely American species were taken by a bird-catcher at Chellaston, near Derby, in May 1859, the particulars of which will be found in Sir Oswald Mosley's 'Natural History of Tutbury,' page 385.

Family AMPELIDÆ.

Three or four species of this very singular and beautiful family are all that are known. They chiefly inhabit the temperate and northern regions of both the Old and New Worlds, their summer residences often bordering the arctic circle, whence some of them migrate south at the cold season, but only for a short period.

Genus AMPELIS.

70. AMPELIS GARRULUS Vol. II. Pl. XXI.

WAXEN CHATTERER.

A native of Norway, Finland, and Russia. Is only an accidental visitor to England; and when it does

favour us with its presence, it is mostly in the winter, especially if that season happens to be severe. A distinct species is found in Japan; and the *A. cedrorum*, as we all know, frequents America.

Family SITTIDÆ.

Taking our Common Nuthatch as a typical example, and omitting the members of the allied subgenera *Callisitta*, *Dendrophila*, and *Hypherpes*, there exist about a dozen species of this family, some, if not all, possessing the peculiarity of being able to run up and run down the boles of trees with equal facility. They frequent the temperate portions of Europe, Asia, and America.

71. *SITTA CÆSIA* Vol. II. Pl. XXII.

NUTHATCH.

This species is not, as has been supposed, entirely confined to Britain; for it is also found in some of the Danish islands and elsewhere. With us it is stationary and common all over England, but is somewhat rare in Cornwall, very scarce in Scotland, and never found in Ireland.

Family PARIDÆ.

More than a hundred species of Tits have been already named; and there are doubtless many more yet to be described. The countries frequented by these tree-loving birds are Europe, Asia, Japan, the Philippines, Java, and Sumatra. Africa, also, from north to south, contains its fair quota; nor are they absent from America, in which country they are principally found in its northern regions. Structurally they present much variety; and in consequence the entire group has been divided into many genera. In the British Islands, exclusive of the so-called Bearded Tit, which belongs to an entirely different family, we have six species, which constitute the typical examples of almost as many genera. I have, however, only adopted a portion of them, keeping four in the genus *Parus*, one in *Pæcile*, and one in *Mecistura*. The chief food of the Tits consists of insects and their larvæ, with occasionally the addition of fruit. They are mostly pert and lively birds, assuming many varied positions while searching for food among the leafy branches of trees and shrubs.

Genus PARUS.

72. *PARUS MAJOR* Vol. II. Pl. XXIII.

GREAT TIT.

Resident and common over the three kingdoms. Breeds in April and May. Youthful birds have their cheeks stained with yellow, while in the adult the sides of the face are white.

Generally distributed over Central Europe.

73. PARUS CÆRULEUS Vol. II. Pl. XXIV.

BLUE TIT.

A beautiful saucy little bird, which, being found here at all times, is a resident species. The cheeks, which are white in the adult, are tinged with yellow in the young. As common in the central portions of Europe as with us.

74. PARUS ATER Vol. II. Pl. XXV.

COAL TIT.

A common resident in every county; gives preference to forests of beech and oak. A cheerful, merry little bird, of which the young are more beautifully coloured than the adult, the sides of the face and a portion of the breast being washed with yellow during the first six weeks of their existence. The continental birds, particularly those found in Belgium, are considered distinct by Messrs. Sharpe and Dresser.

75. PARUS CRISTATUS Vol. II. Pl. XXVI.

CRESTED TIT.

A resident species in Scotland; breeds in the woods near Elgin. Is said to have been killed in England, and, on the authority of Mr. Blake-Knox, twice in Ireland.

Genus PÆCILE.

76. PÆCILE PALUSTRIS Vol. II. Pl. XXVII.

MARSH-TIT.

A resident species; scarce in Scotland, except in the Lothians, and still more so in Ireland. Cheek-mark of the young uniform with the other parts of the body, except the sides of the neck—which are white, and not yellow. Frequents, but not exclusively, plantations, copses, and low humid situations.

Genus MECISTURA.

77. MECISTURA CAUDATA Vol. II. Pl. XXVIII.

LONG-TAILED TIT.

This wandering and interesting bird is a true British resident. It has been separated by Mr. Blyth from the White-headed species of Scandinavia, under the specific appellation of *rosea*; it must, however, be remarked that some of our examples have white heads; and therefore I do not aver that they are, or are not, distinct. Other species of this form are found on the Bosphorus, on the Himalayas, and in China.

Mr. J. H. Gurney, jun., has communicated to me the following interesting fact in connexion with this bird :—" A Mr. Noble once noticed at Blackwall, near Darlington, an object on a fir tree which he took for a Pheasant ; but on firing at it he found that, instead of a Pheasant, it was *a great ball of Long-tailed Tits*. He told me that he did not kill less than a dozen. My father informs me that the South-African Colies roost congregated in bunches ;" and I have witnessed the same in the *Artamus sordidus* in Tasmania.

78. MECISTURA CAUDATA Vol. II. Pl. XXIX.
LONG-TAILED TIT (young).

Family ———— ?

Genus CALAMOPHILUS.

79. CALAMOPHILUS BIARMICUS Vol. II. Pl. XXX.
BEARDED TIT.

A resident species in the marshes and along the sides of the rivers of our eastern counties ; but the drainage of the former and the clearance of the sedges of the latter have greatly diminished the numbers of this lovely little bird. Still it is common with us, and even more so in Holland and other fluviatile districts of Central Europe.

This bird is by no means a genuine Tit, although it is commonly so called, and is placed here for the want of a more natural situation.

Family¹ ORIOLIDÆ.

A group of Old-World birds, the members of which are beautifully coloured, yellow and black being the prevailing tints, particularly of that section of them typified by the *Oriolus galbula*. The countries they frequent are either hot or temperate, Africa, India, China, the Philippines, Java, Sumatra, and some of the islands of the Eastern Archipelago being tenanted by one or other of the species.

Genus ORIOLUS.

80. ORIOLUS GALBULA Vol. II. Pl. XXXI.
GOLDEN ORIOLE.

Although common in many parts of Europe during the breeding-season, with us it is a rare bird, and must be included among our accidental spring visitants. In the Scilly Islands five or six are often seen together ; but after remaining there quite unmolested for two or three weeks, they invariably betake themselves to the mainland, where persecution and death await them. The following note from my friend

Mr. Rodd, respecting an unusual irruption of this species, will be read with interest ; it was received on the 24th of April, 1870. “I am sure you will be interested in hearing that a large immigration of Golden Orioles has taken place in the immediate neighbourhood of Penzance and at the Scilly Isles. They are mostly in superb adult plumage. Five were killed out of eight, and a fine male and a female besides, at Trevethoe, near Hayle. A flock of forty or fifty was risen in a thick plantation on the grounds afterwards.” Surely such beautiful birds, when they do arrive in this country, should receive protection instead of the destruction which now invariably awaits them.

Family TURDIDÆ.

A large number of medium-sized insessorial birds are included in this family—Thrushes, Blackbirds, Fieldfares, Redwings, &c. Their omnivorous appetite leads them to eat insects and their larvæ, snails, worms, fruits, and berries. Some are constantly resident, others are migratory ; some spend the summer, others the winter with us.

Genus TURDUS.

The Thrushes and the Blackbirds are seemingly very different ; and were it not for numerous intervening forms, the generic characters of *Turdus* and *Merula* would be more easily defined. The greater part inhabit the temperate portion of the earth, but are not found in Australia or New Zealand.

81. *TURDUS MUSICUS* Vol. II. Pl. XXXII.

THRUSH.

Very generally distributed, and constantly residing and breeding here, as it does also in most parts of the European continent.

82. *TURDUS VISCIVORUS* Vol. II. Pl. XXXIII.

MISSSEL-THRUSH.

Strictly stationary. Common in Europe ; generally breeds in all the middle counties of England. It also inhabits Scotland, where it is annually becoming more and more numerous. Sings early and breeds in May. The following note from Professor Owen, dated Sheen Lodge, Richmond Park, 28th April, 1872, respecting the pugnacious propensities of this species, cannot fail to be of interest :—“You know that the Missel-Thrush boldly attacks Magpies and other birds larger than itself ; but you may not be aware that it bullies man himself. I was transplanting, about sunrise this morning, and was startled by a loud menacing noise above me, and on rising and looking up saw a Missel-Thrush darting from branch to branch, chattering loudest as it passed over and near to my head ; and then it made a dash at me, sweeping close past my face with a chattering scream, and, alighting on a branch about six yards off, turned round and

dashed back again, so that I 'ducked' to save my eyes ; and these sweeping attacks were repeated four or five times before (out of a desire not to disturb a bird whose wild winter-notes I like) I moved off. I went a roundabout way to a garden-seat about twenty yards from the scene of the first disturbance, and shortly after heard the same chattering, clattering, bullying note, and, having my binocular, made out my friend (or enemy) darting about the boughs of an old acacia overhead, and continuing his remonstrances against my vicinity, to which I again yielded."

83. *TURDUS ILIACUS* Vol. II. Pl. XXXIV.

REDWING.

A winter visitant, arriving with the Fieldfare in autumn, and departing northward in the spring. Summers in Iceland, Norway, Sweden, and other portions of the old continent bordering the arctic circle.

84. *TURDUS PILARIS* Vol. II. Pl. XXXV.

FIELDFARE.

A winter visitant only. Breeds in Norway and many other parts of the Old World. Comes to us about the same time as the Woodcock—that is, in October, the period when the Ring-Ouzel departs.

85. *TURDUS ATROGULARIS* Vol. II. Pl. XXXVI.

BLACK-THROATED THRUSH.

A native of Eastern Europe and Northern Asia. Has been once killed in England, as will be seen on reference to the Turdine section of the work, where the circumstance of its capture near Brighton is fully detailed.

Genus *MERULA*.

86. *MERULA VULGARIS* Vol. II. Pl. XXXVII.

BLACKBIRD.

A resident and very generally distributed species, both in our islands and on the European continent.

87. *MERULA TORQUATA* Vol. II. Pl. XXXVIII.

RING-OUZEL.

A summer visitant, which frequents rocky situations in Wales, the northern parts of England, Scotland, &c. Winters in Africa.

Genus *OREOCINCLA*.

A form very distinct both from *Merula* and *Turdus*, of which five, six, or seven species, all inhabitants of

the Old World, are known to exist. They have a very wide range, some being found in Asia and its islands, and others in Australia. They are shy and solitary in their habits, often frequenting rocky and scrubby situations in the midst of forests.

88. *OREOCINCLA AUREA* Vol. II. Pl. XXXIX.

WHITE'S THRUSH.

A native of the Altai, the Himalayas, and China. Single individuals occasionally migrate westward to the continent of Europe and to England, wherein about ten or twelve examples have been killed, the particulars respecting several of which will be found in the letterpress opposite the Plate of the species.

Genus *CICHLOSELYS*.

An eastern form, the type of which is the well-known Siberian Thrush.

89. *CICHLOSELYS SIBIRICUS* Vol. II. Pl. XL.

SIBERIAN THRUSH.

Quite an accidental visitor, only a single instance of its being killed here being on record.

Family *PYCNONOTIDÆ*.

The members of this family are nearly allied to the great group of Honey-eaters (*Meliphagidæ*) of Australia. Many species inhabit Africa and India.

Genus *PYCNONOTUS*.

90. *PYCNONOTUS CAPENSIS*.

Gold-vented Thrush.

A native of Spain and part of Africa; once killed in Ireland—for the particulars of which see Thompson's 'Birds' of that country, and Yarrell's 'History of British Birds,' vol. i. p. 224: "erroneously identified by those authors," says Mr. Harting, "with *P. aurigaster* of Vieillot."

Family *CINCLIDÆ*.

Many opinions are extant among ornithologists respecting the natural position of this very singular group of birds: one places them near *Enicurus*, *Grallina*, &c.; another fancies they are allied to *Troglodytes*; and a third, to the Thrushes. Of the eleven or twelve known species, seven or eight inhabit the northern regions of the Old World; a single, or at the utmost two frequent the same regions of the New; and two are found among the cataracts and rocky streams of the Andean ranges. But it is in Europe and Asia that

Water-Ouzels most abound, the watercourses of the great Himalaya Mountains and their continuations being especially frequented by them. Europe is tenanted by three, one of which inhabits the British Islands, and a second comes to them occasionally from Norway.

91. *CINCLUS AQUATICUS* Vol. II. Pl. XLI.
WATER-OUZEL or DIPPER.

A resident in Britain, frequenting the turbulent waters and mill-streams of its hilly districts.

92. *CINCLUS MELANOGASTER* Vol. II. Pl. XLII.
BLACK-BELLIED WATER-OUZEL.

A native of Norway, Sweden, and probably other parts of Northern Europe. In England it has been several times killed in Norfolk, Suffolk, and Lincolnshire; but these must be regarded as accidental occurrences.

Family SAXICOLINÆ.

A family of insectivorous birds, comprising many Old-World forms inhabiting Europe, Asia, and Africa. They vary in size from a Thrush to a Wheatear or a Stone-Chat.

Genus PETROCOSSYPHUS.

A genus of rock-loving birds common to the continent of Europe, North Africa, India, China, and the Philippine Islands.

93. *PETROCOSSYPHUS CYANUS* Vol. II. Pl. XLIII.
BLUE ROCK-THRUSH.

Has been once killed in Ireland, the particulars respecting which and the countries the bird inhabits will be gained by reference to the letterpress opposite the Plate whereon the species is figured.

Genus PETROCINCLA.

This form is scarcely separable from *Petrocossyphus*; the members of both are distributed over nearly the same parts of the world.

94. *PETROCINCLA SAXATILIS* Vol. II. Pl. XLIV.
ROCK-THRUSH.

A purely accidental visitor to Britain, only one or, at the utmost, two examples having been seen therein. The true home of the species is Southern and Eastern Europe, Palestine, and North Africa.

Genus SAXICOLA.

The Wheatears, as the members of this genus are frequently called, are Old-World birds, inhabiting

Europe, Africa, India, and China. They are alert in their actions, and dwell almost exclusively in rocky and sterile places where little water occurs, that element not apparently being necessary to their existence.

95. *SAXICOLA GENANTHE* Vol. II. Pl. XLV.

WHEATEAR.

An early spring visitant from Africa. Breeds in various parts of the three kingdoms, after which both old and young retire to winter in warmer climates; some individuals proceed to high northern latitudes—Greenland and Arctic America.

Genus *PRATINCOLA*.

An Old-World form, the members of which are more arboreal than the Wheatears, frequently perching on shrubs, bushes, and grasses. They are distributed over Europe, Africa, India, and China.

96. *PRATINCOLA RUBETRA* Vol. II. Pl. XLVI.

WHIN-CHAT.

Strictly a migrant from the south, arriving at the end of April, and, after breeding, departing again to whence it came: while here, it is very generally distributed.

97. *PRATINCOLA RUBICOLA* Vol. II. Pl. XLVII.

STONE-CHAT or FURZE-CHAT.

A resident bird, inhabiting commons and heath-covered districts; breeds and remains in its chosen situation from year's end to year's end. It is also found on the continent of Europe, and probably in some parts of Asia.

Genus *ERYTHACUS*.

Of this genus there are three species, the well-known Robin (*E. rubecula*) of Europe, and the *E. akahige* and *E. komadori* of Japan.

98. *ERYTHACUS RUBECULA* Vol. II. Pl. XLVIII.

ROBIN.

This familiar denizen of our gardens, shrubberies, and woodlands is a constant resident with us, is dispersed over the three kingdoms, and is a general favourite. It is also found on the continent of Europe, in North Africa, and the islands of Madeira and Teneriffe, in which latter island I have myself shot examples.

Genus *CYANECULA*.

Two or three very differently marked birds of this form exist in Europe, Africa, India, and China. By

some writers they are considered to be one and the same species; by others each has been regarded as distinct. In habits and disposition the Bluethroats are peculiar: they exhibit none of the bold daring of the Wheatear and the Robin; neither do they sit on a twig and show their breasts like the Whin- and Stone-Chats; on the contrary they skulk among bushes and dense herbage of hill-sides, or among the grasses in a meadow, concealing rather than showing their beautiful colouring, as if conscious that its exposure would be adverse to their well-being.

99. CYANECULA SUECICA Vol. II. Pl. XLIX.

RED-THROATED BLUEBREAST.

A lovely little bird, which lives in Eastern Europe and probably in Africa. In the summer it is to be seen on the Dovrefjeld, in the winter in the sunny south. It sometimes pays England a visit, and hence is included in our avifauna; but its occurrence must be regarded as purely accidental.

100. CYANECULA LEUCOCYANA Vol. II. Pl. L.

WHITE-THROATED BLUEBREAST.

A native of France and Southern Europe, accidental in England.

Genus RUTICILLA.

Redstarts, as the members of this genus are trivially called, not only inhabit Europe, but are abundant in India and China.

101. RUTICILLA PHENICURA Vol. II. Pl. LI.

REDSTART.

Arrives from the south in April, frequents our gardens, breeds in our apple-trees, and renders its visits agreeable by its pleasing song, the sprightliness of its actions, and the beauty of its plumage. It also visits the southern and central parts of Europe generally.

102. RUTICILLA TITHYS Vol. II. Pl. LII.

BLACK REDSTART.

A native of Central Europe and the countries to the southward and eastward thereof, pays England almost annually a visit during the months of autumn, when other migrants have gone south to winter in Africa; still it must be regarded as an accidental visitor only. With us it frequents rocky situations; but on the Continent it takes up its abode in gardens, just as the Redstart does here.

Genus AEDON, *Boie*.

The members of this genus are inhabitants of the Old World, where their head quarters appear to be Eastern Europe and Northern Africa.

103. *ÆDON GALACTODES* Vol. II. Pl. LIII.

RUFIOUS SEDGE WARBLER.

Spain, Greece, Asia Minor, and North Africa are among the countries frequented by this species, which, having been only twice killed in England, must be enumerated among its rarest visitants.

“The Rufous Sedge Warbler is evidently only a summer migrant in the north of Algeria. On my return from the Mزاب country in May, I saw scores where there had not previously been one, and generally away from water. It has a curious habit of raising its tail; it is hardly ever seen in any other position. Our common British Nightingale has the same habit in a less degree; but with the Rufous Sedge Warbler it appears to be natural to keep it raised; whether the bird is in motion or at rest, the tail is only depressed at intervals.”—J. H. GURNEY, jun.

Family ACCENTORINÆ.

A group of Old-World birds, some species of which inhabit Europe and Asia, from the British Islands to Kamtschatka and Japan. They have been subdivided into three genera, *Accentor*, *Spermolegus*, and *Tharrhaleus*, the types of the first and third of which are natives of Britain, namely *A. alpinus* and *T. modularis*. I have, however, kept them both in the genus *Accentor*.

Genus ACCENTOR.

104. *ACCENTOR ALPINUS* Vol. II. Pl. LIV.

ALPINE ACCENTOR.

Common in Switzerland and other rocky countries of Southern and Eastern Europe. An accidental visitant to England, where it has been killed or seen about a dozen times.

105. *ACCENTOR MODULARIS* Vol. II. Pl. LV.

HEDGE-ACCENTOR or HEDGE-SPARROW.

Resident in the three kingdoms; common in gardens. A tame, pleasing, and harmless little bird. Lives on insects. Inhabits most parts of Europe and Malta, where I have shot examples.

Family SYLVIIDÆ.

Comprises a very large number of species, which are inhabitants of the older known portion of the globe. About fifteen are enumerated in the British avifauna, as belonging to the genera *Sylvia*, *Curruca*, *Luscinia*, *Melizophilus*, *Phyllopneuste*, *Ficedula*, *Regulus*, *Reguloides*, &c.

Genus LUSCINIA.

A very well-defined genus, comprising two species, both of which are summer birds in Central Europe. One of them, our well-known Nightingale, comes to us in spring, and retires again in autumn. It has been ascertained that both species winter in more southern climes; but we really know little respecting the extent of their range in that direction.

106. LUSCINIA PHILOMELA Vol. II. Pl. LVI.

NIGHTINGALE.

A summer migrant to the southern and central parts of England, but not to Scotland or Ireland. A full account of this charming bird will be found opposite the Plate on which it is represented.

Genus SYLVIA.

In the present work both the Whitethroats have been regarded as typical examples of the genus *Sylvia*. These and some other species abound in Europe during the months of summer; others, again, are spread over Northern Africa, India, and China. Their food consists of insects and berries.

107. SYLVIA CINEREA Vol. II. Pl. LVII.

WHITETHROAT.

When spring assumes her most cheery aspect, our hedges put forth their leafy verdure, and the goose-grass ramifies among the herbage of the ditches, the saucy Whitethroat makes its appearance, and, after spending the summer and rearing its brood, departs again in autumn to winter in warmer climes. It is, therefore, a true summer migrant, which visits all the three kingdoms, but is rather scarce in some parts of Scotland.

108. SYLVIA CURRUCA Vol. II. Pl. LVIII.

LESSER WHITETHROAT.

A summer migrant from the south, which arrives rather later than the preceding species, betakes itself to gardens and woodlands, sings its garrulous peculiar song while searching for aphides and other insects among the leaves of the cherry- and other trees of the garden or forest, is spread over the central portion of England, is rare in Cornwall and Scotland, and has not been seen in Ireland.

Genus MELIZOPHILUS.

Mr. G. R. Gray enumerates, in his recently published 'Hand-list of Birds,' three species of this genus; but I feel assured that our well-known Dartford Warbler must stand as its sole representative.

109. MELIZOPHILUS PROVINCIALIS Vol. II. Pl. LIX.

DARTFORD WARBLER.

A stationary but very local species in the south of England, rare in the midland and northern counties, unknown in Scotland and Ireland. Evinces a preference for heathy lands, particularly those clothing the greensand; hence it is abundant in some parts of Surrey, Sussex, and Hampshire; while on the Continent, where this kind of formation does not exist, it is either scarce or entirely absent. Is extremely shy and recluse in its habits. Breeds in May.

“Are you aware,” says Mr. Gatcombe, in a letter dated Dec. 20, 1868, “that the Dartford Warbler is tolerably common in the furze-brakes near Lyme Regis? A few days since I had a very nice specimen sent me in the *flesh* from that place; and the sender informed me that he had lately killed five, but the one forwarded was the *only one* he could find among the long gorse. What a great pity that four of these interesting birds have been killed and lost!”

Genus CURRUCA.

The members of this genus possess considerable vocal powers, are more shy or distrustful in their habits than the Whitethroats, and are less sprightly in their manners. Europe, North Africa, Asia Minor, Western India, and China are frequented by the members of this genus, two of which visit England during the months of summer.

110. CURRUCA ATRICAPILLA Vol. II. Pl. LX.

BLACKCAP.

Winters in North Africa, and migrates to us in April in considerable numbers, which, after spending the summer and breeding here, wing their way to whence they came. Common all over England, rare in Scotland and in Ireland. As a songster it almost rivals the Nightingale.

111. CURRUCA ORPHEA Vol. II. Pl. LXI.

ORPHEAN WARBLER.

One specimen at least has been killed in Britain, for the particulars of which *vide* the letterpress opposite the Plate on which it is figured.

112. CURRUCA HORTENSIS Vol. II. Pl. LXII.

GARDEN-WARBLER.

An unobtrusive and plainly coloured bird; has a loud garrulous song; arrives in April, when the nettles

and other herbage are sufficiently dense and the leaves of the trees sufficiently forward to screen it from sight. Common in England and the south of Scotland, but seems to be more rare in the north of that country; and in Ireland, according to Thompson, it is extremely so.

Genus TROGLODYTES.

In the Old World the northern regions are those that are principally inhabited by the members of this genus; in the New they range from the northern to nearly the southern extremity of the great continent of America. They are pert, lively little birds, which differ from the true *Sylvia* in many particulars, rendering it very difficult to assign them a place affinitively in any of the proposed systems.

113. TROGLODYTES EUROPÆUS Vol. II. Pl. LXIII.

COMMON WREN.

As implied in its specific appellation, this bird is a native of Europe, over which it is very generally dispersed and strictly stationary, inasmuch as it keeps in the vicinity of its breeding-place from year's end to year's end.

Family CERTHIIDÆ.

The members of this singular bark-loving family, which are but few in number, frequent the temperate regions of both the Old and the New World. Four species inhabit the great Himalaya Mountains; and of these some visit the plains of India, and extend their range eastward to Japan. In America there are two, which are found in all parts of that country from the United States to Mexico.

Genus CERTHIA.

114. CERTHIA FAMILIARIS Vol. II. Pl. LXIV.

TREE-CREEPER.

A resident species, generally distributed over the three kingdoms, and braving with apparent impunity the coldest of our winters.

Genus PHYLLOPNEUSTE.

The trivial name of Leaf-Warblers has of late years been applied to the members of this genus, a term which I regret not having employed in the body of the work. These delicate birds are so generally dispersed over the northern and temperate countries of the Old World that they may be regarded as universally diffused. They are all more or less migratory, moving backward and forward in accordance with the course of the sun. Three species arrive in Britain early in the spring.

115. PHYLLOPNEUSTE TROCHILUS Vol. II. Pl. LXV.

WILLOW-WREN.

Arrives from the south about the middle of April, and diligently commences to search for insects among the newly expanded leaves of the willow and other trees, and, after making its dome-shaped, grassy, feather-lined nest on the ground and rearing its young, retires to whence it came upon the earliest access of cold weather. When here it is generally dispersed over the three kingdoms.

116. PHYLLOPNEUSTE RUFA Vol. II. Pl. LXVI.

CHIFFCHAFF.

One of the earliest spring migrants from the sunny south, many individuals frequently appearing in March. Solitary instances are on record of its having been seen here during the winter months; and as I found it at the same season at Malta, it is evidently a more hardy bird than the Willow-Wren, from which it differs in the character of its song, and in the places selected for the site of its dome-shaped nest, which is frequently built in a bush. It is very generally dispersed, but somewhat less numerous in Scotland than in England.

117. PHYLLOPNEUSTE SIBILATRIX Vol. II. Pl. LXVII.

WOOD-WREN.

Although I have kept this bird in the present genus, it has just claims to generic distinction, its much longer wings, peculiar song, and brighter colouring not being quite accordant with either the Willow-Wren or the Chiffchaff—and, indeed, has had that of *Sibilatrix* assigned to it by Professor Kaup. With us it is a true summer visitant, arriving later than the two birds above mentioned, its tremulous sibilant note not being usually heard until May. Although commonly dispersed over England and Scotland, it is rare in Ireland. Breeds on the ground, generally making a nest of grasses only. Departs in autumn, and winters in Africa.

GENUS REGULOIDES.

Comprises a series of small eastern birds allied to *Phyllopneuste* and *Regulus*. The species which has paid England occasional visits is an inhabitant of Europe and Northern India, where others of the form are also found.

118. REGULOIDES SUPERCILIOSUS Vol. II. Pl. LXVIII.

YELLOW-BROWED WARBLER.

The particulars of the capture of this species in England, as recorded by Mr. Harting, are:—

“One, Hartley Point, Northumberland: Hancock, Ann. and Mag. Nat. Hist. vol. ii. p. 310; Blyth, Zoologist, 1863, p. 8329; Yarrell, Hist. of Brit. Birds, vol. i. p. 380.

“One, Charlton Kings, near Cheltenham, 11th Oct. 1867; Gould, Ibis, 1869, p. 128.”

Hab. Northern Asia, India, Nepaul, China, Japan, and Formosa. Has occurred accidentally in Sweden, in Heligoland, and Berlin, and near Leyden.

119. *REGULOIDES CALENDULA.*

Ruby-crowned Wren.

All that is known respecting the occurrence of this species in our islands is comprised in the following note from Mr. R. Gray's 'Birds of Western Scotland':—

“In the summer of 1852, Dr. Dewar, of Glasgow, shot a specimen of this North-American species in Kenmore Wood, on the banks of Loch Lomond. The bird was exhibited at a meeting of the Natural-History Society of Glasgow on the 27th of April, 1858, and identified by me. Dr. Dewar stated that he had found it in company with a large flock of Goldcrests, and that he had shot a dozen birds altogether before he recognized the differences which this one presented. Dr. Bree, in his work on the birds of Europe, states that the Rev. H. B. Tristram has a Ruby-crowned Kinglet in his possession, which was given him in the flesh, and which was killed by a Durham pitman, in 1852, in Brancepeth woods; from this it would seem that a second example has occurred in this country.”

Genus *REGULUS.*

The Golden-crested Wrens or Kinglets are a charming group of small birds inhabiting the northern regions of the Old and New Worlds. In their actions and in their mode of nidification they remind us of the *Paridæ*, or Tits; but no one has yet, I believe, removed them from among the true Sylvian birds, nor shall I do so in the present work. England is tenanted by two species, which, with one or two others, are all that are known in the Old World; in the new portion of the globe there may be as many more. In disposition they are as tame as they are sprightly and pleasing in their actions. They suspend a neat hammock-shaped nest beneath the branches of fir or other trees. Their eggs are numerous; and the progeny soon acquire the plumage of the adult.

120. *REGULUS CRISTATUS* Vol. II. Pl. LXIX.

GOLDEN-CRESTED WREN.

A native of Europe, and doubtless other countries to the south and eastward. With us it is a resident species, and frequents alike the three kingdoms.

121. *REGULUS IGNICAPILLUS* Vol. II. Pl. LXX.

FIRE-CRESTED WREN.

Very generally dispersed over the continent of Europe and North Africa; it is purely an accidental visitant to Britain.

Genus FICEDULA.

A form which appears to be intermediate between the Willow-Wrens and Sedge-birds.

122. FICEDULA HYPOLAIS Vol. II. Pl. LXXI.
YELLOW-BROWED WARBLER.

An accidental visitor to England and Ireland; common in Holland and other parts of Europe and North Africa, from which latter country it migrates north in spring, filling the dwarf woods and osier-beds of France and Holland with its melodious voice.

Family CALAMODYTIDÆ.

Ornithologists will, I am sure, agree with me in considering that the Sedge-birds constitute a very distinct family. The numerous species, which have been divided into many genera, are very generally distributed over the older-known portion of the earth's surface. They are semiaquatic in their habits; the greater number frequent both large and small beds of sedges and other herbage growing in the vicinity of water, and feed upon insects. They are well represented in the British Islands, over which the species are generally distributed. In the present work these birds have been classed under the generic titles of *Acrocephalus*, *Calamoherpe*, *Calamodyta*, *Luscinopsis*, and *Locustella*.

Genus ACROCEPHALUS.

The members of this genus are the largest birds of the family; and one or other of them form part of the avifaunæ of Europe, Asia, Africa, and Australia.

123. ACROCEPHALUS TURDOIDES Vol. II. Pl. LXXII.
THRUSH WARBLER.

Besides inhabiting the continent of Europe and the neighbouring countries, the Thrush Warbler finds its way to England, as will be seen on reference to the letterpress opposite the Plate on which the species is represented. It can only be regarded as an accidental visitor.

Genus CALAMOHERPE.

What has been said respecting the distribution of the members of the last genus is equally descriptive of those of the present one.

124. CALAMOHERPE ARUNDINACEA Vol. II. Pl. LXXIII.
REED-WARBLER.

A true migrant, arriving late in April. Nests in the lilac and other trees of the shrubberies, and in most

of the gardens of the central portions of England; its nest is also frequently found among reeds and bushes overhanging water. Besides our own country, this species frequents Central Europe and Northern Africa.

125. CALAMOHERPE PALUSTRIS Vol. II. Pl. LXXIV.

MARSH-WARBLES.

Supposed to inhabit many parts of England, and to have been often confounded with the preceding; said to arrive at the same time and to be more exclusively aquatic in its habits. Is considered always to have lighter-coloured legs and to present other, minor differences, which may be more easily seen by consulting the respective Plates than by the most minute description. Should it ultimately prove that the *C. palustris* is found here, it must be regarded as a regular summer visitant.

Genus CALAMODYTA.

The members of this genus are smaller in size than the *Calamoherpæ*, and are less uniform in the colouring of their plumage. The situations affected by both are identical, reeds and aquatic herbage being apparently necessary to their existence; at all events it is in such situations that they pour forth their querulous songs both by day and by night. The *Calamodytæ* are very generally distributed over the temperate portions of Europe, Africa, and Asia.

126. CALAMODYTA PHRAGMITIS Vol. II. Pl. LXXV.

SEDGE-WARBLES OR CHATS.

A bird of the summer, which arrives early in May and spreads itself over England and Ireland, but not, according to Sir William Jardine and Macgillivray, visiting Scotland. After breeding, it departs again to Morocco or some other part of Africa.

127. CALAMODYTA AQUATICA Vol. II. Pl. LXXVI.

AQUATIC WARBLER.

Somewhat rare in Central and Southern Europe. Has been killed two or three times in England, where it must be regarded merely as an accidental visitor.

Genus LUSCINIOPSIS.

According to Mr. Gray's 'Hand-list of Birds,' two generic titles have been proposed by Bonaparte for the single known species of this form, viz. *Pseudoluscinia* and *Lusciniopsis*; the latter term has been employed in the present work.

128. LUSCINIOPSIS LUSCINIOIDES Vol. II. Pl. LXXVII.

SAVI'S WARBLER.

Has many times been killed in England, where, however, it must be considered a rare visitant, and principally to the eastern counties.

Genus LOCUSTELLA.

About five species of this genus are known ; of these one or other frequent Central and Southern Europe, Asia, Siberia, and China.

129. LOCUSTELLA AVICULA Vol. II. Pl. LXXVIII.

GRASSHOPPER WARBLER.

A yearly summer visitant to England, some parts of Scotland, and Ireland, in all of which countries it breeds, and afterwards stealthily departs southwards in autumn.

Family MOTACILLIDÆ.

The *Motacillidæ* are among the most graceful of birds, and, from their familiarity, tameness of disposition, and the sprightliness of their actions, are great favourites with every one who lives in the country. They have been judiciously separated into two distinct groups, the Pied and the Yellow Wagtails, the generic term *Motacilla* being retained for the former, and that of *Budytes* for the latter. There is also another form, to which the term *Calobates* has been applied ; of this only one or two species have yet been discovered ; of the other genera many are known. All, both Pied and Yellow, are strictly confined to the Old World, more particularly its northern portions.

Genus MOTACILLA.

Two species of this form inhabit Britain—one of which is resident, the other migratory ; in India there are three or four ; and in China and Japan we meet with as many more. Their natural province is the ground ; but they readily perch on the branches of trees.

130. MOTACILLA YARRELLI Vol. III. Pl. I.

PIED WAGTAIL.

A resident species in the three kingdoms, breeds freely in the neighbourhood of dwellings, and is one of the foster-parents of the young Cuckoo.

131. MOTACILLA ALBA Vol. III. Pl. II.
 WHITE WAGTAIL.

A common migrant on the continent of Europe, but only a rare straggler in Britain, in various parts of which it has been seen and taken.

Genus BUDYTES.

The Yellow Wagtails, as already stated, frequent the same countries as the Pied, and are equally numerous in species. Of the three pertaining to the British avifauna, one is a constant spring visitor, the other two occur but seldom.

132. BUDYTES RAYI Vol. III. Pl. III.
YELLOW WAGTAIL.

Arrives in April, spreads over our fields and meadows, breeds, and returns to Africa for the winter.
Generally distributed over the three kingdoms.

133. BUDYTES FLAVA Vol. III. Pl. IV.
GREY-HEADED WAGTAIL.

A common bird on the Continent, but so rare with us that it can only be regarded as an accidental visitor.

134. BUDYTES CINEREOCAPILLA Vol. III. Pl. V.
GREY-CAPPED WAGTAIL.

A bird which passes from Africa, by way of Malta, through Central Europe to breed on the Dovrefjeld and other northern parts of this quarter of the globe. Has been killed only once or twice in England, and consequently is only an accidental visitor.

Genus CALOBATES.

This peculiar form of Wagtail is more elegant in appearance than the members of either of the two preceding genera; its legs are shorter, and its tail longer; in colour it closely assimilates to the members of the genus *Budytes*. While the *Motacillæ* are circumscribed in the range of their area, the *Calobates sulphurea* is found at one season or another in nearly every portion of the Old World, Australia and New Zealand excepted.

135. CALOBATES SULPHUREA (Summer plumage)		Vol. III. Pl. VI.
(Winter plumage)		Vol. III. Pl. VII.

GREY WAGTAIL.

A resident in the three kingdoms. Evinces a preference for mountainous districts. Breeds in May, constructing, like the others, a cup-shaped nest, and laying four or five eggs.

Family ANTHIDÆ.

PIPITS.

We have here a group of birds which are more generally spread than the Wagtails, inasmuch as they are diffused over both divisions of the globe, but which are far less numerous in the older portion than the new. Like most other large groups they have been divided and subdivided into many genera; those frequenting England I have retained under the old genus *Anthus*, and commence with one of the finest known species.

136. ANTHUS RICHARDI Vol. III. Pl. VIII.

RICHARD'S PIPIT.

An accidental visitant to the British Islands, where it is generally seen in winter and spring. The other countries frequented by it are Continental Europe, India, China, and in fact the whole of the temperate regions of the Old World.

137. ANTHUS CAMPESTRIS Vol. III. Pl. IX.

TAWNY PIPIT.

Common in the champagne parts of France and other portions of Central Europe. Has been killed in England, and may therefore be regarded as forming part of our avifauna; but its visits must be considered purely accidental.

138. ANTHUS OBSCURUS Vol. III. Pl. X.

ROCK-PIPIT.

A stationary species, frequenting the shores and rocky parts of Britain—sparsely in Norfolk, but plentifully in Western Scotland and all the western islands, including the Outer Hebrides, Monach Isles, Haskar Rocks, and St. Kilda—keeping strictly to the sea-margin (*R. Gray*).

139. ANTHUS SPINOLETTA Vol. III. Pl. XI.

VINOUS PIPIT.

A bird of France and the southern and eastern parts of Europe. Although it has been killed on our coast many times, it must be considered an uncertain and accidental visitor.

140. ANTHUS LUDOVICIANUS.

See the remarks respecting this species in my account of the Vinous Pipit (*Anthus spinoletta*).

141. ANTHUS CERVINUS Vol. III. Pl. XII.

RED-THROATED PIPIT.

Mr. Harting has recorded, in the 'Field' for the 26th of August, 1871, the occurrence of two examples

of this bird in our islands—one at Unst in Shetland on the 4th of May 1854 (now in the collection of Mr. Bond), and another in September of the same year at Freshwater in the Isle of Wight.

142. ANTHUS PRATENSIS Vol. III. Pl. XIII.

MEADOW-PIPIT or TITLARK.

A truly resident species, breeding in all the moorland counties of the three kingdoms, often the foster-parent of the young Cuckoo in this and the other European countries in which it is found. A large race of Meadow-Pipits arrive on our south coast in spring, and, it is believed, spread themselves over the central and perhaps the northern portions of the country.

143. ANTHUS ARBOREUS Vol. III. Pl. XIV.

TREE-PIPIT.

A summer migrant to England and Scotland, but “not,” says Thompson, “satisfactorily known as an Irish species;” arrives in spring, and departs in September.

Family ALAUDIDÆ.

The Larks constitute a very large family of birds, and are perhaps less understood than any other group in the whole range of ornithology. Those species which frequent Britain are arranged in the genera *Alauda*, *Galerita*, *Otocoris*, *Melanocorypha*, and *Calandrella*. They are chiefly inhabitants of the Old World. Of the genus *Alauda*, under which term all that were known when Linnæus wrote were included, our well-known Sky-Lark is a typical example. In America these birds are but feebly represented.

Genus ALAUDA.

144. ALAUDA ARVENSIS Vol. III. Pl. XV.

SKY-LARK.

A strictly resident species in Britain, the numbers of which are greatly increased by arrivals from Scandinavia in autumn, the whole forming immense flocks in the winter season. This species is also widely dispersed over Central and Southern Europe; and its range may even extend further in those directions. In the preceding portion of this Introduction I have mentioned the great destruction of small birds which occasionally takes place from the severity of the weather, in further confirmation of which I may here give a passage from a note received by me from John St. Aubyn, Esq., of Pendeen, in Cornwall, dated January 15, 1867:—“Owing to the severity of the cold, Larks and other small birds are beginning to die rapidly of starvation, judging from the number my children pick up.”

145. *ALAUDA ARBOREA* Vol. III. Pl. XVI.

WOOD-LARK.

A cheery little songster, very local in its habitat, breeds in many of the English counties; supposed to migrate from us to the southward in the winter; but Mr. Blake Knox states that it is abundant at that season in the county of Dublin, and also that it breeds there. It is about as numerous in Scotland as it is in England; and Mr. Harting states it has been found as far north as the Orkney Islands.

Genus *GALERITA*.

146. *GALERITA CRISTATA* Vol. III. Pl. XVII.

CRESTED LARK.

A bird of France and many other parts of the European continent, and even of other more distant countries. Although common on the roads between Calais and Boulogne, it seldom crosses the Channel to pay Albion's shores a visit; here, indeed, it is so scarce that it must be enumerated among our accidental visitors.

Genus *OTOCORIS*.

Of this ornamental section of the Larks there are about ten known species, six or seven inhabiting the Old World, and three the New. All are more or less ornamented with small pencilled plumes springing from above the eye, and have much of their plumage suffused with yellow and pinky brown. Their head quarters are Eastern Europe, Palestine, Afghanistan, the Altai, and the highlands of Asia generally.

147. *OTOCORIS ALPESTRIS* Vol. III. Pl. XVIII.

SHORE-LARK.

This bird has appeared here so frequently of late that it may almost be termed a regular winter visitant. Lord Lilford has recorded, in the 'Zoologist' for 1852, an instance of its nesting in Devonshire.

Genus *MELANOCORYPHA*.

A little group of thick-billed Larks, comprising five or six species; almost exclusively inhabit the central and eastern regions of Asia.

148. *MELANOCORYPHA CALANDRA* Vol. III. Pl. XIX.

CALANDRA LARK.

A common species in most of the champaign parts of Central and Southern Europe; but a purely accidental visitor to England, two instances only of its occurrence here being on record, both in Devonshire.

149. *MELANOCORYPHA LEUCOPTERA* Vol. III. Pl. XX.

WHITE-WINGED LARK.

The native country of this bird is Siberia and the eastern portions of Europe. In a single instance only has it been killed in England, for the particulars of which see the letterpress opposite the Plate.

Genus *CALANDRELLA*.

150. *CALANDRELLA BRACHYDACTYLA* Vol. III. Pl. XXI.

SHORT-TOED LARK.

A native of Central and Southern Europe, India, and China. Only four or five instances of its having been killed in England have been placed on record ; consequently it must be regarded as purely an accidental visitant.

Family *EMBERIZIDÆ*.

The members of this great group of birds extend over Europe, Asia, and Africa, to which sections of the globe they appear to be confined, inasmuch as no true Bunting has yet been discovered in America, Australia, New Zealand, or, I believe, the islands of the Eastern archipelago. The numerous species of which the family is composed are divisible into many genera ; and the ten species recognized as inhabiting Britain have been divided into six or seven. The food of all, both of those which frequent our islands and of those found in other countries, is of a mixed character, seeds of various kinds constituting its main portion ; but insects and their larvæ are largely partaken of, and probably form at first the sole nourishment of the young.

Genus *EMBERIZA*.

151. *EMBERIZA CITRINELLA* Vol. III. Pl. XXII.

YELLOWHAMMER or YELLOW BUNTING.

Very generally dispersed over the three kingdoms ; breeds and rears its young between spring and midsummer. British specimens differ considerably in the colouring of their plumage, and are very much less in size than continental examples.

152. *EMBERIZA CIRLUS* Vol. III. Pl. XXIII.

CIRL BUNTING.

A resident, but somewhat local ; breeds in most of our southern counties, particularly in chalky districts, and annually as near to London as Cookham, in Berkshire ; very scarce in Scotland, and never seen in Ireland.

153. *EMBERIZA RUSTICA* Vol. III. Pl. XXIV.

RUSTIC BUNTING.

The native habitat of this bird is the eastern part of Europe and the neighbouring countries. Has been killed near Brighton, for the particulars of which circumstance see 'The Ibis' for 1869, p. 128, and the letterpress facing the figure in the present work.

154. *EMBERIZA PUSILLA* Vol. III. Pl. XXV.

DWARF BUNTING.

Inhabits Northern and Eastern Europe, Siberia, China, and the Himalaya Mountains. Has been once killed in England, *vide* 'Ibis,' 1865, p. 113, and the account opposite the present Plate.

Genus *CRITHOPHAGA*.

155. *CRITHOPHAGA MILIARIA* Vol. III. Pl. XXVI.

COMMON BUNTING.

A truly British species, which is also found in Central and Southern Europe, Northern Africa, Asia Minor, and Persia. Breeds in our three kingdoms; is solitary in its habits, being generally seen sitting alone on the topmost twig of a hedge-row. The sole representative of its genus, or genera; for it has had no less than five generic terms applied to it—*Emberiza*, *Spinus*, *Cynchræmus*, *Miliaria*, and *Crithophaga*.

Genus *GLYCISPINA*.

Comprising about six or seven species inhabiting Europe, Asia, and Africa.

156. *GLYCISPINA HORTULANA* Vol. III. Pl. XXVII.

ORTOLAN BUNTING.

A bird which ranges very extensively over Europe, being common from the shores of the Mediterranean to the Dovrefjeld in Norway; in the latter country it breeds in abundance. It is but an accidental visitor to England, has once only, I believe, been killed in Scotland, and never in Ireland.

Genus *EUSPIZA*.

157. *EUSPIZA MELANOCEPHALA* Vol. III. Pl. XXVIII.

BLACK-HEADED BUNTING.

Common in Eastern Europe, Persia, and Western India. The male is a beautiful showy bird, the female

more plainly dressed, as will be seen on reference to my Plate, which represents an individual of the latter sex, said to have been killed on the Brighton race-course on the 3rd of November, 1868.

Genus SCHÆNICOLA.

The members of this marsh-loving section of the Buntings are about three in number, all inhabitants of Europe and the countries to the eastward of it.

158. SCHÆNICOLA ARUNDINACEA Vol. III. Pl. XXIX.

REED-BUNTING.

A resident and generally distributed species; breeds in the Thames aits and in the osier-beds of other rivers.

Genus CENTROPHANES.

Comprises about five species of very interesting mountain-loving birds, mostly American, and always in high northern latitudes, the species inhabiting Lapland occasionally paying the British Islands a visit.

159. CENTROPHANES LAPPONICA Vol. III. Pl. XXX.

LAPLAND BUNTING.

A rather frequent winter visitant, often caught in the clap-nets of the bird-catchers.

Genus PLECTROPHANES.

A genus composed of the single species known by the trivial names of Snow-Bunting and Snowflake.

160. PLECTROPHANES NIVALIS Vol. III. Pl. XXXI.

SNOW-BUNTING OR SNOWFLAKE.

This very interesting bird is an autumnal and winter visitant to the British Islands. Its summer quarters are the countries near to and, not unfrequently, within the arctic circle. It breeds in Lapland, and probably in suitable situations in all other countries of a similar latitude round the globe.

Genus ZONOTRICHIA.

A purely American form, comprising about twelve known species, one of which has strayed across the Atlantic to the British Islands.

161. ZONOTRICHIA ALBICOLLIS.

White-throated Sparrow of American authors.

“A female specimen of this bird,” says Mr. R. Gray, in his ‘Birds of Western Scotland,’ “was shot near

the Broadhill, on Aberdeen links, on the 17th of August, 1867.” This specimen was subsequently sent to Professor Newton for exhibition at the Meeting of the Zoological Society of London on the 27th January, 1870. More recently a second example, taken near Brighton, was exhibited at a Meeting of the same Society by George Dawson Rowley, Esq.

Family FRINGILLIDÆ.

The Finches are a family of birds comprising a larger number of members than the Buntings and the Larks, and are even more widely dispersed over the earth’s surface than those of any other group. In a work limited to the birds of our own islands, it would be out of place to give an enumeration of even the genera into which they have been separated ; and I therefore confine my remarks to such forms as are found in Britain.

Subfamily FRINGILLINÆ.

Genus PASSER.

The true Sparrows are principally confined to the northern parts of the Old World. Asia is inhabited by several species, and Europe by four or five, two of which frequent the British Islands.

162. PASSER DOMESTICUS Vol. III. Pl. XXXII.

COMMON OR HOUSE-SPARROW.

Distributed generally, but somewhat scarce in the northern parts of Scotland. A bird whose faults are few in number, and respecting which a sad mistake was made when certain parochial authorities placed a price upon its head ; for the good it effects in spring by the capture of insects far outweighs the value of the few grains of corn in a pulpy state which it occasionally takes.

163. PASSER MONTANUS Vol. III. Pl. XXXIII.

TREE-SPARROW.

A local species, and consequently much less widely diffused over the British Islands than the preceding : not so, however, with regard to its general distribution ; for it is as common at Shanghai and other parts of China as it is in Europe. Both in Scotland and Ireland it is local and rare.

Genus FRINGILLA.

The members of this genus of pretty birds as now restricted are but few in number. They all inhabit the northern and western portions of the Old World. England is frequented by two species.

164. FRINGILLA CŒLEBS Vol. III. Pl. XXXIV.
CHAFFINCH.

A bird of general distribution over the three kingdoms ; but Mr. Augustus Smith tells me that in the Scilly Islands it only appears in winter.

165. FRINGILLA MONTIFRINGILLA Vol. III. Pl. XXXV.
BRAMBLE-FINCH.

A true winter visitant ; gregarious. Arrives in autumn, probably from Norway and Lapland, where the process of reproduction has been accomplished.

Genus CARDUELIS.

A limited genus, of which our beautiful Goldfinch is the type, and whose only associates are the *C. caniceps* of the Himalayas and the *C. orientalis* of Central India.

166. CARDUELIS ELEGANS Vol. III. Pl. XXXVI.
GOLDFINCH.

A resident species, common and almost universally distributed over the British Islands, and equally plentiful on the neighbouring continent.

Genus CHRYSOMITRIS.

Of this genus one species inhabits the Old World, and some seven or eight are distributed over America, from California to Chili.

167. CHRYSOMITRIS SPINUS Vol. III. Pl. XXXVII.
SISKIN.

As regards this beautiful little bird, Scotland has the advantage over England ; for it regularly breeds there, while with us it is a winter visitant ; and in Ireland it is only seen at that season.

Genus SERINUS.

A small group of about three species, one of which, the Common Canary, is the type. They inhabit Europe, Palestine, Madeira, and the Canary Islands.

168. SERINUS HORTULANUS Vol. III. Pl. XXXVIII.
SERIN FINCH.

Has been several times killed in England. Mr. Harting enumerates ten instances of its occurrence

herein, viz. :—five at or near Brighton ; one in Hampshire ; one in Somerset ; one in Sussex ; one near London ; and one, locality not noted.

Genus *LIGURINUS*.

Four species of this form, to which the generic names of *Ligurinus*, *Chloris*, and *Chlorospiza* have been applied, are all natives of Europe and Asia. Japan is tenanted by one, China by another, Persia by a third, while Europe is the home of the type, our well-known Greenfinch.

169. *LIGURINUS CHLORIS* Vol. III. Pl. XXXIX.

GREENFINCH.

A resident species in Britain, over which, says Mr. Harting, “it is generally distributed, even to the Outer Hebrides, where it is found in North Uist and Harris and the Orkneys.” On the continent of Europe it is almost equally dispersed : and I have a specimen from Erzeroum, in Persia ; but I must mention that, although a fully adult male, it is of smaller size than examples killed in England.

Genus *COCCOTHAUSTES*.

I believe the bird inhabiting Europe to be the only representative of its genus ; for I very much question whether the Japan bird is really different.

170. *COCCOTHAUSTES VULGARIS* Vol. III. Pl. XL.

HAWFINCH.

This bird, which has become more plentiful of late years, is a permanent resident in England. In Scotland it is more scarce, and is probably confined to its southern and eastern provinces. In Ireland it is only occasionally found.

Subfamily *PYRRHULINÆ*.

The well-known Bullfinch of the British Islands is placed at the head of this subfamily, of which there are about seven species, inhabiting various parts of the world. The countries where one or other of them are found are Europe, Cashmere, the Himalayan regions, Bhotan, Japan, and the Azores.

Genus *PYRRHULA*.

171. *PYRRHULA VULGARIS* Vol. III. Pl. XLI.

BULLFINCH.

172. PYRRHULA VULGARIS Vol. III. Pl. XLII.

BULLFINCH (young).

Very generally dispersed over England, Scotland, and Ireland, and, as it breeds therein, must be regarded as a stationary species.

Genus CARPODACUS.

Although the propriety of placing the Scarlet Bullfinch (*Carpodacus erythrinus*) and the Pine-Grosbeak (*Pinicola enucleator*) in the subfamily *Pyrrhulinæ* may be questioned, it is certainly the best situation I can assign to them in the British avifauna.

Of the genus *Carpodacus* about nine species are known, some of which inhabit America.

173. CARPODACUS ERYTHRINUS Vol. III. Pl. XLIII.

SCARLET BULLFINCH.

A native of North-eastern Europe and Asia, only two instances of the occurrence of which in this country are on record—one near Brighton, and another in Caen Wood, Hampstead, Middlesex.

Genus PINICOLA.

Two or three very distinct species of Pine-Grosbeaks are now known, one of which frequents Norway, Lapland, and Russia; the other, *P. canadensis*, is as exclusively an inhabitant of the northern portions of America, Canada, and Hudson's Bay.

174. PINICOLA ENUCLEATOR Vol. III. Pl. XLIV.

PINE-GROSBEAK.

A very rare and inconstant visitor to the British Islands; still many instances are on record of its having been killed here.

Subfamily LOXIANÆ.

As the great forests of conifers are peculiar to the northern portions of the globe, so also are the members of the present remarkable group of birds, whose singularly constructed bills are especially adapted for extracting the seeds from the cones of these trees. Six or seven species are all that are known; and these are spread over the Old World, from Europe, throughout Northern Asia, to Japan, and in the New World from the Arctic regions to Mexico. Two species come to Britain at uncertain intervals to breed.

Genus LOXIA.

175. LOXIA CURVIROSTRA Vol. III. Pl. XLV.
COMMON CROSSBILL.

A pretty regular visitor, if not a stationary species, in Scotland, where it sometimes breeds.

176. LOXIA PITYOPSITTACUS Vol. III. Pl. XLVI.
PARROT CROSSBILL.

Has occurred many times in Britain, and may have remained and bred ; but if so, no authentic instances of such an occurrence are on record.

177. LOXIA BIFASCIATA Vol. III. Pl. XLVII.
WHITE-WINGED CROSSBILL.

Hab. Northern Europe and Asia.

Many instances are on record of this bird having been killed in the central portion of Europe ; and it has frequently occurred in England, and twice in Ireland.

178. LOXIA LEUCOPTERA Vol. III. Pl. XLVIII.
AMERICAN WHITE-WINGED CROSSBILL.

Inhabits North America, and is of rare occurrence in England. Besides the specimen alluded to in my account of the species as having been found on the shore at Exmouth, Mr. Harting mentions other instances of its appearance in England, and Mr. Gray one near Jedburgh in Scotland.

Genus LINOTA.

The generic term *Linota*, proposed by Bonaparte, and that of *Linaria*, by Bechstein, appear to have been both applied to this small group of Fringilline birds, the members of which are principally, if not solely, confined to the northern parts of Europe and Asia.

179. LINOTA CANNABINA Vol. III. Pl. XLIX.
LINNET.

Resident in and very generally distributed over Britain ; partially migrates south on the approach of winter.

180. LINOTA MONTIUM Vol. III. Pl. L.
TWITE or MOUNTAIN-LINNET.

A winter visitant to England, remaining to breed in its northern counties, and also in Scotland. Thompson states that it is resident from the north to the south of Ireland.

Genus *ÆGIOTHUS*.

The members of this genus, familiarly known by the name of Redpoles, are inhabitants of the boreal regions of both the Old and the New World—some of them affecting very high latitudes, and even breeding within the arctic circle.

181. *ÆGIOTHUS LINARIA* Vol. III. Pl. LI.
MEALY REDPOLE.

The native countries of this bird are Norway and Lapland, whence it migrates to England and Scotland in autumn and winter. Is said not to have been seen in Ireland; but it certainly must occur there, as it also does in America.

182. *ÆGIOTHUS RUFESCENS* Vol. III. Pl. LII.
LESSER REDPOLE.

A stationary species in Britain; winters in all our southern counties, and retires to the northern parts of England and Scotland for the purpose of breeding: according to Thompson it also nests in Ireland. With respect to the range of this bird, see Professor Newton's remarks in the 'Zoologist' for 1870, p. 2223.

Family STURNIDÆ.

The Starlings and Pastors constitute a very natural group of birds which chiefly inhabit Asia, Africa, and Europe. Two, belonging to different genera, form part of the British fauna.

Genus *STURNUS*.

The true Starlings are few in number, only six species being enumerated in the most recently compiled list. They are all denizens of the northern parts of the Old World, and are found in Europe, Asia Minor, Persia, Afghanistan, and China.

183. *STURNUS VULGARIS* Vol. III. Pl. LIII.
STARLING.

184. *STURNUS VULGARIS* Vol. III. Pl. LIV.
STARLING (young).

A resident species. Breeds in the three kingdoms, and is gregarious in autumn, winter, and spring.

Genus *PASTOR*.

The birds of this form, which are almost peculiar to the European, African, and Asiatic portions of the globe,

are at once interesting and useful,—interesting on account of their beauty, and useful from the good they effect in the countries they frequent by the destruction of the locusts and other insects and their larvæ, upon which they feed.

185. PASTOR ROSEUS Vol. III. Pl. LV.

ROSE-COLOURED PASTOR.

186. PASTOR ROSEUS Vol. III. Pl. LVI.

ROSE-COLOURED PASTOR (young).

A beautiful but unusually-coloured bird, which is very plentiful in Eastern Europe, Asia Minor, and Western India. It is merely an accidental visitor to England, Scotland, and Ireland.

Family ICTERIDÆ.

This is a purely American family, comprising considerably more than a hundred species, which are spread over the continent of America and the approximate islands. Two of them have from time to time wandered far from their native homes and sought a haven in the British Islands.

Genus AGELAIUS.

Of this section of Icterine birds about five species are known, the habitats of which are almost exclusively confined to the temperate and northern parts of the American continent.

187. AGELAIUS PHŒNICEUS.

Red-winged Starling.

Nine instances are on record of the occurrence of this species in Britain, namely seven in England and two in Scotland. The earliest of these appears to be the one mentioned as having been taken near London, by Albin, in his 'History of British Birds,' published in 1731–38, after which the bird seems to have remained unnoticed until the year 1843, between which date and 1871 eight others are described as having been met with in various parts of the country. The late Mr. Yarrell figured this transatlantic species in the supplement to his 'History of British Birds,' to which work, as well as those of Wilson and Audubon, I must refer my readers for its history; for, as I do not consider the bird pertains to our fauna, I have not included a figure of it in this work.

Genus STURNELLA.

A peculiar group of grass-loving birds, strictly confined to America, over which country the five known species are distributed.

188. STURNELLA LUDOVICIANA.

American Meadow-Starling.

Three instances of the occurrence of this bird in England have been recorded—Mr. Sclater mentioning, in ‘The Ibis’ for 1861, one that had been shot at Thrandeston, in Suffolk, and another seen at South Walsham, in Norfolk, and Mr. Lloyd the third, in the ‘Field’ for March 1871, as having been obtained near Cheltenham many years ago; this latter specimen was seen and verified by Mr. Harting.

This species, like the preceding, being purely American, I have not included a figure of it in my work. For all particulars respecting it, see the works of Wilson and Audubon, and Mr. Sclater’s paper in ‘The Ibis’ above referred to.

Family CORVIDÆ.

The members of this family, comprising some of the very largest of the Insectorial birds, are distinguished by several characteristics, and are divided into many genera. The Crows, the Daws, the Rooks, and the Choughs may be regarded as the more typical forms, and the Jays, Pies, and Nutcrackers as the more aberrant; still they, with many other genera, are placed in this large and all but universally spread family.

Genus CORVUS.

One or other of the true Crows are dispersed over all parts of the globe, with the exception of the southern portion of America, New Zealand, and Polynesia, where none are to be found. Structurally they are considered by many writers to be among the most perfectly formed birds which exist, their organization enabling them to fly through the air, perch on the branches of trees, and walk over the surface of the ground with equal facility, and the muscles of their throats permitting them to utter connected sentences scarcely equalled by the members of any other group of birds.

189. CORVUS CORAX Vol. III. Pl. LVII.
RAVEN.

A resident species, generally dispersed over the three kingdoms—plentiful in the north, more scarce in the south, where its great size and questionable habits procure it many enemies. Besides Britain, the northern portion of Europe, Asia, and America are countries which may include it in their avifaunas.

190. CORVUS CORONE Vol. III. Pl. LVIII.
CARRION-CROW.

A resident species, generally diffused over the three kingdoms; is also found in most parts of Europe.

Jerdon, on the authority of Dr. Adams, assigns it a place in the fauna of India, and Swinhoe in that of China; while it frequents at least the northern portion of Africa.

191. *CORVUS CORNIX* Vol. III. Pl. LIX.
HOODED CROW.

A resident species in the three kingdoms; breeds in Scotland and Ireland, and but very rarely in England; is to be met with in many parts of the European continent, both north and south; and is particularly common in Palestine and Egypt, where it is often the foster-parent of the young of the Great Spotted Cuckoo (*Oxylophus glandarius*).

192. *CORVUS FRUGILEGUS* Vol. III. Pl. LX.
ROOK.

I have retained this bird in the genus *Corvus*; many other authors have adopted Lesson's genus *Frugilegus*, and Prof. Kaup's term of *Tryphanocorax* for it and its immediate allies. Unlike the Crows the Rooks are gregarious and associate in immense flocks; they differ from them also in the structure of their bills, the peculiar form of which seems adapted for some special purpose, perhaps for the procurement of a particular kind of food, such as large underground-deposited larvæ of insects, grain, and tuberous roots, as the husbandman well knows to his cost. The Rook is even still more omnivorous; for it will not refuse worms, crustaceans, or carrion thrown up by the waves of the sea. Generally dispersed over England, Scotland, and Ireland. Rooks are only found in a limited portion of the Old World.

193. *CORVUS MONEDULA* Vol. III. Pl. LXI.
JACKDAW.

Even this indigenous species and its several near allies have been subjected to a generic separation from the genus *Corvus*, the term *Lycos* having been bestowed upon it by Boie, the specific names of the others being *collaris* for the Macedonian bird, *dauricus* for the Daurian and Chinese species, *neglectus* for that inhabiting Japan. All are of small size when compared with the true Crows; they affect different situations for the purpose of breeding, resorting to rocks, old towers, and holes in the ground rather than to the trees. They are strictly denizens of the Old World.

GENUS *FREGILUS*.

The Red-legged Crows differ considerably from any of the species above noticed, and are certainly entitled to a separate generic appellation, and accordingly have received three or four. The genus comprises but few species, only two being recognized, namely the bird inhabiting Europe, *F. graculus*, and the *F. himalayensis* of the Himalayas.

194. *FREGILUS GRACULUS* Vol. III. Pl. LXII.

CHOUGH.

This truly indigenous species is spread over the three kingdoms, but is more rare in Scotland; breeds in the rocks on the sea-shore, in company with Cormorants, Gulls, Puffins, and Guillemots. Found also in many of the hilly and Alpine parts of the European continent and in North Africa.

Genus *PICA*.

A very elegant group of birds, whether seen among the branches of trees or on the ground. Their powers of flight are not so great as those of the preceding members of the family. All are similarly coloured, black, white, and green with bronzy reflections being the prevailing tints. Two species inhabit the northern portions of America; one is peculiar to Africa; the remainder frequent Europe, Asia, and Japan,—each being confined to its own limited area, beyond which it is seldom found.

195. *PICA CAUDATA* Vol. III. Pl. LXIII.

MAGPIE.

An ornamental and stationary species, inhabiting most of the counties of England, Scotland, and Ireland.

Genus *GARRULUS*.

If we restrict this genus to the birds of the Old-World form, of which our familiar Jay is a typical example, it will be found to consist of nine or ten species, and, as is the case with the Magpies, that Europe and Asia are their head quarters; at the same time North Africa is not destitute of its own peculiar Jay. Structurally they are especially adapted for frequenting the branches of trees, and not for the ground, although they are often seen there. They are a sly, crafty race; and much obloquy attaches to them for their habit of pilfering the eggs and the young of other birds; fruits and berries, insects, snails, worms, and other of the lower animals afforded by forests constitute, however, their chief food.

196. *GARRULUS GLANDARIUS* Vol. III. Pl. LXIV.

JAY.

A resident species, more common in England than in Scotland. Thompson says it is only indigenous in the southern parts of Ireland. Mr. J. H. Gurney considers that an autumnal migration takes place to our eastern coasts. On the continent of Europe the Jay is generally dispersed wherever the country is suited to its habits. I have a specimen killed in Spain which does not differ from examples obtained in this country.

Genus *NUCIFRAGA*.

Only three or four species of Nutcracker have yet been characterized. They are inhabitants of Europe and Asia.

197. *NUCIFRAGA CARYOCATACTES* Vol. III. Pl. LXV.

NUTCRACKER.

198. *NUCIFRAGA CARYOCATACTES* Vol. III. Pl. LXVI.

NUTCRACKER (young).

Indigenous in most of the mountainous and woody countries of Europe ; breeds abundantly in Switzerland. In England it can only be considered an accidental visitor. Mr. Harting, in his 'Handbook of British Birds,' enumerates about twenty instances of its occurrence here from the date Pennant wrote, 1753, to within a few years of the present time, 1872 ; still these visits can only be regarded as accidental.

Family CUCULIDÆ.

The members of this great family of birds are rendered especially remarkable and interesting from the circumstance of the greater number of them having parasitic habits. The entire family comprises about two hundred species, which are subdivided into several subfamilies and many genera. They are universally dispersed over the temperate portions of the globe ; but not more than a fourth part of the whole number are found in America.

Genus CUCULUS.

The members of this genus, restricted to the true Cuckoos, are tolerably numerous. One species inhabits Europe ; and there are others in India, China, Java, Sumatra, the islands of the Indian archipelago, and Australia ; they are also well represented in Africa.

199. *CUCULUS CANORUS* Vol. III. Pl. LXVII.

COMMON CUCKOO.

200. *CUCULUS CANORUS* Vol. III. Pl. LXVIII.

COMMON CUCKOO (young).

The Common Cuckoo is a true migrant, coming to us from the south in May, and departing again in September, the young being frequently left behind to a later period of the year.

I now find that the opinion ventured in my account of this species as to the impossibility of the young Cuckoo ejecting the young of its foster-parents at the early age of three or four days is erroneous ; for a lady of undoubted veracity and considerable ability as an observer of nature and as an artist has actually seen the act performed, and has illustrated her statement of the fact by a sketch taken at the time, a tracing of which has been kindly sent to me by the Duke of Argyll, and I have considered it of sufficient interest to

reproduce here in a woodcut. The sketch was accompanied by Mrs. Blackburn's account of the circumstance as it came under her observation—which is here given from No. 124 of 'Nature,' a weekly illustrated journal of science.

"Several well-known naturalists who have seen my sketch from life of the young Cuckoo ejecting the young Pipit (opposite p. 22 of the little versified tale of mine) * have expressed a wish that the details of my observations of the scene should be published. I therefore send you the facts, though the sketch itself seems to me to be the only important addition I have made to the admirably accurate description given by Dr. Jenner in his letter to John Hunter, which is printed in the 'Philosophical Transactions' for 1788 (vol. lxxviii. pp. 225, 226), and which I have read with pleasure since putting down my own notes.

"The nest (which we watched last June, after finding the Cuckoo's egg in it) was that of the common Meadow-Pipit (Titlark, Moss-cheeper), and had two Pipit's eggs besides that of the Cuckoo. It was below a heather bush, on the declivity of a low abrupt bank on a Highland hill-side in Moidart.

"At one visit the Pipits were found to be hatched, but not the Cuckoo. At the next visit, which was after an interval of forty-eight hours, we found the young Cuckoo alone in the nest, and both the young Pipits lying down the bank, about ten inches from the margin of the nest, but quite lively after being warmed in the hand. They were replaced in the nest beside of the Cuckoo, which struggled about till it got its back under one of them, when it climbed backwards directly up the open side of the nest, and hitched the Pipit from its back on to the edge. It then stood quite upright on its legs, which were straddled wide apart, with the claws firmly fixed halfway down the inside of the nest, among the interlacing fibres of which the nest was woven; and, stretching its wings apart and backwards, it elbowed the Pipit fairly over the margin so far that its struggles took it down the bank instead of back into the nest.

* 'The Pipits,' illustrated by Mrs. Hugh Blackburn. Glasgow: Maclehose, 1872.

“After this the Cuckoo stood a minute or two, feeling back with its wings, as if to make sure that the Pipit was fairly overboard, and then subsided into the bottom of the nest.

“As it was getting late, and the Cuckoo did not immediately set to work on the other nestling, I replaced the ejected one, and went home. On returning next day, both nestlings were found dead and cold, out of the nest. I replaced one of them; but the Cuckoo made no effort to get under and eject it, but settled itself contentedly on the top of it. All this I find accords accurately with Jenner’s description of what he saw. But what struck me most was this: The Cuckoo was perfectly naked, without a vestige of a feather, or even a hint of future feathers; its eyes were not yet opened, and its neck seemed too weak to support the weight of its head. The Pipits had well-developed quills on the wings and back, and had bright eyes, partially open; yet they seemed quite helpless under the manipulations of the Cuckoo, which looked a much less developed creature. The Cuckoo’s legs, however, seemed very muscular, and it appeared to feel about with its wings, which were absolutely featherless; as with hands, the ‘spurious wing’ (unusually large in proportion) looking like a spread-out thumb. The most singular thing of all was the direct purpose with which the blind little monster made for the open side of the nest, the only part where it could throw its burthen down the bank. I think all the spectators felt the sort of horror and awe at the apparent inadequacy of the creature’s intelligence to its acts that one might have felt at seeing a toothless hag raise a ghost by an incantation. It was horribly ‘uncanny’ and ‘grewsome.’”

A few words more on this subject. My friend Mr. Noble, of Park Place, Henley-on-Thames, wrote to me thus on the 4th of May, 1871:—

“Mrs. Noble told me this morning that a Wagtail had built a nest in our dining-room balcony; on going thither I found the nest in a corner quite exposed, with three eggs in it, one much larger than the others; the two smaller ones were of a greenish colour with minute spots, the larger of a deeper green and more largely blotched. Can this be a Cuckoo’s?”

On Sunday, May the 21st, I saw this nest with four young birds, three lying by the side of the nest, from which they had evidently been but recently thrown, as they were plump and fresh. Allowing, therefore, that the Wagtail had laid a third egg on the 5th of May, and thirteen or fourteen days for the hatching of these birds, they must have been ejected in about three days after exclusion. On the 31st of the same month Mr. Noble again wrote:—“The Cuckoo is nearly fledged; he rises in the nest in the most hideous way, extending his neck like a serpent.”

Were we in possession of similar positive evidence of the means by which the Cuckoo’s egg is deposited in the dome-shaped nest of the Wren and in those of other birds, as we now have of those by which the young of the foster-parents are ejected, the history of the breeding-habits of this remarkable bird would be complete.

Genus OXYLOPHUS.

There are several species of this genus, which inhabit Africa, India, and some of the islands to the southward. They are, I believe, all parasitic, laying their eggs in the nests of Crows, Magpies, and other large birds.

201. OXYLOPHUS GLANDARIUS Vol. III. Pl. LXIX.
GREAT SPOTTED CUCKOO.

Two individuals of this species having been killed in our islands, one in Ireland and another in Northumberland, it becomes necessary to figure it in the present work. Respecting this latter example, I received the following note from Lord Ravensworth, Dec. 5, 1871 :—

“You will no doubt be interested to hear that a specimen of the Great Spotted Cuckoo was shot last summer, in July or August, upon the moors at Hesleyside, the noted seat of W. H. Charlton, Esq., on the banks of the North Tyne. It has been preserved, but unluckily is indifferently set up.” The Rev. H. B. Tristram informs me that he handled this bird in the flesh before it had been skinned.

In Southern Europe this bird is plentiful during summer, and in North Africa it is to be seen at all times. Even the rapacious Hooded Crow does not disdain to become the foster-parent of the young of this species.

Genus COCCYZUS.

Composed of a limited number of species, all American, of which two have been killed in our islands.

202. COCCYZUS AMERICANUS.

Yellow-billed Cuckoo.

Five instances of the occurrence of this species with us have been recorded by Mr. Harting in his ‘Hand-book of British Birds’—two in Ireland, two in Wales, and one in Cornwall. A figure will be found in Yarrell’s ‘History of British Birds,’ vol. ii. p. 210.

203. COCCYZUS ERYTHROPHthalmus.

Black-billed Cuckoo.

One killed in the county Antrim, Sept. 25, 1871 (see ‘Zoologist,’ 1872, p. 3022).

I have not considered it necessary to figure these two American species, as they certainly do not belong to our fauna.

Family PICIDÆ.

With the exception of Australia, New Zealand, and Polynesia, Woodpeckers are distributed over the temperate and warmer regions of every country both of the Old and the New World. About 300 species

are enumerated in the useful 'Hand-list of Birds' of the late Mr. G. R. Gray, of the British Museum. As might naturally be supposed, much diversity of form exists among the members of so vast a body of birds, each form being especially adapted to some given purpose or locality, the boles and leafy foliage of trees, rocky parched plains and humid grassy meadows being alike resorted to by one or other of them. They are all zygodactyle in the form of their feet, although, in some cases, only a rudiment of one of the hind toes is found to exist. So far as my knowledge extends, they one and all deposit their beautiful shining white eggs in the boles of trees; but I think it probable that some few may occasionally place theirs in crevices of rocks. Their principal food consists of insects and their larvæ; the ground-frequenting species consume ants and their eggs in great numbers; and fruits and berries are not rejected by others. The species inhabiting Europe are about ten in number, four of which are represented in the present work; and I here subjoin notices of the occurrence of two or three other accidental visitors from America.

Subfamily PICINÆ.

Genus PICUS.

Members of this truly arboreal form are found both in the Old and in the New World. They feed almost exclusively on insects and their larvæ, but probably partake of spiders also, which they search for and extract from the bark of trees.

204. PICUS MAJOR Vol. III. Pl. LXX.

GREAT SPOTTED WOODPECKER.

A resident species. Common in England, but more rarely met with in Scotland and Ireland.

205. PICUS LEUCONOTUS Vol. III. Pl. LXXI.

WHITE-BACKED WOODPECKER.

An accidental visitor to the Hebrides.

206. PICUS MINOR Vol. III. Pl. LXXII.

LESSER SPOTTED WOODPECKER.

A resident species in England, extremely rare, if at all to be found, in Scotland, and never occurs in Ireland.

The late Mr. Briggs, of Cookham, in Berkshire, who was a close observer of nature, and especially of our native birds, informed me just prior to his death that he had witnessed many curious actions and displays performed by this species while flitting and hovering with outspread wings around the leafy branches and

crowns of high trees, apparently engaged in capturing small insects. I deem it necessary to mention this, because we really know but little respecting the actions of even our commonest Woodpecker.

207. *PICUS VILLOSUS*.

Hairy Woodpecker.

There is no doubt about this American species having been killed several times in Britain. Latham mentions a pair from Halifax, in Yorkshire, in the collection of the then Duchess of Portland ; and one was killed in 1849 at Whitby, in Yorkshire, as stated by Mr. Higgins in the 'Zoologist' for that year, p. 2496. This latter specimen I have examined, and have no doubt of its identity, nor of the authenticity of its occurrence. It is not figured, because it is purely American and only an accidental visitor.

208. *PICUS PUBESCENS*.

Downy Woodpecker.

Mr. Harting mentions the occurrence of a single example of this bird at Bloxworth, near Blandford, Dorsetshire, in December 1836, as reported by the Rev. O. P. Cambridge in the 'Zoologist' for 1859, p. 6444.

Owing to this species being a native of the New World, and its having been only once seen in England, I have not given a figure of it.

Genus *DRYOCOPUS*.

As restricted, this genus contains but a single species.

209. *DRYOCOPUS MARTIUS* Vol. III. Pl. LXXIII.

GREAT BLACK WOODPECKER.

This bird is of large size ; and the prevailing tint of its plumage is sooty black, relieved by red on the crown. Its native localities are the pine-woods of Norway, Sweden, and Switzerland. Many instances of its having been killed in Britain are recorded ; but it is probable that not one of them is authentic. At all events there is not a certified British-killed specimen in any of our Museums or private collections ; consequently it is a very doubtful visitor. For further information respecting it I refer my readers to the letterpress accompanying the Plate.

Subfamily *GECININÆ*.

Genus *GECINUS*.

The members of this genus (known as Green Woodpeckers) being less arboreal than the true *Pici*, spend much of their time on the ground. In Britain the trimly kept lawns and meadows are favourite places of

resort. Their food mainly consists of ants and their larvæ. Besides *G. viridis*, three more species inhabit Europe ; and others are to be found in Asia and Africa.

210. *GECCUS VIRIDIS* Vol. III. Pl. LXXIV.
GREEN WOODPECKER OR YAFFLE.

A resident species in England, in many parts of which it is known by the name of “Yaffle.” It is rare in Scotland, and has not yet been seen in the sister kingdom of Ireland.

211. *GECCUS VIRIDIS* Vol. III. Pl. LXXV.
GREEN WOODPECKER OR YAFFLE (young).

Subfamily COLAPTINÆ.

Genus COLAPTES.

A purely American form, comprising about six or seven species, ranging from the United States to Bolivia.

212. *COLAPTES AURATUS*.
Golden-winged Woodpecker.

A native of the eastern parts of North America, a single example of which was killed in Amesbury Park, Wiltshire, in the autumn of 1836, as recorded by Mr. George S. Marsh, of Chippenham, in the ‘Zoologist’ for 1859, p. 6327, where he says, “My brother saw this bird in the flesh, just after it was shot. It was preserved by Mr. Edwards, of Amesbury, and has never been out of my possession.”

Subfamily YUNGINÆ.

Genus YUNX.

Only three or four species are known of this very anomalous Old-World form. Their range extends over a great portion of the northern regions of Asia, entering Japan, and one species Eastern and Southern Africa.

213. *YUNX TORQUILLA* Vol. III. Pl. LXXVI.
WRYNECK.

A true harbinger of spring, arrives before the Swallow, serenades us with its peculiar cry of *Pee-pee-pae*, and but seldom exposes its body to view. Is generally distributed over England and the southern portion of Scotland. Our Irish ornithologists must regret that it does not visit their country ; for a more curious creature does not exist. Many of its actions, and the character of its markings, have procured for it the trivial name of “Snakebird.”

ORDER **RASORES.**

Family COLUMBÆ.

The members of the Columbæ, or Pigeons, may be said to be more universally dispersed than any other family of birds; for there is no portion of the globe, favoured with a temperate or warm climate, where representatives of one or more of the various genera of which it is composed do not exist. In round numbers, between three and four hundred species are now known; of these, four are inhabitants of Britain, one of which is a summer migrant.

Genus PALUMBUS.

214. PALUMBUS TORQUATUS Vol. IV. Pl. I.

WOOD-PIGEON or CUSHAT.

A stationary species, universally dispersed over Britain and most parts of Europe and North Africa.

Genus COLUMBA.

A form the members of which are chiefly confined to the Old World.

215. COLUMBA GENAS Vol. IV. Pl. II.

STOCK DOVE.

Partially migratory, but breeds with us.

216. COLUMBA LIVIA Vol. IV. Pl. III.

ROCK-PIGEON.

Common and stationary in all the rocky portions of Britain; the supposed origin of our domestic Pigeon.

Genus TURTUR.

This genus is represented by the well-known Turtle Dove, that visits Britain in spring, to which several eastern species might be added.

217. TURTUR AURITUS Vol. IV. Pl. IV.

TURTLE DOVE.

A true summer resident in all the southern and midland portions of Britain.

INTRODUCTION.

Genus ECTOPISTES.

218. ECTOPISTES MIGRATORIUS.

Migratory Pigeon.

A native of North America: three or four instances of its occurrence in England and Scotland are on record. Not figured.

Family TETRAONIDÆ.

The Grouse (the trivial name for the members of this family) are among the most important of edible birds. They exist in very circumscribed limits, namely the northern portions of the Old and New Worlds. Those which frequent Britain are the magnificent Capercaillie, the Blackcock, the Red Grouse, and the Ptarmigan. Neither the Capercaillie nor the Blackcock is found in America; but that country is inhabited by species equally fine which are not found elsewhere.

Genus TETRAO.

219. TETRAO UROGALLUS Vol. IV. Pl. V.

CAPercaillie or COCK OF THE WOOD.

Breeds in Scotland in abundance.

220. TETRAO TETRIX Vol. IV. Pl. VI.

BLACKCOCK.

A stationary and breeding species in the three kingdoms.

Genus LAGOPUS.

The well-known Red Grouse of England, Wales, Scotland, and Ireland may be regarded as the type of the present genus.

221. LAGOPUS SCOTICUS Vol. IV. Pl. VII.

RED GROUSE.

Inhabits England, Scotland, and Ireland, but not south of Wales.

222. LAGOPUS MUTUS Vol. IV. Pl. VIII.

PTARMIGAN.

Stationary.

223. LAGOPUS MUTUS Vol. IV. Pl. IX.

PTARMIGAN (summer plumage).

224. LAGOPUS MUTUS Vol. IV. Pl. X.

PTARMIGAN (autumn plumage).

I have considered it desirable to give three Plates, illustrating three very distinct states of plumage, of this very variable bird.

Genus SYRRHAPTES.

An Old-World genus of Sand-Grouse, comprising two species, the native haunts of which are the Steppes of Russia, China, and Thibet. A large number of individuals of the *S. paradoxus* made an extraordinary visit to various parts of the European continent and Britain in the years 1859 and 1860.

225. SYRRHAPTES PARADOXUS Vol. IV. Pl. XI.

PALLAS'S SAND-GROUSE.

For particulars see the text of the Plate referred to.

Family PHASIANIDÆ.

Genus PHASIANUS.

A genus of six or eight species, all of which are natives of the northern regions of the Old World, from Asia Minor to Japan. Although India, particularly its hilly portions, abounds in Gallinaceous birds, no true Pheasant is found there.

226. PHASIANUS COLCHICUS Vol. IV. Pl. XII.

COMMON PHEASANT.

A former introduction, probably from Turkey or some part of the neighbourhood of the Black Sea.

Family PERDICIDÆ.

In this division of the Gallinacæ is comprised a great number of varied forms, most of which are natives of the northern portions of the Old World. In England we have two which may be considered indigenous, the Grey- and the Red-legged Partridge; the migratory Quail also frequently spends the summer in these kingdoms.

Genus PERDIX.

A genus of three species, namely :—*Perdix cinerea*, habitat Europe; *P. barbatus*, habitat China; and *P. Hodgsoniæ*, habitat Thibet.

227. *PERDIX CINEREA* Vol. IV. Pl. XIII.

PARTRIDGE.

A stationary species.

Genus *CACCABIS*.

A genus instituted for the Red-legs, which differ conspicuously by their finer plumage and the presence of spurs on their tarsi.

228. *CACCABIS RUBRA* Vol. IV. Pl. XIV.

RED-LEGGED PARTRIDGE.

A stationary species.

229. *CACCABIS PETROSA*.

It is stated that wild specimens of this bird have been killed in England ; but as this is questionable I do not figure it.

Genus *COTURNIX*.

A form comprised of a limited number of species, which range generally over the Old World—Europe, India, China, the southernmost parts of Africa, Australia, and New Zealand.

230. *COTURNIX COMMUNIS* Vol. IV. Pl. XV.

COMMON QUAIL.

A summer but uncertain migrant to England, while in Ireland it appears to be stationary ; at least Quails are frequently seen there in winter.

Family *TURNICIDÆ*.

The Turnices (or Hemipodes, as they are frequently called) constitute a distinct group among the Gallinaceæ. About fifteen species are known, all of which inhabit the sandy portions of the Old World, but are most abundant in Australia. The European fauna comprises but one, individuals of which have now and then wandered to Britain, probably from Spain.

Genus *TURNIX*.

231. *TURNIX AFRICANA* Vol. IV. Pl. XVI.

ANDALUSIAN TURNIX.

An accidental visitor.

Family OTIDIDÆ.

The Bustards, from their large size and noble bearing, constitute one of the most remarkable groups in ornithology. They are all inhabitants of the sandy plains of the Old World; and many of the most conspicuous species are natives of Africa.

Genus OTIS.

Formerly Great Britain enumerated a very fine bird of this genus; now and then, however, a solitary individual flies over to us from Spain or France, where it is still tolerably plentiful.

232. OTIS TARDA Vol. IV. Pl. XVII.

GREAT BUSTARD.

Accidental visitant.

233. OTIS TETRAX Vol. IV. Pl. XVIII.

LITTLE BUSTARD.

Accidental visitant.

234. OTIS MACQUEENII.

Macqueen's Bustard.

Quite accidental.

A native of Afghanistan and the neighbouring countries. A specimen of this bird, now in the possession of the Philosophical Society of York, was killed at Kirton Lindsey, in Lincolnshire, on the 7th of October, 1847. Still, with so slight a claim to be considered British, I shall content myself with this notice of it and a reference to a figure which will be found in my 'Birds of Asia.' Specimens have also been met with in Holland and Denmark.

ORDER GRALLATORES.

Family GRUIDÆ.

As must have been noticed by every one who has given a moment's thought to the subject, the Gruidæ, or Cranes, differ from the Herons and every other group of birds of which this great order is composed. The larger number of the known species are inhabitants of the Old World, over which they are widely spread, the plains of Australia on the one hand and those of Hindustan on the other being frequented by

one or more species ; the form also occurs in Africa, from north to south. In the New World, the northern portions only are tenanted by Cranes ; one species inhabits, or rather did inhabit, the British Islands.

Genus GRUS.

235. GRUS CINEREA Vol. IV. Pl. XIX.

COMMON CRANE.

An accidental visitant.

236. GRUS VIRGO.

Demoiselle Crane.

A native of Southern Europe, Northern Africa, and India, has been seen and one shot in Orkney, in May 1863 (Saxby, 'Zoologist,' p. 8692). Not figured.

237. GRUS PAVONINUS.

Balearic Crane.

This bird has also been captured within the limits of Britain, and by some included in our lists of species—wrongly, however, as I think, since its true home is north-western Africa, and its occurrence here must have been quite accidental.

Family ARDEIDÆ.

If the Bitterns are included among the members of this universally dispersed family, then the species amount to nearly a hundred in number. Unlike the Cranes, they are generally sedentary in their habits and affect watery situations. In the British avifauna there are ten species.

Genus ARDEA.

238. ARDEA CINEREA Vol. IV. Pl. XX.

HERON.

Resident and very generally dispersed.

239. ARDEA PURPUREA Vol. IV. Pl. XXI.

PURPLE HERON.

This fine bird, which is abundant in Holland and France, can only be considered an accidental visitor to Britain.

Genus HERODIAS.

240. HERODIAS ALBA Vol. IV. Pl. XXII.

GREAT WHITE EGRET or WHITE HERON.

Quite an accidental visitant, arriving at very uncertain periods.

241. HERODIAS GARZETTA Vol. IV. Pl. XXIII.

LITTLE EGRET.

This, like the last, is merely a straggler to Britain.

Genus BUBULCUS.

242. BUBULCUS RUSSATUS Vol. IV. Pl. XXIV.

BUFF-BACKED HERON.

An accidental visitor.

Genus BUPHUS.

243. BUPHUS COMATUS Vol. IV. Pl. XXV.

SQUACCO HERON.

The visits of this bird are very infrequent, and its appearance not to be depended upon.

Genus NYCTICORAX.

244. NYCTICORAX GRISEUS Vol. IV. Pl. XXVI.

NIGHT-HERON.

This bird must be considered among our accidental visitors.

Genus BOTAURUS.

245. BOTAURUS STELLARIS Vol. IV. Pl. XXVII.

BITTERN.

Formerly a common stationary form in our marshes and fens; now seldom seen, and mostly in winter.

246. BOTAURUS LENTIGINOSUS Vol. IV. Pl. XXVIII.

AMERICAN BITTERN.

The frequent occurrence of this bird in the British Islands demands a place for it in our avifauna; and hence I have given a figure of it.

Genus ARDETTA.

247. ARDETTA MINUTA Vol. IV. Pl. XXIX.
 LITTLE BITTERN.

Although never to be found with certainty, it is probable that we are seldom without the presence of this interesting marsh-lover ; it cannot, however, be considered other than a chance visitor.

Family CICONIIDÆ.

This family includes among its members not only our well-known White and Black Storks, but at least twenty other species of those useful birds. Whatever the condition of Britain may formerly have been, it is no longer suited as a resting-place for either of the two species just mentioned ; still scarcely a year passes without one or other of them accidentally dropping down on our marshes during their wanderings from one country to another.

Genus CICONIA.

248. CICONIA ALBA Vol. IV. Pl. XXX.
 WHITE STORK.

A chance visitor.

249. CICONIA NIGRA Vol. IV. Pl. XXXI.
 BLACK STORK.

An accidental visitor.

Family PLATALEIDÆ.

The seven or eight known species of Spoonbills have been separated into a distinct family by Bonaparte. They are found both in the Old and the New World. Although so limited in species they are numerous in individuals, and are very widely dispersed over the surface of the globe.

Genus PLATALEA.

250. PLATALEA LEUCORODIA Vol. IV. Pl. XXXII.
 SPOONBILL.

An accidental visitor from the Continent.

Family CHARADRIIDÆ.

Mr. Harting, in his 'Handbook,' has placed *Edicnemus*, *Squatarola*, *Vanellus*, *Eudromias*, *Ægialitis*,

Strepsilas, and *Hæmatopus* as a part of this great family of ground-birds; and I shall here follow his arrangement, since no one has paid greater attention to this subject than that gentleman. At the same time I must remark that perhaps no two persons will agree as to the position of *Vanellus*.

Genus VANELLUS.

251. VANELLUS CRISTATUS Vol. IV. Pl. XXXIII.

LAPWING OR PEEWIT.

Resident and generally spread over the three kingdoms. About four or five of this genus are known; they inhabit both the Old and the New World.

Genus HIMANTOPUS.

Of this form six or seven species are found in the Old and the New World respectively. They are generally termed Stilts or Stilt-Plovers, and characterized by elegance in all their actions.

252. HIMANTOPUS CANDIDUS Vol. IV. Pl. XXXIV.

STILT OR LONG-LEGGED PLOVER.

An accidental visitor to Britain.

Genus ŒDICNEMUS.

From four to six species of this form inhabit each side of the Equator in the Old World; two or three are similarly dispersed over America.

253. ŒDICNEMUS CREPITANS Vol. IV. Pl. XXXV.

THICK-KNEED BUSTARD.

Common and stationary in Britain.

Genus SQUATAROLA.

Our well-known Grey Plover is almost, if not the sole member of this genus.

254. SQUATAROLA HELVETICA Vol. IV. Pl. XXXVI.

GREY PLOVER.

A bird remarkable for the seasonal changes to which it is subject. In summer the breast is jet-black, while in winter the same part is striated or pure white. A bird of passage in Britain, proceeding northward in spring and returning southward at the opposite season.

255. *SQUATAROLA HELVETICA* Vol. IV. Pl. XXXVII.
GREY PLOVER (winter plumage and young).

Genus *CHARADRIUS*.

The well-known Golden Plover of England may be regarded as the type of this genus as now restricted. About five species are known, all characterized by the flavour of their flesh and the great seasonal changes to which they are subject in summer and winter, and which have induced me to give two Plates illustrative of them. One or other of the five species inhabit most parts of the entire globe, but are more abundant in the Old than in the New World.

256. *CHARADRIUS PLUVIALIS* Vol. IV. Pl. XXXVIII.
GOLDEN PLOVER (in summer plumage).
A resident species.

257. *CHARADRIUS PLUVIALIS* Vol. IV. Pl. XXXIX.
GOLDEN PLOVER (in winter plumage).

Genus *ÆGIALOPHILUS*.

A genus formed for the Kentish Plover and other allied species.

258. *ÆGIALOPHILUS CANTIANUS* Vol. IV. Pl. XL.
KENTISH PLOVER.
A spring and summer resident, coming here to breed in May. Common on the south coast.

Genus *ÆGIALITIS*.

Of these little Plovers (or Ringed Dotterels, as they are more commonly called) numerous species are spread over both the Old and the New World. Two are found in Britain—one of which is stationary, the other an accidental visitor.

259. *ÆGIALITIS HIATICULA* Vol. IV. Pl. XLI.
RINGED PLOVER.
A resident species, abundant in most parts of the three kingdoms.

260. *ÆGIALITIS MINOR* Vol. IV. Pl. XLII.
LITTLE RINGED PLOVER.
An occasional visitant, the native country of which is Eastern Europe, Africa, and India.

261. *ÆGIALITIS VOCIFERA*.

Kill-deer Plover.

This American bird has been added to the list of our fauna from the circumstance of a specimen having been killed in Hampshire in 1857.

Genus *EUDROMIAS*.

The type and almost the only representative of this genus is the well-known Dotterel, which passes over the British Islands in May.

262. *EUDROMIAS MORINELLUS* Vol. IV. Pl. XLIII.

• DOTTEREL.

Spring and autumn migrant ; breeds in Westmoreland and the adjoining counties.

Genus *Cursorius*.

A small genus of highly interesting birds which persistently keep to the regions of the Old World, and almost exclusively to Africa and Asia. Swift of foot, they have been called Coursers. They are said to trip over the ground with great nimbleness, their movements then presenting no inapt resemblance to pieces of paper blown about by the wind. They naturally inhabit great sandy wastes rather than cultivated and arable lands ; and hence the only European species is but seldom seen.

263. *Cursorius Gallicus* Vol. IV. Pl. XLIV.

CREAM-COLOURED COURSER.

Quite an accidental visitor to the British Islands.

Genus *Hæmatopus*.

Although not very numerous is species, there is scarcely any country on the face of the globe where this form is not represented. In the southern hemisphere, at Cape Horn in America, the Cape of Good Hope in Africa, in the southermost portion of Tasmania and in New Zealand, a bird of this form is certain to be seen, while in the opposite hemisphere they are nearly as constant. These birds are commonly known by the misnomer of Oyster-catchers.

264. *Hæmatopus ostralegus* Vol. IV. Pl. XLV.

OYSTER-CATCHER.

A resident species round our coasts.

Genus GLAREOLA.

An isolated form among the Plovers. The six or seven species known are all confined to the Old World. Their chief food consists of insects, which they capture on the wing, after the manner of the Swallow.

In speaking of an allied species (*G. melanoptera*), Mr. J. H. Gurney, in Andersson's 'Birds of Damara Land,' quotes the following from 'The Field' newspaper of February 26th, 1870:—"The principal enemy of these great swarms (of locusts), and the valued friend of the Cape farmer, is the small locust-bird, *Glareola Nordmanni* These birds come, I may say, in millions, attendant on the flying swarms of locusts; indeed the appearance of a few of them is looked upon as a sure presage of the locust-swarms being at hand. Their mode of operation, as I saw it, was as follows:—They intercept a portion of the swarm and form themselves into a ring of considerable height, regularly widening towards the top, so as to present the appearance of a revolving balloon or huge spinning-top. They thus fly one over the other, and, hawking at the locusts, gradually contract their circle and speedily demolish the locusts within its limits. As their digestion, like that of all insectivorous birds, is very rapid, the form in which they thus enclose their prey is admirably adapted to enable the lower to escape the droppings of the upper birds. When they have consumed this portion of the swarm, they follow up the main body and commence another attack, and so on, until night sets in and the birds happen to lose the swarm or the locusts are all devoured. I should not forget to mention that the beak of these birds is exactly of such a shape and such dimensions that when they seize the locusts the snap cuts off the four wings, and a passer by sees a continual shower of locusts' wings falling on the ground. At another time, when I was stationed at Fort Peddie, and the country was suffering from the effects of a long drought and was overrun with unusual quantities of ants and grasshoppers, we were visited by thousands of these birds, which remained many days devouring these pests. Though the locust-birds are excellent eating, no one ever thinks of destroying them; and they were so fearless that, though I often rode or ran amongst them to test their tameness, only a few in my immediate vicinity would rise, the rest continuing to feed; but every ten minutes or so the whole mass would rise of their own accord and fly, first a few yards to the right and then to the left, in a slanting direction, presenting alternately a black and white wave of birds some miles in length, a sight never to be forgotten by the spectator."

265. GLAREOLA PRATINCOLA Vol. IV. Pl. XLVI.

COMMON PRATINCOLE.

An accidental visitor to the British Isles.

Family TANTALIDÆ

Genus FALCINELLUS.

266. FALCINELLUS IGNEUS Vol. IV. Pl. XLVII.

GLOSSY IBIS.

This bird has a wide range, being found in Europe, India, Africa, and Australia. Accidental in Britain.

Family SCOLOPACIDÆ.

Under this family name I shall, like Mr. Harting, include many forms of strand- and marsh-loving birds, beginning with the Curlews and ending with the Snipes.

Genus NUMENIUS.

The birds of this form will be found described in all general histories of birds under the trivial names of Curlews and Whimbrels. One or other of the species are distributed over every country of the entire globe. In Britain we have two very distinct kinds, to which a third, a straggler from America, has just been added; here, however, it will only receive a passing notice.

267. NUMENIUS ARQUATA Vol. IV. Pl. XLVIII.

CURLEW.

Resident and universally dispersed. Lives much on the sea-shore during winter, and in summer resorts to heathery hills and wastes for the purpose of breeding.

268. NUMENIUS PHEOPUS Vol. IV. Pl. XLIX.

WHIMBREL.

A spring and autumn visitant, leaving us at the former period for regions further north, whither it proceeds to breed.

269. NUMENIUS BOREALIS.

Esquimaux Curlew.

This bird has been shot in this country about four times; being, however, purely an American species, it is not figured.

Genus LIMOSA.

Godwits, like Curlews, are all but universally dispersed over the sea-shores and marshes of every country.

270. *LIMOSA MELANURA* Vol. IV. Pl. L.

BLACK-TAILED GODWIT.

Formerly used to breed in our marshes, but now, owing to the progress of cultivation, can only be regarded as a migrant.

271. *LIMOSA RUFA* Vol. IV. Pl. LI.

BAR-TAILED GODWIT.

A regular spring and autumn migrant, going northward to breed, and returning southward in winter.

Genus *RECURVIROSTRA*.

Of this highly interesting genus there are three well-marked species known:—the present, which is common in Europe and Africa; the second, which is found in North America; and the third, a beautiful red-necked bird, is a native of Australia.

272. *RECURVIROSTRA AVOCETTA* Vol. IV. Pl. LII.

AVOCET.

Genus *GLOTTIS*.

273. *GLOTTIS CANESCENS* Vol. IV. Pl. LIII.

GREENSHANK.

A spring and autumn migrant, breeding in Scotland, where of late years many nests have been discovered.

Genus *TOTANUS*.

274. *TOTANUS CALIDRIS* Vol. IV. Pl. LIV.

REDSHANK.

Formerly a common resident species in our fens, and breeding regularly in many parts of England. Drainage and cultivation of waste lands, however, have almost driven it from our shores, except at the periods of its migration in spring and autumn.

275. *TOTANUS FUSCUS* Vol. IV. Pl. LV.

SPOTTED REDSHANK.

In England and Scotland this bird is generally regarded as a spring and autumn migrant; and no instance of its nesting with us has yet been recorded, notwithstanding that individuals of this species frequently

remain here long enough in the spring to acquire their full summer plumage. In Ireland it is said to be very rare.

276. *TOTANUS OCHROPUS* Vol. IV. Pl. LVI.

GREEN SANDPIPER.

Although strictly speaking this Sandpiper is only a spring and autumn migrant, examples are now and then obtained in winter, and it has even been reported to have nested in this country. This is by no means unlikely; but its remarkable habit of depositing its eggs in the old nests of other birds, at a considerable height from the ground, has no doubt caused it to be overlooked.

277. *TOTANUS GLAREOLA* Vol. IV. Pl. LVII.

WOOD-SANDPIPER.

Like the last named this species is most frequently observed at the vernal and autumnal periods of migration; but two or three instances of its nesting in Norfolk, Northumberland, and Elginshire have been placed on record.

Genus *ACTITIS*.

278. *ACTITIS HYPOLEUCOS* Vol. IV. Pl. LVIII.

SUMMER-SNIPE.

This well-known and graceful little Sandpiper, like others of the family, is a bird of double passage, and appears with great regularity every spring and autumn. Unlike other species, however, it does not always quit this country to find a nesting-place, but breeds regularly in the north of England, Wales, and Scotland, and less frequently in some parts of the south of England.

279. *ACTITIS MACULARIA* Vol. IV. Pl. LIX.

SPOTTED SANDPIPER.

An inhabitant of the northern continent of America, this bird can only be regarded as a rare straggler to Europe and the British Islands, where it is reported to have been met with several times.

Genus *STREPSILAS*.

280. *STREPSILAS INTERPRES* Vol. IV. Pl. LX.

TURNSTONE.

Although a regular migrant to our shores, a few remain with us throughout the winter, and there is good

ground for believing some breed within the British Islands. See Harting, 'Handbook of British Birds,' p. 44; Gray, 'Birds of the West of Scotland;' and Thompson, 'Birds of Ireland,' vol. ii. p. 120.

Genus MACHETES.

281. MACHETES PUGNAX Vol. IV. Pl. LXI.

RUFF and REEVE.

This bird formerly nested regularly in the fens; but, owing to the gradual drainage of their haunts and undue persecution in the spring, very few now breed here, and that only in favoured localities. It is still, however, a regular spring and autumn migrant.

282. MACHETES PUGNAX Vol. IV. Pl. LXII.

RUFF and REEVE (first autumn plumage).

Genus ACTITURUS.

283. ACTITURUS BARTRAMIUS Vol. IV. Pl. LXIII.

BARTRAM'S SANDPIPER.

A rare straggler from the New World, which has been met with in England in three or four instances at rare intervals.

Genus TRYNGITES.

284. TRYNGITES RUFESCENS Vol. IV. Pl. LXIV.

BUFF-BREASTED SANDPIPER.

This is another wanderer from the American continent. It has been noticed, however, more frequently in this country than the last named: Mr. Harting, in his 'Handbook of British Birds,' p. 138, has given fifteen instances of its capture here.

Genus TRINGA.

285. TRINGA CANUTUS Vol. IV. Pl. LXV.

KNOT.

Although a few of these birds may be found here throughout the winter, it is strictly speaking a spring and autumn migrant.

Genus CALIDRIS.

286. CALIDRIS ARENARIA Vol. IV. Pl. LXVI.

SANDERLING.

The same remark applies to this as to the last named.

INTRODUCTION.

CXV

Genus LIMNOCINCLUS.

287. LIMNOCINCLUS PECTORALIS Vol. IV. Pl. LXVII.
PECTORAL SANDPIPER.

Like Bartram's Sandpiper and the Buff-breasted Sandpiper, this bird, which is common to both continents of America, occasionally finds its way across the broad Atlantic, and a temporary home in this country. According to Mr. Harting ('Handbook,' p. 140), some sixteen instances of its occurrence are on record.

Genus ANCYLOCHEILUS.

288. ANCYLOCHEILUS SUBARQUATA Vol. IV. Pl. LXVIII.
CURLEW SANDPIPER.

Like many others of the Sandpipers, this bird is a regular spring and autumn migrant. The discovery of a nest in a tract of sedgy bog round the Loch of Spynie, near Elgin, on the 8th of June, 1853, has been recorded by Mr. R. Gray in his 'Birds of the West of Scotland.'

Genus PELIDNA.

289. PELIDNA CINCLUS Vol. IV. Pl. LXIX.
DUNLIN (summer plumage).

Although a resident species, the Dunlin is nevertheless migratory in spring and autumn. It breeds regularly in Scotland, the Hebrides, and Shetland; and the nest has also been found on the moors of Northumberland and Cornwall.

290. PELIDNA CINCLUS Vol. IV. Pl. LXX.
DUNLIN (winter plumage).

291. PELIDNA BONAPARTEI Vol. IV. Pl. LXXI.
BONAPARTE'S SANDPIPER.

This American species, of which some eight or nine examples have now been procured in this country, is probably more familiar to English readers by the name of Schinz's Sandpiper. It is now generally admitted, however, that the so-called *Tringa* or *Pelidna Schinzii* is merely a small variety or race of the Dunlin; and the appellation therefore should cease to be employed for the present species.

Genus ACTODROMAS.

292. ACTODROMAS MINUTA Vol. IV. Pl. LXXII.
LITTLE STINT.

This graceful little bird is a regular migrant, passing through this country in spring and autumn. It is

always more numerous at the latter season, which seems to indicate that the species on going northward in the spring travels by another route than that which it traverses on its return in autumn.

293. *ACTODROMAS PUSILLA*.

American Little Stint.

An American Little Stint (*A. pusilla*, Wilson) has twice been met with in England. In October 1853 a specimen was shot on Marazion Marsh, Cornwall; and in September 1869 a second was obtained on Northam Burrows, Devon.

This purely American bird has not been figured.

Genus *LEIMONITES*.

294. *LEIMONITES TEMMINCKII* Vol. IV. Pl. LXXIII.

TEMMINCK'S STINT.

This little Sandpiper, although of rarer occurrence than the last named, visits this country nevertheless regularly in spring and autumn. It appears, however, to be almost confined to England; for it has been met with only once in Scotland and once in Ireland.

Genus *ARQUATELLA*.

295. *ARQUATELLA MARITIMA* Vol. IV. Pl. LXXIV.

PURPLE SANDPIPER.

Throughout the greater part of the British Islands this bird is chiefly known as a winter visitant; and although it has been observed late in spring in the Hebrides, and presumably breeding there, no one has yet been fortunate enough to discover a nest there.

Genus *LIMICOLA*.

296. *LIMICOLA PYGMÆA* Vol. IV. Pl. LXXV.

BROAD-BILLED SANDPIPER.

An inhabitant of Northern Europe and Asia; this little bird moves southward at the approach of winter, and in four or five instances has strayed far enough towards the west to touch the English shore.

In every instance in which specimens have been obtained here, save one, the locality was the coast of Norfolk. The exceptional capture was made in Belfast Bay many years ago.

Genus MACRORHAMPHUS.

297. MACRORHAMPHUS GRISEUS Vol. IV. Pl. LXXVI.

RED-BREASTED OR BROWN SNIPE.

In Mr. Harting's 'Handbook of British Birds' (p. 144) no less than fifteen instances are given of the occurrence of this North-American species in England and Scotland. In every case, so far as can be ascertained, the specimens were procured in autumn, indicating that their presence here is in some way dependent upon a divergence from the route of their migration southward.

Under the terms *Scolopax*, *Gallinago*, and *Limnocryptes* those members of the true Snipes which visit Britain have been figured. They form part of a group of universal distribution.

Genus SCOLOPAX.

298. SCOLOPAX RUSTICOLA Vol. IV. Pl. LXXVII.

WOODCOCK.

This well-known species of late years has become so much more numerous here as a resident, that although numbers still migrate to this country in the autumn, it is difficult to say whether "the first cock of the season" is an early arrival or a home-bred bird.

Genus GALLINAGO.

299. GALLINAGO MAJOR Vol. IV. Pl. LXXVIII.

GREAT SNIPE.

Although this species does not, like the next, breed in this country, it visits us regularly every autumn, but always earlier than does the Common Snipe; and its occurrence during the spring months is rare.

300. GALLINAGO SCOLOPACINA Vol. IV. Pl. LXXIX.

COMMON SNIPE.

A regular winter visitant; but in favourable localities many annually remain to nest and rear their young.

With regard to the so-called Sabine's Snipe, it is now generally regarded as a melanism of the common species, but is of sufficiently rare occurrence to attract notice. In the 'Field' of Dec. 10, 1870, appeared a list to that date of all the known examples which had been obtained, since which time two or three others have been killed in the south of England, and, for the first time, one recently in Scotland. Mr. Brydges

Williams's specimen was shot at Carnanton, Cornwall, in January 1862. As to this, see 'Zoologist,' 1862, pp. 7883 and 7938.

301. GALLINAGO RUSSATA.

Russet Snipe.

This remarkable Snipe, which often weighs six ounces, not unfrequently occurs in our markets. Mr. Rodd, of Penzance, and sportsmen generally, often speak of this bird when writing to a friend, asking its name &c. The term *russata* will be found mentioned in the folio edition in the letterpress to the Common Snipe.

Genus LIMNOCRYPTES.

302. LIMNOCRYPTES GALLINULA Vol. IV. Pl. LXXX.

JACK SNIPE.

Although instances are on record in which this bird has been met with in this country in summer, there is no sufficient evidence of its having bred here, and it must continue to be regarded as a regular winter visitant.

The generic terms *Phalaropus* and *Lobipes* have been instituted for the fairy-like Phalaropes, of which there are three species, two of which frequent Britain.

Genus PHALAROPUS.

303. PHALAROPUS FULICARIUS Vol. IV. Pl. LXXXI.

GREY PHALAROPE (summer plumage).

This beautiful little bird has of late years been noticed as a regular autumn visitant, occasionally appearing in considerable numbers. It is remarkable that although flocks pass through England in the autumn when the species is moving southward for the winter, none are seen here on the return journey in spring, which shows that they go back by a different route.

304. PHALAROPUS FULICARIUS Vol. IV. Pl. LXXXII.

GREY PHALAROPE (winter plumage).

Genus LOBIPES.

305. LOBIPES HYPERBOREUS Vol. IV. Pl. LXXXIII.

RED-NECKED PHALAROPE.

In England this graceful little bird is an occasional winter visitant. Never seen in such numbers as the

last named, but generally singly or in pairs. It has been found breeding in Orkney, the Hebrides, Perthshire, Inverness, and Sutherland ; but in Ireland it appears to be unknown.

Genus *FULICA*.

Coots are so generally dispersed over the globe as to render it difficult to say where one or other of the fifteen species are not to be met with.

306. *FULICA ATRA* Vol. IV. Pl. LXXXIV.

COOT.

This well-known species, although generally regarded as a resident, is nevertheless migratory to a certain extent in autumn, and assembles often in large flocks in the winter, in our estuaries and tidal harbours.

Genus *GALLINULA*.

Like the Coot, the members of the genus *Gallinula* are very generally dispersed over both the Old and the New World.

307. *GALLINULA CHLOROPUS* Vol. IV. Pl. LXXXV.

MOORHEN.

Of this familiar bird it will suffice to say that it is resident and generally distributed.

Genus *RALLUS*.

Rails are, like the Coots and the Moorhens, inhabitants of marshes of the entire globe.

308. *RALLUS AQUATICUS* Vol. IV. Pl. LXXXVI.

WATER-RAIL.

There can be no doubt that, although many birds of this species remain with us throughout the year, considerable additions to their numbers are made in the spring.

Genus *CREX*.

Allied in form and very similar in distribution to the three foregoing and the next following genera.

309. *CREX PRATENSIS* Vol. IV. Pl. LXXXVII.

LAND-RAIL or CORN-CRAKE.

A regular summer migrant ; but occasionally individuals have been found loitering behind and spending the winter with us in sheltered situations.

Genus PORZANA.

310. PORZANA MARUETTA Vol. IV. Pl. LXXXVIII.
SPOTTED CRAKE.

Whatever may have been the case formerly, when our fens were the regular nesting-haunts of this and many other marsh-loving birds, the Spotted Crake can now only be considered a spring and autumn migrant, occasionally remaining to breed in favourable situations.

311. PORZANA PYGMÆA Vol. IV. Pl. LXXXIX.
BAILLON'S CRAKE.

This little bird has so frequently been met with in England and at almost every season of the year, that an enumeration of particular localities for it is unnecessary. It may be regarded as a local resident. It has, however, been only obtained once in Scotland and once in Ireland.

312. PORZANA MINUTA Vol. IV. Pl. XC.
OLIVACEOUS CRAKE.

Almost the same remark will apply to this as to the last-named species, although the seasons at which it has been generally met with seem to indicate that it is a spring and autumn migrant.

ORDER NATATORES.

In this order Vigors and others have included all the swimming birds—Geese, Swans, the two great divisions of the Ducks, Mergansers, Cormorants, Auks, Grebes, Penguins, Divers, Gulls, Terns, and Petrels. Their distribution is almost universal, the icy poles being the only part of the globe from which they are absent.

If we institute a comparison between the ornithological productions of the different parts of the earth's surface, we find that water-birds are much more rife in some countries than others, and that they are more numerous in the northern than in the southern hemisphere ; and if we compare those frequenting the area of the British Islands and the surrounding seas and fresh waters with those frequenting a similar extent of any other portion of the globe, we shall find a greater variety of forms than elsewhere, due doubtless to the peculiar position of our islands, lying as they do between the two great northern continents, and to a certain extent under the influence of the Gulf-stream.

I now proceed to the enumeration of the species contained in the fifth volume, and commence with the Geese, two or three of which grace our wolds and marshes.

Subfamily ANSERINÆ.

In round numbers about thirty species of Geese are now known to ornithologists. They admit of being divided into many genera, of which *Cereopsis*, *Anser*, and *Nettapus* are conspicuously distinct from each other; it is, however, with the genera *Anser* and *Bernicla* only, or true Geese, that we have to do with in the 'Birds of Great Britain.'

Genus ANSER.

313. ANSER FERUS Vol. V. Pl. I.

GREY LAG GOOSE.

A stationary species. Breeds in many parts of Scotland and Ireland. The original of our Common Goose.

314. ANSER SEGETUM Vol. V. Pl. II.

BEAN-GOOSE.

A winter visitant. More common on the western than the eastern parts of Scotland and England.

315. ANSER BRACHYRHYNCHUS Vol. V. Pl. III.

PINK-FOOTED GOOSE.

A winter visitant, arriving from the north in autumn; plentiful in the wolds of Yorkshire at that season.

316. ANSER ALBIFRONS Vol. V. Pl. IV.

WHITE-FRONTED GOOSE.

This is also a winter visitant to the British Islands.

317. ANSER ÆGYPTIACUS.

Egyptian Goose.

Supposed by some to be an occasional visitor, by others that those which are occasionally seen are stray individuals from some domestic home.

318. ANSER ALBATUS.

Cassin's Snow-Goose.

See Howard Saunders, in the 'Proceedings of the Zoological Society of London,' March 1872, for an account of two specimens of this bird killed in Wexford Harbour in November 1871.

Genus *BERNICLE*.

319. *BERNICLE LEUCOPSIS* Vol. V. Pl. V.

BERNICLE GOOSE.

Plentiful in winter, keeping to certain districts on the flat shores of Lancashire. Retires northward beyond our country to breed.

320. *BERNICLE CANADENSIS*.

Canada Goose.

This bird is said to have occurred wild in England; it being purely American, I have not figured it.

321. *BERNICLE RUFICOLLIS* Vol. V. Pl. VI.

RED-BREASTED GOOSE.

An inhabitant of northern Russia and Siberia, and a chance visitant to Britain.

322. *BERNICLE BRENTA* Vol. V. Pl. VII.

BRENT GOOSE.

Plentiful in winter on the muddy flats at the mouths of rivers from the Thames to the Tamar; equally numerous in a northerly direction, including Ireland.

Subfamily *CYGNINÆ*.

Of this subfamily there are nine or ten species—three or four of which pertain to the fauna of Great Britain, two or three to that of North America, the celebrated Black-necked Swan of Chili, and the Black Swan of Australia.

Genus *CYGNUS*.

323. *CYGNUS OLOR* Vol. V. Pl. VIII.

MUTE SWAN.

Supposed to be still living in a wild state in Eastern Europe; strictly stationary in Britain.

324. *CYGNUS FERUS* Vol. V. Pl. IX.

WILD SWAN or WHOOPER.

A winter visitant, arriving in autumn and departing in spring, to breed in Ireland and many parts of the arctic circle.

325. *CYGNUS MINOR* Vol. V. Pl. X.

BEWICK'S SWAN.

This is also a winter visitor, arriving in autumn and retiring northwards in spring.

326. CYGNUS IMMUTABILIS.

Polish Swan.

Ornithologists are at variance as to the propriety of considering this bird a distinct species from *C. olor*, the difference between them being but trifling. The Polish Swan is a somewhat larger bird, with a smaller frontal knob, while the naked space between the bill and the eye is larger; and the feet are grey instead of olive-black. Mr. Bartlett has weighed several Polish Swans living at the Zoological Gardens, which turned the scale of twenty-seven pounds; and he assures me they would be two pounds heavier after moulting. He considers there are tangible differences between the two birds; and I must confess I do also since I have been able to make some observations on a fine example recently shot, as detailed in the following note sent to me by Viscount Holmesdale:—

“Househill, Nairn, N.B., Sept. 28th, 1872.

“DEAR MR. GOULD,—I send you a bird which I believe to be a Polish Swan. First a pair and then three others came to a wild loch by the sea here in the northerly gales we have had lately. The keeper took them to be common Whoopers; and we went out yesterday and stalked them. Whoopers they certainly are not; but they answer exactly to the description of the Polish Swan in Yarrell: ash-grey legs and feet small; tubercle at base of bill and the black of the nostrils well divided from the base. If this is so, it may be of interest to you; and Colonel Baillie hopes you will accept the bird. If, after all, we are wrong as to the species, it may be of interest from the culinary point of view.

“Yours very faithfully,

“HOLMESDALE.”

The very fine specimen above alluded to is now mounted in the British Museum; and I have a note on its dissection from Professor Owen, who states “the Swan was a young male, testes very small, flesh tender and good eating.”

If the young of this bird is always white from its downy state upwards, it is a remarkable characteristic, and one that will tend to confirm the propriety of considering it a species.

The weight of this individual was 24½ lbs.

	ft.	in.
Across the wings, from tip to tip	7	6
Total length, from tip of bill to end of tail	4	9
Tip of bill to corner of the eye	0	5½
Tip of bill to base	0	4

Bill deep reddish flesh-colour, with a tolerably well-developed knob and broad triangular space between the bill and the eye. Breadth of the black space, including the part behind the knob, 2 inches. Eye dark brown.

Feet olive-grey, even to the joints; interdigital membranes darker. Length of true tarsi $4\frac{3}{4}$ inches; bare space above the joint $1\frac{1}{2}$ inch; middle toe and nail $6\frac{1}{4}$ inches; breadth of the foot $6\frac{1}{4}$ inches.

Having disposed of the Geese and Swans, we naturally turn to the true grass-feeding Ducks, after which will be noticed those species which almost exclusively feed under the surface of the water—the Fuliginæ &c.

Subfamily ANATINÆ.

Genus TADORNA.

An Old-World group of five or six species.

327. TADORNA VULPANSER Vol. V. Pl. XI.
SHELDRAKE.

A stationary species, breeding in the holes of warrens and sandy wastes by the sea-side.

Genus CASARCA.

328. CASARCA RUTILA Vol. V. Pl. XII.
RUDDY SHELDRAKE.

An occasional and very rare visitant. Among other places, builds in rocks on the borders of the Mediterranean.

Genus MARECA.

A genus of which our common Widgeon is the type, and of which an allied species is found in North America and another in Chili.

329. MARECA PENELOPE Vol. V. Pl. XIII.
WIDGEON.

A migrant which is plentiful in winter, and sometimes, but not very regularly, stays to breed in England and Scotland.

330. MARECA AMERICANA.
American Widgeon.

An occasional visitant to England. It is not figured.

Genus SPATULA.

A well-defined form, comprising about six species, one being found in Australia, another in New Zealand, others in Chili, and the rest in the northern hemisphere of both the Old and New Worlds.

331. SPATULA CLYPEATA Vol. V. Pl. XIV.

SHOVELLER DUCK.

Frequent in summer, sometimes breeds.

Genus ANAS.

The Wild Duck, which is the type of this genus, is generally diffused over Asia, Africa, and North America.

332. ANAS BOSCHAS Vol. V. Pl. XV.

MALLARD OR WILD DUCK.

Resident and breeds everywhere. The supposed parent of all our domestic breeds of Ducks.

Genus QUERQUEDULA.

A genus formed for the Teal and Garganey and some allied species in other parts of the world.

333. QUERQUEDULA CRECCA Vol. V. Pl. XVI.

TEAL.

Common, resident ; breeds everywhere.

334. QUERQUEDULA CIRCIA Vol. V. Pl. XVII.

GARGANEY.

A spring and autumn migrant, occasionally remaining in the summer to breed.

Genus DAFILA.

Formed for the reception of our well-known Pin-tailed and two or three South-American species of elegantly formed Ducks.

335. DAFILA ACUTA Vol. V. Pl. XVIII.

PIN-TAILED DUCK.

A winter visitant, arriving in sufficient numbers to be regarded as common.

Genus CHAULELASMUS.

The bird characterized under this term is almost the sole type of the genus.

336. CHAULELASMUS STREPERA Vol. V. Pl. XIX.
GADWALL.

A somewhat rare winter visitant.

Genus NYROCA.

In Britain there are two species of this genus; in North-America there are others, and others again in Australia.

337. NYROCA FERINA Vol. V. Pl. XX.
POCHARD.

A winter visitant, frequently taken in our decoys, and the flesh held in some esteem as representing the celebrated Canvas-backed Duck of America.

338. NYROCA LEUCOPHTHALMOS Vol. V. Pl. XXI.
WHITE-EYED or FERRUGINOUS DUCK.

A spring visitor, almost exclusively so in England, but unknown in Ireland.

Genus BRANTA.

A fine form, the native country of which is Eastern Europe and India.

339. BRANTA RUFINA Vol. V. Pl. XXII.
RED-CRESTED DUCK.

The occurrence of this bird in England is very seldom and uncertain; still there are many British specimens extant.

Subfamily FULIGULINÆ.

The birds of this subfamily, or the Diving Ducks, form an extensive group, members of which are found in most parts of the globe, and which is well represented in the British Islands.

Genus FULIGULA.

340. FULIGULA CRISTATA Vol. V. Pl. XXIII.
TUFTED DUCK.

A tolerably common winter visitant to the British Islands; many remain to breed on the lakes at Clumber and Osberton in Nottinghamshire, and doubtless on other similar sheets of water.

341. *FULIGULA MARILA* Vol. V. Pl. XXIV.

SCAUP DUCK.

A winter visitant.

Genus *ENICONETTA*.

A genus established for the fine Steller's Duck, a species nearly allied to the Eiders.

342. *ENICONETTA STELLERI* Vol. V. Pl. XXV.

STELLER'S DUCK.

An accidental visitor to the northern parts of Britain; its native countries are Lapland, northern Scandinavia, and Russia.

Genus *SOMATERIA*.

Of the Eiders, a very natural and distinct group of Ducks, there are but four or five species, inhabiting the northern portions of both the Old and the New World.

343. *SOMATERIA MOLLISSIMA* Vol. V. Pl. XXVI.

EIDER DUCK.

Stationary. Breeds on the Farn Islands and many other similar situations round our northern coasts.

344. *SOMATERIA SPECTABILIS* Vol. V. Pl. XXVII.

KING DUCK.

A rare and accidental visitor from the north.

Genus *OIDEMIA*.

The members of this little division of the Diving Ducks are rendered remarkable by their velvety black covering, as well as the bright colouring of some of the soft parts, particularly of the bill and the naked portions of the head of one species. They are strictly denizens of the salt waters, resorting to freshwater lakes only for the purpose of breeding.

345. *OIDEMIA NIGRA* Vol. V. Pl. XXVIII.

SCOTER.

Very common along our coasts in winter; a fair number stay to breed in Caithness and Sutherland.

346. OIDEMIA FUSCA Vol. V. Pl. XXIX.

VELVET SCOTER.

A common winter bird in the Orkney and Shetland Islands; solitary individuals have been killed on the Thames and even further south

347. OIDEMIA PERSPICILLATA Vol. V. Pl. XXX.

SURF-SCOTER.

Quite an accidental visitor from the coasts of North America; has been killed about ten times in Britain.

Genus CLANGULA.

The Golden-eye, Barrow's Duck, and the Buffle-headed Duck are about the only members of this genus; like several of the preceding forms they seek their food at the bottom of the shallow parts of the seas, the inlets of rivers, &c.

348. CLANGULA GLAUCION Vol. V. Pl. XXXI.

GOLDEN-EYE.

A true winter visitant, said to have once found a breeding-place on Loch Assynt in Sutherland. Breeds in Lapland.

349. CLANGULA ALBEOLA.

Buffle-headed Duck.

This American bird having been killed four or five times in England, some have included it in our avifauna lists; and so do I, but without figuring it.

Genus HISTRIONICUS.

The fantastically marked Harlequin Duck is the type and only known species of this genus.

350. HISTRIONICUS TORQUATUS Vol. V. Pl. XXXII.

HARLEQUIN DUCK.

A very rare visitant to Britain; and when examples do occur, they are either females or young males of the first year.

Genus HARELDA.

A northern form of a single species.

351. *HARELDA GLACIALIS* Vol. V. Pl. XXXIII.

LONG-TAILED DUCK.

A common winter visitant ; arrives in the Scottish firths in great abundance during the months of autumn.

Subfamily MERGINÆ.

The Mergansers are a very distinct family, differing in structure and mode of life from the Ducks or Cormorants, to which otherwise they are nearly allied. They live on the waters of both the Old and the New World, and consist of about ten species.

Genus *MERGUS*.

352. *MERGUS CASTOR* Vol. V. Pl. XXXIV.

GOOSANDER.

A winter bird, frequenting our lakes when they are not frozen over ; very destructive to freshwater fish. Always to be seen at Clumber in autumn and winter, goes north in summer.

353. *MERGUS SERRATOR* Vol. V. Pl. XXXV.

MERGANSER.

Found in Britain at all seasons ; common in the north of Scotland.

354. *MERGUS CUCULLATUS* Vol. V. Pl. XXXVI.

HOODED MERGANSER.

An American species, which has occasionally been found in Europe and Britain.

355. *MERGUS ALBELLUS* Vol. V. Pl. XXXVII.

SMEW or NUN.

A winter bird, rather scarce. Breeds in Lapland and the adjoining countries.

Family PODICIPIDÆ.

When the birds of the world are taken in review, it is interesting to note that certain forms are restricted to very limited areas, while others are as widely distributed. It is to the latter category that the Grebes or members of this family pertain ; for my experience tends to prove that one or other of the numerous species are found throughout the entire globe ; even in the islands of the South Pacific they are to be met with, and also all over North and South America. They do not appear to be limited by elevation, but tenant the

lowest waters and the highest lakes, one of the finest being an inhabitant of the celebrated Lake of Titicaca in Peru. Grebes are characterized by a peculiarity of structure which enables them to chase the nimble fishes and other aquatic creatures under water in a different manner from other birds. They construct their floating nests on the lakes; and the eggs are frequently incubated in the water. Although divided into many genera, those inhabiting Britain have been retained in the genus *Podiceps*.

Genus *PODICEPS*.

356. *PODICEPS CRISTATUS* Vol. V. Pl. XXXVIII.

GREAT CRESTED GREBE.

A summer resident, breeding on many of our large lakes and inland waters.

357. *PODICEPS RUBRICOLLIS* Vol. V. Pl. XXXIX.

RED-NECKED GREBE.

An occasional visitor, not rare on the east coast in the winter season.

358. *PODICEPS AURITUS* Vol. V. Pl. XL.

HORNED GREBE.

A chance visitor to Britain, most common in its immature and winter plumage; inhabits Sweden, Lapland, and other countries to the northward of our islands.

359. *PODICEPS NIGRICOLLIS* Vol. V. Pl. XLI.

EARED GREBE.

More numerous than the last; sometimes found on the eastern broads in its finest state of plumage. One of its native countries is Spain; it is also abundant in Northern Africa, and but seldom, I imagine, found so far north as the Baltic. Probably unknown to Linnæus.

360. *PODICEPS MINOR* Vol. V. Pl. XLII.

LITTLE GREBE, or DABCHICK.

A resident, stationary, and universally distributed species.

Family *COLYMBIDÆ*.

The Divers, unlike the Grebes, are only found in the northern hemisphere. They frequent the countries bordering on the arctic circle, and are as abundant in America as in Europe and Asia. In Britain we have three distinct species.

Genus COLYMBUS.

361. COLYMBUS GLACIALIS Vol. V. Pl. XLIII.

GREAT NORTHERN DIVER.

One of the finest of our native birds, but does not breed with us.

362. COLYMBUS ARCTICUS Vol. V. Pl. XLIV.

BLACK-THROATED DIVER.

This may be considered a resident species, although it is but sparingly observed at any time. In winter the young are frequent along our southern coasts, while in summer most of the northern lochs of Scotland have each its breeding pair of birds—among other places, Loch-y-vraon and Loch Drome in Ross-shire, part of the fine property of John Fowler, Esq.

363. COLYMBUS SEPTENTRIONALIS Vol. V. Pl. XLV.

RED-THROATED DIVER.

Like the last a resident species, breeding in the same parts of the country.

Family ALCADÆ.

Formerly Britain could boast of having five species of this remarkable family of northern sea-birds; but the finest of them, the Great Auk, is now gone from the face of the waters; and if it is still enumerated in the present work, it is because we cherish the recollection of so singular a bird.

Genus ALCA.

364. ALCA IMPENNIS Vol. V. Pl. XLVI.

GREAT AUK.

365. ALCA TORDA Vol. V. Pl. XLVII.

RAZORBILL.

A common cliff-bird, breeding all round our coasts, and a constant resident on our seas.

Genus URIA.

366. URIA TROILE Vol. V. Pl. XLVIII.

COMMON GUILLEMOT.

Like the last very numerously dispersed round the whole of the islands and islets of Britain; breeds on the rocks; lays but a single egg.

367. *URIA GRYLLE* Vol. V. Pl. XLIX.
BLACK GUILLEMOT.

A resident species, often breeding in company with the last ; lays two eggs.

Genus *MERGULUS*.

368. *MERGULUS ALLE* Vol. V. Pl. L.
LITTLE AUK.

Sometimes abundant with us in winter, while in summer it is engaged in breeding within the arctic circle.

Genus *FRATERCULA*.

369. *FRATERCULA ARCTICA* Vol. V. Pl. LI.
PUFFIN.

Numerous among our sea-bounded rocks in summer, and in winter may be found fishing in the bays and shallow portions of our seas.

Family *PELICANIDÆ*.

Subfamily *GRACULINÆ*.

That portion of this family forming the Cormorants comprises about thirty species. They are spread over the rocky sea-shores of the entire globe, with the exception of the ice-bound poles. In Britain we have two species.

Genus *PHALACROCORAX*.

370. *PHALACROCORAX CARBO* Vol. V. Pl. LII.
CORMORANT.

A denizen of the British waters generally, from which it is never absent.

371. *PHALACROCORAX GRACULUS* Vol. V. Pl. LIII.
CRESTED CORMORANT, or SHAG.

Also a constant frequenter of every part of the British coasts, where it annually breeds.

Subfamily *SULARINÆ*.

The Gannets form a small section of the Pelicanidæ. They are truly oceanic in their habits, and are

almost as widely distributed as the Cormorants. In species, however, they are far less numerous, only six or seven being known ; and should the Australian bird be ultimately proved to be identical with our own, then the number will be still less.

Genus SULA.

372. SULA BASSANA Vol. V. Pl. LIV.

GANNET, or SOLAN GOOSE.

I must refer my readers to the body of the work for full information respecting this predaceous bird, for it would be out of place to enter into particulars here in what can only be regarded as a mere list of the species inhabiting Britain. I may mention, however, that its specific name is derived from one of its breeding-places, to which may be added Lundy Island, Ailsa Craig, St. Kilda, Suliskerry in Orkney, &c.

Family LARIDÆ.

Mr. Harting, in his ‘Handbook of British Birds,’ has included the Gulls and Terns in the same family, with which view I acquiesce, for it would be difficult to draw the line between the termination of the one and the commencement of the other. Whether we regard the Gulls, Terns, and Skuas separately or collectively, they may be described as coast-wanderers over the entire globe, but more abundant in the northern than in the southern hemisphere. Their principal food is fish, crustaceans, and other marine animals, but some of them readily eat worms, insects, and garbage. In their plumage they are perhaps the most cleanly of all birds, always maintaining their pure and delicate tints unsullied. There are over one hundred species inhabiting various parts of the globe.

Subfamily LARINÆ.

Genus LARUS.

The members of this genus comprise all the large Gulls—birds which, as scavengers alone, play an important part in keeping a wholesome atmosphere. They also prey upon fish, crustaceans, small mammals, and weakly birds.

373. LARUS MARINUS Vol. V. Pl. LV.

GREAT BLACK-BACKED GULL.

A resident species, breeding round our coasts.

374. LARUS FUSCUS Vol. V. Pl. LVI.
LESSER BLACK-BACKED GULL.

Also a resident and breeding species.

375. LARUS GLAUCUS Vol. V. Pl. LVII.
GLAUCOUS GULL.

A bird of the northern hemisphere generally, whence it is driven southward on the approach of winter, at which season it arrives here, as well as in similar latitudes in America.

376. LARUS ISLANDICUS Vol. V. Pl. LVIII.
ICELAND GULL.

A beautiful species belonging to the regions of the arctic circle, but frequently coming hither in winter, where it finds a more bearable climate.

377. LARUS ARGENTATUS Vol. V. Pl. LIX.
HERRING-GULL.

A bird we may call our own, since it always enlivens our seas and rocks, especially at the breeding-season.

378. LARUS CANUS Vol. V. Pl. LX.
COMMON GULL.

A native species, abundant both in summer and winter.

Genus RISSA.

Established for our pretty Kittiwake.

379. RISSA TRIDACTYLA Vol. V. Pl. LXI.
KITTIWAKE.

A local resident.

Genus PAGOPHILA.

380. PAGOPHILA EBURNEA Vol. V. Pl. LXII.
IVORY GULL.

Abundant at Spitzbergen and many parts of Greenland. Here in Britain it is rare, and quite accidental in its occurrence.

Genus RHODOSTETHIA.

Established for the beautiful Gull named after Captain James Ross, the celebrated navigator.

381. RHODOSTETHIA ROSSII Vol. V. Pl. LXIII.

ROSS'S GULL.

Has been killed two or three times in Britain. The Plate should be referred to to form a just idea of this fairy Gull, whose natural home is within the arctic circle.

Genus CHROICOCEPHALUS.

The members of this section of the Gulls have many pleasing traits in their character; thus they have the habit of spending their summer in large communities, and of selecting as a site for their breeding-place the inland waters of some marsh or swampy island in the interior of the country. Their interest is also much added to by the circumstance of their being subject to seasonal changes in the colouring of their plumage.

382. CHROICOCEPHALUS RIDIBUNDUS Vol. V. Pl. LXIV.

BLACK-HEADED GULL.

A common and resident species.

383. CHROICOCEPHALUS PHILADELPHIA Vol. V. Pl. LXV.

BONAPARTE'S GULL.

An occasional visitant from its native country, North America.

Genus HYDROCOLÆUS.

Instituted for our well-known Little Gull.

384. HYDROCOLÆUS MINUTUS Vol. V. Pl. LXVI.

LITTLE GULL.

A tolerably regular winter visitant, never breeding in Britain.

Genus XEMA.

The beautiful arctic Gull named after the late Mr. Sabine is the type of this genus.

385. XEMA SABINI Vol. V. Pl. LXVII.

SABINE’S GULL.

An occasional visitor to our islands.

Subfamily STERNINÆ.

In this subfamily are contained the various forms of Terns or Sea-Swallows as they are popularly termed. Ten species are figured under six genera :—*Hydroprogne*, *Actochelidon*, *Sterna*, *Sternula*, *Gelochelidon*, and *Hydrochelidon*.

Genus HYDROPROGNE.

386. HYDROPROGNE CASPIA Vol. V. Pl. LXVIII.

CASPIAN TERN.

An accidental visitor.

Genus ACTOCHELIDON.

387. ACTOCHELIDON CANTIACA Vol. V. Pl. LXIX.

SANDWICH TERN.

A summer visitant and breeding bird.

388. ACTOCHELIDON (?) VELOX.

Swift-flying Tern.

A specimen of this bird is said to have been killed in Ireland (see Blake Knox in the ‘Zoologist’ for 1866). Strictly an eastern bird, and therefore not figured.

Genus STERNA.

389. STERNA HIRUNDO Vol. V. Pl. LXX.

COMMON TERN.

A resident species. Breeds in many parts of our southern coasts.

390. STERNA PARADISEA Vol. V. Pl. LXXI.

ROSEATE TERN.

A summer visitant. Breeds sparingly on the Scilly and Farne Islands.

391. STERNA MACRURA Vol. V. Pl. LXXII.

ARCTIC TERN.

A resident species, breeding abundantly around our northern coasts.

392. STERNA FULIGINOSA.

Sooty Tern.

A bird of almost universal distribution. Britain has occasionally been favoured with its visits; still there are few who would give it more than a passing notice in any list of the British birds. One was shot at Wallingford, on the banks of the Thames, on the 21st of June, 1869, and kindly sent for my inspection before it was skinned by Mr. James Gardner, Jun., of Holborn and Oxford Street.

Genus STERNULA.

393. STERNULA MINUTA Vol. V. Pl. LXXIII.

LITTLE TERN.

A summer visitor. Breeds at Dungeness and many other parts of the south coast of England.

Genus GELOCHELIDON.

394. GELOCHELIDON ANGLICA Vol. V. Pl. LXXIV.

GULL-BILLED TERN.

A bird of the eastern portion of Europe, Africa, and Asia, and quite an accidental visitant to Britain.

Genus HYDROCHELIDON.

The members of this genus frequent marshes for the purpose of breeding, and deposit their eggs in regular-formed nests of herbage. The entire group consists of about ten species, which are widely distributed over the globe.

395. HYDROCHELIDON NIGRA Vol. V. Pl. LXXV.

BLACK TERN.

A summer visitant, breeding in several of the marshes of England.

396. HYDROCHELIDON LEUCOPTERA Vol. V. Pl. LXXVI.

WHITE-WINGED TERN.

An accidental visitor from countries to the south-eastward of our islands.

397. *HYDROCHELIDON LEUCOPAREIA* Vol. V. Pl. LXXVII.

WHISKERED TERN.

An accidental visitor from Eastern Europe.

Genus *ANOUS*.

398. *ANOUS STOLIDUS*.

Noddy Tern.

A bird common to many seas ; it is not therefore surprising that a solitary individual has now and then wandered to fish in our waters. It is a common species, very generally known, consequently not figured.

Subfamily *STERCORARIINÆ*.

Genus *STERCORARIUS*.

Parasitic Gulls are to a certain extent affined to the Petrels, and for this reason have been placed next them in the present volume. Members of this group, which are eight or ten in number, frequent the seas of both hemispheres, are tyrants of the ocean, waging war and domineering over all the birds, and robbing them of the fish they have taken.

399. *STERCORARIUS CATARRHACTES* Vol. V. Pl. LXXVIII.

GREAT SKUA.

Found all round our seas at one season or the other. Breeds in the Orkneys.

400. *STERCORARIUS POMATORHINUS* Vol. V. Pl. LXXIX.

POMATORHINE SKUA.

A constant winter visitor. Breeds in Lapland and Finmark.

401. *STERCORARIUS PARASITICUS* Vol. V. Pl. LXXX.

ARCTIC SKUA.

Resident around our coasts. Breeds in Orkney and Shetland.

402. *STERCORARIUS LONGICAUDUS* Vol. V. Pl. LXXXI.

LONG-TAILED SKUA.

A rare winter visitant from the north-eastern seas.

Family PROCELLARIDÆ.

This truly oceanic family is but feebly represented in the British seas, six or seven species being all that we enumerate; whereas with those frequenting the waters of the other parts of the globe they amount to double that number.

Genus PROCELLARIA.

403. PROCELLARIA GLACIALIS Vol. V. Pl. LXXXII.

FULMAR.

Frequents the British seas generally. Breeds on the island of St. Kilda in countless multitudes.

Genus PUFFINUS.

Three or four birds of this form frequent the seas of the British Islands, two of which have been figured, and there can be no doubt as to the propriety of so doing; but I may state that there are others occasionally found here which are not well understood, or have not been properly worked out. Having myself collected these birds round the entire globe, I could not fail to remark the vast number of species I met with. In my ‘Birds of Australia’ forty species are either figured or enumerated, and I feel assured that the list may be greatly added to on a closer research than I could give of the seas I had at that time (1838–41) the opportunity of traversing.

404. PUFFINUS MAJOR Vol. V. Pl. LXXXIII.

GREAT SHEARWATER.

A bird which almost yearly visits the seas of the Land’s End.

405. PUFFINUS ANGLORUM Vol. V. Pl. LXXXIV.

MANX SHEARWATER.

Breeds commonly on one or more of the Scilly Islands; and, as it is also found here in winter, it may be considered a resident species.

Genus ÆSTRELATA.

406. ÆSTRELATA HÆSITATA.

Capped Petrel.

Has once been taken in England.

Genus THALASSIDROMA.

A genus in which Vigors and others have placed the smaller members of the *Procellariidæ*, the Storm-Petrels. In the British seas we have two breeding species, and a third looks in upon us now and then when it has crossed the Atlantic to our side of the globe.

407. THALASSIDROMA LEACHII Vol. V. Pl. LXXXV.

FORKED-TAILED STORM-PETREL.

Breeds in the Outer Hebrides, and frequently found dead on inland properties, apparently from exhaustion, from the exertion of crossing overland from sea to sea.

408. THALASSIDROMA PELAGICA Vol. V. Pl. LXXXVI.

STORM-PETREL.

This little sprite of the waters is known to breed on many parts of our western coasts from the Scilly Isles to the Orkneys, and on some of the rocky islets of the west coast of Scotland.

409. THALASSIDROMA BULWERI.

Bulwer's Petrel.

This bird, which inhabits Madeira, sometimes visits our seas, and by Yarrell and others has been included in our avifauna.

LIST OF PLATES

VOLUME I.

NOTE.—As the arrangement of the Plates in the course of publication was impracticable, the Numbers here given will refer to them when arranged, and the Plates may be quoted by them.

RAPTORES.

Neophron percnopterus	Egyptian Vulture	1
Aquila chrysaëtos	Golden Eagle	2
—— nævia	Spotted Eagle	3
Haliaëtus albicilla	Sea-Eagle	4
Pandion haliaëtus	Osprey	5
Buteo vulgaris	Common Buzzard	6
Archibuteo lagopus	Rough-legged Buzzard	7
Pernis apivorus	Honey-Buzzard	8
Astur palumbarius	Goshawk	9
Accipiter nisus	Sparrow-Hawk	10
Falco islandus	Iceland Falcon	11
——	—— (young)	12
—— candicans	Greenland Falcon	13
——	—— (dark race)	14
——	—— (dark race, young)	15
—— gyrfalco	Norwegian or Gyr Falcon	16
—— peregrinus	Peregrine Falcon	17
—— subbuteo	Hobby	18
—— æsalon	Merlin	19
Erythropus vespertinus	Orange-legged Hobby	20
Tinnunculus alaudarius	Kestrel	21
Milvus regalis	Kite or Glede	22
—— migrans	Black Kite	23
Circus æruginosus	Marsh-Harrier	24
——	—— (young)	25
—— cyaneus	Hen-Harrier	26
—— cinerascens	Ash-coloured Harrier	27
Strix flammea	Barn-Owl	28
Syrnium aluco	Tawny or Brown Owl	29
Bubo maximus	Eagle Owl	30
Otus vulgaris	Long-eared Owl	31
Brachyotus palustris	Short-eared Owl	32
Scops zorca	Scops Owl	33
Nyctea nivea	Snowy Owl	34
Surnia funerea	Hawk Owl	35
Nyctale Tengmalmi	Tengmalm's Owl	36
Athene noctua	Little Owl	37

NEOPHON PERCNOPTERUS.

NEOPHRON PERCNOPTERUS.

Egyptian Vulture.

Vultur percnopterus, Linn. Syst. Nat., tom. i. p. 123.

—— *stercorarius*, Lapeyr. Neue Schwed. Abhandl., tom. iii. p. 100.

—— *leucocephalus*, Briss. Orn., tom. i. p. 466.

—— *fuscus*, Bodd. Tab. Pl. Enl., p. 28.

—— *albus*, Daud. Traité d'Orn., tom. ii. p. 20.

—— *albicans*, Meissner.

Cathartes percnopterus, Temm. Man. d'Orn., 1815, p. 5.

Percnopterus ægyptiacus, Steph. Cont. of Shaw's Gen. Zool., vol. xiii. p. 7.

Neophron percnopterus, Savig. Descr. de l'Égypte, Hist. Nat., p. 16.

As might be supposed, the British Islands are not a favourite place of resort for any of the Vultures, their peculiar habits and mode of life being more especially adapted for the southern countries of Europe, Asia, and Africa; but that the present species has undoubted claims to a place in the avifauna of Great Britain cannot be questioned, inasmuch as, according to Selby and Yarrell, a specimen was shot near Kilve, in Somersetshire, in October, 1825, which “when first discovered was feeding upon the carcass of a dead sheep, and had so gorged itself with the carrion as to be unable or unwilling to fly to any great distance at a time, and was therefore approached and shot without much difficulty. Another bird, similar to it in appearance, was seen at the same time upon the wing at no great distance; it remained in the neighbourhood a few days, and was supposed to be the mate of the one killed. The state and colour of the plumage of this individual, judging from the description of M. Temminck and others, indicate a young bird, probably of the first or, at the furthest, of the second year.”

Much more recently, namely in 1868, the acquisition of a second example is thus recorded by Dr. Bree in the ‘Zoologist’ for that year.

“On the 28th of September last the labourer who had charge of an off-hand farm of Mr. Woodward, of Stanway Hall, situated at Peldon, in Essex, had been killing his Michaelmas geese: on going some time after into the yard he saw a strange bird feeding upon the blood. The bird flew away, and the man loaded his gun. Presently it came again and hovered over the spot in hopes of another spell at the blood; but his fate was sealed, and he fell dead to the labourer's shot. I saw the bird next day at the house of Mr. Ambrose, to whom it had been sent for preservation. As far as I know, this is only the second instance of the capture of *Vultur percnopterus* in Great Britain. It is quite possible that it has more frequently visited our shores, though not captured; for Mr. Laver, of Colchester, informs me that many years ago his father, who lived near Burnham, further up the Essex coast than Peldon, had a flock of Vultures for several days among the large trees on his farm. They were known by their bare heads, and were most probably the Egyptian. At all events this bird must now, I think, be ranked without doubt among the strangers which occasionally visit our shores. The specimen now shot was in immature plumage.”

Respecting the two British-killed examples above mentioned, Mr J. H. Gurney, jun., has favoured me with the following note:—“Mr. Yarrell was in error when he stated that the first-mentioned specimen was in the possession of the Rev. A. Mathew. Such is not the case; it belongs to the Rev. Mr. Mathew, of Chalvey, who informs me that it was obtained on the cliffs bordering the British Channel, about half a mile from Kilve.” Through the intercession of my friend Dr. Bree, Mr. Woodward was so obliging as to send his bird to London for my inspection. It was from this specimen that the reduced figure in my Plate was taken; and I would here tender my acknowledgments to both gentlemen for an act of courtesy whereby the interest of my delineation of the species has been much enhanced.

The nearest countries to our own where this bird is common are Southern France and Spain: there it is tolerably abundant, as it also is in all the more eastern parts of Europe; but it is in Turkey and Egypt, and particularly in the Nile district, that it is more numerous than elsewhere.

Not having had opportunities of observing this bird in a state of nature, I must now avail myself of observations of those who have written respecting it.

“The Egyptian Vulture,” says Yarrell, “does not live in flocks like other Vultures, although, when attracted by a carcass, eight or ten may be seen assembled. At other times it is rare to see more than two together. The male and female seldom separate. In the districts which it inhabits, every group of the natives has a pair of these Vultures attached to it. The birds roost on the trees in the vicinity, or on the

fences which bound the enclosures for their cattle. They are, to a certain degree, domiciled and harmless. The people do them no injury; on the contrary, they are rather glad to see and encourage them, because they clear the premises of all the offal and filth they can find. In default of other food they eat frogs, lizards, and snakes."

In the Eastern Atlas, according to Mr. Salvin, "wherever a cliff exists in the mountains that surround the tablelands, sure enough it will be occupied by a pair of these birds; generally speaking, the nests of *N. percnopterus* are not so inaccessible as those of *Gyps fulvus*. One nest I visited, near Kef Laks, I could reach with my hand from a perfectly accessible ledge; it was in a crevice of a rock, and entirely composed of sticks. The bird begins to lay about the 10th or 12th of April."—*Ibis*, 1859, p. 180.

Speaking of the bird as observed by him in Palestine, the Rev. H. B. Tristram informs us that *Neophron percnopterus* is "universally distributed, and is equally abundant in the plains of Sharon and the naked hill-district of the south. Breeds in great numbers in the valley of the Kedron, heaping up its enormous nest of sticks, rubbish, and old rags on every convenient ledge. While the adult bird was to be seen throughout the whole country, I never observed a single specimen in the sombre livery of youth. One very fine bird paid the penalty of its curiosity while we were sitting on a rock on the road from Jerusalem to Jericho. It made several swoops, as though anxious to share our chicken, and, hovering over us, fell dead at a discharge of No. 7 shot."—*Ibis*, 1859, p. 23.

"That very useful but despicable scavenger 'Pharaoh's hen,' as Europeans term the Egyptian Vulture, is a handsome bird on the wing; and the distribution of the black and white in its plumage has a fine effect as it circles over head, or sweeps past the traveller down some deep ravine. It never breeds in colonies, and seldom are two nests to be found very near together; but it is the most universally diffused of all the Raptores of Palestine during summer, it being impossible to travel a mile or two in any part of the country without putting up a pair. It has no dislike to the neighbourhood of man, and fearlessly resorts to the dunghills of the villages to feed. No filth, vegetable or animal, seems to come amiss to it; and I once surprised a pair in the act of gorging at a heap of spoilt figs. The Neophron is strictly migratory, begins to return about the end of March, and by the middle of April the country is full of them. The first egg obtained was laid near the plain of Gennesaret on April 1st; and our last pair of *fresh* eggs were found on May, 24th in the mountainous region near Hermon. The nests, though always in the cliffs, were generally low down, and comparatively easy of access. I took an egg from a nest in an arched passage through the rocks, close to the village of Mejdell, and so little concealed that every passer-by could see it; and a child might have climbed up to it. The eggs are rarely alike, one being invariably much more richly coloured than the other, though, before incubation has been long continued, both become alike sodden and discoloured by filth. There is a rich variety in the colouring of the fresh eggs, from a deep russet-red to a paler red, uniformly diffused over the whole surface; sometimes they are mottled and blotched, at others faintly spotted, and even almost a pure white. The nest is an enormous congeries of sticks, clods of turf, bullocks' ribs, pieces of sheepskin, old rags, and whatever else the neighbourhood of a village or camp may afford, and is generally somewhat depressed in the centre. The Neophron is more plentiful in Gilead and Moab than elsewhere; at least we obtained more nests in those regions, to which the birds seem to be attracted by the enormous flocks and herds of the Bedouin, on the ordure of which they largely feed."—TRISTRAM in *Ibis*, 1865, p. 249.

Messrs. Elwes and Buckley state, in their "List of the Birds of Turkey," that they saw "only one or two of these birds in Greece, and that in Macedonia they are by no means common during the winter months. The '*Ak baba*,' as it is called by the Turks, does not associate with the other Vultures during the breeding-season. M. Alléon says that the Egyptian Vulture arrives in spring, and remains till the beginning of autumn, but is found during that time in great numbers in the town of Constantinople. It seems to distinguish between Turks and Christians; for in Pera, which is chiefly inhabited by foreigners, it does not breed; while in Stamboul it breeds on the cypresses, mosques, and roofs of the tanneries, where it is never molested by the Mussulmans, and repays its hospitable treatment by carrying off the garbage in the streets."

"The Egyptian Vulture," says Lord Lilford, "is very common in Andalucia and, probably, all other parts of Spain, and follows the plough, as observed by Captain Widdrington. In fact, during my last visit to Andalucia, in almost every instance when I observed ploughing, there were a pair or more of these Vultures waiting about, and picking up the grubs turned up by the ploughshare. They are very fearless of man, and are conspicuous objects against the tawny-brown hills so characteristic of Southern Spanish scenery."

Modern research has determined that this bird does not go to India, its place there being supplied by a very nearly allied species, the *Neophron ginginianus*.

The Plate represents:—an adult, about two-thirds the natural size; and the young, from Mr. Woodward's specimen, very much reduced.

AQUILA CHRYSÆTOS, *Briss*

AQUILA CHRYSÆTOS, *Briss.*

Golden Eagle.

Falco chrysaëtos, Linn. Syst. Nat., tom. i. p. 125.

—— *fulvus*, Linn. Syst. Nat., tom. i. p. 125.

Aquila chrysaëtos, Briss. Orn., tom. i. p. 431.

—— *Barthelemyi*, Jaub.

As civilization advances, this noble bird, the lord of our ancient forests, will either become extirpated or driven to seek an asylum in parts of the country where nature still preserves a savage aspect. High cultivation and its presence are incompatible; the lamb and the Eagle can never dwell together in peace; neither can the fawn or the roebuck live without molestation within the range of its haunts. The Highland shepherd and the keeper therefore do their utmost to destroy it; and the time is probably not far distant when it will no longer have a place in the avifauna of the British Islands: hence a bird so frequently referred to in the Sacred Writings, which has ever been the theme of the poets, which some of the most powerful nations of the earth have employed as an emblem of their majesty and greatness, the flight-feathers of which are worn for the like reason in the bonnet of the Highland chieftain, and whose tail-feathers are employed by the sanguinary Indian to bedeck his head when dressed in battle array, will be entirely lost to us—a loss which would, I am sure, be a source of regret to every one who has a taste for nature; and I therefore hope that our great landed proprietors will exert their influence to preserve the remnant of our Golden Eagles. To effect this, however, without some combined efforts, will, I fear, be impracticable; but as a love for and interest in the welfare of our indigenous animals is now animating the breasts of many among us, I trust that it will, for the future, rather be the object of protection than, as at present, of foolish destruction; if it be, I feel assured that none other than the best results will follow. The Blue Hare, now so numerous, will furnish it with an abundance of food, and thus the numbers of an animal which of late years has increased to such an extent as to have become a pest, will be diminished, and the balance of animal life, which the wanton destruction of our birds of prey has disturbed, will again be in part restored. That the Eagle, the Kestrel, and the Owl are essentially necessary to the equalization of the numbers of our indigenous mammals is certain; and this I shall have constantly to speak of in the course of the present work.

To show the amount of destruction dealt out to this noble bird and the Sea Eagle, the Sutherlandshire Expedition of Naturalists state that the number of Eagles paid for between March 1831 and March 1834 was 171, besides 53 nestlings or eggs; and a gamekeeper in the south-west of that county trapped 15 Eagles in three months of 1847, and almost as many in the winter of 1850–51.

In times past the Golden Eagle was the regular denizen of all the hilly and mountainous districts of England, particularly those of Derbyshire, Cumberland, and Westmoreland, many parts of Wales, the whole of Scotland and Ireland, including their islands; it is now only found in Argyll, Sutherland, and Ross shires in Scotland, the islands of Orkney and Skye, and the counties of Donegal, Kerry, and Mayo in Ireland. Up to the last year (1862), two eyries at least were to be seen on the Black Mount, the property of the late Marquis of Breadalbane, who made it a *sine quâ non* that his foresters should at any time show him an Eagle; were this laudable conduct imitated by other enlightened proprietors, we should not have occasion to lament the gradual disappearance of this noble bird. It is one of these eyries that is represented in the fine drawing made by Mr. Wolf, from which the accompanying Plate was taken. Its more frequent haunts are in such districts as those mentioned; but the bird is often to be met with in rocky situations in the neighbourhood of the sea, wherever it is likely to obtain an abundance of food. Although I have stated that the Golden Eagle is now confined to a limited area, it must not be understood that examples are not occasionally found in many or, indeed, in nearly every English county; these chance visitors are, however, in almost all instances, birds of the year, or not more than two years old; they are probably the offspring of parents resident in Scotland: but they may be migrants from Norway, Sweden, or other distant countries; for it is well known that the young of both our great Eagles, in obedience to a law which appears to influence the whole of the Falconidæ, wander further from their native home than the adults: were these birds allowed to remain unmolested instead of being ruthlessly shot, they would doubtless retire northward at the proper season, and form eyries for themselves.

What are the other countries inhabited by this fine bird? is a question which will naturally be asked by many of my readers; to which I would answer, that it is found throughout the whole of Europe, but is more numerous among the Alps, the Pyrenees, and other mountainous parts of the Continent, from Italy to Norway, than in the lowlands of Holland and many parts of Germany, which latter countries, are, however,

like England, occasionally visited by the young birds. Out of Europe, the Atlas range of mountains in North Africa is one of its places of abode, while in the East it frequents the great ranges of the Himalayas, and doubtless the Steppes of Tartary; for it is probably the "Bear-coot" so frequently spoken of by Atkinson, as standing at the tents of the wandering Kirghises and other tribes of that country. Mr. Gurney has no doubt that it also frequents all the countries of North America that are favourable to its habits, from Labrador to Texas, but believes that it is never found on the Pacific side of that continent.

The powers of flight of this king of British birds are commensurate with its large size and ample wings. It may often be seen in fine weather sailing to a vast height toward the blue vault of heaven, apparently for no other purpose than that of pleasure; and its evolutions are graceful and majestic while thus engaged; at other times it may be observed hunting the hill-side in couples and in concert, one flying directly over their intended prey, and the other following near the ground; and it has been known to stoop and carry off a hare from before the hounds. Such is the alarm its presence creates, that the swift-flying Golden Plover and the fleet Mountain-Hare appear as if spell-bound when overshadowed by the wings of their terrible enemy. It preys alike upon Grouse, black game, Curlews, Partridges, and Plovers among birds, to which may be added the flesh of hares, rabbits, lambs, fawns, moles, and carrion of all kinds, particularly stranded sheep, fatally struck deer, &c.; and I see no reason for doubting the possibility or probability of its occasionally pouncing upon and carrying off a sleeping infant or shepherd's child, if left unprotected on the hill-side: many such occurrences have been recorded, and doubtless some of them are founded in truth. Lord Hill informs me, on the authority of the shepherds on his fine estate in Ross-shire, that the Golden Eagle, while hunting the hill-side, will frequently swoop down upon a lamb, playfully take it up in its talons, and drop it again, and then another and another, apparently trifling with its victim after the manner of a cat with a mouse. The shepherds also assert that it occasionally takes the lambs over to the smaller islands between the mainland and Skye; and as no sheep are kept on those islands, there can be no doubt that the lambs occasionally found there are thus conveyed thither.

The situations selected by the Golden Eagle for the purposes of nidification are very varied: sometimes a bold precipitous overhanging rock is selected; at others merely an escarpment on the hill-side, where, without any great amount of prowess or trouble on the part of the collector, the nest may be robbed of its eggs or young; at other times, and doubtless formerly more frequently than at present, the large stump or forked branch of a towering tree is chosen for the site of its large plateau of sticks, branches of heather, and other materials, the centre being usually formed of finer substances, such as wool, moss, fern-grass, and tufts of *Luzula sylvatica*. If left unmolested, the birds frequently resort to the same eyrie for years, annually adding fresh materials, until at length, like the huge structures of their representative the Wedge-tailed Eagle of Australia, the nests become of gigantic dimensions. The eggs, mostly two and sometimes three in number, vary considerably in their markings, some being of a nearly uniform dull white, while others are most beautifully blotched and clouded with grey and brown over a light stone-coloured ground. To give a minute description of any one egg would answer no good end, they are so variable; the reader will find some splendid varieties figured in Mr. Hewitson's fine work on the eggs of our native birds, and in the 'Ootheca Wolleyana.' Those who take especial interest in British oology should endeavour to gain access to the collection formed by the late Mr. John Wolley, which was bequeathed by him to Alfred Newton, Esq., and contains a very large series of the eggs of this species. Besides varying so much in colour, the eggs also differ considerably in size and shape; Mr. Alfred Newton informs me that the largest egg in his collection measures 3.23 inches by 2.59, and the smallest 2.85 by 2.16.

When first hatched, the eaglets are covered with white down, in which state they remain for a considerable period, day by day increasing in strength and stature; brown stub feathers next begin to appear in their wings and tail; and if the eggs have been hatched about the usual time the end of April, the summer has far advanced before they have gained sufficient power to exercise their pinions.

The young, during the first two years of their existence, present a marked difference from the adult in the colouring of the tail,—the basal three-fourths of its length being white, and the apical fourth of a rich brown, which has obtained for the bird the trivial name of the Ring-tailed Eagle. As they increase in age, the white gradually darkens into the hue of the tip; and when fully adult, the tail is of a uniform dark brown, except at the base, where it is marbled with grey.

The female, as is usual with birds of prey, is by far the largest, often attaining a weight of fourteen pounds.

When adult, the whole of the body and wings are of a dark rich vinous brown; the lanceolate feathers clothing the head and neck rich golden brown; tarsi, which are covered with feathers to the toes, greyish white; tail the same as the body, except at the base, where it is grey marbled with brown; bill horn-colour; cere and toes yellow; irides brown.

The front figure of the Plate represents the bird about one-third of the size of life, taken from an example about three or four years old.

AQUILA NÆVIA.

AQUILA NÆVIA.

Spotted Eagle.

Falco nævius et maculatus, Gmel. edit. Linn. Syst. Nat., tom. i. p. 258.

Aquila nævia, Meyer, Taschenb. Deutschl. Vög., tom. i. p. 19.

—— *pomarina*, Brehm, Vög. Deutschl., tom. i. p. 27.

—— *planga*, Vieill. Ency. Méth. Orn., part iii. p. 1190.

—— *bifasciata*, Hornsch.

—— *melanaëtos*, Savig. Descr. de l’Egypte, Hist. Nat., tom. i. p. 84.

—— *vittata*, Hodgs. in Gray’s Zool. Misc., 1844, p. 81?

—— *anatraja*, Savi, Orn. Tosc., tom. ii. p. 22.

Spizaëtus fuscus, Vieill. Nouv. Dict. d’Hist. Nat., tom. xxxii. p. 60.

ALTHOUGH the Spotted Eagle is one of the smallest members of its genus, it is in every respect a true *Aquila*; and had it been a native of the British Islands instead of an accidental visitor, it would have been an important species in the Raptorial division of our avifauna. In Mr. Rodd’s useful ‘List of British Birds as a guide to the Ornithology of Cornwall,’ two instances are given of its occurrence in that county in the following words:—

“The capture of the first English example of this rare Eagle took place on the 4th of December, 1860, in the eastern part of Cornwall, at a large covert called Hawk’s Wood, the property of Francis Rodd, Esq., of Trebartha Hall, adjoining the large moors between Hawk’s Tor and Kilmar, and not very far from the well-known Cheese-wring. Hawk’s Tor and Kilmar Tor rank amongst the highest hills in Cornwall, reaching in altitude from 1000 to 1200 feet; the characters of these hills and the moors about them in every direction are exactly similar to those on Dartmoor; in fact, the range is a continuation of the great granite tract extending, with some few interruptions, to the Land’s-end. The bird was first observed in a tree, from which, on the approach of the shooting party, instead of soaring, it shuffled down, and scrambled under some rocks; its condition was beyond the average of birds of prey, large masses of fat encircling the gizzard, which, on dissection, was entirely empty; one of the wing-bones was broken, but whether with shot or otherwise I could not determine; the body, wings, and every part of the bird exhibited the most perfect form; but probably the injury above mentioned prevented it from taking flight. It was a male in the first year’s plumage, and weighed 4 lbs. 1 oz.

“A second example, almost in a similar state of plumage, was killed near Carnanton, in November, 1861; it is now in the Truro Museum,” whence it was kindly sent up to London for my use; and my best thanks are here offered to Dr. Barham and the Council of the Royal Institution of Cornwall for the service they thus rendered to the present work. It will be seen by the hinder figure how much the young and adult differ in plumage. No other species of *Aquila*, in fact, offers so great a contrast, the livery in the latter state being nearly uniform in colour, while the other is so much marked and ornamented. It is somewhat strange that this continental species should have visited one of our southern counties, while, according to Mr. Rodd, the Golden Eagle, a bird which commonly breeds in Scotland, should never have been seen there; it forms another instance in exemplification of the western movement of Continental species.

Although I have given precedence to the English-killed specimens of the Spotted Eagle, I must not fail to state that a place in our avifauna was first assigned to it by Mr. Yarrell in the supplement to his ‘History of British Birds,’ where he says, “For the particulars of the occurrence of this interesting addition to the ornithology of the British Islands, I am indebted to Mr. Robert Davis, jun., of Clonmel. “This specimen,” observes Mr. Davis, “was shot on the estate of the Earl of Shannon, and was at the time in a fallow field devouring a rabbit. Another bird similarly marked, but reported to be of a lighter shade of brown, was shot at the same place within a few days, but unfortunately was not preserved; both had been noticed during the two previous months, sweeping over the low grounds in the neighbourhood, which is near Youghal, and between Castle Martyr and Clay Castle.”

The proper home of the *Aquila nævia* is the southern and eastern countries of Europe, North Africa, Asia Minor, Palestine, and probably Western India; I say probably, because the bird inhabiting the Indian Peninsula has by some writers been considered distinct; but Mr. Blyth, no mean authority, believes in their identity, and says the bird is also abundant in the Himalayas, and in the wooded and watery portions of Central and Southern India.

Not having enjoyed an opportunity of seeing this bird in a state of nature, I must now avail myself of the notes of those who have been more fortunately situated.

"The Spotted Eagle appears to be rare in Spain," says Lord Lilford, "and I never saw it alive in any part of the country; but there was a specimen in the University Museum at Seville, said to have been killed near that town, and I found another in the collection at Valencia. I do not find this species mentioned in any of the Spanish Catalogues of the Birds of Andalusia or Valencia. It was very abundant in the Ionian Islands in January and February, 1857; I have seen the bird several times in Corfu; and it appears to be a regular winter visitant to Epirus. I never saw one of this species, except in or near marshes; and it is certainly the most tree-loving Eagle with which I am acquainted."

In 'The Ibis' for 1861, Mr. Simpson says:—"The *Aquila nœvia* mostly haunts the plateau or open down-country of the Dobrudscha, and places its nest upon the ground. I found, or was directed to, no less than four, two of which were on the ground under the shelter of bushes, and two were on the bare plain. Out of the four I only got two eggs, and these very poorly marked specimens. The eggs were generally broken, the fragments being sometimes trailed several yards from the nest, which is a slight structure composed of a few sticks with a lining of wool carefully arranged. In one was a coloured piece of cloth. The Spotted Eagle is generally a tree-building bird; but here it seems to confine itself to the open country, where probably it feeds largely upon the lizards and small animals that are so numerous."

In another volume of 'The Ibis' (1869), Mr. C. Farman remarks that the bird is "not uncommon in any part of Central Bulgaria, but is most numerous in the neighbourhood of the Devna lakes and the Pravidy Valley. In its habits it strongly resembles the Buzzards, generally flying low in pursuit of its prey, which, if belonging to the feathered tribes, it strikes in the air. It seldom soars to any great height, although on rare occasions I have seen it rise until it was hardly distinguishable. It generally rests on trees, preferring a dead or sear bough, whence it watches its prey, and, when the opportune moment arrives, dashes off in pursuit, and again returns to the same resting-place if unsuccessful. When thus engaged it will permit a very near approach and is therefore easily shot."

"In the spring of 1865 I observed a nest of this bird placed on an ash-tree overhanging the stream at the southern entrance of the Pravidy valley: it was more neatly put together than most Eagles' nests, and was warmly and softly lined with blossoms of the ash-tree; it contained one young bird just hatched, and two eggs already cracked by the young birds within. On the edge of the nest were the two fore legs of a leveret."

"The *Aquila nœvia*," says Dr. Adams, "is the most common Eagle in Egypt, and is very generally distributed over the country. It may often be seen in fields, hunting after reptiles and small quadrupeds, or feeding on fish on the sandbanks. I found portions of a large snake in one killed near Thebes, and on another occasion surprised a pair intently devouring a large Lepidote (*Characinus dentex*, Sav.)."—*The Ibis*, 1864.

"Egypt seems to be the favourite winter-quarters of this species; it is then so plentiful that I have seen as many as twenty together in a grove of palm-trees. I think it probable that they do not remain to breed; for they showed no signs of pairing as late as the end of March. This is an eminently arboreal Eagle, and is seldom seen among rocks. Reptiles and carrion are its usual food. The name Spotted Eagle is applicable only to the immature bird. With the exception, perhaps, of *Circaetus gallicus*, the species is much tamer and more easily approached than any other large raptorial bird in Egypt."—R. C. TAYLOR, in 'The Ibis,' 1867.

"*Aquila nœvia*, though only a cold-weather visitant to the north-western provinces of India, breeds on the side of the Himalayas in the Sahrunpore district. In the crops of all those we examined we found only frogs. This is, perhaps, the reason why the bird is so seldom seen except where water is plentiful. It may frequently be observed seated among the half-submerged grass, where it watches for its prey much as a Heron does. The bills and claws of those I shot were often covered with mud; and their crops could hardly have held another frog."—BROOKS, in 'The Ibis,' 1868.

The Plate represents a young bird, about two-thirds of the natural size, with a very much reduced figure of the adult in the distance.

HALIAËTUS ALBICILLA.

HALIAËTUS ALBICILLA.

Sea-Eagle.

Aquila albicilla, Briss. Orn., tom. i. p. 427.

—— *ossifraga*, Briss. Orn., tom. i. p. 437.

Vultur albicilla, Linn. Syst. Nat., tom. i. p. 123.

Falco ossifragus, Linn. Syst. Nat., tom. i. p. 124.

—— *albicilla*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 253.

—— *melanotus*, Id. ib. id., p. 254.

—— *albicaudus*, Id. ib. id., p. 258.

—— *pygargus*, Daud. Traité d'Orn., tom. ii. p. 62.

Haliaëtus albicilla, Cuv. Règne Anim., ed. i. p. 315.

OF the two great Eagles which inhabit the British Islands, the *Haliaëtus albicilla* is now by far the most numerous, whatever may have been the case in former times. Unlike the *Aquila chrysaëtos*, which affects forests and inland mountain districts, the Sea-Eagle resorts to the rocky shores of “sea-girt Albion,” from which it rarely departs, except to take possession of an island in some Highland loch, where it may obtain an abundant supply of food, and rear its young without fear of molestation. At the present time it is mostly to be met with on the north-western shores of Scotland and Ireland; examples are, however, occasionally shot in nearly every English county, from Cornwall to the Scottish border; but these are mostly immature birds, and very few, I believe, have ever been killed with the pure white tail and yellow bill characteristic of the adult. Eastward of Great Britain, Norway, Sweden, Finland, Russia, and Western Siberia are countries in which it takes up its abode. It evidently affects more northern climes than the Golden Eagle; for we have no evidence that it ever crosses the Mediterranean, or proceeds far in the direction of the tropics.

The habits of this Eagle clearly indicate that it is especially adapted for feeding upon fish, both living and dead; but although this may be the staple, its diet would seem to be somewhat varied, for it will readily eat carrion of all kinds, and will doubtless occasionally fall upon a lamb or a mountain-hare, goose, cormorant, guillemot, or any other rock-breeding birds. The following very characteristic note on this part of the bird's economy has been obligingly forwarded to me by H. Osborne, Jun., Esq., of Wick:—

“An observer, who carefully watched this depredator while beating the margin of a loch, not far from the edge of the rock, saw him slip over the precipice and shoot along about halfway between the top of the cliff and the sea. Hardly had he made his appearance when a rush of birds seawards took place. Everything that could fly left the rocks; and the terror and confusion that ensued was remarkable. This continued during the whole course of his flight; and his appearance was the signal for a hurrying of the scared masses out of the reach of danger. So numerous and so very much frightened were the birds, that the progress of the Eagle could be traced, long after he himself was invisible, by the strings of sea-fowl, of various kinds, that persistently continued to seek safety in flight. It was long before gull and guillemot got over their fright, and matters assumed ‘the even tenor of their way.’”

Mr. Stevenson, of Norwich, who has carefully noted the occurrence of this species in Norfolk, says, “Specimens, in immature plumage, occur on this coast almost every autumn or winter; but the adult bird, with a white tail, has never been taken in this county. Two females and one male were shot in different parts during the winter of 1855–56; and in the following winter of 1856–57, between November and January, three more were obtained on the coast. Two of the latter were killed at Winterton, near Yarmouth, a favourite locality, and nearly at the same spot. Since that date others have been seen, and in some instances killed, at Horning in 1859, Holkham in 1860, and at Westwick in 1862. I have not heard of any during the mild winter of 1862–63.” That it occurs as far west as Cornwall is certain, since Mr. Rodd states, in his ‘List of Cornish Birds,’ that it is sometimes seen on the sea-coast of that county.

The principal localities in Scotland wherein Mr. Wolley obtained eggs of this species, as recorded in the ‘Ootheca Wolleyana,’ are Argyll, Sutherland, and Caithness: the bird also breeds in the Orkneys, Shetland, and Western Islands. Mr. Thompson states that, in Ireland, it frequents all situations which are similar to those it inhabits in Scotland; it also occurs in Iceland, is very common in Greenland, and, I believe, in Labrador.

“The Sea-Eagle is now on the wing; and as he gradually mounts in wide curves, sailing at intervals, you cannot fail to gaze on him with delight. With his feet concealed among the feathers of the abdomen, his head drawn close to his shoulders, and his magnificent wings spread out to their full extent, and even seeming to curve upwards at the points, he sweeps along the sides of the hills, advancing with apparently

little effort, and should he spy a carcase, hovers over it in short curves, until satisfied as to his security should he alight upon it.

“The cry is so shrill, that in calm weather one may hear it at the distance of a mile; and it often emits a kind of clear yelp, which resembles the syllable *klick, klick, klick*, or *queek, queek, queek*, and which seems to be an expression of anger or impatience.” (Macgillivray, ‘British Birds,’ vol. iii. pp. 228, 229.)

“The Sea-Eagle,” says Mr. Wolley, “generally makes its nest in the high cliffs of the coast, but also occasionally breeds inland. In the former situation an eyrie had nothing but a very little heather, grass, and moss used in its construction. Two other nests were made principally of sea-weed, and were in such “tremendous cliffs” that my informant’s hair ‘gets strong’ when he thinks of them. In the Shetlands an inaccessible eyrie was pointed out to me on the top of a stack, or steep detached rock; and I have seen another such stack on the north-east coast of Scotland, which was also said to have an eyrie at its summit. In inland situations, the Sea-Eagle generally establishes itself upon a rock or islet in the middle of a loch. Here it builds, upon the ground or in a tree, a nest whose construction does not differ from that of the Golden Eagle, there being always in it a certain amount of *Luzula sylvatica*. The tree is not always a large one; I have seen two nests of different years in trees on separate islands in one loch, each only about four feet from the ground. I can call to mind nine instances of such island eyries. The old birds do not always calculate the depth of the water, as there is one place at least to which a man can wade. Where swimming is necessary to get at the eggs, it is often an affair of danger, as the birds will do their best to drown the enemy with their wings. In two spots I have seen large Scotch firs, which have been formerly tenanted by Sea-Eagles—one by the side of a loch, the other several miles away from any piece of water, in a sort of open wood of similar trees. The nest had been in a fork where three branches met, 20 feet high, and, as in other cases, the main trunk bore its weight. In one instance the crossed and nearly horizontal trunks of two small trees formed the support. The eggs, two or three in number, are always probably, when first laid, of a spotless white, and afterwards receive as stains the slight colour with which they are marked. They are laid a week or a fortnight later than those of the Golden Eagle, and are generally smaller.” (Hewitson’s ‘Eggs of British Birds,’ 3rd edit. vol. i. p. 15.)

Macgillivray states that toward the middle of spring these Eagles begin to construct their nest, which is of great size, being about 5 feet in diameter, flat, and composed of sticks, twigs, heath, dried sea-weeds, tufts of grass, wool, and other materials, and that “the young make their appearance at the beginning of June, and are then covered with a down of a greyish-white colour. They are plentifully supplied with food, and grow rapidly, but do not leave the nest until the middle of August, when they are enticed abroad by their parents, who continue to supply them with food for many days. When the breeding-season is over, the young disperse; and although these birds are not of social habits, several individuals may often be seen, at no great distance, traversing the hills or shores where there is plunder to be obtained. Their food consists of carrion of every description, stranded fish, young sea-birds, and small quadrupeds, for which they search the moors and pastures. Their sight must be keen; but in looking for prey they do not rise to a vast elevation, as has been alleged, but fly at the height of a few hundred yards, sweeping along the hill-sides with a steady motion, or winding in curves with outspread wings. I have often seen them, far out at sea, hovering and sailing in this manner; and several persons have told me that they sometimes clutch up fishes that happen to come to the surface. They may also occasionally be observed watching on the banks of a river, and attacking the salmon and trout when they come into shallow water. That they fare well is evinced by the abundance of provision which they bring to their young; but their courage and address do not seem to be equal to their powers; for, unless pressed by famine, they scarcely venture to molest an animal larger than a hare. Grouse are sometimes destroyed by it, and instances have been known of its carrying off a domestic fowl that had straggled to a distance from the house; but the Sea-Eagle has more of the Vulture than of the Falcon in its character, and at all times would be well content with mere carrion.”

The adults have the lanceolate feathers clothing the head and neck pale brown, with a narrow line of dark brown down their shafts; all the upper surface dark brown, each feather broadly edged with whitish brown; wings dark brown, with light shafts, and the tertiaries narrowly edged at the tip with light brown; breast mottled light brown and whitish, and with a stripe of dark brown down the shafts; under surface lighter than the upper, and the feathers less conspicuously margined; tail white, stained with brown at the base, the longest coverts also white, mottled with brown at the base, with an irregular crescent of brown at the tip; cere wine-yellow; bill and legs straw-yellow; claws black.

The young birds have the feathers of the head and neck dark brown, with paler tips; upper surface reddish brown, with dark shafts; under surface brown, of different tints, with a few white feathers interspersed; primaries brownish black; tail variegated with hair and clove-brown, deepening towards the tip.

The foremost figure represents a female, about one-third of the natural size.

PANDION HALIAËTUS .

PANDION HALIAËTUS.

Osprey.

- Falco haliaëtus*, Linn. Faun. Suec., p. 22.
—— *piscator*, Briss. Orn., tom. i. p. 361.
—— *arundinaceus*, Gmel. ed. Linn. Syst. Nat., vol. i. p. 263.
Pandion haliaëtus, Cuv. Regn. Anim., edit. 1817, tom. i. p. 316.
—— *fluviatilis*, Savig. Descr. de l’Egypte, Hist. Nat., tom. i. p. 96.
—— *ichthyaëtus*, Kaup, Classif. der Säug. und Vög., p. 122.
—— *alticeps*, Brehm, Vög. Deutschl., tom. i. p. 33.
—— *planiceps*, Brehm, ib., tab. 2. fig. 3.
—— *indicus*, Hodgs. Journ. Asiat. Soc. Beng., 1837, p. 366.
Aquila haliaëtus, Meyer, Taschenb. Deutsch. Vög., tom. i. p. 23.
—— *balbuzardus*, Dum. Dict. des Sci. Nat., tom. i. p. 351.
Accipiter haliaëtus, Pall. Zoog. Ross.-Asiat., tom. i. p. 355.
Balbusardus haliaëtus, Flem. Hist. of Brit. Anim., p. 51.
Triorches fluvialis, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus. p. 10.
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NOTWITHSTANDING the persecution to which this interesting bird has been subjected, especially of late years, a persecution so unrelenting that it has almost amounted to its extirpation from the British Islands, the Osprey still forms a part of their avifauna, especially of that portion of them denominated Scotland, and will ever remain associated with the fine lochs and deserted castles of that country. At the head of that queen of Scottish lochs, Assynt, there still stands the crumbling castle of Ardvreck; but no longer does the Osprey come to it in spring, rear its young on its turrets, and again depart in the autumn; no longer does the Fish-hawk circle over that fine sheet of water; no longer can the tourist have the pleasure of seeing the Fishing Eagle hovering over a trout, or witness its unerring stoop; no longer need he direct his glass towards the highest tower of the fine old castle, for the eyry of the Osprey is no longer there, the last pair having been ruthlessly killed about 1860; so says Mr. Sutherland, the landlord of the Tourist’s Inn. The same remarks apply with equal force to many, if not to all the other Lochs, the neighbourhood of which was formerly the Osprey’s summer home. Lochs Lomond, Maree, Awe, and Loch Fyne, with its ruined castle of Dunderaw, have lost their summer visitant, and their waters are no longer disturbed by the plunge of the Leaden Eagle, as it is sometimes termed. How much do I regret to write in this strain respecting one of the finest of our indigenous birds! but change in the destiny of birds as well as of man appears to be one of nature’s laws. My readers may here naturally ask, Well, then, what other countries does the bird inhabit? This is a question not easily answered; for naturalists are divided in opinion as to whether there is one, two, or three species of this particular form, individuals of which are so universally distributed over the globe that there are few countries wherein they are not found. From Europe to the Cape of Good Hope, from India to the southern limit of Australia, and in most of the temperate portions of America north of the line, Ospreys, either identical with or nearly allied to our own, are as plentiful as they used to be in Scotland. In the absence of castles and ruined buildings, they take up their abode on rocky promontories, the giant branches of old trees bordering the bays and larger inlets of the seas, and in rocky islands in the centres of lakes and lagoons. There, as with us, they construct a large nest in the midst of a platform of sticks and herbage, deposit two beautifully blotched eggs, hatch and bring up their young, just as they would do here.

It must be understood that the forcible expressions I have employed respecting the destruction of the Osprey have special reference to the bird in its former breeding-haunts in Scotland during the months of summer; for the Osprey is still frequently seen during autumn in many parts of Britain, and on most of our larger rivers and sheets of water from north to south; but these are probably birds of the year which have been bred in Norway or some part of the Continent, and driven out of their proper track during their southern migration. Such birds are easily recognizable by having the feathers of the upper surface more lanceolate in form than in the adult, and margined all round with white.

The Duke of Argyll, in a note to me dated June 13, 1863, says:—

“I was much interested by seeing a fine Osprey the other day, hawking over the Dee, near Balmoral. I had never seen this bird alive before, so rare has it now become in Scotland. His hovering, Kestrel-like, over the pools of the river was very peculiar; but the movement or, rather, the cessation of movement was

much less gracefully performed than in the case of the Kestrel, the wings having rather a heavy flapping motion. I saw it make a descent into the bed of the river, which was well and quickly done; but bushes concealed the surface of the stream, and, if the bird touched the water, I did not see it; it rose, apparently without a fish. It was interrupted by a Heron coming from a great height in the air, screaming round it with outstretched neck, and every sign of indignation and alarm. The Osprey wheeled up in spiral circles to get above the Heron, and then soared off across the hills towards the valley of the Don. It appeared to examine carefully a bit of moor over which it passed, but did not hover."

Mr. St. John, in his Tour in Sutherlandshire, says, "I generally saw the Osprey fishing about the lower pools of the rivers, near their mouths; and a beautiful sight it is. The long-winged bird hovers (as a Kestrel does over a mouse) at a considerable distance above the water, sometimes on perfectly motionless wings, and sometimes wheeling slowly in circles, turning her head and looking eagerly down at the water; she sees a trout when at a great height, and, suddenly closing her wings, drops like a shot bird into the water, but seldom failing to rise again with a good-sized fish in her talons. The feet of the Osprey are extremely rough, and the toes placed in a peculiar manner, so as to give the best possible chance of holding her slippery prey. Sometimes in the midst of her swoop the Osprey suddenly stops herself in the most abrupt manner, probably because the fish, having changed its position, is no longer within her range; she then hovers again stationary in the air, anxiously looking below for the reappearance of her prey. Having well examined one pool, she suddenly turns off, and with rapid flight takes herself to an adjoining part of the stream, where she again begins to hover and circle in the air. On making a pounce into the water, the Osprey dashes the spray up far and wide, so as to be seen for a considerable distance."

The late Mr. Wolley sent the following note to Mr. Hewitson:—"I have seen several nests of the Osprey upon the highest points of ruins in and about lochs in Scotland, and several more upon small isolated rocks projecting out of the water. There is something in the general appearance of the nest which reminds one of those of the wood-ants: it is usually in the form of a truncated cone; the sticks project very slightly beyond the sides, and are built up with turf and other materials; the summit is of moss, very flat and even, and the cavity occupies a comparatively small part of it. I know no other nest at all like it. The birds are very constant year after year in returning to their old stations; and, even after one or both birds have been killed in the previous season, I have frequently seen individuals flying near the now deserted eyry."—*Col. Ill. of Eggs of Brit. Birds*, 3rd edit., vol. i. p. 19.

St. John describes a nest built in a birch-tree, so near the ground that he could see it without climbing. It consisted of a perfect cartload of sticks, varying from the size of a very stout walking-stick to the twigs of birch and heather of which the inner part of the fabric was composed. He did not measure it; but, as near as he could guess, it was not less than eight feet in length and nearly four in width; the depth, too, was very great; the inner lining was composed of a coarse kind of grass.

Mr. Hewitson says, the eggs are laid in the beginning of May, and are sometimes two, but almost always three in number. They are more oval in form than those of any other of our British Falconidæ, and do not differ much. He has represented the eggs with a pinky cream-coloured ground, covered with numerous large and small patches of chestnut-red and black, the smaller spots appearing as if beneath the surface.

Lord Lilford informs me that a pair of this species had a nest with young on the Mediterranean side of the Rock of Gibraltar, in June 1869; and with a good glass, he could easily make out the young birds in the nest, from the battery at the so-called Monkey's Cave; he further states that the Osprey is common on the shores of the Lake of Geneva during its vernal migration, and adds:—"We generally have one of this species, for a few days in August or September, haunting the lochs at Gaick, Inverness-shire."

Numerous notes on this bird, as seen in various parts of Europe, Africa, and Asia, will be found in 'The Ibis,' to which I must refer my readers, as they are too lengthy for transcription here.

The front figure in the Plate represents a bird, about half the natural size, with a Scottish Trout (*Salmo fario*) in its talons, from a sketch by Mr. Wolf.

BUTEO VULGARIS.

BUTEO VULGARIS.

Common Buzzard.

- Falco buteo*, Linn. Syst. Nat., tom. i. p. 127.
—— *communis fuscus*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 270.
—— *cinereus*, Gmel. ib., p. 267.
—— *variegatus*, Gmel. ib., p. 267.
—— *versicolor*, Gmel. ib., p. 267.
—— *obsoletus*, Gmel. ib., p. 268.
—— *glaucopis*, Merr. Beytr., ii. p. 7.
—— *pojana*, Savi, Orn. Tosc., tom. i. p. 29.
—— *mutans*, Vieill. Faun. Franç., p. 17, pl. 8. fig. 2.
—— *fasciatus*, Vieill. ib., pl. 8. fig. 1.
Buteo vulgaris, Bechst. Flem. Brit. Anim., vol. i. p. 54.
—— *cinereus*, Bonap. Consp. Gen. Av., tom. i. p. 18, *Buteo*, sp. 1.
—— *communis*, Less. Traité d'Orn., p. 78.
—— *fuscus*, Macgill. Hist. of Brit. Birds, vol. iii. p. 183.
—— *variabilis*, Bailly, Orn. Sav., tom. i. p. 127.
Accipiter buteo, Briss. Orn., tom. i. p. 406.
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THOSE who have travelled through Germany, France, and the central parts of Europe must have frequently seen a large heavy-looking bird perched on a dead stump, or on an exposed branch of a tree by the roadside or in a neighbouring field. This is the Common Buzzard, which eighty or a hundred years ago, before our forests had been enclosed or crossed by the fire-king, when every journey had to be made on horse-back, daily met the gaze of the traveller in every English county; for the bird was then plentiful, from the Land's End to John o' Groats. At the present moment it is rarely, if ever, seen; in fact it has so nearly departed from among us, that it may almost be considered as a bird of the past, for it is only in great woods like the New Forest, the more thickly timbered parts of Wales, Scotland, and Ireland that it may be looked for with any certainty of its being found. Twice have I seen it sailing over the great woods of Tregothnan in Cornwall, the seat of Viscount Falmouth: but these I suspect were only chance visitants; for the keeper was alert, and intended a closer acquaintance the first spare moment he had to devote to them. This is the line of conduct of all keepers—a class of men assiduously devoted to the interests of their employers in the preservation of their game, but in many cases profoundly ignorant of the highly important offices our English birds are destined to fulfil. It is surprising that the buoyant and elegant evolutions of the larger Raptorial birds should not be regarded by them with interest and pleasure; but this is never the case, and I fear they are the most deadly enemies our birds have to encounter, their greatest pride being a well-stored larder of Hawks, Jays, and Pies, and a wood full of Pheasants.

The Buzzard has but few friends; his stealthy, prowling habits are against him. A leveret is never safe in a field overshadowed by his huge wings; a rabbit, a young pheasant, or other game-bird is equally acceptable; so that he really is a troublesome fellow. One would like, nevertheless, that even this vagrant among the *Falconidæ* should not be entirely struck out from the Birds of Great Britain. I fear, however, that such will soon be the case.

The Common Buzzard is subject to so many variations, both in size and colour, that it is very difficult to find two examples precisely alike. It not unfrequently happens that while one may be of a nearly uniform purplish black, others are narrowly rayed with brownish white on their breasts and thighs, and others, again, have light breasts, richly blotched and guttated with brown. These differences do not appear to be regular stages in the change of plumage, but to be variations subject to no fixed law. Some of these varieties may be seen among the individuals in the menagerie of the Zoological Society. The finest pair I have ever seen are now living at Berry Hill, the seat of John Noble, Esq., at Taplow, in Buckinghamshire. It is from this pair that Mr. Wolf made the fine drawing copied on the accompanying Plate; and my thanks are due to Mr. Noble for his kindness in permitting them to be figured in the present work: they have been tenants of a large cage for three or four years, and are fully adult; they appear to be of different sexes, and, as will be seen, are very light in the colouring of the breast. The chocolate-coloured bird represented in the reduced figure was killed at Somerleyton, and is, I believe, a bird of the year, and an unusually dark variety.

As my friend, Sir William Jardine, has written a very characteristic sketch of the Buzzard in his 'British Birds,' I feel it is only an act of justice to him, to quote the most important passages.

“The Common Buzzard frequents the more cultivated plains and woodlands in England, and the very wildest parts of Scotland. In the former it is decidedly a bird of sylvan habits, delighting in the more extensive chases and parks where there is abundance of aged timber, or in the tracts which still bear the name of forests—in the latter, frequenting the alpine districts, and breeding on the edges of the ravines with which they are so abundantly intersected. In either case, the nest is built of large sticks, with a scanty lining of wool or hair, the site an aged tree or some ledge of rock; the eggs, three or four in number, of a rounded form, bluish or greenish white, with pale brown blotches and spots or streaks most crowded at the thicker end. In its habits it is sluggish and inactive, or rather it appears to be so; the flight is heavy, but buoyant, and when hunting it is performed in low sweeps, during which it surveys the ground and pounces on any living thing which may attract its attention. It never attempts to secure its prey by pursuit on the wing. Its food consists of almost everything—the smaller Mammalia, such as mice or moles, the young of game or moorland birds, frogs, toads, &c. It has been often described as watching from an eminence or decayed tree, thence sweeping down on the prey when discovered, and for this purpose remaining for hours in one situation; we have never seen it so employed, and have always considered its long stationary perches as the result of repletion, and as a resting-place after the exertion of hunting and feeding; and we have known the same station taken up day after day, and hours spent in a motionless doze. On quitting this perch, and during the season of incubation, the flight is slow and majestic—the bird rising in easy and graceful gyrations, often to an immense height, and uttering occasionally its shrill and melancholy whistle. At this time, to a spectator beneath, and in particular lights, they appear of immense size; the motions of the tail, when directing the circles, may be plainly perceived, as well as the beautiful markings on it and on the wings, which are sometimes rendered very distinct by the body being thrown upwards, and the light falling on the clear and silvery tints of the base of the feathers. The Buzzard is a fine accompaniment to the landscape, whether sylvan or wild and rocky. In confinement it becomes very familiar, is easily tamed, and as easily kept.”

Mr. Thompson states, in his ‘Natural History of Ireland,’ that the Buzzard “is generally to be found in suitable localities. Specimens are procured at all seasons of the year in the more extensive and best-wooded demesnes in Down and Antrim. In such haunts the Buzzard builds in trees; but in the retired and mountainous parts of the country, where not a tree is to be found, it is equally at home, and forms its nest in the cliffs.” The bird had also come under his notice “at Rosheen Mountain, near Dunfanaghy, at Magilligan in Londonderry, at the headlands above the Giant’s Causeway and those near Carrick-a-rede in Antrim, in the cliffs at the Knockagh Mountain near Carrickfergus, and other places.”

“During incubation,” says Mr. Macgillivray, “the male brings food to the female, and sometimes takes her place on the eggs. The young are at first covered with whitish down, and, after leaving the nest, are assisted by their parents until able to shift for themselves. Mr. Hepburn informs me that it hunts the fields in a wavering direction, often turning and twisting, about a dozen or sixteen feet from the ground, dropping down on the unsuspecting mouse, and seizing the unwary bird perched on the hedge. So far as I have seen, it does not come near the dwellings of man in search of its food. Besides devouring mice, the Buzzard is of great service to the farmer in driving off the Ring-Doves from the corn. Here you may see them feeding in flocks, often comprising as many as 500, and sometimes above 1000. He is accused of killing game, and suffers accordingly; but the gleanings are not left to maintain game alone, being shared by mice and small birds, and yet the poor Buzzard is shot when endeavouring to fulfil one of the great ends for which he was created, namely, setting bounds to their increase. When will our senators see the error of game-laws, and the moral evils they inflict upon the lower orders? Not till then will the farmer and nurseryman experience the full benefit of our Rapacious birds.”

Independently of Central Europe, over the whole of which it is dispersed, it is nowhere more numerous than in Africa: Captain Loche states that it is found in all parts of Algeria; Dr. Rüppell saw it everywhere in the north-eastern parts; Dr. Heuglin mentions that it is occasionally seen in Egypt during winter; and the Rev. William Scott brought examples from Madeira, whither he states they frequently fly over from Africa. In India Mr. Jerdon shot the specimen he describes in his work on the birds of that country, and saw several others on the Neilgherries, and remarks that it has also been found in Nepal and Sikim; but it appears to be a rare inhabitant of the hilly regions of India.

Richardson and Swainson state, in the ‘Fauna Boreali-Americana,’ that this bird also inhabits the fur-countries of America: but the example they have figured must have reference to some other species; for I have no reason to believe that it is ever found in America, and it is not included in Dr. Baird’s recently published list of the birds of that country.

The figure is about two-thirds of the natural size.

ARCHIBUTEO LAGOPUS.

ARCHIBUTEO LAGOPUS.

Rough-legged Buzzard.

Falco lagopus, Brünn. Orn. Bor., p. 4.

—— *plumipes*, Daud. Traité d'Orn., tom. ii. p. 163.

Buteo pennatus, Daud. Traité d'Orn., tom. ii. p. 156.

—— *lagopus*, Steph. Cont. of Shaw's Gen. Zool., vol. xiii. pt. ii. p. 47.

Archibuteo planiceps et *alticeps*, Brehm, Vög. Deutsch., pp. 40 & 41.

—— *lagopus*, Gray, List of Gen. of Birds, 2nd edit. p. 3.

Butaëtes buteo, Less. Traité d'Orn., p. 83.

—— *lagopus*, Bonap. Comp. List of Birds of Eur. and N. Amer., p. 3.

DR. BAIRD, in his 'Catalogue of North American Birds,' gives the temperate portions of Europe and America as the habitat of the *Archibuteo lagopus*. If this be the true state of the case, then the bird enjoys a wide range; but Mr. J. H. Gurney, our highest authority with respect to Raptorial birds, considers that it is not found in America, and inclines to the opinion that the American individuals, hitherto supposed to be identical with the European bird, were the young of the allied species *Archibuteo Sancti-Johannis*. I do not find it in Schrenck's 'List of the Birds of the Amoor,' and Mr. Swinhoe did not meet with it in Northern China. Its separation from the genus *Buteo* has mainly been suggested by the feathering of the tarsi, a difference very similar to that seen between the Golden and Sea Eagles. The Common and Rough-legged Buzzards also differ considerably in their habits, particularly in the situations they frequent. The latter is less of a woodland species than the former, and in Norway will be found among the bleak open moorlands, hunting the mountain-sides for hares, lemmings, moles, &c., and, when not on the wing, sitting on a large stone in the middle of the moor, watching the Ptarmigan and Willow-grouse, upon which it makes a stoop when inclined to feed. I have seen it, with its long flapping wings, hunting over the wild uplands of the Dovrefjeld, when its actions, as seen at a distance, so much resembled those of the Harriers, that for a time I mistook it for one of those birds. In England it must be considered an irregular visitant, for its occurrence here is very uncertain; when it does come, it generally makes its appearance in autumn, and takes up its quarters in the great rabbit-warrens of Norfolk and Suffolk, where it lives until it has been trapped or received an unequivocal notice to quit. It not unfrequently happens that as many as thirty or forty appear at a time, and it is on record that even a larger number have been killed in a single season. Most of these wanderers from their native moors are young birds of the year, which have attained their full size, but which are very differently coloured, being marked with longitudinal tawny blotches, while the adults are barred with brown and buffy white, particularly on the lower part of the abdomen and the thighs. With reference to the occurrence of the bird in Norfolk, Mr. Stevenson says, "The Rough-legged Buzzard appears here in autumn and throughout the winter, their numbers varying greatly in different seasons; and though at times very scarce, they have been known to visit us in very considerable numbers. During the months of November, December, and January, 1839-40, no less than forty-seven specimens were obtained within eight miles of Thetford, and many more were killed in other parts of the county. From that time until the autumn of 1858, they were rather scarce; between October and January of the following year about twenty were obtained, chiefly in the neighbourhood of Thetford and Yarmouth. They have also been plentiful during the present winter (1862-63), though not to the extent above alluded to: one bird-stuffer in Norwich has had four or five, and a game-dealer at Yarmouth seven or eight more; they have also, I learn, been procured in Cambridgeshire, Suffolk, and other adjoining counties. Nearly all the specimens obtained on this coast, however, are in immature plumage; indeed I know of but four or five adult birds, with the cross bars on the thigh-feathers, in our local collections."

It must not be supposed that the counties of Norfolk and Suffolk are the only parts of Great Britain in which this bird is found; for examples have been obtained in Yorkshire, Northumberland, and Kent; it has also been found in Scotland and in various parts of Ireland. It is evidently a northern rather than a southern species; for it rarely, if ever, crosses the Mediterranean, and, in our own island, seldom visits the south-western counties of Devonshire and Cornwall.

Mr. Wheelwright states, in his 'Spring and Summer in Lapland,' "that the Rough-legged Buzzard was by far the commonest of all the birds of prey in the Quickioek district during the summer, probably in consequence of the number of lemmings which swarmed on the fells. They appeared as spring migrants early in May, and the first nest I obtained was on the 21st of that month: it contained three eggs. I have obtained a nest with five, and one with six; but three is the usual number. The nest, a coarse edifice of sticks, moss, and grass, loosely put together, was often on a fell-ridge below the snow-region, often in a tree, but never

down in the forest. It is nearly as large as that of the common species, and presents one peculiarity which I never observed in that of any other Buzzard: there are always some green birch-branches interwoven with the sticks with which it is formed. The bird incubates the latest of the whole tribe. We never find a nest with eggs until June, and in 1863 I obtained one as late as the 14th of August. The eggs vary much in colour, and are certainly finer and deeper-coloured than those of any other Buzzard. I have occasionally seen Rough-legged Buzzards beating over the lower meadows after the young ducks, at the end of July; but I never saw one in the forest. The fells appear to be their peculiar summer home, for they breed in no other part of Sweden; and on the 18th of August (the last day I was there) I counted seventeen on the wing soaring very high; and that they were common here may be gleaned from the fact that more than fifty nests were destroyed in this district in the spring of 1862. The habits, flight, and appearance of the Rough-legged are much like those of the Common Buzzard; but it may always be distinguished from that species, when in the air, by the white root of the tail. Its cry is a loud '*ka-haa*,' not unlike the melancholy call of the Common Buzzard, and is in perfect harmony with the wild, lonely fell-tracts it frequents. I do not think this bird is so sluggish in its habits as its ally; and although lemmings and field-mice doubtless form the principal part of its food, I am certain that it destroys many Ptarmigan, for I have seen the ground beneath the nest thickly strewn with the feathers of that bird."

Some very interesting remarks on the range of this species towards the north, on its eggs, and the pains taken by the late Mr. Wolley to secure their accurate identification, will be found in Mr. Alfred Newton's '*Ootheca Wolleyana*;' but, as they are too lengthy for insertion here, I shall content myself with stating that we learn from them that the Rough-legged Buzzard is the only species which breeds in the far north, that it is one of the commonest birds of prey in Lapland; and so enormous is the extent of the district from which Mr. Wolley's specimens were collected, that no sensible diminution was thereby made in their numbers. "I am not acquainted," says Mr. Newton, "with any British author who has described the changes of plumage in the Rough-legged Buzzard correctly, or who has figured an adult bird. This can be easily explained by the fact that the generality of examples obtained in this country are young birds in their first dress; an examination, however, of Mr. Wolley's spoils convinced me that in the adults of this species, as in so many other *Accipitres*, the markings are disposed transversely instead of longitudinally,—in other words, that the young are striped, and the old are barred." Mr. Wolley "climbed up to a nest which was in a Scotch fir of no great size. There were in it two young ones—one which was not many days hatched, the other much larger. They were white, and just like young eaglets. The nest was small, made of old sticks, with two or three sprigs of Scotch fir, and a little of the black hair-like lichen which hangs so abundantly from the trees." Mr. Hewitson informs us that some eggs are nearly white, while others are of a cream-colour, largely blotched with reddish brown. They differ so little from those of the Common Buzzard that no dependence can be placed upon the identity of any that have not been obtained by a careful collector; hence the great value of Mr. Wolley's researches.

The under surface of the Rough-legged Buzzard is always deeply stained with buff in the young birds, the thighs and tarsi of which are marked with longitudinal arrowhead-shaped spots, while in the adults both the thighs and the tarsi are distinctly and alternately barred across with dark brown and buffy white. In some specimens the throat, chest, and flanks have a large amount of purplish brown, while in others these parts are interspersed with greyish buff. The plumage is more soft and owl-like than in the Common Buzzard. The under surface of the basal portion of the wing exhibits a great amount of white, showing very conspicuously when the bird is in the air. The tail has much more white at the base, and the bars, so numerous in the Common Buzzard, form a very inconspicuous feature in the present bird; these bars, in fact, and the broad band of purplish black near the tip are almost obsolete in the young birds, whose tails are almost uniform buffy brown. The sexes are very similar at all periods of life; but the female is the larger bird of the two.

The figure represents a very dark and somewhat unusually-coloured specimen, which I received from Mr. Wheelwright, about two-thirds of the natural size.

PERNIS APIVORUS.

PERNIS APIVORUS.

Honey-Buzzard.

Falco apivorus, Linn. Faun. Suec., p. 23.

Pernis apivorus, Cuv. Règn. Anim., 1817, tom. i. p. 323.

Falco poliorhynchus, Bechst. Taschenb. Deutschl. Vög., tom. i. p. 19.

—— *dubius*, Sparrm. Mus. Carls., tab. 26.

—— *incertus*, Lath. Ind. Orn., vol. i. p. 32.

Accipiter lacertarius, Pall. Zoog. Ross.-Asiat., tom. i. p. 359.

Pernis apium, Brehm, Vög. Deutschl., tom. i.

—— *vesparum*, Brehm, ib. p. 47, tab. 4. fig. 3.

—— *apivora*, Macgill. Hist. Brit. Birds, vol. iii. p. 254.

Buteo apivorus, Vieill.-Nouv. Dict. d'Hist. Nat., tom. iv. p. 479.

THE diversities of form which exist in every great group of birds, are always accompanied by a difference in habits, manners, and economy. Among the Falconidæ many variations of this kind occur, some very marked, others but slightly indicated: thus the aerial Eagles with their ample wings and feathered legs generally prey upon living quadrupeds; the Sea-Eagles, distinguished by their scaly tarsi and more lengthened bills, occasionally appease their appetites with carrion; the swift-flying Falcons, remarkable for their great muscular power and length of wing, seize Mallards, Grouse, and other birds of like size; the insect-loving Kestrels are characterized by the feebleness of their feet and claws, and the snake-devouring Harriers by their lengthened legs. These remarks might be greatly extended, were it desirable so to do. Perhaps no circumstance connected with the Falconidæ is more remarkable than that we should find among their number a species which is in the habit of feeding on the larvæ of wasps and humblebees: yet this is really the case; for we have abundant evidence that the predatory bird represented on the opposite Plate descends to the ground and digs out the nests of those insects, notwithstanding the thousands of darts which must be hurled against this enemy of their domain and destroyer of their progeny. Of this particular Cuckoo-like form, the genus *Pernis*, there are two species, one inhabiting Europe, the other India. They both have the same habits and manners; both are natives of warm rather than cold regions; and their peculiar food being only obtainable during the summer months, it is at that season alone that the Honey-Buzzard is to be met with in this country. The bird, however, is not confined to one kind of diet; for it passes much of its time on the ground among the herbage in capturing insects of many kinds and forms, from the locust to the grass-loving moth; it will also eat frogs, snakes, and other reptiles, young birds, their eggs, and small quadrupeds if they fall in its way.

It gives me great pleasure to state that the Honey-Buzzard appears to have become much more common in England of late than it was formerly. The Kites, the Harriers, and the Buzzards are almost all gone, probably never to return; but every spring, numbers of this species visit many parts of the south of England, almost a hundred instances of its capture in the New Forest, Wales, Norfolk, and other parts of the country being on record. This being the case, it is to be hoped that the bird will meet with some degree of protection: it is, however, but a forlorn hope, I fear; for if the old birds escape the wariness of the game-keeper, to whom they do no harm whatever, their nest will be robbed of its beautiful eggs to supply the demands of collectors. It would, indeed, be a pleasant sight to see this bird skimming in silent, buoyant, and gliding flight over the inland waters, or soaring above the trees of our few remaining forests. In that of Hampshire the month of May never passes without the Honey-Buzzard forming its eyrie in some lofty tree; and if it were allowed to remain unmolested and rear its young, a greater number would doubtless return thither the ensuing year to live upon the frogs, newts, snakes, and other animals formerly kept in check by Harriers, Buzzards, &c., which no longer abide there, to say nothing respecting the great value of its services in lessening the numbers of the insects upon which it habitually feeds.

Since White published his interesting account of the nesting of this bird in Selborne Hanger, it has been observed in all parts of England, and many times captured both in Scotland and in Ireland. Mr. A. Newton, in the 'Ootheca Wolleyana,' mentions instances of its breeding in Lapland, within the Arctic Circle, and a good deal further north than its range had been supposed to extend. It also inhabits France, Germany, Spain, and Italy, from all of which countries, as well as our own, it migrates to North Africa to spend the winter, and there obtains a supply of food which would be denied it in colder regions—frost and snow being inimical to the animals upon which it feeds, and which then retire to their winter quarters.

Much diversity is observable in the colouring of this species; the young, too, differ not only from the

adult, but also from each other. I have seen an immature example of a uniform chocolate-brown, and others in a costume of mingled buff and brown. The bird evidently becomes whiter as it advances in age; some have delicate grey heads, and flanks beautifully barred with dark brown, while older birds have strongly blotched markings over the whole of the under surface. The fine pair from which my figures were taken, were kindly lent to me for the purpose by John Rocke, Esq. They were trapped near that gentleman's seat, Clungunford Hall, Shropshire, early in June 1865.

Sir William Jardine stated in his address to the Members of the Berwickshire Naturalists' Club, in September 1836, that "The district around Twizell, in Northumberland, appears to be very attractive to this species; for within a few years several specimens have been procured, both in the adult and the immature plumage. One of them was observed to rise from the site of a wasps' nest which it had been attempting to excavate, and to a certain extent had accomplished the operation. The size of the hole which had been made showed that a much greater power could be employed, and that the bird possessed organs much better fitted to remove the obstacles which generally conceal its prey than a superficial examination of the feet and legs would seem to warrant. A few hours afterwards the task was found to be entirely completed, the comb torn out and cleared of the immature young. A steel trap, baited with the comb, secured the aggressor in the course of the next day, when he returned to review the scene of his previous havoc; and dissection proved that at this time mammalia or birds formed no part of its food."

Mr. Thompson states that the stomach of an example killed in Ireland contained a few of the larvæ and some fragments of perfect coleopterous insects, several whitish-coloured hairy caterpillars, the pupa of a species of butterfly, and also of the six-spot Burnet moth." One examined by White of Selborne contained limbs of frogs and many grey shellless snails. In Mr. Stevenson's 'Birds of Norfolk' it is stated that the stomach of an example killed at Holkham, and of a female taken at Saxmundham, was well filled with young wasps; in a third, killed near Lowestoft, were found the remains of Blackbirds' eggs, and in the throat of a fourth several small fragments of the eggs of the Song-Thrush. Mr. Yarrell was told that one kept in confinement killed and ate rats as well as birds of considerable size. It will therefore be seen that, although wasps and their larvæ form part of its food, its diet is so much varied that it may almost be regarded as omnivorous. Buffon says that in winter, when fat, it is itself very good eating.

In his remarks upon two small birds in full plumage, shot at Northrepps, near Cromer, on the 25th of August, 1857, Mr. Gurney says, "About 9 o'clock this morning I was riding along a broad green drive which runs through a wood in this place, when a Honey-Buzzard rose from the grass and alighted on a tree at the edge of the wood. I shortly after sent my gamekeeper in pursuit of it, and he succeeded in shooting it near the spot where I saw it. Hearing afterwards that it had been seen flying in company with a second specimen, he returned to the drive and succeeded in shooting that also, very nearly at the same spot where he had procured the first specimen, being guided in his search by loud whistling cries which the bird was making, probably as a call-note to the one which had been previously shot. About two hours later my son, who was passing through the drive, saw a third specimen rise from the ground and alight on a tree, in a similar manner and nearly in the same place as the first. The gamekeeper was again sent in pursuit; but when he succeeded in getting a view of this bird, it had risen so high in the air that it was out of shot, and continued flying at a great height, in an inland direction, till it disappeared. Both specimens that were procured were in full adult dress, and possessed the beautiful grey tinge on the head which always distinguishes the adult examples of this bird. On dissection both of these specimens proved to be male birds. Their stomachs contained the remains of wasps and wasp-grubs."

The nest, which is of a very large size, is placed in the forks of trees, often of the beech; it is shallow in form, and built of sticks, of considerable size, intermingled with twigs with their leaves on, and is lined with leaves and wool. The eggs, which are generally deposited in June, are of a bright orange-brown, largely blotched, sometimes in the middle, at others principally at the larger end, with two shades of rich chestnut-brown; their average length is about two inches, by one inch and three-quarters in breadth.

The principal figure in the accompanying Plate represents an adult male, of the natural size, with a nest of the Tree-Wasp; the reduced figures in the distance, an adult female and two immature birds.

ASTUR PALUMBARIUS.

ASTUR PALUMBARIUS.

Goshawk.

- Falco gentilis*, Linn. Faun. Suec., p. 20.
—— *palumbarius*, Linn. Faun. Suec., p. 23.
—— *gallinarius*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 266.
—— *albescens*, Bodd. Tab. Pl. Enl., p. 25.
Astur palumbarius, Bechst. Taschenb. Vög. Deutschl., tom. ii. p. 268.
—— *gallinarum*, Brehm, Vög. Deutschl., tom. i. p. 83.
Accipiter astur, Pall. Zoog. Rosso-Asiat., tom. i. p. 367, tab. 11.
—— *palumbarius*, Jenyns, Man. Brit. Vert. Anim., p. 85.
Buteo palumbarius, Flem. Hist. Brit. Anim., p. 54.
Dædalion palumbarius, Savig. Obs. sur le Syst. des Ois. d’Egypte, p. 94.
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THE many instances on record of the breeding and capture of this truly noble species of Hawk in the midland and eastern counties of England and in Scotland, preclude its being regarded as one of our rarer birds ; at the same time how difficult would it be to say with certainty when and where it may be seen with us in a state of nature ? A pair or more, if fortunate enough to escape the vigilance of the keeper, may this year establish themselves in a suitable locality, breed, and rear their young ; the next, a similar attempt would be rendered futile by their destruction ; and a somewhat lengthened period may elapse before others arrive from the great nurseries of France, Germany, and Scandinavia.

According to Mr. Rodd, the Goshawk has not been killed in Cornwall ; and the late Mr. Thompson informs us that it “ cannot be included in the Irish fauna with certainty ; ” yet it would seem, from the writings of some old authors, to have been formerly common in the northern part of that country. In Scotland it formerly bred regularly in the forest of Darnaway, and in that of Glenmore, near Grantown, on the Spey ; and it may still do so. In ‘The Ibis’ for 1865, Mr. A. G. More says :—“ Mr. Tottenham Lee states, in Dr. Morris’s ‘Naturalist’ for 1853, that a pair once took possession of a Raven’s nest in Roxburghshire, and that he had heard of another nest in the same county. Mr. Robert Gray, of Glasgow, who knew Mr. Lee, tells me that he was perfectly familiar with birds of prey, and was not likely to make a mistake as to the species.

“ Macgillivray appears to have met with the Goshawk occasionally among the Grampians ; and Montagu quotes Colonel Thornton as having obtained a young one from near the Spey, and as having seen some eyries in the forest of Glenmore and Rothiemurchus. Mr. W. Dunbar also writes that, when he was a boy, it ‘ used to breed regularly in the woods of Castle Grant, and in Abernethy and Dulnane forests.’ ”

Other instances of its occurrence in Britain have been mentioned by writers on our native birds, many of which are probably authentic. The Rev. F. O. Morris records one in Yorkshire, two in Suffolk, one in Norfolk, four in Northumberland, and one in Surrey. Dr. Moore states that it has been occasionally found on Dartmoor, in Devonshire ; and Mr. Stevenson informs us, in his ‘Birds of Norfolk,’ that it appears occasionally in that county both in spring and autumn, but at uncertain intervals, and that it has of late years become more scarce than formerly ; and he subjoins a list of some seven individuals that had been killed therein.

I have myself had the pleasure of handling in the flesh two of the finest specimens of this bird I have ever seen : one of these was killed on the 24th of January, 1859, at Somerleyton, in Suffolk, by a keeper of Sir S. Morton Peto, Bart. ; the other, which was submitted to my inspection by Mr. B. Leadbeater on the 29th of March, 1864, had been shot at Normanby Park, Brigg, Lincolnshire, on the 24th of that month. The Suffolk bird was killed while I was on a visit to Sir Morton Peto, and was placed in my hands immediately after it was shot. It was a female of the previous year, just commencing to change its feathers, weighed two pounds fourteen ounces, and, although an immature example, the lengthened lanceolate markings of the breast greatly pleased me. It had been seen in the neighbourhood for some time previously ; and the keeper had more than once shot at and slightly wounded it ; notwithstanding, it did not become shy, but evinced a degree of intrepidity very unusual among birds of prey, almost daily leaving the woods and flying skulkingly up the lanes to the farm steadings, just overtopping the buildings, and pouncing down upon a hen or poult as opportunity served—the great scurry, consternation, and cackling of the mother hens bringing the housewife to the door just in time to see one of her feathered charges taken over the wall : once too often, however, was the foray made ; for the keeper was in waiting and shot the culprit. This fine bird has been carefully preserved, and, I believe, is still at Somerleyton Hall, now the property of Sir Francis Crossley, Bart.

The Lincolnshire bird (which was sent to Mr. Leadbeater by Frank Sheffield, Esq., brother of Sir Robert Sheffield, Bart.) was the finest, largest, and heaviest example that ever came under my notice. It was a fully adult female, immensely fat, weighed over four pounds, and was so broad-shouldered and powerful-looking that it reminded me of a Chilian Eagle (*Geranoaëtus melanoleucus*) rather than a Goshawk.

The Goshawk does not appear to be common in any part of North Africa, from Morocco to the Nile; and the Rev. H. B. Tristram says it cannot be regarded as a bird of Palestine southward of the wooded districts of Lebanon; but Signor Fidas, a zealous Italian collector at Beyrout, showed him the skin of one he had purchased in the flesh in the market of that city (*Ibis*, 1865, p. 259). Lord Lilford states that it is not very common in the Ionian Islands; he only met with two immature examples in Epirus, but saw at Santa Maura a fine pair that had been killed on that island a few weeks previously; he was told that the species is common, and breeds in Albania proper, Montenegro, and Bosnia, in which last province it is trained for taking Hares; his Lordship adds, "The Goshawk seems to be an object of special aversion to Rooks, Magpies, Jays, &c., who will allow a Buzzard, Harrier, or Falcon to remain unmolested in their haunts, but immediately pursue this species with loud cries and every appearance of excessive hatred and defiance."—*Ibis*, 1860, p. 9. Lord Lilford has "once or twice seen the Goshawk in Andalusia, and also in Catalonia. The Spaniards call the bird *Azor*." In Portugal, where it is said to be tolerably common, it is known as the *Açor*.

The veteran Temminck informs us that it is very common in France, Germany, and Switzerland, but is very rare in Holland; while every traveller who has visited Sweden, Lapland, Bothnia, and Finmark speaks of it as a summer visitant, and as breeding in those countries as far north as the Scotch fir extends.

We have yet to speak of its occurrence in a more easterly direction; India, China, and Amoorland claim for it a place in their avifaunas. "The Goshawk," says Mr. Jerdon, "is found in the Himalayas, and, I think, also on the Neilgherries, though more rarely." There, as in Europe and elsewhere, it ever affects the mountainous districts; and, continues Mr. Jerdon, "if it ever occurs in the plains it is only a straggler or bird of passage. The female is the most highly esteemed bird of prey in India, and a trained bird used to be sold for a large sum in former days. They are caught when young, and sold on the skirts of the N. W. Himalayas to falconers from different parts of India, for prices varying from 20 to 50 rupees for the female, and from 10 to 20 or 30 for the male. The female is trained to strike the Houbara Bustard, Kites, and Neophrons, Ducks, and many other large water-birds, such as Cormorants, Herons, Ibises, &c. It is, however, chiefly trained to catch Hares. For this purpose she is booted, or furnished with leather leggings, to prevent her legs being injured by thorns, as the Hare generally drags the Hawk some yards after being struck. She strikes with one leg only, and stretches the other out behind to clutch grass, twigs, or anything on the ground, to put the drag, as it were, on the Hare. The male is trained to strike Partridges, Rock-pigeons, Crows, Teal, &c. The Goshawk flies direct at its prey, and gets its speed at once; if it does not reach the quarry within a reasonable distance (say, from 100 to 200 yards) it generally gives up the chase, and either returns to the falconer's fist or perches on some neighbouring tree or the ground."

The disposition, actions, and mode of flight, and the manner in which the Goshawk steals upon its prey, are both singular and interesting. It is never seen hovering, like the Kestrel, and but seldom high in the air, like the Falcons; on the contrary, it sits motionless, for hours together, under the shadowy canopy of a leafy tree, mostly close to the bole, and not on the exposed branches—whence it scans the surrounding space, and, upon the appearance of a Hare, Partridge, or any quadruped or bird upon which it feeds, sneaks upon its prey in the most artful manner. Mr. Wolf tells me that he has known it, when pressed by hunger, dash out of its retreat and give chase to a Short-eared Owl.

Mr. Hewitson states, on the authority of Mr. Hoy, that "the Goshawk builds its own nest; and, if undisturbed in its possession, will frequently occupy it for several years, making the necessary repairs. It is placed on some high tree, on the outskirts of the forest, and is rarely found in the interior of the woodland, except in those parts which are cleared and free from timber. The eggs are three or four in number, and are frequently hatched by the middle of May; they are, I believe, for the most part, of a spotless bluish white, but are sometimes indistinctly marked with brown."

In no one member of the great family of Falcons does there occur a greater dissimilarity between the young bird of the year, with the lanceolate markings of its breast, and the fully adult, in which the same part is crossed by numerous fine bars. There is also as great a difference in the size of the sexes; but this character is less marked than in the members of the genus *Accipiter*, from which that of *Astur* must be regarded as merely an offshoot.

The Plate represents an adult female, about two-thirds of the natural size, with a reduced figure of a young bird in the distance.

ACCIPITER NISIS.

ACCIPITER NISUS.

Sparrow-hawk.

Falco Nisus, Linn. Syst. Nat., tom. i. p. 130.

Accipiter fringillarius, Ray, Syn., p. 18.

——— *Nisus*, Pall. Zoog. Ross. Asiat., tom. i. p. 370.

——— *maculatus*, Briss. Orn., tom. i. p. 314.

——— *Dussumieri*, Jerd. Madras Journ. of Lit. and Sci., vol. x. p. 84.

——— *nisosimilis*, Tick. Journ. Asiat. Soc. Beng., vol. ii. p. 571.

——— *subtypicus*, Hodgs. in Gray's Zool. Misc. 1844, p. 81.

Nisus communis, Cuv.

——— *fringillarius*, Kaup.

Sparvius Nisus, Bonn. et Vieill. Ency. Méth. Orn., pt. iii. p. 1262.

It would be interesting to know at what date the term Sparrow-hawk was applied to this bird. Craig's Dictionary states that *Speara* is the Saxon, and *Sparwa* the Gothic name of the Sparrow, and *Hafoc* the Saxon for Hawk; and hence probably the term was derived. Nine out of every ten persons apply the term to the Kestrel, a bird that is much more common, and totally different in colour, actions, and economy. The comparatively harmless Kestrel or Windhover may almost any day be seen fanning the air with its lengthened wings, while the round-winged dashing Sparrow-hawk is much more recluse, generally sitting in the midst of some leafy tree, perchance watching a flight of Starlings or a flock of Larks, on which he may steal, unperceived, sufficiently near to make a successful stoop; while at other times he may be seen perched on the bare branch of a tree, rail, or post, whence he makes a raid upon some poor Sparrow, Yellowhammer, or Greenfinch that has attracted his attention; or displaying great cunning while stealthily winging his way over the fields, or surprising his Fringilline victim by overtopping the hedge and securing the terror-stricken bird with the quickness of lightning, before it can find shelter among the foliage. How different are one and all of these actions from those of the Windhover, who poises himself aloft on quivering wings and scans the surface of the ground for a mouse, a great beetle, a frog, or perchance a young lark! How varied are the actions and economy of the two birds! How different are they in temper and disposition—one naturally tame and docile, the other morose, sulky, and spiteful, throwing forward its long legs and grasping anything within its reach with its sharp and powerful talons. The very eye of the Sparrow-hawk, beautifully coloured as it is, is indicative of his wicked disposition, while the soft, full black eye of the Kestrel betokens a very different nature. I make these comparisons to bring into stronger contrast the difference in their mode of life, and to show that diversities in structure are always accompanied by peculiar habits. But, to return to the Sparrow-hawk as a native of England, next to the Kestrel, the *Accipiter Nisus* is our commonest species of Hawk, and is so universally dispersed that every portion of the British Islands is alike frequented by it. That self-preservation should be its motto is certain; for it has no friend to depend upon, and hence its numbers are pretty well kept down, more than a single pair being seldom found to breed in the same district; still it is sufficiently numerous for it to be characterized as common. The female, which is nearly twice the size of the male, has no red colour on the breast and flanks until she has attained at least her third year: her back is then blue-grey, and her under surface beautifully barred with brown. During the first year, the breast is longitudinally blotched with brown, while the feathers of the back are brown, with a crescent of tawny at the tip. A similar character of plumage also distinguishes the little male at the same age. A lengthened middle toe is a distinguishing feature of all true Accipiters; for although most of the species of the allied genus *Astur* have a similar style of colouring, their middle toe is much shorter, and a preponderance of strength is given to the hinder one—a feature which clearly indicates that it is fitted for a different mode of life, as we find to be the case; for it is upon the smaller quadrupeds and birds that it is destined to prey, while the Sparrow-hawk attacks almost exclusively the feathered race. The female Sparrow-hawk is much more formidable than the male, and is as destructive to Partridges, Pigeons, and other birds of that size as her little mate is to the Sparrow and the Greenfinch. She is also said now and then to kill leverets, young rabbits, and other small animals. To give some idea of the impetuosity of the flight and stoop of the Sparrow-hawk, I shall here insert a note on the subject, transmitted to me by W. Oxenden Hammond, Esq., of St. Alban's Court, near Wingham, in Kent.

“I once witnessed a circumstance wholly at variance with the creed of all falconers, who affirm that the true Falcons only *stoop* and *strike* their prey, while the short-winged Hawks *chase* and *clutch*. Three or four years since I was driving towards Dover, when suddenly a Sparrow-hawk, with a stoop like a Falcon's, struck a Lark close to my horse's head. The Lark fell as a Grouse or a Partridge will fall to a Falcon or

Tiercel; and the Sparrow-hawk did not attempt to carry, but held on his way. I jumped down and picked up the *body* of the Lark and the *head*, the two being entirely disunited. The velocity and force of the stoop must have been tremendous. I have often seen Grouse and Partridges ripped up the back and neck, and the skull laid bare; but I never saw a head taken clean off before."

With what spirit and daring does this bird pursue its victims! In the instance described by Mr. Hammond, the stoop was made close to his horse's head; but I have heard of a Sparrow-hawk pursuing a Finch between the legs of a man, where it had flown for shelter; and in the course of my life I have known many instances of its dashing through or killing itself against a pane of glass in pursuit of a bird, or when flying at a caged bird within.

The following characteristic note on the habits of the bird is from the Rev. J. C. Atkinson's 'British Birds and their Nests':—

"If you hear some careful housewife of a hen skirling and fussing, in dire alarm, her terrified chicks the while seeking any possible shelter, you may be almost certain that the gliding form you caught a glance of rounding the corner of the barn was a Sparrow-hawk, and that some hapless Dove or Chicken has lost the number of his mess. Not that he does not like wild game as well as tame poultry. Mr. Selby mentions one nest containing five young ones, in or close to which were found a Peewit, two Blackbirds, a Thrush, and two Greenfinches, all fresh and half-plucked."

The nest of the Sparrow-hawk is placed on high trees or on the ledges of rocks, according to circumstances, and it not unfrequently adopts the flattened-down nest of a Crow or a Magpie. The eggs are bluish white, very beautifully blotched and marked with umbre and light reddish brown. Mr. Hewitson remarks that "the eggs, though usually very readily distinguished from those of any other species, are subject to varieties which sometimes rather resemble those of the Kestrel, but are never marked with the same rich colouring. There are some specimens on which all the markings are very obscure and indistinct, and others in which the dark blotches of colour are at the smaller instead of the larger end. I know of no other egg which is so subject to this variety."

The young, for the first fortnight of their existence, are clothed with a greyish-white down, and it is while they are in the nest that the parents are so destructive; on which subject I append a note written by Mr. Weir to the late Mr. Macgillivray, and published in his 'History of British Birds,' vol. iii. p. 359.

"In one of the plantations on Boghead, for several years past, a pair of Sparrow-hawks have reared their young, either in the deserted nest of the Carrion-crow or Magpie. They were uncommonly bold, and with the rapidity of an arrow skimmed over the ground. Amongst Partridges, Pigeons, and other smaller birds they committed great destruction; with almost unerring aim, they pounced upon their prey. From a hut, formed of the branches of trees, I watched for several hours the habits of a pair of these voracious birds whilst they were engaged in feeding their young, which were nearly half-fledged. During the time that I remained at it, the female continued to sit upon them. The male, at shorter or longer intervals, alighted upon the top of a tree, at the distance of about forty yards from the nest, with a bird in his talons. The female always took it from him, and divided it amongst her nestlings. Sometimes he arrived with a Blackbird or a Thrush, but more frequently with a Lark, a Yellow Bunting, or a Chaffinch. Being anxious to know whether the male is in the habit of feeding his offspring, I one morning, in a place of concealment, watched another pair of them for four or five hours. The male always alighted, as in the former case, upon the top of a tree at some distance from the nest, with a bird in his claws, and called upon his mate, who came and caught hold of it in her bill. I shot her as she was carrying it to her young. About nine o'clock in the morning I went home. At six in the evening I returned with a boy, who climbed the tree to see what was in the nest. He had no sooner looked into it, than with astonishment he exclaimed, 'Oh! Sir, the poor little things are gasping.' They were, in fact, almost suffocated by the dead birds about them. He threw down no less than sixteen, amongst which were Larks, Yellow Buntings, Hedge-sparrows, and Green Linnets. I took home the young, which were four in number. They seemed not to have been fed during the day, as they were exceedingly hungry. In these two instances it would seem that the male bird provided the food, but did not give it to his family. Whether this is always the case with the Sparrow-hawk, I cannot ascertain until I have had further opportunities of observing their habits."

The Sparrow-hawk enjoys a wide range over the face of the earth, being found in all parts of Europe except the extreme north, in Northern Africa, Persia, in all the hilly parts of India, where it is highly prized by the natives for falconry, and is employed to capture Partridges, Quails, Coursers, and Sandgrouse; and Mr. Swinhoe states that it is found from Canton to the Amoor, and also in Japan. My son, the late Dr. John Henry Gould, sent me fine male specimens of this bird from Scinde, which on comparison with examples killed in this country presented no appreciable difference.

The Plate represents an adult male of the natural size, while the reduced figure is that of an old female in the act of seizing a Sparrow from the ivy-clad wall of a garden.

FALCO ISLANDUS, *J.F. Gmel.*
Iceland Falcon, adult.

J. Wolf & H. Richter del. a lith.

Walter, Imp.

FALCO ISLANDUS, J. F. Gmel.

Iceland Falcon.

- Falco islandus*, J. F. Gmel. edit. Linn. Syst. Nat., tom. i. p. 271.
—— *candicans islandicus*, Schleg. Rev. Crit. des Ois. d'Eur., p. 1.
—— ——— var. β . *islandicus*, Blas. List of Birds of Eur., Eng. edit., p. 1.
—— *islandicus*, Brehm, Lehrb., tom. i. p. 44.
Hierofalco islandicus, Gray, List of Gen. of Birds, p. 3.
Falco (*Hierofalco*) *islandicus*, Gray, Handl. of Birds, p. 18.
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As the name assigned to this species implies, Iceland is its principal home; there it performs the task of reproduction, just as the Gyrfalcon does in Northern Europe, and the succeeding species (*Falco candicans*) in the arctic regions. It is a well-known law of nature, which more especially prevails among Eagles and Falcons, that the young are either driven forth by their parents or take upon themselves to wander into far-distant countries before they become domiciled in their native home. From this tendency of the young to wander, it is not surprising that Scotland and the northern and some other parts of England should from time to time be visited by examples of this species, records of which, and in whose collections they are deposited, may be found in the 'Zoologist' and other journals devoted to British ornithology. Nearly all, however, have been young birds of the year, which had not yet commenced their second moult, still less obtained the plumage borne for the remainder of their lives. Among these I may particularly mention a fine specimen kindly sent up for my inspection by Dr. Dewar, of Glasgow, who informs me that it was shot by a friend of his in the island of North Uist, one of the Outer Hebrides, in September 1864, and sent to him in the flesh. It had frequented his friend's poultry-yard for a considerable time, and killed numbers of his chickens. It was not at all shy. In April or May 1866 the same gentleman shot another, which had frequented the poultry-yard daily for a month; this, unfortunately, was not preserved. My thanks are also due to the authorities of the Norfolk and Norwich Museum for the loan of another fine but immature example. It is probable that instances of the appearance of the adult in Britain may also have occurred; and one at least has been recorded; for Professor Newton informs us that "Mr. Borrer possesses an adult Iceland Falcon shot at Mayfield, in Sussex, in January 1845." There is also another in the British portion of the National Collection, said to have been killed in England; but where, is unknown.

There are at least four naturalists who have paid especial attention to the history and changes of this fine bird and its two allies *Falco candicans* and *F. gyrfalco*, namely the late Mr. Hoy, Mr. Hancock, of Newcastle, Professor Schlegel, of Leyden, and Professor Newton, all the more important points of whose observations have been incorporated in a valuable article on the subject in the new edition of 'Yarrell's British Birds,' to which, as it is too lengthy to be quoted, I must refer my readers, and content myself with extracting a few passages having special reference to the present species. The subject has also been most ably treated in 'The Ibis' for 1862, p. 43 *et seqq.*

"As a constant inhabitant of Europe," says Professor Newton, "the Iceland Falcon is only known in the island whence it takes its name, and is there by no means uncommon, breeding in precipitous cliffs or ranges of rock bordering the numerous lakes, which are thronged during the summer by innumerable waterfowl, and thereby securing a plentiful supply of food for its offspring, though it is stated that Ptarmigans form the chief prey of the adults, and such of the young as pass the winter in that country, when it is comparatively deserted by aquatic birds. Most of the young, however, wander southward at that season; and examples annually visit the Færoes, Norway, Denmark, Germany and Holland. In the British Islands, probably, more have occurred than of the Greenland Falcon; but of the many so-called 'Gyr Falcons' recorded as seen or taken here, the number which can be with certainty determined to be Icelanders is perhaps rather fewer.

"This bird is believed to breed in Greenland, but only in the southern parts, and seems to be of not very rare occurrence along the coast of Labrador, where, according to Audubon, it also breeds. To judge from Richardson's account, it is not uncommon in the fur-countries, where it, as well as *Falco candicans*, probably breeds. On the western side of the continent adults have been obtained in Alaska, where it is said by Mr. Dall to be resident and usually confined to the mountains, breeding, according to Professor Spencer F. Baird, both there and on the Lower Mackenzie River, indifferently, on trees and cliffs. Whether *Falco islandus* crosses to Asia cannot be determined.

"From information supplied to Mr. Hewitson by Mr. Proctor, the latter saw in northern Iceland several

deserted nests of this Falcon, being too late to find any tenanted by the owners; this was in the beginning of August; and from one of them he took an addled egg. The nest was composed of sticks and roots, and lined with wool, much resembling that of a Raven, to which bird it might have originally belonged. Strewn around it lay the remains of many Whimbrels, Golden Plovers, Guillemots, and Ducks. All the nests he saw were in cliffs forming the boundaries of freshwater lakes, but none of them so high in the mountains as he expected to find them. A similar account is given by Faber of a nest seen by him in 1821. This, the only one he found, was in South-western Iceland; it was large and flat, placed on the upper part of an inaccessible wall of rock. There were three full-grown young, two of which, on the 6th of July, had already left it and sat near by. The old birds flew around screaming, but did not attack him. Remains of various sea-fowl lay about. Faber adds, both young and old approach the homesteads, where they sit on elevations and often fight with the Ravens. Four seems to be the proper complement of eggs; they are suffused or closely freckled with reddish orange or pale reddish brown on a dull white ground, which commonly is hardly discernible between the markings, though these are sometimes collected into blotches of considerable extent; specimens measure from 2·48 to 2·13 inches by from 1·91 to 1·72."

"In the days when falconry stood first on the list of sports," says Mr. Hoy, "the Icelander was considered a present worthy the acceptance of a king. The King of Denmark sent a vessel annually to Iceland to bring all the Hawks of this kind it was possible to procure for the use of his falconers, and to be sent as presents to the different princes on the Continent; they were even sent to the Barbary states and into the Eastern countries; so much were they esteemed. An old falconer, lately dead, assured me that he had seen upwards of fifty Iceland Falcons at the same time in the care of persons who were about to start with them as presents to the different courts of Europe. A falconer who was in the hawking establishment of Louis XVI. of France informed me that they had several casts or pairs sent annually from Denmark. The Icelander was greatly prized, not only on account of its superior powers of flight, but its tractable, gentle disposition. It is not so difficult to reclaim and manage as the Ger Falcon; there is also a decided difference in their flight and manner of striking their prey; the Icelander, in the language of falconry, flies more nobly, pouncing his prey with more lofty stoops. The flight of the hare with the female, the male being used for the Heron, Kite, and Buzzards, was considered one of the finest sights the sport could afford. An open country is requisite to see this flight in perfection. The hare being started, the Falcon was immediately thrown off the fist, and, instantly catching sight of its prey, mounted to a considerable height; a slow dog, well trained with the Hawk, was used to keep the hare running, as it would otherwise squat on being once stooped at by the Falcon. The Falcon kills the hare by repeated blows on the back and head, coming in an almost perpendicular direction upon it from a great height and with wonderful velocity, the blow being almost imperceptibly given in passing, and the Falcon again rising, or, as they term it, shooting up steeple-high after every stoop; occasionally the victim is killed the first stoop, and driven several yards by the violence of it. In a good flight several lofty stoops are made. Again, in the air the Icelander kills the Crane, Heron, or Kite by repeated blows, the great interest taken in the flight being to watch the exertions of the Falcon to out-soar its prey and then precipitate itself with closed wings and astonishing rapidity and force, its prey seldom reaching the ground without being mortally disabled. An instance has occurred of a male Icelander striking the head from the neck of a Heron by a single blow in the air."—*Mag. Nat. Hist.* vol. vi. 1833, p. 108.

On comparing either sex of the present species with the corresponding sex of the Norwegian or Gyr Falcon, it will be found to be of larger size, to have the upper and under surface much lighter in colour, the face and crown striated and without any Peregrine-like appearance in its countenance, the bars of the tail quite perfect and well defined, the feet and cere pale yellow and not orange-yellow as in the Gyr Falcon, and the head more bluff or less elegant in shape.

I must not fail to mention that the markings of the under surface are of a striated form in the youthful birds, and that these marks become of a transverse or barred form in the adult. To illustrate these and the other remarkable differences between the adult and young, I have considered it necessary to give two Plates, the one representing the former, the other a bird of the first autumn, both somewhat less than the natural size.

FALCO ISLANDUS, J.F. Gmel.

Iceland Falcon, young.

FALCO CANDICANS, *J.F. Gmel.*

J. Wolf & H. C. Richter del et lith.

Greenland Falcon, light race. adult and young

Walter Imp.

FALCO CANDICANS, *J. F. Gmel.*

Greenland Falcon, light race (adult and young).

Falco candicans, Gmel. edit. Linn. Syst. Nat., tom. i. p. 275.

—— *grænländicus*, Daud. Traité d'Orn., tom. ii. p. 107.

—— *fuscus*, Fabr. Faun. Grænl., p. 56.

—— *arcticus*, Holb.

Hierofalco candicans, Cuv. Règn. Anim., edit. 1, tom. i. p. 312.

—— *grænländicus*, Brehm, Vög. Deutschl., tom. i. p. 16.

Falco (Hierofalco) candicans, Blas. List of Birds of Eur., Eng. edit. p. 3.

—— *gyrfalco grænländicus*, Schleg.

THE bird under consideration is the *Falco candicans* of Gmelin, *F. grænländicus* of Daudin, and *F. arcticus* of Holböll, specific names which at the same time furnish the reader with some idea of the colouring of this species and intimate the countries it inhabits. The native home, then, of this fine Falcon is the high northern regions, within rather than without the arctic circle, from which youthful (and, occasionally, adult) birds wander during autumn and winter to more temperate latitudes; and hence it is that some parts of America and Europe are now and then favoured with its visits. In the course of the present work hints have from time to time been thrown out as to the probability, nay, almost certainty, of the existence of some unknown land near the pole, to which rare birds retire to breed, and, perhaps, fat reindeer resort, as they do to Spitzbergen, for pasture, free from the molestation of man. If there be such an open country, then the present bird, doubtless, also frequents it. For myself I have always considered the very high northern regions to be the principal habitat of this the whitest of Falcons, a bird which possesses features whereby it may at all times be distinguished from its near allies. Even from a very early stage it differs from both the Iceland and the Gyrfalcon, and on attaining maturity acquires characters which neither of those birds possesses; there are also other differences, which indicate its distinctness still more strikingly, namely the light or yellowish-white colouring of the cere, legs, toes, and even the claws, and the fact that the young birds in their early plumage are white or nearly white, while the young of the other two species are very dark. Surely, if these differences are constant, we should not hesitate to adopt the distinctive appellation assigned to it.

“The Greenland Falcon,” remarks Professor Newton in his edition of Yarrell’s ‘British Birds,’ “seems to be most plentiful in the inhospitable regions which enclose Baffin’s Bay and extend to the westward. From this tract adult birds seldom wander to other lands, though the young, especially in autumn and winter, occur regularly in Iceland, and not unfrequently in the Dominion of Canada from Newfoundland westward, the United States, the British Islands, and even in countries still more remote from the place of their birth. They are, no doubt, driven away by their parents, as is commonly the habit with birds of prey, and follow the large flocks of Waterfowl, which are bred in the north, on their southward migration, though it would appear that the ptarmigan forms the chief sustenance of the old birds. At the same time it must not be supposed that in Greenland the white form only is found. In the southern districts of that country the Iceland Falcon is certainly numerous; and, on the other hand, there is good reason for believing that the Greenland Falcon breeds in some of the northern parts of British America. Writing of what was doubtless this form of Falcon, Sir John Richardson in the ‘Fauna Boreali-americana’ says:—‘In the middle of June 1821, a pair of these birds attacked me as I was climbing in the vicinity of their nest, which was built on a lofty precipice on the borders of Point Lake, in latitude 65½°. They flew in circles, uttering loud and harsh screams, and alternately stooping with such velocity that their motion through the air produced a loud rushing noise, they struck their claws within an inch or two of my head. I endeavoured, by keeping the barrel of my gun close to my cheek, and suddenly elevating its muzzle when they were in the act of striking, to ascertain whether they had the power of instantaneously changing the direction of their rapid course, and found that they invariably rose above the obstacle with the quickness of thought, showing equal acuteness of vision and power of motion.’

“It has already been said that this Falcon occurs yearly in Iceland; but it does not breed there; and the only instance on record of its having been seen in that island in summer is that mentioned by Herr Preyer in his travels. It has very probably occurred on the continent of Europe; but, owing to the way in which it has been confounded with the cognate forms, the point cannot at present be decided. The same confusion renders useless many of the records of the appearance of large Falcons in the United Kingdom.

“Midway between Asia and America this white Falcon was seen at sea, a little north of Behring’s Island, by Mr. Bannister. Crossing the Pacific, it is, according to Professor Schlegel, known to the Japanese; and it certainly occurs on the continent of Asia, though whether its character in Siberia is that of a native, or a visitor only, there is not at present enough evidence to decide. . . . Captain Salvin and Mr. Brodrick, in their ‘Falconry in the British Islands,’ state that they ‘have been informed by travellers that some few large white Falcons, which must be Greenland Falcons, are caught annually in their passage over the Caspian Sea, and that they are highly prized by the falconers of Syria and Persia.’”

Two very distinct phases of plumage are found among individuals of this bird, one of which may be characterized as light, the other as dark; these, by some naturalists, are regarded as races only, and not as indicative of a distinction of species. Examples of both have from time to time made their appearance in our islands; indeed these occurrences are too numerous to be detailed here *in extenso*; but I may mention two of the more recent instances. In June 1865 Mr. R. C. Musgrave informed me that a fine example in the possession of his father “Sir George Musgrave, Bart., of Edenhall, in Cumberland, was shot in the preceding January by a blacksmith near Crosby Ravensworth, in Westmoreland, whilst in the act of eating a Grouse. It is a very fine specimen of a Greenland Falcon, and is remarkable for its extreme whiteness, the breast being perfectly white and the leg-feathers nearly so.” In the autumn of 1867 another fine individual was observed at Loch Stack, in the western part of Sutherland, by Lord Belgrave (now Earl Grosvenor), who informed me that he saw it strike down a Grouse before him, both falling in a little hollow; he crept up to within ten yards, and threw his stick at the Falcon as it flew away. Lord Grosvenor tells me it was a splendid white bird. Both these individuals were probably young birds of the year, of the white race, as the bird killed by Lord Cawdor’s gamekeeper in Pembrokeshire, and now in the British Museum, is of the dark one. It was from this latter specimen that the figure of what is termed the Jerfalcon in my ‘Birds of Europe’ was taken; it is also the original of the figure, likewise so termed, in the three editions of the late Mr. Yarrell’s ‘History of British Birds;’ it has therefore an historical value.

Little is known of the nidification of this Falcon; but it probably differs but slightly from that of its ally the *F. islandus*. Three eggs in Mr. Wolley’s collection, said to have been procured by Captain Holböll in Greenland, are described by Professor Newton as being “suffused with pale reddish orange, having a few spots of a darker orange-red, or dull red, or are mottled with pale brownish orange on a white ground.”

A few words of explanation are necessary to enable the reader to understand the accompanying Plate.

The middle figure represents an unusually light and beautiful young bird of the year, with tear-drop-like markings on the whole of the upper surface; the larger figure the adult, distinguished by having a small, somewhat heart-shaped spot at the tip of each feather of the upper surface, faint specks of brownish black on the under surface, and the tail creamy white.

FALCO CANDICANS.

J. Wolf & W. Hart, del et lith.

Greenland Falcon, dark race, adult.

Walter, imp.

FALCO CANDICANS, *J. F. Gmel.*

Greenland Falcon, dark race.

THE birds figured on the two accompanying Plates differ from both the white or true *Falco candicans* and the *F. islandus*, and moreover are so inconstant in their markings that I have never seen two specimens that had the tail similarly marked; for while the barrings of the feathers are perfect in one, in another they are interrupted. In one the second and third feathers from the middle ones may be wholly white; in another the same feathers may be more or less barred. A degree of inconstancy also occurs in the markings of the back and wings, although generally to a less extent; but the young of the year of the white *F. candicans* and the young of this dark race assimilate in being lightly coloured, in which respect they offer a decided contrast to the young of *Falco gyrfalco* and *F. islandus*, which at the same period of their existence are both dark. By some persons it may be supposed that the individuals of the dark race change their plumage as they advance in age, and ultimately become white; but if the assertion of those ornithologists who have paid special attention to these Falcons, that the plumage they assume at their second moult is carried throughout life, be correct, this will not be the case; and that this theory is the true one would seem to be confirmed by the fact that a Greenland Falcon which lived for some years in the Gardens of the Zoological Society never exhibited any subsequent change. Professor Newton states that the true Icelander is believed to breed in the southern parts of Greenland. If this is the case, it appears to me probable that this dark or mongrel race may be due to the interbreeding of *F. islandus* and *F. candicans*, in which event the progeny would naturally be intermediate in colour and markings. As an instance in point I may cite the results of a cross between our two species of Pheasants (*Phasianus colchicus* and *P. torquatus*), the progeny of which not only differ in their plumage from the parent stocks, but even as compared with one another. If this is not the cause of the abnormal state of plumage of these Falcons, I am at a loss to account for it. I may mention that these strongly marked birds appear to be more exclusively natives of South Greenland, and that it is from the Danish settlements in that country that specimens are sent to Europe. It is the young of these indistinctly marked birds that most frequently visit Britain, of which Lord Cawdor's specimen, now in the British Museum, is an example, and is represented in the second figure, or young of the dark race, in the accompanying Plate.

Whether these noble Falcons have all sprung from one stock is a question not easily answered; neither is it easy to say, in that case, which most approximates to the common progenitor; but we may, I think, fairly conclude that it must have been the *Falco candicans* in its whitest and purest state, inasmuch as it is the bird which inhabits the highest northern regions, or the icebound portions of the arctic zone. Geologists will tell us that, in ages gone by, Iceland and Northern Europe were in the same state, and that glaciers, instead of the peaty morasses which now exist, then prevailed. May not the physical changes that have taken place in more recent periods have had an influence on the colouring of these Falcons? That such a change has been effected in the case of the common Grouse (*Lagopus scoticus*) I feel assured, inasmuch as I find no difference, except that of colour, between it and the white *Lagopus saliceti* of Norway and America. To assert positively that the milder atmosphere of our more humid sea-girt islands, and their more peaty and heathery soil, is the cause of the difference in colour between the two birds, would perhaps be speaking too strongly; yet I think it probable that such a theory would be the right one.

Those who have studied the birds of the world in their entirety must have been struck with the fact that, while certain forms are abundant in one portion of the globe, they are totally absent from the opposite one. For instance, in the northern or arctic hemisphere Auks, Puffins, and Guillemots abound, while none of these forms are to be found in the opposite or southern hemisphere, their place there being occupied by Penguins and Albatrosses. This is not easily to be accounted for, since, on the other hand, Cormorants haunt the sea-girt rocks of every part of the globe, and Gulls and Terns are no less universally dispersed. This absence of certain forms, again, from countries not very far distant from those in which such forms are numerous is further exemplified in the fact that, while there are neither Swallows nor Crows in New Zealand, Norfolk Island, or perhaps the whole of Polynesia, Swallows, Martins, and Swifts are abundant in Australia, and Crows are as numerous there as in any other country—all, however, being specifically different from the birds thus called which inhabit the same latitudes in the northern hemisphere. Were it necessary, other instances of this apparent limitation of species in certain parts of the globe might be cited almost *ad infinitum*; and we might theorize to a similar extent as to why a Crow should not inhabit New Zealand as well as Australia, or why Swallows should be plentiful in the one country and not in the other. The

existence or non-existence of food of a particular kind suited to a species is one of the causes of its absence or presence: thus the fact of the majority of the trees of Australia not having a bark adapted for insect life would indicate the absence of the Woodpecker family; and accordingly no one of its members is found there. The large White Falcons figured in this work are restricted to the northern hemisphere, to which the Ptarmigan, Grouse, and Ducks upon which they mainly subsist almost solely resort, only a single representative species, the *Falco hypoleucos* of Western Australia inhabiting the southern hemisphere. On the other hand, Peregrines or Duck-Hawks not only frequent the northern hemisphere, but are also found in all southern countries; thus there is a Peregrine at Cape Horn, another at the Cape of Good Hope, and a third in Tasmania.

Not wishing to multiply generic terms in a work like the present, I have retained that of *Falco* for the birds under consideration; but I am not less of opinion that Cuvier and the older writers were right in giving them a separate generic appellation—that of *Hierofalco*; for they certainly do differ in many respects from the Peregrines, for which the term *Falco* is rightly employed.

“Of all the birds used in falconry in this country,” says J. C. Belany, in his ‘Treatise on Falconry,’ printed for the author at Berwick-on-Tweed, in 1841, “the Gerfalcon has ever been ranked the foremost. Superior in strength and agility to every other bird of its size, and endowed with powers of flight equalled by none that wing the air, with a corresponding courage, he dashes into the air fearless of every other bird, however large; nor will he, at times, hesitate to dispute precedence with the ‘monarch of the skies.’ Nor need any one acquainted with the anatomical structure of this bird wonder at his power. The breadth of the sternum, the depth of the keel affording a vast extent of surface for the muscles that move the wings, the furcula, circular, broad, and strong, giving a firm support to the shoulders, with his long acuminate wings, and with the feathers firm, narrow, and so arranged as to pierce the air and resist pressure, give him powers which few of the feathered tribe possess. Mr. Mudie considers him the boldest, the most perfectly winged, and, in proportion to his weight, the strongest, both for action and endurance, of all the feathered tribe.” Notwithstanding this affirmation, I question whether the *Hierofalcones* are equal in either flight or courage to the female of the true Peregrines.

Latham, without distinguishing one from another, says:—“This species, with its varieties, has ever been in much estimation for its use in falconry; and Iceland has the reputation of furnishing the most generous breed. The King of Denmark is said to send there annually to buy up all that can be procured, the established place being Bessested, to which the Icelanders bring them as soon as taken, the white ones being in most esteem: and they must be very docile; for people catch them, in nets, of any size or age. Bell, in his Travels in Russia, says that about Zabach-Yeer and Casan are caught the best and largest Falcons in the world, which are purchased by the Turks and Persians; the Russians prefer the old ones, which are taken in nets with a live bird as a decoy. These will fly at Swans, Herons, or Cranes, and will take a Duck out of the water when only the bill appears. The Tartars also fly them at antelopes and hares. Some of the Falcons are as white as a Dove.”

I cannot conclude without calling attention to the admirable delineations of all these large northern Falcons, for which I am indebted to the pencil of Mr. Wolf, whose abilities as an artist are so justly celebrated, and who thoroughly understands the subject. I trust they will be duly appreciated by the possessors of the present work, as I feel every one must have been delighted with the illustrations of Messrs. Schlegel and Verster van Wulverhorst’s ‘Traité de Fauconnerie,’ by the same master hand.

FALCO CANDICANS.

Greenland Falcon, dark race young.

J. W. H. & H. C. Richter, del et lith.

Walter, Imp.

FALCO GYREALCO, *Linn.*

Norwegian Falcon, adult and young

FALCO GYRFALCO, *Linn.*

Norwegian or Gyrfalcon.

Falco gyrfalco, Linn. Faun. Suec., p. 64.

——— *norvegicus*, Wolley, Sale Cat. of Eggs, 1858.

——— (*Hierofalco*) *candicans*, var. γ . *gyrfalco*, Blas. List of Birds of Eur., Eng. edit., p. 3.

——— (———) *gyrfalco*, Gray, Hand-list of Birds, p. 18.

WITHOUT a few words of explanation it might appear to some of my readers that I am extending the present work beyond its proper limits by figuring on the opposite Plate a bird which has never yet been identified as a visitor to the British Islands; but such is not my wish. It is given because the chances are that, although not recognized, the bird does occasionally visit us, and that I may be enabled to throw a clearer light upon a subject of great importance than I could do by leaving it undelineated. To render my meaning more apparent, I must inform those of my readers who are not well versed in ornithology that it is a question among naturalists whether the Norwegian, the Iceland, and the Greenland Falcons are one and the same species, or whether each possesses characters of sufficient importance to distinguish it from its congeners. Whatever conclusions some may have arrived at with regard to their specific value, I for my own part cannot but regard them as distinct from each other.

The true Gyrfalcon or Norwegian bird is by far the darkest in colour, and somewhat the smallest in size, the fully adult male being but little larger and having wings scarcely longer than the female of *Falco peregrinus*, to which it assimilates rather closely in colouring and in possessing the beautiful greyish bloom which pervades the plumage of that species. These differences (by which the bird may be at once distinguished from its congeners) being so much more readily appreciated by the eye than they can be conveyed to the mind by the most accurate description forms an additional reason for giving the accompanying Plate. The young Gyrfalcon, on leaving the nest, is much darker than a young Iceland of the same age—the back, wings, and tail being of a nearly uniform blackish brown, while the feathers of the under surface (which are also of the same colour) are but narrowly edged with white.

“No falconer in time past or present,” says the reviewer of Dr. Bree’s ‘Birds of Europe,’ in ‘The Ibis’ for 1859, “would ever think of calling an ‘Iceland’ a ‘Gyrfalcon.’ With him the Gyrfalcon is and always has been the large Falcon obtained in Norway, with dark, almost Peregrine-like cheeks, a stout body, short tail, and other distinctive marks which it is unnecessary here to describe. At the present time many people have but a faint idea of what a Gyrfalcon is; but we beg to assure our readers that the different words ‘Gyrfalco,’ ‘Gyrfalcon,’ ‘Gerfaut,’ and ‘Geierfalke’ should never be applied to any but the great Falcon of Scandinavia. That the true Gyrfalcon has occurred in this country we certainly think probable; but it must be borne in mind that nearly all the large northern Falcons killed here are young birds of the year, and that it is not easy, though, we think, always possible, to detect the Iceland from the Gyrfalcon when immature.”

The countries inhabited by the Gyrfalcon are Norway, Lapland, and Finland; in all probability it is also found in the northern parts of Russia, if not in Siberia. It habitually breeds in the three countries first mentioned, and probably also in the two latter. In autumn many of the young and, doubtless, some of the old birds proceed directly south, and winter in more temperate latitudes; thus it is at that season that it appears in Holland.

With respect to the habits and manners of these large Falcons as detailed by the older authors, it is by no means an easy matter to distinguish to which of them some of their remarks apply; but there can be no doubt as to what has been written respecting the nidification of the Gyrfalcon by that very estimable man and correct observer of nature, the late Mr. John Wolley, who not only sought out the breeding-places of this noble Falcon and many other of our rarer birds, but passed several winters in Lapland for the purpose of carrying out his researches in the ensuing springs.

“Mr. Wolley was, I believe,” says Professor Newton, “the first naturalist able to give from his own observation any particulars of the breeding of this noble bird. The curious fact that the Gyrfalcon, like so many other *Accipitres*, adapts itself to circumstances (breeding in trees when rocks are wanting near places that abound with food for its offspring) will not escape notice. It was not until the fourth summer of Mr. Wolley’s residence in Lapland, that he became acquainted with this fact; and then, as his remarks show, he was justly sceptical concerning it at first.”

“On my way from Hammerfest,” says Mr. Wolley, “I intended to visit the Falcons’ nests of which I had heard from Lassi; but when I got to Kautokeino I hesitated, for several reasons: the snow might go any day; and I had some cause to doubt the truth of the account. However, I had the good luck to find his *dräng*, who said that his master had the day before pointed out the rock where the nest was. Getting three Reindeer, we started at once, and in the course of time came to the small cliffs in the narrow valley where the river lay. . . . We had not long left the track on the river, when a Falcon flew up from the rock where the nest was supposed to be, and soon afterwards settled on the trunk of a dead tree, once or twice uttering a cry. I now knew there was a nest; and in a few moments more I saw it, looking very large and with a black space about it, as though it was in the mouth of a little cave in the face of the rock. This was a joyful moment, but not so much so as when the hen bird flew off and settled on a little stump some thirty yards from the nest. We were ascending the hill, and might be about fifty yards off when she left the nest. I took off my shoes, though there was deep snow everywhere except just on the face of the rock, and first tried it from above; but it seemed scarcely practicable. Then I went below; and with the Lapp to support my feet, and Ludwig to give me additional help with a pole, I managed to climb up. Just at the last bit I had to rest some time. Then I drew myself, and saw the four eggs to my right hand looking small in the middle of a large nest. Again I waited, to get steady for the final reach. I had only a bit of stone to stand upon not bigger than a walnut, and frozen to the surface of the ledge, which sloped outwards. I put two of the eggs into my cap and two into my pocket, and cautiously withdrew. The nest appeared to have been quite freshly made. The sticks of which it was composed were thick, barkless, and bleached; and the only lining was a bundle or two of coarsish dry grass. The eggs were handed down in a glove at the end of a pole; and when they were placed in a safe corner my feet were put in the right places and I descended in safety. I had luckily brought a box, with hay, and on the 12th of May had the eggs safe at Muoniovara. There were young inside, perhaps an inch and a half long, with heads as big as horsebeans.

“An egg, from a nest in a tree, was brought to Muoniovara on the 18th of June, 1857, by a man who said it was the egg of *Astur palumbarius*. The tree in which the nest was placed was on the north side of a very large marsh, with no pines between it and the tree; and the nest was placed just at the top. It might be seven fathoms high. I can hardly doubt the egg is a Gyrfalcon’s.”

The above passages are extracted from the first volume of the ‘Ootheca Wolleyana,’ to which I must refer my readers for many other interesting details respecting the discovery of the eggs of this species.

“I have not had the luck,” says the late Mr. Wheelwright, in his ‘Spring and Summer in Lapland,’ “to examine many specimens of this Falcon; but all I have seen appeared to be smaller than the Iceland Falcon, and more resembling the Peregrine; and in my mind it is clearly a distinct species, entirely confined to the Scandinavian fells, but not to Lapland alone, for it is met with as far south as the Dovre fell in Norway. The eggs brought to me from a high cliff on the shore of Lake Wihrigaur on the Norwegian frontier, about fifty miles west of Quickiock, were of a uniform brick-dust-red colour.

“The Lap name of this Falcon is ‘Rip Spenning.’ Spenning is the name for every bird of prey—Hawks, Owls, &c.; and the word ripa is added on account of the havoc this Gyrfalcon commits among the Ptarmigan.”

I can confirm Mr. Wheelwright’s assertion that the Gyrfalcon inhabits the Dovre fjeld; for, although I did not see it during my visit to that elevated region in July 1856, a large rock was pointed out to me by a most trustworthy person as a place where the bird annually constructs its nest and rears its young.

It may be expected that I should give some account of the estimation in which this noble bird was formerly held in the palmy days of falconry, when it was commonly employed to capture the Crane, the Wild Goose, and the Bustard; but as that sport is now nearly extinct, at least in Europe, I can of my own knowledge have nothing of interest to communicate on the subject, but must content myself by referring those of my readers who desire information respecting it to the many treatises which have been published from the days of Dame Juliana Berners to the present time, and especially to Messrs. Salvin and Brodrick’s ‘Falconry in the British Islands’ and my friend Professor Schlegel and Mr. A. Verster van Wulverhorst’s magnificent ‘*Traité de Fauconnerie*.’ It will not, however, be superfluous to mention that the present bird was held in as great, if not greater estimation than any other member of the family to which it belongs.

I cannot consistently close these remarks without recording the kindness of the late Mr. Wolley in presenting me with two beautiful adult Gyrfalcons obtained during his sojourn in Lapland. These specimens still grace my collection, and will ever be regarded with interest as the gift of an amiable and lamented friend.

The Plate represents an adult, and a young bird of the first autumn, about the natural size.

FALCO PEREGRINUS, Gmel.

FALCO PEREGRINUS.

Peregrine Falcon.

Falco peregrinus et *communis*, Gmel. et auct. ; *F. calidus*, Lath. ; *F. abietinus*, Bechst. ; *F. micrurus*, Hodgs.
Bhyri of the Hindoos ; *Bas* of the Bucharrians ; and *Basi* of the Persians.

To enumerate the parts of Great Britain and Ireland frequented by the Peregrine would be superfluous, since it is universally, though sparingly, dispersed over the three kingdoms wherever situations occur adapted to its habits ; these are generally, though not exclusively, precipitous rocks in the neighbourhood of the ocean, and bold headlands, such as Beachy Head and the cliffs of the Isle of Wight, Lulworth Cove, Wales, and Holyhead. In Scotland, the Bass Rock and all similar situations, both on the mainland and in the islands, are frequented by it ; and the same may be said of the sister kingdom of Ireland, where its numbers are neither diminished nor augmented, similar conditions alone being necessary for its presence. The other countries inhabited by this bird are the continent of Europe generally, Greenland, and probably Arctic America. That it also extends its range to Northern Africa, India, Borneo, the Amoor, China, and Japan is certain, from the evidence of various writers, and from the fact of my having received specimens from nearly all those countries. Birds intimately allied to the *Falco peregrinus* are also found in North America, Cape Horn, at the Cape of Good Hope, in India, and in Australia, all of which, although closely resembling each other, possess distinctive characteristics, and have rightly, I think, been regarded as so many species ; they are the *Falco anatum* of North America, the *F. minor* of South Africa, the *F. tunetanus* of North Africa, the *F. peregrinator* of India, and the *F. melanogenys* of Australia. These distinctions being admitted, the Peregrines form an important section of the Falconidæ, instead of constituting a single species, as was formerly supposed ; they are all of similar habits, and they are alike destined to perform similar offices in the great scheme of nature.

The Peregrine is the Falcon “par excellence” employed in the noble sport of Falconry ; but into this part of its history it will not be necessary for me to enter, so many excellent works having been written on the subject, to one of which I would, however, especially direct attention, namely, the magnificent ‘*Traité de Fauconnerie*’ of my friend Dr. Schlegel of Leyden. In days gone by, our ancestors devoted much of their time to this noble sport, preserved and cherished the Peregrine by every means in their power, and punished its destruction or molestation with great severity, many instances of which are on record.

During the period of incubation and the rearing of its progeny, when the oceanic cliffs are resorted to, it preys upon Gulls, Guillemots, Rock Pigeons, Plovers, and nearly every other bird which occurs within the area of its particular beat, and vast indeed is the destruction of life in the neighbourhood of its eyrie. In autumn the Peregrine often retires inland and takes up a position in parts likely to afford it a plentiful supply of food, particularly wooded parks and domains in the neighbourhood of large waters frequented by ducks, coots, and other water-fowl, to which it appears to be especially partial ; and in such localities it would probably always remain until the next breeding-season, if left unmolested. Of this feature in the bird’s economy I have some certain and curious evidence forwarded to me from Coombe Abbey, Warwickshire, by Mr. James Burdett, keeper to the Earl of Craven, who, unlike keepers in general, has, much to his credit, evinced a desire to preserve rather than to destroy this fine bird,—a line of conduct which has not only met with Lord Craven’s approval, but which will be duly appreciated by every lover of nature. On the 25th of March, 1856, Burdett writes, “There has been for the last four or five years a Peregrine, and sometimes two, on the trees skirting the large water at Coombe Abbey. I have often seen them take Coots, Moor-hens, Ducks, &c. On Sunday the 13th I saw one of them strike six Bald Coots quite dead, but it did not take any further notice of them as regards taking them for food. While Charles Lachlan Harris, Esq., and I were fishing yesterday, the 24th, the Peregrine came within five or six yards of us, and took from the water a Bald Coot by the head and carried it nearly ashore, but, on my calling out, dropped it ; in two or three minutes he came again, seized another Coot by the head as before, and took it in his talons to the shore, a distance of about one hundred and fifty yards ; I pushed after him, and when I had arrived within about thirty yards, he flew off, leaving the Coot behind ; he had dislocated its neck, and commenced picking its breast. I send you this bird for examination.” On dissection I found the neck dislocated at the third joint from the head, and an appearance as if the sharp point of the hind claw had penetrated the brain at the occiput. Burdett informed me that such was the amazing rapidity with which the Peregrine skimmed over the surface of the water, that the Coot had no chance of escaping either by diving or by flight. Dr. Troughton of Coventry, in a note dated October 12th, 1860, says, “The Peregrine has returned to Coombe, committing devastation among the Coots and Pigeons.” Now I regard the foregoing information with much

interest, since it affords us an insight into the natural habits and economy of this destructive though noble bird; at the same time it must be admitted that this trait in its character, that of killing in mere wantonness or sport, is not commendable. Independently of Ducks, Coots, and Moor-hens, many other birds fall to the powerful stroke of the Peregrine's hind claw, such as Grouse, Partridges, Plovers, Pigeons, &c. When used in falconry, it is flown at Herons, Crows, and other birds of equal magnitude; but as these are usually victims selected by the falconer, any details respecting its prowess in these cases would be somewhat out of place in a memoir on its *natural* history: but I may mention that there is no bird which is more easily tamed or rendered subservient to the desires of man, nor one that becomes more docile; for not only will it, at his will, pursue the quarry until it becomes a mere speck in the heavens, but from that altitude will respond to his lure and immediately descend, to be fed, and blinded by its stiff and uncomfortable hood; the cravings of its appetite appeased, it sits content on its accustomed block of wood, or rides with equal patience on the hand of the falconer or its "faire ladye."

The whole structure of the Peregrine is admirably adapted for aerial progression, its powerful pectoral muscles, unparalleled among birds of its size, together with its long and pointed wings, enabling it ordinarily to pass through the air with a rapidity estimated by some writers at the rate of 150 miles an hour; but this rate of progression is as nothing compared with the impetuosity of its stoop when descending upon its quarry. Wonderful indeed is the rapidity with which this winged thunderbolt descends from aloft on any bird which may unwittingly pass beneath the rock or mountain escarpment upon which it has been reposing. Such a stoop as this I once witnessed in the Highlands. A flight of Ducks, which I had driven across the moor, caught the piercing eye of a Peregrine seated on a high rock about a mile distant. Down he came with meteor-like swiftmess, when the Ducks, as if aware that it was their only chance of safety, doubled at once in the direction of the water they had left, both Ducks and Peregrine passing immediately over my head with the quickness of lightning and a rushing sound not easily to be described. Such a momentary scene as this can only be understood by those who have witnessed it; Mr. Wolf has endeavoured to convey some idea of it in the accompanying illustration. It will be seen that a Mallard has been struck dead, its back being ripped open by a stroke of the Peregrine's hind claw—a mode of striking in the air which I believe it always adopts. If perchance its aim should not be certain and effective, the Falcon usually mounts gracefully, sulkily seats itself on some neighbouring rock or tree, and patiently awaits another opportunity for repeating the same manœuvre. During my travels over the plains of Australia, Falcons frequently followed me for days together, on the chance of my raising a quail or other bird; and many fine stoops have I there witnessed.

Before leaving this part of the bird's economy, I may mention a remarkable stoop witnessed by my friend John Fowler, Esq., while shooting in Scotland. A small pack of Grouse being flushed, they descended to cross one of the deep gorges between the hills of the upper Findhorn, when a Peregrine, which had been quietly seated on a neighbouring high rock far above the birds, immediately gave chase, and almost with the quickness of thought was down upon his bird, and bore it away in his talons in face of the spectators above him. The consternation this sudden attack produced, not only in the pack of birds alluded to, but among all the Grouse on the hill-side, was such, that Mr. Fowler had excellent shooting for the next hour, whereas before the Grouse laid so badly that he could get no sport.

Few birds differ more in the size of the sexes than the Peregrine, and I have been very careful in ascertaining the relative weight of each whenever an opportunity offered; in this respect I have been most kindly aided by Mr. Benjamin Leadbeater, of Brewer Street, London, who has always submitted to my inspection any freshly killed specimens that have been sent to him; and I should be wanting in courtesy were I not to state that not only in this but in many other instances has Mr. Leadbeater been most obliging to me. The average weight of several females was 2 lbs. $5\frac{1}{2}$ ozs.; and the total length 19 inches, of the wing $14\frac{1}{2}$, of the tail $7\frac{3}{4}$, of the tarsi $2\frac{3}{8}$, and of the middle toe and nail $2\frac{7}{8}$. There is no difference in the colour and markings of the male, of sufficient importance to be noticed. The average weight is 1 lb. 7 ozs., and the total length 16 inches.

The Peregrine breeds in April and May. The nest is usually placed upon the shelf of a rock, or near the top of a lofty tree; it is composed of sticks, sea-weed, hair, and other materials. The eggs are two or three in number, somewhat round in form, and of a deep russet-red, blotched and lined with a deeper hue.

The accompanying illustration represents an adult female about three-fourths of the natural size. It will be seen that the back is of a nearly uniform deep-blue grey, while the feathers of the abdomen and flanks are buffy white, barred with blue-grey. The young of the year is very differently marked,—all the upper surface being slaty brown, with a rufous border to each feather; the tail dark grey, crossed by five rows of sandy-buff spots assuming on the inner webs the form of bars; the breast and abdomen buffy white, with a broad longitudinal stripe of dark brown down the centre of every feather; the axillaries, too, which are regularly barred in the adult, are marked on each web with large spots of buffy white. This plumage is carried to the first moult, when it is exchanged for that of the adult.

FALCO SUBBUTEO, Linn.

FALCO SUBBUTEO, *Linn.*

Hobby.

- Falco subbuteo*, Linn. Syst. Nat., tom. i. p. 127.
—— *Barletta*, Daud. Traité d'Orn., tom. ii. p. 129.
—— *subbuteo major*, Lath. Ind. Orn. Suppl., p. 10.
—— *hirundinum*, Brehm, Isis, 1832, p. 740.
—— (*Hypotriorchis*) *subbuteo*, Kaup, Classif. der Säug. und Vög., p. 111.
Dendrofalco, Briss. Orn., tom. i. p. 375.
Hypotriorchis subbuteo, Boie, Isis, 1826, p. 976.
Dendrofalco subbuteo, G. R. Gray, List of Gen. of Birds, p. 3.
Hypotriorches subbuteo, Blas. List of Birds of Eur., Engl. edit. p. 4.
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If an ornithologist were requested to name the most elegant species of Falcon inhabiting the British Islands, he would unquestionably reply, the Hobby; for the proportions of no other raptorial bird are more evenly balanced, or the colours more harmoniously distributed. Its long, pointed wings indicate that its powers of flight are fully adequate to the performance of the lengthened journeys it makes from one country to another, and to enable it to overtake the Snipe, the Lark, and other swift-flying birds: it is true that its legs are not so strong, or its hind claws so powerful, as those of the Peregrine; but they are amply sufficient for the seizure of the small-sized species upon which it chiefly preys. Unlike the little dashing Merlin, which frequents the northern portions of this country, the Hobby affects the open fields and champaign parts of our southern districts, and evinces a preference for the woodlands. It differs from the Merlin also in the nature of its food; for, while it does not hesitate to give chase to the Snipe and the Plover, or to harry over the fields in pursuit of the Lark, it lives much upon insects. The dragonfly of the water-side is not free from its attacks by day, nor the hard-winged chaffer, which buzzes round the chestnut-blossoms, in the evening. In the capture of the latter insect, its movements are most graceful, and strongly remind one of those of the Nightjar. To carry the comparison between the Hobby and the Merlin still further, I may state that one is a migrant, the other is not; and to make the matter more clear, the former is a bird of the south, coming to the central parts of England in the spring, and departing again in the autumn, while the other dwells more exclusively in the north: further still with the comparison, the Hobby nests in trees, and the Merlin generally on the ground.

The counties of England most favoured with the presence of the Hobby are Devonshire, Dorsetshire, Hants, Sussex, and Oxfordshire; it does, however, occasionally frequent all the midland counties to Yorkshire and Durham, beyond which it is seldom seen. It is considered a rare bird in the sister kingdom of Ireland, only one or two instances of its occurrence there being recorded.

The Hobby, as I have said, is a migrant to our islands, and these islands appear to be the extreme verge of its western range; on the continent of Europe it is abundant in Spain, Italy, France, and Germany, north of which its numbers become gradually less. In all of these, as with us, it is a summer visitant, proceeding south in winter. Captain Loche informs us that it inhabits the three provinces of Algeria, where other species of this particular form also occur, such as the *Falco Eleonoræ* and the *F. concolor*; these, with the present bird, have been distinguished by a separate generic title—that of *Hypotriorchis*. Eastward the Hobby extends from North Africa, through Persia, to India, where Mr. Jerdon states it is a winter visitant, but is not very common: he has killed it near Jalna, and it has been taken at Calcutta and in various parts of the Himalayas; there, as in this country, it preys upon Larks and other small birds, and not unfrequently upon insects. The one procured by Mr. Jerdon near Jalna had its stomach crammed with dragonflies, which he had seen it hawking for over a tank just after sunset; he adds that it does not breed in India.

M. Bailly, in his 'Ornithologie de la Savoie,' states that the Hobby dwells in the forests of fir, where it builds in the highest trees or in the cleft of a rock in the neighbourhood. The nest is constructed in May, and is formed of the same materials as that of the Peregrine: by the end of the month, the full complement of eggs is laid; they are four or five in number, of a dirty white, covered with reddish-grey spots, and are about 1 inch 8 lines in length, by 1 inch 4 lines in breadth. The young are hatched in about twenty-four days, and are then entirely covered with a pure-white down; they remain in the vicinity of the nest for a month, during which time the parents bring them food and teach them to fly. In autumn, with the first migration of the Thrushes, the Hobby abandons the mountains, and disperses over the plains, particularly those which are studded with small hills. At times, especially in the morning, the old birds fly towards the fields to hunt the Lark, the Wagtail, and the Swallow. It does not fear to follow the sportsman, and will

even seize a rising bird in front of the gun. When birds fail, the Hobby has recourse to insects, reptiles, and field-mice. M. Bailly adds that young Hobbies are gentle and easily tamed, but that, with all his care and attention, he could not obtain the same result with the old.

"We believe," says Latham, "this to be the most rapid in its flight of all the Hawks: Larks will not trust to their wings when the Hobby is in sight; and we remember to have seen a Swallow pursued and overtaken while on the wing by this bird. This species was formerly used in falconry, but not known to attempt a larger bird than a Partridge: it is a great enemy to Larks, and is frequently taken in pursuit of them by the bird-catchers in their nets; hence it is successfully used in the luring of Larks, for which purpose the Hawk is cast off, on seeing which the Larks keep to the ground through fear, and the fowler draws his net over them."

"Unlike the Peregrine," says A. E. Knox, Esq., the Hobby "prefers the wooded district of the Weald of Sussex to the downs or the open country near the coast, being there a summer visitor. Yet even in these its favourite haunts he must be considered scarce; for you will rarely discover his decaying form among the rows of defunct Hawks which garnish the gable end of the keeper's cottage—a sort of ornithological register which indicates, with tolerable accuracy, the prevalence or scarcity of any species of raptorial bird in its immediate neighbourhood.

"The courage and address of this Hawk are remarkable. When shooting with a friend, a few years ago, during the early part of September, we observed a Hobby pursuing a Partridge, which, having been wounded, was then in the act of 'towering.' The little fellow proved himself a true Falcon by the quickness with which he rose above his quarry in rapid circles, 'climbing to the mountee,' as our ancestors termed this manœuvre, with all the ease of a Peregrine. Unfortunately, at this juncture the Partridge became suddenly lifeless, as is the case with all towering birds, and fell to the ground; while the Hobby, apparently disdaining to accept a victim which he had not obtained by his own exertions, scudded away after a fresh covey."

The usual disparity in the size of the sexes seen in other Falcons also occurs with the Hobby, the female being considerably larger than the male. Both are alike in colour when adult; but the young of the first autumn are different, having the feathers of the upper surface margined with yellowish buff, and the general ground-colour darker than that of their parents.

The Plate represents an adult male, of the size of life, with a Dragonfly (*Aeshna grandis*) in its claws.

FALCO AESALON, Linn.

FALCO ÆSALON, *Gmel.*

Merlin.

Accipiter lithofalco, Briss. Orn., tom. i. p. 349.

——— *æsalon*, Briss. *ibid.*, p. 382.

Falco lithofalco, Gmel. edit. of Linn. Syst. Nat., tom. i. p. 278.

——— *æsalon*, Gmel. *ibid.*, p. 284.

——— *sibiricus*, Shaw, Gen. Zool., vol. vii. p. 207.

——— *cæsius*, Meyer, Taschenb. Deutsch. Vögelk., tom. i. p. 60.

——— *subæsalon*, Brehm, Vög. Deutschl., tom. i. p. 60.

Æsalon lithofalco, Kaup, Ueb. Falk. Mus. Senck., p. 258.

Hypotriorchis æsalon, Gray and Mitch. Gen. of Birds, vol. i. p. 20, *Hypotriorchis*, sp. 10.

THE persecution to which the Falconidæ have of late years been unrelentingly subjected has reduced the numbers of the various species to a par ; but, if there be any difference in this respect, perhaps the Merlin is more frequently seen than any other of them, with the exception of the Kestrel and the Sparrow-Hawk. Not that the individuals are more numerous than in former years, but that its secluded habits, the wild situations it affects, and its power of rapid flight have tended to its preservation, and enabled the Merlin to hold its own, while the other Hawks have fallen victims to the traps and destroying devices of the keeper. The destruction of so many of the Raptorial birds is, in my opinion, greatly to be regretted ; for without them the smaller birds are not under that salutary check necessary for the balance of nature. It must not be understood that I am advocating the wholesale slaughter of the little birds ; neither do I wish to assert that man should not exercise his judgment on this point, and take upon himself the office the Raptorial birds were designed to perform : if his measures be tempered with mercy, no great harm will be done. As a proof that we are wrong in extirpating the predatory animals, I may state that one consequence of the persecution to which the Weasel has been subjected is the increase of the destructive Norway rat to such an extent that on some estates it has become a positive pest. A better animal for freeing the wheat-rick of rats and mice cannot be found than the Weasel : what folly then to utterly extirpate an animal whose only offence is that of now and then causing the death of a hare or young pheasant, and that only when the destructive rabbits, rats, and mice do not afford opportunities for its peculiar mode of sustenance !

Unlike the Hobby, whose habits lead it to frequent woodland districts, or the Peregrine, which gives preference to rocks and trees in the neighbourhood of water, the Merlin affects the open moor and the fell ; and the more wild and desolate the district, the greater is its charm for this bold little Falcon. In such situations it breeds and nurtures its young, making its nest (if a few crossed stalks of ling can so be called) generally on the bare ground, often by the side of a stone or bunch of heath. Here, on the bleak hill-side, the white nestling first sees the light ; here, far away from the haunts of man, do the parents sally forth to keep their charge supplied with fresh-killed Titlarks, Linnets, or any other small species that may catch the eyes of these vigilant birds. The romantic hills of Wales, the Peak and other wild districts of Derbyshire and the neighbouring counties, the stony moorlands of Yorkshire, Cumberland, Westmoreland, and Durham, the Cheviots, the Grampians, the savage hills of Ross-shire and Sutherland, and all similar districts in Ireland are the summer resorts of the Merlin. In winter both old and young leave these wild retreats for the more genial climate of the lowlands. It is then that we see him in the more cultivated districts ; it is then that the little birds of the hedge-row and the stubble-field—the Greenfinch, the Bunting, and the Lark—have their numbers lessened by the sudden dash of the Merlin ; it is then that the flock of Starlings, so busily engaged in searching for grubs in the grass-field, is stealthily approached, and scattered, terror-stricken, by his successful raid upon one of its members. Silly indeed does the Merlin sweep close to the ground, with noiseless wing, toward the flock he has espied from some neighbouring tree ; to the sea-shore, where the Dunlin and the Stint trip over the bare shingle, or patter over the oozy mud, the Merlin also pays a foraging visit. To say that it is more numerous in one part of England than another would not be consistent with truth ; for, although nowhere abundant, it is found during winter in every quarter, from the Scilly Islands to Northumberland, whence it retires in summer to the uplands, and particularly to the northern counties of Scotland, the Orkneys, and Shetland. Its range also extends to Iceland. In America it is replaced by the nearly allied, but yet perfectly distinct, *Falco columbarius*. In Norway, Sweden, and Finland it is numerous in summer, and even far beyond, within the arctic circle. On the continent of Europe it is a bird of the wilder part of the various countries, as it also is of Algeria and many other portions of North Africa. Mr. Jerdon states that it is a very rare visitor to the north part of Western India,

whither it resorts in the cold season from Siberia and the high plains of Central Asia ; and Mr. Swinhoe states that he has seen specimens from Pekin, Amoy, and Foochow, in China.

Much difference occurs in the size and colouring of the sexes : Latham states that the male weighs five, and the female nine ounces. The former is distinguished by the blue colouring of the upper surface and the broad band at the extremity of the tail, while the latter is usually browner, transversely rayed with a darker colour on the back, and the tail is crossed with distinct bars of pale buff ; in some very old individuals of this sex a wash of blue, similar to that of the male, is found to occur on the back and rump. The young differ from the adults in being more suffused with reddish brown, particularly the striæ down the breast. The strength of the female corresponding with her greater size, she is said to attack much larger birds than her mate, and, if pressed by hunger, to strike down a Partridge or a Pigeon.

The Merlin is frequently employed in the sport of Falconry, and is flown at the Lark, the Thrush, and the Blackbird—in former times, however, rather for the amusement of the lady than of her lord, whose pride was in his well-trained Falcon and Tiercel. “A gentleman, residing at Moyallen (county of Down),” says Mr. Thompson, “who has Merlins trained for the chase, frequently flies them at tame pigeons, which they kill well. Mr. W. Sinclair has remarked to me that, when living prey was given to his Merlins, they instantaneously extinguished life, whether or not they at the same time began feeding ; while, under similar circumstances, the Peregrine Falcon has retained a bird in his grasp for some time, putting an end to its existence only when urged by hunger, though, like the Merlin, when it did commence, the most vital part was invariably first ‘entered upon.’ His Sparrow-Hawks, it need hardly be added, began feeding indiscriminately on any part of the living objects offered them.”

Although I did not succeed in finding the nest of the Merlin when I visited the Dovrefjeld, I am certain that the bird was then engaged in feeding its young ; for the old birds passed and repassed certain parts of the moor with a degree of regularity that attracted my attention ; and as I sat on a stone watching them, I observed that they always took the same direction coming and going from the scrubby parts of the country to the hill-side. The kind of food they carried home I was unable to ascertain ; probably small birds. I did not perceive that they ever attacked the Fieldfare or the Redwing, although these were plentiful in the immediate neighbourhood.

Mr. Alfred Newton, writing of the series of Merlin's eggs contained in the ‘*Ootheca Wolleyana*,’ states that it is “selected from about two hundred trustworthy specimens, more than three-fourths of which have been simultaneously compared in forming it. As it stands, it may therefore be held a fair representation of what the eggs of this species are really like. There are not many specimens in it which, taken singly, could be pronounced, from their appearance alone, to be certainly Merlins’ ; but, taken as a whole, a purple tint is seen to be prevalent, which is not discernible in the series of Kestrels’ eggs lying in the same drawer, while the average size of these latter is also greater. It will be seen that the Merlin is also one of those birds of prey which are not constant in the choice of a locality for their nests, sometimes breeding (as in the British Islands is, I believe, its usual habit) on the ground, at others in trees.” It also appears from the same work, that in Northern Lapland Mr. Wolley found the Merlin not unfrequently using the old nests of the Rough-legged Buzzard, which are built in high trees, for its own purposes.

Speaking of the Merlin, as seen by him in the Quickiock district, between 400 and 500 miles north of the Dovrefjeld, Mr. Wheelwright says it was the common Hawk, and must have been one of the early spring migrants ; for he shot a female on the 19th of April. “It was impossible to walk on the fells without meeting this bold and pretty Hawk, which I have even seen chasing the Ptarmigan. I never found the nest here anywhere but on the ground, either on a bare cliff or in the heather, always on tolerably high fells. The earliest taken was on June the 9th. When first laid, the eggs have a beautiful violet-red tinge, with reddish-brown spots ; this, however, soon fades, and they become of a reddish-brown hue, with dirty-brown spots. The Laps say that it sometimes builds in trees. The eggs appear to vary in number from four to six ; and so much do they resemble those of the Kestrel, though generally a trifle smaller, that the two mingled together could never be accurately separated, unless each egg had been numbered.”

“During flight,” says Macgillivray, “this species sweeps along at no great height, glides over the fields, shoots by the edge of the wood, examines the thorn fence, and sometimes alights on a tree or wall, as if to survey the ground. Although it may occasionally pounce on a partridge, it usually preys on smaller birds, such as larks, thrushes, chaffinches, sandpipers, snipes, and plovers.”

The Plate represents a male and a female, with their four young of a few days old, of the size of life.

ERYTHROPUS VESPERTINUS .

ERYTHROPUS VESPERTINUS.

Orange-legged Hobby.

Falco vespertinus, Linn. Syst. Nat., tom. i. p. 129.

—— *rufipes*, Beseke, Vög. Kurlands, p. 13, tab. 3, 4.

Cerchneis vespertinus, Boie, Isis, 1828, p. 314.

Erythropus vespertinus, Brehm, Vög. Deutschl., tom. i. p. 76.

Pannychistes rufipes, Kaup, Natürl. Syst., p. 57.

Tinnunculus (Erythropus) rufipes, Kaup, Class. der Säug. und Vög., p. 108.

—— (——) *vespertinus*, Kaup, Mus. Senckenb., 1845, p. 257.

—— *vespertinus*, Gray, Gen. of Birds, vol. i. p. 21, *Tinnunculus*, sp. 13.

THIS remarkably pretty species, whose natural home is in countries far warmer than our own, has been killed in England so many times that no question can arise as to the propriety of assigning it a place among the “Birds of Great Britain.” Here, as well as in all the parts of Europe in which it has yet been discovered, it is strictly a migrant, and, moreover, is rendered remarkable by its peculiar habits: in the first place, it is gregarious, many often breeding in company; in the next, it is so fearless of man that, if one or more of a number be killed, the remainder remain apparently regardless of danger; thirdly, it is said to sometimes breed under the roofs of houses, and even to construct its nest in their interiors; and, lastly, it is crepuscular, feeding on insects captured in the twilight, and but seldom on birds; much diversity, moreover, occurs in the colouring of the sexes and immature examples. It is somewhat doubtful whether there be not two or three species of this particular form included under the specific term *vespertinus*, inasmuch as the dark-coloured males from China and South Africa have the under part of the wing white, and not plumbeous as seen in European specimens; but, in their size and markings, nothing is observable which would enable the ornithologist to determine the plurality or unity of these birds in a specific sense.

The first recorded notice of the occurrence of this Falcon in our islands will be found in the fourth volume of Loudon’s ‘Magazine of Natural History,’ where the late Mr. Yarrell states that three individuals (an adult male, a young male, and an adult female) were obtained in May 1830, at Horning, in Norfolk, and that a fourth specimen was shot at Holkham Park. Besides these he mentions, in his ‘History of British Birds,’ that a fifth example was shot in the same county in 1832, three more in Yorkshire, one in Durham, one near Devonport, and that a female was struck down by a Raven in Littlecote Park, near Hungerford. Since the publication of Mr. Yarrell’s work, several other specimens have been procured; thus W. Oxenden Hammond, Esq., of St. Alban’s Court, Wingham, Kent, records, in the ‘Zoologist’ for 1862, the killing of an adult female at Sandling Park, near Hythe, in the early part of the same year, and Mr. Stevenson, of Norwich, in the ‘Zoologist’ for 1863, that he had recently purchased a young male which had been killed at Somerleyton Station, near Lowestoft, on the 12th of July, 1862. In a letter received from the last-mentioned gentleman, dated June 20, 1868, he informs me that an adult female had been killed on Yarmouth Broad a fortnight before; and, more recently, Mr. H. Smither, of Churt, states that another adult female had been shot near Farnham. The above comprises all the British examples with which I am acquainted; but there may be others which are unknown to me. There is no verified instance of its having been found in Scotland, and but one of its occurrence in Ireland. It is a constant visitant to Silesia, Hungary, Poland, Austria, the Tyrol, Switzerland, and the districts on the northern side of the Apennines, whence it passes to Provence and Tuscany. In France, as in this country, it is of rare occurrence, and is unknown in Holland. Mr. Jerdon states that, “although generally spread throughout India, it is nowhere very common; I killed it on the Neilgherries, in the Carnatic, and in Central India; it is not very unfrequent in Lower Bengal and the neighbourhood of Calcutta during the rainy season only. It is found all along the Himalayan range; and I procured examples at Darjeeling.”

As Mr. Jerdon justly remarks, not much is known of its habits; but that little I will here give in the language of those who have written a few brief notes respecting it. Pallas states that the birds he saw hunt towards evening, killing spiders, water-insects, and, occasionally, swallows, and breed in deserted crows’ nests; the stomachs of those examined by Mr. Jerdon contained the remains of insects only. Fellowes says it is very common in Asia Minor, and that it builds its nest under the roofs, and sometimes even in the interior of houses. The Rev. H. B. Tristram, in his ‘Notes on Birds observed in Southern Palestine,’ states that this pretty little Hobby is a summer migrant, but returns earlier than the common species. The absence of suitable woods is probably the reason of its being a rare bird and confined to the central districts;

a few pairs were seen among the large terebinth trees near the foot of the hills of Judæa. They seem to roost and build there, feeding only in the plains, over which they hover, resembling the Kestrel in their habits and flight rather than the Hobby.

“The Orange-legged Hobby (*Erythropus vespertinus*),” says Lord Lilford, in his ‘Notes on the Birds observed by him in the Ionian Islands, &c.,’ “arrives in Corfu, occasionally in great numbers, about the latter end of April. In the spring of 1858 it was very abundant, particularly at Fano, a small rocky island to the north of Corfu, celebrated as a favourite resting-place for immense flights of quails during their vernal migration. It appears to be very fearless of man. I have watched a flock of five or six for upwards of an hour, during which time they often approached within ten or fifteen yards of where I sat, though I was in no way concealed. As far as my observation goes, this species only remains for a few days in Corfu, on its passage northwards; and I have never heard of its occurrence in the island, except in April and May. The stomach of a specimen I saw skinned contained the remains of large night-flying moths. Both this species and the Common Hobby are to be observed on the wing as late as 8 or 9 p.m. The Orange-legged Hobby often alights on the ground, and runs with great ease and speed.”

About Talien Bay, in North China, “This handsome little bird-slayer,” says Mr. Swinhoe (his remarks probably applying to the white-winged bird), “was not unfrequently met with flying along overhead or hovering poised in the air. Judging from the contents of the stomachs of the two I procured, I should say it committed great havoc among the Larks and other field-birds. It certainly caused considerable consternation wherever it appeared among them. I have had two opportunities of observing the nest of this species; one was placed among the topmost boughs of a willow, the other amid the leafy foliage of some umbrageous tree. The nests were large and round, and built of sticks, resembling somewhat those of the Magpie. When the old birds visited the nest, the young (balls of white down, with bluish bills) set up a chattering cry.”

“This pretty little Hawk,” says Mr. Wright, in his ‘List of the Birds observed in the Islands of Malta and Gozo,’ “visits us in the vernal and autumnal periods of migration, and in some years in much larger numbers than in others. It is sometimes to be met with in small flocks, when they will allow repeated shots to be fired at them without taking alarm.”

Lord Lilford remarks that he once saw an *Erythropus vespertinus* in Andalusia, and that there is a specimen in the Museum of Valencia; but it is not, he thinks, a common bird in any part of Spain.

Turning to another part of the world, Africa—“The birds of this species,” says the Rev. H. B. Tristram, “have the same gregarious habits in Algeria that Mr. Cochrane has stated them to have in Hungary; they are, however, very rare. The only breeding-place known to me is on the edge of a pine forest, near Djelfa, in Algeria proper; and there there are not more than four or five pairs; while in the eastern province of Constantine they do not seem to occur, except as stragglers. They return late from the south; and on my visiting their rookery in June, 1856, they were employed in repairing old nests, and had not yet commenced laying.”

In Dr. Kirk’s paper ‘On the Birds of the Zambesi Region of Eastern Tropical Africa,’ it is stated that “this pretty little Hawk is found near the river. It appears only at sunset and in the dusk, when, coming in great numbers from the shady forest or from among the fronds of the lofty Borassus-palm, it hovers, swallow-like, over the plains and water, catching dragonflies and locusts, which, with other insects, caught on the wing, seem to constitute its chief or only food. In February and March it was seen in numbers on the Shiré, where the bush-vegetation and palm-forest come down to the river.” This note also probably refers to the bird with white under wing-coverts.

With respect to the nidification of this species, Mr. Cochrane (who had the good fortune to meet with it in Hungary during the breeding-season) informed Mr. Hewitson that it arrives in that country about the middle of April, and lays its eggs early in the following month. “They make no nest for themselves, but, after a fight with the lawful owners, take possession of those of the Crow, Rook, or Magpie, altering or repairing them to their own taste. Mr. Cochrane says he has found their eggs in a nest of *Corvus corone*, that they are sometimes six in number, but most commonly four or five. ‘Sometimes in isolated trees, at others as many as six or seven pairs in one tree, in a rookery, exactly as Rooks in England.’ The eggs most nearly resemble those of the Kestrel, being, however, for the most part considerably less; like the eggs of that bird they are sometimes finely freckled throughout, and much resemble those of the red Grouse.”

The Plate represents an adult male and a female, of the size of life.

TINNUNCULUS ALAUDARIUS.

TINNUNCULUS ALAUDARIUS.

Kestrel.

Falco tinnunculus, Linn. Syst. Nat., tom. i. p. 127.

—— *aureus*, Klein, Av., 49, 52, 53.—Id. Ov. t. vi. fig. 4.

—— *interstinctus*, M'Clell. Proc. of Zool. Soc. 1839, p. 154.

—— *fasciatus*, Retz. Faun. Suec., p. 70.

—— *brunneus*, Bechst. Taschenb. Deutsch., tom. i. p. 38.

—— *alaudarius*, Gmel. Syst. Nat., tom. i. p. 279.

Accipiter alaudarius, Briss. Orn., tom. i. p. 379.

—— *tinnunculus*, Briss. Orn., tom. i. p. 393.

Tinnunculus alaudarius, Vieill.

—— *interstinctus*, Gray, Gen. of Birds, vol. i. p. 21. sp. 3.

Cerchneis tinnunculus, Bonap. Comp. List of Eur. and N. Amer. Birds, p. 5.

So much has been written respecting the habits and economy of the Kestrel by both British and Continental authors, that it will not be necessary to give any lengthened details on these points, as they must be well known to every one at all acquainted with the history of our native birds; I shall therefore content myself by stating all that it is necessary to say respecting it in as succinct a manner as may be. First, then, as to its distribution: no one of the British Falcons and Hawks is so widely and so generally spread over England, Ireland, and Scotland—every locality being alike frequented, whether it be barren wastes, heathy moorlands, or districts under cultivation; on the continent of Europe it is equally diffused from east to west, and from south to north; it is just as abundant throughout Africa northward of the Tropic, Asia Minor, and the entire peninsula of India, from the Himalayas to Cape Comorin; and that its range extends even still further east has been proved by the receipt of specimens collected by Mr. Swinhoe in China, which do not materially differ from those killed in England. Why are Kestrels so numerous when compared with other Falcons and Hawks? Our acquaintance with them tells us that of all the members of the Falconidæ they are the most omnivorous, and that, instead of confining themselves to birds and small quadrupeds, insects, which are preyed upon almost indiscriminately, form a considerable part of their diet; and hence, as the abundance of this kind of food is greater, the greater is the number both of the individuals and of the various species of Kestrel to which the generic name of *Tinnunculus* has been given. But to return to our own bird, the only one of its genus which visits Great Britain: what are its habits? what are its peculiarities? The first and most striking is undoubtedly its manner of hovering and sustaining itself in the air at one fixed position. Few, I conceive, who have left the town, the mansion, or the cottage, and gone out for a country ramble, but must have noticed a stationary object between them and the sky. This is the Kestrel in pursuit of his daily calling, scanning the earth for a mouse, an insect, a lizard, or, if it be the season of summer, a young lark or other bird. For several seconds (sometimes for a minute or more) this speck in the sky appears motionless; his next movement will tell us if his penetrating eye has been attracted by some living object below; for if so, he descends like a stone towards the ground; if not, his beautifully constructed wings bear him away in a succession of graceful sweeps to another part of the heath or common, where he again enacts the scene I have endeavoured to describe, but which will perhaps be rendered more intelligible by a reference to the accompanying Plate, where the bird figured is shown to be a male by the black bar across the end of its outspread silvery tail. Independently of these peculiar aerial evolutions, the Kestrel sometimes gives chase to small birds, or hunts near the ground for the nestling partridge, or perhaps a leveret; but this is not the rule, and pray let not my mentioning that he occasionally destroys a partridge chick be arraigned against him, and his doom sealed in the mind of every keeper of game; rather consider the good he undoubtedly performs by destroying the voracious Shrew, the Field-Mouse, the young Weasel, Snake, and Adder, all of which he has been known to kill. “In summer,” says Mr. Selby, “the Cockchafer supplies to this species an object of pursuit and food; and the following curious account is given by an eye-witness of the fact. ‘I had,’ says he, ‘the pleasure, this summer, of seeing the Kestrel engaged in an occupation entirely new to me, hawking after Cockchafers late in the evening. I watched him through a glass, and saw him dart through a swarm of the insects, seize one in each claw, and eat them whilst flying. He returned to the charge again and again. I ascertained it beyond a doubt, as I afterwards shot him.’” In taking its prey, the Kestrel neither affects the bold, impetuous swoop of the Peregrine, nor the dashing, low, skimming flight of the Sparrow-Hawk. In its disposition it is more tame and docile, or less bold than other Falcons. In confirmation of which trait in its nature I may cite the following interesting instance, which has been

recorded in the 'Zoologist' by the Rev. H. H. Crewe, of Breadsall Rectory, Derbyshire:—"About four years ago my children procured a young male Kestrel, which, when able to fly, I persuaded them to give its liberty; but it never left the place, and became attached to them. In the spring of the following year we missed him for nearly a week, and thought he had been shot; but one morning I observed him soaring about with another of his species, which proved to be a female. They paired, and laid several eggs in an old dove-cote, about a hundred yards from the Rectory; but being disturbed that season, as I thought by some White Owls, the eggs were never hatched. The next spring he again brought a mate; they again built, and reared a nest of young ones. Last year they did the same; but some mischievous boys took the young ones when just ready to fly. Though in every respect a wild bird as to his habits in the fields, he comes every day to the nursery window, and, when it is opened, will come into the room, and perch upon the chairs or table, and sometimes upon the heads of the little ones, who always save a piece of meat for him. His mate will sometimes venture to come within a yard or two of the house, to watch for him when he comes out of the room with his meat; she will then give chase and try to make him drop it, both of them squealing and chattering, to our great amusement. The male never leaves us; indeed he is so attached to the children, that if we leave home for a time he is seldom seen; but as soon as we return, and he hears the voices of his little friends calling him by name, he comes flying over the fields, squealing with joy to see them again. He is now so well known among the feathered tribes of the neighbourhood, that they take no notice of him, but will sit upon the same tree with him; even the Rooks appear quite friendly."

That the Kestrel is a constant resident with us, I apprehend no one will doubt; for it may be seen at all seasons, the cold of even our severest winters not driving it to more distant lands; but that it changes its position from one part of the country to another in search of a more abundant supply of food is very probable; and on this point Mr. Macgillivray, after remarking that it is more numerous near the Frith of Forth in winter than in summer, says, "Probably, like the Merlin, it merely migrates from the interior to the coast;" and "in the North of Ireland, generally," says Mr. Thompson, "Kestrels seem to be quite as numerous in winter as in summer."

The following remarks on the habits of the bird, as observed in India, are from the pen of T. C. Jerdon, Esq., one of the most accurate and careful of the many officers who have written on the Natural History of that country, and are taken from the first sheets of his forthcoming work on the 'Birds of India.'

"The Kestrel," says Mr. Jerdon, "is a cold-weather visitant to India, one of our earliest, indeed; and it does not leave till April. It is most abundant, being found in every part of the country, and at all elevations. Its chief food is lizards; but it also eats rats and mice, insects, especially grasshoppers and locusts, and rarely, young or sickly birds. It constantly hovers over a spot where it has observed something move, and, when certain of its presence, drops down upon it with noiseless wing. Mr. Blyth mentions that parties of twenty or thirty may be seen together beating over the cultivated lands in Lower Bengal. This I have never witnessed. It does not breed in this country. It used to be trained occasionally in Europe to hunt larks, quails, and other small birds, but it is scouted by the Indian falconers as an ignoble race."

I observe that Indian specimens are somewhat smaller and lighter-coloured than those inhabiting England; the whole of the under surface is whiter or more silvery, and the longitudinal streaks narrower, as are also the arrow-head-shaped marks of black on the back. I further find that this remark equally applies to specimens from Trebizond and Malta, males from both of which localities are now before me side by side with others killed in England.

The site chosen by the Kestrel for laying its eggs is much varied; sometimes it selects the nest of a Crow, or other large bird, at others the shelf of a rock, or a crevice in a tower or other building—its four or five eggs being laid without any pretence of a nest of its own making.

The eggs of the Kestrel are of a pale reddish white, mottled all over with dark reddish brown, and occasionally with blotches of reddish brown; they are one inch and seven lines long, by one inch and three lines broad.

The young, when first hatched, are covered with white down; this soon gives place to feathers which are alternately barred with black and buff, a character of plumage which is always retained by the female, but which is only carried by the male to his first moult, when it is exchanged for a very different dress; the head, lower part of the back, and tail are now uniform grey, with the exception that the latter is crossed near the tip by a conspicuous black band; the breast is longitudinally streaked and spotted, and the feathers of the back tipped with lancet-shaped markings. This dress is accurately figured on the accompanying illustration, which represents a male more strongly marked than usual; it was taken from a fine Welsh specimen, kindly sent to me by my friend Colonel Watkyns, who informed me that it had been killed by a blow with a stick. The reduced figure of the female, which sex is always larger than the male, will give the reader an equally accurate idea of her colouring and markings, and render a description of this common English bird almost unnecessary; let me beg, however, that it may not be confounded with the Sparrow-Hawk, a bird of very different stamp and character: I mention this because I have often heard the Kestrel so called.

The front figure represents a male of the natural size on a branch of a Scotch Fir.

MILVUS REGALIS.

MILVUS REGALIS.

Kite or Glead.

Falco milvus, Linn. Faun. Suec., p. 20.

Milvus regalis, Briss. Orn., tom. i. p. 414, pl. xxxiii.

—— *ictinus*, Savig. Descr. de l’Egypte, Hist. Nat. tom. i. p. 88.

—— *castaneus*, Daud. Traité d’Orn., tom. ii. p. 146.

—— *russicus*, Daud. ibid., p. 188.

—— *vulgaris*, Flem. Hist. of Brit. Anim., p. 51.

—— *ruber*, Brehm, Vög. Deutschl., tom. i. p. 50.

—— *regalis*, Kaup, Classif. der Säugeth. und Vög., p. 114.

I HAVE remarked elsewhere that, by Linnæus and the other ornithologists of his day, the Crows, Jays, and Pies were all included under the one generic term of *Corvus*; and I may here state that in like manner the Eagles, Buzzards, Hawks, Falcons, and Kites were comprised in the single genus *Falco*. Since the period when the great Swede lived, men of science in every department have studied nature more closely, have become more intimately acquainted with the habits and economies of those birds, and have perceived that they constitute so many distinct forms, to which generic terms should be applied; and this has accordingly and very appropriately been done; for the Hawks differ from the Falcons, the Falcons from the Kites, and the Kites from the Eagles. Each of these groups, again, has been further subdivided; for instance, the forest-loving Golden Eagle has been separated from the rock-frequenting Sea-Eagle and the lake-haunting Osprey, each of which, besides differing greatly in size, is characterized by peculiar habits; but these need not be dwelt upon.

The short-winged Hawk, with its quick-dashing low flight, differs from the hovering Kestrel; the impetuous stoops of the true Falcons differ from the soaring, buoyant, and gracefully circling flights of the Kites, birds which suddenly descend upon, but never pursue, their prey, which live partly on carrion, dead fish, insects, small rodents, and fledgeling gallinacæ, but have neither the courage nor the disposition to encounter even so little formidable an opponent as the domestic Hen, the Pheasant, or the Partridge. They have been called “docile” birds, because it is the nature of some, if not of all the species, to sit about on the branches of trees near cities, villages, cantonments, and farm-steads, and thence to make forays into the very streets, and sometimes to become so bold as to suddenly descend and clutch the passing joint while being carried from the kitchen to the house or tent. Many such acts of daring are described as having been performed by some of the species. That something like this was the conduct of our bird in olden times, we may justly conclude from a statement of Clusius, who, according to Mr. Harting’s ‘Birds of Middlesex,’ visited England in 1571, during the reign of Elizabeth, and who says that the Kite was formerly abundant in the streets of London, and that it was forbidden to kill it on account of its acting the part of a scavenger.

The late Mr. John Wolley informed Mr. Hewitson that it was formerly so abundant in our Metropolis that several visitors from the Continent, besides the one above mentioned, have made a note of their surprise at its numbers and familiarity. “A learned writer in the ‘Quarterly Review,’ in an article upon the Bohemian Embassy in England some four hundred years ago, supposes that the word ‘Milvi,’ in Schassek’s Journal, must have been a mistake for ‘cygni,’ as London had always been celebrated for Swans; but other old writers leave no room for doubt that the Kite was the most familiar bird with the citizens of Old London. How few of the persons who see the paper toys hovering over the parks on fine days in summer have any idea that the bird from which they derive their name used to float all day in hot weather high over the heads of their ancestors!”—Hewitson’s ‘Coloured Illustrations of the Eggs of British Birds,’ 3rd edit., vol. i. p. 36.

In further confirmation of how common the Kite must have been, and how intimately its disposition and habits were known, especially to Shakespeare, we have abundant evidence in the many allusions made and the reproachful terms applied by him to the bird. Mr. Harting, in his communication to the ‘Zoologist,’ “On the Birds of Shakespeare,” speaking of the Kite, says:—“Although a large bird, and called by some the Royal Kite (*Milvus regalis*), it does not seize living and strong prey, but glides about ignobly, looking for a sickly or wounded victim, or for offal of any sort. Our poet, therefore, has not inaptly called it ‘the lazar Kite’ (Henry V., Act II. Scene 1); and in alluding to its habits in ‘Julius Cæsar’ (Act V. Scene 1) he says:—

“ And kites

Fly o’er our heads and downwards look on us

As we were *sickly prey*.

“ Again, in Part II. of ‘Henry VI.’ (Act V. Scene 2):—‘A prey for *carrion* kites.’ From the ignoble

habits of the bird, the word 'kite' was often used as a term of reproach. For example:—'You kite' (Anthony and Cleopatra, Act III. Scene 2); and 'Detested kite' (King Lear, Act I. Scene 4).

"The intractable disposition of the bird is thus noticed in the 'Taming of the Shrew,' Act IV. Scene 1:—

* * " Watch her as we watch these kites
That bate and beat and will not be obedient.

"Another curious fact in its natural history is adverted to in the 'Winter's Tale' (Act IV. Scene 2), where it is said:—'When the *kite* builds *look to lesser linen*.'

"This line may perhaps be best illustrated by a description of a Kite's nest taken in Huntingdonshire, and still in the possession of a friend at Newcastle. The outside is composed of strong sticks; the lining of small pieces of *linen*, part of a *saddle-girth*, a bit of a *harvest-glove*, part of a *straw bonnet*, pieces of *paper*, and a *worsted garter*; and in the midst of this singular collection of materials were deposited two eggs."

The Rev. H. B. Tristram, speaking, in his work entitled 'The Great Sahara,' of the habits of the Egyptian Kite (*Milvus Ægyptius*), says:—"Its nest, the marine-store-shop of the desert, is decorated with whatever scraps of *bourouses* and *coloured rags* can be collected; and to these are added on every surrounding branch the cast-off coats of serpents, large scraps of thin bark, and perhaps a Bustard's wing."—"Zoologist," 1866, p. 409 *et seq.* In olden times the Kite was not only around and in the metropolis, but the citizens could not take a jaunt to Highgate or Epping Forest without witnessing its charming aerial flight and circling evolutions between them and the azure sky, a sight that would gladden the eyes of every naturalist, but which is not now to be seen. Of course in the great forests and large clumps of trees in every English county the bird was equally numerous, and not less so in most parts of Scotland, Wales, and Ireland; sanitary science, the clearance of woods and forests, extended cultivation, and the preservation of game have, however, so thinned its numbers that it is almost extirpated. From the moment these measures commenced, the fate of the bird was sealed; and were I to affirm that now, in 1868, there are not five pairs of Kites in the British Islands, I should scarcely exceed the chances of probability; and where to look for a breeding pair, either in the New Forest or in any part of the Highlands, Wales, Scotland, or Ireland, I know not: but that the bird still clings to some of its old haunts is certain; for Mr. Henry Nicholls, jun., records in the 'Zoologist' for 1863 the shooting of a fine old male on the banks of the Avon, near Kingsbridge, in Devonshire, on the 13th of October, 1862; and in a communication to the same volume, p. 8441, by W. Christy Horsfall, Esq., dated Horsforth Low Hall, near Leeds, Jan. 2, 1863, that gentleman says, "We have had a Kite in the woods here for the last eighteen months. I gave orders that it should not be molested, in the hope it would find a mate; but although it is still about, it has not yet met with one."

Montagu, when he wrote, had seen but one in Devonshire in twelve years; and Mr. Couch mentions two instances of its appearance in Cornwall. Waterton has noticed the bird and its habits in Yorkshire; and Selby stated forty years ago that, "though rare in Northumberland and Durham, it is more frequent in Westmoreland and Cumberland. Dr. Heysham says that the Kite bred about the same period in the woods near Armathwaite, and also in those near Ullswater." In the interval that has elapsed, all this has become changed, and Lincolnshire is the last part of the eastern portion of England in which it has bred; several instances are mentioned in Professor Newton's 'Ootheca Wolleyana,' to which my readers are referred.

The persecution to which the bird has been subjected in Britain has been less relentlessly carried out on the continent of Europe; and in North Africa and many other countries it still holds its own. Lord Lilford observed it to be rather abundant in Acarnania, and states that it is very common and a constant resident in Sicily and Calabria. It is not found so far to the eastward as India, its place there being occupied by the *Milvus govinda*. Species of the same form inhabit China, Japan, Africa, and Australia; but, so far as I am aware, no true Kite (*Milvus*) occurs in Polynesia or America.

To this short history of our Kite I may add that it is the finest species of its genus, that the sexes are very similar in colour, that it usually builds its nest on the fork of a large tree, of sticks, lined with dry grass, wool, and other soft materials, and lays two, and sometimes three eggs, which are subject to much diversity of colouring: they are of a short oval form, measuring two inches and two lines in length by one inch and nine lines in breadth; of a dull white hue, marked with a few reddish spots over the larger end. Mr. Hewitson mentions one that was closely covered all over with light rufous blotches, and another with beautiful tints of lilac and purple relieved with brown.

The plate represents a male about two-thirds of the size of life, from a beautiful sketch made for this work by Mr. Wolf.

MILVUS MIGRANS, Bodd.

MILVUS MIGRANS.

Black Kite.

Falco migrans, Bodd. Tab. de Pl. Enl., p. 28, no. 472.

Accipiter milvus, Pall. Zoog. Rosso-Asiat., tom. i. p. 356.

Falco ater et *F. austriacus*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 262.

—— *fusco-ater*, Meyer, Taschenb. Deutschl. Vög., tom. i. p. 27, et tom. viii. p. 11.

—— *ater* et *F. fuscus*, Brehm, Vög. Deutschl., p. 53.

Milvus niger, Briss. Orn., tom. i. p. 413.

—— *austriacus* et *F. ater*, Daud. Orn., tom. ii. p. 149.

Hydroictinia atra, Kaup, Class. der Säug. u. Vög., p. 115.

Milvus (Hydroictinia) migrans, Gray, Hand-list of Birds, p. 26.

IN 1867 Mr. Hancock made known the circumstance of an individual of this species having been killed in Northumberland; and almost simultaneously a specimen was transmitted to me from Northern Australia,—facts which will give the reader an idea of how widely this species ranges over the globe. That there might be no mistake in the matter, I submitted the Australian bird to the inspection of J. H. Gurney, Esq., who immediately said it was identical with the European *Milvus migrans*; and Mr. Hancock's testimony will, I am sure, be deemed sufficient as to the identity of the British-killed or Northumberland example. Either as a bird of passage or as a migrant this species is said to inhabit most of the central portions of Europe, Asia Minor, and almost the whole of Africa; we also find it in the lists of the birds of many other countries.

“The geographical distribution of the Black Kite” says Professor Newton, in his edition of Yarrell's ‘British Birds,’ is extensive. Though not found in Norway, Sweden, or Finland, in Russia it reaches as far to the north as Archangel, and thence across Siberia, becoming rarer to the eastward, and hardly observed beyond the Lena. It is said by Pallas to winter in Persia, where De Philippi also found it. It is very common in the Caucasus; and Messrs. Dickson and Ross obtained it at Erzeroum. In Palestine, according to Canon Tristram, it arrives about the beginning of March in immense numbers, and scatters itself over the whole country. There is much discrepancy in the accounts of recent travellers as to its occurrence in Egypt, some stating that it is very abundant there, and others that they never met with it, and that a near ally (*Milvus ægyptius*) must have been mistaken for it. The explanation of the difficulty probably lies in the fact that, while *M. ægyptius* is a resident in Egypt, *M. migrans* is a bird of passage only and may not always stop for the convenience of other travellers on its way down or up the Nile valley. Drs. Von Heuglin and E. A. Brehm include it as a bird of Eastern Kordofan and Abyssinia and Mr. Blanford; found it to be extremely common both in the highlands and lowlands of the latter country. Mr. Chapman sent specimens procured on the Zambesi to Mr. Layard; and Mr. Edward Newton shot a bird, pronounced by Mr. Gurney to be of this species, in Madagascar. Mr. Layard also records an example killed at Colesberg, in the Cape Colony; and Andersson met with it in Damara Land, where it arrives in autumn in large numbers, and remains throughout the breeding-season. In Western Africa it has been obtained at Bissao and on the Niger. It occurs in Morocco, and is very common in Algeria, breeding in the Atlas, but not occurring to the south of that range of mountains. In Europe it is said to be met with occasionally in Portugal and in Spain, where it breeds, as it also does in several parts of France. It does not seem to have occurred in Belgium; but the Leyden Museum contains a specimen killed in Holland.”

With respect to its solitary occurrence in England Mr. Hancock says (in ‘The Ibis’ for 1867, p. 253):—

“A fine mature male example of the Black Kite, *Milvus migrans*, came into my possession in a fresh state on the 11th of May, 1866. It was taken in a trap by Mr. F. Fulger, the Duke of Northumberland's gamekeeper, a few days before, in the Red-deer park at Alnwick. This is, I believe, the first time that this fine rapacious bird has occurred in Britain. The plumage was in very good condition, except on the lower part of the body (where it had sustained some injury from the trap), and agrees with that of mature specimens, in my collection, which I received from the Continent some years ago. It was proved by dissection to be a male.”

Throughout the whole of the countries embraced in its wide range the Black Kite is migratory, proceeding northward in spring and returning southward in autumn—thereby fully meriting the earliest appellation, that of *migrans*, bestowed upon it by Boddaert.

Mr. Salvin, writing of the bird as seen by him in the Eastern Atlas, says, in ‘The Ibis’ for 1859, p. 184:—

“During the breeding-season it is much more abundant in the Souk-Harras district than *M. regalis*.

Indeed, with the single exception of the Kestrel (*Tinnunculus alaudarius*), it is the commonest rapacious bird in the Eastern Atlas. Like *M. regalis* it selects for the position of its nest the roots of a shrub growing out of a rock, and builds a structure composed principally of sticks, with a lining of rags, wool, &c., while on the surrounding branches are fantastically hung old pieces of burnouses of various colours. The Black Kite plays the part of scavenger in the districts where it abounds; and over every French settlement and Arab village several may be seen flying boldly around, on the look-out for any fragment of carrion that may be lying about. Its fearless and familiar manner and beautiful flight render this bird decidedly one of the most interesting in the country. The eggs are laid from the middle to the end of April, and are more distinctly and deeply marked than those of the other species. A series of the eggs of the two from the same district present a marked contrast. This bird is known to the Arabs by the name 'Hadayia soda'—the 'Black Hadayia'.

Of the Black Kite in Palestine, Tristram remarks (in 'The Ibis' for 1865, p. 256):—"No sooner has the Red Kite begun to retire northwards than the Black Kite, never once seen in winter, returns in immense numbers from the south, and about the beginning of March scatters itself over the whole country, preferring especially the neighbourhood of villages, where it is a welcome and unmolested guest, and certainly does not appear to attack the poultry, among which it may often be seen feeding on garbage. It is not strictly gregarious, though very sociable; and the slaughter of a sheep near the tents will soon attract a large party of Kites, which swoop down, regardless of man and guns, and enjoy a noisy scramble for the refuse, chasing each other in a laughable fashion, and sometimes enabling the wily Raven to steal off with the coveted morsel during their contention. It is the butt of all the smaller scavengers; and it is evidently most unpopular with the Crows and Daws, and even with the Rollers, who enjoy the amusement of teasing it in their tumbling flight, which is a manœuvre most perplexing to the Kite. The nest, generally in a tree, often in a glen, is a grotesque, untidy structure, decorated with all sorts of rags and rubbish, apparently to attract observation. The eggs are invariably two, and, as a rule, are more richly coloured than those of the *Milvus regalis*."

"This species, which does not remain [in Southern Spain] throughout the winter," says Mr. Howard Saunders (in 'The Ibis' for 1871), "breeds a full fortnight later than *M. regalis*; and the first week in May a patch of wood of an acre or two in extent will certainly yield upwards of a score of eggs, it being a sociable bird. Even when nesting somewhat apart, it has always a colony of Spanish Sparrows to keep it company. The usual number of eggs is two."

This association of the Spanish Sparrows with the Black Kite is also mentioned by Lord Lilford, who says (in 'The Ibis' for 1866):—"The Black Kite's nest contained three eggs; and in its foundation were three nests of the Spanish Sparrow. In almost every nest of the two species of Kite we find in Spain there were one or more nests of this Sparrow, besides, in most instances, a large colony in the immediate vicinity."

Messrs. Elwes and Buckley, in their 'List of the Birds of Turkey,' published in 'The Ibis' for 1870, state that the Black Kite is "extremely common on some parts of the Danube, where it breeds on the islands, which are covered with a dense thicket of willows and a few poplars. In these trees it begins to build in April, and lays about the first week in May—in a very small nest, which, at first sight, would not seem large enough for the eggs of a Crow. It is also found in the interior of the country, and in the large towns, where it acts as a scavenger."

Respecting the *Milvus migrans* in South Africa, Dr. Exton wrote to Mr. Layard:—"This Kite is said by the Matabili to be 'the king's bird,' and is in consequence much respected by them. A chief's son examining my specimen said, 'We never kill that bird.'

"It is remarkably bold and fearless, dashing down at your very feet for a stray scrap of flesh, or attempting to carry off meat hung up to dry in the native fashion. It does not seem very choice in its food. The stomachs of those I examined contained locusts and lizards; and I have seen family parties dining, after the manner of Vultures, off the putrid carcass of an ox. They breed about the time the locust-larvæ become developed, the young birds taking wing when the 'hoppers' are becoming strong on the ground. They then congregate in flocks; and I have counted between eighty and ninety hovering over an army of infant locusts—and have seen them in still greater numbers, some on the ground busily devouring the 'hoppers,' others perched on the neighbouring trees gorged with a full repast."—*Ibis*, 1869, p. 362.

The figure is about three fourths of the natural size.

CIRCUS AERUGINOSUS.

J. Gould & H. B. Sclater: del et lith.

CIRCUS ÆRUGINOSUS.

Marsh-Harrier.

- Falco æruginosus*, Linn. Faun. Suec., p. 23.
—— *rufus*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 266.
Circus æruginosus, Savig. Descr. de l'Égypte, Hist. Nat., tom. i. p. 90.
—— *rufus*, Savig. *ibid.*, p. 91.
Falco arundinaceus, Bechst.
—— *Krameri*, Kram.
Accipiter circus, Pall. Zoog. Ross.-Asiat., tom. i. p. 362.
Circus variegatus, Sykes, Proc. of Comm. of Sci. and Corr., 1832, p. 81.
—— *rufus*, var. *indicus*, Less. Compl. Buff., tom. vii. p. 155.
—— *Sykesi*, Less. *ibid.*, p. 161.
Buteo æruginosus, Flem. Hist. of Brit. Anim., p. 55.
Accipiter æruginosus, Koch, Syst. der Baier. Zool., p. 119.
Pygargus rufus, Kaup, Class. der Säugeth. und Vög., p. 113.
Buteo rufus, Jenyns, Man. Brit. Vert. Anim., p. 88.
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THAT the physical condition of a country determines the birds, reptiles, and insects which resort thereto, is evident to every naturalist; for he sees that the low fenny portions of our globe, its hills, and woodlands are frequented by forms peculiar to each. Harriers generally inhabit open wastes, moorlands, and flat sedgy districts; but the bird here represented, which is one of the largest members of the genus *Circus*, resorts more particularly to the great marshy depressions of the countries wherein it is destined to dwell. In Britain it was always more abundant in Suffolk, Cambridgeshire, Norfolk, Huntingdon, and Lincolnshire than elsewhere, those parts, in fact, which are opposite to the Low Countries (Belgium and Holland); but the draining process, which has converted our fens and rush-beds into fields of waving oats, has sadly interfered with its comforts by depriving it of its natural feeding-grounds; wherever such transformations have been effected, a death-blow to the Marsh-Harrier was the consequence. In Holland, however, there are districts in which the conditions favourable to its existence remain unchanged; and there it still dwells in comparative security, and readily obtains its usual food of reptiles, insects, small quadrupeds, fish, and young marsh-birds; there it still flaps over the tops of the reed-beds, or buoyantly flies up and down the open marsh in pursuit of its prey. How different are its actions from those of the fleet chase-giving Falcons, the lazy offal-feeding Kites, or the pouncing Hawks! The Rev. R. Lubbock, in his 'Observations on the Fauna of Norfolk,' published in 1845, says:—"the Marsh Harrier might, twenty years back, have been termed the Norfolk Hawk, so generally was it dispersed among the broads. Almost every pool of any extent had its pair of these birds; they consumed the day in beating round and round the reeds which skirted the water; this was done for hours incessantly. All the birds wounded by the sportsmen fell to his share. He was, as it were, the *genius loci*, the sovereign of the waste; but, although still often to be met with, he has, like all his congeners, receded before the gun of the gamekeeper; the curse of his race is upon him. I once kept one of these birds in confinement. It was full-grown when taken; its courage and ferocity were very great, perpetually endeavouring to attack those who went close to its mew. It killed a large land-rat, put into its cage uninjured, in an instant. Sir T. Browne represents it as occasionally carrying off the young of the otter to feed its nestlings with. I have found the nest amongst a bunch of reeds on Barton fen with two young. Mr. Gould first, I believe, noticed the grey tinge which old males of this species assume, somewhat similar to the colouring of the Hen-Harrier. This, I think, must occur only in very old specimens. I never remember having seen it but once in any specimen upon the wing; and formerly on the larger broads one or two were sure to be observed in the course of the day. At the time I thought the reflexion of the sun caused the bird to look greyish, but am inclined now to think that it was in the stage of plumage mentioned by Mr. Gould. In decoys this is a most troublesome bird, keeping the fowl in such continual restlessness that the decoy man can do nothing with them."

If we consult the various writers on British Birds (Yarrell, MacGillivray, Thompson, and Morris), or the local faunas that have been written of most of our counties, we shall find that the Marsh-Harrier has a place in the whole of them. In Cornwall, Mr. Rodd tells us, it is "rare throughout the whole county; a few specimens have been procured at the Land's-end, Boswharton Moor, and Lamorna; but the species appears to become more rare every year." Thompson states that it is found and is resident in all suitable localities in Ireland, and, as might be expected from the nature of the country, is of more frequent occurrence there than in Scotland, where MacGillivray informs us that it is very rare in the northern and middle divisions, but

appears to be more numerous in the southern counties; and according to Montagu it is the most common of the Falcon tribe about the sandy flats of Caernarvonshire, in Wales. Respecting its still breeding with us, Mr. Stevenson says that the localities selected for this purpose are almost entirely confined to Ramworth, Barton, Horsey, and Hickling, where the shriek of the railway-whistle has not yet scared them from their natural haunts. In the above districts a few pairs of the Marsh-Harrier, as I learn from the most reliable sources, remain throughout the year; and I feel justified, therefore, in still retaining the Moor-Buzzard, as this species is frequently termed, in the list of residents, whilst at the same time I believe that some migratory specimens occur at times. A nest with three young ones was taken near Yarmouth, in the summer of 1862. It is more or less numerous, according to the nature of the localities, in all the temperate parts of Europe. Lord Lilford tells us that it is "perhaps the most abundant of the Raptorial Birds in European Turkey and Greece. From two to a dozen were almost always to be seen in every marsh in Epirus, Acarnania, Albania, and Corfu. Very few remain there to breed, the main body making its appearance in the beginning of November and disappearing in March. I once counted twenty-six on the wing together near Butrinto." North Africa as well as Europe is included in the area of range of the Marsh-Harrier, as are also Egypt and all other countries thence to India, where, according to Mr. Jerdon, it "is very generally spread, frequenting banks of rivers, lakes, marshes, and inundated fields, or wet meadow land, occasionally hunting over grass or dry grain-fields. It feeds chiefly on frogs, fish, water-insects, rats, shrews, and various young or weakly birds. It not unfrequently carries off wounded snipe, and even teal, and often follows the sportsman." An old sporting friend assured Mr. Thompson that "he had often seen the Marsh-Harrier 'quarter' its ground like a setting dog, as the Hen-Harrier is well known to do, and that he considers its performance in this way equal to that of the latter species."

Much difference occurs in the colouring of the plumage of this species during the first few years of its existence; and several must elapse before it attains the perfect state represented in my first Plate; but it is evident that the bird breeds long before this state of plumage is acquired, since we seldom see a specimen thus attired in our islands. Mr. J. H. Gurney is, I believe, inclined to think that the chocolate-coloured birds represented with a snake, in the foreground of my second Plate, are old females; in that case very young males will most likely resemble the female. The bird sitting on its nest is probably a male that has not yet attained its fully adult garb; still this is a point in the history of the Marsh-Harrier that yet requires determination, but which can only be satisfactorily ascertained by observers in the countries where it is still plentiful.

"The eggs of the Marsh-Harrier," says Mr. Hewitson "are most commonly white, but sometimes spotted; and all those I have seen, upon the identity of which reliance could be placed, are considerably less than those of the common Buzzard. The bird almost always breeds on the ground, but will sometimes build in the fork of a large tree; in such a situation the nest would be formed of sticks and such-like materials. In the fen countries, its usual resort, the nest is composed of so large a quantity of flags, reeds, and sedges, as to raise it a foot, or a foot and a half above the ground. The eggs are usually four, sometimes, though not often, five in number; the time of incubation early in May.

In the adult male the head, cheeks, and nape of the neck are tawny yellow, tinged with rufous on the crown and ears, and streaked with dark brown; facial disk yellowish-white and brown; back, wing-coverts, and tertiaries dark reddish-brown, with lighter margins; primaries brownish black; secondaries and tail ash-grey; thighs, abdomen, and under tail-coverts deep rufous; bill bluish black; cere, irides, legs, and feet yellow; claws black.

During the first year the plumage is chocolate-brown, each feather tipped with lighter reddish brown, and the irides are of a darker colour than in the adult; crown, sides of the face, and throat, delicate buff; gape and sides of the bill and lores blue.

My Plates represent the Marsh-Harrier in the states of plumage above described, about two-thirds of the size of life. The snake is the *Coluber natrix* of Linnæus, the Common Snake of our island.

CIRCUS CYANEUS.

Hen Harrier.

Falco cyaneus, et *pygargus*, Linn. Syst. Nat., tom. i. pp. 126-128.

—— *strigiceps*, Nilss. Faun. Suec., tom. i. p. 21.

Circus Ægithus, Leach, Syst. Cat. of Indig. Mamm. & Birds in Brit. Mus., p. 9.

—— *gallinarius*, Savig. Descr. de l'Égypte, Hist. Nat., tom. i. p. 92.

—— *pygargus*, Cuv. Règn. Anim., edit. 1817, tom. i. p. 324.

—— (*Strigiceps*) *cyaneus*, et *uliginosus*, Kaup, Mus. Senckenb., p. 258.

—— *cyaneus*, Boie, Isis, 1822, p. 549.

Pygargus dispar, Koch, Syst. der Baier. Zool., p. 128.

Strigiceps pygargus, Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 5.

Buteo cyaneus, Jenyns, Man. Brit. Vert. Anim., p. 89.

WERE I to say to the rising ornithologists of the present day, “If you wish to see the Hen Harrier and its consort the Ringtail performing their buoyant and elegant flight, and hunting in concert over an open part of the country, go to the Gossmoor of Cornwall, the lofty hills of charming Devon, the great heaths of Surrey, Sussex, and Hampshire, the flat fenny districts of Suffolk, Norfolk, Huntingdon, and Lincolnshire, the Yorkshire wolds, the fells of Westmoreland and Cumberland, the rushy hill-sides of the Scottish border, the Cheviots, and the Grampians, as far north as the land trends,” I fear I should be sending them on a bootless errand; yet there was a time, and that within the present century, when the birds might have been seen in any of the localities above enumerated. Such, however, is now rarely the case. Nature and her productions have been greatly interfered with; some species have been extirpated from districts where they were formerly plentiful, while others have become abundant in situations where previously they were but little known. That the Harriers and other large predatory birds are no longer to be found in their wonted haunts is not to be wondered at when we remember how large a portion of the country formerly in a natural condition has now been brought under cultivation, and that the keeper and the shepherd exterminate them whenever they can. It is not to be expected that such people are imbued with the love for nature and her wonderful works which reigns in the breast of the true naturalist: they do not even care to read the many beautiful passages which have been written on our native birds, from the time of Gilbert White to that of those authors who have but recently passed away, among which none are perhaps more truly descriptive of the habits and actions of birds than Macgillivray's,—who, speaking of the *Circus cyaneus* says:—

“Having examined the form, and somewhat of the structure of the Hen Harrier, we are prepared for the exhibition of its faculties. Kneel down here, then, among the long broom, and let us watch the pair that have just made their appearance on the shoulder of the hill. Leave these beautiful flowerets to the inspection of yonder botanist, who, should he wander hitherward, will be delighted to cull the lovely tufts of maiden-pinks that surround us.

“How beautifully they glide along, in their circling flight, with gentle flaps of their expanded wings, floating as it were in the air, their half-spread tails inclined from side to side, as they balance themselves or alter their course! Now they are near enough to enable us to distinguish the male from the female. They seem to be hunting in concert: and their search is keen; for they fly at times so low as almost to touch the bushes, and never rise higher than thirty feet. The grey bird hovers, fixing himself in the air like the Kestrel; now he stoops, but recovers himself. A hare breaks from the cover; but they follow her not, though doubtless, were they to spy her young one, it would not escape so well. The female now hovers for a few seconds, gradually sinks for a short space, ascends, turns a little to one side, closes her wings, and comes to the ground. She has secured her prey; for she remains concealed among the furze; while the male shoots away, flying at the height of three or four yards, sweeps along the hawthorn hedge, bounds over it to the other side, turns away to skim over the sedgy pool, and hovers there a short while. He now enters upon the grass field, when a Partridge springs off, and he pursues it with a rapid gliding flight; but they have turned to the right, and the wood conceals them from our view. In the meantime the female has sprung up, and advances, keenly inspecting the ground, and so heedless of our presence that she passes within twenty yards of us. Away she speeds, and in passing the pool again stoops, but recovers herself, and, rising in a beautiful curve, bounds over the plantation and is out of sight.

“The Hen Harrier feeds upon small birds and the young of larger, on young hares and rabbits, on mice, frogs, lizards, and serpents. For the most part it pounces upon its victims as they repose upon the ground; but it also pursues birds in open flight; and, so far from confining itself to feeble game, it has been known to seize the Red Grouse, Ptarmigan, and Partridge.

“When flying from one place to another, without searching the ground, it moves with considerable rapidity, at such a height as to clear the trees and other elevated objects without deviating. It is not known, however, to soar to a great height. On obtaining its prey it usually devours it on the spot, carrying it off only when it judges that it is liable to be molested. When satiated, it retires to some quiet place, or perches on a wall, a stone, or a stump, until digestion is advanced. In its rambles it searches the cultivated fields and pastures, but in summer and autumn is partial to heaths and commons; and in such places it reposes at night and rears its young. Although nowhere very common, it is generally dispersed, and in some districts pretty numerous, in the breeding-season. In Scotland it betakes itself to the hilly tracts and moors from the middle of spring to the end of autumn, but in winter frequents the lower cultivated districts. It is a permanent resident, and does not appear to receive any accession of numbers, or to undergo any periodical diminution.”

Like Macgillivray, I have never had the good fortune to find its nest. I shall therefore transcribe a very valuable account of its breeding given by Sir William Jardine.

“In a country possessing a considerable portion of plain and mountain, where I have had the greatest opportunities of attending to them, they always retire at the commencement of the breeding-season to the wildest hills; and during this time not one individual will be found in the low country. For several days before commencing their nest the male and female are seen soaring about, as in search of or examining a proper situation, are very noisy, and toy and cuff each other in the air. When the site is fixed, and the nest completed, the female is left alone, and, when hatching, will not suffer the male to visit the nest, but on his approach rises and drives him with screams to a distance! The nest is very frequently made in a heath-bush by the side of some ravine, and is composed of sticks, with a very slender lining. It is sometimes formed on one of those places called scars, or where there has been a rut on the side of a steep hill after a mountain thunder-shower; here little or no nest is made, and the eggs are laid on the bare earth, which has been scraped hollow. In a flat or level country some common is generally chosen, and the nest is found in a whin or other scrubby bush at a short height from the ground. The young are well supplied with food, I believe by both parents, though I have only seen the female in attendance; and I have found in and near the nest the common small lizard, stone-chats, and young grouse.

“When the birds are perfectly grown, they, with the old birds, leave the high country, and return to their old haunts, hunting with regularity the fields of grain, and now commit great havoc among the young game. At night they seem to have general roosting-places either among whins or long heath, and always in some open spot of ground. On a moor of considerable extent I have seen seven in the space of an acre. They began to approach the sleeping-ground about sunset, and, before going to roost, hunted the whole moor, crossing each other often, three or four in view at a time, gliding backwards and forwards in easy graceful circles, with seemingly little effort or flapping of the wings. Half an hour may be spent in this way. When they approach the roost they skim three or four times over it to see that there is no interruption, and then at once drop into the spot. These places are easily found in the daytime; and the birds may be caught by placing a common rat-trap, or they may be shot in a moonlight night. In both ways I have procured many specimens.”

The eggs, which vary from three to five in number, are bluish white, sometimes faintly dotted with brown, and are generally about an inch and three quarters in length by an inch and a third in breadth.

The preceding extracts from the writings of Macgillivray and Sir William Jardine must be regarded as descriptive of the bird at the time they wrote, some thirty years ago; but, as I have already said, it is now not nearly so numerous. Still it is to be found in many parts of England and Scotland; and the Duke of Argyll informs me that a pair of this species nested on one of the moors near his seat at Inverary in the spring of 1867.

Besides the British Islands, the Hen Harrier inhabits the whole of Central Europe, North Africa, Asia Minor, and Persia; and Jerdon states that it is a “winter visitant to India, Bootan, Kumaon, and the north-western Himalayas, perhaps extending to the plains in the Punjab only.”

So much difference exists in the size and colouring of the sexes of this and other Harriers, that, had we not abundant proofs to the contrary, we might readily assume that they were distinct species. The adult male is always of a delicate grey; but the young of this sex, for the first, and probably the second year, is brown, like the female, and in this respect resembles the Kestrel and many others of our rapacious birds; and those from foreign countries require as close an investigation to arrive at as intimate a knowledge of them as has been achieved with regard to our own species.

The Plate represents a male, somewhat less than the natural size, with a reduced figure of the female or Ringtail in the distance.

J. Gould & H. C. Richter, del. et lith.

CIRCUS CINERACEUS.

Walter, imp.

CIRCUS CINERACEUS.

Ash-coloured Harrier.

Falco cineraceus, Mont. Orn. Dict.

—— *cinerarius*, Mont. ibid. Supp.

—— *cinerareus*, Mont. Trans. of Linn. Soc., vol. ix. p. 188.

—— *cinerascens*, Barb. Rev. Zool. 1838, p. 121.

—— *hyemalis*, Penn. Brit. Zool., edit. 1812, vol. i. p. 243.

Circus cinerarius, Leach, Syst. Cat. of Indig. Mamm. & Birds in Brit. Mus., p. 9.

—— *cinerascens*, Steph. Cont. Shaw's Gen. Zool., vol. xii. part ii. p. 41.

—— *cineraceus*, Naum. Vög. Deutschl., tom. i. p. 402, tab. 40.

—— *Montagui*, Vieill. Nouv. Dict. d'Hist. Nat., tom. xxxi p. 411.

—— *cinereus*, Kaup, Ueb. Falk. Mus. Senck., p. 258.

Buteo cineraceus, Flem. Hist. Brit. Anim., p. 55.

Strigiceps cineraceus, Bonap. Comp. List of Birds of Eur. and N. Amer., p. 3.

Circus (Glaucopteryx) cineraceus, Kaup, Classif. der Säug. und Vög., p. 113.

Glaucopteryx cinerascens, Kaup, Mon. Falc. in Jard. Orn. Cont., 1850, p. 58.

On a superficial view this species might be mistaken for the Hen Harrier, but a comparison of the two birds would soon prove to the most sceptical that it is really distinct; Dr. Kaup has gone so far as to make it the type of a different genus, to which he has given the name of *Glaucopteryx*. It is a smaller and consequently a lighter bird than the Hen Harrier; and its longer wings are crossed by a blackish bar; the markings of its tail are different in form and richer in colour, as are also the flanks and thighs; the bird is, moreover, subject to so many changes of plumage between youth and maturity that two specimens can rarely be found alike; the young males in particular are extremely variable, some being marked very like the female, while others are of a nearly uniform rufous brown, and others almost black. As to numbers, the two birds are pretty much on a par; and their distribution over England is very similar. Like the Hen Harrier, the present species was more common in former times; and it is now, I believe, more numerous than its ally—a circumstance which may be attributable to its greater powers of flight, and probably to its disposition to wander hither from other countries, to fill up, as it were, the void caused in its numbers by the destructive hand of the keeper. It is therefore occasionally to be met with in all parts of England, from the western county of Cornwall to as far north as Northumberland. In June 1867, Col. Napier Sturt submitted to me a fine female killed on Poole Heath, in Dorsetshire. Thompson remarks that “it is not known as an Irish species; nor has it a place among Scottish birds, according to Macgillivray and Jardine.”

The examples of the Ash-coloured Harrier most frequently met with are in the plumage of immaturity; but individuals in the perfect grey dress are sometimes seen. In speaking of its general distribution over England, I of course mean in such districts as are suited to its habits and economy; for it would be as useless to seek it among our woodlands as to look for a Kite over the fens. Like the Hen Harrier, it loves the open country, whether it be the high fell or the low marsh, where it may readily procure the snakes, frogs, newts, and insects which constitute its favourite diet,—not that it refuses to prey upon moles, rats, and the young of rodents of a larger kind, the hare and the rabbit, to which may be added the youthful game-birds of all kinds, its propensity for killing which induces the keeper to include it in his list of vermin and to resort to every artifice for its destruction.

In other parts of the world apart from England the Ash-coloured Harrier is, I believe, both more numerous and more widely spread than the Hen Harrier. It is abundant in Holland and Holstein, and in all the fluviatile portions of the Continent from France to Bulgaria and the Crimea; and it is very generally distributed over North Africa, Asia Minor, and India, where, Mr. Jerdon informs us, he has found it in abundance in every part of the country.

As might be supposed, the flight of this species is very similar to that of the Hen Harrier; but Mr. Selby remarks that it is more rapid and more strikingly buoyant.

Speaking of *Circus cineraceus* as seen in Norfolk, Mr. Stevenson says “it is certainly less rare than is generally supposed, and has been known to breed with us in several instances of late years; . . . previously to the entire drainage of the south-western fens, this harrier was not only the most plentiful in that locality, but was the last to quit altogether those once favourite haunts.” For many details respecting the nesting of this species and the specimens taken in the county, I must refer my readers to the first volume of Mr. Stevenson's ‘Birds of Norfolk,’ p. 40.

Mr. Alfred Newton states, in his ‘Ootheca Wolleyana,’ that Vipers, of Upware, in Cambridgeshire, told

him many curious particulars as to the habits of the Ash-coloured Harriers, "their action in choosing a nest, the male selecting a spot, the female approving or disapproving of it as she thought fit; of the male coming to feed the female, and of her sometimes going to meet him, turning on her back and catching the prey he brought her, which, however, was occasionally dropt on the nest; of the young pecking one of their fellows to death when bloody; of the habits of the old birds, their cries, and the like." It is unfortunate that Mr. Newton should not have published these particulars *in extenso*, but contented himself with alluding to them in the above cursory manner, as their perusal could not have been otherwise than interesting.

The nest is placed upon the ground, generally among furze, and the eggs are usually four, but sometimes five, in number; they are of a bluish white, one inch and seven lines in length by one inch and four lines in breadth; they are laid in May, and, according to the Rev. L. Jenyns, the young are hatched out about the second week in June. The Rev. John Daubuz tells me that a nest taken on his estate at Killion, in Cornwall, in 1862, was composed chiefly of dried grasses, placed on the ground among furze and heath, and contained four white eggs. Mr. Alfred Newton informed Mr. Hewitson that "the Harriers, like the Owls, the Eagles, and probably all the Hawk tribe, begin to sit as soon as the first egg is laid; and as it is most likely that there is an interval of some days between the production of the eggs, the young are of very different ages, and therefore much more easily supplied with food."

The late Mr. Yarrell was of opinion that, as the name given to this species by Montagu had by mistake or an error of the press been spelt in three different ways, it would be an advantage, as well as a gratification, to designate the bird in future by the specific name of *Montagui*, assigned to it by Vieillot; but this the law of priority forbids; and we must therefore adopt that of *cineraceus*, applied to it by Montagu, who, as the first discriminator of the species, would naturally have wished the name he proposed to be retained for it. And here let me say a word in praise of a departed ornithologist, whose writings must always be regarded with interest. Colonel Montagu was a true lover of nature, who employed his discriminating faculties to a good and useful purpose, and in no instance more effectually than when he pointed out the distinctions between the present bird and the Hen Harrier, except perhaps when he so clearly described the changes of plumage which take place in the latter bird. Nor are the details of the measures he took to ascertain whether or not the Hen Harrier and Ringtail were sexes of the same species less interesting; these I shall quote to show how painstaking was this worthy country-gentleman and gallant soldier, and because they are equally descriptive of the changes which take place in the present species.

"I undertook," says Montagu, "the care of a brood of three young Hen Harriers found in a nest in a furze-bush, and only covered with white down. At this time the two largest had thrown out many feathers, sufficient in fact to discover the plumage of the Ringtail approaching; the other, by its appearance, must have been hatched much later. In about a month it was evident from the size that there was but one male; so that all my hopes rested on this single life. As they became full-feathered there was at first no distinction in plumage; but the eyes of the supposed male were always lighter than those of the others, whose irides were so dark as not to be distinguished at a small distance from the pupil. In the dress of the Ringtail the whole continued through the winter, when the one which had been weakly from the first died. This circumstance induced me to force a premature change in some of the quill- and tail-feathers of the others, fearing some accident might frustrate my earnest desire of bringing the matter to a decisive proof; and about the middle of June I was highly gratified by discovering an appearance of new feathers in the place of those which had been plucked out, that clearly proved the smaller bird to be a Hen Harrier, and the larger a Ringtail. Thus I had compelled nature to disclose her secrets before the appointed time; for in every other respect their plumage was yet similar, excepting about the sides of the face, which were paler in colour in the former, in which also the irides were of a dull yellow, somewhat mottled, whereas in the latter they still continued dark. About the 20th of July the male had thrown out many of the new feathers naturally, especially the greater coverts of the wings and a few grey feathers in different parts of the body. On the 20th of August the greater part of the quill- and tail-feathers were grown to their full length, and a gradual increase of grey feathers appeared on most other parts; the eyes also became more orange; but it was not till the middle of October that it had attained that state which made it desirable to be retained as an existing proof of the change. It was then killed, and placed in my museum.

"From the account here given it is quite clear that the change of plumage is effected in the autumn of the year after the bird leaves the nest, and not in the same year."

The Plate represents an adult male, of the natural size, and a reduced figure of a female, or a young male, in the distance. The quadruped under the foot of the male is the common mole, *Talpa-europæa*.

STRIX FLAMMEA, Linn

STRIX FLAMMEA, *Linn.*

Barn-Owl.

Strix flammea, Linn. Syst. Nat., tom. i. p. 153.

—— *guttata*, Brehm, Vög. Deutschl., tom. i. p. 106, tab. 7. fig. 3.

Aluco flammeus, Flem. Hist. of Brit. Anim., p. 57.

THE Owls form a large group of birds, of which some are strictly nocturnal, while others seek their prey in the daytime; a few feed exclusively on insects, others on small animals of various kinds. As may be naturally supposed, many generic terms have been proposed for the various forms which occur in this extensive family; the old Linnean name of *Strix*, however, is retained for the Barn-Owl and its immediate allies. It is the members of this genus that are most universally dispersed over the globe, there being no continent, and scarcely any large island, in which it has not a representative. Some of the species are exceedingly well defined, while others assimilate to such a degree that it becomes extremely difficult to point out their distinguishing characteristics. The range of the *Strix flammea* is generally considered to be a very wide one; and although the bird does not go to Australia, where several other species of the same form are found, it certainly extends over all the temperate portions of Europe, and many parts of Africa, and Mr. Gurney is of opinion that it is also found in Madagascar. The American bird, formerly considered identical, has lately been separated, and received a distinct specific appellation, on, I fear, very slender grounds. In India it has not yet been detected, but, as in America, is there represented by a very nearly allied species. On the continent of Europe as in the British Islands, over every part of which the Barn-Owl is spread, barns, towers, churches, hollow trees, and rocks are its habitual places of abode; there, generally in pairs, it snoringly sleeps through the day; on the approach of evening its slumbers terminate, and it sallies forth and wings its way noiselessly in search of food over the parson's glebe, around the park of the nobleman, the grass-field of the farmer, and the open heath, all of which constitute good hunting-grounds; wherever mice are plentiful and insects abundant, there this nocturnal bird may be seen, and its "ill-omened" screech heard.

The enactment which passed through the Houses of Legislature in May 1869, for the protection of our beautiful rock-birds is considered by most persons a laudable one; but ought we to stop here? should the feathered creatures of the ocean solely claim this attention? should not a like protection be accorded to some of our equally interesting land-birds, and, among them, to the Barn-Owl? I fear that few game-keepers are real lovers of nature, or take an interest in the beautiful; if they were, they would never injure this highly curious species; for the commonest observation would inform them that it is only during two or three weeks in the spring that it can possibly do harm to the young game, that even then little is effected, and that the remainder of the year is spent in the destruction of insects, reptiles, mice, moles, &c. The short-tailed field-mouse, so destructive to the young trees of our plantations, it often devours by thousands—a fact with which every owner of land ought to be acquainted. The late Mr. Waterton has shown most clearly the enormous number of our small quadrupeds a pair of Barn-Owls will destroy in the course of sixteen months; and many other authors testify to the value of the bird's services in keeping in check the inordinate increase of these mischievous little animals. The Barn-Owl is, in fact, one of the birds whose protection would not only be highly beneficial to us in an economic point of view, but would add much to our pleasure, since we should then doubtless more frequently meet with it during our evening rambles in the districts it frequents.

"The Barn-Owl," says Macgillivray, "chooses for his place of repose some obscure nook in an old building, the steeple of a church, a tower, a dovecot, or a hollow tree. There he remains from sunrise to sunset, in a nearly erect posture, with retracted neck and closed eyelids, dozing away the hours in which, from the structure of his eyes, he is unable to perceive his prey, and waiting for the return of twilight. If approached in this state, instead of flying off, he raises his feathers, hisses like an angry cat, clicks his bill, and thus threatens the intruder. Should he by any accident be driven abroad, he seems dazzled and bewildered. Incapable of distinctly perceiving the objects around him, he flits about with an unsteady flight, and is glad to betake himself to some dark retreat where he may be sheltered from the light as well as from his numerous enemies. The appearance of an Owl in open day is a phenomenon that excites the curiosity as well as hatred of many species of birds, even the smallest of which will gather around, chide and harass him, while the larger will not hesitate to attack him with their bills and wings. The Blue Tit, being among the boldest of our little birds, takes a prominent part in these proceedings; and the Chaffinch, gentle as it is, distinguishes itself by its vociferous animosity. Sometimes this Owl reposes in the upper part of a tree in a dense wood, or even in a thicket; and should it be discovered in the latter situation by any of

these birds, their outcries presently bring a band of enemies around it. But although the Barn-owl is thus so imbecile by day as to suffer itself to be insulted with impunity by the pettiest aggressor, it assumes a very different character when darkness restores to it the faculty of clearly distinguishing objects.

“By watching near its haunts, or taking up a station in the neighbourhood of some farm-steading frequented by it, one may dimly see it advance with silent and gliding flight, skimming over the fields, shooting along the hedge-bank, deviating this way and that, and now perhaps sweeping overhead, without causing the slightest sound by the flappings of its downy wings. On perceiving an object, it drops to the ground, secures its prey in a moment, and, uttering a shrill cry, flies off with it in its claws. In a little time it returns, and thus continues prowling about the farmyard for hours. The domestic Mouse, Wood-mouse, common Arvicola, Shrew, Lark, and young birds of different species are the objects which I have found in its stomach. The mice are generally swallowed entire, often without their bones being broken; but the birds are torn to pieces. Young hares and rabbits, as well as lepidopterous and coleopterous insects, are said to form part of its food; and Mr. Waterton informs us that it carries off rats, and occasionally catches fish. ‘Some years ago,’ he says, ‘on a fine evening in July, long before it was dark, as I was standing on the middle of the bridge, and minuting the Owl by my watch, as she brought mice into her nest; all on a sudden she dropt perpendicularly into the water. Thinking she had fallen down in epilepsy, my first thoughts were to go and fetch the boat; but before I had well got to the end of the bridge I saw the Owl rise out of the water, with a fish in her claws, and take it to the nest.’ It has been alleged that it does not prey on Shrews; but I have found four skulls of these animals, along with two of an Arvicola, in the stomach of one. The number it swallows may seem surprising to a person who does not consider how many mice may be squeezed into a sack two inches in diameter. Remains of eight or ten animals may sometimes be found in its stomach, but in various degrees of decomposition, the greater part of some having passed into the intestine before the rest have been procured. The skulls and other bones, enveloped in the hair, are ejected in pellets after the bird has retired to its resting-place. ‘When it has young,’ says Waterton, ‘the Barn-Owl will bring a mouse to its nest about every twelve or fifteen minutes. But in order to have a proper idea of the enormous number of mice which this bird destroys, we must examine the pellets which it ejects from its stomach, in the place of its retreat. Every pellet contains from four to seven skeletons of mice. In sixteen months from the time that the apartment of the Owl on the old gateway was cleaned out, there has been a deposit of above a bushel of pellets.’”

The sexual difference is not very apparent, for externally the male and female are very similar. The young, during the first three or four weeks of their existence, are clothed in an immaculate white down; next come feathers, first in the form of a frill round the face, then the primaries appear; and by the end of six weeks, the brood, which is generally four in number, are very like the adults; sometimes, however, a tawny tint pervades the breast and under surface, while usually these parts are pure white. Mr. Stevenson states, in his ‘Birds of Norfolk,’ that a dark variety, supposed to be migrants from the Danish Islands, sometimes occurs in this country; an example of this variety, if I imagine rightly, was kindly shot for me by the Earl of Ducie, on the 6th of October, 1868, at his seat at Sarsden, in Oxfordshire, and is at once the smallest and most beautifully marked Owl I have ever seen: all the under surface was delicate buff, numerous speckled with grey; it weighed $8\frac{1}{4}$ ounces, measured 11 inches in length, 27 inches from tip to tip of the wings; the length of the wing from the tarsal joint was $10\frac{1}{4}$ inches, of the tail $4\frac{1}{2}$, and the tarsi $2\frac{1}{4}$; it was apparently a fully adult bird, and dissection proved it to be a female. I have little doubt it was a migrant, as it rose out of a dry ditch at 3 o’clock in the afternoon, and had two freshly caught field-mice in its stomach. To test the verity of this opinion, I asked Lord Ducie to have another Owl shot in the same neighbourhood; and on the 18th of November a female was sent me which proved to be of the ordinary kind. In this specimen all the under surface was snow-white, with a few specks of grey on the flanks and under the shoulders: its weight was $12\frac{1}{2}$ ounces; the expanse of its wings 29 inches, the length of the wing from the carpal joint 10, of the tail $4\frac{1}{2}$, and of the tarsi $2\frac{3}{4}$; this was in every respect a very different bird from the buff-coloured one which preceded it. Mr. Henry Shaw, of Shrewsbury, who has paid great attention to the change of plumage undergone by various birds, writes to me—“From experience and dissection I have found all the young female Owls to be more or less spotted, their wings strongly marked, and the webs of the first quill feathers broader than when the bird is adult; they are also a trifle longer than the corresponding feathers in the opposite sex. The males have the breast white from the nest, and the markings of the wings and back less numerous. In the adults of both sexes the markings decrease as they advance in years; and very old males entirely lose the markings of the quills.”

The eggs, which are four or five in number, are pure white, and differ considerably in form, some being much more lengthened than others.

The figures, which represent old and young, are of the size of life.

SYRNIUM ALUCO.

SYRNIUM ALUCO.

Tawny or Brown Owl.

Strix aluco, Linn. Syst. Nat., tom. i. p. 132.

—— *stridula*, Id. ibid. p. 133.

Syrnium ululans, Savig. Desc. de l'Egypt, pt. i. p. 112.

—— *stridulum*, Steph. Cont. of Shaw's Gen. Zool., vol. xiii. pt. ii. p. 62.

—— *aluco*, Cuv. Règn. Anim., 2nd edit. tom. i. p. 343.

Ulula stridula, Selby, Ill. Brit. Orn., vol. i. p. 102.

Aluco stridulus, Macgill. Desc. of Rap. Birds of Gt. Brit., p. 367.

Ulula aluco, Macgill. Hist. of Brit. Birds, vol. iii. p. 438.

THAT the Brown Owl has many persecutors and but few friends is quite certain, his destructive propensities, particularly during the breeding-season, having called down upon him the maledictions of the game-preservee and the keeper; but this one-sided judgment is just the 'Farmer and the Rook' over again, no consideration for the good he effects being taken into the account. Were it possible for a pair of Brown Owls to produce a yearly record of the number of nocturnal moles, Norway rats, and destructive field-mice they have destroyed, against a similar account of what has been done in this way by any five keepers, I question whether the balance would not be in favour of the Owls. Let us remember that the whole face of our country is gradually changing—woodland districts giving place to arable lands; and that the situations favourable to the habits of this bird are becoming more and more circumscribed, and consequently that it is to our interest to protect, rather than to extirpate, the remnant of the species which remains. Let us then cherish the Brown Owl as a bird designed for an especial purpose; let us still hear its hollow, rolling hoot in the twilight, or listen to the challenge-note of the males—the only sound which breaks the stillness of midnight in those woodland parts of the country where it still lingers. For myself, and doubtless for many other persons, the hoo-hoo-hoots of this bird have a great charm, and, in my opinion, amply compensate for the loss of the few leverets it may take home to its craving young during the months of April and May. I believe the brown rat to be far more destructive to leverets and young pheasants than this Owl ever can be. Let the preservee of game, then, bear this in mind, and not raise his gun at every Owl that blindly tumbles out of a tree when the covers are shot over: if he mistake the Owl for a Woodcock, which I have heard offered as an excuse, his destructive propensities and want of judgment are about upon a par. Having said thus much in favour of the Brown Owl, I must now proceed to speak more particularly of its habits and economy, and especially of its varied diet. It not only kills the smaller quadrupeds above enumerated, but its prowling habit leads it to pounce, during the stillness of the night, upon sleeping Blackbirds, Thrushes, or any other species it can master; and, strange as it may appear, it also hunts the edges of pools and rivers and captures living fish; in support of which latter assertion, I shall quote some passages which have appeared in works on natural history and in the daily newspapers. I commence with the greater portion of a note on the subject, which appeared in the 'Magazine of Natural History' for the year 1828, p. 179:—"Probably it may not be generally known to naturalists that the Common Brown Owl is in the habit, occasionally at least, of feeding its young with live fish—a fact which I have ascertained beyond doubt. Some years since, several young Owls were taken from the nest, and placed in a yew tree in the rectory-garden here; in this situation the parent birds repeatedly brought them live fish, Bull-heads (*Cottus Gobio*) and Loach (*Cobites barbátula*), which had doubtless been procured from the neighbouring brook, in which these species abound. Since the above period, I have on more than one occasion found the same fish, whole or in fragments, lying under the trees in which I have observed the young Owls to perch after they have left the nest, and where the old birds were accustomed to feed them." (Rev. W. T. Bree, Allesley Rectory, near Coventry.)

"This circumstance," says J. M., on the same page of the Magazine, "is mentioned in Jennings's 'Ornithologia,' and corroborates a declaration made by a labourer who was employed to watch the fish-pond in the flower-garden at Bulstrode about fifty years ago. The gold and silver fish had been missed; the Duchess Margaret of Portland, being a lady of distinguished taste for every curious object of natural history, suspecting the pond had been poached, ordered the gardener, Mr. Agnew, to employ men to watch. The watchmen detected the robbers, when they saw them alight on the edge of the pond, and there waiting the approach of the fish, captured and devoured them! The Common Brown Owls were the robbers; at least, so the men reported, but they were not generally credited."

The following paragraph, copied from the 'Bath Journal,' appeared in the 'Times' of October 29, 1858:—

"*An Owl's Larder*.—A few days since an Owl's nest was taken upon the farm of Mr. Parker, Burnett's

Farm, near this city, with three young ones in it. The luxurious and voracious habits of the Owl may be imagined from the contents of this nest, which consisted of two leverets, one rabbit, three blackbirds, one thrush, and two large trout. They were all fresh, and had been apparently caught during the night."

This statement interested me so much, that I requested a friend then living in Bath to ascertain who was its author; and the following is an extract from a letter of the writer, which was immediately transmitted to me:—"You may rely upon it that the article entitled 'An Owl's Larder' is strictly true: when I sent it to the 'Bath Journal,' I felt convinced that most persons would doubt its being so. The pair of birds alluded to built their nest and fostered their young in the spring of this year at Burnett's Farm, near Saltford. It was the great quantity of fresh-killed food which attracted my attention and induced me to make a note of it."

Were I to enumerate all the localities in England and Scotland which are inhabited by the Brown Owl, I might fill many pages to no purpose; I may mention, however, the great woods of Tregothnan, the seat of Viscount Falmouth, in Cornwall, where, if it be not strictly preserved, it at all times enjoys the friendship of the noble proprietor. Keepers will, however, often retain their own opinions, in spite of advice and remonstrance, and I fear the poor bird finds but little favour in that quarter. In the romantic and beautiful woods on the banks of the Thames, at Cliveden in Buckinghamshire, the Brown Owl lives in comparative safety, breeding yearly in the deserted fox-holes and hollow trees; and it gives me great pleasure to say that the Duchess of Sutherland extends to it the most friendly protection. Within a week of the time I am writing (April 8, 1864), at the close of the most wonderful evening carols of Thrushes and Blackbirds I ever heard, the Brown Owl commenced his nightly serenade, his hollow *hoo-hoo-hoo* resounding over the water until it was lost in the distance. At Elveden, in Norfolk, the bird has always been befriended by those excellent ornithologists Alfred and Edward Newton, Esqrs., as will be seen from a note given below from the 'Ootheca Wolleyana.' I might go on particularizing many other friends whose estates the bird frequents, and who favour it with their protection. If allowed to do so, the Brown Owl would contentedly live in any of the wooded districts of England and Wales and the southern parts of Scotland. In the far north of the latter country it becomes more scarce; and I believe we have no authentic account of its having been killed in Ireland. On the Continent the Brown Owl enjoys a wide range, for it is found everywhere except in the extreme north; it also occurs in Northern Africa, and doubtless in Asia Minor and Persia; while the Himalayas are frequented by an Owl so closely resembling it, that it can scarcely be regarded as distinct.

"From 1844, and probably for a much longer time," says Mr. A. Newton, "a pair of Brown Owls had frequented some clumps of old elms near the house at Elveden. There were three of these clumps, in one or the other of which they invariably laid their eggs. The trees were of considerable age, and mostly quite hollow, with an abundance of convenient nesting-places. By waiting quietly about an hour after sunset, my brother Edward or myself could generally discover whereabouts the Owls had taken up their quarters for the season; but it sometimes happened that we did not find the nest until the young were hatched. Throughout the winter the Owls kept pretty much in company; but towards the middle of February they used to separate, the cock often passing the day in a tree at some distance from the hen. As soon as he came out in the evening to hunt, he announced the fact by a vigorous hoot. Upon this the hen would emerge silently, and, after a short flight, reply to her mate's summons by a gentle note. He then generally joined her, and they would fly off together to procure their food. The eggs were commonly laid about the second week in March, and the nests were almost always easily accessible. I never knew these birds occupy the same hole for two successive years; but, after an interval of two or three years, they would return to the same spot. There were never any materials collected to form a nest, the large white eggs being always placed on the rotten wood, which in most cases formed a sufficient bedding. We never found more than four eggs in the nest. These often, but not always, proved to have been incubated for different lengths of time, showing that the hen bird sometimes began to sit as soon as the first egg was laid; but we could never divine what might be the cause of this irregularity of habit. After the young birds had left the nest, it was some time before they began to shift for themselves; and they used to sit in the shadiest trees for the best part of the summer, uttering a plaintive note, like "keewick," night and day, almost without cessation, to attract the attention of their parents, who assiduously brought them the spoils of the chase."

Every ornithologist who has directed his attention to our native birds must have noticed the great variation which occurs in the colouring of different examples of the Brown Owl—differences so great as to have induced even Linnæus to regard them as specific, and to characterize them as such under the terms *aluco* and *stridula*; and I must admit that I was for a long time sadly puzzled respecting them; the generally received opinion, however, is that the rich russet-coloured birds are the young of the year, and that this colour gradually disappears as the bird attains maturity, when it gives place in both sexes to a greyish brown: the former state has given rise to the trivial name of Tawny Owl, the latter to that of Brown Owl. When first hatched, the young birds are clothed with a grey down, upon which, as they progress in stature, crescentic and circular markings of reddish brown gradually appear, until they assume the colouring which has obtained for them the former appellation.

The front figure in the accompanying Plate is somewhat less than the natural size.

BUBO MAXIMUS. *Sibb.*

BUBO MAXIMUS, *Sibb.*

Eagle Owl.

Bubo maximus (Sibb.), Flem. Hist. Brit. Anim., p. 57.

Strix bubo, Linn. Faun. Suec., p. 24.

Bubo, *Bubo italicus* et *B. laponicus*, Briss. Orn., tom. i. pp. 447, 482, 486.

— *nudipes*, Daud. Traité d'Orn., tom. ii. p. 209 ?

— *Atheniensis*, Daud. ib., p. 209.

— *albus*, Daud. ib., p. 210.

— *microcephalus*, Steph. Cont. of Shaw's Gen. Zool., vol. xiii. pt. 11. p. 55.

— *Europæus*, Less. Traité d'Orn., p. 115; Atlas, pl. 17. fig. 1.

— *Germanicus*, Brehm, Vög. Deutschl., tom. i. p. 119.

— *septentrionalis*, Brehm, ib., p. 120, pl. 9. fig. 1.

Asio bubo, Swains. Class. of Birds, vol. ii. p. 217.

Otus bubo, Schleg. Rev. Crit. des Ois. d'Eur., p. 13.

IF I were to indulge in a poetic vein while writing the history of this noble species, which stands at the head of all the European Owls, I might speak of its selection as the emblem of all that is wise and learned, or I might take up another strain and write upon its midnight voice, or upon its presence being regarded as an omen of death and other evil forebodings; but I will let such fancies and fallacies stand for what they are worth and write a page on its history—not that I have any additional information to communicate respecting its natural habits and economy.

The Great Horned or Eagle Owl, which is unquestionably the largest and finest species of the birds for which the generic term of *Bubo* is now employed, is a native of the northern regions of the Old World, and is represented in the New by the *Bubo Virginianus*. The two species bear a very general resemblance to each other, but each possesses well-defined characters by which they may be distinguished. The regions of the Old World in which the present bird dwells are the forest- or mountain-districts of Central Europe, Norway, Sweden, Russia, and Siberia, as far as the Amoor land. In England, Ireland, and Scotland it is extremely scarce, and its presence, when it does occur therein, must be regarded as purely accidental. In fact, should the traveller consider that if he made a journey to the European continent, whether it be to Norway or Switzerland, he would meet with this noble bird, and see its great fiery eyes blazing from the branch of a forest-tree, or its egrets standing erect in the sky-line when surmounting a rock, or hear its hollow hooting from a gully, he would probably be disappointed; for nowhere is the bird abundant, and it is only in some favoured locality, far from the abode of man, that it takes up its quarters for the purpose of breeding. The areas over which the mated pairs range must be of considerable extent, and the amount of food necessary for their existence commensurately great. I should suppose that there is no one of my readers who has not seen this bird in a state of captivity; for there are not many parts of England, from the renowned Castle of Arundel in the south to the successful rearing in cages of my friend Edward Fountaine, Esq., of Easton near Norwich, in the north, where living examples may not be seen, and nowhere to greater advantage than in the fine Menagerie of the Zoological Society in the Regent's Park.

The food of this powerful Owl consists of fawns, hares, grouse, and other birds, which are pounced upon on the ground and seized with its feet, the head being rarely advanced towards the prey until its struggles are over.

By far the best account of the nest and eggs of the Eagle Owl is that furnished to Mr. Hewitson by the late Mr. John Wolley, and published in the third edition of his work on the 'Eggs of British Birds;' and I am sure I shall be held excused for copying his graphic description instead of attempting to describe what I have not seen myself.

After expressing the great difficulty of "hunting up the ornithological population of such a country" as Norway, where the birds are few and the area over which they are scattered vast and almost inaccessible, he writes—"First, I was determined to find a nest of *Strix bubo*; many expeditions of some miles, and several days lost, have resulted in the finding of a single nest with two young ones and an egg just hatching, and this after inquiries at every place I have been to. It was on the 20th of May, and after climbing to the mysterious cave of Skulberg, that our road lay under a steep mountain-side broken up into crags and ledges of the character which is usually so attractive to birds of prey. There was a little village at the foot; and an old man pointed out the direction from which the hootings were to be heard every evening. Whilst I was listening to the consultation and taking a survey with my glass, an Osprey flew along the edge of the cliff, at a great height above us, and, mellowed in the distance, there came a full

note from a Berg-ufu, who no doubt had seen the stranger bird. This was very encouraging, and it did not take long to arrange the order in which the various likely rocks were to be visited. An active woodman accompanied me axe in hand. When we were fairly in the cliffs, we came to a point where some large bird was in the habit of sitting to tear its prey, and feathers and white feet of hares were lying about. A great Owl flew below us, showing a beautiful expanse of back and wings; and as we proceeded in the direction from which it came, another large Owl rose from the face of the cliff, flew a hundred paces forward, turned its wide face towards us, and came a short distance back. I stopped to examine it with my glass, to be quite certain it was *S. bubo*. Satisfied on this point, we had only to walk a few paces along a ledge before the family group was in sight—two blind little puffs covered with down just tinged with yellow, and an egg with the prisoner inside uttering his series of four or five chirps through the window he had made in the shell, with a voice scarcely more feeble than that of his older brothers. There did not seem to be much difference in the ages of the three: they were lying upon a small quantity of compressed fur, principally of rats, the remains of the castings of the parent birds, their bed nearly flat, for there was not more than two inches of soil. *Uva-ursi* and several other plants grew near, and a small Scotch fir tree had its bark curiously flattened to the perpendicular rock at the back; the ledge was not more than two feet wide, and terminated abruptly just beyond the nest; the rock beneath was also perpendicular. A party of village ladies watching us from below were very successful in imitating the Owls, but the Owls themselves would not answer. We waited at the nest a long time in the hope that they would show themselves; but it was not till we had left it that we saw them again, sitting on the topmost shoots of spruce firs, with their ears finely relieved against the sky; and when we were nearly in the village again, they hooted with a troubled note. I have visited three other sites of nests of this bird; and they were all of the same character, upon ledges in or over the cliffs. They were all unsheltered overhead. Sunshine seems to be courted rather than avoided."

"Although," says Mr. Wheelwright, "I neither saw the bird nor obtained its nest in Lapland, it bred on a high mountain just opposite Quickiock, on the other side of the river; and the deep-measured 'boo, boo' of the old bird, resembling the distant bark of a gruff old watch-dog, might be heard on any evening when we were out in the neighbourhood of its eyrie. I have not unfrequently taken the nest in Wermland, and it breeds commonly both around Gothenburg and in the south of Sweden; but I think its proper home is more in the midland than in the northern districts of the country. The egg is the largest of all the European Owls' eggs, often measuring $2\frac{3}{8}$ by 2 inches."

The Eagle Owl, however, does not always breed on rocks. A nest containing young ones and a single addled egg is mentioned by Mr. A. Newton in his '*Ootheca Wolleyana*' (p. 164).

In his notes on the birds observed by him in the Ionian Islands, Lord Lilford says, "I very often heard and occasionally saw this species in Epirus and Albania proper, in which provinces it is common and breeds. One of our party killed a fine specimen near Prevesa, on the Gulf of Arta, in March 1857. I shot a female near Butrinto, in February 1858, and was in at the death of another near Santa Quaranta shortly afterwards. I was watching a pair of Bonelli's Eagles one day near Butrinto, when an Eagle Owl came flying past me in a much more hurried manner than is its wont, and took refuge in a thorn-bush, about a gun-shot from where I stood. He had hardly reached this shelter before a Peregrine Falcon stooped at, and just missing him, rose and 'made her point.' I drove the Owl out, and was witness of a beautiful flight across an open plain of considerable extent—the Falcon making repeated feints, the Owl flying low and dodging round the scanty thorn-bushes, till he at length reached a hillside thickly covered with wild olives, and set his pursuer at defiance." ('*Ibis*,' 1860, p. 133.)

No person in England has been so successful in breeding this bird as Mr. Edward Fountaine, who informs me that he has reared thirty-five birds out of forty-six eggs—a fact of considerable interest.

The localities in the British Islands in which this bird has occurred are, according to Mr. Yarrell, Kent, Sussex, and Devonshire, Suffolk, Yorkshire, and Durham. It does not appear to have been seen in Scotland, and the only record of its occurrence in Ireland appears in Mr. Stewart's '*Catalogue of the Birds of Donegal*,' in the following words:—"Four of these birds paid us a visit for two days after a great storm from the north, when the ground was covered with snow. They have not been seen since."

The colouring of the soft parts of the young at one day old is as follows: cere and bill purplish blue, with a distinct white projecting knob about an eighth of an inch from the point; body covered with buffy white down; soles of the feet flesh-colour.

The sexes are alike in colour; but the female is somewhat smaller than the male.

The figures in the Plate are about two-thirds of the natural size.

OTUS VULGARIS.

OTUS VULGARIS.

Long-eared Owl.

- Otus albigollis*, Daud. Traité d'Orn., tom. ii. p. 213.
— *Italicus*, Daud. ibid., p. 213.
— *vulgaris*, Flem. Hist. of Brit. Anim., p. 56.
— *Europæus*, Steph. Cont. of Shaw's Gen. Zool., vol. xiii. pt. ii. p. 57.
— *communis*, Less. Traité d'Orn., p. 110.
— *aurita*, Mont. Orn. Dict. Renn. edit., p. 262.
— *asio*, Leach, Syst. Cat. Brit. Mus., p. 11.
— *sylvestris*, Brehm, Vög. Deutsch., p. 121.
— *arboreus*, Brehm, ibid., p. 122.
— *gracilis*, Brehm, ibid., p. 123.
Asio italicus, Briss. Orn., tom. i. p. 491.
— *otus*, Less. Man. d'Orn., tom. i. p. 116.
Strix otus, Linn. Syst. Nat., tom. i. p. 132.
Ulula otus, Macgill. Rapt. Birds of Brit., p. 403.
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WHY one group of Owls should have elongated tufts on the forehead, like the *Otus vulgaris*, others short plumes, as in the *Brachyotus palustris*, while other groups have no trace of these appendages, is a matter for speculation among naturalists. These lengthened feathers have obtained for the two birds above mentioned the trivial names of the Long- and Short-eared Owls; but it must be understood that they are totally unconnected with the ears, and are, in fact, nothing more than a prolongation of that particular part of the bird's plumage. Of course the anatomist would find a particular muscle for the erection and depression of these tufts; for nature never bestows such a feature without the means of showing it off to the best advantage: thus the fine colours on the side of the Red-legged Partridge are displayed to the utmost, so that every band falls into its right place, and so that the varied colours are in perfect harmony; and this law prevails with every bird, from the Peacock, with its gorgeous train, to the humble Sparrow on the house-top, who, in his manifestations of love, exhibits to his mate far more varied markings than he is generally supposed to possess. My own opinion is, and always has been, that ornamentation is the chief design and intention of these beauties, and that they have little or no influence whatever on the bird's well-being and economy. It is remarkable, too, how one group represents another in the great scheme of creation; how Falcons, among birds, answer to the salmon and the trout; and the Owls the cats among Mammals, even to the appearance of the ears, to say nothing of the resemblance in their disposition and many of their actions. The poor mouse has, indeed, many enemies—the Owl, the Kestrel, the Stork, and the Heron, among birds; the cat and the weasel among quadrupeds, and the snake and lizard among reptiles. But let us revert to the history of the Long-eared Owl, one of the most interesting members of its group. Does it constantly live in England? Is it strictly an indigenous bird? Is its dispersion general, from the most southern to the most northern parts of England and Scotland? Does it inhabit the sister kingdom of Ireland, as well as the islands contiguous to Britain? To all and every one of these queries I answer, Yes. Every extensive wood, nearly every plantation of firs (larch, Scotch, or silver) has its pair of Long-eared Owls; or if it be not so, it is because the keeper, the sportsman, and the collector, instead of befriending the poor bird, strive to extirpate it by ruthlessly shooting every individual that may flap forth when the covers are beaten for the stealthy Woodcock and the Pheasant. A moment's reflection only is necessary to convince every one of the folly of destroying so beautiful an ornament of the country, and so useful a denizen of our woods and pastures, which is evidently designed to keep in check the numbers of the field-mice, young weasels, and smaller birds, all of which it readily devours. To show the great amount of good it effects in this way, I may cite the following passage from Mr. Selby's account of this species:—"In the stomach of one individual I found five skulls of mice, which were, without doubt, the relics from its repast of the previous night."

Independently of the British Islands, the Long-eared Owl is found in all parts of Europe, from Prussia to Italy. The chances are that it is generally dispersed over Africa; for we know that it frequents the wooded regions of the northern parts of that country, and that it also occurs within the Colony of the Cape. It has not yet been discovered in the Indian peninsula; but Mr. Jerdon states, in his recently published work on the birds of that country, that it inhabits the Himalayas from Nepaul to Cashmere, but is not very common: towards the east it evidently becomes more scarce. Mr. Wheelwright states that neither this species nor the Brown Owl are met with in Lapland.

In America, either this bird or a most nearly allied species is more common in the middle and eastern

parts of that country than in the southern and western. Dr. Baird gives the whole of the temperate regions as the range of the American bird, and moreover adopts Lesson's name of *Otus Wilsonianus*; but I cannot agree with him and the late Prince Charles Bonaparte in considering the American bird distinct from our own.

The colouring of the eyes of this Owl would indicate that it is a day and not a night flier; this, however, is not strictly the case, for darkness, rather than the bright sunlight, is more in unison with its way of life; but on this point Mr. Hepburn informed Mr. Macgillivray that "Sol will sometimes surprise the nocturnal wanderer, feasting on his prey in the meadow. He seeks the friendly shelter of the hedge-row or neighbouring wood, where he hopes to remain in peace until night again throws her veil over nature. Vain are his hopes; for a prying Wren has discovered the intruder, and sounds an alarm. The Robin, the White-throat, and other birds hasten to the spot. First and foremost are the Chaffinches. They buffet him, peck at and menace him on every side, while the Owl turns his eyes from party to party, evading their blows as well as he can. The uproar is now great, each bird, in its mother-tongue, venting its execrations against the poor Owl. On such occasions, one may get within a few feet of it; the distance varying according to the depth of shade in which he may be sitting. At length he takes wing, generally flies a short distance, often pursued by a Chaffinch or two. On alighting, he is still persecuted; and unless he gains some suitable roosting-place, the alarm-notes of these watchful birds are heard the livelong day."

Mr. Alfred Newton has sent me the following notes:—"I do not know many sights more engaging to a naturalist than one which often presents itself on peering into a thickly growing Scotch fir-tree. A family party of some half-dozen Long-eared Owls may be descried perched in close proximity to the observer's head. Their bodies are drawn up perpendicularly and attenuated in a most marvellous manner, the ear-tufts nearly erect, or, if not exactly parallel to one another, slightly inclined inwards. Except these, there is nothing to break the stiff rectangle of the bird's outline. Thus they sit, one and all, swaying slowly upon one foot, and gravely winking one eye at the intruder. Underneath such an Owl-roost as this, is certain to be found a large quantity of the pellets ejected by its frequenters; and a good notion of their usual food is to be gathered from an examination of the same. Half-grown rats and mice, chiefly the former, constitute the staple; but small birds contribute no small share; and I have recognized among the remains unquestionable bones of the Wheatear, Willow-Wren, Chaffinch, Greenfinch, Bullfinch, and Yellow Bunting. How the Owls catch them, I am unable to say; but I am bound to mention that never in a single instance have I discovered a trace of any game-bird, and I feel assured that the keepers who wage war against the Long-eared Owl for the protection of their young Pheasants or Partridges are not only giving themselves unnecessary trouble, but are also guilty of the folly of exterminating their best friends; for the number of rats destroyed by this species is enormous, and I look upon the rat as the game-preserver's worst enemy."

It breeds in March and April; and if ever it constructs a nest for itself, it is a very slight platform of sticks, placed on the horizontal branch of a fir or other tree; but it generally appropriates the deserted drey of a Squirrel, or the nest of a Pigeon, a Crow, or a Magpie, on which to deposit its four or five white eggs.

The two sexes are so much alike that a description of one will serve for the other. When first hatched, they are clothed in a closely set white down, which gradually puts on a fawn-coloured hue, rayed with a darker tint. On the assumption of real feathers, they assimilate to the colouring of the adult; and the full plumage being once attained, no material change takes place at any season. Mr. Selby states that the young "remain in the nest for more than a month before they are able to fly. If disturbed and handled, they hiss violently, strike with their talons, and at the same time make a snapping noise with their bills. When they quit the nest, they take up their abode in some adjoining tree, and for many subsequent days, indeed for weeks, may be heard after sunset uttering a plaintive but loud call for food, during which time the parent birds are seen diligently employed in hawking for prey."

The anterior portion of the facial discs is white; to this succeeds a lengthened mark of blackish brown, in the centre of which the eyes are seated; beyond this the colour is deep fawn, fading into white on the outer margin; ruff surrounding the discs mottled buffy white and dark brown; ground-colour of the plumage fawn-colour, each feather with a broad stripe of dark brown down the centre; the apices of all the feathers freckled and transversely rayed with greyish white and dark brown; spurious wing dark brown; primaries rich fawn-colour at the base, and crossed alternately on their apical portions with broad bands of dark brown and greyish buff, freckled with dark brown; tail similarly marked, but the bands are narrower and more confused than those of the wings; under surface buff, becoming paler on the centre of the abdomen, vent, and under tail-coverts; feathers of the breast and flanks, and those in front of the thighs, with a conspicuous streak of dark brown down the centre, from which proceed at intervals on either side narrow irregular rays of the same hue; frontal tufts blackish brown, bordered externally with deep fawn-colour, and internally with white, freckled with brown; irides rich fiery orange.

The Plate represents an adult of the natural size, and a nest of young ones, about a fortnight old.

BRACHYOTUS PALUSTRIS.

BRACHYOTUS PALUSTRIS.

Short-eared Owl.

- Strix brachyotos*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 289.
—— *ægolius*, Pall. Zoog. Ross. As., tom. i. p. 309.
—— *ulula*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 294.
—— *accipitrina*, Pall. Itin., vol. i. p. 445.
—— *caspia*, Shaw. Gen. Zool., vol. vii. p. 272.
—— *palustris*, Bechst. Vög. Deutsch., tom. ii. p. 344.
—— *brachyura*, Nils. Faun. Suec., tom. i. p. 62.
—— *arctica*, Sparm. Mus. Carls., pl. 51.
Otus brachyotus, Steph. Cent. of Shaw's Gen. Zool., vol. xiii. pt. 2. p. 57.
Brachyotus palustris, Gould, Birds of Europe, vol. i. pl. 40.
—— ——— *europæus*, Bonap. Consp. Gen. Av., tom. i. p. 51.—*Brachyotus*, sp. 1.
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THERE are in nearly every group of birds certain species which are eminently cosmopolitan—wanderers, as it were, over the whole (or nearly the whole) surface of our globe; and the present bird may be regarded as the cosmopolite among the Owls, since it ranges so widely that there are few countries which it does not inhabit. It is true that the ornithologists of the United States consider their bird to be distinct from the Short-eared Owl of the Old World; but the difference between them is, in my opinion, too slight to warrant their being regarded in that light.

Wherever a bird breeds, that country may justly claim it as one of its indigenous inhabitants: hence this Owl may be so considered in the British Islands; for although there is an immigration from the north about the end of October, and a corresponding diminution in spring, yet considerable numbers did formerly, and many now, remain to breed in England, Scotland, and Ireland. We have abundant evidence that this bird inhabits the African continent, from north to south. Mr. Jerdon states that it arrives in India at the beginning of the cold weather, and leaves again about March, spreading itself in the interval over the entire Peninsula, from Cape Comorin to the Himalayas, and being often flushed and killed by the florican-hunters. Every country of the European continent enumerates it in the list of its avifauna. It is common on the Amur, and doubtless in every part of China. In America, it frequents the fur-countries in summer, and at other seasons the whole of the northern States, from east to west. When speaking of this species in my 'Birds of Europe,' I stated that I had seen examples from other portions of the New World, even as far as the southernmost parts of Chili; and although I cannot now refer to the specimens, I am inclined to believe that I was correct in so saying. In Australia, New Zealand, and Polynesia it has never been found; neither have I any reason to suppose that it is a native of any of the Indian Islands, such as Borneo, Java, the Philippines, and Japan; everywhere else this flapping diurnal Owl appears to be either a constant resident or a migrant.

In England, this bird is known to sportsmen as the Woodcock Owl, from the circumstance of its numbers being greatly augmented about the time of the arrival of that bird in November; in all probability, both species are under the same influence, and compulsorily leave the coast of Norway with the first favourable wind. In November, then, great accessions to the numbers of this bird are observed to take place on our eastern shores, whence they spread themselves over the entire country, and are frequently to be met with, in the latter part of the Partridge-season, among the great turnip-fields and low sedgy flats of Norfolk, Suffolk, and Cambridge and Huntingdon shires. Certain districts are occasionally overrun with the common Field-Mouse to such an extent that the young plantations would be entirely destroyed, were their numbers not kept down by the Short-eared Owl. Instances are on record of from ten to twenty being seen together; and hence it has been regarded by some as a gregarious bird, which indeed it is, so long as there is an abundance of this kind of food, but no longer: the mice failing, it feeds upon any other small quadrupeds and birds it may be able to obtain. Colonel Montagu found the remains of a Skylark and a Yellowhammer in the stomach of one he examined, Mr. Thompson the legs of a Tringa, and Mr. Yarrell a half-grown rat and portions of a bat.

These terrestrial habits will inform my readers that this is not a woodland bird, like the Long-eared Owl; and this difference in the situations they frequent, together with certain variations in their structure, induces me to consider them as generically distinct.

Sir William Jardine states, "On the extensive moors at the Head of Dryfe, a small rivulet in Dumfriesshire, I have, for many years past, met with one or two pairs of these birds; and the accidental discovery of their young first turned my attention to the range of their breeding. The young was discovered

by one of my dogs pointing it; and the following year two nests, with five eggs, were found. They were upon the ground, among the heath, the bottom of the nest scraped until the fresh earth appeared, on which the eggs were placed, without any lining or accessory covering. When approaching the nest or young, the old birds fly and hover round, uttering a shrill cry, and snapping with their bills; they will then alight at a short distance, survey the aggressor, and again resume their flight and cries. The young are barely able to fly by the 12th of August, and appear to leave the nest some time before they are able to rise from the ground. I have taken them, on that great day to sportsmen, squatted on the heath, like young black game, at no great distance from each other, and always attended by the parent birds: last year (1831) I found them in their old haunts, to which they appear to return very regularly." That the bird breeds still further south in the British Islands is proved by the following remarks of Mr. Stevenson, of Norwich:—"While planting and cultivation have induced the Long-eared Owl to become a regular denizen of this country, drainage and the enclosure of commons and waste lands have banished the Short-eared Owl from its former breeding-grounds. In the south-western parts of Norfolk, where fens are now almost entirely done away with, this species bred regularly; and its nests were also taken occasionally in the vicinity of the coast. It still visits us regularly, and very numerously, in autumn." Mr. F. Bond has taken several nests in Wicken and the adjoining fens near Burwell, in Cambridgeshire; but these fens are now drained.

Mr. Wheelwright, who writes so interestingly in the 'Field' under the name of "An Old Bushman," says:—"The Short-eared Owl is a summer migrant in Lapland, arriving towards the end of May, and during the whole season it is very common on the fells. It frequents exactly the same tracts as the Merlin, and, although perhaps more nocturnal than diurnal in its habits, is very often seen hawking over the fells in broad daylight. Its flight much resembles that of the Goatsucker. It is a very bold bird; and I once saw a Short-eared Owl actually beat off a Golden Eagle from the vicinity of its nest. I have often been amused, while lying by my camp-fire on the fells at midnight, by watching the curious evolutions of this bird in the air, which greatly reminded me of those of the Common Lapwing. Its loud cry, "Wau-wau," much resembles the barking of a dog. We took one fresh nest, May 29."

Mr. Wolley, in a paper read at the Meeting of Scandinavian Naturalists, at Christiania, in 1856, mentions that "This bird has a singular habit, when in fear for its nest, of suddenly casting itself down on the ground, in a place where it is hidden from the sight of the passer-by, and there wailing like a woman in fright or danger." This fact, he adds, has no doubt given rise to a story which he had heard among some of the Lapps, relating to a supernatural bird, which they say sometimes makes a visit to their encampments, darting down upon a spot whence a tent has lately been removed, seizing a fragment of skin or fur from the dress of one of the family, and flying away with it. "Presently it returns and again darts down, but this time on the spot where the owner of the fragment will be buried. There it cries and moans like one in the agonies of death, and just as that person whose fate is thus indicated will, at his or her end, wail and moan."

Mr. Alfred Newton informs me that, during the first week in August 1854, his brother Edward and himself, when riding over a heath at Elveden, disturbed a Short-eared Owl, which made a great outcry, rising high into the air, and then dashing down with a piercing scream. "We proceeded to search, and soon came upon a half-fledged young one, sheltered in the heather, by the side of which a freshly-killed rat had been deposited. A day or two after, we found that, notwithstanding the anxiety shown by the parent bird, this young one had been abandoned by it since our visit, and was dead. We, however, discovered another of the brood close by; but this too was in like manner deserted, though we had been careful not so much as to touch it. Not wishing to cause the deaths of the remainder of the family; for there were doubtless some more hidden in the heather, we made no further search; and though the jealous temper of the old bird hardly deserved to be rewarded, I trust the rest of the brood attained to maturity. The Owlets we found had probably strayed to a considerable distance from the nest; for we looked over the ground so carefully that, had it been near at hand, it could not have escaped us."

Mr. Jerdon considers it probable that this is the Owl that is not unfrequently hawked at by falconers in the North-western provinces of India; and in confirmation of this view, Mr. Wolf informs me that he once released a Short-eared Owl from a springe, which, on flying away, was pounced upon by a Goshawk that had been secretly sitting on a neighbouring tree, and carried it off in its talons.

The buffy tint of the breast varies from yellowish red to light buff and yellowish white. In some specimens the longitudinal stripes on the centre of the breast and flank-feathers are very narrow, in others broad. When fully adult, the colours of the two sexes assimilate very closely; and the young, from their first assumption of feathers after the downy state, partake of the colouring of the adult.

The Plate represents the bird, with its nest and eggs, of the natural size.

SCOPS ZORCA.

SCOPS ZORCA.

Scops Eared Owl.

- Strix scops*, Linn. Syst. Nat., xii. edit. tom. i. p. 132.
—— *zorca*, Cetti, Ucc. di Sardegn., p. 60.
—— *carniolica*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 290.
—— *gui*, Scop. Ann. Hist. Nat., tom. i. no. 9.
Asio scops, Briss. Orn., tom. i. p. 495, pl. xxxvii. fig. 1.
Scops zorca, Swains. Class. of Birds, vol. ii. p. 217.
—— *Aldrovandi*, Willugh. Orn., p. 65, tab. xii.
—— *ephialtes*, Savig. Descr. de l’Egypte, Hist. Nat., tom. i. p. 107.
—— *europæus*, Less. Traité d’Orn., p. 106.
—— *asio*, Steph. Cont. of Shaw’s Gen. Zool., vol. xiii. part 2. p. 51.
Bubo scops, Boie, Isis, 1822, p. 549.
—— *scops*, Schleg. Rev. Crit. des Ois. d’Eur., p. xiv et 38.
Ephialtes scops, Keys. und Blas. Wirbelth. Eur., p. 33.
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WE find in the great family of *Strigidae* as much diversity of form and colouring as in any other group of birds of similar magnitude and equally general distribution; and it is especially interesting to study their structural variations and marked differences. Although generally nocturnal, many are diurnal, the visionary powers of some of the genera enabling them to see as well by day as by night; some, as we all know, have bright yellow or orange irides, while in others they are as black as sloes. Some genera, such as *Bubo* and *Scops*, are adorned with graceful tufts of feathers springing from above the eye, while the *Surnia* have full and rounded heads, without a trace of such appendages. The members of the genus *Strix*, of which our Barn-Owl may be cited as a typical example, are distinguished by the extreme delicacy, softness, and lovely pencillings of their plumage. Some genera have bare tarsi, as *Ketupa*; while others have enormous feathered tarsi and toes—for example, *Scotopelia*. Now each of these diversities of structure is adapted to some special purpose; thus the huge bird just alluded to and the great Australian *Hieracoglaux strenuus* prey upon large quadrupeds and birds, while the greater part of the food of the more delicate *Scops* consists mainly of insects. The forms above mentioned, however, are only a part of the great family of Owls, whose distribution over our globe is so general that no portion of its surface is entirely destitute of them. The area over which the present species ranges was formerly considered to be much more extensive than it really is: thus, instead of being spread over the whole of Africa, its range on that continent is somewhat circumscribed; for it would seem that it does not cross the equator, and that the birds from Senegal and the Cape of Good Hope, which were formerly regarded as identical with it, are really distinct. The same remark applies to India; for it is now excluded from the fauna of that country, and the name *Scops pennatus* no longer placed as a synonym of *Scops zorca*. In North Africa, Egypt, Persia, the Holy Land, Asia Minor, and the whole of Southern Europe, including the islands in the Mediterranean, it is tolerably common; it is equally numerous in France and some parts of Germany; while in Belgium and Holland it is rare, and becomes still more so in Sweden and Norway, which constitute the boundary of its range in a northern direction. In England, Scotland, and Ireland its occurrence is purely accidental; and if any instances of its having bred therein have been recorded, they are few in number, and have not been satisfactorily verified. If we consult some of the works relative to European ornithology published on the Continent, we shall find many details respecting the habits and economy of this bird with which, for want of opportunity, our native writers have not been able to make themselves acquainted, and have therefore had to be content with giving little more than a list of its various occurrences in our island, which are too numerous to be recapitulated here; I must not, however, omit to mention two or three that have been kindly forwarded to me for the purposes of the present work. Mr. E. H. Rodd’s specimen from the Scilly Islands was especially beautiful, its pencilled markings rivalling in minuteness those of the most delicately marked Nightjar or of the Wryneck; and another, equally beautiful, was presented to me by the late amiable Earl of Craven, which had been caught alive under a turnip-leaf in a field on his Lordship’s estate at Ashdown, in Berkshire, I believe, the year 1858. Lastly, at the moment I am writing, June 1868, Mr. Rocke, of Clungunford House, Shropshire, sends me word that a fine male specimen has been recently killed by John Hurleston Leche, Esq., of Carden Park, Cheshire. It had been heard, several evenings before it was obtained, uttering its peculiar note of “*kew, kew.*”

“In the Djendeli district we found this Owl abundant; every night its peculiar cry might be heard from one or more individuals. Several, which had been caught on their nests, were brought to us by the Arabs;

one of these, whose wing had been injured, we kept for some days in the tents; but after a time it disappeared, having probably hopped off in the night."—*Osbert Salvin*.

"Very common in Corfu during the summer months, arriving about the beginning of April, and breeding in the old olive-groves, which, from that time till the middle of October, resound with their melancholy and monotonous cry. The favourite food of a Scops Owl which I kept alive at Corfu for some months was the Humming-bird Moth, which abounds in the island in August and September. In the year 1857 I observed one of this species in the island as late as the 17th of November. I was gravely assured by a Spanish lady that this species and the Barn-Owl enter the chapels and churches in Andalusia to drink the oil in the lamps which are kept burning in the shrines of the saints, and that it behoved all good Christians to slay them whenever they found them—adding, 'Son las gallinas del demonio, Señor.'"—*Lord Lilford*.

"Mr. Howard Saunders informs me that "the Scops-eared Owl is abundant near, and almost in Seville: five minutes' walk from the Cathedral you may hear the male's clear ringing 'Kiou' any evening; the female's note is said to be merely 'Cu,' not the rounded 'Coo' of the Wood Pigeon. *Athene noctua*, on the contrary, mews like a cat, and also utters 'Cu-Cu,' always double and often repeated."

"During my ramble in the grounds of the Casa de Campo, to the south of Madrid, I suddenly came face to face with a Scops Owl which was sitting tightly drawn up against the trunk of an elm, about 5 feet from the ground. We contemplated each other, no doubt with mutual admiration, for some minutes, till the Owl, after bowing politely several times, retired to a thick ilex at some distance, where I left him. This species was then beginning to make its appearance in Castile; a fortnight later it was very abundant, and its melancholy 'keeyou, keeyou' to be heard throughout the night, and often during the day, in all parts of the country."—*Lord Lilford*, 'The Ibis,' 1866, p. 176.

"Very plentiful in the seasons of its migrations, and by far the commonest Owl found in Malta. It commences arriving towards the end of February or beginning of March, and continues passing till May, reappearing in September, October, and November. It is sold in the market in great numbers with Nightjars and other birds for the table, and is considered good eating by the natives. It is easily tamed and becomes very familiar in captivity. A few probably winter on the island, as individuals are taken in December and January. In 1862–63 I obtained nearly a dozen specimens in the market at different times during these months."—*Mr. Wright*, 1864.

"On the 27th of November, 1861, an adult male of this pretty little Owl was picked up dead near the Lighthouse at Cromer, in Norfolk, against which it had in all probability flown with great force, attracted by the glare of the lamps. The head was uninjured, and the plumage perfect, but the flesh on the breast and the point of one wing showed symptoms of having sustained a very severe blow. The stomach contained a mass of fur about the size of a walnut, amongst which was discernible an almost entire skeleton of a mouse, the heads and forceps of several earwigs, and three stout caterpillars, nearly an inch in length."—*Stevenson*.

"Very common in spring in old ruins and olive-groves, returning to Palestine about the middle of April. We found the nests both in the walls of ruins and in hollow trees. No less than four birds were caught on their eggs in holes of olive trees. It does not come out so soon as the *Athene persica*, indeed is seldom heard until after sunset."—*Tristram*, 'The Ibis,' 1865, p. 261.

The late Mr. W. Spence, the well-known entomologist, recorded the following account of its summer habits in the 5th vol. of 'London's Magazine of Natural History':—"This Owl, which in summer is very common in Italy, is remarkable for the constancy and regularity with which it utters its peculiar note or cry. It does not merely 'to the moon complain' occasionally, but keeps repeating its plaintive and monotonous cry of 'kew, kew' (whence its Florentine name of *Chiù*, pronounced almost exactly like the English letter Q), in regular intervals of about two seconds the livelong night; and, until one is used to it, nothing can well be more wearisome. Towards the end of April 1830 one of these Owls established itself in the large *Jardin Anglais*, behind the house where we resided at Florence; and until our departure in the beginning of June, I recollect but one or two instances in which it was not constantly heard (as if in spite of the Nightingales which abounded there from nightfall to midnight, and probably much later) whenever I chanced to be in the back part of the house or took our friends to listen to it, and always with the same unwearied cries, and the intervals between each as regular as the ticking of a pendulum. This Owl, according to Professor Savi's excellent *Ornitologia Toscana*, vol. i. p. 74, is the only Italian species which migrates, passing the winter in Africa, and the summer in the south of Europe. It feeds upon beetles, grasshoppers, insects."

The Plate represents a male and a female, of the size of life, on a branch of the common Yew, *Taxus baccata*,—the grey bird being the former, and the brown one the latter. The moth is the Death's-head of English collectors, the *Sphinx Atropos* of Linnæus.

NYCTEA NIVEA.

NYCTEA NIVEA.

Snowy Owl.

Strix nyctea, Linn. Syst. Nat., tom. i. p. 132.

—— *nivea*, Daud. Traité d'Orn., tom. ii. p. 190.

—— *candida*, Lath. Ind. Orn., Suppl. p. 14.

—— *wapacuthu*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 291.

—— *arctica*, Bartr. Trav., p. 285.

Nyctea erminea, Shaw, Gen. Zool., vol. vii. p. 251.

—— *cinerea*, Steph. Cont. Shaw Gen. Zool., vol. xiii. p. 63.

Surnia nyctea, Edmonst. Mem. Wern. Soc., vol. iv. p. 157.—Thomps. Ann. Nat. Hist. vol. i. p. 241.

Noctua nyctea, Boié, Isis, 1822, p. 770.

Nyctea nivea, Brehm. Isis, 1834.

—— *candida*, Swains. Class. of Birds, vol. ii. p. 217.

THE SNOWY Owl belongs to a great group of birds, so universally dispersed that I believe no portion of the world is destitute of one or other of its members. This universal distribution of the Strigidæ, some of which are nocturnal, while others are diurnal, is no less interesting than are the diversities of structure observable among them: some are adapted for the capture of living prey of large size, others for seizing the smaller quadrupeds and birds, and others again for insects and their larvæ. Thus the huge Athenes of Australia destroy the Koalas, the Phalangers, the smaller Kangaroos, Perameles, and other less important Marsupials; the *Huhua nipalensis* of India is said by Mr. Jerdon to prey on hares, cats, rats, and fish; and in Africa we find the *Scotopelia Peli*, whose great size and extraordinarily developed talons, we may be assured, are adapted either for a similar purpose or, perhaps, for the destruction of the *Colobi* and other Monkeys of that country. In the northern regions of the Old World, we have the two powerful species of the genus *Bubo*. Of the natural food of these Great Owls we know but little, except that they are said to feed on fawns, hares, rats, and small quadrupeds, and birds of many kinds, particularly Ptarmigan and Grouse. The members of the restricted genus *Strix* are more universally dispersed than those of any other form of the entire family, and feed almost exclusively on mice and other small Rodents. The diurnal Owls, forming the genus *Noctua*, prey upon birds and insects; and it is probable that the numerous minute species found in South America are mortal enemies to the Trochilidæ, in confirmation of which I may mention that these little birds show their aversion to the Owls, by attacking them with the utmost fury whenever they come in contact with them. To generalize further on the Strigidæ as a whole would be out of place; and I have merely made these few remarks on their distribution and varied habits for those of my readers who are not professed ornithologists, and to state that the Snowy Owl is a denizen of the ice-bound regions of northern Europe, Siberia, Iceland, Greenland, Labrador, and the country north of Davis's and Barrow's Straits between America and the unknown land; it also tenants the icebergs which become separated from the mainland and float towards warmer regions: the Snowy Owl finds a plentiful supply of food in the numerous birds which settle on these floating masses; here, in company with Polar Bears, with which it shares the seal and the walrus, it spends much of its time; and its whole structure, colouring, and thick plumage are wonderfully adapted for such a mode of life. Cold has no effect upon it; on the contrary, it is what it covets. During the breeding-season it proceeds further south, and seeks the milder countries of Norway, Finland, Russia, and the fur-countries of America. On the bleak moorland, where none other but the Lapp or the Esquimaux sets his foot, the Snowy Owl performs the duty of reproduction, its nest being placed on the ground, and its numerous progeny reared among Hares, Lemmings, Ptarmigans, &c., which afford them an abundance of nutriment.

Dr. Falconer has called my attention to a passage in Wrangel's 'Expedition to the Polar Sea':—"Saw a flight of geese going N.N.W., and a White Owl (*Strix nyctea*), on the 1st of May, 150 werst, *i. e.* 100 miles, beyond the Paranon Rocks, and north of the coast-line of Arctic Siberia." . . . At page cxxiii, he says that "the Owl is a carnivorous bird, and follows the White Bear to feed on the remains of his prey," meaning that he follows the Bear out upon the ice away from the land.

In the British Islands, therefore, my readers will be prepared to learn that it is only a chance visitor; still its visits are by no means unfrequent, as the following notices of its occurrence (which I give on the authority of their authors) will testify.

"As a British species," says Macgillivray, "the Snowy Owl was first described in 1812 by Mr. Bullock, who met with it in the course of a tour through Orkney and Shetland; but it had previously been found by Dr. Lawrence Edmonston, of Shetland, who, in 1822, published a detailed account of its habits in the

‘Transactions of the Wernerian Society of Edinburgh.’ I have recently been favoured by Dr. Edmonstone with the following notice respecting this beautiful bird:—‘The first time I saw it was in 1808, when an individual had been shot by a lad, and hung up as a scarecrow. My next opportunity of seeing one was in the spring of 1812, when I succeeded in shooting the individual, the skin of which I presented, about a month or two afterwards, to my friend Mr. Bullock. He had seen the bird in Orkney in 1812; but this was the first specimen he had obtained, and it was the first recorded instance of its being killed in Britain. It continued to be exhibited in his collection till its dispersion.’”

Mr. Stevenson, of Norwich, informs me that “this beautiful species has occurred in Norfolk in several well-authenticated instances, although an interval of nearly thirty years elapsed between the appearance of the earlier specimens and those more recently obtained. Two examples are recorded in Hunt’s ‘Norfolk Birds’ to have been taken in this county—one in April 1814, and another in January 1820. Of these, the former was killed at Felbrigg, the latter at Gunton, both in the vicinity of the coast near Cromer. From that time I can find no record of its appearance until 1844, when a fine specimen was shot at Beeston, also near Cromer. In the early part of 1847 a large White Owl was seen more than once in the neighbourhood of Brooke; and in 1849–50 no less than three were met with in different parts of the county in the short space of six months. Of these, the first was seen, but not shot, at Swannington, during the autumn of 1849; the second, a young male, was also shot at Beeston; and the third, a young male, though more advanced in plumage, was killed at St. Faith’s, in February of the same year. I know of none since.”

Similar instances might be given of the accidental occurrence of this bird in nearly every county of England and of its still more frequent occurrence in Ireland; but these visits do not appear to be regulated by any fixed laws: to detail, therefore, where every specimen has been killed, would be useless; but I may mention that the ‘Morning Advertiser’ of November 10, 1859, contained the following paragraph respecting this bird:—

“Snowy Owl (*Surnia nyctea*).—A very perfect specimen of this beautiful Owl was lately shot on the open moor at Knockie, in Invernesshire; it was stalked and shot with a rifle at eighty yards’ distance. The extent of the outspread wings is 4 feet 9 inches; length 22 inches; weight 3 lbs. 5 oz.; plumage pure white, barred and spotted with dark brown.”

Speaking of the Snowy Owl, as observed by him in Lapland, Mr. Wheelwright says:—

“Considering the number of eggs—eight or nine—that the Snowy Owl lays, and the wild inaccessible nature of the country in which its nest is usually built, I cannot help wondering that this bird is not more common on these fells; but if we take into consideration the immense fell-tract stretching from the Dovrefell, in Norway, right up to the North Cape, and think of the thousands of acres whereon human foot never treads, but over which these birds have almost an undisputed range, our wonder ceases. The old birds appear rarely to leave the high fells; and if we want them, we must seek them in their wild mountain home. They appear, however, to make periodical migrations after the Lemming, and therefore, in some seasons, are common in districts where they have perhaps not appeared for years. Still I fancy the Snowy Owl is more local than erratic.

“An opinion is held here that the Snowy Owl becomes whiter in the winter (which I think very probable), and that the female is always purer in colour than the male. It is clearly a diurnal bird; for any day when we went out on the fells we could see the White Owl perched on a distant rock watching us, or beating over the fells with a stately measured flight—always, however, out of gunshot. Its shriek, when on the wing, resembles a loud ‘krau-au,’ repeated three or four times; but it is seldom heard except when the bird is excited. Some of the movements of this bird are very extraordinary, and I once saw one fall from a considerable height on to the ground, where it lay for a time perfectly motionless, with outstretched wings, as if it were shot. I tried to creep up within gunshot; but it rose out of distance, and sailed away, uttering a wild loud cry, “Rick, rick, rick,” as if mocking me.

“The egg of the Snowy Owl measures just the same in length as that of the Eagle Owl ($2\frac{1}{4}$ inches); its breadth is $1\frac{3}{4}$ inch, that of the Eagle Owl being 2 inches full. The nest was nothing more than a large ball of reindeer moss, placed on the ledge of a bare fell. The old birds appeared to guard it most jealously; in fact the Laps often kill them with a stick when they are robbing the nest.”—*Field*, Jan. 31, 1863.

The Snowy Owl bears confinement remarkably well, as evidenced by the state of contentment in which several examples have lived, in the Gardens of the Zoological Society, for many years.

Much variation occurs in the plumage of this species, some individuals, of both sexes, being entirely white, while others are more or less numerously marked and barred with brown.

The front figure in the Plate represents a female, in the barred (and probably adult) state of plumage, about two-thirds of the natural size.

SURNIA FUNEUA.

SURNIA FUNEREA.

Hawk Owl.

- Strix funerea*, Linn. Faun. Suec., p. 25.
—— *ulula*, Linn. Faun. Suec., p. 26.
—— *doliata*, Pall. Zool. Ross.-Asiat., tom. i. p. 316.
—— *hudsonia*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 295.
—— *nisoria*, Meyer, Taschenb. Deutschl. Vög., tom. i. p. 84.
—— *arctica*, Sparrm. Mus. Carls. p. 51.
Noctua (Surnia) funerea, Cuv. Règn. Anim., edit. 1817, tom. i. p. 332.
Surnia funerea, Brehm, Vög. Deutschl., tom. i. p. 101.
—— *borealis*, Less. Traité. d'Orn., p. 100.
—— *ulula*, Bonap. Consp. Gen. Av., tom. i. p. 36.
Syrnium nisoria, Kaup, Natürl. Sys. der Eur. Thier., p. 59.
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THIS diurnal Owl, so commonly spread over many parts of Northern Europe, Siberia, and America, having been twice captured in England, ornithologists generally agree in the propriety of giving it a place in our avifauna : its visits, however, must be regarded as purely accidental ; and destitute as these islands are of the peculiarly wild and sterile districts so frequent in the countries it inhabits, it is not likely that it will ever become a resident here. Its first occurrence in Britain was recorded by the late Mr. Thompson, of Belfast, in the Proceedings of the Zoological Society of London for 1835, in the following words :—" *Surnia funerea*. An *Owl* of this species, preserved in the collection of Dr. Birkitt, of Waterford, was taken on board a collier, a few miles off the coast of Cornwall, in March 1830, being at the time in so exhausted a state as to allow itself to be captured by the hand. On the arrival of the vessel at Waterford, whither she was bound, the bird was given to a friend of Dr. Birkitt, with whom it lived a few weeks, and then came into his possession."

The second instance of its appearance was recorded in the 'Zoologist' for 1851, p. 3029, by Mr. E. T. Higgins, who says : "The subject of this communication was shot on the 25th or 26th of August, 1847, about two o'clock in the afternoon (the sun shining brightly at the time), whilst hawking for prey on Backwell Hill, near the Yatton (Clevedon) Station, on the Bristol and Exeter Railway, and on the day following, whilst still in the flesh, came under my observation ; for the genuineness of the specimen I can therefore vouch. The delay in the record of its capture has arisen from my inability to obtain the bird for description sooner. Having at length had it placed in my hands, I hasten to bring it before your readers." After giving a minute description, and a very good woodcut of the specimen, he continues : "This is in all probability a young bird ; I say 'in all probability,' because the rare birds, which have at different times been obtained in England, have, with scarcely an exception, been examples of the first or second year. May we not, from this remarkable but well-known fact, reasonably conclude that the occurrence of these accidental visitors is to be attributed to their instincts not being sufficiently developed to enable them to retrace their way when carried to a distance from their natural habitat by a strong current of wind ?"

For an account of the habits and economy of this elegant and singular Owl, which of course I have had no opportunities of observing myself, I must draw largely upon other ornithological writers, and shall commence with Mr. Wolley's account in the 'Zoologist,' and Mr. Wheelwright's in his 'Spring and Summer in Lapland,' both because they treat of the bird as seen nearest home, and because, in my opinion, their remarks are particularly truthful and interesting.

"The Hawk Owl," says Mr. Wolley, "is not uncommon in Lapland. It flies much in the day-time, and, with its long tail, short wings, and quick flight, has a very hawk-like appearance in the air when the large and square form of its head is not seen. Its cry, when uttered near its nest, is also similar to a hawk's ; and it often sits on the bare top of an old dead fir to watch intruders, apparently without any idea that it can be in danger. It carries itself much after the fashion of the more regular Owls ; but, while the feathers at the back give a great breadth to its full face, there is quite a 'table' at the top of its head. It casts its bright yellow eyes downwards with the true air of half-puzzled wisdom, or turns its head round for a leisurely gaze in another direction ; to glance backwards is out of the question, and to look at any one with a single eye much beneath its dignity. I have seen it from my window fly down from its stand, and take the mouse it caught back to the tree before it began to eat it ; but it shifted its place several times before it found a convenient spot for finishing the meal. When disabled, it at once 'squares' itself for defence, putting on its most formidable countenance, guarding its back and presenting its front to the enemy ; silently and calmly it

maintains its ground, or springs from a short distance on its foe. So, bravely, it dies, without a thought of glory, or without a chance of fame; for of its kind there are no cowards."

Mr. Wheelwright describes it as by far the commonest Owl in the district of Quickiock; and although lemmings form its principal food when they are 'in season,' he believes it does not migrate to any extent, but remains stationary throughout the year. In winter it is occasionally killed as far south as Wermland; but these have merely strayed from their native haunts—the lower fir-forests at the foot and by the sides of the fells. He proceeds to say that "it is by no means shy, and in the breeding-season is one of the boldest of birds. Seated on the top of a dead pine, close to the nest where his mate is sitting, the old male keeps a constant watch, and, as soon as any one approaches, raises his tail and head, after the manner of the cuckoo, and, uttering a shrill cry, not unlike that of the Kestrel, down he comes full on the head of the intruder. Dashing by with the speed of lightning, he returns to the charge again and again, till he has either driven him away or paid the penalty of his rashness with his life. The lad who attended me was really frightened at this bird, and always hated to go up to a nest; and well he might; for on one occasion, when taking the eggs out of a dead pine, without a branch to help him, holding on, as the sailors say, 'by his eyelids,' forty feet from the ground, the old bird made a swoop down on his head, struck off his cap (through the top of which a large slit was cut), and in a moment returned to the charge, tearing off a very fair-sized clawful of his hair. I was standing at the bottom of the tree with my gun; and had I not knocked the bird over, the lad might have been easily beaten off his hazardous perch. There is no trouble in shooting the Hawk Owl if you have a dog with you; for whatever time of the year it may be, as soon as the bird spies the dog, it descends to give battle.

"In flight, manners, and appearance this bird is closely allied to the hawks. It is strictly diurnal in its habits, and to the stealthy quiet flight of the Owl adds the spirit and courage of the Falcon. Hardly a forest bird is safe from its attacks. I have seen it strike down a Siberian Jay, its nearest neighbour, on the wing; and more than once have disturbed it while feeding on an old Willow Grouse, a bird half as large again as itself. Its principal food appears to be birds, lemmings, and wood mice; but I have often found insects in the stomach. There is little difference in the plumage of the two sexes; but the female is rather the largest, and in the breeding-season has the breast and belly strongly tinged with reddish brown. I know the male takes his turn in sitting upon the eggs, for I have shot both sexes as they flew out of the hole in which they were deposited.

"The Hawk Owl moults early; the old birds may be seen without tails before the young are able to fly, and the autumnal moult is complete by the time the young are fully feathered. The bird is then in its best plumage, and its clean, pure, shiny dress is very different from the dingy colouring of spring."

The number of eggs laid by this Owl seems to vary from six to seven or eight. Mr. Newton, in his '*Ootheca Wolleyana*,' mentions one with eight, two with seven, and one with six. Their usual size is $1\frac{1}{2}$ inch by $1\frac{1}{8}$.

The late Sir John Richardson states, in the '*Fauna Boreali-Americana*,' that this "Owl, which inhabits the Arctic Circle in both continents, remains all the winter in high northern latitudes, and is rarely seen so far south as Pennsylvania, and then only in severe winters. It is a common species throughout the fur-countries from Hudson's Bay to the Pacific, and is more frequently killed than any other by the hunters, which may be attributed to its boldness and its habit of flying about by day. In the summer season it feeds principally on mice and insects; but in the snow-clad regions which it frequents in winter neither of these are to be procured, and it then preys mostly on Ptarmigan. It is a constant attendant upon the flocks of these birds in their spring migrations to the northward. When the hunters are shooting Grouse, this bird is occasionally attracted by the report of the gun, and is often bold enough, on a bird being killed, to pounce down upon it, though it may be unable from its size to carry it off. It is also known to hover round the fires made by the natives at night."

Mr. H. E. Dresser informs me that the Hawk Owl is not uncommon in New Brunswick, and often to be seen on "rampikes" (large dead trees so called) standing alone on the blueberry barrens. At certain seasons it occurs in large numbers, and is supposed (by the country people) to bring ill luck. My friend Mr. George Boardman, of St. Stephen, N. B., has found the eggs of this Owl in that neighbourhood; but I myself never succeeded in finding them, though I have seen the birds all the year round on the Musquash River, where I resided. They appear to feed almost entirely on a small species of mouse that is numerous on the barrens; for, though I have dissected many, I never found the stomach to contain anything but the remains of these animals. They seek their prey during the daytime, and seem to enjoy sitting on the very top of an old scathed tree in the full glare of the sun.

The front bird in the Plate is of the natural size; the other is somewhat reduced.

NYCTALE TENGMALMI.

NYCTALE TENGMALMI.

Tengmalm's Owl.

Strix Tengmalmi, Gmel. edit. Linn. Syst. Nat., tom. i. p. 291.

Noctua Tengmalmi, Cuv. Règn. Anim., edit. 1829, tom. i. p. 345.

Athene Tengmalmi, Boie, Isis, 1822, p. 549.

Ægolius Tengmalmi, Kaup, Natürl. Syst., p. 34.

Scotophilus Tengmalmi, Swains. Class. of Birds, vol. ii. p. 217.

Nyctale Tengmalmi, Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 7.

IN size and general appearance the *Nyctale Tengmalmi* is very similar to *Athene noctua*; so much so, says Naumann, that superficial observers have confounded it with that bird; the ornithologist, however, sees at a glance that it is not only specifically but generically distinct—the face is whiter, the facial disk more complete, the plumage more dense and silky; the arrangement of the markings is different, and the tarsi and toes, instead of being bare, are thickly clothed with feathers. The situations the bird affects and the countries it inhabits are also very different; it keeps to the great primeval forests of spruce and fir clothing the mountains of various parts of Europe, particularly those of Norway, Lapland, and Russia; it is true that it is sparingly found in the central parts of Germany, in Switzerland, and occasionally in England, but its visits to this country must be regarded as purely accidental. Naumann states that it is not so wild in its disposition as *A. noctua*, that it sleeps more soundly during the day, and is not so easily aroused and driven from the holes in the trees in which it rests, putting up with a good deal of teasing before it will leave its retreat. Its flight is said to be like that of *Otus vulgaris*, but with a quicker flapping of the wings.

Its food consists chiefly of small quadrupeds, particularly wood- and field-mice, shrews, and bats, which latter it probably takes while in a state of rest, or when leaving their lurking-places. Naumann says it is a true nocturne, and that it retires to its resting-place before sunrise, and remains secluded therein until the close of day.

Mr. H. E. Dresser has kindly furnished me with the following extracts from letters addressed to him by his friends and correspondents in the countries mentioned below; and I insert them as an interesting addition to our small stock of knowledge respecting this species.

Mr. Edward Leidensacher, of Cilli, in Styria, says, “*Nyctale Tengmalmi* is very rare here, still it is occasionally found nesting. On the 4th May, 1863, I received two fully feathered little owls, taken out of the nest the day previous. They were dark brown, whitish round the facial disk; the wings had whitey-grey spots, the bill was bluish, and their irides light yellow. I took care of them, and in the month of October they cast off the brown plumage, and became coloured and marked as Tengmalm's Owls usually are. They were taken out of a hollow tree, on the edge of a wood near Prekorje, about an hour's walk from Cilli. The female must certainly have had eggs in March.”

Dr. Kutter, of Transtadt, in Posen, wrote on the 27th March, 1867, “I have found this Owl breeding five times,—twice in 1862, when I obtained three eggs on the 11th of April, and four on the 15th; and three times in 1866, viz. on the 25th of April three eggs incubated, on the 1st of May four fresh, and on the 14th of the same month four others also fresh. All were found in holes in trees at the height of about 20 feet from the ground, chiefly on the pine-thickets on the mountains.

“I have never observed the *Nyctale Tengmalmi* in the low lands, whereas, on the other hand, its relative, *Athene noctua*, occurs there; and I have never found the latter breeding in the larger forests, but invariably in trees, or buildings standing alone in fields or fruit-orchards. As to whether *Nyctale Tengmalmi* also nests in rocks I cannot say from my own personal observation; but I have been assured from a most trustworthy source that such is exceptionally the case. I have always found the eggs at the bottom of a hole in a tree, without any regular nest under them, but sometimes surrounded with a slight wreath of straws and feathers. The bird seems to sit hard, but is not so fearless as *Athene noctua*, from under which I have several times drawn the eggs without apparently disturbing the bird. The number of the eggs seems to vary between three and four, and not two and three, as is generally stated. As to whether they have a second brood I cannot say, as I have always procured the eggs when merely passing through the mountainous part of the country.”

The recorded instances of the occurrence of Tengmalm's Owl in the British Islands are only six in number—five in England, and one in Scotland; Ireland is not yet able to include it in her avifauna. Of the five English examples, the first was shot near Morpeth, in Northumberland, in 1812; the second, a recently killed

example, was purchased at a poulterer's shop in London in 1836, in which year a third was killed in Kent; a fourth was shot at Hunmanby, near Scarborough, the seat of my excellent old friend Admiral Mitford, in 1847, and the fifth near Marsden, in the county of Durham, in 1848; the only Scottish example was killed at Spinningdale, in Sutherlandshire, in May 1847. For the knowledge of a sixth British example I am indebted to the kindness of the Rev. George Weare Braikenridge, who sent me the following extract from a letter addressed to him by Charles Edwards, Esq., of the Grove, Wrington, Somersetshire:—"The Tengmalm's Owl in my collection was killed at Winscombe, on the north side of the Mendip Hills, about six miles from hence, in the winter of 1859-60; and I had it in the flesh the same day from the person who shot it. Two were seen; but although I offered for the second, it could not be procured."

Bailly, in his 'Ornithologie de la Savoie,' says, "Tengmalm's Owl inhabits the more thickly wooded districts of Switzerland, especially those of the Valais and the lower part of the Jura; and that it is also common in the northern parts of Savoy, particularly in the thick woods of larch and fir in the neighbourhood of Albertville, the whole of the Tarentaise, the Maurienne, and Chamounix, and remains there all the year round. It does not affect old buildings and the interior of towers, like the Little Owl, but prefers the solitude of the thick woods of the mountains, particularly those in which it can find old and hollow pine trees wherein it may hide itself during the day, and the female deposit her eggs. There it continues to dwell all the summer, the greatest part of autumn, and, whenever the weather may continue mild, the greater part of winter. At all times, but especially when it has its young to feed, it kills great numbers of the smaller birds, such as warblers, tits, &c., which abound in the thick woods spoken of. It pairs at the end of March or the beginning of April; but the eggs are not laid until early in May in the woods or the middle part of the mountains, and not until the 5th or 10th of June in the more recluse forests. The eggs, which are four or five in number, are placed on the rotten dust at the bottom of a hole in a tree, a fir tree being generally preferred; they are of a dull white, stained occasionally with the hue of the damp material on which they are laid. The bird does not quit the mountain forests until snow and the intensity of the cold has compelled the small birds upon which it feeds to seek more genial localities; it then roves about at night in the woods of the low hills and plains, and in dull weather may be seen fluttering about at midday. Besides birds it devours insects, particularly beetles, grasshoppers, the sphinx, and other large twilight-loving moths, lizards, and slugs, which it finds among grass, bushes, and stones, and on small quadrupeds, frogs and their spawn, and terrestrial mollusca, which it hunts for in the fields, meadows, and fens. It is easily domesticated, if it be not allowed to suffer from hunger. One kept by Mr. Thabuis, at Moutiers, in 1852, evinced a great partiality for *Helix pomatia*, *H. hortensis*, and several other mollusks when given fresh, and preferred them to pieces of raw meat."

Mr. Wolley obtained eggs of this bird during his stay in Lapland. Some of them were found in *tyllas*, i. e. the egg-boxes set up by the inhabitants for the use of the Golden-eyed Duck and other aquatic birds; while others were taken from a hole made by the Black Woodpecker, *Picus martius*, in a Scotch fir, at about seven or eight feet from the ground.

It has been remarked by Wheelwright that "whenever this Owl has appeared during autumn in the very south of Sweden a severe winter has always followed. It occupies in the Quickiock forest precisely the same range as the Hawk Owl, and we never saw one on the fell sides higher than the fir region. It is a bold voracious bird; one night I shot a female in full chase after lemming on a frozen lake; and another female, which I caught on her eggs in Wermland and placed in a fishing-creel, had, by the time I reached home, nearly devoured a tit-mouse I had thrown in. I kept this bird for a long time in a cage; she became very tame, and was a very pretty little pet. The call-note is a very musical soft whistle, never heard except in the evening and night. I could never detect the slightest difference."

"Next to the Hawk Owl, Tengmalm's is the commonest species found in the Lapland forests; but, being much more nocturnal in its habits, is not so often seen; not that the light appears to affect its vision, for there the summer nights are as light as day; and we rarely went into the forest any night without seeing this pretty little Owl hawking after its prey. Its eggs vary much in shape, but not so much in size. In the same hole you will find some as round as musket-balls, others oval and elongated. The usual size is about $1\frac{1}{2}$ by 1 inch. This species has a much more southern range than the Hawk Owl, for we not unfrequently take eggs in Wermland; but, strange to say, they are met with only about every third year."

The Plate represents the bird of the natural size, with a Harvest Mouse (*Mus messorius*) in its bill.

ATHENE NOCTUA.

ATHENE NOCTUA.

Little Owl.

Strix noctua, Retz. Faun. Suec., p. 85.

—— *passerina*, Lath. Ind. Orn., vol. i. p. 65.

Noctua passerina, Cuv. Règn. Anim., edit. 1817, tom. i. p. 332.

—— *glauca*, Savig. Descr. de l'Égypte, Hist. Nat., tom. i. p. 105.

Athene noctua, Boie, Isis, 1826, p. 315.

Strix nudipes et *S. psilodactyla*, Nilss. Orn. Suec., tom. i. p. 68, tab. 2.

Athene psilodactyla, Brehm, Vög. Deutschl., tom. i. p. 110. tab. 8. fig. 2.

Scotophilus nudipes, Jard. Nat. Lib. Brit. Birds, vol. i. p. 274.

Athene passerina, Boie, Isis, 1822, p. 549.

Cephaloptynx noctua, Kaup, Mon. Strig. in Jard. Cont. Orn., 1850, p. 105.

Carine passerina, Kaup, Natürl. Syst., p. 29.

Syrnia psilodactyla, Macgill. Hist. of Brit. Birds, vol. iii. p. 417.

Surnia noctua, Keys. et Blas. Wirbelth. Eur., p. 32.

If this little Owl were indigenous to Britain instead of an accidental visitor, it would doubtless be a general favourite ; for its economy is interesting, and its manners somewhat singular. It is a very common bird, even so near to us as Holland, whence specimens in the flesh are frequently sent to the London markets, and, I fear, often palmed upon our collectors as British killed. On the continent of Europe it attracts especial notice by its habit of resorting to villages and towns, and taking up its abode in old ruins, church-steeple, and other lofty buildings. During the breeding-season, it is often seen flying about in the evening before the shades of night have closed in upon the day, and in the dawn before the sun has fairly risen. Its notes are singular and unearthly, so much so that it is regarded by superstitious persons as a bird of ill omen ; in the mind of the ornithologist no such feeling exists, and, as before stated, we should be pleased if its visits to this country were more frequent ; as it is, however, they have been sufficiently numerous to entitle it to rank among British birds, and there is at least one instance on record of its having bred with us. So far back as the time of Edwards, a specimen was caught in a chimney in London ; and Mr. Yarrell states that a second was taken about the same time in a similar situation in the parish of Lambeth ; and from that time until the present day instances of its having been shot in nearly every county are on record. Rennie saw one nailed to a barn-door in Wiltshire, doubtless with other spoils of a gamekeeper who regarded it as pertaining to his catalogue of “ vermin ;” and Mr. Hunt, in his ‘ British Ornithology,’ says, “ we recollect a nest of these birds being taken at no great distance from Norwich.” The most recent historian of the birds of Norfolk county (Mr. Stevenson) states that two examples have come under his notice—one taken alive at Easton in 1846, which lived in confinement till December 1848, and another captured on board a fishing-smack, about ten miles off Yarmouth, in February 1862. Mr. Bond has a specimen which was shot at Sevenoaks, in Kent, in May the same year ; Mr. E. H. Rodd, of the western county of Cornwall, records one killed near Helston, and two near Plymouth ; as yet, however, no example has been seen either in Scotland or Ireland.

In Bailly’s ‘ Ornithology of Savoy’ it is stated that this species, “ instead of dwelling in the forests, evinces a preference for the ruins of old edifices, houses, towers, and abandoned chateaus, the steeples of churches and convents, and the hollow trees in their neighbourhood ; in such situations it breeds and passes the greater part of its life. Towards the end of March or April, the female lays four or five eggs on any soft deposit in a hole in a wall, or the inner timber of houses, and sometimes on the *débris* of roots, dried leaves and rags collected by the rats for their own use, but very rarely in the hollows of trees. The eggs, which are white, are of a rounded form, and a trifle larger than those of the Scops. The Little Owl being able to see in the daylight better than its congeners, hunts for its prey during the twilight of evening and on dull mornings in the woods around its residence, and when breeding is observed to go out earlier in the evening and to return later in the morning than other Owls. During autumn and winter, it is met with at those times in the hedges and on the trees bordering the roadside, and those which occur in the middle of fields and in the centre of towns and villages. When the ground is covered with snow, it approaches the farms, and lives upon the excrements of animals ; at this time it also enters isolated buildings, caverns of rocks, vaults of old castles, and other similar situations resorted to by rats and bats. From such places its voice, which is less hollow than that of most other Owls, is frequently heard to resound. The cry, which generally resembles the words *hème* or *ëedm*, is repeated several times in succession at intervals of two or three seconds, as one man calls to attract the attention of another. These cries, distinctly uttered in a strong voice during the shades of evening and in the stillness of the night, cause great alarm to those persons who are weak enough to

believe in ghosts, especially during its breeding-season, when it also emits a peculiar kind of languishing sigh. Like the Scops and Barn Owls it has also the habit of pursuing by night, and especially in the early morning, with loud cries all who may pass along the roads bordered with trees near the places in which it is searching for prey. I have several times been accompanied by this Owl along the pathways and fields when going out shooting in the autumn. Near Chambéry one followed me for half an hour, jumping from tree to tree, and from house to house. Two shots fired at it, at random, did not prevent its following me; on the contrary, they caused it to redouble its cries; and in an instant afterwards I found myself accompanied by two others, which had doubtless been attracted thereby. The little Owl seems to feed on small birds, mice, young rats, large insects, especially grasshoppers and crickets, small reptiles, especially the wall lizard (*Lacerta muralis*) and the spotted Salamander (*Salamandra maculosa*), little frogs, fish-spawn, but rarely upon anything destitute of life. A living one I had in 1847 was sensible of kindness, and would allow me to rub its breast, back, and head, during which operation, which seemed to give it pleasure, it remained as without life, sometimes lying on its back, at others on its breast. The fowlers of our country do not make use of this species to attract birds to their snares, but prefer for that purpose the Scops Owl."

Naumann, in his 'Vögel Deutschlands,' confirms much of the preceding account of this bird, and says that its true home is Central Europe, but that it is sometimes found in Sweden and Livonia. In Germany it is a bird of passage, although a number remain there all the year; it is fond of the neighbourhood of man, dwells on old town-walls, at a moderate height in church-steeple, and in the holes of trees, is often seen about the heads of pollarded willows, and sitting on old stone bridges and on the upright gravestones in church-yards, and is therefore considered by some people a bird of ill omen; during the nesting-season it often utters its discordant cries in the daytime, is of an untamable disposition, and in its flight differs from that of other Owls in its being less easy and soundless, and of an undulating character like that of the Woodpecker and Hoopoe. Its food consists of mice, bats, small birds (such as sparrows and larks, which it surprises in their sleep), and insects; of mice it is said to eat as many as five or six at a meal, and it frequently hoards up a supply of food, apparently in anticipation of inclement weather. As in Italy, it is used by the bird-catchers as a decoy to attract the smaller birds towards the limed twigs. Old birds are sometimes employed for this purpose, but young ones are more easily tamed and answer better.

The *Athene noctua* is generally spread over central and southern Europe, and, if the *Noctua bactriana* of Blyth be the same, Thibet and Affghanistan. I am aware that some ornithologists consider the Little Owls of Eastern Europe and Northern Africa distinct, and have applied to them the specific names of *persica*, *meridionalis*, and *numida*; but whether they are really different is still undecided; if they are not, then the range of this species is indeed an extensive one. Temminck says that it does not go further north than the fifty-fifth degree of latitude, which proves that it is a southern species, Lord Lilford having found it nesting in the ruins of Nicopolis, in Epirus, in March, and at Santa Quaranta in May.

I may remark that by Latham, Cuvier, and others this species has been treated of as the *Strix passerina* of Linnæus; but this is an error, the bird characterized by the learned Swede under that name being a still more diminutive one.

The sexes are alike in colour, and the young differ merely in being less bright, and by the redder tint of the spots on the neck.

The Plate represents the bird, of the natural size, with the nearly fledged young, from a drawing by Mr. Wolf. The little quadruped is the Short-tailed Field Mouse (*Arvicola agrestis*).