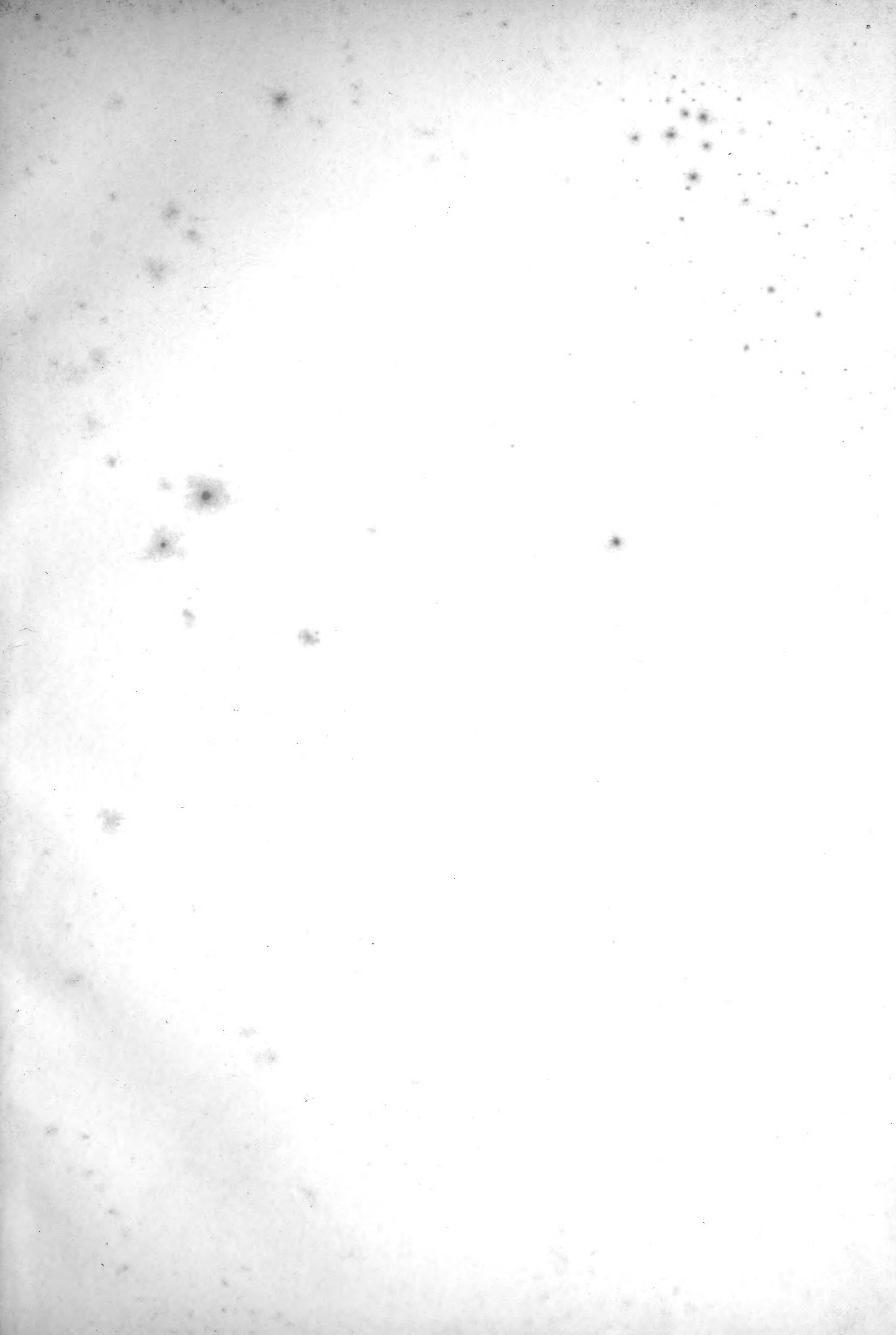
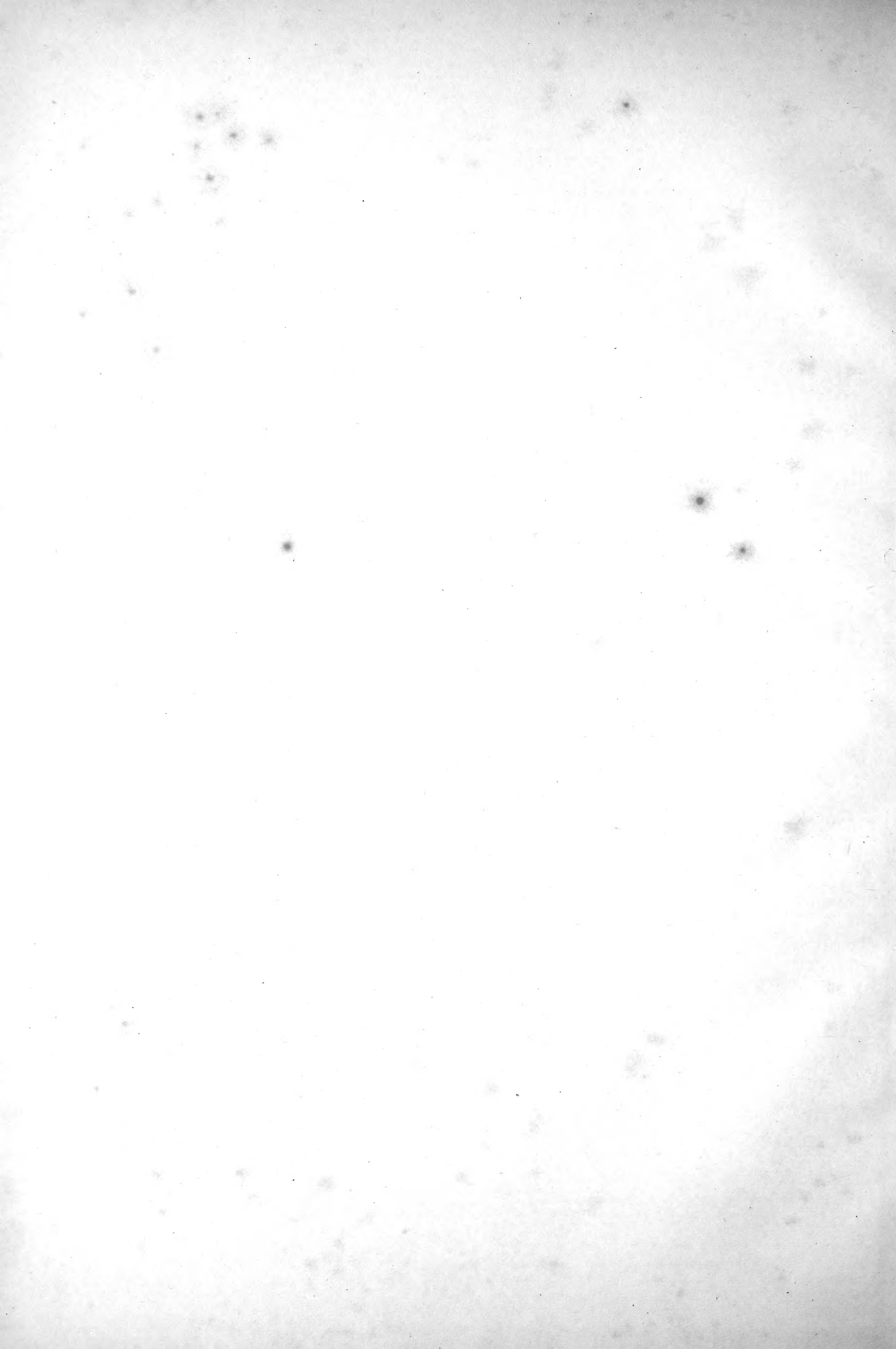


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THE

BIRDS OF EUROPE.

BY

JOHN GOULD, F.L.S., &c.

IN FIVE VOLUMES.

VOL. I.

RAPTORES.

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1837.



TO
THE RIGHT HONOURABLE
THE EARL OF DERBY,
PRESIDENT,
AND
THE NOBLEMEN AND GENTLEMEN
FORMING
THE COUNCIL OF
THE ZOOLOGICAL SOCIETY OF LONDON.

My Lords and Gentlemen,

FAVOURED by your kind permission, it is with feelings of mingled gratitude and pleasure, natural to one so long connected with the Society over which you preside, that I dedicate to you this Work on "THE BIRDS OF EUROPE," and I have the honour to subscribe myself,

My Lords and Gentlemen,

Your most obedient and obliged Servant,

JOHN GOULD.

P R E F A C E.

IT has been frequently remarked that the productions of distant countries have received a much larger share of attention than those objects by which we are more immediately surrounded; and it is certainly true, that while numerous and costly illustrations have made us acquainted with the Ornithology of most other parts of the world, the Birds of Europe, in which we are, or ought to be, most interested, have not received that degree of attention which they naturally demand. The present work has been undertaken to supply this deficiency, and I cannot but feel highly gratified that a number of concurring circumstances have enabled me to carry my intentions into effect with comparative facility, and I hope to the entire satisfaction of the whole of the Subscribers; this I am induced to believe is the case from the patronage with which the work has been honoured since its commencement.

My reasons for undertaking a work comprising the ornithology of the whole of Europe are sufficiently obvious: in the first place no publication of a similar kind had been completed, although several had been commenced; and secondly, a work exclusively confined to the British Fauna would never be perfect for any length of time, owing to the frequent accession of other species from various European localities; besides which I was desirous of rendering my work interesting to the continental ornithologists as well as to those of our own country. I have used my best exertions to render it as perfect as possible up to the present time, for which purpose I have visited nearly all the continental collections with the view of examining personally every bird before figuring it; but should additional species reward the zeal and ardour with which natural history is now cultivated (which I doubt not will be the case), I propose to publish them from time to time in the form of a Supplement, and by this means keep the work as nearly complete as possible. I have omitted a few of the species enumerated in the lists of

continental authors, in consequence either of my never having met with specimens of the birds; or because I am doubtful as to the propriety of their being separated from other known species*.

In my arrangement of the species I have followed with some very slight modifications the views of Mr. Vigors, which are now so generally adopted in this country. In the subdivision of the genera I have perhaps gone further than most other ornithologists, but at the same time I feel convinced that these subdivisions are naturally indicated; that they tend to facilitate the studies of the naturalist; and that some of the groups might have been still further divided with propriety. In a few instances the characters of some of the minor sub-genera have been inadvertently omitted; but this omission will not be found of any material consequence. The generic characters accompanying *Totanus hypoleucus* should be cancelled, as they have been previously given with *Totanus fuscus*. I am also aware that some other trifling errors have occurred, but I trust they will be looked upon with leniency when it is taken into consideration that the work has been commenced and completed in the short space of five years amidst numerous other avocations.

It would argue a want of gratitude in me were I to omit acknowledging the facilities which the Council of the Zoological Society have afforded me in this undertaking, and their kindness in permitting me to dedicate the work to them. I also conceive that I am considerably indebted for the success of my publication to the more general diffusion of a taste for natural history, towards which that admirable Society has so largely and successfully contributed, and to which in a great measure must be attributed the favourable reception which works of Natural History now so universally meet with; and I am also deeply indebted to the Council for the liberality with which I have at all times been allowed to avail myself of the treasures contained in the Society's Museum. To the national establishment, the British Museum, I am similarly

* *Viz.*—*Corvus leucophæus*, a variety of *Corvus corax*.
 ——— *spermologus*, a variety of *Corvus monedula*?
Alauda Dupontii (*Certhilauda bifasciata*?).
 ——— *Kollyii*.
Emberiza provincialis.
Fringilla incerta.
 ——— *borealis*.
Hemipodius lunatus, synonymous with *Hem. tachydromus*; and
Larus capistratus.

indebted, and would here beg to express my thanks to its officers for the many attentions I have received from them. From most of the public Museums of the Continent I have received much assistance. To M. Temminck, Director of the Royal Museum at Leyden, so well known for his valuable works on Natural History, I beg to offer my most grateful acknowledgments for the assistance he has afforded me, without which my work would necessarily have been long delayed, and in fact could never have been brought to that complete state in which I am happy to say it now stands: so great indeed has been the liberality of this eminent naturalist, that he has even confided new species to my care, and allowed me to figure and describe them in my work before including them in his own; and his liberality will, I doubt not, be duly appreciated by the scientific public. In Professor Lichtenstein of Berlin I have met with another kind and liberal friend, to whom I am indebted for the use of several of the rarer European Birds, among which were some of the original specimens collected by the celebrated Pallas. To M. Schreibers and MM. Natterer of Vienna I am also under great obligations, as well as to the gentlemen connected with the collections of Paris and Frankfort, who readily afforded me every assistance I required. To the collection of the Baron Feldegg of Frankfort I have had free access, and to this gentleman I am indebted for the use of many rarities, and of some species entirely new to science. To William Yarrell, Esq., I shall ever feel deeply grateful, for the judicious and kind assistance which he has at all times rendered me, and for the use of many valuable specimens from his excellent collection. My ever lamented friend, E. T. Bennett, Esq., was at all times much interested in my publications; I am therefore proud to add my grateful testimony to his varied talents and kind and amiable conduct upon every occasion; and of the numerous individuals honoured by his friendship there is none who more sincerely deplores his untimely decease than myself. To the Earl of Derby, the Honourable W. T. T. Fiennes, Sir William Jardine, Bart., N. A. Vigors, Esq., W. H. Rudston Read, Esq., T. B. L. Baker, Esq., J. J. Audubon, Esq., Captain S. E. Cook, A. Waterhouse, Esq., of Liverpool, Dr. De Jersey, E. H. Reynard, Esq., and to several other gentlemen my thanks are likewise due, for the warm interest which they have at all times taken in the present work. Neither must the valuable assistance afforded me by Mr. Martin of the Zoological Society be forgotten. In conclusion I would beg leave to return my grateful thanks to the whole of the Subscribers for the support with which they have been pleased to favour me.

Perhaps I may be allowed to add, that not only by far the greater number of the Plates of this work, but all those of my "Century of Birds," of the "Monograph of the Trogons," and at least three fourths of the "Monograph of the Toucans" have been drawn and lithographed by Mrs. Gould, from sketches and designs by myself always taken from nature. The remainder of the drawings have been made by Mr. Lear, whose abilities as an artist are so generally acknowledged that any comments of my own are unnecessary. With the opportunities still in my power I should consider myself to blame were I not to continue in the course I have hitherto pursued in the study and illustration of subjects in ornithology; and it is my intention, so long as permitted, steadily to use my humble efforts to advance this delightful branch of natural science. My thanks are due to Mr. Bayfield, under whose direction the whole of the Plates have been carefully and accurately coloured, and in fact too much praise cannot be accorded to the unceasing attention with which he has at all times afforded his assistance. The plates have been printed by Mr. Hullmandel, and the letter-press by Mr. R. Taylor; and these portions of the work have I trust been satisfactorily executed.

August 1, 1837.

JOHN GOULD.

I N T R O D U C T I O N .

IF we examine the geographical situation of the British Islands in relation to continental Europe, we cannot but perceive the advantages offered, as a point of observation to the naturalist, wherein to study, among other interesting facts connected with the habits of the feathered race indigenous in our portion of the globe, the periodical migrations undertaken by so many species, the time of their arrival and retreat from our shores, together with the ends to be answered both by their visit and departure. As regards temperature, no less than relative situation, are these islands favourable for a series of such observations: we need scarcely say that, placed to the westward of Europe, they occupy a medium station between the extremes of heat and cold: no portion indeed of the European continent advances within the line of the intertropics; still, however, the southern shores of Spain, Italy, and Turkey in Europe, together with the minor islands of the Grecian Archipelago, participate so nearly in the temperature of the hotter portions of the globe as to present us with many natural productions whose congenial habitat is exclusively beneath a sultry sky. But the summer heat of England never rises above a moderate degree of temperature, and the severities of winter are mild in proportion; on the other hand, if we visit the extreme north of the European continent, we there find a climate, the severities of which in winter are extreme, while the summer, though hot while it lasts, endures but for a short period.

We will not attempt to discuss the subject of the universal law of migration further than to observe that its immediate intention is the well-being of such species as would be deprived of their natural food were they to remain stationary in any given locality; in addition to which it is essential in another point of view, inasmuch as by its operation there is secured both a

temperature congenial to the young, and an abundant supply of food suitable for their nourishment; we here allude more particularly to our summer visitants which have left the climate of Africa, too hot to be borne in summer, but well adapted for their winter retreat. A reverse of these circumstances takes place among our winter visitors; the high polar latitudes are their summer residence; but on the setting in of the cold in those regions the supply of food necessarily fails them, and this, with the extreme rigour of the climate, forces them to sojourn for a while in more temperate latitudes; hence while the Swallow, the Cuckoo, the Nightingale, many species of soft-billed Warblers, and numerous others visit us in spring from the south, for the purpose of nidification, and leave us on the approach of winter; the Fieldfare, the Redwing, the Woodcock, and various aquatic birds find a winter asylum with us, and depart again in spring to make room for a new succession of visitors. Independently, however, of the numerous migratory birds which are only temporary residents, a large number of species permanently remain in our latitudes; yet strange to say, of many of these the number is greatly augmented, especially during winter, by accessions from the north, among which latter are some of the smallest and most delicate of their race; we may mention the Golden-crested Wren as an example in point. Instances are not wanting of the arrival of multitudes of this species on our shores, but in such a state of exhaustion as to be almost powerless. In the case of the Lark and the Thrush, which also visit us in great numbers, the performance of a flight across the German Ocean does not much surprise us; but when we examine this little bird, which is by no means adapted for long-sustained aerial progression, we are at a loss to conceive how such a migration could have been performed. It is, however, only one amongst the many wonders of nature which are continually forced upon the attention of the naturalist.

So much has already been written on the structural adaptation of birds to their respective habits, and on their periodical changes of plumage, that we may be readily excused if we omit any detail connected with these points, more especially as they rather belong to the physiology of the feathered race, than to the natural history of the species of one quarter of the globe.

While the strictly tropical climates of the world abound with species infinitely diversified in form, and often adorned with the richest hues, the Birds of Europe are not only far

less specifically numerous, but with the exception of a very few, arrayed also in the most sombre livery, an inferiority however amply compensated by their superiority of song.

At the present time the Fauna of Europe may be fairly stated to contain four hundred and sixty-two species, of which three hundred and ten may be regarded as British; of the latter number about one hundred and seventy are permanent residents in our islands; eighty-five are summer birds of passage, visiting us from the south; and forty-five from the north make our shores their winter residence.

In our arrangement we have classed and subdivided the groups (as nearly as may be) after the plan proposed by Mr. Vigors. They form five volumes, the first of which comprises the whole of the birds of the Raptorial Order, an order containing, as implied by the name, the sanguinary and ferocious of the feathered race, among which are included not only the large tyrants of the air, the Eagles, the Falcons, the Owls, &c., which make living animals their prey; but also the Vultures, which gorge upon any loathsome carrion that chance throws in their way.

Our second and third volumes comprise the species contained in the second order, termed *Insessores*, or perching birds; an extensive order, in which are included birds varying in their powers of flight and in their habits no less than in their food; some, like the Swallow, taking their insect prey on the wing, others pursuing it among the branches of trees and thickets; others feed indifferently upon insects, their larvæ, and upon grain; and others, eminently arboreal, (such as the Woodpeckers) search for their food among the crevices of the bark of trees, for which purpose they are expressly and beautifully organized.

To these succeed the *Rasorial* and *Grallatorial* Orders, both of which are included in our fourth volume. The Pigeons, at the head of the *Rasores*, as their perching habits indicate, naturally lead from the last order to the more typical of the *Gallinaceæ*, which are well represented by the Pheasant, Partridge, and Grouse, whose food and habits it is unnecessary to describe; and from thence to the *Grallatores*, represented by the Cranes, Herons, Storks, Sandpipers and Gallinules. The first of these, the Cranes, which are more granivorous in their habits,

may be regarded as exhibiting some degree of affinity to the previous order, while at the same time they distinctly lead through a succession of forms, such as the Spoonbills, Storks, Herons, and Gallinules, to the true water birds, to which in their aquatic habits the Gallinules very beautifully approximate.

Our fifth volume contains the birds of the Natatorial Order, or swimming birds, which are represented by the Ducks, Grebes, Divers, Auks, Pelicans and Gulls; the aerial representative of one of these latter groups, viz. the *Tachypetes*, or Frigate Bird, among the Pelicans, exhibits several traits of resemblance to the Raptores, or birds of prey.

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NOTE.—As the arrangement of the Plates during the course of publication was found to be impracticable, the Numbers here given will refer to the Plates when arranged, and the work may be quoted by them.

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GRIFON VULTURE.

Vulture fulvus. (Linn.)

Genus VULTUR, *Linn.*

GEN. CHAR. *Beak* strong, thick and deep, base covered with a cere; *upper mandible* straight until it reaches the point, where it is hooked abruptly; *under mandible* straight, rounded and becoming narrower towards the point. *Head* naked or covered with short down; *nostrils* naked and pierced diagonally at the cere. *Feet* very strong, furnished with nails slightly hooked; the middle *toe* very long and united at the base to the external toe. *Wings* long; first *quill-feather* short, the fourth the longest.

GRIFFON VULTURE.

Vultur fulvus, *Linn.*

Le Vautour Griffon.

PRE-EMINENT for size and strength, the Vultures exceed all other birds whose powers of wing are adequate to sustain continued flight. They are a race peculiar to hot climates, and their food consists of putrid animal substances, for the removal of which (where indeed a quick removal is called for,) they seem expressly appointed. Their flight is wonderfully rapid and graceful, and they are led by some faculty, not yet fully understood, (but most probably by the sense of smell,) from astonishing distances, and an elevation in the atmosphere beyond the reach of human sight, to their fœtid repast. In a tribe of birds thus characterized the Griffon Vulture is one of the most conspicuous, particularly among those individuals who inhabit the older continent.

The present species takes a wide range, inhabiting, in considerable abundance, Spain, Turkey, and the whole of the southern portion of Europe, as well as the northern portions of Africa; they also occur in the mountainous parts of the northern and central countries, but we are not aware of its having ever been seen in a wild state in the British Islands.

Like the rest of its family, except when pressed by the utmost necessity it never preys on living animals, but prefers carrion and putrid substances, and when fed to repletion is easily made captive. There is nothing, however, of ferocity or wildness in the disposition of this bird, as in that of the Eagle; hence in captivity it becomes gentle and domestic: its principal enjoyment consists in the gratification of its appetite, and that accomplished it seems perfectly contented.

It breeds among the most inaccessible precipices; its eggs are of a dull greyish-white slightly marked with spots of a pale reddish colour.

In the adult bird the head and neck are covered with short white downy feathers; the lower part of the neck is surrounded with a ruff of long slender feathers of the same colour or slightly tinged with red; on the breast there is also a space covered with white down; the whole of the upper and under surfaces, except the quill- and tail-feathers, which are blackish-brown, are of a fulvous grey, the belly having a slight tinge of rufous; beak bluish yellow; cere darker; irides hazel; feet light brown: total length about four feet. The male is, as usual with other rapacious birds, smaller than the female.

Young birds differ considerably from the adults; the downy feathers of the head and neck being dirty white varied with brown, and the rest of the plumage of a very light yellowish colour, interspersed with large markings of white or grey.

Our Plate represents an adult in perfect plumage.



CINEREUS VULTURE.
Vultur cinereus, (Linn.)

CINEREOUS VULTURE.

Vultur cinereus, *Linn.*

Le Vautour noir.

THIS, the largest of the European Vultures, offers to our notice, by the partially bare neck, open ears, curved claws and powerful beak, a deviation from the true or more typical Vultures as restricted by modern authors, the true Vultures having claws less curved, and a beak more lengthened and feeble, characters which render them unable to seize and carry off living prey. This striking feature was not passed over by the discriminating eye of Mr. Bennett while engaged in describing the *Vultur auricularis* of Daudin, a species inhabiting Southern Africa, which in general form and structure strictly resembles the one under consideration. In "The Gardens and Menagerie of the Zoological Society delineated," that gentleman intimates that in his opinion the bird he has described, from a fine living example in the Society's Gardens, would be found to possess characters sufficiently prominent and different from the rest of the Vultures to form the type of a new genus. Although the Cinereous Vulture has not that longitudinal fold of the skin which is so prominent a feature in the *Vultur auricularis*, still we should regard that more as a specific character than as having any influence over its natural economy; and we fully concur in Mr. Bennett's views in considering a further subdivision of the family to be necessary. The two birds in question, with the *Vultur pondicerianus* as a type, would constitute a very natural division. We refrain ourselves from assigning a generic name, or from entering more fully into the subject, as we are aware that M. Temminck is at this moment paying strict attention to this highly interesting family; and we have no doubt that with his discerning views and profound knowledge of Ornithology, he has long ere this observed the characters alluded to.

The European habitat of the Cinereous Vulture is the vast forests of Hungary, the mountainous districts of the Tyrol, the Swiss Alps, the Pyrenees, and the middle of Spain and Italy; it is seen also occasionally in other places.

M. Temminck states that its food consists of dead and putrid animals, never living ones, of which it is much afraid, even the smallest appearing to excite fear; but Bechstein informs us that "in winter it is chiefly seen in the plains, where it attacks sheep, hares, goats, and even deer. The farmers suffer severely from this bird, as it will frequently pick out the eyes of sheep; but as it is not a very shy species, it gives the huntsman some advantage, added to his being well paid for shooting so destructive an enemy."—(Latham's General History of Birds, vol. i. p. 23.)

Of its nidification and eggs nothing is known.

The whole of the plumage is of a dark chocolate brown, each feather being a little lighter on the edges; the head and upper part of the neck are covered with down, which, with a kind of beard under the throat, is of the same colour as the plumage; the basal half of the mandibles, the bare space on the front and sides of the neck, the tarsi, and the toes, are of a blueish flesh colour; the points of the mandibles and the claws black; irides dark brown.

We have figured an adult male, about one third of the natural size.



EGYPTIAN NEPHRON.
Neophron percnopterus, (Savign.)

E. Leach del. et lith.

Printed by G. S. Pittman, del.

Genus NEOPHRON.

GEN. CHAR. *Beak* elongated, slender, straight, the upper mandible covered with a cere for half its length, and with a distinct hooked dertrum or tip, the lower mandible curving downwards at the point. *Nostrils* longitudinal, lateral, directed forwards, and placed near the culmen of the bill. Anterior part of the head, and the face naked. The neck covered with acuminate feathers. *Legs* of mean strength and length. *Tarsi* reticulated. *Feet* with four toes, three before, and one behind; the front toes united at the base.

EGYPTIAN NEOPHRON.

Neophron percnopterus, Sav.

Le Catharte alimoche.

OF the family of *Vulturidæ*, which is so extensively spread over the hotter portions of nearly every part of the globe, the present is the only species which has ever been taken in England; and of this fact, only a solitary instance is on record. It appears that the example alluded to was killed near Kilve in Somersetshire, in the month of October 1825, and is now in the possession of the Rev. A. Matthew of the same place. When first discovered, it was feeding upon the body of a dead sheep, with the flesh of which it was so gorged, as to be either incapable of flight, or, at all events, unwilling to exert itself sufficiently to effect its escape; it was therefore shot with little difficulty. Another bird, apparently of the same species, was at the same time observed in the neighbourhood, but escaped its pursuers. The circumstance of this example coming so far north, must be attributed entirely to accident, its native habitat being exclusively the southern provinces of Europe and the adjoining districts of Asia and Africa.

The traveller who visits Gibraltar, the adjacent parts of Spain, the islands of the Mediterranean, Turkey, and the northern coasts of Africa, cannot fail to have his attention attracted by this remarkable bird, one of the smallest of the *Vulturidæ*, which is there often found associating in flocks. Like the rest of its family, it is one of Nature's scavengers, being ever on the search for carrion and putrid offal, upon which it greedily feeds, seldom if ever attacking living prey.

The sexes, when adult, offer no difference in their characters or the colouring of their plumage; the young birds, on the contrary, in which state was the individual noticed as being taken in this country, offer striking contrasts. These decided opposites of colouring we have illustrated in our figures. We need scarcely remark that the young acquire their mature plumage by gradual changes, the completion of which takes two or three years; hence it arises that birds in all grades, from the dark plumage of youth to the snowy white of maturity, are continually to be met with.

It is said to build its nest in the most inaccessible parts of rocks: of its eggs nothing is correctly ascertained.

The adults have the face and cere naked, and of a fine yellow; the whole of the plumage is pure white, with the exception of the greater quill-feathers, which are black; the plumes of the occiput are long and narrow; the beak yellow, with a black horny tip; the tarsi and toes yellow; nails black; irides hazel.

The young bird of the first year has the whole of the plumage of a dark chocolate brown; the elongated feathers of the neck, as well as those situated on the shoulders and upper part of the back, are tipped with yellowish white; the cere and naked part of the face dull yellow; tarsi and feet of a dull livid yellow.

The Plate represents an adult, and a young bird of the first year, nearly half their natural size.



BEARDED VULTURE OR LEMMER GEYER.

Gypaëtus barbatus; (*Storr*).

Genus GYPAËTUS, Storr.

GEN. CHAR. *Beak* straight, its base covered with setaceous feathers tending forward, rounded above; the *under mandible* furnished at the base with a fasciculus of stiff and elongated feathers. *Cere* clothed with feathers. *Tarsi* short, feathered.

BEARDED VULTURE OR LÖEMMER-GEYER.

Gypaëtus barbatus, Storr.

Le Gypaëte barbu.

ORNITHOLOGISTS have had no little difficulty to contend with in clearing up the confusion which the numerous synonyms of this bird have occasioned; in fact, as far as our observations have extended, there is but one species comprehended in the present genus,—a genus distinguished by characters which place it intermediate between the Vultures and Eagles. The descriptions of Bruce the African traveller, and of the writers on Indian Ornithology, are all referrible to this species, whose habitat appears to extend to a certain range of elevation over the vast continents of Europe, Asia, and Africa. We have ourselves received it from the Himalaya, where it was discovered in very considerable abundance. In Europe it is confined to the highest ranges of mountains, such as the Alps and Pyrenees, but more especially those of the Tyrol and Hungary.

The habits and manners of the Lœmmer-geyer, also point out its true situation in nature to be intermediate between the Vultures and Eagles; and Authors have, according to their respective views, referred it to each of these groups. The first who pointed out its true situation was the eminent naturalist Storr, who advanced it to a genus with the expressive name of *Gypaëtus*, i. e. Vulture Eagle. The genus thus established has become now, with justice, universally adopted. Unlike the typical Vultures, which are distinguished by their bare necks, indicative of their propensity for feeding on carrion, the Lœmmer-geyer has the neck thickly covered with feathers, resembling those of the true Eagles, with which it also accords in its bold and predatory habits; pouncing with violent impetuosity on animals exceeding itself in size: hence the young Chamois, the Wild Goat, the Mountain Hare, and various species of birds find in it a formidable and ferocious enemy. Having seized its prey, the Lœmmer-geyer devours it upon the spot, the straight form of their talons disabling them from carrying it to a distance. It refuses flesh in a state of putrefaction unless sharply pressed by hunger; hence Nature has limited this species as to numbers, while on the other hand to the Vultures, who are destined to clear the earth of animal matter in a state of decomposition, and thus render the utmost service to man in the countries where they abound, she has given an almost illimitable increase.

M. Temminck informs us that it incubates on the summits of precipitous and inaccessible rocks, making no nest, but laying two eggs, on the naked surface, of a white colour marked with blotches of brown.

The adult birds offer no sexual differences of plumage, and less of size than is usual among rapacious birds.

The head and upper part of the neck are of a dull white; a black line extends from the base of the beak and passes above the eyes; another beginning behind the eyes occupies the ear-coverts; the beard is black; the lower part of the neck, the breast and under parts are of an orange-red; the upper surface of a dark greyish brown, the centre of each feather having a white longitudinal line; the quill- and tail-feathers grey with white shafts; tail long and graduated; tarsi, beak, and nails black; irides orange.

The young of the year have the head and neck dull brown; the under parts dark grey with spots of white; the upper parts blackish, with lighter spots; the irides brown, and feet olive. In this state it has been called *Vultur niger*.

We have figured an adult male one third its natural size.



IMPERIAL EAGLE.
Aquila Imperialis.

Genus AQUILA, *Briss.*

GEN. CHAR. *Bill* straight at the base, strong, much hooked at the point, compressed, the sides inclining upwards and forming a narrow culmen; the tomia of the upper mandibles having a faint obtuse lobe situated behind the commencement of the hook. *Nostrils* oval, lateral, placed transversely in the cereous part of the bill; space between the nostrils and eye thinly covered with radiating hairs. *Wings* ample; the fourth and fifth quill-feathers the longest. *Tarsi* thickly clothed with feathers to the toes, which are rather short, and united by a membrane at the base. *Claws* very strong, hooked, and very sharp, grooved beneath; those on the outer and hind toes the largest.

IMPERIAL EAGLE.

Aquila Imperialis, Briss.

L'Aigle Imperial.

THE range of habitat occupied by this noble species in Europe is far more limited than that of its congener the Golden Eagle, which it closely resembles in its form, habits, and manners, being in fact exclusively confined to the eastern portions of the Continent, where it is abundant, particularly in Hungary, Dalmatia, and Turkey. In its adult state it may be readily distinguished from the Golden Eagle by the large white marks which are situated on the scapularies. It is said to give a preference to the extensive forests of mountain districts, rarely frequenting those of the plains. It always builds, says M. Temminck, either in the mountain forests or on high rocks, the female laying two or three eggs, of a dull white. The young in the plumage of the first and second year differ from the adult in having the upper part of a rufous brown, varied with large blotches of light red, and in having the scapularies merely terminated with white instead of being wholly of that colour; tail ash-coloured, spotted towards the extremity with brown, and terminating in rufous; back of the neck and all the under surface light buff, the feathers of the breast and belly bordered with bright red; beak dark ash; irides brown; tarsi olive.

In the adult the feathers on the crown of the head and back of the neck are of a lanceolate form, and of a rufous tinge bordered with a brighter tint; all the under surface of a deep blackish brown, with the exception of the belly, which is yellowish red; the upper surface is of dark glossy brown; several of the scapularies of a pure white; tail deep ash-colour irregularly banded with black, each feather having a large black bar near its extremity, which is yellowish white; irides light yellow; cere and tarsi yellow.

The Plate represents an adult and a young bird one third of the natural size.



GOLDEN EAGLE.
Aquila chrysaëta. (*Brisson*).

GOLDEN EAGLE.

Aquila chrysaëta, *Briss.*

L'Aigle Royal.

Of the two large Eagles which make the British Isles a permanent residence, the present noble species, although rather inferior in point of size, is more rapacious and sanguinary in its habits, feeding more exclusively on prey acquired by its own exertions, fawns, lambs, hares, rabbits and large birds being its usual victims: the Sea Eagle, on the contrary, feeds chiefly upon fish, large sea birds, and, not unfrequently, putrid carcases; its habitat is consequently the mountains and craggy rocks along the sea shore, while the Golden Eagle frequents in preference the inland parts of the country, resorting to large forests and secluded situations.

The Golden Eagle appears formerly to have been by no means an uncommon bird in the British Isles; but the increase of population and the cultivation of the land have driven it to the remoter portions of the kingdom, and it is now only to be found, and that but sparingly, among the highlands of the North, the wilder parts of Ireland, and occasionally in Wales: and although the romantic lakes and hills of Westmoreland and Cumberland, the rocky parts of Derbyshire, and the barren districts of Cornwall, were not long since among the number of its breeding-places, it is now seldom, if ever, to be found there, a bird of its size and habits not only exciting the attention, but the hostility also of the inhabitants of the surrounding districts. On the Continent it is more abundant, particularly in the northern and hilly countries, as Norway, Sweden and some parts of Russia: it is also found, but in less abundance, in Germany and France, and still less frequently in Italy or further southwards.

In the cleft of some inaccessible rock, or, as M. Temminck states, on the tops of the tallest trees of the forest, the Golden Eagle constructs its eyrie, and brings up its young, feeding them with the yet quivering flesh of the prey, whose remains are found scattered in abundance around. The eggs are two in number, sometimes three, of a dull white stained with dull red.

The young and adult of this noble bird exhibit marked differences of plumage, a circumstance which led the older writers on Ornithology to make in this instance, as in some others, two species out of one, an error which has been but lately corrected; and we have yet much to learn respecting the laws which regulate these changes, so remarkable in this ferocious tribe.

The Ring-tailed Eagle, then, is but the immature stage of the Golden Eagle, nor is the full plumage attained but by slow degrees, two or three years being required for bringing the markings to their stationary character. When in full plumage, the feathers on the head and occiput are lancet-shaped, and of a rich gilded brown; the rest of the body is of a dull brown approaching to chocolate brown, the feathers of the inner side of the thighs and tarsi being lighter; tail greyish brown with transverse bands of blackish brown, with which colour it is tipped; beak horn colour; irides brown; and tarsi yellow. Length three feet, the female being from four to six inches longer.

The immature birds, till the commencement of the third year, have the whole of the plumage of a reddish brown, with the under tail-coverts, inner side of the thighs and tarsi nearly white; the tail white for three parts of its length, (whence the synonym of Ring-tailed Eagle,) the tip being brown. In proportion as the young bird advances, the colours become richer and deeper, the white of the tail contracts, and bars begin to appear. The third year is that of the assumption of perfect plumage.

The figures are a young and an adult, about one third of their natural size.





BONELLI'S EAGLE.

Aquila Bonelli.

Falco (*Temm.*)

BONELLI'S EAGLE.

Aquila Bonelli.

L'Aigle Bonelli.

M. TEMMINCK was, we believe, the first to make known this elegant species of Eagle as an occasional visitant in Europe. The number of examples which have come under our notice within the last few years induce us to believe it to be much more common than is generally suspected; it is, however, more particularly an African species, though its range appears to be extensive, as it may be frequently met with in collections from India. Several living specimens have at various times been received by the Zoological Society, and appeared to bear confinement equally well with others of the same genus. All these, we may observe, were received from Africa, and it is from one of them that our figure is taken; and from the circumstance of its having been an inhabitant of the menagerie for at least two or three years, we may reasonably conclude that it has nearly attained its adult colouring. There appears to be no other species of the group that exhibits so many and varied changes as the present bird, and in fact specimens are to be found of all shades, from a uniform tint of rich fulvous over the under surface to white or nearly so, with merely the centre of the feather striped with dark brown, and even much lighter than the birds represented in our Plate. M. Temminck having described these changes with considerable minuteness, we take the liberty of subjoining his description in full.

Adult male. "Upper surface brown, more or less deep, without any well-defined markings; under surface rust red, more or less bright, the shaft of all the feathers dark brown; tail uniform ash colour or slightly reddish with a terminal band of brown, or marked with distant brown bands; cere and toes yellow; irides nut brown; total length two feet."

Adult female. "Upper surface blackish brown; cheeks, throat, front and sides of the neck rust red, marked with small brown stripes along the stem of each feather; the remainder of the under surface of a duller rust red, each feather having a large longitudinal brown stripe, with the shaft black; similar markings appear on the feathers of the tarsus; inferior wing-coverts black; base of the primaries and secondaries deep grey marbled with black; tips of the primaries entirely black; tail pure ash, faintly banded or nearly uniform; all the quills with a large blackish band near the tip, which is more or less whitish; beak black at the tip, and greenish towards the base; toes yellowish; total length from two feet to two feet six inches.

"A specimen probably younger presented the following appearances: head, neck, back, scapularies and wings ash brown, marked along the shafts with blackish brown; all the great coverts, scapularies, and quills marked at intervals with very large black bands disposed in zigzags; the primaries and secondaries white, on the interior webs rayed with blackish bands; all the tail-feathers are ash brown above with nine or ten transverse bands, the intervening spaces being twice as wide as the bands; all these feathers are terminated with golden red more or less bright; beneath, the tail is whitish with a tint of red, and faint indications of transverse bands; front of the neck and chest clear red, with the stems of the feathers brown; thighs, feathers on the tarsus, abdomen, and under tail-coverts dirty white clouded with red and without spots.

We have figured an adult male about two thirds of the natural size.



SPOTTED EAGLE.
Aquila nivia; (Meyer).

E. Lear del.

Printed by C. Hoar & Co.

SPOTTED EAGLE.

Aquila nœvius, Meyer.

L'Aigle criard.

THIS small but true Eagle receives its specific name from the spotted markings which characterize the species in its youthful dress. During the first year this feature is much more conspicuous than in the specimen from which our figure was taken, and which was in its second or third year. When in its permanent state of plumage, which is not attained till the fourth or fifth year, these markings become nearly effaced, the whole of the plumage being then of a uniform rich shining brown. In many of its habits and manners it closely resembles the Golden Eagle, and others of its genus, though in size it is far inferior to that noble bird. It is sparingly dispersed throughout Germany, the Pyrenees, and Russia; and from the circumstance of individuals having been received from India, we may naturally conclude that those found in Europe are only a scattered few, dwelling in the extreme limits of their true habitat. According to M. Temminck it is common in Africa, and especially in Egypt; hence we may infer that its range is throughout the south-eastern portions of the Old World.

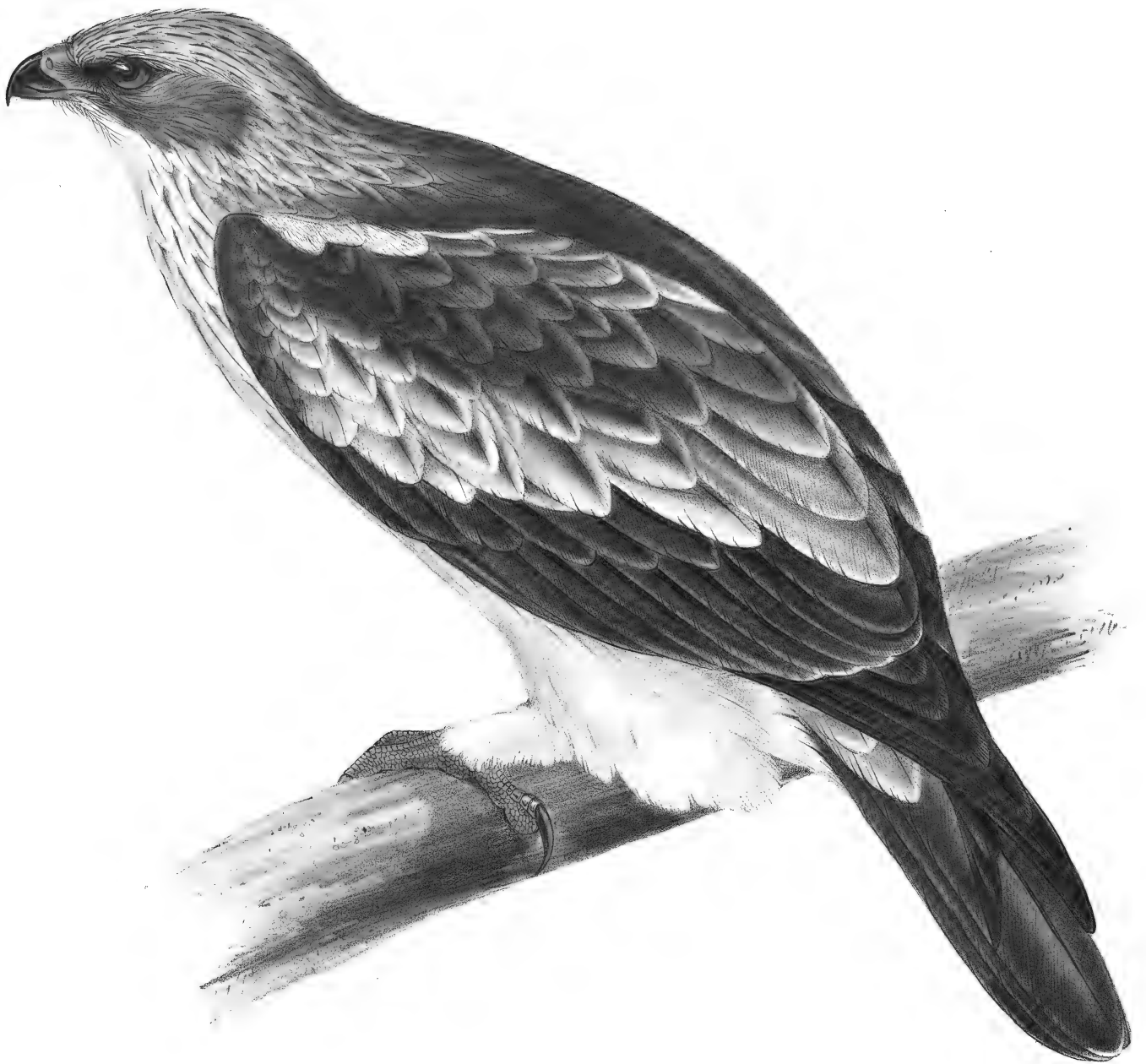
It builds in high trees, and the eggs are said to be two in number, of a light colour thinly blotched with reddish brown.

Its food consists of small quadrupeds and birds; it is also well known that it feeds, particularly during the summer, upon the larger kinds of insects which abound in its native regions. We are not aware that any of the other true Eagles live upon this kind of prey, though we know it to be the case with many of the smaller genuine Falcons.

The female, although not differing in colour, has the same relative superiority in size over the male as in the *Falconidæ* generally.

In the adult, the whole of the plumage is of a fine rich glossy brown; the primaries black; the cere and toes yellow; bill black; irides brown.

The Plate represents a bird in the plumage of the second year, three fourths of the natural size.



BOOTED EAGLE.
Aquila pennata, (Steph.)

Drawn from Nature & on Stone by J. & E. Gould.

Printed by C. Edmunds.

BOOTED EAGLE.

Aquila pennata, Steph.

L'Aigle botte.

THE *Aquila pennata* may be regarded as the smallest of the true Eagles, and one of the most beautiful of its tribe; a casual glance would, however, almost lead to confound it with the Buzzards, and especially with that group which is feathered to the toes: it is smaller in size than any European species of Buzzard, nevertheless when we examine its beak, strong tarsus, and powerful claws, together with the long lanceolate feathers on the top of the head and neck, the great breadth and power of the shoulders, and the shortness of the tail, we at once recognise the characteristic features of the genuine Eagles. The eastern portions of Europe and the adjacent districts of Asia constitute its native habitat, whence it migrates annually as far as Austria, Moravia, and the eastern parts of Germany. A fine specimen of the male of this species, which was killed in the Austrian territories, was placed at our disposal by Baron de Feldegg, and of this bird our plate is a careful representation. In an interesting collection lately received by the Zoological Society from Trebizond, we observed a fine example of this species in a younger and consequently in a somewhat different state of plumage from that which we have figured, which is fully adult.

Its food consists of small quadrupeds, birds, and insects. M. Temminck informs us that it builds its nest in Hungary, near the Carpathian mountains. Its eggs are not known.

The adult has the top of the head light yellowish brown, each feather being lanceolate in form and having a dash of dark brown; the middle of the back and upper surface dark greyish brown; at the insertion of the wings is a patch, consisting of eight or ten feathers, of a pure white; a broad stripe of light yellowish brown extends from the shoulders across the wing to the secondaries, which with the quills are deep blackish brown; tail deep greyish brown, each feather having a lighter tip; under surface white, with the exception of the chest, which has the stem of each feather slightly dashed with brown; cere and claws yellow; irides hazel.

The young differs from the adult in having narrow transverse bars of sandy yellow across the breast and thighs.

The figure is of the natural size.



SEA EAGLE.
Haliaeetus albicilla. (Selby).

Genus HALIÆTUS.

GEN. CHAR. *Beak* elongated, strong, straight at the base, curved in a regular arc in advance of the cere to the tip, and forming a deep hook; *culmen* broad, and rather flattened; *tomia* of the upper mandible slightly prominent behind the commencement of the hook. *Nostrils* large, placed transversely in the cere, and of a lunated shape. *Wings* ample, the fourth quill-feather the longest. *Legs* having the tarsi half feathered; the front of the naked part scutellated, and the sides and back reticulated. *Toes* divided to their origin; the outer one versatile. *Claws* strong, hooked, and grooved beneath; the claw of the hind toe larger than that of the inner toe, which, again, exceeds that of the middle and outer toes.

SEA EAGLE.

Haliæetus albicilla, *Savigny*.

L'Aigle pygargue.

SCIENCE is indebted to the observation of Mr. Selby for a knowledge of the fact that the Cinereous and Sea Eagles of the older writers are identical species, differing only in the respective stages of plumage, which depend solely upon age. The fact thus ascertained by experiment had been in some measure anticipated both by Cuvier and Temminck, but wanted that direct proof which rearing the birds from youth and preserving them to maturity could alone furnish.

It is the most common of the European Eagles, and perhaps the most widely dispersed. In the British Islands it frequently occurs along the rocky shores of England, Wales, Ireland, and Scotland and the adjacent islands, and many pairs are known annually to breed in different parts of the three last-named countries. The appetite for fish which this noble bird possesses leads it to give the preference to the margin of the sea, the shores of rivers and large lakes. Aquatic birds, small mammalia, such as hares, lambs, fawns, &c., and, when pressed by hunger, even carrion also, may be reckoned among the articles forming its diet; but like all the rapacious birds, especially the Eagles, it is capable of sustaining life for a considerable period when food cannot be obtained. Although not so alert and sprightly as the Golden Eagle, it is nevertheless vigorous and resolute, its powers of flight enabling it to soar with great majesty and ease through the upper regions of the air, whence it often precipitates itself upon its prey, or any intruder near its nest, with great force and velocity. Its range over Europe, although extensive, is limited to the more northern portions, particularly the rocky coast of Norway and Sweden, as well as that of Russia, Germany, Holland, and France. In the absence of bold precipitous rocks, which form its favourite place of nidification, it accommodates itself to the circumstances of the locality, constructing its nest on the top of the largest tree of the forest, bordering inland seas and lakes. The eggs are white, and two in number.

Three or four years at least are required to complete the state of plumage represented by the bird in the foreground of our Plate, which is that of maturity, a period characterized by the white tail, and the bright straw yellow-coloured bill.

The sexes offer little or no difference in their plumage at the corresponding periods of their age.

The adults have the bill and cere bright straw yellow; irides reddish brown; the whole head and neck are of a pale ashy brown, the feathers being long and pointed; the rest of the plumage is of a dark greyish brown, more intense on the upper surface; the tail pure white; tarsi and toes yellow.

The young have the beak and tail blackish brown, and the general plumage of a deep brown, the feathers of the head and neck being somewhat lighter than the rest.

The Plate represents an adult and a young bird of the first year, about one third of the natural size.



WHITE HEADED EAGLE.
Haliaeetus leucocephalus. (Swignny)

WHITE-HEADED EAGLE.

Haliaëetus leucocephalus, *Savigny*.

L'Aigle à tête blanche.

It is not until very recently that the confusion which had existed in the instance of the Golden Eagle (gen. *Aquila*), as well as in that of the Sea Eagle, and of the present species (gen. *Haliaëetus*), has by patient observation been satisfactorily cleared away. This confusion arose from the striking difference in the plumage of the immature bird from that which characterizes it in an adult condition. Hence it was that the White-headed or Bald Eagle (as it is called by Wilson), has been universally confounded with the Sea Eagle (*H. albicilla*), a species which appears to be exclusively European. It must, indeed, be confessed that the immature birds of both species very closely resemble each other; but we believe that distinguishing characters are not wanting even at this period, though perhaps not very apparent upon a superficial examination; the tail, for example, is longer in the White-headed Eagle, and the plumage is less regularly varied with brown.

Sir W. Jardine, in his notes on Wilson's description of this species, observes, that having had both the White-headed and the Sea Eagle in his possession for several years, he has observed their respective manners to be also different, the White-headed being "more active and restless in disposition," "constantly in motion," and incessantly uttering "its shrill barking cry." It is also more fierce and untameable.

The adult of the present species cannot be mistaken, but the white of the head and tail is not acquired in its full purity till the third year. The first moult gives a mingling of ash colour, white, and obscure brown; the second increases the ratio of white; the third completes the transition from the dull greyish brown of the first year.

Sir W. Jardine observes, that in captivity from three to five years are required to effect a thorough change.

This beautiful Eagle is a native of the temperate and northern regions of both continents, but is much more common in America, where it is adopted as the national standard of the United States. "Formed," says Wilson, "by nature for braving the severest cold; feeding equally on the produce of the sea and of the land; possessing powers of flight capable of outstripping even the tempests themselves; unawed by anything but man; and from the ethereal heights to which he soars looking abroad at one glance on an immeasurable expanse of forests, fields, lakes, and ocean deep below him; he appears indifferent to the little localities of change of seasons, as in a few minutes he can pass from summer to winter, from the lower to the higher regions of the atmosphere, the abode of eternal cold, and thence descend at will to the torrid or the arctic regions of the earth."

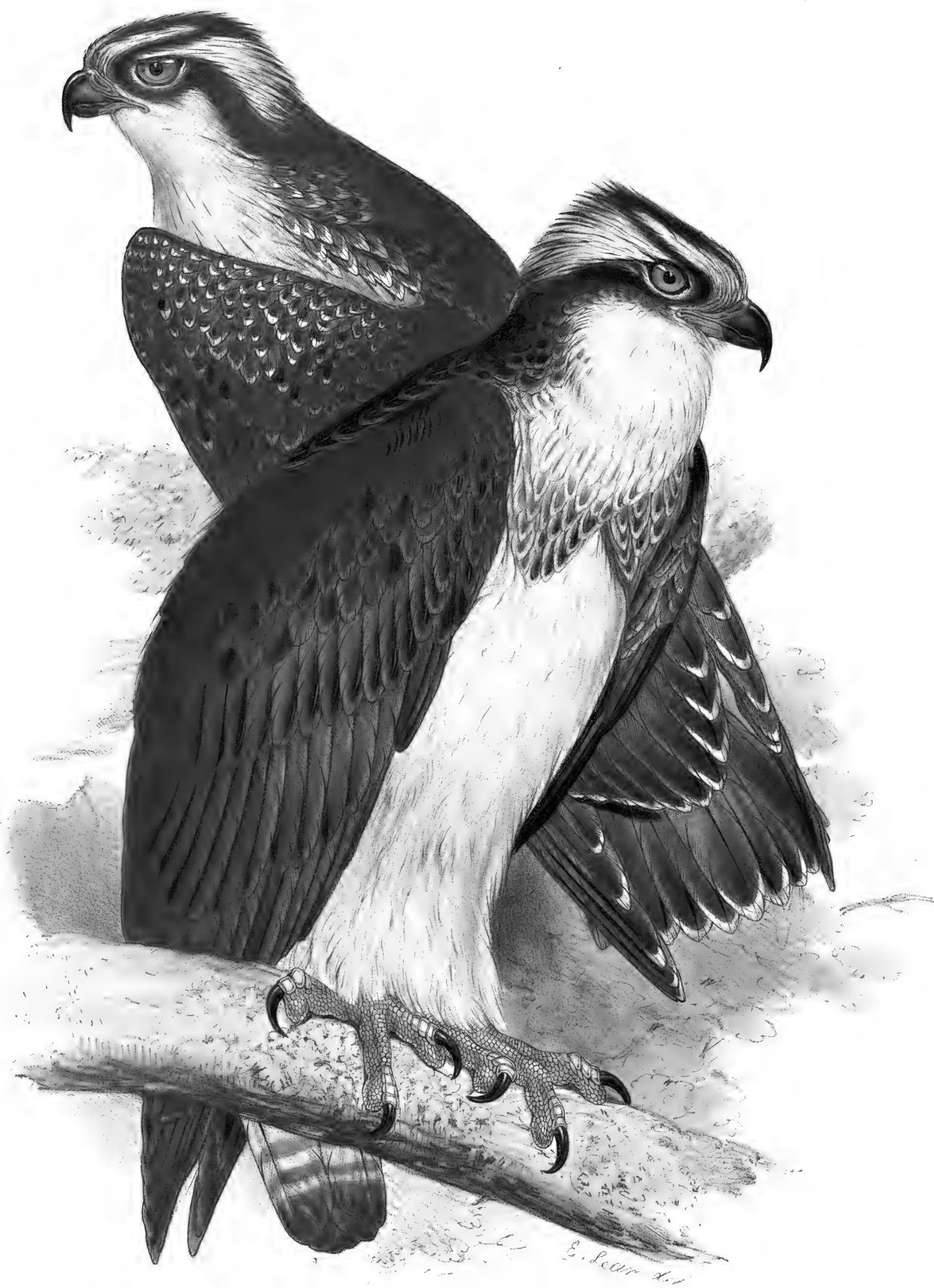
Though preying indiscriminately on every kind of animal, especially small mammalia, and not even refusing carrion when pressed by hunger, the White-headed Eagle gives the decided preference to fish. Not that he obtains his prey by his own exertions as a fisher, or at least very seldom, and then only in the shallows; he watches the labours of the Osprey, and forces that industrious fisher to give up his booty. Wilson's spirited description of the contest has been often quoted; nor is the sketch by Audubon of this bird's ferocious attack upon the Wild Swan less replete with descriptive energy. The favourite localities of the White-headed Eagle are the borders of lakes, the rocky margins of the larger rivers, and especially the precipitous shores of the ocean.

The nest is generally placed in the topmost branches of lofty trees, often in the centre of a morass or swamp, and is formed of a mass of sticks, sods, grass, &c. It is increased by fresh layers annually, being repaired and used year after year until it becomes of such magnitude as to be observable at a great distance. The young are fed with fish, which often lie scattered in a putrid state round the tree, infecting the air for a considerable distance. The young are at first covered with a cream-coloured cottony down, which gradually gives place to the greyish brown feathers of the first year.

The adult plumage is as follows: head, upper part of the neck, and the tail, pure white; body of a deep chocolate brown; beak, cere, and tarsi, whitish yellow; irides almost white.

We have figured an adult male and an immature bird one third the size of nature.





OSPREY.
Pandion haliaetus; (Savign.)

Genus PANDION.

GEN. CHAR. *Beak* short, strong, rounded and broad, cutting edge nearly straight. *Nostrils* oblong-oval, placed obliquely. *Wings* long; the second and third quill-feathers the longest. *Legs* strong and muscular; tarsi short, covered with scales. *Toes* free, nearly equal in length; outer toe reversible; all armed with strong curved and sharp claws; under surface of the toes rough and covered with small pointed scales.

OSPREY.

Pandion haliaëtus, *Sav.*

Le Balbuzard.

THERE is no species of the great family of *Falconidæ* whose range of habitat is so universal as that of the Osprey; and there certainly is none to whose habits attaches more interest than to those of this noble bird. While some of its race prey upon quadrupeds, and others upon the feathered tribes, the Osprey gains his subsistence almost exclusively from the waters, the scaly tenants of that element constituting its food: hence it is observed, that the countries in which he takes up his abode must be at least temperate, since it is evident that if the waters be frozen, he would be compelled by necessity to seek a more congenial climate. Such is evidently the case; and hence the Osprey is everywhere migratory, visiting the northern latitudes only during the months of spring and summer. In Europe this bird is but thinly dispersed; but to counterbalance this it is found in every portion of it, at least where wide rivers, lakes and arms of the sea offer it the necessary supply of food. The British Isles are not so much frequented as other parts of Europe; and when one of these birds does make its appearance, its magnitude and peculiar actions call forth the attacks of so many assailants, that it is either quickly destroyed or driven to seek a safer asylum elsewhere. Indeed it can hardly be said to be a welcome visiter, since it makes the greatest havoc among the stock of fish-ponds and rivers, not readily leaving if once established where its prey abounds.

In some parts of America the Osprey is very common, especially in the United States, where it makes its appearance on the return of spring: hence it is a welcome visiter, since its arrival betokens the opening of the rivers and the return of the hordes of fish. Here along the borders of mighty streams, undisturbed and unmolested save by the Bald Eagle, its professed enemy, it builds its nest in tall trees, constructing it of sticks and turf, so as to form a large mass, on the edges of which other small birds congregate and nidify without the slightest injury: in fact, the Osprey, or Fish-Hawk, is a quiet bird, with little ferocity or daring in his temperament. His manner of taking his prey is very remarkable: hovering for a time on wide-spread wings over the water, he then sails about, intently gazing on the element beneath. The moment a fish appears, down he plunges like an arrow, almost disappearing beneath the water, but rising in a moment, with the victim grasped in his strong and incurved talons: throwing the spray from his burnished plumage, he soars aloft, and hastens to his nest to share the spoil with his young, or feast upon it at leisure. Often, however, is the Osprey robbed of his prize. We have alluded to the Bald or White-headed Eagle as his foe, who frequently chases him when loaded with his booty, which he is forced to relinquish to his stronger opponent. The spirited narrative of the contest between these two birds—the one to retain, the other to obtain, the booty—in Wilson's American Ornithology, is probably familiar to all our readers; if not, we recommend them to peruse it. The eggs are generally three, of a dull white, blotched with dark red or yellow brown.

In the adult state of plumage, the whole of the upper surface is of a rich glossy brown; the top and sides of the head are mingled white and brown, and a brown line passes from behind the eye to the shoulder; the throat, chest and underparts are white slightly dashed with a few lines of rusty brown; tail barred; cere and nostrils light brown; tarsi blueish lead colour; irides yellowish orange.

The young are distinguished by the feathers of the upper surface being edged with whitish, and the chest being almost wholly of a pale brown.

We have figured an adult and a young bird about half the natural size.



SHORT-TOED EAGLE.
Circaetus brachydactylus; (Vieill.)

Genus CIRCAËTUS, Vieill.

GEN. CHAR. *Beak* robust, convex, compressed laterally; the upper mandible with its edges straight, and the point crooked; the inferior blunt at its tip. *Nostrils* oval and transverse. *Tarsi* naked, reticulated, elongated, and thick. *Toes* short, the outer two united at their base by a web; the lateral and hind toes nearly equal; nails short and strongly curved. *Wings* long, the third quill-feather the longest; the first shorter than the sixth.

SHORT-TOED EAGLE.

Circaëtus brachydactylus, Vieill.

L'Aigle jean le blanc.

IN the present Eagle is exhibited one of those links which in the family *Falconidæ* are so numerous and so clearly appreciable, uniting group to group by intermediate forms so nicely balanced as to embody in themselves the main characters of the more typical genera between which they are interposed. In the "Règne Animal" of the Baron Cuvier, that great naturalist judiciously observes that the genus *Circaëtus* holds an intermediate place between the fishing-eagles (*Haliaëtus*), the ospreys (*Pandion*), and the true buzzards (*Buteo*); and he adds that it has the wings of the eagles and buzzards, with the reticulated tarsi of the ospreys.

Of all the eagles and buzzards none appear to have a wider range than the Short-toed Eagle. Its European localities, according to M. Temminck, are principally Germany and Switzerland: in France it occurs occasionally; but in Holland and the British Islands it has never been seen. It is also dispersed nearly through the whole of Africa and India, countries peculiarly favourable to it, in as much as its food consists principally of snakes and reptiles, which especially abound in the hotter portions of the globe. In the nature of its food and in the elongation of its tarsi we cannot fail to trace a marked approximation to the true Harriers, which, it is well known, are inveterate destroyers of every kind of reptile.

Like most of the *Falconidæ*, the Short-toed Eagle undergoes a succession of changes before it attains a permanent state of plumage. The colouring is so well detailed by M. Temminck that it is useless to attempt any addition. He states that the young have the upper parts of a deep brown, but that the base of each feather is of a pure white, the throat, breast, and belly being of a reddish brown, little or not at all blotched with white; the bars on the tail almost imperceptible; the beak bluish; the tarsi greyish white.

The colouring of the adult male is as follows:

The head is very large; below the eye is a space clothed with white downy feathers; the top of the head, cheeks, throat, breast, and belly are white, variegated by a few blotches of light brown; shoulders and wing-coverts brown, the base of every feather being white; tail square at the end, of a greyish brown barred with brown of a deeper tint, and white underneath; tarsi long, and, as well as the toes, of a light bluish grey; beak black; cere bluish; irides yellow.

The female is distinguished by having less white in her plumage, and by having the head, neck, and breast more thickly blotched.

Our Plate represents a bird in a state intermediate between youth and maturity, in which, as may be observed, the flanks and thighs are transversely barred with brown: the figure is about one third less than the natural size.



COMMON BUZZARD.
Buteo vulgaris, (Bechst.)

Genus BUTEO.

GEN. CHAR. *Beak* rather weak, bending from the base, sides compressed, widening from the base, where the culmen is broad and flat; under mandible shallow, with the tip obliquely truncated. *Cere* large. *Nostrils* pyriform. *Wings* long and ample, the third or fourth quill-feather being the longest, the first four having their inner webs deeply notched, the third, fourth, and fifth having their outer webs deeply notched. *Tarsi* short, naked or feathered to the toes. *Toes* rather short, the front ones united at the base. *Claws* strong but not much hooked.

COMMON BUZZARD.

Buteo vulgaris, *Bechst.*

La Buse.

UNLIKE the true Falcons, whose vigorous flight and aerial disposition place them at the head of the Raptorial birds, or the spirited and bold short-winged birds of the genera *Astur* and *Accipiter*, the species of the present genus, though possessed of considerable bodily powers, are sluggish, timid, and inactive; still they are admirably adapted by nature to fill the office for which they are designed in the œconomy of the creation. Slowly soaring on buoyant wings, the Common Buzzard surveys the earth beneath in search of the smaller mammalia and reptiles which constitute its food, and upon which they pounce with a rapid and noiseless descent; nor does it disdain, when pressed by hunger, to partake of carrion, or such offal as chance throws in its way. Such may be regarded as the character of the Buzzard, which is an inhabitant of all the wooded districts of the British Islands, more particularly those of the southern districts. It is still more abundant in France, Holland, and all the temperate parts of Europe, being everywhere stationary.

To illustrate all the changes which this bird undergoes, and which are, indeed, characteristic of the Buzzards in general, would far exceed the space allotted to each subject of the present work; we have therefore given a figure of the bird in that state which is most common to the species: it is these changes that have led to a great multiplication of the species, and to no little confusion, in the works of the older ornithologists.

Its nest is constructed of sticks in the densest part of the wood, and it sometimes takes up with the deserted nests of Crows, Pies, &c. The eggs are two or three in number, of a dirty white colour, slightly spotted with reddish brown.

From our own experience, we are enabled to say, that the birds of one year old are much lighter in their plumage, particularly on the under surface, than those of the succeeding year, and may be easily recognised by their having the upper portions of their plumage, which is of a very dark brown with violet reflections, edged on each feather with a light yellowish white margin. The next year they become still darker, the back and breast assuming an almost uniform tinge of the same colour, being irregularly broken with transverse bars of yellowish white: the tail is also darker, particularly towards its base, which is generally white or whitish in the bird of the year. In the very advanced stage the colouring is still more uniform, of a pale cinereous brown, with faint indications of an occipital crest, which is represented by two or three feathers more elongated than the rest, and of a darker colour; the cere and legs lemon yellow; irides hazel.

The Plate represents an adult bird about two thirds of the natural size.



ROUGH-LEGGED BUZZARD.
Buteo Lagopus, (Palm.)

ROUGH-LEGGED BUZZARD.

Buteo Lagopus, Flem.

La Buse pattu .

THE Rough-legged Buzzard enjoys a much more extensive range of habitat than the preceding species (*Buteo vulgaris*), which is strictly confined to the Old World, while the bird here represented is dispersed over nearly the whole of the Arctic Circle. A beautiful figure of this bird will be found in the 'Fauna Boreali-Americana' of Messrs. Swainson and Richardson, which upon examination will prove, beyond a doubt, its identity with the specimens killed in Europe. Its residence in the northernmost parts of America does not appear to be permanent, for Dr. Richardson informs us that it retires southwards in October to winter upon the banks of the Delaware and Schuylkill, returning again to the north early in spring. "A pair of these birds," says this gentleman, "were seen at their nest, built of sticks, in a lofty tree, standing on a low, moist, alluvial point of land almost encircled by a bend of the Saskatchewan. They sailed round the spot in a wide circle, occasionally settling on the top of the tree, but were too wary to allow us to come within gunshot."

The Rough-legged Buzzard is abundant over the whole of the North of Europe, but is more thinly dispersed over its temperate and warmer parts. It is not a permanent resident in any of the British Isles, but visits them periodically, being in some seasons tolerably abundant, while in others it is scarce. During its stay it commits great depredation in the rabbit warrens, in the neighbourhood of which it may generally be found; it also preys upon rats, hamsters, moles, lizards, frogs, and, according to Mr. Selby, wild ducks and other birds. "In the winter of 1815," says this gentleman, "Northumberland was visited by some of these birds, and several opportunities were afforded me of inspecting both living and dead specimens. Those which came under examination closely resembled each other as to colour and markings, though some individuals were darker along the belly than others; and the quantity of white upon the upper half of the tail was not always of equal breadth. Two of these birds, from having attached themselves to a neighbouring marsh, passed under my frequent observation. Their flight was smooth but slow, and not unlike that of the Common Buzzard, and they seldom continued for any length of time on the wing. They preyed upon wild ducks and other birds, which they pounced upon the ground; and it would appear that mice and frogs must have constituted a great part of their food, as the remains of both were found in the stomachs of those that were killed."

The plumed tarsi of this species at once distinguish it from its near ally the Common Buzzard, to which it assimilates in its general contour, as well as in many of its actions, and its general economy.

The nest, according to M. Temminck, is built in lofty trees; the eggs, which are four in number, being white spotted with reddish brown.

Like the common species this bird undergoes a variety of changes between youth and maturity. The sexes are alike in plumage.

Adults have the head, neck, and throat yellowish white, with narrow streaks of brown; back and wing-coverts brown, with paler edges; lower part of the inner webs of the quills white; upper tail-coverts and base of the tail white, the remainder being brown crossed with bands of the same colour, but of a darker tint; breast yellowish white with large spots of brown; under surface brown; thighs yellowish white, with brown arrow-shaped spots; tarsi clothed with feathers of a yellowish white, with a few small brown specks; bill bluish black, darkest at the tip; cere and irides bright yellow; toes reddish yellow; claws black.

The Plate represents an adult male about two thirds of the natural size.



HONEY BUZZARD:
Pernis apivorus, (Cuv.)

Drawn from Nature & on stone by J.E. Gould

Printed by C. Bulmer & Co.

Genus **PERNIS**, *Cuv.*

GEN. CHAR. *Bill* slender, weak, bending gradually from the base to the tip; cutting margin nearly straight; cere occupying half the length of the bill; under mandible sloping gradually to the tip. *Nostrils* long, narrow, placed very obliquely in the cere and opening forwards: lores thickly covered with small soft tiled feathers. *Wings* long and ample; first feather shorter than the sixth, and the third and fourth the longest in the wing; inner webs of the first four notched, and the outer webs of the third, fourth, and fifth sinuated. *Tail* long and slightly rounded. *Legs*, tarsal half feathered, lower or naked part reticulated. *Toes* rather slender, the inner and outer ones of nearly equal length, the anterior joints of all scutellated. *Claws* weak, slightly hooked, with the inner edge of the middle one dilated.

HONEY BUZZARD.

Pernis apivorus, *Cuv.*

La Buse Bondrée.

THE Honey Buzzard, which is the type of Cuvier's genus *Pernis*, is much more sparingly diffused over the continent of Europe than the Common Buzzard (*Buteo vulgaris*), from which it differs in possessing a more feeble and softer bill, which is wider in the gape, and in having shorter and less powerful tarsi and toes, the claws of which are straighter and less retractile: it may also be easily distinguished from the members of the genus *Buteo* by the small and closely set feathers which cover the space between the bill and the eye, which space in all the rest of the *Falconidæ* is either bare or thinly covered with fine hairs or bristles.

We have good reason to believe that the Honey Buzzard is far more abundant in the British Islands than is generally suspected, several instances having come to our knowledge, not only of its capture, but also of its breeding in this country. Its flight is easy and graceful, and, like its near ally the *Buteo vulgaris*, its great size readily attracts the notice of the keeper and sportsman, to whom it soon becomes a prey when it takes up its abode in our woods or parks. The range of this bird is not confined to Europe alone, as is proved by our having frequently observed it in collections from India.

Its favourite food appears to be insects, wasps, bees, and their larvæ, to which are added lizards, small birds, mice, and moles.

It is subject to a number of changes in the colouring of its plumage, some individuals being of a uniform dark bronzy brown, while others have the head, neck, and under surface almost white with broad transverse bars of brown: this latter state is considered to characterize the young bird.

It builds in lofty trees, constructing a nest of twigs lined with wool and other soft materials; the eggs are small, of a yellowish white marked with numerous spots of reddish brown.

Crown of the head brown tinged with bluish; upper surface brown of various tints edged with yellowish brown; throat yellowish white with a few brown streaks on the shafts of the feathers; under surface yellowish white, with triangular spots and bars of chestnut; tail dark brown, with three bars of blackish brown; bill bluish black; cere greenish; irides yellow; tarsi and feet yellow; claws black.

There being no difference in the colouring of the sexes, we have figured a bird in the plumage of its first year.





GOSHAWK.
Astur Palumbarius. (*Bechst.*)

Genus ASTUR.

GEN. CHAR. *Beak* short, bending from the base, compressed ; upper mandible festooned on its cutting margin. *Nostrils* oval, opening obliquely forwards. *Wings* short, when closed reaching only one-half the length of the tail ; fourth quill-feather the longest ; inner webs of the first five deeply notched. *Legs* covered in front with broad scales ; middle toe much longer than the lateral ones, which are equal ; hind toe strong ; claws curved, strong and sharp.

G O S H A W K.

Astur palumbarius, *Bechst.*

L'Autour.

THE *Falco palumbarius* of Linneus, the *Astur palumbarius* of the present day, may be regarded as the most noble and typical species of its genus,—a genus separated from the Falcons by the absence of the true dentation of the mandibles, and by possessing a short and more rounded form of wings, together with a slender and less robust body ; and distinguished from the genus *Accipiter* by its short and powerful tarsus, and by the diminished length of the middle toe, which, from its length, in the latter genus forms so conspicuous a character.

The genus seems somewhat extensively distributed, both in the Old and New World : from India in particular we know of several interesting examples ; while at the same time America is not deficient in birds of this form, the well-known *Astur atricapillus* of the northern portion of that country being the nearest representative of our species, and until lately confounded with it.

The *Astur palumbarius* is found in considerable abundance in all the wooded districts of Central Europe, though in the present day of very rare occurrence in our own island. M. Temminck informs us that it is also equally scarce in Holland.

This elegant and noble bird minutely resembles in its general habits our well-known Sparrow Hawk, and is not excelled in spirit or daring by the noblest of the Falcons. Its manner of taking its prey, however, appears to us exceedingly different. Pursuing it with assiduity, undaunted courage, and perseverance, it does not stoop upon it like a Falcon, but glides after its victim, in a line, with the utmost velocity. It was anciently much esteemed in falconry, and its mode of taking its prey is more successful than that of the Falcon, although it does not exhibit those aerial evolutions which are so much admired in the Jerfalcon. The Goshawk was especially used for taking hares and partridges,—game which do not call into play the Falcon's peculiar mode of flight.

The male and female offer the same disproportionate difference in size as the Sparrow Hawk, and the former has the transverse markings finer and more distinct. The colouring of the two sexes is otherwise closely similar. The young, in the first and second year, possess, instead of the transverse bars on the breast, large oblong dashes of brown, upon a ground of white tinged with rufous.

In the adult, the whole of the upper surface is of a dull blueish grey, the under surface white with transverse somewhat zigzag bars of black, and wavy lines of the same colour across the shaft of each feather ; the tail ash-coloured above, with four or five bars of blackish brown ; irides and feet fine yellow.

The Plate represents a female in full plumage, and a young bird in its immature stage about three fourths of the natural size.



SPARROW HAWK.
Accipiter fringillarius, (Ray).
Falco msus, (Linn).

SPARROW HAWK.

Accipiter fringillarius, *Ray*.

L'Épervier.

OF the smaller European birds of prey the Sparrow Hawk is one of the most bold and intrepid, and, unlike many of the true Falcons of its own size, which live in a great measure upon insects, it preys almost exclusively upon the birds of the Passerine order, but it does not hesitate to attack those of a larger size, and proves a destructive enemy to Pigeons, Partridges, and young poultry;—hence it is one of those predatory tyrants which are peculiarly obnoxious among the preserves of game, especially during the breeding season. It is often seen (pressed no doubt by the necessity of providing for its young,) hovering about the borders of the wood, or lurking in the hedge-row, and ever and anon pouncing upon some unfortunate victim which has arrested its attention. Quick-eyed and rapid, it darts upon its quarry like an arrow, and pursues it with unrelenting pertinacity, undaunted even by the presence of man, in whom the terrified fugitive has been often known to trust for a chance of safety in the desperate emergency; and many instances are on record of the Lark and Pigeon rushing into houses through open windows, followed by the intrepid foe. The flight of the Sparrow Hawk, though distinguishable for celerity, is not of that soaring character which we observe in the true Falcons; instead of descending upon its prey from aloft, and striking it down, or if missing the stroke, mounting again and repeating a similar assault, it darts at it without rising to any altitude, and follows up the chase till enabled to effect its capture. This peculiarity in its flight will at once distinguish it from the Kestrel,—a bird more common, and in a state of nature often mistaken for it.

The Sparrow Hawk is universally, although but moderately distributed throughout the whole of Europe as well as in the adjacent continents of Asia and Africa. The great disparity in size and dissimilarity in colouring between the male and female are among the most remarkable peculiarities connected with the present species. The young also exhibit a decided contrast in their plumage to the adults. These differences we shall endeavour to explain in our descriptions of each.

The adult female is in length fourteen inches; the whole of the upper surface is of a dark greyish brown; but the feathers of the shoulders, if examined, are found to be barred with broad dashes of white, the end only being of the colour which appears generally; on the back of the neck there is a large white patch, each feather being slightly tipped with brown; an obscure stripe of white surmounts the eye; the throat is white with small longitudinal specks; the breast and underparts are also white with beautiful transverse bars; the tail is brown like the back, and crossed with four bands of a darker colour; cere yellowish green; irides and tarsi yellow.

With markings like those of the female, the male has the upper surface of a dark blueish ash colour, but the throat and under parts are rufous, exhibiting the longitudinal specks and transverse bars as in the female, but more obscure; the cere, irides and tarsi as in the female; in length scarcely twelve inches.

The young male has the head and back of the neck, which is destitute of the white patch, of a reddish colour blotched with brown; the feathers of the back and wings are edged with reddish; the scapulars are marked with large spots of white; the under surface yellowish white, transversely barred with reddish; cere greenish yellow; irides greyish ash; tarsi livid.

The Sparrow Hawk frequents wooded and mountainous districts, where it makes great havoc among quails, larks, and small birds in general; small quadrupeds and lizards also form part of its diet.

It builds its nest in trees; the eggs being generally four in number, of a dull blueish white marked with angular red blotches.

Our Plate represents a male and female of this elegant little Hawk in their adult plumage, somewhat less than the natural size.



JER FALCON.
Falco Islandicus, (Lath).

Genus FALCO.

GEN. CHAR. *Beak* short, thick, strong, curved from the base; upper *mandible* with a prominent acute tooth. *Nostrils* rounded. *Tarsi* stout, short. *Toes* long, strong, armed with curved and sharp claws. *Wings* long, pointed, the first and third feathers long and equal, but shorter than the second feather, which is the longest.

JER-FALCON.

Falco Islandicus, *Lath.*

Le Faucon gerfaut.

THE Jer-falcon may be considered the type of the true Falcons, pre-eminent as it is in all the characters and attributes which distinguish the most noble of the birds of prey. It is a native of most of the Northern parts of Europe, and occasionally visits the Orkney and Shetland Isles. It was seen by Captain Sabine on the west coast of Greenland, and according to Dr. Richardson is a constant resident in the Hudson's Bay territories, where it is known by the name of the speckled Partridge Hawk, and Wanderer, and where it subsists by destroying Plovers, Ptarmigan, Ducks and Geese.

The falconers who visit this country almost every season with their trained Peregrine Falcons for sale, all agree in declaring that the Jer-falcon which they obtain constantly from Norway, is a different bird from that which they consider the true Falcon of Iceland. They say that these two Falcons differ in the comparative length of their wings in reference to the tail; the Iceland Falcon is, to them, a much more valuable, as well as a much more rare species; that they require a different system of training, as well as of general management. They describe the Iceland Falcon as a bird of higher courage than the Jer-falcon, of a more rapid and bolder flight, and that he can be flown successfully at larger game. His gyrations are said to be wider, his mount higher, and his stoop to the quarry more impetuous, grand, and imposing; and a well-trained specimen commands in consequence a much larger price. One of these falconers observed, that the Iceland Falcons he had trained, were, to the number of Norway Jer-falcons, but as one to twenty; another, from his own experience, considered them as still more rare. The question, Are there two species? has occurred to systematic writers in Ornithology; but we doubt whether the specimens contained in our various collections will afford sufficient data to make the separation.

In the adult bird, the prevailing colour of the plumage is white, barred over the upper parts of the body, wings and tail with narrow dark bands; top of the head streaked with dusky lines; all the under parts pure white; beak blueish black; cere yellow; irides dark hazel; tarsus and toes bright yellow. In very old males, the plumage is almost entirely white. Females have much more brown colour disposed over the upper parts, and young birds of the year have scarcely any white; the prevailing colour of their plumage is a uniform brownish ash; some of the feathers of the upper parts of the body, wings and tail varied by being tipped or barred with dingy white; top of the head, and under surface of the body marked with longitudinal patches of brown; cheeks light brown; throat white.

The Jer-falcon breeds in the highest and most inaccessible rocks, and, according to Dr. Fleming, lays from three to five spotted eggs, of the size of those of a Ptarmigan. The old birds defend their nest and young with great courage.

The figure in the forepart of our Plate was taken from a fine example of this bird, presented to the Zoological Society by the Earl of Cawdor, which was shot on His Lordship's estate, Stackpole Court, Pembroke-shire, and was strongly suspected of having carried on successful warfare among some pheasants. The figure behind is that of a young bird.

In his memoir on the Birds of Greenland, Captain Sabine observes, that "the progress of this bird from youth, when it is quite brown, to the almost perfect whiteness of its maturity, forms a succession of changes, in which each individual feather gradually loses a portion of its brown, as the white edging on the margin increases in breadth from year to year; this has been the cause of the variety of synonyms authors in general refer to;" and, we may add, will also explain the various changes that occur during the life of this bird, between the two periods which we have represented by the subjects chosen for our Plate.



LANNER FALCON.
Falco lanarius, (Linn)

LANNER FALCON.

Falco lanarius, *Linn.*

Le Faucon lanier.

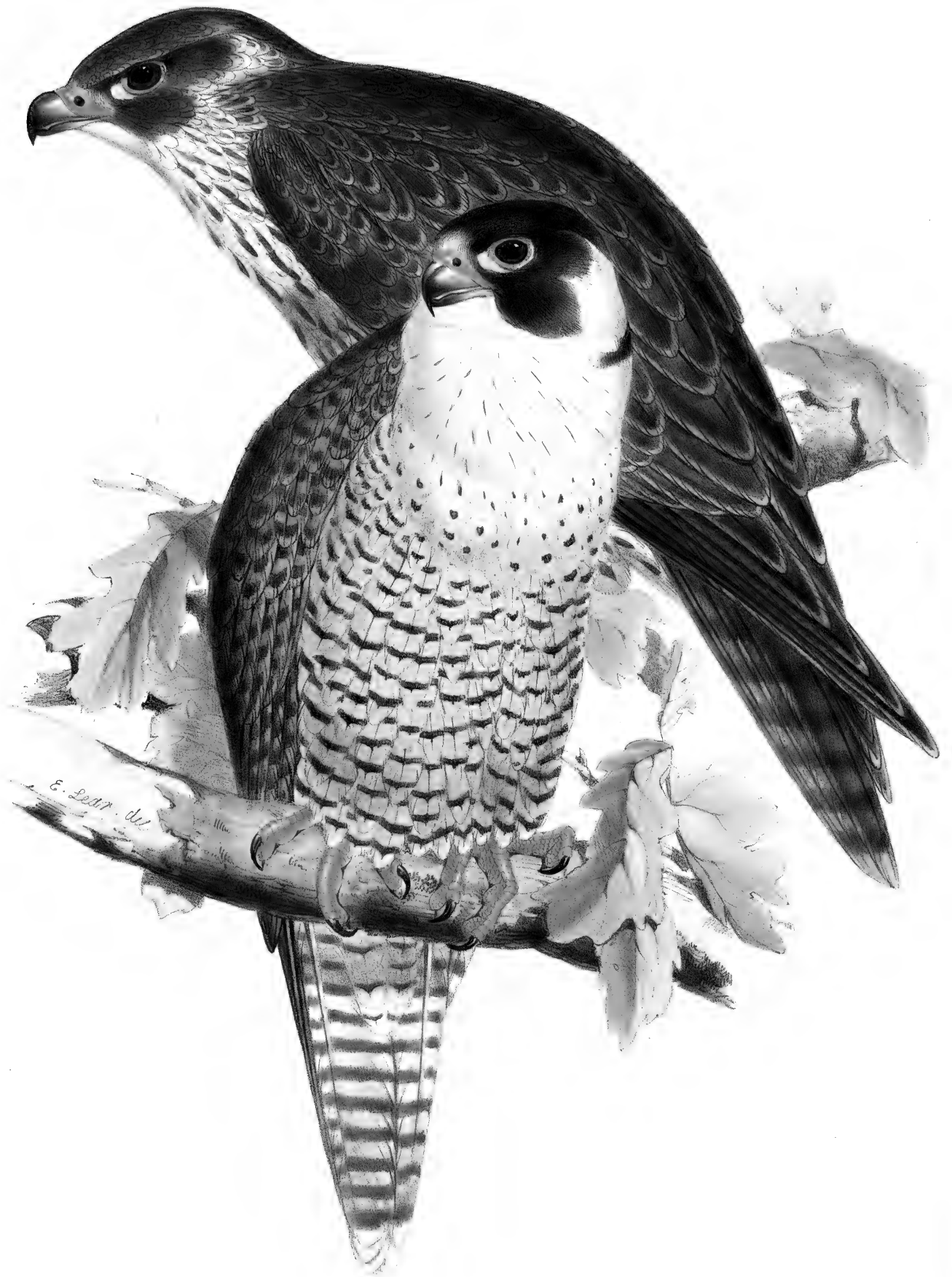
THE native habitat of this rare bird are the eastern portions of Europe and the adjacent parts of Asia and Africa. It rarely passes further westward than the central parts of the European continent; it is scarcely ever seen in France or Holland; and never visits Great Britain. So extremely rare it is that we are unable to refer our readers to any collection in this country, either public or private, in which an example of this fine Falcon may be seen. We are much indebted to our highly valued friend M. Temminck for the loan of the two fine specimens from which our figures are taken.

In point of affinity the Lanner is directly intermediate between the Gyr-falcon and the Peregrine, the adult female being nearly, if not quite, equal in size to the male Gyr-falcon, while the male is of the usually diminutive size common to the true Falcons. In colouring it differs very considerably from either of the above-mentioned species, never possessing the strongly barred plumage of black and white which characterizes the Gyr-falcon, nor the transverse markings which are found on the breast of the Peregrine. While at Vienna we had an opportunity of observing a fine living specimen in the Royal Menagerie at Schoenbrunn: as far as we could perceive it did not evince any peculiarity of manner to distinguish it from the Gyr-falcon or the Peregrine; it appeared perfectly content and docile in captivity, although it is known to be extremely bold and daring in capturing its prey when in a state of nature. If we may judge from the general appearance of this bird, its strong bill, powerful body, and pointed wings, we should say that no one of its congeners is better adapted for the purpose of Falconry.

The adult has the crown of the head reddish brown, longitudinally marked with streaks of dark brown; over the eye a mark of yellowish white, which extends to the occiput; all the upper surface of a deep brown tinged with ash, each feather being bordered with reddish brown; a narrow line of brown from the base of the bill beneath the ear-coverts, which are yellowish white; all the under surface yellowish white, each feather having lanceolate marks of dark brown; the tail brown transversely barred with a darker colour; the cere and legs yellow; and the irides brown.

The young of the year differs from the adult in having the cere and legs blue instead of yellow; in having the breast much more strongly marked with brown; and in having the whole of the upper surface of a darker tint.

The Plate represents an adult male and a young bird rather less than the natural size.



PEREGRINE FALCON.
Falco peregrinus: (Linn.)

PEREGRINE FALCON.

Falco Peregrinus, *Linn.*

Le Faucon pèlerin.

EQUALLY typical with the Jerfalcon and Lanner, the Peregrine, although less in size, possesses the characteristic boldness and ferocity of the genus. Being plentiful throughout the northern and middle portions of the Old World, it has at all times been abundantly employed in falconry, and still continues to be used by the few who continue a practice now almost obsolete. Whether we are to consider the Peregrine of North America and the extreme southern point of that vast continent, as well as that which is met with in New Holland, and other islands of the Pacific, as specifically identical with our European bird, is a point on which naturalists are not unanimously agreed; for ourselves, we consider that there exists the same difference, at least, between the Magellanic birds and those killed in Europe as between the Barn Owls of these two portions of the world, or as between the Goshawk of North America and that of Germany: the same observation equally applies to the New Holland species. But whether these differences, which are always appreciable by the experienced naturalists, are to be regarded as indicative of specific distinctions, or as varieties only dependent upon climate or other causes, is a subject which admits of much controversy; we ourselves are inclined to consider that these differences in birds closely allied are not at all times dependent upon extraneous causes, more especially where the differences are not in the tint of the colouring, but consists of a diversity in the shape and disposition of the markings; still, however, if it could be ascertained that birds, differing as do the Magellanic and European Peregrines, would breed with each other, and produce a fertile offspring, we should then be constrained to regard them as simple but permanent varieties.

In England this beautiful Falcon remains the whole year round: it appears to give preference to the bold rocky cliffs that border the sea, in the most inaccessible parts of which it builds its eyrie, generally laying four eggs, of a uniform dark red colour. The young, from the time of being fledged to their full maturity, which is not attained until four or five years have elapsed, undergo a series of changes, so remarkable as to have caused a list of numerous synonyms and no little degree of confusion: the persevering observations of modern naturalists have, however, cleared up the confusion, and rectified the mistaken views with which the works of the older writers abound; still one circumstance has attended this modern investigation, which shows how difficult it is to avoid error, even in the closest scrutiny; we allude to the fact of several writers having contended that the Lanner, a species perfectly distinct from the Peregrine, was in fact nothing but the young of the latter: this also is now found to be a mistake, and we trust that our Plates of the two species will still more clearly illustrate the subject. We need scarcely comment on the rapidity of flight in which this species so much excels, nor upon its destruction of various kinds of game, water fowl, particularly ducks, teal, &c.

The sexes differ considerably in size, the male being much the smallest, and in general more blue on the upper surface.

The adults have the bill lead colour, becoming black at the tip; cere, naked skin round the eyes, and the feet yellow; whole of the upper surface bluish lead colour, approaching to black on the head and cheeks, the feathers of the back and wings being barred with a deeper tint; quills brownish black, the inner webs barred with white; tail barred with bands of black and grey, the tips white; throat and breast yellowish white; under surface white with a tinge of rufous, and regularly barred with transverse lines of black.

The young of the year differ in having the whole of the upper surface brown, each feather being margined with a lighter colouring; the breast and under surface light fawn brown, with oblong longitudinal dashes of blackish brown; tail brown, with bands of a darker colour; cere and legs greenish yellow; irides the same as in the adult, deep hazel approaching to black.

The Plate represents an adult and a young bird, of the natural size.



HOBBY.
Falco subbuteo; (Linn.)

H O B B Y .

Falco subbuteo, *Linn.*

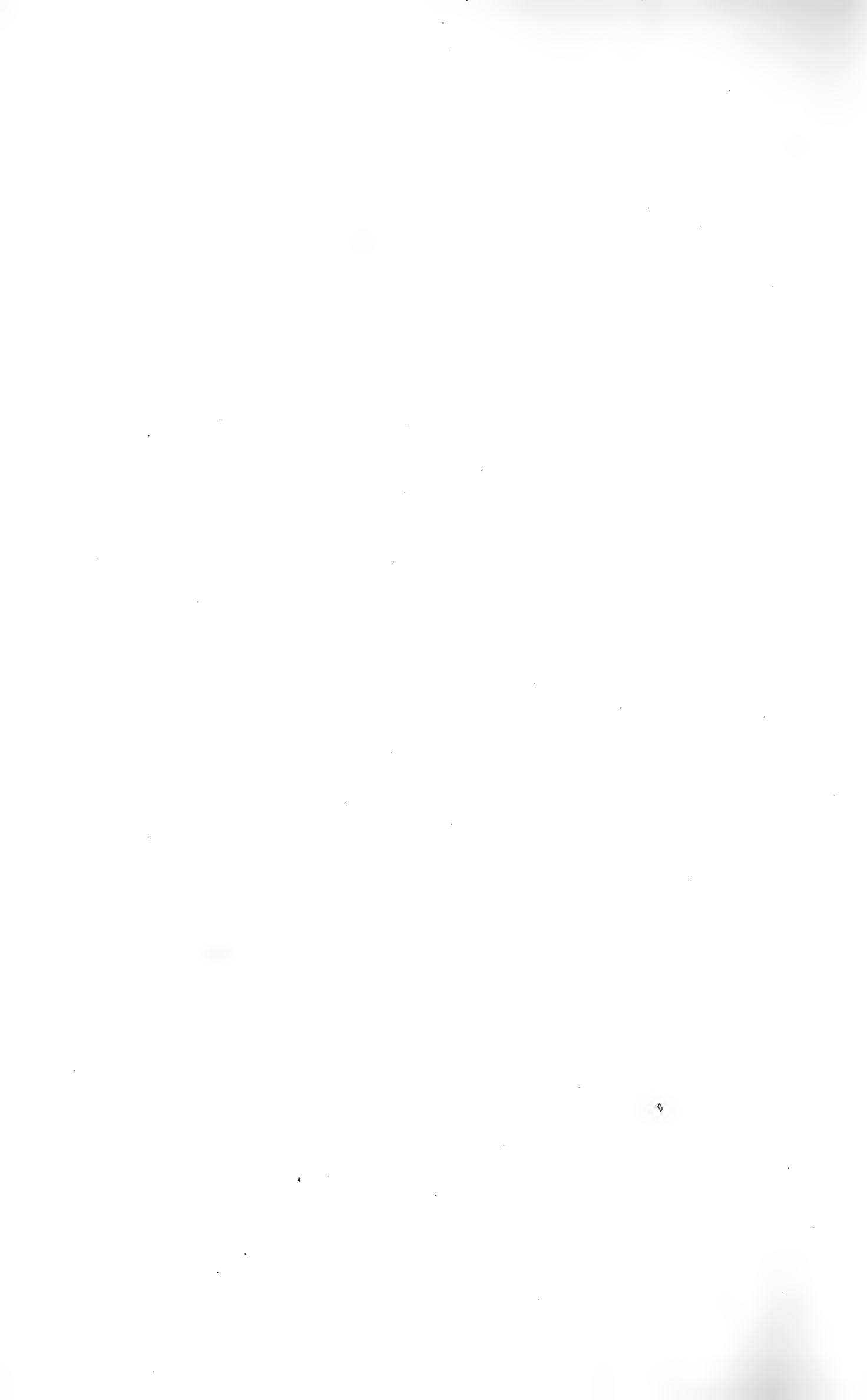
Le Faucon hobereau.

THE Hobby, although possessing all the typical characteristics of the genus *Falco*, is nevertheless wanting in that determined spirit and energy which distinguishes, not only the large, but also many of the smaller species of its race,—for example, the Merlin, which boldly attacks and kills birds far larger than itself, while the Hobby, which is a miniature representation of the Peregrine Falcon, (a bird noted for its daring and rapacious habits,) subsists in a great measure on insects, which it takes on the wing, and for the capture of which its rapid flight gives it great facility: nevertheless, it also attacks the smaller kinds of birds, especially Larks, among which it makes great havoc; and has been even trained, though not without difficulty, to fly at Quails and Partridges. The Hobby has a wide range throughout Europe, where it appears to be universally migratory, passing southwards with the approach of winter. In our island it arrives in spring, and departs in the month of October, and, with the exception of the Kestrel and Sparrowhawk, is one of the commonest of our smaller birds of prey. It frequents in preference wooded districts, near the margins of rivers, along which it may be observed to glide, rapidly darting from its perch in pursuit of dragon flies and the larger coleoptera. Its nest is built in trees, and, according to M. Temminck, sometimes even in bushes of moderate size: it is said occasionally to usurp the nest of the Crow,—a circumstance in which it agrees with many of its congeners. The eggs are three in number, of a dull white mottled with reddish brown.

Among the true Falcons, no bird presents less sexual difference either in size or colour. The male, in its adult plumage, has the upper surface of a deep blackish blue; the throat white with a black moustache passing from beneath the eye and stretching downwards to the sides of the neck; the lower parts whitish with longitudinal dashes; the thighs and lower tail-coverts reddish; the tail obscurely barred with black; the beak lead colour; the cere, eyelids and feet yellow; and the irides brown. Length fourteen inches.

The female is but little larger than the male, and the young soon assume the markings of the old birds; but the tints are duller, and the feathers are strongly edged with rufous, which prevails especially over the head; the longitudinal dashes of the under parts are brown, the ground colour inclining to light reddish yellow; the cere and tarsi yellowish green.

The Plate represents an adult male and female of the natural size.





RED FOOTED FALCON.
Falco rufipes. (Bechst.)

RED-FOOTED FALCON.

Falco rufipes, *Bechstein*.

Le Faucon à pieds rouges.

THIS small but true Falcon is one of the most elegant of the European species, and has lately become an object of still greater interest to the British ornithologist, from the circumstance of five or six examples having been recently taken in this country.

In the fourth volume of Loudon's Magazine of Natural History, page 116, Mr. Yarrell has recorded, that in the month of May 1830, three specimens of this Falcon were observed together at Horning in Norfolk.— Fortunately all three birds were obtained, and proved to be an adult female and two young males, in different states of plumage. A fourth specimen, a female, has been shot in Holkham Park.

A notice has since been read at the Linnean Society from Mr. Foljambe, of the capture of a male in Yorkshire; and a female lived nearly two years in the Gardens of the Zoological Society in the Regent's Park. From some of these examples, and from others in the collections of private friends, to which we have constant access, we have had ample opportunities of examining the many very interesting changes of plumage which occur in both sexes during their progress from youth to maturity.

The upper figure in our Plate represents an adult female. M. Temminck in his *Manuel*, page 33, describes this bird as having the upper part of the head marked with dark longitudinal streaks. Our specimen, from which the figure in the Plate was coloured, has the head of one uniform tint, without streak, but with a dark circle round the eye; and the female killed in Norfolk, of which we have seen a drawing, resembles our own bird exactly. Both these examples are considered to be adult. The immature female has the head streaked with dusky lines, which it retains through the second year; but it appears certain, from specimens before us, that these markings are lost at an advanced age. The feathers of the back and wing-coverts are then blueish-black, edged with lighter blue. The plumage of the other parts of the adult female is sufficiently portrayed in our figure. The young female has the top of the head brown, with dusky streaks; throat and ear-coverts white; eyes encircled with black: it has also a small black moustache extending from the eye downwards; the sides of the neck, breast, and all the under parts yellowish-white, with brown longitudinal streaks on the breast and abdomen; upper parts brown, the feathers edged with reddish-brown; tail with numerous alternate bars of brown and reddish-white, the tips white. Young male birds appear first in plumage similar to that of the female, changing at their moult to a light blueish-grey, and subsequently assuming the dark lead-colour so conspicuous on the head, back, and wings of the adult male bird represented by our lower figure. The thighs, vent and under tail-coverts are deep ferruginous; cere, orbits and feet orange-red; claws yellow-brown, darker at the tips. The fine adult male specimen from which our figure was coloured is in Mr. Yarrell's collection. The general uniformity in the colour of the males, contrasted with the pleasing variety of the females, is one of the most striking characteristics of this species, which is common over the greater part of the North of Europe; but of its habits or nidification little is recorded. Meyer, who has examined the stomachs of these birds, found in them only the remains of large coleoptera.

Our bird is the Orange-legged Hobby and Ingrian Falcon of Dr. Latham, so named from its inhabiting the province of Ingria in Russia, where it is called *Kobez*; it is also the *Falco vespertinus* of Gmelin. The adult male appears to have been unknown to Buffon as a distinct species, and is figured in the *Planches enluminées* of that Naturalist, No. 431, under the name of "a singular variety of the Hobby."



MERLIN.
Falco æsalon. (Lemm.)

MERLIN.

Falco *Æsalon*, *Temm.*

Le Faucon Émérillon.

ALTHOUGH the Merlin is the least of the European birds of prey, still it possesses all the features which characterize the most typical of its genus. Its undaunted courage and power of rapid flight embolden it to attack birds far superior to itself in weight and magnitude; hence, when hawking was a favourite pastime with our ancestors, the Merlin was trained to the pursuit of partridges, woodcocks, snipes and larks; and so determined is its spirit, and so certain its aim, that it has not unfrequently been known to strike a partridge dead, from a covey, with a single blow. Its flight is so low, that while skimming across large fallow or barren grounds, it often appears to touch the earth with its wings. In the southern parts of the British Isles, it is only a winter visiter, arriving at the departure of the Hobby; but Mr. Selby has fully proved that in the northern parts it is stationary, and, unlike the Falcons in general, incubates on the ground, constructing a nest among the heather. "The number of the eggs," says Mr. Selby, who has discovered their nests in these situations in Northumberland, "is from three to five, of a blueish white, marked with brown spots, principally disposed at the larger end."

The advanced state of ornithological science, as it regards the changes in plumage of our native birds, enables us to affirm that the Stone Falcon (*Falco Lithofalco*, Auct.) is none other than the male Merlin in its advanced stage of plumage, the bird undergoing changes in this particular which characterize more or less the whole of the *Falconidae*. The uniform dark tints of the adult are not fully attained before the third year.

The Merlin is extensively spread over the countries of Europe; but M. Temminck informs us that it is scarce in Holland, though it appears, from the accounts of other authors, to be met with in Germany in winter. As regards its nidification, the above-mentioned naturalist differs materially from Mr. Selby in the situation he assigns to it for the purpose of breeding, which he states to be trees, or the clefts of rocks: the truth perhaps may be, that in different countries it may choose different localities, according as opportunities may favour it.

In the adult male the bill is blueish; the crown of the head, back and wing-coverts blueish grey, the stems of each feather being black; primaries black; tail blueish grey with four bars of black, and a broad band of the same colour near the end; tip white; throat and upper part of the chest white; cheeks and all the under parts buff orange, with broad oblong blackish spots; cere, legs and orbits yellow; irides brown.

The female somewhat exceeds her mate in size; and although she never attains the rich colouring of the male as figured in the accompanying Plate, approximates very closely to it at a very advanced age. The generality of individuals taken have the plumage similar in colour and markings to the upper bird, which represents a male in immature plumage.

The female and young birds have the top of the head of an obscure brown marked with oblong spots of black; stripe over the eye white; upper surface and scapulars brown, tinged with grey, each feather being spotted and edged with brown; quills blackish brown, obscurely spotted with brown; under wing-coverts rufous with white spots; throat white; breast and under surface pale brown marked with longitudinal spots as in the male, but broader and less distinct; tail obscure brown with five or six rufous bars and tipped with white; cere, orbits and tarsi yellow; irides brown.

The Plate represents two males, one the old bird, the other a young bird of the first year, with which the female, except when very old, agrees in plumage.



LEAD-COLOURED FALCON.
Falco concolor: (Linn.)

Drawn from Nature & engraved by J. & B. Gould.

Printed by C. Phillips, London.

LEAD-COLOURED FALCON.

Falco concolor, Temm.

Le Faucon concolore.

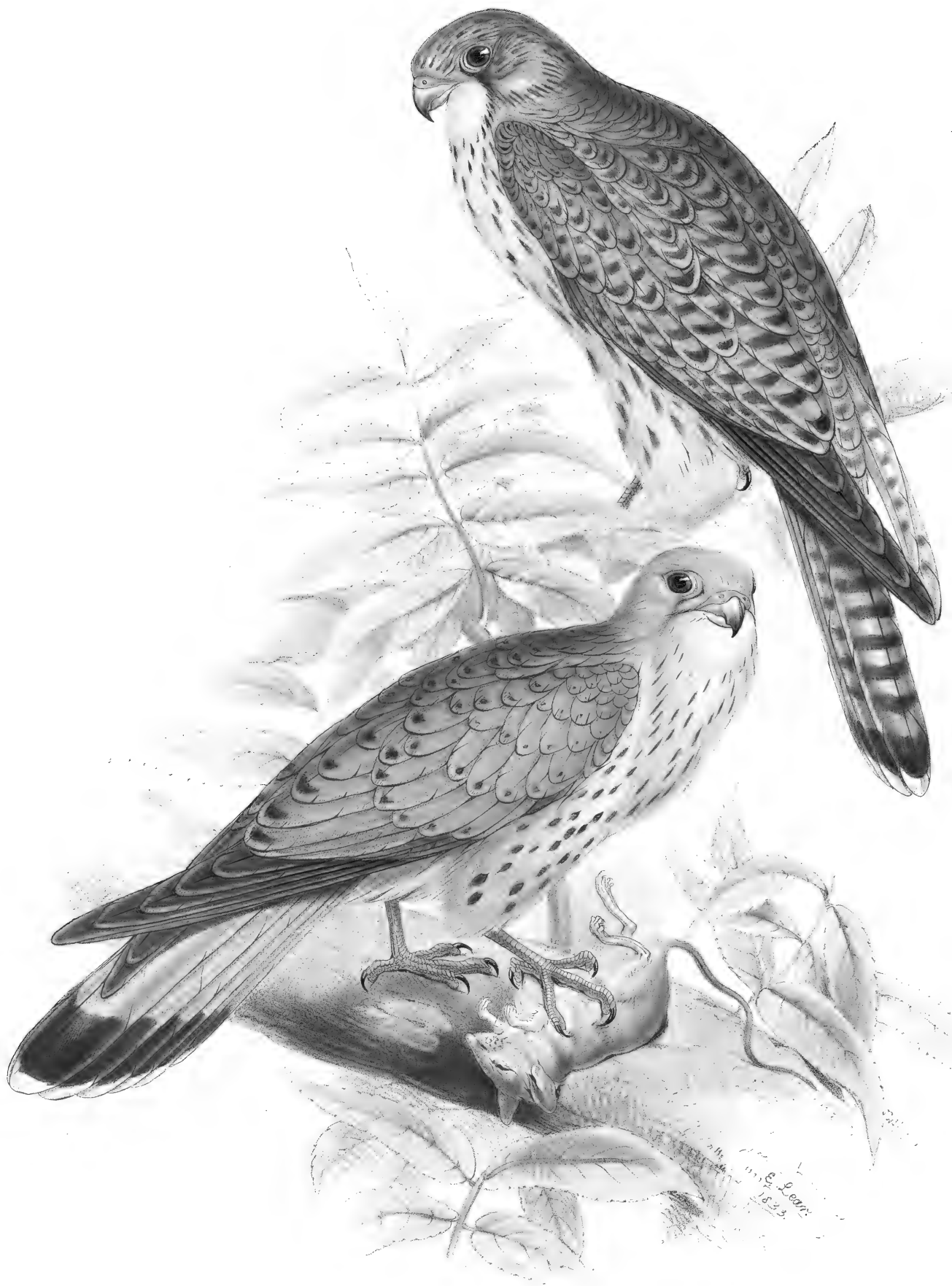
THIS species appears to be dispersed over the whole of Northern Africa, being abundant in Abyssinia and on the banks of the Nile; it is also said to occur on the western portions of that continent, at least M. Lesson in his 'Traité d'Ornithologie' states its habitat to be "le Sénégal, la Barbarie, l'Égypte, l'Arabie." That a bird of this kind should cross the Mediterranean and visit the continent of Europe is not surprising, and we learn from M. Temminck that such is really the case; it is therefore entitled to a place in our work.

The accompanying figure was taken from what we conceive to be an adult male; its structure is in every respect similar to that of the typical Falcons, and from the lengthened form of its wing and the general tone of its colouring, it is nearly allied to the Hobby (*Falco Subbuteo*); it may however be at once distinguished not only from that, but from every other species of the true Falcons, by its uniform lead-coloured plumage, whence its specific appellation.

Although no facts are on record as to its mode of life, we may reasonably conclude that insects and small birds constitute its principal subsistence, and that in its general economy it closely assimilates to the Hobby.

With the exception of the primaries, which are blackish brown, the entire plumage of the *Falco concolor* is of a uniform leaden grey, with the shaft of each feather darker; cere and feet yellow; bill and claws black.

Our figure is of the natural size.



KESTREL.
Falco tinnunculus; (Linn.)

K E S T R E L.

Falco tinnunculus, Linn.

Le Faucon cresserelle.

THIS indigenous Falcon is by far the most common species of those inhabiting Europe, over the whole of which continent it is universally diffused, as well as in those portions of Asia and Africa which are either immediately connected with or otherwise opposed to its shores; the whole of the northern parts of the latter country affording it a natural habitat.

Although we believe that the *Falco tinnunculus* has not been discovered in America, still that extensive continent has produced several species whose form and colouring unite them to the Kestrels of the Old World, and, as we before stated in the description of the Lesser Kestrel (*Falco tinnunculoïdes*), they appear to form one of the most natural groups in the family of *Falconidæ*.

The Kestrel may be daily observed making its graceful flights over fields and barren grounds in search of its natural food, which consists of mice, frogs, small birds and insects, while in pursuit of which its attention is often suddenly arrested, and poising itself in the air, which it fans with its long and pointed wings, it suddenly pounces down upon its victim with the utmost impetuosity, and may be frequently seen rising from the ground with its prey firmly fixed in its talons, and flying off to some retired situation to devour it, or, if in the season of incubation, conveying it to its young.

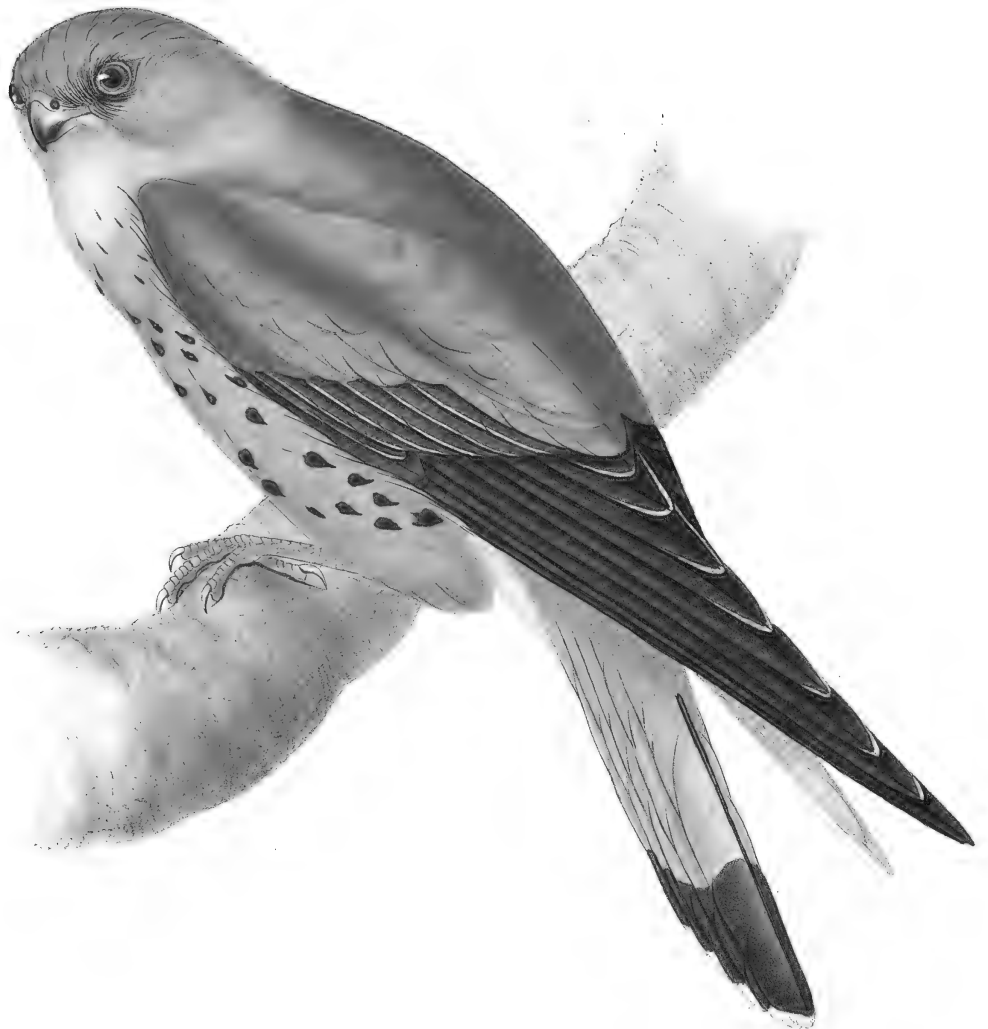
The male at the age of three years, when it is in full plumage, is adorned with the most delicate and sober colours, added to which it possesses a perfect symmetrical contour of body,—circumstances unquestionably ranking it as one of the most beautiful species of its genus. The female after the first moult undergoes no change; and the young males until after the age of two years are not distinguishable from her: this is the cause that so large a proportion of the birds bear the plumage just referred to, since but comparatively few survive the second year of their existence.

The birds of this division are of a more feeble character and less courageous disposition than the nobler groups of the *Falconidæ*; and, though easily tamed, cannot be used in the chase with sufficient certainty, notwithstanding the assertion of authors that they were formerly trained to the capture of Snipes and Partridges. They frequently take possession of the deserted nest of a Crow or Magpie for the purpose of incubation, yet it is far from uncommon for them to deposit their eggs on the bare surface of a ledge of rocks:—these eggs are from four to six in number, of a reddish brown colour with darker speckles or blotches, varying considerably in intensity. The young, like most of the nestlings of the hawks, are for the first month entirely clothed with a white down.

In the adult male, the bill, the tail (with the exception of a bar of black near the extremity of its feathers which terminate in white), the rump, and the fore-part of the head are of a fine blueish grey; the back and wing-coverts of a reddish fawn colour, each feather having at its extremity an arrow-shaped spot of black; primaries dark brown, their edges lighter; breast, belly and thighs of a pale cream-colour tinged with brown, and sprinkled on the breast with brown spots of a linear form, but assuming a rounder shape on the lower part of the body.

In the female, the whole of the upper parts and tail are of a browner hue than those of the male, each feather having several bars of a dark brown, and the tail likewise barred with brown, but terminating with a black band and white tips as in the male; the primaries are also brown with paler edges; the whole of the other parts resemble the male.

The Plate represents a male and female about three fourths of their natural size.



LESSER KESTREL.
Falco tinnunculus (*Vatter*).

LESSER KESTREL.

Falco Tinnunculoïdes, *Natter*.

La Cresserellette.

THIS elegant little Falcon, although closely allied to the Common Kestrel, is to be distinguished from that species by its smaller size, its greater length of wing, the white colour of the nails, and the entire absence of markings on the back:—the female, however, agrees so closely in plumage with the female of *Falco Tinnunculus*, that we have not considered it necessary to introduce a figure of her into our Plate, which represents the adult male. Notwithstanding, she still retains the characteristics of the species: viz. inferiority of size, length of wing, and white nails; circumstances by which she may at once be identified. As far as we have been able to ascertain, this bird has not been discovered in the British Islands, but is common in the southern parts of continental Europe, especially Spain, Italy, and the South of France, frequenting rocky and mountainous districts as well as lofty spires, church steeples, and ruins, selecting such situations for its breeding places;—the female (which rather exceeds the male in size) generally laying four eggs, very much resembling those of the Kestrel.

Although we cannot doubt that small mammalia and birds form part of the food of this species, still we have reason to know that it subsists in a great measure on the larger coleopterous and hymenopterous insects, which it takes on the wing, darting at them with great quickness and precision of aim.

In some of its characters, and especially its lengthened wing, which reaches the extremity of the tail, the *Falco Tinnunculoïdes* approaches the typical form of the genus more nearly than our Kestrel; yet in both species we perceive a departure from those strongly marked features which pre-eminently distinguish the more noble of the group;—*i. e.* a less muscular form of body, a beak the tooth of which is more rounded and less acute, tarsi less robust, talons less curved and weaker, in union with a disposition more timid and an appetite less blood-thirsty; characters which proclaim a grade below that of their more daring congeners.

It is not the intention of the Author of this work to enter into an analysis of existing genera, or to establish new ones; nevertheless, he may be allowed to suggest an inquiry to those who are more particularly engaged in systematic arrangements;—*viz.* whether there be not room for a further removal of this bird, and those in evident relationship to it, from the more typical species which compose the Genus *Falco*; naturalists having availed themselves of less prominent characters in the formation of genera, (*Astur* and *Accipiter*, for instance,) between which there is the closest affinity. On the contrary, there is between the group which we now refer to, and the Falcons *par excellence*, a well-marked distinction in habits, disposition, style of colouring, and food,—sufficient, we think, to constitute a clear ground of separation. This proposed group would contain at least three well-marked species of the Old Continent; viz. the present bird, the Common Kestrel, and the *Falco rupicolus*; to which may be added the *Falco sparverius* of Latham, and several other species of America and its adjacent islands.

In size the *F. Tinnunculoïdes* is inferior to the Kestrel, the total length of the male being eleven inches.

The wings reach to the extreme tip of the tail, which is rounded; the top of the head, occiput, and sides of the neck are of a fine uniform ash-colour; the whole of the upper surface, with the exception of some of the larger wing-coverts, the secondaries, quills and rump of a brownish red without any markings, the latter being of a blueish ash-colour, as is the tail also, which is crossed with a black band, and at its extremity tipped with white. The inferior surface is of a clear brown red, thinly sprinkled with small black dashes and longitudinal marks.

Beak blueish; cere and space round the eyes yellow; feet yellow; nails white.

Young males of the year differ little from the adult female.



KITE.
Milvus vulgaris (Linn.)

Genus MILVUS.

GEN. CHAR. *Bill* of moderate strength, nearly straight at the base, rapidly incurved in front of the cere to the tip, which forms an acute hook; *cere* short. *Nostrils* oval, rather obliquely placed in the cere. *Wings* very long; the first feather short; the fourth the longest; the first five having their inner webs notched. *Tail* long and forked. *Legs* with the tarsi very short, feathered below the joint; the naked frontal part scutellated. *Toes* rather short, the outer united at its base to the middle one. *Claws* long and strong, moderately incurved, with the inner edge of the middle one thin and dilated.

K I T E.

Milvus vulgaris, *Flem.*

Le Milan royal.

THIS elegant species, although generally diffused over the British Islands, is much less common than formerly; indeed the destroying hand of the gamekeeper has completely extirpated it in many of the inland counties, particularly such as are but thinly wooded. The only retreats wherein the Kite now finds an asylum are larger woods and forests of denser growth, in whose impervious recesses itself and its brood are effectually shrouded from observation. The districts where the Kite may be most frequently observed at the present period, are the more uncultivated portions of Wales and the adjoining counties, as well as the wild tracts of rocky moorlands in both the northern and southern parts of the island. Throughout the continent of Europe it appears to have a wider range,—except in Holland, in consequence of a scarcity of large woods and uninhabited wilds. While on the wing performing its aerial evolutions, nothing can excel the ease and grace with which the Kite sails along surveying the earth below, its flight generally consisting of widely extended circles, during the performance of which the wings appear to be entirely motionless, the tail acting as a rudder to guide its course; in this manner it oftentimes soars to so great a height as to be almost imperceptible. Its prey, which consists of mice, rats, leverets, young gallinaceous birds, ducks, reptiles, fishes, and insects, is sought for while it is soaring in the air at a moderate distance from the ground, and is taken by a swoop so noiseless and rapid, that little or no warning is given of its approach; in this way it sometimes commits great havoc among the young broods of poultry, pheasants, partridges, &c.

In general form and colouring of plumage the sexes bear a close resemblance, nor do the young birds undergo any very decided change from youth to maturity.

The process of incubation is commenced early in the spring. The nest is constructed of sticks lined with wool and hair; and is situated in the thickest part of the forest: the eggs are generally three or four in number, of a greyish white, more or less distinctly speckled with reddish brown.

The head and neck are clothed with narrow pointed feathers of greyish white, each having a central dash of dark brown; the whole of the upper surface is bright ferruginous brown, each feather having its centre blackish brown; tail and thighs rich rufous brown; under surface brownish white, with dark longitudinal blotches; bill dark brown; cere and tarsi bright yellow; irides straw yellow.

The Plate represents an adult in full plumage about three fourths of the natural size.



BLACK KITE.
Milvus ater

Drawn by C. E. Hartman

BLACK KITE.

Milvus ater.

Le Milan noir ou parasite.

THIS species, which may at all times be distinguished from the Common Kite of England (*Milvus vulgaris*, Flem.) by the darker colour of its plumage and by the numerous longitudinal stripes on the head and neck, is dispersed in considerable numbers over the southern portions of Germany, the whole of France, Switzerland, and the European countries bordering the Mediterranean Sea. No instance is on record of its having paid a migratory visit to the British Islands; still, judging from its extraordinary powers of flight, and from the wandering habits of the generality of the *Falconidæ*, it is not improbable that it may have penetrated so far west as our island, and have been mistaken for the common species: we throw out this hint in order to induce British ornithologists generally, and particularly those who reside in the southern parts of England, to investigate this subject whenever an opportunity offers.

The range of the Black Kite eastward appears to be very great, as we have seen examples of it in several collections from India, particularly the Himalaya mountains; it is also equally abundant in Northern Africa.

We have observed this species in a state of nature and in confinement both in Germany and France; it bore so strict a resemblance in its manners to the common species, that the addition of a second description is totally unnecessary.

It incubates on trees, and lays three or four yellowish white eggs very thickly spotted with brown.

The sexes are alike in plumage, and the young when a year old resemble the parents.

Bill black; cere, feet, and legs yellow; irides silvery yellow; head and neck longitudinally striped with brown and greyish white; all the upper parts deep brown; under surface reddish brown with a longitudinal stripe of a darker tint down the centre of each feather; primaries blackish brown; tail slightly forked and of a dark grey brown, transversely rayed with darker brown.

The Plate represents an adult bird about two thirds of the natural size.



SWALLOW TAILED KITE.
Nauclerus furcatus. (Vig.)

Genus NAUCLERUS, *Vig.*

GEN. CHAR. *Bill* small, weak, considerably hooked, with a small and nearly obsolete festoon in the middle. *Orbits* and sides of the head thinly provided with feathers. *Wings* very long; the first and second quill-feathers internally emarginate towards the tip. *Tail* very long, and deeply forked. *Tarsi* very short, not longer than the hind toe and claw; plumed half way in front, the remaining portions covered with angulated scales. *Toes* short; the two lateral almost equal, the hinder nearly equal to the inner. *Claws* grooved beneath.

SWALLOW-TAILED KITE.

Nauclerus furcatus, Vigors.

La Milan de la Caroline.

Two examples of this elegant bird having been taken in this country, the first in Argyleshire, the second in Yorkshire, we have considered that it is entitled to be included among the Birds of Europe, and have accordingly given it a place here. We also agree with Mr. Vigors and Mr. Swainson that this bird requires to be separated generically from those of the genus *Elanus* of Savigny.

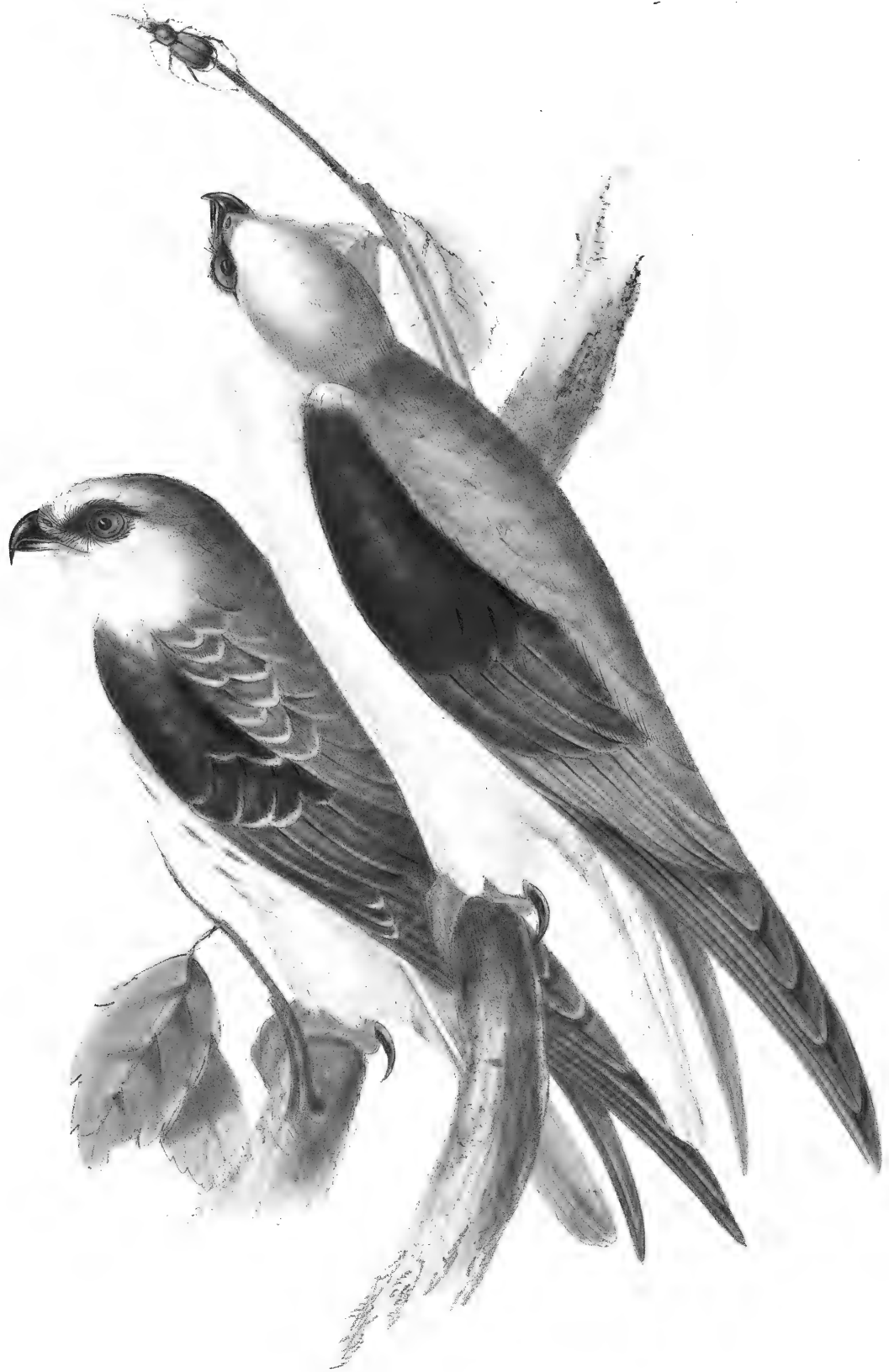
For a correct knowledge of the habits and manners of this handsome bird we are indebted to the ornithologists of the United States of America, in different parts of which at particular seasons of the year it appears to be very abundant. In the history of this species by Wilson and Mr. Audubon, many interesting details will be found, and as one or the other of these works are in the hands of every lover of nature and ornithology, we shall avail ourselves of the less perfectly known History of the Birds of the United States and Canada by Mr. Nuttall, who says, "This beautiful Kite breeds and passes the summer in the warmer parts of the United States, and is also probably resident in all tropical and temperate America, migrating into the southern as well as the northern hemisphere. In the former, according to Vieillot, it is found in Peru, and as far as Buenos Ayres; and though it is extremely rare to meet with this species as far as the latitude of 40 degrees in the Atlantic States, yet, tempted by the abundance of the fruitful valley of the Mississippi, individuals have been seen along that river as far as the Falls of St. Anthony, in the 44th degree of north latitude."

"They appear in the United States about the close of April or beginning of May, and are very numerous in the Mississippi territory, twenty or thirty being sometimes visible at the same time, often collecting locusts and other large insects, which they are said to feed on from their claws while flying; at other times also seizing upon the nests of locusts and wasps, and, like the Honey Buzzard, devouring both the insects and their larvæ. Snakes and lizards are their common food in all parts of America. In the month of October they begin to retire to the south, at which season Mr. Bartram observed them in great numbers assembled in Florida, soaring steadily at great elevations for several days in succession, and slowly passing towards their winter quarters along the Gulf of Mexico."

The flight of this bird is described as being smooth and graceful in the extreme, and it remains on wing nearly the whole of the day, roosting at night in high trees. The nest is usually placed among the top branches of the tallest oak or pine, and is formed of sticks, intermixed with moss and grass, lined with a few feathers. The eggs are from four to six in number, of a greenish white, with a few irregular blotches of dark brown at the large end. The young birds are at first covered with white down.

In the adult bird the beak is bluish black, the cere of a lighter blue, the irides dark; the whole of the head, neck, breast, and under surface of the wings, sides of the body, thighs and under tail-coverts pure white; the back, wings, primaries, secondaries, upper tail-coverts and tail-feathers black, with a purple metallic lustre, the tertials black on the outer webs, but patched with pure white on the inner; tail very deeply forked; legs and toes greenish blue; claws faded orange brown.

We have figured the bird of the natural size.



BLACK-WINGED KITE.
Elanus melanopterus (Steph.)

Genus ELANUS, *Savig.*

GEN. CHAR. *Bill* weak, of mean length, compressed, nearly straight at the base, the tip hooked. *Wings* long, with the second feathers generally the longest, the first and second having their inner web strongly notched. *Tail* long, more or less forked. *Tarsi* short, feathered for half their length, and the naked part reticulated. *Claws* strong and incurved; the under surface in some species partly rounded.

BLACK-WINGED KITE.

Elanus melanopterus, *Leach.*

L'Elanion blanc.

WHEN we consider the wide range of this beautiful species, scattered as it is over all the temperate and warmer portions of the Old World, it is a matter of no surprise that its capture has of late years been so frequent in Europe. It is abundantly dispersed along the banks of the Nile, and in fact the whole of Africa and India is inhabited by it; neither do specimens from Java and New Holland present any specific differences from those taken in Europe. In all probability no part of Europe affords it a permanent residence. Spain, Italy, and the Grecian Islands are the portions of our quarter of the globe most frequented by the Black-winged Kite; instances are, however, on record of its having been captured in the middle of Germany: it must therefore, like many other species, be regarded merely as an irregular visitor which has crossed the Mediterranean from the opposite shores of Africa. From the great length of its wings, together with its short and feathered tarsi, we are led to infer that it is capable of rapid and powerful flight, and that like its allies in America it possesses the power of remaining suspended in the air for a great length of time.

Its food consists principally of insects, chiefly captured in the air, to which are sparingly added lizards, frogs, snakes, and birds.

The sexes are very much alike in colour, but the female is said to be rather larger than her mate. The young of the first autumn may be distinguished from the adults by their having the back strongly tinged with brown, and the end of each feather encircled with buffy white; the sides of the chest brown, and the feathers on the breast streaked down the centre with dark brown.

The adult has the head and the whole of the back of a fine grey; the centre of the wings black; the primaries and secondaries greyish brown, with lighter grey edges; the shoulders of the wings, throat, all the under surface, and tail pure white; cere and toes yellow; bill and claws black; irides orange.

We have figured an adult and a young bird of the natural size.







MARSH HARRIER.
(*Circus rubus*, *Boys*.)

Z. f. 1861. 41. 214.

Printed by G. S. Colver, London.

Genus CIRCUS, *Briss.*

GEN. CHAR. *Bill* bending from the base, weak, much compressed, and forming a narrow rounded culmen; tomia of the upper mandible exhibiting a very small sinuation near the middle of the bill; under mandible shallow and rounded at the point. *Nostrils* rather large; broadly oval; nearly concealed by the reflected and upward curving hairs of the lores. *Head* surrounded by a ruff of stiffish tiled feathers. *Wings* long, the fourth feather barely exceeding the third, but being the longest in the wing; first four having their inner webs notched; the third, fourth, and fifth having the outer webs sinuated. *Tail* long, slightly rounded. *Tarsi* long, slender, feathered in front for a short distance below the joints, the naked part scutellated. *Toes* of mean length, rather slender, middle toe the longest, outer toe rather exceeding the inner, and joined at the base to the middle one by a membrane, third toe shortest. *Claws* moderately incurved and very short, those of the inner and hind toes the largest.

MARSH HARRIER.

Circus rufus, *Briss.*

Le Busard Harpaye ou de Marais.

THE size of this bird renders it so conspicuous that it cannot fail to attract attention wherever it appears; it is consequently most probable that the greater number of those which are seen in our island are not native-bred specimens, but have wandered from the adjacent continent; and we are confirmed in this opinion by the circumstance of most of the birds which have been shot being in the youthful or immature state of plumage: we know also that young birds are in the habit of wandering greater distances from their birthplace than adults. So great, indeed, are the chances against their attaining a state of mature plumage in our island, that we do not recollect a single instance of a specimen in the plumage of the bird figured in our Plate, having been killed here: that it is many years in attaining this plumage is very evident, and it is equally certain that it breeds while yet in the deep chocolate-coloured plumage by which it is distinguished during the first and several succeeding years. It will be seen that when it has attained the perfect livery, the wings and tail have assumed that delicate grey so characteristic of the Harriers in general, while the feathers of the remaining parts of the body are not only of a different tint, but are also of a different form, being more or less lanceolate instead of round. Although we are not able to state it as a fact, yet we are inclined to believe that it is the male only which possesses the beautiful grey colouring alluded to above. Even in its youthful state the young of this bird exhibit considerable differences of colouring, some being of a uniform chocolate brown, while others have the crown of the head, cheeks, and shoulders of a rich buff.

The Marsh Harrier appears to enjoy a wide extent of habitat, being found in the low marshy districts of Europe, Africa, and a great portion of Asia; as is proved by our having received it in collections from the Himalaya mountains. Like the rest of the Harriers its flight is buoyant and sweeping, but generally at a low elevation: it traverses over the moors and marshes in search of its prey, which consists of frogs, lizards, mice, insects, and even fish.

The nest is placed on the ground among low bushes or reeds, generally near the edge of the water: the eggs are four in number, white and rounded.

We take our description of the adult bird from the "Manuel" of M. Temminck.

Head, neck, and breast of a yellowish white, with numerous longitudinal dashes of brown occupying the centre of each feather; scapularies and wing-feathers reddish brown; quills white at the base, and black for the remainder of their length; secondaries and tail-feathers of an ashy grey; whole of the under surface light rufous marked with yellowish blotches; beak black; cere greenish yellow; irides reddish yellow; tarsi yellow.

The young of the year has the plumage of a very strong chocolate brown; the wing-coverts, the quills, and the tail-feathers tipped with brownish yellow; the top of the head, occiput, and throat more or less pale; irides blackish brown.

The Plate represents an adult and a young bird about three fourths of the natural size.





PLATE 11. THE SCALP-HEDGED
Circus cyaneus (Falco)

HEN-HARRIER.

Circus cyaneus, Meyer.

Le Busard St. Martin.

It is to be regretted that this delicately plumaged Hawk, which a few years ago was common in our island, is now so scarce as rarely to admit of its being observed in a state of nature. Like many of its congeners, much mischief has been laid to its charge; and without even for a moment attempting to balance the good which it effects by destroying hundreds of snakes, lizards, and mice in the course of a single year, with the injury it does by preying on a limited number of leverets and other young game, which are only open to its attacks for the period of a few weeks, its ruthless destruction is diligently persevered in by the gamekeeper and sportsman without the least consideration; in fact, so rapidly have many of our native *Falconidæ* decreased within these few years, that there is but little doubt many species once numerous will ere long be entirely extirpated.

This fine Harrier enjoys an extensive range of habitat independently of Europe, over the whole of which, wherever situations favourable to its residence occur, it is found in greater or less abundance: it also inhabits similar situations over the greater part of Africa and India. A species nearly allied, if not absolutely identical, exists in the northern portions of the American continent.

The flight of the Hen-Harrier while in quest of its prey is strikingly peculiar, and is altogether different from that of the birds of every other group of the *Falconidæ*; it is light and buoyant, but performed at no great elevation from the ground, which it quarters with the utmost regularity, traversing a certain extent of country and returning nearly to the same place at a given time for many days together. Thus skimming along with noiseless wings, it strongly reminds us of one of the Owls, and it pounces down upon its prey with unerring precision; this, as we have before stated, consists principally of mice, leverets, lizards, snakes, frogs, and unfledged birds, never daring to contend with large birds, or quadrupeds of even moderate size.

In this country the localities to which the Hen-Harrier is almost exclusively limited, are wide heathy moorlands, extensive wastes, and furze-covered commons, to which may be added low marshes, flat lands, bordering lakes, and morasses. In these wild and solitary situations it incubates and rears its young, its nest being placed on the ground, among the tufted herbage most prevalent on the spot; the eggs resembling those of the Owl, but larger, only being of a dull dirty white without any spots.

The difference between the male and female is so remarkable, as at no distant date to have led to the supposition that each sex was a distinct species; an error, the correction of which is due to our talented ornithologist Colonel Montagu. This is now so clearly understood as not to need any especial remark; we would, however, observe that this extraordinary feature is exhibited in most of the species of the genus *Circus*, a genus almost universally dispersed over the globe.

The young birds of both sexes for the first two years are precisely alike in their colouring, which differs but little from that of the adult female, and it is this circumstance which militated against the idea of the Hen-Harrier and the Ringtail being identically the same.

It is only after the second year that the male begins to assume the delicate silvery grey which in the state of maturity pervades the whole of the upper surface.

We give the details of the colouring as follow:

The adult male has the head, neck, chest, and whole of the upper surface, with the exception of the rump and the two outer tail-feathers on each side,—which are white, the latter having a fine transverse band of greyish brown,—of a fine blueish silvery grey; quills black; under surface white, with a few faint blotches of brown disposed in the centre of a great part of the feathers; legs, upper part of the cere, and irides brown.

The female has the whole of the upper surface chocolate brown, the feathers of the head, and back of the neck bordered with reddish sandy yellow; the ear-coverts deep brown; the marginal feathers of the face short and stiff, of a sandy yellow with deep brown shafts; whole of the under surface reddish yellow, with longitudinal dashes of brown; the tail barred alternately with bands of light and deep umbre brown; legs and upper part of the cere yellow; irides hazel.

The Plate represents a male and female of the natural size.



PALLAS HARRIER.
Circus pallidus; (Sylvester)

PALLID HARRIER.

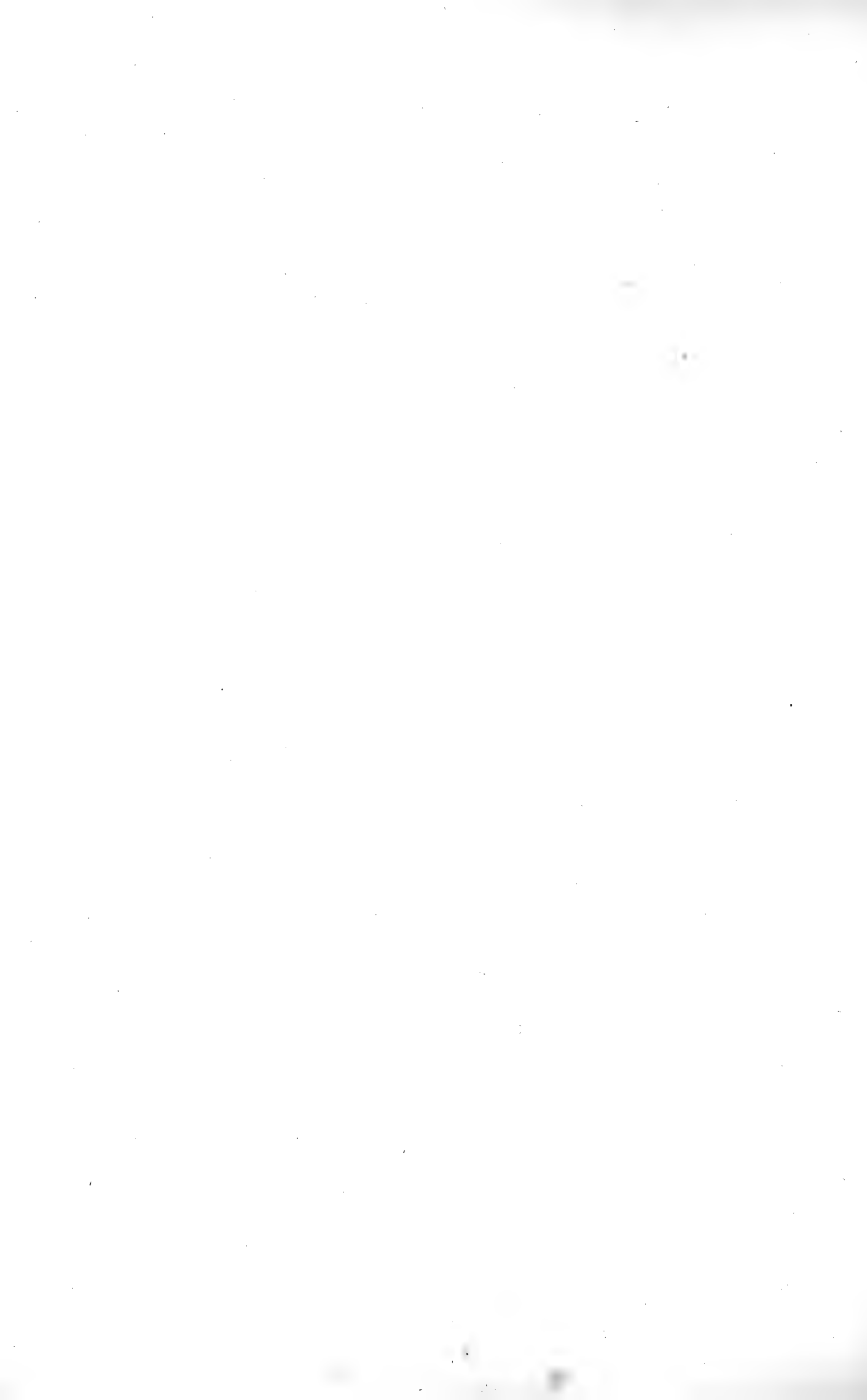
Circus pallidus, *Sykes*.

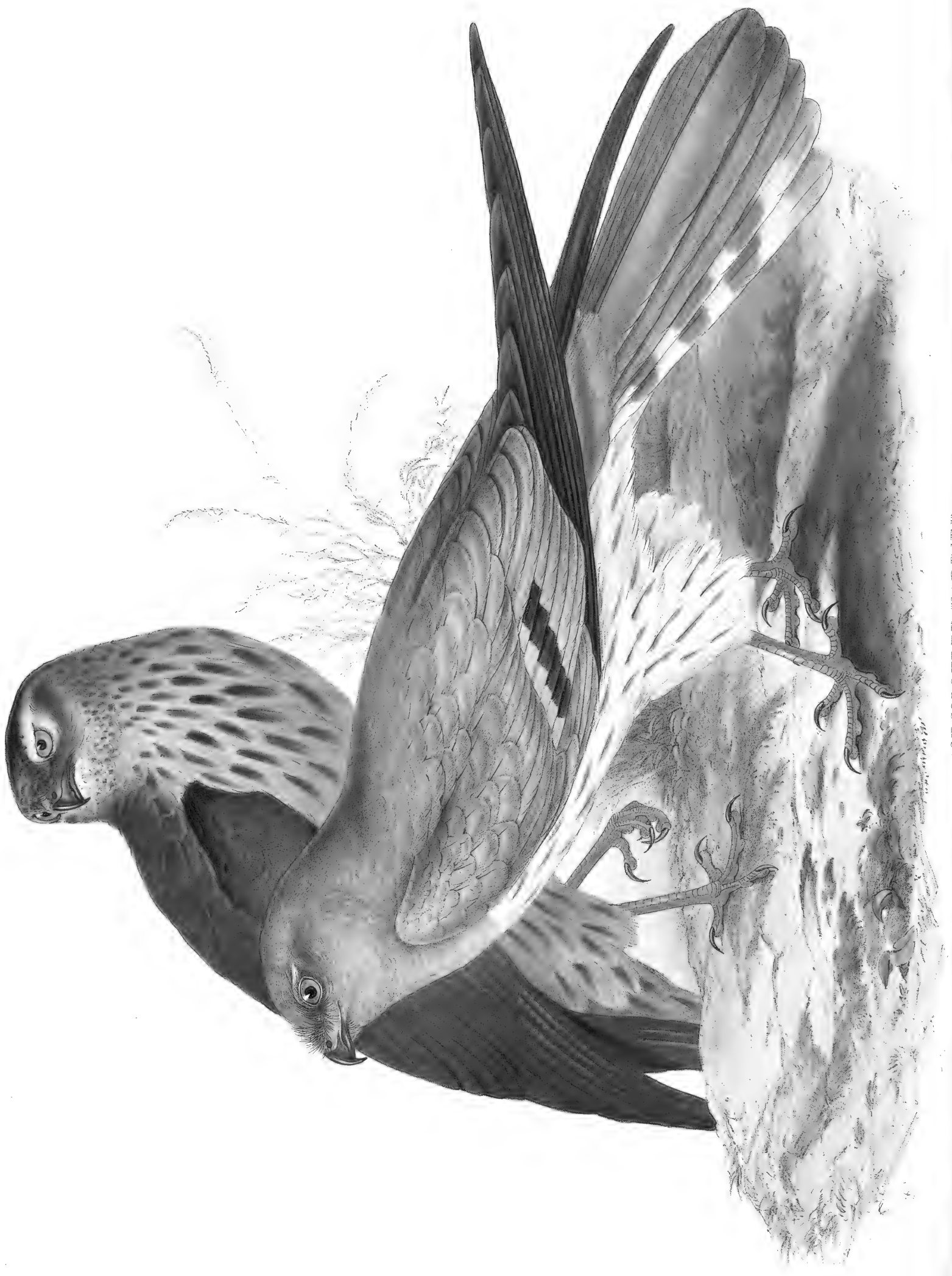
FOR the knowledge of the occurrence of this species of Harrier in Europe we are indebted to M. Temminck, who has transmitted for our use a fine male, which he states was killed on the banks of the Rhine. This bird, the *Circus pallidus* of Colonel Sykes, is abundantly dispersed over a great portion of India, but up to the year 1832 remained uncharacterized, in consequence of its having been considered as identical with the *Circus cyaneus*. The differences, however, which exist between those closely allied species were then clearly pointed out by Colonel Sykes in his Catalogue of the Birds of the Dukhun; and as these differences have been well defined by that gentleman in the Proceedings of the Zoological Society of London for April 1832, we prefer to make use of his own words: "This bird has usually been considered the *Circ. cyaneus* of Europe; but it differs in the shade of its plumage (male and female); in the back-head of the male not being white spotted with pale brown; in the absence of dusky streaks on the breast; in the rump and upper tail-coverts being white barred with brown ash; in the inner webs of four of the tail-feathers not being white; and in the bars of the under tail being seven instead of four. The female resembles the female of *Circ. cyaneus*, but the plumage is two shades lighter, the tail is barred with six broad fuscous bars instead of four, and the tail-feathers are much more pointed. The remains of six lizards were found in the stomach of one bird. I never saw these birds perch on trees. They frequent the open stony plains only. The sexes were never seen together." To this we may add that we have compared the specimen sent to us by M. Temminck with others from India, that not the slightest difference exists between them, and that the barred upper tail-coverts and paler colouring of this species will readily distinguish it from the *Circ. cyaneus*.

Since the above was written we have seen as many as eight or ten specimens in one collection, the whole of which were killed in Spain, from which we are led to infer that it is there a common species, and that in all probability it also abounds throughout the northern portions of Africa.

Head and all the upper surface pale grey very slightly tinged with brown; upper tail-coverts white, spotted or rather barred with pale brown; quills white at the base passing into deep brown at their extremities, and margined externally with greyish; tail pale grey, the outer feathers becoming nearly white; the whole crossed with six fuscous bars, which are most conspicuous on the outer feathers, where they assume a rufous tint; bill blue; cere and legs yellow; irides greenish yellow.

We have figured the bird of the natural size.





ASH-COLOURED HARRIER.
Circus cinereus (Meyer)

Painted by C. E. Mearns, F.R.S.

Engraved by J. G. S. S. S. S.

ASH-COLOURED HARRIER.

Circus cineraceus, *Meyer*.

Le Busard Montagu.

THE present elegant bird excels its congener the Hen-Harrier in the relative admeasurement of its wings and tail, and though less robust, is even more elegant in its proportions. In habits and manners, and the localities it frequents, there is little difference between them, a circumstance which, together with its colouring, was the cause of its being so long considered as identical with that species. Its distinguishing characters consist in the elongated wings, across which extends a conspicuous band of black in the male; the rich chestnut dashes on the under surface, and bars of the same colour on the outer tail-feathers. The female is scarcely to be distinguished from the female of the other species, except by the elongated wings and the general slenderness of the body. The discovery of this bird as a distinct species is due to Colonel Montagu, in whose writings we have a detailed account of its specific differences, together with considerable information respecting its general manners and history.

The Ash-coloured Harrier a few years back was deemed a bird of great rarity, but is now fully as common as its relative the Hen-Harrier. Mr. Selby informs us that he has taken it in Northumberland, where it breeds upon the moors and open lands: the southern districts of England, however, appear to be its favourite residence. We have ourselves received numerous examples from the fens of Cambridgeshire and Lincolnshire. On the Continent it appears almost universally distributed, especially in the eastern and southern provinces.

Its food consists of small mammalia, such as moles, rats, mice, and young hares, to which are added snakes, lizards, frogs, &c.

Its place of nidification is on the ground, among rushes, furze, or any low brushwood suited to its purpose.

Its flight is peculiarly buoyant, and perhaps exceeds in rapidity and lightness that of any other European Harrier.

The sexes offer the same distinctions of colouring that we see in the Hen-Harrier, but we find the young for the first six months of their existence to be more uniform in their colouring, the plumage being less variegated by spots or dashes.

The male has the head, neck, whole of the upper surface, and middle tail-feathers blueish grey; a distinct band of black crosses the middle of the wing; quill-feathers black; outer tail-feathers white, barred with chestnut and tipped with grey; under surface white, with regular longitudinal dashes of rich chestnut; bill black; cere, irides, and tarsi fine yellow.

The female has the whole of the upper surface of a deep chocolate brown; the top of the head lighter than the rest of the body; each feather with its centre of a deeper tint, so as to give it a spotted appearance; around the eye is an obscure circle of dull white; ear-coverts rich brown; under surface light reddish brown, with longitudinal dashes of a deeper colour: these in the young of both sexes are scarcely to be discerned; tail brown, the outer feathers lighter, and exhibiting bars of deep umber; cere, irides, and tarsi as in the male.

The Plate represents a male and female of the natural size.



BARN OWL.
Strix flammea, *Linn.*

Genus STRIX.

GEN. CHAR. *Beak* straight at the base, the tip arched, and hooked; cutting margin of the upper mandible nearly straight; under mandible sloping to the point, and doubly notched. *Nostrils* oval, obliquely placed on the anterior ridge of the cere; facial disk large, complete. *Wings* long and ample; the second quill-feather the longest in the wing, the first but little shorter, equal to the third, and slightly notched on its inner web near the tip. *Legs* with tarsi long and slender, clothed with downy feathers; toes thinly covered with hairs; claws long, sharp, moderately curved, and all more or less grooved beneath.

BARN OWL.

Strix flammea, *Lim.*

La Chouette effraie.

WHETHER our well-known Barn Owl be identical with those found in almost every portion of the globe, notwithstanding their slight variations or differences of plumage, we have not been able satisfactorily to determine; and it yet remains a question whether the Owls so nearly resembling the present, from the United States, South America and its adjacent islands, together with others from Africa, India and New Holland, be merely varieties depending upon climate, food and a combination of circumstances, or, on the contrary, radically distinct, each constituting a different species.

The genus *Strix* as limited by modern authors, and taking this bird as its type, possesses, besides the varieties above alluded to, many which must certainly be considered as truly distinct species. Of these we have seen several from New Holland, one from India, and one from the West Indian Islands. It is a genus at once distinguished from all other genera of the family of *Strigidae* by the elongated bill, the loose and downy texture of the plumage, and by the beautiful style of colouring which pervades the upper surface of the body.

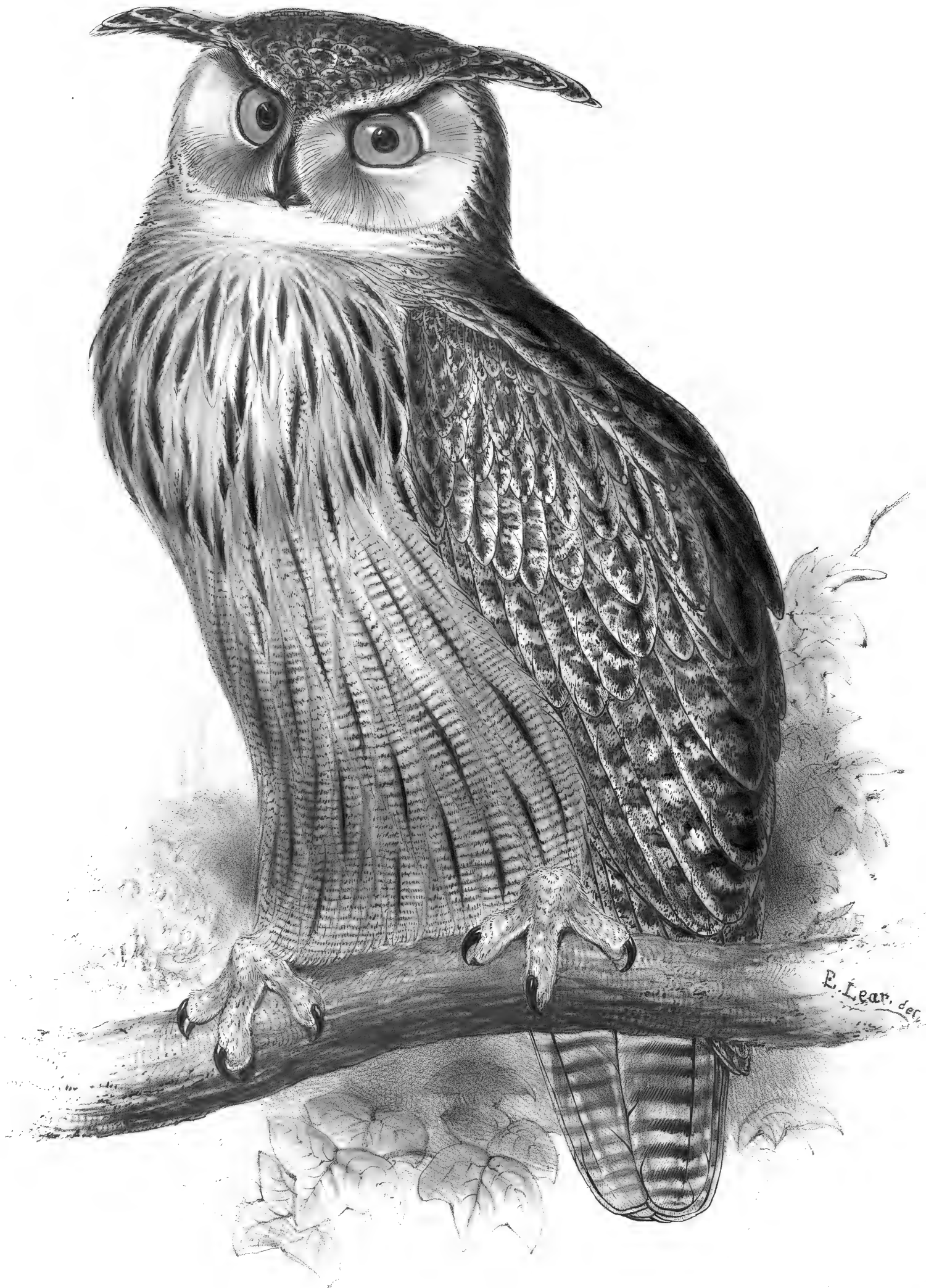
The *Strix flammea* is spread over the whole of Europe, and appears to be everywhere stationary, at least such is the case in our own island, where they inhabit barns, ruins, church-towers and hollow trees, remaining concealed all day, but issuing at the approach of evening, when they prowl, on light and noiseless wing, in search of their prey, night being the time when the species of this genus exert their powers and display their destructive energies. Dazzled by the light of day, for which their powers of vision are not adapted, they remain motionless and inanimate in their retreats, shading their eyes with the thin membranous veil which they possess for the purpose of drawing over the pupils. To observe them in this state, we should not suppose them endowed with that energy and quickness of action which they display at night, when, intent upon their search, they skim over the meadows with every sense alive to the object of their pursuit: so rapidly, indeed, do they pounce upon their victims, that even the little active mouse is seized before aware of its approaching fate. Although mice form the principal part of their subsistence, it is nevertheless certain that they sometimes prey upon young birds, rats and leverets; and instances have been known of their committing depredations among the finned inhabitants of lakes and ponds.

In the plumage of these interesting birds there exists considerable variety, some individuals being fawn-coloured on the upper and under surface, spotted and dashed with dark grey, while others are purely white on the under surface; and others again white on the same part, with minute spots of grey. So far as we have been able to judge from dissection, the individuals killed in this country with pure white breasts, as represented in the Plate, are invariably adult males, the females and young males having the breast more or less speckled, and the edge of the facial disk tinged with fawn colour.

The *Strix flammea* incubates in holes of trees, old buildings, and similar situations, generally laying three or four nearly round white eggs.

The young, for a considerable period, are covered with a thick coating of white down, and their retreat is always found to contain vast quantities of pellets or castings, consisting of the indigestible parts of their food.

The Plate represents an adult male of the natural size.



EAGLE OWL.
Bubo maximus (Sibbold).

Genus BUBO.

GEN. CHAR. *Bill* short, strong, curved and compressed at the point. *Nostrils* pierced in the cere, large, oval, or rounded. *Head* furnished with tufts of feathers. *Wings* rather short, concave, third and fourth quill-feathers generally the longest. *Legs* and *toes* covered with feathers, outer toe reversible; *claws* long, curved and sharp.

GREAT-HORNED OR EAGLE OWL.

Bubo maximus, *Sibbald*.

Le Hibou Grand-duc.

AMONG the species of this singular race belonging to Europe, the Great-horned or Eagle Owl holds the first place in point of size and in majesty of appearance; nor is it inferior, or if so, but slightly, to any known species from other parts of the world. It forms a typical example of the genus *Bubo*, a group distinguished by a tuft of elongated feathers above each eye, usually denominated ears, though, as may be seen, these plumes have no connexion whatever with the true organs of hearing.

The present division, as well as one or two others, the species of which possess bright yellow-coloured irides, appears to enjoy the power of vision to a greater extent either in dull daylight or by the bright light of the moon; and even during sunshine they are by no means so confused and distressed as their allies contained in the restricted genus *Strix*, possessing eyes, the pupils of which, capable of prodigious enlargement, adapt them more exclusively to the dusk of evening or the sombre darkness of night. The true habitat of this noble species is the more northern portions of Europe: M. Temminck states, that it is so extensively spread as to occur at the Cape of Good Hope. We have ourselves seen it in collections from China; and Dr. Latham adds, that it is found at Kamschatka as well as in the northernmost parts of America. Granting, however, that it is diffused thus extensively, still its true habitat appears to be among the large forests of the wild and desolate regions of Norway, and the parallel latitudes of Sweden and Russia. It is less common in Germany and Switzerland, and of rare occurrence in France and England; still, from the frequent captures of it that have been made in the British Islands, it may be classed among our birds, especially as it seems to be deterred from settling among us more by the want of secluded and unmolested retreats than by an uncongeniality of climate. The Great-horned Owl may likewise be considered as one of the most powerful of its race, boldly preying upon the largest game. Perched upon some branch, and obscured by the shadows of evening, it marks its ill-fated quarry,—the fawn reposing among the fern,—the hare nibbling the grass,—the grouse couching among the heath;—silently and rapidly down it pounces, strikes its talons into its victim, and commences the work of destruction. Less noble game, such as moles, rats, and lizards, may be also ranked among its articles of food.

This fine bird chooses the clefts of rocks, or the hollows of decayed trees of antique growth, for the purpose of nidification, laying three eggs of a rounded shape and white colour.

The female is larger than her mate, and her colours are more bright.

The upper surface of the body is a mingled blending of brown and yellow, with zigzag lines and bars; below the ground colour is yellow, with black longitudinal dashes on the chest, and fine transverse irregular bars over the whole of the rest of the plumage; irides bright fiery orange; beak and nails black. Length nearly two feet.

We are indebted to the Hon. Daniel Finch for an example of this fine Owl for illustration in this Work.

Our figure is about three fourths of the natural size.



EASTERN GREAT HORNED OWL.
Bubo Ascalaphus.

EASTERN GREAT HORNED OWL.

Bubo Ascalaphus.

Le Hibou Ascalaphus.

THIS fine species of horned Owl would appear to represent in the temperate portions of Asia and Africa, the *Bubo maximus* of Norway, Russia, &c. ; and if we mistake not the *Otus (Bubo) Bengalensis* of our "Century of Birds" must rank as synonymous with the present species. In Europe the eastern and southern portions appear to be the only parts visited by the *Bubo Ascalaphus*, M. Temminck giving Sicily and Sardinia as places in which it has been observed.

Of the habits and manners of this species nothing has been placed on record, nor are we able to afford any information on the subject. Specimens have been sent to the Zoological Society by Sir Thomas Reade from Tunis, and a single individual formed a part of the collection made during the late expedition to the Euphrates.

Feathers of the facial disk buffy white terminated with black ; crown of the head dark brown, each feather irregularly edged and terminated with buffy white ; feathers surrounding the neck deep buff, becoming paler at the tip, and with an irregular mark of dark brown down the centre ; the remainder of the upper surface, wings and tail dark brown, irregularly blotched with reddish buff, pale buff and lighter brown ; all the under surface deep buff, the feathers on the centre of the abdomen being much paler and crossed with several fine and irregular bars of brown at their extremities ; feathers of the legs deep buff, becoming much paler on the front of the tarsi and on the toes ; bill and claws black.

We have figured an adult male nearly of the natural size, from a specimen forwarded to us by M. Temminck.



LONG EARED OWL.

Strix otus, (Linn.)

Otus vulgaris, (Flem.)

Genus OTUS.

GEN. CHAR. *Bill* bending, and forming an elliptic curve, the cere covering the basal ridge for nearly half the length of the bill; cutting margin of the upper mandible straight, the under one having the tip obliquely truncated and notched. *Nostrils* oval, obliquely placed. *Fascial disc* of moderate size and complete. *Conch* of the ear extending from the outer angle of the eye to behind the limb of the lower jaw, the opening defended by a flap or *operculum*. *Head* furnished with ecrets. *Wings* long; the second quill-feather the longest. *Tail* even, and scarcely showing any concavity beneath. *Legs* and *toes* feathered to the insertion of the claws. *Toes* rather short; the outer one reversible. *Claws* moderately curved, long, and very sharp; rounded beneath, except the middle one, which is grooved, and with a sharp inner edge.

LONG-EARED OWL.

Strix otus, *Linn.*

Otus vulgaris, *Flem.*

Le Hibou moyenduc.

THE habits of this Owl lead it to frequent thick woods, in the depths of which it lives retired from observation, concealing itself during the day amongst the foliage of the holly and ivy-clad trees, whence it emerges at the approach of evening in quest of food; and dissection confirms the opinion that small mammalia, such as mice, moles, and rats form its principal subsistence; in fact, as regards food, it agrees closely with the others of its tribe. Most of the woody districts, especially in the northern portions of England, and in Scotland, are the chief localities wherein it may be found in our own islands; it is, however, by no means so common as the Tawny Owl, which generally frequents the same situations. It has a wide range over the continent of Europe. The same species, and one so closely allied to it as to render it difficult to say whether it can be fairly separated, is found in the United States and the northern regions of America as far as the sixtieth degree of latitude.

Unlike the Tawny and Barn Owls, which breed in hollow trees, the present species evinces a partiality for the deserted nests of the Crow, Raven and Magpie for the purpose of nidification: it lays about four white eggs; the young are covered with a full coat of white down, which lasts for a considerable time, and disappears gradually as the feathers advance.

The sexes offer little or no external difference either in size or in the colour of the plumage.

The head is ornamented with two ecrets, consisting each of several feathers of a pale yellow colour at the edges, with broad central dashes of black; the whole of the upper surface is of a tawny yellow clouded with grey, each feather having its centre black, and the whole being checquered with zigzag bars and dots of brown and black; the under surface is pale tawny with longitudinal dashes of black; tail barred; facial disc light grey, clouded with tawny brown; irides orange; beak black.

Our Plate represents a male of the natural size.





SHORT-EARED OWL.

Strix Brachyotos, (Linn)
Otus Brachyotos, (Cuv.)

Drawn from Nature & engraved by J. & E. Gould

Printed by C. Holliman del.

SHORT-EARED OWL.

Strix brachyotos, *Lath.*

Otus Brachyotos, *Cuv.*

La Hibou brachyote.

THE Short-eared Owl is so universally dispersed as to render it probable that it may be observed over the whole of the four continents, with the exception of the high northern regions. We have ourselves been enabled to compare specimens of this species from the Straits of Magellan, Brazil, and North America, with others from every part of Africa and India, all of which were so strictly similar in their markings and size that it was impossible to distinguish them.

Unlike the rest of its tribe, which habitually reside among trees and rocks, the Short-eared Owl reposes on the ground, and prefers extensive moors and marshes to thickly wooded districts. Although it is sparingly dispersed during summer over the northern parts of England and Scotland, in which localities it is known to breed, still it must be regarded as a migratory bird both in the British Islands and the greater portion of the Continent. In Holland it is particularly abundant during the months of September and October, about which period it makes its annual migration to England, where it arrives in companies of from five to twenty or thirty in number, and gradually disperses over the marshes and extensive fields of turnips which border the whole of our eastern coast. Its flight is strong and vigorous, and from its diurnal habits it may be frequently observed, particularly in gloomy weather, on the wing at midday, hunting for small birds, mice, frogs, &c., which constitute its principal food.

When in a state of repose, it secretes itself on the ground, either in a tuft of long grass, heath, or among the thickest part of the turnips, and it is seldom roused from this retreat until closely approached. It is to be regretted that these secluded and retiring habits tend much to its own destruction by the facility with which it is discovered by the gunner with the assistance of his pointer, which will generally point on scenting it.

In a note in his valuable edition of Wilson's American Ornithology, Sir William Jardine informs us that he has found the nest of this bird on the extensive moors at the head of Dryfe (a small rivulet in Dumfriesshire), that the eggs are five in number, and that the "nest is formed upon the ground among the heath, the bottom of the nest scraped until the fresh earth appears, on which the eggs are placed, without any lining or other accessory covering. When approaching the nest or young, the old birds fly and hover round, uttering a small shrill cry, and snapping with their bills. 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."

Feathers covering the nostrils brownish white, with black shafts; circle immediately around the eyes blackish brown; remainder of the facial disk yellowish brown, mottled with blackish brown; circle of small feathers behind the facial disk mottled with tawny white, blackish brown, and white, except opposite to the orifice of the ear, where they are wholly blackish brown; on each side of the forehead four or five feathers somewhat longer than the rest, which are erected and depressed at pleasure; head, back, and wing-coverts dark brown, deeply edged with tawny brown; quills pale reddish brown, with several broad bars of dark brown on their outer webs; the inner webs are also barred, but not so numerous or so regularly as the outer; the tips of all ending in ashy grey; fore part of the neck and breast buff orange, each feather streaked down the centre with dark brown; under surface pale yellowish brown, with dark brown shafts; tarsi and toes dull yellowish white free from spots, the feathers assuming a hairy appearance on the toes; claws blackish grey; bill blueish black; irides gamboge yellow.

The Plate represents an adult male of the natural size.



SCOPS-EARED OWL.
Scops Aldrovandi, (Will and Ray.)

Genus SCOPS.

GEN. CHAR. *Bill* curved from the base; the upper ridge of the culmen flattened; the cere short. *Nostrils* round, placed in front of the cere. *Facial disc* small, and incomplete above the eyes; auditory conch small, and without an operculum; forehead with egrets or tufts. *Wings* long, the third feather the longest. *Tail* even or slightly rounded, concave beneath. *Legs* rather long. *Tarsi* feathered to the toes, which have their upper joints reticulated, and the anterior ones scutellated. *Claws* sharp, moderately curved, and partially grooved beneath. Plumage soft and downy.

SCOPS-EARED OWL.

Scops Aldrovandi, *Will.* and *Ray.*

Le Petit Duc.

THE range of this beautiful little Owl is so extensive, that few of the larger species are more widely distributed. Independently of its existence throughout most of the countries of Europe, it is found both in Africa and Asia; and individuals from China have come under our notice, differing in no respect from specimens killed in our own island. Its occurrence here is, however, extremely rare in comparison to adjacent parts. It is abundant in France, Switzerland, and all the southern and eastern portions of Europe: in Holland and the north-western portion of the Continent it is almost as rare as it is in England.

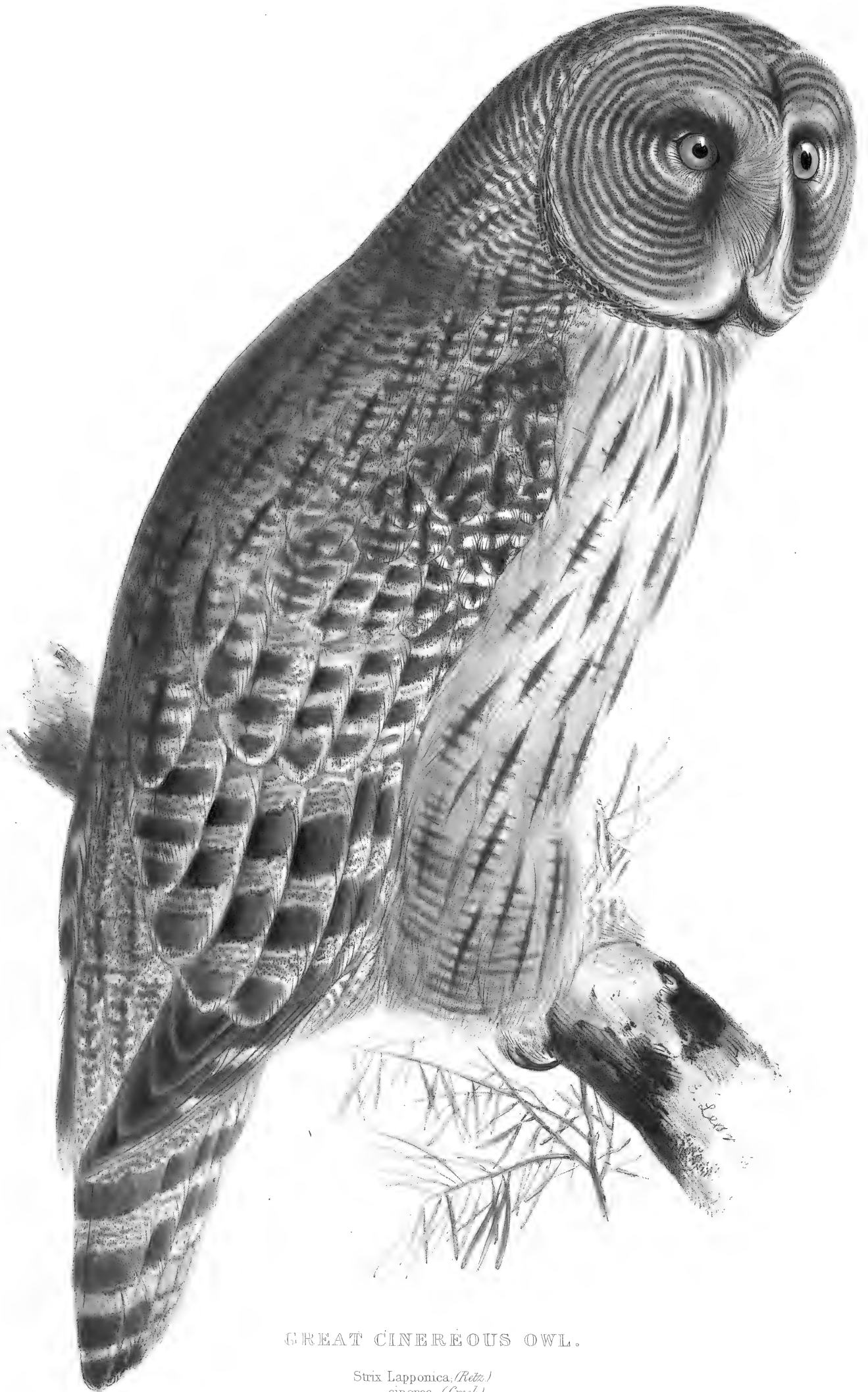
In Europe it appears to be strictly migratory, arriving late in spring, when moths and the larger coleopterous insects, upon which it principally subsists, abound; but in the hotter portions of the Old World, where such insects are always abundant, numbers of these birds are stationary throughout the whole of the year: to these, its most common food, are added birds, mice, and other small animals. In its manners it is principally nocturnal, issuing forth from its hiding-place on the approach of twilight, in chase of those insects which are also roused from their state of repose to activity at the same time. In confinement it is docile and contented, and especially interesting from its minute size and the elegance of its markings.

It breeds in the holes of decayed trees, clefts of rocks, and old buildings, the eggs being four or five in number, of a pure white.

The sexes offer little or no variations of colour; indeed the female so exactly resembles the male as not to be distinguished except by dissection.

The general colour is grey blended with brown; and freckled with minute markings of black, relieved by bold longitudinal dashes down the centre of most of the feathers; the head is ornamented with egrets capable of being elevated and depressed at will; a few black dashes encircle the disc of the face; the quills are barred alternately with rich brown and yellowish grey; irides and feet brilliant yellow.

The Plate represents an adult bird of the natural size.



GREAT CINEREOUS OWL.

Strix Laponica, (Retz.)
— *cinerea*, (Gmel.)
Surnia cinerea.

Genus *SURNIA*, *Dum.*

GEN. CHAR. *Beak* short, arched. *Disc* of the *head* small and incomplete. *Ears* small, oval. *Egrets* none. *Legs* very plumose. *Tail* elongated wedge-shaped.

G R E A T C I N E R E O U S O W L .

Strix Lapponica, *Retz.*

Strix cinerea, *Gm.*

Surnia cinerea.

THOSE who would wish to visit the haunts of this noble species of Owl, one of the very finest of its race, must leave the abodes of civilization and penetrate into the dreary regions of the arctic circle, where nature wears her rudest and wildest dress, for it is an inhabitant of that portion of both continents; and although solitary individuals now and then make their appearance in Lapland, Norway, and Russia, yet it would appear that the northern parts of America are its true habitat, as in that truly scientific work the "Fauna Boreali-Americana," by Messrs. Swainson and Richardson, the latter gentleman informs us that "It is by no means a rare bird in the fur-countries, being an inhabitant of all the woody districts lying between lake Superior and latitudes 67° or 68°, and between Hudson's Bay and the Pacific. It is common on the borders of the Great Bear Lake; and there and in the higher parallels of latitude it must pursue its prey, during the summer months, by daylight. It keeps, however, within the woods, and does not frequent the barren grounds like the Snowy Owl, nor is it so often met with in broad daylight as the Hawk Owl, but hunts principally when the sun is low; indeed it is only at such times, when the recesses of the woods are deeply shadowed, that the American hare and the murine animals, on which the Cinereous Owl chiefly preys, come forth to feed."

Through the great intercourse which the Hudson's Bay Company has with the polar countries of America, this bird is more common, perhaps, in the cabinets of London than in those of any part of the Continent; we are not, however, aware that there is in London any other European specimen than the one from which our figure is taken, and which was kindly entrusted to our care for that purpose by our obliging friend the Baron de Feldegg of Frankfort.

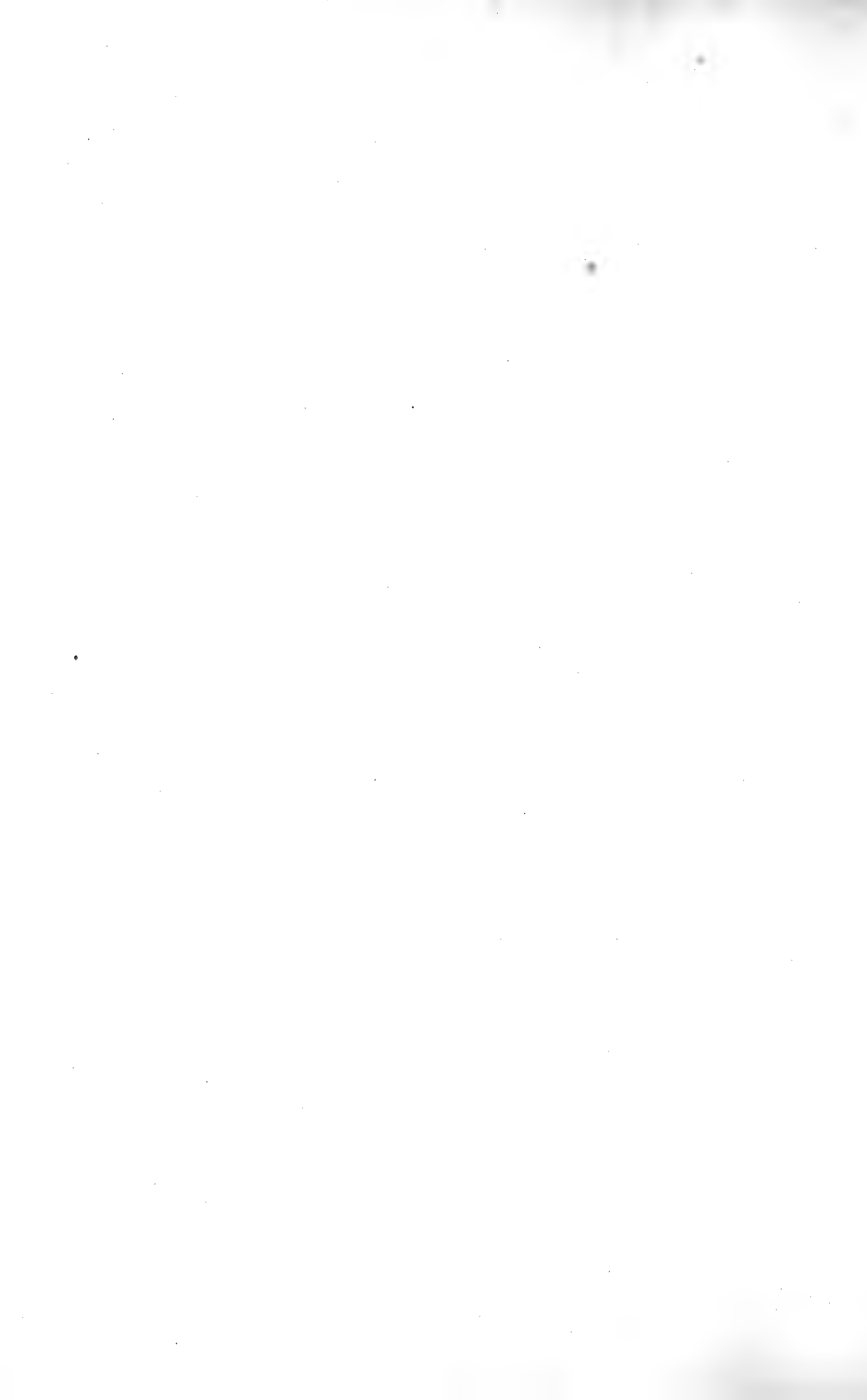
To the countries above mentioned as the habitat of this species, we may add the extensive region reaching across the north of Siberia from Russia to Kamtchatka, which we may regard as the nursery from whence those individuals have strayed which have been killed in various parts of Europe. Of these instances M. Temminck mentions a specimen in the cabinet of Vienna and one in his own collection, both of which are females, and a male in the Museum of Paris, which was placed there by M. Paikul, a Swede; the latter, he states, measures twenty inches, and the one in his own collection two feet eight inches, being an admeasurement larger than that of the female of *Bubo maximus*.

Of its nidification we have no further information than that communicated by Dr. Richardson in the work above quoted; in which he informs us that he discovered a nest "on the top of a lofty balsam poplar, built of sticks, and lined with feathers. It contained three young, which were covered with a whitish down."

The sexes differ in size considerably, but in their markings are so similar that the description of one will serve for both.

The face is grey barred with concentric circles of brown; the whole of the upper surface, wings, and tail are grey, marked with bars and zigzag interlineations of blackish brown; the under parts are lighter than the upper, with longitudinal dashes and obscure bars of brown, especially on the thighs and flanks; beak yellow at the tip; tarsi feathered to the claws, and of the same colour as the under surface; claws black; irides bright yellow.

The Plate represents an adult male about three fourths of the natural size.





E. Lear del.

SNOWY OWL.
Strix Nyctea, (Linn.)
Surnia Nyctea, (Dum.)

Printed by C. Hollensted

SNOWY OWL.

Strix Nyctea, Linn.

Surnia Nyctea, Dum.

La Chouette Harfang.

THE recorded instances of the capture of this noble Owl within the British Islands no longer leave a doubt as to the propriety of giving it a place in our Fauna; its visits are, however, extremely uncertain, and generally occur at very lengthened intervals. Mr. Selby informs us that he has in his possession two very fine specimens, male and female, which were killed near Rothbury, in Northumberland, in the latter part of January 1823, during the severe snow-storm that was so generally felt throughout the North of England and Scotland at that period.

The arctic regions constitute the true habitat and native place of abode of the Snowy Owl, from the severities of which climate it retreats when, on the approach of extraordinarily severe weather, the various small animals upon which it preys have either removed southward or sought shelter beneath the encrusted frozen snow. It would appear that its migrations are extended further south on the American continent than in the Old World, where it is seldom observed so far as Holland and France: it is sometimes found in the North of Germany, more frequently in Russia, Sweden, and Norway, and occasionally in the Feroe, Shetland, and Orkney Islands. It is one of the most robust and powerful of its race: its food consists of alpine hares, rabbits, rats, lemmings, and grouse; and even the wary fox has been known to fall a victim to its attacks. The indefatigable Wilson informs us that it is a dexterous fisher, pouncing upon its finny prey and securing it by an instantaneous stroke of its foot; and Dr. Richardson states in the second volume of the *Fauna Boreali-Americana*, that he has seen it pursue the American hare, making repeated strokes at the animal with its foot. It hunts in the day; and, indeed, unless it could do so, it would be unfit to pass the summer within the arctic circle. When seen on the barren grounds it was generally squatting on the earth, and if put up, it alighted again after a short flight; but was always so wary as to be approached with great difficulty. In the woody districts it showed less caution, and, according to Hearne, has been known to watch the Grouse-shooters a whole day for the purpose of sharing in the spoil. "On such occasions it perches on a high tree, and when a bird is shot, skims down and carries it off before the sportsman can get near it."

It appears to affect different situations for the purpose of nidification, sometimes choosing the ledges of precipitous rocks, and at others, according to Dr. Richardson, making "its nest on the ground and laying three or four white eggs, of which two only are in general hatched. In winter, when this Owl is fat, the Indians and White residents in the fur-countries esteem it to be good eating. Its flesh is delicately white."

The Snowy Owl is subject to considerable variations of plumage in the first three or four years of its existence, and during this period it is characterized by a plumage more or less strongly barred with brown, which markings become more indistinct as the bird advances in age, and they disappear entirely in old males, leaving them of a pure white. As is the case with most of the RAPTorial birds, the female is considerably larger than her mate, but in other respects is not distinguishable.

In the adult male the plumage is wholly white; the irides fine yellow; the bill and claws black, the former being nearly covered by bristly feathers projecting from its base, and the latter, which are long and very sharp, being nearly concealed by the long hairy feathers that clothe the legs and toes. The head, compared with those of other Owls, is small in proportion to the size of the bird.

Our Plate represents an adult and a bird of the second year, about one third less than the natural size.



URAL OWL.
Surnia Uralensis.

URAL OWL.

Surnia Uralensis, *Dum.*

Strix Uralensis, *Linn.*

Le Hibou de l'Oural.

THE obscure and almost untraversed regions which this fine Owl habitually frequents must be deemed not only the cause of its great scarcity, but also of the little that is known respecting its habits and manners. Although the large size and the remarkable development of the facial disk of this bird readily distinguish it from the more typical species of the present genus, nevertheless we have inserted it in this place, believing that in general habits and manners it will be found to agree in a great measure with the other species of the genus.

The Ural Owl is a native of the northern regions of Lapland and Siberia; it is also found, but very sparingly, in the North of Sweden and Norway. In Hungary and Livonia, according to M. Temminck, it is somewhat more abundant; we must, however, regard it as one of the rarest of the European Owls, our own specimen being, we believe, the only one in England, nor does it occur in many of the largest collections on the Continent. Though a native of the arctic circle in the Old World, it does not appear to have been hitherto discovered in the parallel latitudes of America, and we have every reason to believe it to be a stranger to that continent.

Like the rest of the larger owls its food consists of small mammalia, such as leverets, rats, and mice, and not unfrequently the Ptarmigan and other birds.

It is said to construct its nest in the holes of trees, and to lay two white eggs.

The sexes are alike in plumage, but the young of the year differ in having the ground colouring of a pale greyish brown; the upper parts irregularly spotted with brown and light red, varied with blotches of white; the wings and tail barred with grey, and the whole of the under parts longitudinally streaked and blotched with brown.

The adults have the whole of the face greyish white, the rim of the facial disk consisting of white feathers spotted with black; the whole of the upper surface longitudinally blotched with brown and white; the under surface dusky white, every feather having a brown streak down the centre; the wings and tail barred with brown and yellowish white, the latter being of considerable length and remarkably graduated; beak yellow; tarsi covered with greyish white hairs; nails brown; irides brownish yellow.

The Plate represents a male rather less than the natural size, the adult bird being two feet in length.



HAWK OWL.
Surnia funerea; (*Duméril*).
Strix funerea; (*Gmel.*).

H A W K O W L.

Surnia funerea, *Dumeril*.

Strix funerea, *Gmel*.

Le Chouette caparacoch.

Of the European examples of the genus *Surnia*, a genus established by M. Dumeril for the reception of such of the Owls as approach the *Falconidae* in habits, manners, and general structure, the Hawk Owl, although the least, is nevertheless one of the most typical. It possesses an almost unlimited range of habitat throughout the northern and arctic regions of both continents, and is not unfrequently seen in Germany and even France. No example, however, is on record of its having been seen in the British Islands, which is rather remarkable, considering that the Snowy Owl, its most nearly allied relative, has been so frequently captured within the British dominions. Like that fine species, the Hawk Owl is endowed with the faculty of seeing its prey, if not in the bright light of day, at least during dull weather and long before sun-set in the evening, and from this circumstance, which has led to its being considered as a feeder by day, in connexion with its structure, it may be regarded, together with the rest of its genus, as forming the passage between the Harriers on the one hand, and the true nocturnal Owls on the other.

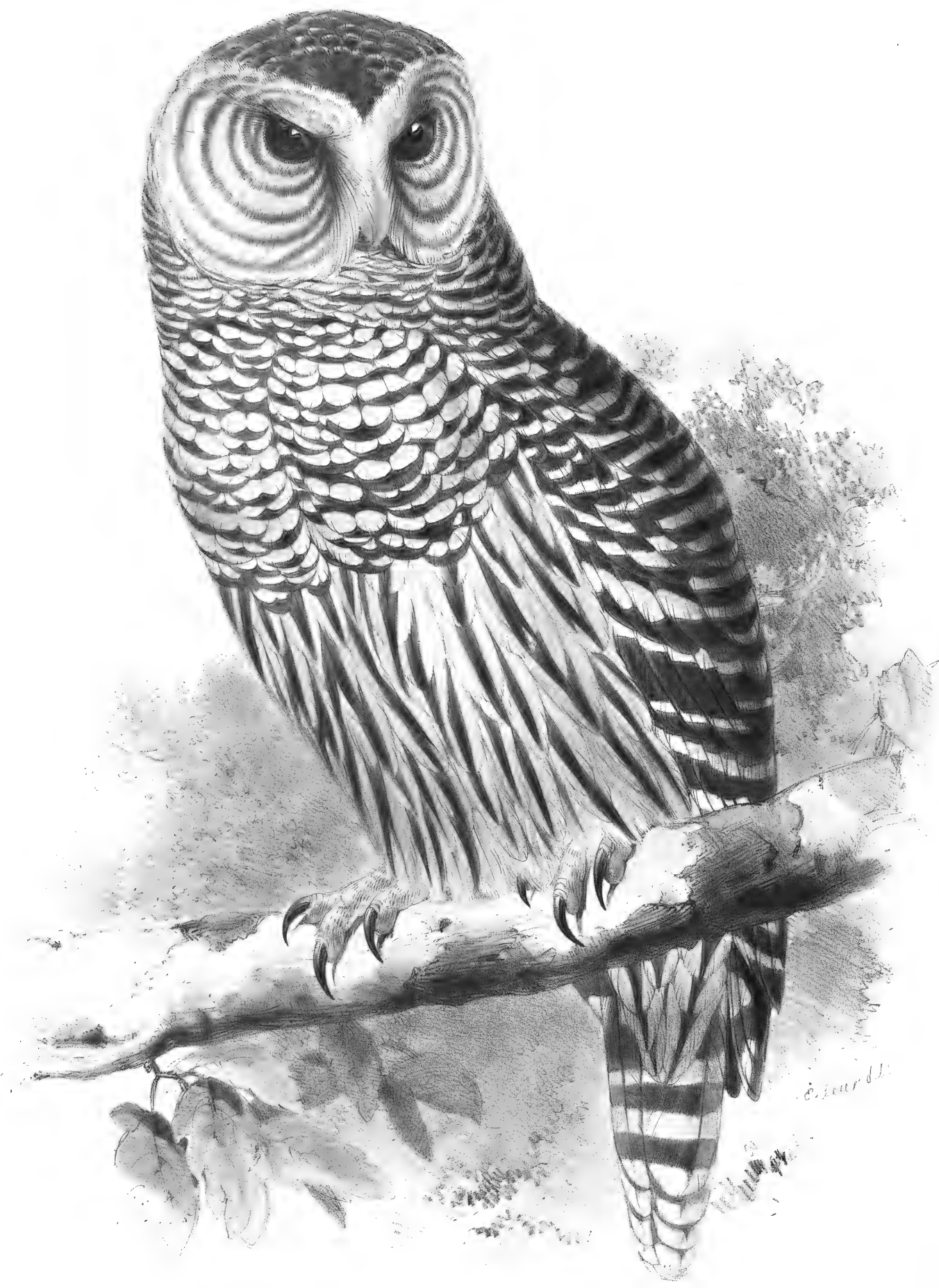
Its food consists of rats, mice, birds, and insects.

According to the best information we can obtain, it builds in trees, and lays two white eggs.

The sexes differ in no respect except a trifle in size, and in the intensity of the markings.

The forehead is thickly dotted with white and brown, the facial disc is greyish white, partly encircled by a crescent-shaped band of black, which passes over the ears; the upper surface is irregularly blotched with brown and white, the latter colour predominating on the shoulders; the wings are brown, irregularly barred with white; the whole of the under surface is greyish white, barred with transverse rays of brown, the shaft of each feather being also brown; tail brown, barred with white; tarsi greyish white; toes yellow; irides bright yellow.

The Plate represents an adult male of the natural size.



BARRED OWL.
Strix nebulosa, (Linn)
Uluia _____, (Cov)

E. Linn. del. 1758.

Printed by C. Hillman.

Genus ULULA.

GEN. CHAR. *Bill* nearly straight at the base, the tip hooked, with a rounded culmen, cutting margin of the upper mandible having a small lobe or sinuation near the middle. Facial disk large and complete; auditory conch rather large, and defended by an operculum. *Wings* short, rounded, concave; the first quill-feather very short; the fourth the longest in the wing, with the third and fifth nearly equal to it. *Tail* reaching beyond the closed wings, rounded, bent, and concave beneath. *Legs* having the tarsi plumed, and the toes more or less so. *Claws* moderately curved, long, short, all more or less grooved beneath.

BARRED OWL.

Strix nebulosa, Linn.

Ulula nebulosa, Cuv.

La Chouette nébuleuse.

In the regions of the Old World the Barred Owl scarcely ever extends its migrations further south than Norway, Sweden, and Russia, in which countries it is so sparingly distributed as rather to be regarded as an accidental visitor than a native species. The northern and temperate portions of America appear to be its true habitat, for it is dispersed over the whole of the United States, where, Mr. Audubon informs us, its peculiar cry of *Whah, whah, whah-aa*, may be heard towards evening proceeding from every part of the forest. According to this diligent observer of nature, the flight of the Barred Owl is smooth, light, and noiseless, and capable of being greatly protracted. Mr. Audubon further remarks that its powers of vision during the day seem to be of an equivocal character, he having seen one alight on the back of a cow, which it left so suddenly, on the animal moving, as to leave no doubt in his mind that the Owl had mistaken the object upon which it had perched for something else: at other times he has observed that the approach of the Grey Squirrel intimidated it, if one of these animals accidentally jumped on the branch close to where it was sitting, although the Barred Owl destroys numbers of this species of Squirrel during the twilight. It is a well-known fact that the eyes of those Owls whose habits are strictly nocturnal differ both in colour and construction from those which feed partially by day, or rather whose greatest powers of vision are developed in the twilight and during dark and gloomy days. Had we not been acquainted with the habits of this bird and the colour of its eyes, we should probably have assigned it a place among the Owls forming the genus *Surnia*, to which division it bears a strong resemblance both in the colour of its plumage and in its general contour. The noiseless flight of the Barred Owl may be attributed to the peculiar nature of its plumage, which, like that of all other nocturnal species, is extremely soft and yielding, enabling it to steal quickly upon its victim without exciting observation or alarm.

Its food consists of young hares and rabbits, mice, small birds, frogs, lizards, &c.

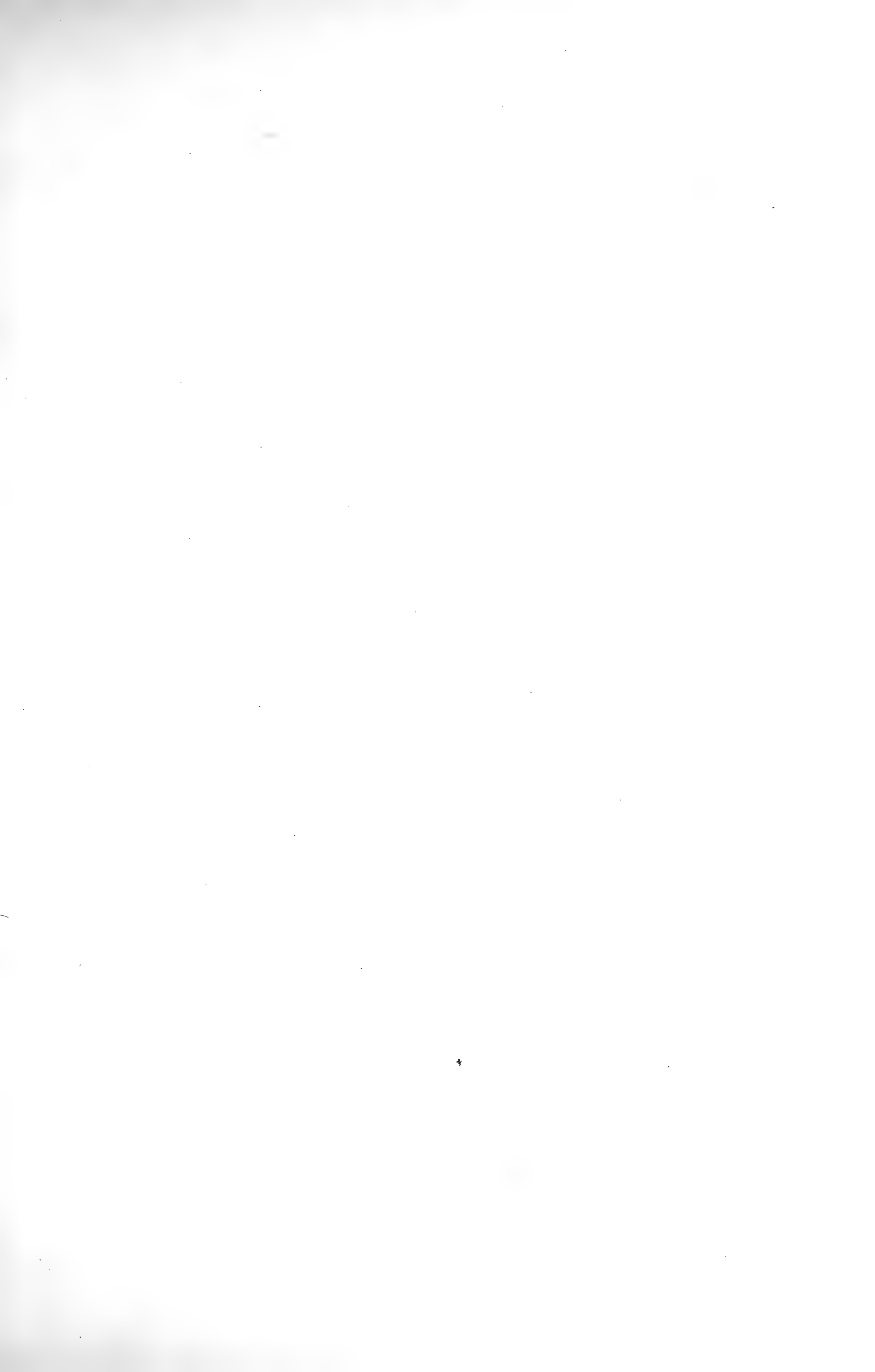
Its eggs are deposited in the holes of decayed trees or the deserted nests of Crows and Hawks; they are round, of a pure white, and from four to six in number.

The male and female differ somewhat in size, the males being the smallest; and they are also subject to considerable varieties of plumage, some specimens, particularly those found in Europe, being of a very dark colour, while others are very light.

The plumage of the generality of specimens may be thus described:

The face light ash encircled with lines of brown; the upper part of the plumage, together with the quills and tail, is of a brownish grey, transversely rayed with white and yellowish bars; the front of the neck and chest transversely barred with greyish ash and yellowish white markings; the lower part of the breast and flanks yellowish grey with longitudinal stripes of brown; feet and toes covered with short grey feathers; beak yellow; irides blackish brown.

The Plate represents an adult male, rather less than the natural size.





TAWNY OR WOOD OWL.

Strix aluco. (Linn.)
Surnia — (Dum.)

TAWNY OR WOOD OWL.

Strix Aluco, Linn.

Syrnium Aluco, Savigny.

La Chouette hulotte.

WE have followed Baron Cuvier in adopting, or at least in adding to our names of this bird, the generic appellation of Savigny, who separated this species from the more typical Owls on account of the short and curved beak, the large size of the facial disk, and the toes feathered to the claws.

This bird measures from fourteen to fifteen inches in length, and with the exception of the Barn Owl is the most common of the British species. It is to be found generally throughout most of the well-wooded districts of Great Britain, and inhabits in abundance the large forests of the European continent. According to M. Temminck it is rather a rare bird in Holland.

In this country the Tawny Owl takes up its abode in woods and old plantations, preferring such as are thickly set with holly and firs, and well grown over with ivy. Here it remains quiet and secluded during the day, but at nightfall becomes clamorous and hoots aloud. In the breeding season it searches for a hole in a tree, or in default of finding such a convenience takes possession of the deserted nest of a Hawk or Crow, in which its eggs are deposited. These are of large size, measuring $1\frac{7}{8}$ inch in length by $1\frac{1}{2}$ inch in width, equally rounded at both ends and perfectly white. The females begin to sit as soon as they have laid their first egg, and the young for a considerable time after exclusion are a shapeless mass of grey down. The parent birds attend their young brood with great assiduity, and supply them plentifully with mice, shrews, moles, and the young of various other mammalia of larger size.

The beak in this species of Owl is yellowish white, short and curved; irides dark blue; the feathers forming the facial disk light brown; the feathers surrounding the disk marked with numerous dark spots; head, neck and back reddish yellow brown, spotted and streaked with dark brown in the direction of the shaft of each feather; on the scapulars and wing-coverts are large white spots forming conspicuous rows; under surface reddish white with brown bars; wing- and tail-feathers reddish brown, barred with very dark brown, under sides reddish ash, with lighter-coloured bars, outer edges of the quill primaries beautifully serrated; legs and toes covered with short downy feathers of reddish grey, with brown specks. Claws nearly black, long, curved and sharp. The females when compared with the males are larger in size and darker in colour, approaching to deep red brown. By mistake the word *Surnia* instead of *Syrnium* was printed on our Plate.

We have figured a bird of the natural size.



LITTLE OWL.
Strix nudipes, (Wilson).
Noctua nudipes, (Muhl).

F. Lear del.

Printed by G. Hillman del.

LITTLE OWL.

Strix nudipes, Nilsson.

Noctua nudipes, Mihi.

La Chouette chevêche.

THE *Strix passerina* of Linnæus, of which *Acadica* is a synonym, is the title of a very different bird from the one here figured; and, although most modern naturalists from some unaccountable cause have assigned the term *passerina* to the present species, as if it were that which Linnæus so designated, we have thought it necessary, in justice to truth, to correct this misnomer by restoring the old name of *nudipes* given to it by Nilsson.

The Little Owl must be considered one of the rarest of our occasional visitors; its presence appearing to depend entirely upon accidental circumstances. It is plentifully distributed over the whole of the temperate portions of Europe. M. Temminck states that it is abundant in Holland and Germany, but that it is never seen in high northern latitudes.

We cannot undertake to say whether the Little Owl is to be classed among the migratory birds of its race, as we are not in possession of any details of its habits and manners. It appears, however, to display all the characteristics of the genus to which it belongs, preying in the dusk of the evening and during twilight on mice, moles, small birds, and large insects. Having had an opportunity of observing it in captivity, we are enabled to state that its conduct under such circumstances is precisely similar to that of other species when in a similar situation. During the day it sits in almost motionless repose, occasionally snapping with its bill, when disturbed, but resuming its quiet position as soon as the annoyance ceases: on the approach of evening it becomes lively and alert, and by its animated manners betrays its anxiety for food and liberty. Its eggs, which are four or five in number, are deposited sometimes in the holes of trees, but more frequently in old walls and ruined towers.

The sexes are alike in plumage, and the young attain at an early period the adult colouring.

The upper parts are of a brownish grey marked with large irregular blotches of white, the feathers on the top of the head being regularly spotted with yellowish white; throat white, separated by a brown belt from the chest; a white circle surrounds the eye; the whole of the under parts dusky white, irregularly clouded and blotched with brown; tail brown, barred with yellowish brown; bill and feet yellowish straw colour; irides straw yellow.

The Plate represents an adult of the natural size.



TENGMALM'S OWL.
Strix Tengmalmi, (Gmel.)
Noctua Tengmalmi, (Selb.)

E. Leary del. et lith.

Printed by C. Billman & Co.

TENGMALM'S OWL.

Strix Tengmalmi, *Gmel.*

Noctua Tengmalmi, *Selby.*

La Chouette Tengmalm.

IN all probability this little Owl extends its range over the whole of the Arctic Circle, in which inhospitable region it appears to represent the *Noctua nudipes*, a species inhabiting more temperate parts, and with which it has more than once been confounded. The *Noctua Tengmalmi* is abundant in Russia and Norway; it is also found, but more rarely, in Germany and France, and it has been captured two or three times in the British Islands. Mr. Selby mentions one example in particular, which was killed near Morpeth in Northumberland in 1812, and forms a part of that gentleman's collection. In the 'Fauna Boreali-Americana' Dr. Richardson states his belief "that it inhabits all the woody country from Great Slave Lake to the United States. On the banks of the Saskatchewan it is so common that its voice is heard almost every night by the traveller wherever he selects his bivouac. Its cry in the night is a single melancholy note, repeated at intervals of a minute or two; and it is one of the superstitious practices of the Indians to whistle when they hear it. If the bird is silent when thus challenged, the speedy death of the inquirer is augured; hence its Cree appellation of Death-bird.

When it is disturbed or accidentally wanders abroad by day, it is so dazzled by the sun that it becomes stupid, and may be easily taken with the hand.

It is said to build a nest of grass, in holes or clefts about half way up a pine-tree, and to lay two eggs, in the month of May.

The sexes are alike in plumage.

Facial disk greyish white mingled with black, except that portion immediately before and behind the eye, where it is wholly black; crown, nape, and back part of the neck pale brown spotted with white, those on the latter part being the largest, and surrounded with darker brown; back, wing-coverts, and scapularies pale brown spotted with white, the spots on the mantle being nearly concealed by the tips of the feathers; quills pale brown, having on their exterior webs a few oval spots of white forming imperfect bars; the extremities of the outer web of the first quill reverted, of the second for half its length, and of the third only a small portion near the tip; tail pale brown crossed by five rows of white spots, giving it the appearance of being barred; under surface white slightly tinged with buff; tarsi and toes thickly clothed with soft hair-like feathers of a buff colour; bill and irides bright yellow; claws black.

The Plate represents an adult male of the natural size.



SPARROW OWL.
Strix palserina, (Linn.)
Noctua _____ (Muhl.)

Drawn from life & on Stone by J. & E. Gould.

Printed by G. Eastman and Co.

SPARROW OWL.

Strix passerina, *Linn.*

S. acadica, *Gmel.*

Noctua passerina, *Mihi.*

La Chouette chevêchette.

WE only follow the opinions and example of several of the best naturalists of the European continent in considering this very minute Owl, the *Chevêchette* of M. Temminck's *Manuel d'Ornithologie*, p. 96, as the true *passerina* of Linneus, who, in the 12th edition of the *Systema Naturæ*, p. 133, says of this bird, "*magnitudo passeris.*" It measures but little more than six inches in length; we have therefore called it, in reference to its diminutive size, the Sparrow Owl, intending to distinguish it from the *Strix passerina* of authors, the *Chevêche* of M. Temminck, p. 92, which measures nine inches in length, and to which another specific name has been given.

The Sparrow Owl is an inhabitant of Livonia and of the northern regions generally, seldom venturing farther south than the colder parts of Germany, where it is only seen in large forests, and has not, that we are aware, been taken in any part of the British Islands; nor is it, we believe, ever found in America.

All the upper parts of the head and body are of dark greyish brown, varied with spots of white; the under parts white, with longitudinal patches of brown; on the flanks, the brown spots have a direction across the feathers; throat and sides of the neck almost white; the tail, the feathers of which are rather long, exhibits four narrow white bands; the feet are feathered to the extremities of the toes; the beak and irides yellow.

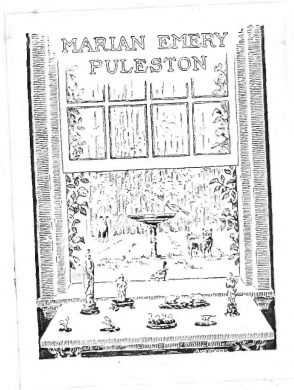
The female is rather darker in the general tone of her colour, inclining to chocolate brown, and the white spots are less brilliant. She lays two white eggs; the nest is made in a hole of a tree in the forest, or occupies an aperture of a rock.

The ordinary food of this species consists of mice, coleopterous insects, and large moths.

We have figured a bird of the natural size.







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