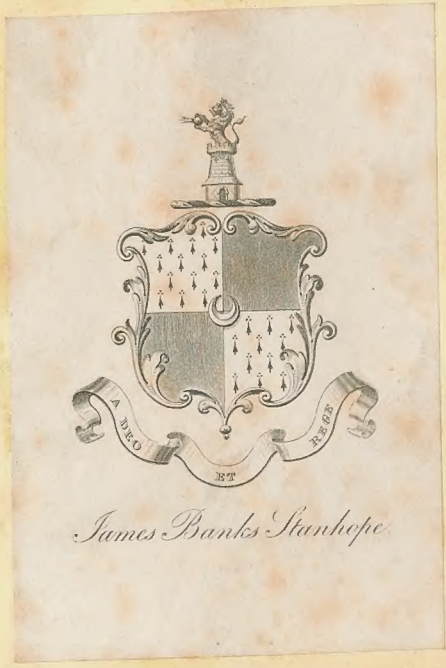




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James Banks Stanhope

THE
BIRDS
OF
GREAT BRITAIN.

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

IN FIVE VOLUMES.

VOLUME III.

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MOTACILLA YARRELLI.

J. Gould & H. C. Richter, del. et lith.

Walter, imp.

MOTACILLA YARRELLI, *Gould.*

Pied Wagtail.

Motacilla Yarrelli, Gould, Birds of Europe, vol. ii. List of plates, p. ii, note.

I APPREHEND that no one with a spark of love for our indigenous birds can fail to admire the Pied Wagtail as it trips over the lawn, or runs before him during his rambles by the river-side. Whether engaged in pursuit of insects, or in performing its dipping flight from one place to another, its presence gives life to the landscape, and adds much to the attractions of the scene. It is a bird which America may well envy us, and which Australia would gladly give much in exchange to possess; for in neither of those countries does it or any member of its genus occur. It is not a little singular that a bird so common and so universally dispersed over the British Islands should have remained without a specific appellation until 1837, when I proposed for it that of *Yarrelli*, and that all English ornithologists should have failed to perceive that it is distinct from the *Motacilla alba* of Linnæus. Neither is it less remarkable that a mere strait of only some thirty miles across should form a boundary over which the two species rarely pass. To say that neither of them ever visits the other's territory would be to state what is untrue; for such an occurrence does occasionally take place; but these are merely exceptions to the rule, and, moreover, are so rare that a person might live at Dover from childhood to old age without seeing a *M. alba*, or at Calais without once meeting with *M. Yarrelli*. The only part of the world out of our own islands whence I have received the Pied Wagtail is Heligoland; and I now question if I had not myself been deceived when I stated, in my paper on the species of the genus *Motacilla*, published in the 'Magazine of Natural History' for 1837, that I had seen it from Norway and Sweden. Why the habitats of some birds should be restricted, and others extensive, is beyond our comprehension. One would naturally suppose that if any Wagtail migrated in summer to Norway, Sweden, and Iceland, it would be the one common in Britain; instead of which it is the more southern *M. alba* that extends its summer journey to these almost Arctic countries. Over Britain the *M. Yarrelli* is so abundantly dispersed, that it matters not whether we visit the Land's End, in Cornwall, Cape Wrath, in Scotland, or the Orkney Islands; everywhere this pretty pied bird will be met with; in the vale and the higher lands, wherever man with his flocks are found and husbandry is carried on, the certain accompaniment is the Pied Wagtail. The shepherd knows the bird as well as his sheep, for they are almost inseparable; the herd-boy finds it the daily companion of his charge; and the maid, when she goes to the mead, sees it jump up and dash about for insects around the cow she is milking; and the farm-labourer has it ever before him, both in winter and summer the stack-yard and the midden being among its favourite places of resort.

The Dishwasher, as the Pied Wagtail is familiarly called in some parts of the country, is one of the most peaceful of our little birds; for it interferes with none; and if the coarse, hopping sparrow attempts to tilt with it, it readily trips before him with the most light-footed agility, or darts away with amazing quickness. On the water's edge it readily evades this or any other insessorial bird, by running breast high into the stream, and leaping on a floating leaf, a stone, or any water-plant or projecting object that may present itself therein; along the roof of a house it passes with equal nimbleness, so that here again the pugnacious Fringilline is once more nonplused. Its wings being long and ample, its flight is vigorous, but peculiar; and it dips away over the river, or from one part of the mead to another, with the utmost rapidity, and, on settling, throws up its tail and keeps it in constant motion; its legs and toes are so delicately formed as to render its progress over the ground as facile as possible; in like manner its cylindrical bill is as admirably adapted for taking minute insects as its full black eye is for discovering during the period of summer the gnats, aphides, and other tiny kinds which are then to be found among the various grasses, while at other seasons it as readily secures the small mollusks and the host of soft insects upon which it then subsists.

In addition to its other attractions, the Pied Wagtail sings, during the early part of spring, a short but sprightly and pretty song, which may occasionally be also heard in June, when the female is sitting on her second laying of eggs. The situation of the nest is very variable; its most frequent sites are the hole in a wall, on a beam in an outhouse, the head of a pollard willow, under the eaves of a hay-rick, &c. Wherever it may be, it is one of those most frequently selected for the place of deposit of the egg of the parasitic Cuckoo; but how this is effected is still a mystery, though Mr. Alfred Newton informs me that the old Cuckoo has been seen to carry its egg in its bill, and drop it into the nest. However this may be, a more sedulous fosterparent than the Pied Wagtail could not be found; for it defends its charge with a courage and pertinacity truly

surprising, to the entire neglect of its own young, which seldom if ever live more than three days after they are hatched, if the usurper be among the family.

A nest, taken from a hole in a pollard willow near the lock at Maidenhead, in Berkshire, on the 24th of April 1859, was cupshaped, somewhat dense, and formed of dried grasses, fine roots, and shreds of the common barkless bass matting, warmly lined with short cows' hair and a little wool. The eggs were four in number; their ground-colour light olive grey, minutely freckled all over with purplish brown, but especially at the larger end. The construction of this nest was commenced in the first week of April, and the first egg was laid about the 15th. Another, taken in May 1860, from a beam under the roof of a boat-house at Formosa, near Maidenhead, contained four eggs of the Pied Wagtail, and one of a Cuckoo. This nest was rendered singular in appearance by a quantity of scarlet and blue wools, with which it was decorated, and from there being among the materials of which it was composed a shred of purple silk, apparently a fragment from a lady's dress.

During the pairing-season the male performs a number of grotesque and animated motions, and approaches the female with ruffled feathers and outspread wings and tail.

Although the Pied Wagtail is an inhabitant of our island during the whole of the year, I have not failed to notice that it is much more numerous in certain localities at one season than at another, and that, if it be not strictly migratory, it certainly, like other birds, affects a change of situation. Any one who may visit the banks of the Thames during the month of September will find both old and young congregated in thousands, spreading over the margins of the river and roosting on the aits at night. I have myself seen them there at that season in swarms like the Sand-Martin; and that some more or less extensive migration then takes place I am certain, for a short time afterwards their numbers are greatly diminished. Where they go to, no one can say; all we know is that the greater number of them disappear, and that but few remain during the winter. At the period alluded to, the old birds have thrown off the black colouring of the throat (the characteristic of summer) and assumed the white one of winter; the early-spring broods have the throat suffused with yellow, and their backs mottled black and grey; and the later ones are less gaily attired, having the upper surface brown, and the under one grey, with only a trace of the black pectoral band. The sexes are very similar at all seasons, except that the colour of the female is less intense, her back not so black as that of the male, and in some instances grey, but never of so light a hue as in *M. alba*.

The Plate represents a male and a female, of the natural size, in their full summer dress, and a young bird in the first autumn of its existence, when the face and throat are usually suffused with yellow.



MOTACILLA ALBA, Linn.

J. Gould & H.C. Richter, del. et lith.

Walter, imp.

MOTACILLA ALBA, Linn.

White Wagtail.

Motacilla alba, Linn. Faun. Suec., p. 92.

——— *cinerea*, Linn. Syst. Nat., tom. i. p. 961.

——— *albeola*, Pall. Zoog. Ross.-Asiat., tom. i. p. 506.

——— *albida*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 77.

——— *Brissoni*, Macgill. Man. Nat. Hist. Orn., vol. i. p. 160.

IN size this elegant species differs but little from the Pied Wagtail, so common in our islands; but a little attention to the colouring of adult examples in their summer dress will, I am sure, convince any one, however sceptical, that the two birds are distinct, and not identical as has been affirmed. Had I seen any variation in the colouring of continental specimens of *Motacilla alba*, or an approach to *M. Yarrelli*, in the dark hue of their backs, or found any of our own birds assuming a delicate grey tint in that part of their plumage, I should have come to a different conclusion. It is true that young examples of *M. Yarrelli* may be found with a clouded grey upper surface; but I never saw one of so light a hue as a specimen of the same age of *M. alba*, or so coloured that I could not at once unhesitatingly pronounce to which species it belonged. In the investigation of this matter I have been greatly aided by the study of the Wagtails of India, whose affinities ally them to each other in a similar way as those of Europe; among them I find the differences which exist are constant, and that a similar law prevails with the *Motacillæ* of both countries. Nothing like a cross appears ever to take place among these nearly allied species—a circumstance which, indeed, rarely occurs among birds in a state of nature. We have, then, but two alternatives—to keep them all as one, or separate them according to their specific characters, however slight they may be. I shall follow those of my contemporaries who adopt the latter view, not only in this group of birds, but in all others in which I find certain characters are constant and unchanging.

The winter and summer changes of plumage of the *M. alba* are precisely similar to those which occur in *M. Yarrelli*. Both have the throat black in summer, and white in winter. I must remark, however, that the fully adult examples of the former, at any period of the year, more closely assimilate in colouring than do the adults of the latter, the females of which may be known by their back being of a lighter hue than the male's. It cannot be denied that there is a great difference in the habits and economy of the two species, the *M. Yarrelli* being stationary, and the *M. alba* regularly migrating to Norway and Sweden in spring, and returning to more southern climes in autumn. In those countries the inhabitants regard its arrival with joy as the harbinger of spring, and raise their hats to the first example that makes its appearance there, just as people do in this country to the first Swallow they observe. Norway and Sweden, however, do not constitute the limit of its migration northwards; for we learn from Walker's "Ornithological Notes of the Voyage of the Fox," published in the 'Ibis' for 1860, that it visits Greenland; and Mr. Alfred Newton states, in his 'Notes on the Ornithology of Iceland,' that "the White Wagtail (*Motacilla alba*) is not quite so common as the Wheatear, but from its more familiar habits is more frequently observed, arrives at the end of April, leaves in September." Now is it not strange that a bird whose principal winter home is the southern portion of Europe and North Africa, should only pay an occasional visit to the British Islands, and rarely, if ever, remain to breed therein, when we know that it resorts for this purpose to countries much further north? Is it because it finds our islands already occupied by another species, and that there is no room for a second, and that, if it were to remain, it would be an interloper and interfere with nature's intentions? as would be the result if foreign species were to be introduced into our island, or any other country where nature had not placed them. Efforts respecting the re-introduction of such extirpated birds as the Capercaillie and the Bustard are praiseworthy; for they were formerly inhabitants of this country, and the attempts will be successful provided its physical condition remains unaltered.

I have never yet seen a true *Motacilla alba* from India, its presence there appearing to be supplied by the *M. Dukhunensis*. It frequents, however, most of the countries along the shores of North Africa, bordering the Mediterranean, and thence westward as far as the island of Madeira. It is also generally dispersed over every part of Europe, but is most numerous in France, Holland, and Germany. That it winters on the European shores of the Mediterranean is certain; for I possess a specimen collected by my son, Dr. Franklin Gould, during that season at San Remo, in the Maritime Alps. The following note was penned by myself during a visit to Norway in 1856:—" *Motacilla alba* is numerous in all but the higher parts of the country; is very tame in its disposition, and a great favourite with the inhabitants; not so sprightly in its actions as the English *M. Yarrelli*, and does not throw up its tail so violently." In England I observed a beautiful freshly

moulted specimen, in full plumage, while walking round one of the bays of Poole Harbour on the 31st of March 1861. It was exceedingly tame, evinced little or no fear, and allowed me to approach within ten feet of it. It appeared to have just arrived from the Continent, and was busily engaged in catching insects. Its back was a light silvery grey, and its throat and the back of its head were as black as jet. I have no doubt that, at this time of the year, examples frequently occur along all parts of our southern coast; but they must be regarded as birds blown out of their course during their migration, or as individuals that are passing over our islands to the distant north. That the *M. alba* has been frequently seen in other parts of England and Scotland I am well aware; for we have numerous recorded instances of its occurrence; but these countries are not its natural home. If any of my readers should wish to see the bird in a state of nature, and yet do not care to make a journey to the rugged shores of Norway, or the sunny clime of Italy, they may gratify their desire by visiting France or Holland. There they will meet with it in all situations similar to those frequented here by our well-known Pied Wagtail, from which it differs but little, either in habits or economy; but it always appeared to me to be somewhat tamer in disposition, and a little less sprightly in its actions. It will scarcely be necessary for me to describe these minutely; for they have been fully detailed in my account of *M. Yarrelli*. Insects and their larvæ, small worms, and minute shelled mollusks constitute its principal food; and watercourses, gardens, and homesteads are the places of its resort. Every village on the Continent of Europe has the accompaniment of one, two, or more pairs during summer; and with every flock of sheep, or herd of cattle, the bird may also be seen. In spring it arrives singly, or in pairs; in autumn it departs southward in flocks, or flights of tens or even hundreds, for a more genial climate, where insect life is abundant, and where they remain until the return of spring, when they instinctively retrace their steps to the old quarters where they have bred, and the young to the neighbourhood of the sites in which they have been reared.

The nest is constructed of materials similar to those used by the *M. Yarrelli*; it is deposited sometimes on the ground in meadows, or on a ditch-bank, in the hole of a wall, in the crevices of rocks, the holes of trees, and is frequently fixed in the side of a wood-stack, but always near water. A nest sent to Mr. Hewitson, which was said to be of this species, and had been taken from a reed-stack on the fen near Whittlesea Mere, was ill-constructed, and composed of a large quantity of very coarse grass and roots, lined with wool and hair mixed together; while a nest from Holland was much more symmetrical, was outwardly composed of the stalks of plants, dry grasses, bits of moss, and a large quantity of fine roots, followed inwardly by wool, and then thickly lined with hair; the central cavity large.

The eggs are four or five in number, of a greyish white, thickly freckled with minute spots and streaks of grey or brown. Mr. Yarrell describes them as nine lines in length, and seven in breadth; but Mr. Hewitson says that the eggs of both *M. Yarrelli* and *M. alba* differ much in size, some being one-third less than others.

The Plate represents both sexes in the summer plumage, and of the natural size. The pretty British plant accompanying them, which was kindly sent to me by the Rev. H. Harper Crewe, is the *Pyrola minor*, and the Butterfly is the Common Peacock (*Vanessa Io*).



BUDYTES RAYI.

J. Gould & H.C. Richter: del. et lith.

Walter: imp.

BUDYTES RAYI.

Yellow Wagtail.

Motacilla flava, Flem. Hist. of Brit. Anim., p. 74.

——— *flaveola*, Temm. Man. d'Orn., tom. iii. p. 183 (nec Pall.).

——— *flava Rayi*, Schleg. Rev. Crit. des Ois. d'Eur., p. xxxviii.

Budytes Rayii, Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 18.

How pleasing are the associations of spring! "Winter is over and gone;" the strength of Boreas has been expended in March; floral May has appeared in maiden sweetness, and the southern migrants have one and all responded to the invitation of the season. The earliest to appear are the Wheatear and the Chiffchaff, to which succeed the Swallow and the other *Hirundines*; next the pompous parasitic Cuckoo and its fostering sylvians (Sedge-Warblers, Reed-Wrens, and others) fall into their places; they are followed by the Yellow Wagtail, the Turtle, the Corncrake, and the Swift, each arrival being in strict conformity with the laws of migration. Flora's guests being assembled, the naturalist revels in the delights of the festival. It will be seen that the Yellow Wagtail is neither the earliest nor the latest of these spring visitants in making its appearance; the young wheat must, however, be sufficiently high to cover the ground, and the mead be decked in maiden freshness, before it will come to us. We may have heard the craking note of the Land-Rail or the voice of the Cuckoo, and the cheery song of the Whinchat may have attracted our notice, yet the Yellow Wagtail is still absent; but the winds of the forthcoming night may waft it to our shores, and the next morning we may see it tripping sprightly before us. Before starting, it has donned its finest plumage, is now at its best, and has come to meet its bride, or rather to await her coming; she will not be long; and then coquetting and courting with her, and tilting and battling with other males, will be the order of the day, now by the river-side, and anon in the corn-field, or in the mead among the buttercups, with the colour of which the rich hue of its yellow breast vies in beauty. These displays and many other equally interesting actions of birds are seldom seen, except by the student of nature ever watchful to increase his knowledge of her handiworks.

We who reside in England should be extremely proud of the beautiful Yellow Field-Wagtail; for ours is almost the only country in which it passes the summer. Why this should be, it is not easy to say; but such is really the case; near as is the Continent, it is rarely found in any part of it, its place in the western portion being supplied by the *Budytes flava*, in the central by *B. cinereocapilla*, and in the eastern by the *B. melanocephala*: all three are strictly migratory, wintering in Africa, spending the summer months in more temperate and even in northern regions, some of them proceeding to very high latitudes, and there affecting hills of great elevation, such as the Dovre and other mountains in Norway and Lapland; our species, however, is rarely found to the northward of Britain. I have, it is true, a specimen from Heligoland; but that is the most northern locality from which I have seen an example. That it is not identical with the species to which Pallas gave the name of *Motacilla campestris*, I think probable, and I have therefore omitted that name from the synonyms given above. Strange to say, this bird is very rarely seen in Ireland; when there, according to Mr. Templeman, it is more common about Lough Neagh than elsewhere—"an observation," remarks Thompson, "which, though correct, requires explanation to prevent an erroneous inference. About the lake, generally it is not common; nor have I been able during frequent visits to various parts of its shores to meet with it, except on one occasion, the 3rd of August 1846, when visiting its limited haunt at the north-west extremity of this great sheet of water, about Toome. Several were then seen at the side of the river Bann, adjoining Toome bridge, and the following day ten (old and young) appeared at the margin of the lake below the bridge. Having known it to be seen here in different years (perhaps forty have elapsed since Mr. Templeman observed it), I conclude that the bird is an annual visitant, and cannot but imagine that it will yet be found regularly at some other favourite localities in the island."

MacGillivray informs us that it is also rare in Scotland, and almost absent in the northern part of that country. St. John remarks that it is much more rare in Morayshire than the Grey Wagtail, and states that he only recollected seeing it two or three times. In Cornwall, according to Mr. Rodd, it is seen for a few days on its first arrival, and again in autumn on its return. Mr. Stevenson says it is a common summer visitant to, and breeds in, Norfolk, "One can scarcely think of this beautiful bird," says he, "without calling to mind the luxuriant herbage of our meadows and grass-fields during the spring months. How brilliant are the colours of the male, in his nuptial dress, as he picks his way amongst a profusion of buttercups, assimilating so closely to his own tints that his actions only betray his whereabouts. On their first arrival we find them in busy little flocks on the Denes and grassy slopes by the sea-shore, graceful in

every movement as they run or flit from one spot to another, enjoying alike the warmth of the sun and the myriads of insects which it calls into being. In autumn, again, in little family groups, the young, in their more sombre tints resembling the females, are learning for themselves the art of fly-catching, and, till instinct warns them of the coming winter, each day finds them busily employed amongst the cattle in our fields and pastures. Though not so constantly seen in the vicinity of water as some other species, this Wagtail frequents the margins of rivers and streams, and the marshy grounds adjacent, as well as open downs and furzy commons, with arable land and sheep-walks."—*Birds of Norfolk*, vol. i. p. 156.

To this I may add that, although very generally spread over the central counties of England, there are districts in this country in which it is never found—a circumstance which clearly shows that certain physical conditions are necessary to its existence; but to say what those conditions are is beyond my power, as much as it is for me to say why the Nightingale is not found in Cornwall or to the northward of Durham, or why the Pied Flycatcher passes by the great oak-woods of Kent and Sussex to breed in those of Westmoreland and Yorkshire. Like the Pied Wagtail the *Budytes Rayi* is always actively engaged in the pursuit of flies and other insects; like that species, too, it affects the immediate precincts of cattle, but sometimes suddenly pitches on our lawns and gardens. It is certainly much less aquatic in its habits than either the Grey Wagtail (*Calobates sulphurea*) or the typical *Motacillæ* (*M. Yarrellii* and *M. alba*). In structure it approaches the true Pipits (*Anthi*), and also resorts to the same kind of situations for which those birds evince a preference. It breeds on the ground, among the growing corn, in fields of peas, in a grass-field, on a naked fallow, or by the ditch-side. "The nest," says Mr. Hewitson, "is composed of dry grasses, roots, bits of moss or wool, and is lined with finer grasses and roots, and a few hairs. Mr. Newton tells me that it varies very much in the materials of which it is composed: 'One of two nests taken on the same day, and within a few yards of each other, was composed of green moss and grass, lined with rabbit's down, the other entirely of grass, lined with fine roots.' The eggs are usually four or five in number, occasionally six; they are generally somewhat less than those of the Grey Wagtail, which they sometimes resemble, but they are mostly more like those of the Grey-headed Wagtail; and it would be very difficult to identify them if once mixed with the eggs of the Sedge-Warbler, which they closely resemble in colour, as well as in being usually marked with a black waved line across the larger end."

The sexes differ materially in colour, the face, throat, and under surface of the female being merely washed with a lighter colour than that which is so conspicuous in the male. The young are spotted and speckled on the wings and a portion of the upper surface, in which state they resemble young Pipits.

The Plate represents a male and a female, of the size of life.



BUDYTES FLAVA.

J. Gould, sc. H.C. Richter, del. et lith.

Walter, imp.

BUDYTES FLAVA.

Grey-headed Wagtail.

Motacilla flava, Linn. Faun. Suec., p. 92?

——— *neglecta*, Gould in Proc. of Comm. of Sci. and Corr. of Zool. Soc., 1832, p. 129.

——— (*Budytes*) *flava*, Keys. et Blas. Wirb. Eur., p. 49.

Budytes flavus, Cuv. Règn. Anim., 1817, tom. i. p. 371.

——— *flava*, Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 18.

——— *Gouldii*, Macgill. Man. Nat. Hist., Orn., vol. i. p. 163.

SOME of the Field-Wagtails forming the genus *Budytes* range throughout Europe, Africa, Persia, India, and China, while one or more frequent Malasia, the great islands of Java, Sumatra, Borneo, and the Moluccas; now, with a knowledge of the wide distribution of these birds, and of the great differences in the colour of their plumage, we cannot, in my opinion, but believe that there are many distinct species, and not only three or four, as some are inclined to think. Structurally they are all exceedingly similar—so similar that the anatomist from a comparison of their bony frames alone would, I believe, find it exceedingly difficult to separate them; colour and marking, then, must guide us in our inquiries respecting this group. Some ornithologists have separated the European Field-Wagtails into three or four species under as many specific names; others, while admitting that they differ, hesitate to view them in that light. Dr. Schlegel, of Leyden, in his 'Revue Critique des Oiseaux d'Europe,' while keeping both the yellow and the pied species under the one generic name of *Motacilla*, designates them thus:—*Motacilla flava*, *M. flava Rayi*, *M. flava cinereocapilla*, *M. flava melanocephala*, and *M. citreola*; but such trinomes are not admissible in modern zoological nomenclature. The bird under consideration Schlegel calls *Motacilla flava*, considering it to be the oldest named species, and the one to which Linnæus gave that specific appellation. This, however, in my opinion is questionable, since it rarely goes so far north as Scandinavia, while that *B. cinereocapilla* commonly does so is certain; for I killed many examples in those countries, some with their breasts spotted with black, as mentioned in Linnæus's description in the 'Fauna Suecica;' and this is the reason why I called the present bird *neglecta*, a term which, although not employed here, may subsequently have to be adopted for it; and in that case *cinereocapilla* will have to rank as a synonym to *flava*. *B. flava*, *B. Rayi*, *B. cinereocapilla*, and *B. melanocephala* are evidently regarded by Schlegel as varieties of the same species, while *B. citreola* he considers distinct. Let us institute comparisons between the four nearest-allied of these birds in their full nuptial attire. Can we for a moment associate our citron-faced Yellow Wagtail, with the jet-black-headed *B. melanocephala*? or does its bright-yellow throat assimilate to the white throat of the grey-headed *B. flava*, vel *neglecta*, or the dark ash-headed *B. cinereocapilla*? If they be really the same, then we must unite with them at least three species from India, and perhaps others from Africa and China. It would be quite out of place here to venture upon the subject of the origin of species, or whence these distinctions emanated. We find in these birds, as well as in the typical *Motacillæ*, certain well-marked characters, which are very apparent in the fully adult birds, while the young so closely assimilate as to render it almost impossible to distinguish one from the other. In this respect the European Wagtails are like the Sparrows, *Passer domesticus*, *P. cisalpinus*, and *P. hispaniolensis*, the young of all three of which, but particularly of the two latter, are extremely similar; I might also cite the members of the nearly allied genus *Anthus* of Europe and Asia, were it necessary to select other groups bearing upon the subject of amalgamating or separating what may or may not be considered species. My own opinion is that ornithological science will become more interesting and better understood by the student if we treat of each of these constant variations under distinctive appellations. It is now time to say something of the countries where the present bird is found, and of its occurrence in our island. In Europe it is strictly a migrant. In the vernal months it passes the Mediterranean in great numbers, resting on its way on the Maltese and other islands, and spreads over many of the southern parts of the Continent, but is more abundant in France, Belgium, Holland, and the south of Germany than elsewhere. After breeding and passing the summer in those countries, it retires again and winters in Africa, following the same law, in this respect, as other southern migrants. In England its presence is purely accidental, but its appearances are too numerous to be given in detail. Sometimes it comes in company with the Yellow Wagtail, at others alone; we may perchance meet with it the first day we visit the country, and years may roll over without our again seeing it. A mere narrow strait separates this bird from us; and the chalk cliffs of Dover may exchange greeting with those of Boulogne; for each has its downs tenanted with Yellow and Pied Wagtails distinct from those of its opposite neighbour, and seldom are the domains of either encroached upon; nature whispers to each their prescribed limits, beyond which they are not to proceed.

“The first British specimen of this bird,” says Yarrell, “was obtained in Oct. 1834, on Walton Cliffs, near Colchester, by Mr. Henry Doubleday; two birds were together, and his attention was drawn to them by observing a pair so late in the season, and so long after our common Yellow Wagtail leaves this country.” Yarrell enumerates other instances of its occurrence, near London, in Suffolk, in Northumberland, and near Edinburgh; Mr. Stevenson states that he is not aware that more than three examples have been actually identified as having been killed in Norfolk—a male near Sherringham in May 1842, a second at Yarmouth in April 1851, and the third, a female, killed some years back on the Heigham River, late in the spring. “That this bird, though for the most part unrecognized,” says Mr. Stevenson, “appears from time to time in this country amongst our Yellow Wagtails is extremely probable, from the fact of its having been met with at Lowestoft in Suffolk, on more than one occasion consorting with the more common species. The late Mr. Thirtle, a bird-preserver of that town, in a communication to Mr. Gurney in 1854, remarks:—“During the protracted dry weather from the beginning of last March to the end of April, with the wind from the N.E. with light sunny days, and every day for more than six weeks, there were to be seen some forty or fifty Yellow Wagtails running upon our Denes; and on the 24th of April I observed a grey-headed one amongst them. I fetched my gun and shot it; on the 25th I killed two more, and on the 26th I killed one. These four were all males, besides which I shot on the 26th two females. Messrs. Gurney and Fisher state that a nest containing four eggs was taken on a heath at Herringfleet, in Suffolk, on the 16th of June 1842, which probably belonged to a bird of this species. The eggs closely resembled an egg of the Grey-headed Wagtail that had been taken on the Continent; and the situation of the nest and the materials of which it was composed, also corresponded with the descriptions given of the nest of this bird.”—*Birds of Norfolk*, vol. i. p. 164.

On the Continent this species frequents moist meadows, the vicinity of water, and the edges of rivers.

I must not fail to thank my valued friend Dr. A. Leith Adams for his kindness in sending me from Malta a very large series of specimens of this bird skinned and dissected by his own hand. Among them there is much variation in colour and markings, but not more than, in my opinion, would be occasioned by differences of age and sex.

In the adult state the male has the head and sides of the face bluish grey; lores black; a white line over the eye; upper surface and wing-coverts olive-yellow; wing-coverts and secondaries brownish black, margined with very pale yellow; primaries brown; central tail-feathers brownish black, slightly fringed with yellow; two outer feathers white, with a stripe of blackish brown on the margin of the basal portion of the inner web; chin and a stripe on each side of the throat white, remainder of the under surface rich yellow; bill, legs, and feet black.

Young males are at first very much paler than the adult, have the stripe over the eye pale yellow, and the head olive; as they approach maturity the grey of the head begins to appear, and the eye-stripe becomes whiter.

In the female the general distribution of the colours is the same, but they are of a much paler tint, and the throat is dull white.

The Plate represents a male and a female, of the size of life. The plant is the Buckbean, *Menyanthes trifoliata*, Linn.



BUDYTES CINEREOCAPILLA.

Turnbull & W. Hors del. et lith.

W. Hors Imp.

BUDYTES CINEREOCAPILLA.

Grey-capped Wagtail.

- Motacilla cinereo-capilla*, Savi, Nuov. Giorn. Lett., no. 57, p. 190.—Idem, Orn. Tosc., tom. iii. p. 216.
——— *borealis*, var. β , Blas. List of Birds of Eur., Eng. edit., p. 12.
——— *flava cinereocapilla*, Schleg. Rev. Crit. des Ois. d'Eur., p. xxxviii.
——— *Feldeggi*, Mich.
——— *dalmatica*, Bruch.
——— *melanocephala*, Savi (nec Licht.), summer dress.
Budytes cinereocapilla, Bonap. Consp. Gen. Av., tom. i. p. 249, *Budytes*, sp. 2.
——— *nigricapilla*, Bonap. ibid., *Budytes*, sp. 4?
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A VERY beautiful specimen of this Wagtail having been killed in Cornwall, by Mr. Vingoe, of Penzance, it becomes necessary to give a figure and an account of the species in the 'Birds of Great Britain,' which I am happy to do, inasmuch as it affords me an opportunity of giving some further information respecting the puzzling members of the genus *Budytes*. At present their synonymy is in the utmost confusion; and the opinions of ornithologists as to which is and which is not entitled to rank as a species are equally conflicting, some believing that several of the so-called species are identical, while others are disposed to separate them still further than has yet been done; and it is not until numerous specimens of both sexes from all the different countries frequented by these birds are brought together, placed side by side, and carefully compared, that the vexed question as to the number of species which really exist can be satisfactorily determined. It is even a question with me whether the bird I have figured under the name of *Budytes flava* be really the true *Motacilla flava* of Linnæus, or if the one here represented be not the bird so named by the illustrious Swede. If this should ultimately prove to be the case, then my specific name of *neglecta* must be restored, and the above list of names sink into synonyms. The confusion in the synonymy and the conflicting opinions of ornithologists have in a great measure arisen from the circumstance of all the species being nearly of the same size, and from the females and young being very similar in their colouring. To define each species unerringly it becomes necessary to compare the fully adult males of all with each other; and if this be carefully done, I venture to assert that it will be an easy matter to distinguish the various members of this elegant group of birds, and to prove that they comprise even more than have yet been characterized. To affirm for one moment that the yellow-headed *Budytes Rayi* of our island and the black-headed *B. melanocephala* (Licht.) of the Lower Nile, the Crimea, and Asia Minor are identical, is to my mind simply absurd. After a careful study of these Wagtails during the last forty years, I believe I may confidently state that four of them pass the summer in Europe—and that these are the *Budytes Rayi* (which at that season frequents the British Islands), the *B. flava* (vel *B. neglecta*) of Western Europe and Sweden (?), the *B. cinereocapilla* of Southern and Central Europe (which migrates to Norway in spring for the purpose of breeding), and, lastly, the *B. melanocephala*, Licht. (distinguished by its jet-black head and deep yellow breast and throat), of the eastern portions of Europe, particularly the Crimea, Asia Minor, and the Nile valley.

It would, perhaps, be out of place to enumerate here the species of the genus *Budytes* which are extra-European; but I may mention that birds of this form inhabit most parts of the Old World. Unless we except the assertion that a *Budytes* has been discovered in Alaska, none are found in America; nor is there any bird therein which might be regarded as representing these lively little birds. In India and China there are more species than in Europe, all of which, I believe, are different from the European.

Professor Schlegel appears to consider that the *Budytes cinereocapilla* is confined to Italy; but I can assure him that I both saw and shot numerous examples on the Dovre-fjeld, in Norway. Some of these were much darker than others, and, moreover, had a dark patch on the centre of the breast, which appeared to be due to the abrasion of the yellow portion of the feathers having rendered their black bases visible.

Respecting the specimen killed in Cornwall Mr. Rodd informs me that "it was observed for some days about the place where it was at last captured, viz. amongst some loose cabbage-plants on the ridge of bank-sand which separates the eastern marsh from the sea-beach, between Penzance and Marazion, very near the Marazion Railway Station. It was in the month of May. It uttered a very neat and melodious song, which, considering the time of the year, may be regarded as a love-song; but no mate was seen at the time."

Of all modern authors, it appears to me that Bonaparte is the one who has taken the most correct view

of these grey and black-headed Wagtails, for which I must refer my readers to his valuable 'Iconografia della Fauna Italica.'

On reference to my MSS. I find the following note respecting this bird as observed by me in Norway, written while the matter was fresh in my memory. "From a careful examination of several specimens obtained on the Dovre-fjeld and in its neighbourhood, I am inclined to regard *Budytes cinereocapilla* and *B. nigricapilla*, Bonap. (*M. melanocephala*, Savi., nec Lichtenstein) as one and the same species. Males killed on approaching the Dovre-fjeld had dark grey heads, while those obtained near Jerkin had jet-black crowns. The dark-grey-headed birds had scarcely a trace of the stripe through the eye; the females, on the contrary, had the head olive-grey, a conspicuous stripe through the eye, and an indistinct mark of black on the chest. I believe every gradation of colour from the grey to the black head is to be found on the Dovre-fjeld, where the bird may be seen in all its glory from the middle of June to the middle of July on all the hill-sides to about or even above the line of vegetation. The crowns of those killed were quite black; they had no stripe through the eye; upper part of the throat beneath the bill white; the remainder of the under surface rich deep yellow, with a conspicuous patch of black on the chest; their backs were fine green, their bills black, their feet brownish black, and their eyes black. They were fine sprightly birds, and uttered notes quite different from those of the Yellow Wagtail of England."

As it is almost impossible to determine to which species the numerous notices that have appeared under the heading of *Budytes cinereo-capilla* have reference, I hesitate to quote any of them, with the exception of the following, from the pen of Lord Lilford, which, doubtless, pertains to the present bird. He states (in 'The Ibis' for 1860) that it "arrives in great numbers in Corfu about the middle of April, at which season it is to be found in small flocks in all the low meadows and maize-fields of the island. I never could find a nest of this species, though I have observed a few pairs during the whole summer."

In conclusion, I may remark that the colouring and markings of the head of the male occasionally present slight differences, some specimens having the crown, lores, and ear-coverts black, others uniform dark sooty grey; and in others, again, the grey is broken by a faint white stripe above the ear-coverts, as seen in the Penzance example.

I must not omit to acknowledge the persevering kindness of Dr. Leith Adams, than whom no one of my friends rendered me more valuable assistance towards the illustration of these Wagtails. During his sojourn in Malta he collected for me a very large series, obtained during their passage from Africa to Europe in the spring, and on their return in autumn, at which latter season the young either accompanied the adults or followed them after a short interval. No examples of either the western *Budytes Rayi* or the eastern *B. melanocephala* were found among the birds I had the pleasure of receiving from Dr. Adams, the only species being *B. cinereocapilla* and *B. flava*.

The upper figure in the accompanying Plate represents the Penzance specimen; the two lower ones are from male and female examples shot by myself on the Dovre-fjeld, in Norway, on the 4th of July, 1856.



CALOBATES SULPHUREA.
Summer plumage.

Gould & H.C. Richter, del. et lith.

Walter Imp.

CALOBATES SULPHUREA.

Grey Wagtail.

Motacilla boarula, Penn. Brit. Zool., vol. i. p. 492.

——— *melanops*, Pall. Zoogr. Ross.-Asiat., tom. i. p. 500.

——— *cinerea*, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 22.

——— *sulphurea*, Bechst. Naturg. Deutschl., tom. iii. p. 459.

——— *montium*, Brehm, Vög. Deutschl., p. 345.

Budytes boarula, Eyton, Hist. of Rarer Brit. Birds, p. 15.

Calobates sulphurea, Kaup, Natürl. Syst., p. 33.

Pallemura sulphurea et javensis, Bonap. Consp. Gen. Av., tom. i. p. 250.

EXTREME elegance of form, gracefulness of action, and a peaceful disposition combine to render this species of Wagtail a favourite with every one who has bestowed a moment's thought upon the objects surrounding him in our islands. It has neither the comparatively coarse feet nor the strong bill of the pied *Motacillæ*, nor the bright-yellow colouring of the *Budytes*. In colour it differs from the members of both those genera, and also in its more delicately formed bill, in its smaller legs, in its shorter hind claw, and in the possession of a far more ample tail. Like the *Motacillæ* it is subject to a seasonal change—a change confined to the throat, which becomes black in summer and forms a conspicuously distinguishing feature of the bird at that season. The differences indicated above have induced ornithologists to consider the Grey Wagtail to be entitled to rank as a separate genus; and I consider Professor Kaup was justified in proposing a generic name for it, that of *Calobates*, which I have therefore adopted. The wide area over which the bird ranges, also, favours the idea of its being a very distinct form from the other Wagtails, most, if not all, of which are very limited in the extent of their range. The ornithologist who has collected generally, or studied the birds of the world, instead of a single country, will have learned that it not only inhabits the British islands, from the Highlands of Scotland to the Land's End, but is equally numerous in all parts of Europe, from north to south, and is even found beyond the Mediterranean and Black Sea. He will have noticed examples in every collection from India, in whatever part of that country it may have been found, and have remarked that it also occurs in Malasia, Java, China, and in Japan. Specimens from all these countries are before me while writing my account of the species. At this point, however, I naturally ask myself, Is this the extent of the bird's range over the globe? Is it found in Australia or any of the Polynesian Islands? and my experience answers, No, we have no evidence that it is. Does it form a part of the avifauna of the American continent, either on its eastern side, which opposes Europe, or on the north-western, which is contiguous to China and Japan? This I again answer in the negative. Why it should not, I am unable to say, any more than I can tell my readers why the *Budytes flava* is common at Boulogne and Calais and rarely, if ever, found at Folkestone or Dover—or why the *Motacilla Yarrelli* should be confined to the British Islands, while the *M. alba* of the Continent is almost excluded. These are some of the inexplicable laws of nature which we shall probably never understand. North America, like Europe, has its rocky trout-streams and gurgling rills of water, accompanied by all the conditions favourable to the salmon, the trout, and the char, and other physical features precisely the same as those in which the Grey Wagtail loves to dwell; yet neither that species nor any member of its family has yet been seen in any part of the New World. The absence of these beautiful tripping birds from a country now so thickly peopled with Europeans must often cause a pang of regret to those who look to surrounding objects in their newly adopted homes. But the distribution of our Grey Wagtail need not be further dwelt upon, except as regards our immediate home—the British Islands. With us in the south the bird is much less frequently seen in its summer black-throated garb than in the months of winter, when the throat is greyish-white, and the whole under-surface more uniform. In summer it is away breeding in the lake-districts of England, the Grampians and other parts of the Highlands, the rugged portion of Derbyshire, the gullies formed by the high tors of Devon and Cornwall; rarely is it found elsewhere at this season. But as there is usually an exception to every rule, I may mention that a few pairs sometimes remain in the neighbourhood of London and breed on the banks of our trout-streams, as it is wont to do in the localities above mentioned. In one lovely valley in Buckinghamshire, through which runs the river Chess, I have for many years seen this bird breeding; and one of the greatest pleasures I ever experienced was the meeting of my favourite face to face each succeeding summer, when the Duke of Bedford kindly favoured me with a day's fly-fishing at Chenies. These little birds generally occupied the same site for their nest—a hole in a wall, occasioned by the removal or falling out of the end of a brick in

the beautiful garden at Mr. Dodd's mill, affording the pair protection for many years; further up the stream, at Elliot's mill, immediately above the charming Elizabethan Latimers, I noticed another pair, which summered and doubtless bred there, but I did not succeed in finding the nest. It was truly pleasing to me to see these elegant little birds suddenly pitch upon the gravel-walk before me, and nimbly catch flies for their young. I may here remark that I never saw the Yellow Wagtail in the Chenies Valley, at least never near the water, a situation always resorted to by the present bird, while the Pipit-like *Budytes* love the more dry and open "campagna," the fields of wheat, or the buttercups of the grass-fields. Mr. W. Jeffery, Jun., has recorded in the 'Zoologist' for 1867 several instances of the Grey Wagtail breeding in Sussex, and mentions having found a nest and young in a sandbank by the side of a waterfall near Petworth.

"During the last two months," writes Mr. Gatcombe in a letter dated June 15, 1863, "I have frequently visited our trout-streams, and thus have had ample opportunities for observing the Grey Wagtail, pairs of which were building on or near the banks of the under-mentioned rivers—the Plym, Yealm, and Erme in Devonshire, and the Notter in Cornwall. In two instances I was successful in finding a nest and young; one of these would have formed a beautiful and interesting object for your pencil. It was placed on a kind of shelf on the face of a slate rock by the side of the river Plym, and was shaded by the overhanging leaves of a Foxglove in full bloom, by the stem of which one side of the nest was supported. It was full of young nearly able to fly, which stared most intently at me with their beautiful bright dark eyes in silent wonderment, while I made a hasty sketch of the interesting little group. I did not disturb the nest in either instance. I may add that this bird has greatly increased in numbers in the neighbourhood of Plymouth during the last few years. A friend of mine tells me that at Kingsbridge, in Devonshire, a pair have built their nest this season by the side of a mill, and that the birds, when flying in or out of it, have to dodge the water-wheel as it goes round. It would be interesting to observe how the youngsters will make their escape."

Macgillivray informs us that the flight of the Grey Wagtail "is rapid and performed in large curves. When alighting it spreads out its tail, displaying the lateral white feathers, which then become very conspicuous; and when standing it vibrates its body continually, so that the tail, which it now and then spreads by a sudden jerk, is always in motion. It is very lively and active, walks in the prettiest manner imaginable, moving its head backward and forward at each step, runs with great speed, and, although not very shy, is not insensible to danger from the proximity of man. Its food consists of insects of various kinds, which it usually picks from the ground, although it often performs a short aerial excursion in pursuit of them."

The nest is usually placed on the ground, but is sometimes found in a hole in a bank or a wall, or between large stones. It is composed of stems and blades of dry grass, moss, and wool, and lined with wool, hair, and feathers. The eggs are greyish white, faintly spotted all over with greyish brown.

I have been constrained to give two illustrations of this favourite bird, in order to show the difference in the colouring of its plumage in summer and winter. In the second Plate it will be seen that the birds have sullied-white throats, which feature may be characteristic of the old birds that have completed their winter moult, or of young birds of the year. In September or October, and during the winter they may be seen in this dress in all the southern portions of the British Islands, either gaily jerking their great tail on the top of a stone on the gravelly strand of a river, or the beams of a lock or weir, not unfrequently searching for insects in the little rills of water which feed our Thames, or the sewage from the houses situated on the banks of the river, the blackest and filthiest spot being most generally selected; and strikingly does this bird with its grey yellow rump and elegant contour contrast with the situation. Many persons when looking at it believe that they see before them the migratory Field-Wagtail (*Budytes flava*), forgetting that that bird at this season is far beyond the seas, in the genial climate of Africa.

The first Plate represents a male and female in their summer dress, and two young birds, of the natural size. The second Plate represents the bird in the autumnal and winter plumage; the white-flowered plant in the former is the *Ranunculus fluiatilis*; the red-flowered one in the latter is the *Polygonum amphibium*.



CALOBATES SULPHUREA.

Illustrated by H.C. Richter del. et lith.

Winter plumage.

Walter Inup.





ANTHUS RICHARDI.

J. Gould & H.C. Richter, del. et lith.

Walter, imp.

ANTHUS RICHARDII, Vieill.

Richard's Pipit.

- Anthus Richardii*, Vieill. Nouv. Dict. d'Hist. Nat., tom. xxvi. p. 491.
—— *longipes*, Hollandre, Faune de la Moselle, p. 84.
—— *rupestris*, Ménétr. Catal., p. 37.
Corydalla Richardii, Vig. in Zool. Journ., vol. ii. p. 397.
—— *sinensis*, Bonap. Consp. Gen. Av., tom. i. p. 247, *Corydalla*, sp. 2?
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THE *Anthi* or Pipits principally reside in the Old World, over which they are far and widely distributed. In Europe they are abundant, both in species and individuals; in India and China they are equally numerous, and they are not without a representative in Japan. These grass-loving birds are graceful in form and elegant in deportment; their ample wings enable them to fly with vigour and continuance, their long legs to run with great facility; their claws, particularly the hinder one, are generally lengthened and slender; their plumage is never gay or brilliant, but usually assimilates to that of the herbage with which they are surrounded; and the sexes do not differ in their tints, and scarcely in size. Of all the species known, the present, if not the largest, is certainly the most elegant in form, the most graceful in appearance, and the one which stands forth conspicuously as the chief of the European species: at the same time it is the rarest and the least-known, very little having been ascertained respecting its habits and economy, either in this country or in any part of the globe. Its visits to the Continent and to us are very uncertain. It may be here to-day or to-morrow, and years may roll round before it comes again. Its breeding-places are unknown to us, and its eggs are desiderata in the cabinets of all oologists. In 1824 Mr. Vigors exhibited to the Meeting of the Zoological Club of the Linnean Society a specimen which had been taken alive in the fields on the northern side of London. In the spring of 1836 two others were also captured alive near the Metropolis; and in the autumn of 1866 I saw two more living examples, which had been taken near Highgate. These were birds of the year, and, although they were placed in the aviary of the Zoological Society, and every care taken of them, did not long survive. They had evidently been bred in some northern country, as they were passing southwards with other migrants when they were taken. Mr. Gatcombe believes that the bird occasionally remains the entire winter in some parts of England, and in confirmation of this opinion has sent me the following note:—"Nine specimens of the Richard's Pipit have occurred to my certain knowledge in the neighbourhood of Plymouth, seven of which have been killed by myself, my brother, and friends, and are now preserved in different collections. It seems to me that the species must remain with us during the whole winter, from the dates on which the specimens above-mentioned were obtained. Four of them made their appearance in November, two others later in the winter, one on the 29th of January; and two more, a pair, were seen by myself and a friend, one of which he shot. We were out for the purpose of procuring some small birds for a tame Buzzard, when the note of the Richard's Pipit caught our ears; and I shall never forget how excited we were on hearing the note for the first time. We could not imagine what it was, until I suggested that it must be that of the Richard's Pipit, as it afterwards proved to be. The note is similar to, but louder than, that of the Pied Wagtail, or something between it and that of the Skylark when moving from place to place. It seems very partial to fields in which there are cows, and often alighted on their dung. The stomach of all those I examined contained the remains of numerous small beetles and a few flies. In its undulating flight, as well as its note, it resembles the Pied Wagtail."

Mr. Thomas Bodenham informed me that a specimen of this species "was taken in a net at Shawardine, a few miles from Shrewsbury, on the 23rd of October 1866." Mr. Rodd states that it is rare in Cornwall: "several examples were killed some years since in Redinnick fields, Penzance; but the bird has not since been observed." In Norfolk, Mr. Stevenson records four examples as having been obtained on the Denes, in the months of April and November. I find no mention of its occurrence in Scotland or Ireland; but it doubtless pays occasional visits to both those countries. On the Continent no author gives it more than a passing remark, its occurrence there being as infrequent as with us, in proof of which assertion I may mention that Nilsson, in his 'Scandinavian Fauna,' states that a specimen taken alive on board a steamer while lying to in Calmar Sound, during a fog, is the only known Swedish example. It has, however, been killed in Italy, Spain, France, and Germany. In India and China it occurs more frequently than in any of the western countries of Europe; and I suspect that we must there look for its nest and eggs, believing, as I do, that that portion of the globe is its true home, and England the extreme limit of its range in a western direction.

Mr. Jerdon says, "this large Pipit occurs throughout the greater part of India, but is only found during the cold weather or up to the end of April. It extends from Nepaul and the Himalayas to the extreme south;

is more rare in Southern India, especially in the Carnatic ; but it is abundant in Lower Bengal. It is also found in Ceylon, in Burmah, and other countries to the eastward. It always affects swampy or wet ground, grassy beds of rivers, edges of tanks, and especially wet rice-fields, either singly or in small parties. Its flight is strong, elegant, and undulating, and it flies some distance in general before it alights again. Swinhoe says it is very ochreous on its arrival in China, but that this wears off: perhaps he here alludes to the race regarded as distinct and named *sinensis* by Bonaparte. The *Corydalla Richardi* is brought in large numbers to Calcutta and sold as Ortolan."

"Richard's Pipit," says M. Bailly, "inhabits Spain, the south of Germany, and the environs of Vienna, in Austria; it is also found in France, but more frequently in the southern than in the northern part of that country. It is rare in Savoy; I have only met with it from the beginning of September to the middle of October, always solitary; and it leaves us again before the frost sets in, for warmer climates. Although I have not found this bird during the nesting-season, I feel convinced that it occasionally breeds here, because during an excursion to the forests of Saint Michel-des-Déserts a shepherd brought me the nest of a Pipit he had just taken from the ground in a neighbouring meadow; it was larger than that of any of the Pipits known to breed with us, and was outwardly composed of moss mingled with filaments of dried grasses, and lined with hairs and some small tufts of sheep's wool. It contained three eggs, which were unlike those of the other Pipits in colour, larger and rounder, their shells somewhat glossy, and sprinkled over with a number of irregularly shaped brown spots, tinged here and there with a reddish hue, and so numerous at the larger end that the whitish ground-colour was scarcely perceptible. Upon showing them to several ornithologists, they agreed in the opinion that they were the eggs of *Anthus Richardi*."

"The bird always arrives in Savoy early in the morning, and, after the sun has risen, is found in the open fields, sometimes in the vineyards, but more frequently on fallow and waste lands, and in stony places near open plains. Like the Wagtail, it runs quickly after insects, worms, grasshoppers, and crickets, and sometimes seizes passing gnats and flies. Occasionally it may be seen at rest beside a clod of earth or a stone; like several of its congeners, it mounts on heaps of straw, maize, and peas, and occasionally the thatch of the barns, to capture the insects which resort thither in the early morning to enjoy the first rays of the sun. I have never seen it in trees, nor even in bushes. About nine or ten o'clock it leaves the more sunny and exposed situations, and seeks the shade among clover, lucerne, buckwheat, and potatoes; in the afterpart of the day it searches for its insect food in the newly turned earth and the fields, and a little before sunset retires to the corn-fields for the night, sometimes settling behind a clod of earth or turf. Being of a tame disposition, it is easily approached. When commencing its flight it generally utters some notes very similar to those of *Anthus rufescens*, but so much louder that they may be heard at a considerable distance. The notes resemble the words *pret piet, pret piet, pret piet*. Its flight is heavier than that of the Pipits generally, and is more like that of a Lark. In autumn its flesh becomes loaded with fat, and it is then considered a very delicate morsel."

The Plate represents a male, in winter, from a British-killed specimen in the collection of Mr. Bond; the darker-coloured figure is from one of the examples taken at Highgate, mentioned above. The beautiful little plant is the Fly-Orchis (*Orchis muscifera*).



ANTHUS CAMPESTRIS, Bechst.

J. Gould, and H.C. Richter del. et lith.

Walter, Imp.

ANTHUS CAMPESTRIS.

Tawny Pipit.

- Alauda campestris*, Briss. Orn., tom. iii. p. 349.
Anthus campestris, Bechst. Naturg. Deutschl., tom. iii. p. 722.
—— *rufescens*, Temm. Man. d'Orn., tom. i. p. 267.
Alauda mosellana, Gmel. edit. Linn. Syst. Nat., tom. i. p. 794.
—— *grandior*, Pall. Zoog. Ross.-Asiat., tom. i. p. 525.
Agrodroma rufescens, Swains. Class. of Birds, vol. ii. p. 293.
—— *campestris*, Jerd. Birds of India, vol. ii. p. 234.
Anthus paludosa, Bonn. Ency. Méth. Orn., part 1. p. 313.
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THE first instances of the occurrence of this bird in Britain were recorded in the 'Ibis' for 1863, by G. Dawson Rowley, Esq., of Brighton, a gentleman much attached to the ornithology of this country; and as from his well-known acumen and research with regard to the oology of our islands his opinions are regarded with attention, I cannot do better than give his account of them nearly in his own words:—

"The fact that the Tawny Pipit is common in France would lead us to suppose it might be found more or less frequently on our south coasts. I think I can prove that in two instances it has been shot near Brighton, and I have little doubt that more examples would have been noticed had the attention of Ornithologists been directed to the species. Late on the evening of September 24, 1862, a person named Wing brought a Pipit in the flesh to Mr. George Swaysland, of Queen's Road, Brighton, with directions to stuff it for him. Swaysland saw at once that it was a curious bird, induced Wing to part with it, took a note of where it was procured, and sent for me. The memorandum stated that Wing had shot the bird on the cliff about a mile and a half from Rottingdean near Brighton. Under the impression that it was *Anthus Richardi*, I compared it with the descriptions of that species in the works of Yarrell and Morris; but the hind claw proving much too short I began to suspect we had a new bird before us. Ultimately I sent it to Mr. Gould, who replied, 'the bird is the Tawny Pipit (*Anthus campestris*), apparently a fine old male, in summer plumage. The spotted markings on the chest are unusual, but I have no doubt I am right as to its name; others ought to be found on our southern coasts, as the bird is common in the central parts of France and Spain.'

"I and Swaysland had previously thought that it was a young bird of the year, and still incline to that opinion, though hesitating to differ from so great an authority. We were induced to think so by the fine hair-like feathers about the vent, and the light edging of the feathers of the back, a character which is to be found in all our Larks and Pipits during their first plumage. It subsequently came to our remembrance that another specimen, which had been sold to Henry Collins, Esq., of Aldsworth near Emsworth, as an *Anthus Richardi*, was precisely like the one under examination. Upon this I wrote to Mr. Collins, a gentleman whose collection is rich in British-killed birds; and he, in the most liberal manner, directly placed it at my disposal. I knew there could not be the slightest doubt that the latter was a *bonâ fide* British-killed bird, as it had been shot by Harding, a domestic servant in Brighton, and a highly respectable man, with whom I am well acquainted and can quite depend upon. I was therefore much pleased to find it exactly similar to the other, particularly in the short hind claw, which is long in *A. Richardi*, and to observe that Mr. Collins's example is even finer than Swaysland's. On inquiry, Harding informed me that it was shot by him on the 17th of August 1858, about seven o'clock in the morning, close to a shallow pool near Shoreham Harbour. Upon my asking what called his attention to this bird more than others, he having mentioned that there were several Rock-Pipits about at the time and Meadow-Pipits in abundance, he said its note struck him as different to the Titlark's—'It came piping down from above,' and readily allowed him to approach. Mr. Collins's bird, which I believe is also a male, is evidently older than Swaysland's. It seems probable, when we consider the time of year at which it was killed, that it had bred somewhere in this country, perhaps not far off, and was about to depart. The Rottingdean bird likewise had doubtless migration in view. Mr. Tristram says this bird is *the* Pipit of the Sahara, and Mr. Wheelwright states that it occurs in Sweden. Ranging so widely, it is strange no instances of its occurrence here have been previously recorded."

In 1865 Mr. Rowley reported in the 'Ibis' that a third example had been caught near Brighton, and brought alive to Mr. Swaysland on the 30th of September 1864.

That other individuals have from time to time been killed in England and mistaken for Richard's Pipits, I think is more than probable; and now that attention has been directed to the subject, others will doubtless be detected; for it is hardly to be supposed that a bird so common upon the continent of Europe during

the months of summer should not occasionally stray out of its course and visit the British Islands. This country, however, seems but ill adapted for a lengthened sojourn, its habits being peculiar, and the situations it affects not being numerous in our humid climate; for it is in open sterile districts, and such hot and parched localities as occur in many parts of France, Spain, and Italy, that the bird finds a congenial home, just as the Meadow-Pipit does in the soft boggy parts of our moorlands. How different are the habits of the two species, and how instructive is a knowledge of them! This difference at once accounts for the very opposite styles of their colouring, one being dressed in dust-coloured feathers of a hue very similar to that of the sand over which it runs, the other in an olive-green costume, assimilating in tint to the grassy herbage of the moorlands, the swamps, and the hillsides it frequents.

The Tawny Pipit, which is more commonly known by the name of *Anthus rufescens* than by that of *A. campestris*, first assigned to it, is strictly a summer visitant to most parts of the European continent, particularly France, Germany, Italy, and Spain. It proceeds as far north as Southern Sweden, is much more numerous in North Africa, and is equally abundant in Palestine, Persia, Scinde, and the peninsula of India, where Mr. Jerdon states it is found in all suitable places, and adds, "I have noticed that it is most abundant in the Deccan, at Mhow in Central India, and on the Eastern Ghauts; it is rare in the Carnatic. Blyth has it from Midnapore and the north-western provinces. It frequents barren, open, stony land, and is never found in rich pastures or meadows."

Bailly states that in Savoy it is a bird of passage, and is never very common; "it arrives in April and returns again during the first fortnight of October. In spring it generally appears singly, in couples, or in threes, and in autumn in small flocks of from three to five. A few remain and breed among small stony hillocks thinly clothed with shrubs and heath, the nest being constructed early in May, at the foot of a small shrub, a tuft of grass, or other plants; it is composed of small pieces of moss, dried grasses, and roots, lined with wool, horsehair, and vegetable fibres; the eggs are five or six in number, white, or bluish white, sprinkled with small spots, streaks, and dashes of brown, violet, and brownish red. During the period of incubation the male diligently feeds the female, and continues to solace her with his song, consisting of one or two notes repeated fifteen or twenty times in succession while obliquely ascending to a moderate height and dropping again almost vertically to the ground; these notes are less frequently heard after the young are hatched, and by the middle of July cease entirely. About the end of August or the beginning of September the Tawny Pipit resorts to the plains and the ploughed lands, retiring during the middle or hotter part of the day to the shelter of the hills. Its food consists of maggots, small worms, millepedes, small spiders, and grasshoppers, flies and other insects caught while flying, and small snails seized from the stalks of grasses. It evinces but little fear of man, and on being disturbed merely runs with great swiftness to a short distance, and then stops as if to ascertain the cause of its fear. When a small number travel in company, they frequently call to each other; by imitating this call our bird-catchers easily entice them into their traps."

M. Dubois, in his work on the Birds of Belgium, informs us that the Tawny Pipit evinces a "preference for extensive dry plains, where but few trees or plants occur, and shuns high grass and bushes. It is almost always on the ground, sometimes perched upon a hillock or stone, or a bush, but is rarely found on trees. Is very lively, but shy or coy in its movements. The singular song of the male is composed of a series of short, uniform, and melancholy notes which it utters while flying. The nest is placed in slight hollows of the ground, sheltered by a bush. The young quit the nest before they can fly; for they can always run sufficiently well to hide themselves in the grass, corn, or brushwood."

Degland states that it sometimes constructs its nest in the crevices of rocks, that it runs both quickly and gracefully, that it rarely perches on trees, and that its cry is very like that of the Short-toed Lark.

The Rev. Mr. Tristram informed Dr. Bree that the egg of this bird is very variable, though not so much so as that of *Anthus arboreus*. Some of his specimens approach those of the Pied Wagtail; in others the russet spots are as large, thick, and bright as in *Sylvia galactodes*, which egg this variety greatly resembles.

During the breeding-season the feathers of the upper surface of the male are light brown in the centre, so largely margined with greyish buff that the darker tint is but little perceptible, and the whole presents a mealy appearance; wings dark brown, all the feathers except the primaries broadly margined with bright buff, with a reddish tinge on those bordering the coverts and secondaries; primaries brown, narrowly edged with greyish buff; two centre tail-feathers dark brown, bordered with greyish buff; two outer tail-feathers buffy white, with a broad stripe of dark brown down the margin of the inner web, and a narrow interrupted line of the same hue on the outer web towards the tip; the remaining tail-feathers dark brown; over the eye a streak of buffy white; ear-coverts dark brown; a small moustache-like streak of brown on each side beneath the eye; all the under surface very pale buff, washed with a deeper tint across the breast and down the flanks; a few faint streaks of brown on the sides of the neck and breast; irides brown; upper mandible blackish brown, lower mandible yellowish; tarsi and feet flesh-colour.

The figures are of the natural size. The beetle is the *Cicindela campestris*.



ANTHUS OBSCURUS.

ANTHUS OBSCURUS.

Rock Pipit.

Alauda obscura, Lath. Ind. Orn., vol. ii. p. 494.

Spipola obscura, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 22.

Alauda petrosa, Mont. in Trans. Linn. Soc., vol. iv. p. 41.

Anthus obscurus, Keys. et Blas. Wirbelth. Eur., p. 48.

——— *petrosus*, Flem. Hist. Brit. Anim., p. 74.

——— *rupestris*, Nilss. Orn. Suec., tom. i. p. 245, tab. 9?

——— *immutabilis*, Degl.?

THE visitor to the sea-side of almost any portion of our coast cannot tread the beach for an hour without springing the Rock Pipit, a bird which will be easily recognized by its jerking shuffling flight, and by the short cry of "*pepe, pepe*," which it utters while in the air. If watched, it will be seen to settle again at no great distance from the spot whence it started, and the observer will not fail to notice that its long legs and toes enable it to run nimbly over the surface of the round slippery stones, patches of soft mud, and masses of hard rock fallen from the neighbouring cliff, all of which are conspicuous features in the true home of the Rock Pipit. In such situations it resides from year's end to year's end, despite of frost, sleet, rain, or the wind-blown salt spray of the ocean.

In my account of the Tawny Pipit, I remarked upon the similarity in the colour of its plumage to that of the sandy situations it frequents, namely, open sterile districts, and such hot and parched situations as occur in many parts of France, Spain, and Italy; and a similar correspondence in hue is also observable in the sombre olive-coloured plumage of the present bird, and the kelp and oozy mud-flats upon which it lives.

So widely is this bird distributed over our shores that it may be found in all suitable situations from Cornwall to the Orkneys, from the most eastern part of England to Wales and the extreme west of Ireland. An exception, however, to this general distribution occurs with regard to the county of Norfolk; for Mr. Stevenson states that, although he has sought for the bird in every likely locality and at the proper season, he has never met with it there, and had seen but three specimens in the hands of the Norwich bird-stuffers. "In the month of February, 1855, a single bird was shown to me (killed near Yarmouth during very severe weather) which corresponded with specimens procured by myself in Devonshire and Sussex; and two others in my own collection were secured at one shot on the river's bank, near St. Martin's Gates, quite close to the city, on the 7th of March, 1864. These were, no doubt, passing over in their migratory course, and had paused for a while to rest and feed even in a locality so unusual for a bird whose haunts are the 'rock-girt shore' and the margin of brackish water: Messrs. Gurney and Fisher speak of the Rock Pipit as migratory to our coast in autumn; and Messrs. Paget remarked that 'a few are occasionally seen at Breydon Wall.' Mr. Dix informs me that on the brackish margin of the Orwell, near Ipswich, they are not uncommon in autumn; he has killed examples there, and one would naturally expect to find them as plentiful in similar situations in our own county." (Birds of Norfolk, vol. i. p. 169.) Its nest is made in the chink of a rock, under a stone, or beside a tuft of grass, and the young remain in the neighbourhood, affect no change of locality, and do not, like the Swallow, migrate to other countries.

The Rev. Mr. Tristram once brought me some Irish skins of a Rock Pipit which he thought different from those ordinarily found on our shores; the difference they presented, however, if I recollect rightly, was but slight, being confined to a greater amount of white on the outer tail-feathers, a feature very marked in the *Anthus ludovicianus* of America; it is possible that they may have been examples of that or some other fawn-breasted species in the spotted plumage.

Besides the shores of the British Islands, this bird is found on those of the Mediterranean in the south, and on those of the Baltic in the north; Mr. Newton informs me that it even occurs round the North Cape; and Mr. R. E. Dresser tells me that Pastor Sommerfelt, in his 'Notes on the birds of Varanger Fjord,' remarks that *A. obscurus* is not uncommon there. It arrives in the beginning of April, and is the last songster that leaves about the middle of November. It nests on the fjords, but not so commonly as on the sea-coast. Mr. Dresser found it breeding at Uleaborg, in Finland; but it is rare there. "Its food," says Macgillivray, "consists of insects, larvæ, small molluscous animals, and seeds of various kinds, in searching for which it mixes with the Meadow Pipits, and sometimes with Snowflakes and Sky Larks. In summer, when masses of sea-weed happen to be cast on the shore and become putrid, they find among them an abundant supply of larvæ; and at all seasons they frequent the ebb, in order to pick up shell-fish and other marine animals, often mingling with Turnstones, Redshanks, and Purres. The flight of this

species is wavering and desultory, and its cry is a repeated shrill 'cheep.' When disturbed while feeding, it flutters about, frequently repeating its note, settles on a rock or stone, or on the grass, keeps vibrating its body, and waits until the intruder departs. But although shy, it is only after a fashion, for it seems to consider itself safe at no great distance; and, indeed, it may generally do so with impunity, for it is very seldom molested, neither its colours nor the quality of its flesh being sufficiently attractive to the sportsman to induce him to hold it in request. It is scarcely gregarious at any season, but in winter may be said to be at least not unsocial.

"About the middle of spring it pairs, and towards the end of April or the beginning of May forms a nest similar to that of the Meadow Pipit, being rather bulky, and composed of stems and blades of grass, with a lining of finer materials of the same kind and some hair. It is placed in a grassy bank, or among moss in some rocky place, generally overhanging the sea or not far inland. Sea-weeds and moss sometimes, but not generally, form part of the nest.

"The song is composed of a shrill whistle, not very agreeable, and is performed while the bird is hovering in the air. It is of the same general character as that of the Meadow Pipit, but is louder, not so protracted, and less pleasing. When its nest is approached, it hovers round, incessantly uttering its shrill querulous notes, and betraying its anxiety by its restlessness. I have never met with it at the distance of half a mile from the sea-shore; it appears, therefore, to be strictly maritime."

A nest taken at Alum Bay in the Isle of Wight, in May 1855, was thick and substantial, composed entirely of interwoven stems of dry grasses, and very tastefully decorated on the outside with many delicate sea-weeds. The four eggs contained therein were of a greenish stone-colour, almost entirely hidden, especially at the larger end, with confluent blotches of ashy brown.

Through the kindness of many friends, particularly Mr. Gatcombe, of Plymouth, Mr. Bond, Mr. Murray A. Mathews, and Mr. Harting, I have been enabled to compare skins of the Rock Pipit from nearly every part of England, Scotland, and the Hebrides, and I find them very consistent in their colouring. While the nestlings are perfecting their first primaries their colour closely assimilates to that of the adults after their autumnal moult, when the plumage is suffused with deep olive on the upper, and dull yellow on the under surface; the feathers are much lengthened, and the entire coating of the bird thick, smooth, and silky to the touch. As spring approaches, the tips of the olive-coloured feathers being worn off, the bird becomes of a browner hue, but still retains the spots on the breast and upper surface; the bill becomes olive-black; the legs and feet nearly black in lieu of the paler tint of the colours which pervaded those parts in winter.

The adults of both sexes have all the upper surface olive, with a darker centre to each feather; wing-coverts tipped with pale greyish olive; under surface pale yellowish buff, thickly streaked on the sides of the throat, breast, and flanks with brown; tail dark brown with an oblique mark of whitish brown across the apical portion of the outer feather on each side.

The figures are of the natural size.



ANTHUS SPINOLETTA .

Walter, Imp.

ANTHUS SPINOLETTA.

Vinous Pipit.

Alauda spinoletta, Linn. Syst. Nat., tom. i. p. 288.

Anthus spinoletta, Bonap. Syn. Birds of Am., p. 90.

——— *aquaticus*, Bechst. Naturg. Deutschl., tom. iii. p. 745.

——— *montanus*, Koch, Baier. Zool., tom. i. p. 172 ?

THE Pipits with vinous-coloured breasts which have for some years past been killed in England, have been a sad puzzle to our ornithologists—some being of opinion that they are a variety of *Anthus obscurus*, and others that they pertain to a distinct species; more than one regard them as identical with the *Anthus ludovicianus* of America, while others believe them to be examples of the *A. spinoletta* of Linnæus (*A. aquaticus* of Temminck). In this latter opinion I coincide; hence it becomes necessary that I should give a figure of the bird, and all the information I can respecting it. On the 25th of January 1860, Mr. Murray A. Matthews, of Merton College, Oxford, wrote to me as follows:—"Are there two species of Rock-Pipit in this country, of which one has hitherto remained unnoticed? or is the continental Rock-Pipit (*A. aquaticus*, Temm.) merely a permanent variety of the ordinarily olive-coloured Pipit (*A. obscurus*) met with with us? I possess a Rock-Pipit shot at Torquay, which appears to me to be slightly larger than the bird commonly seen, and of a rich vinous tint on the breast. I thought at first this might be a very old bird, in an advanced state of plumage, and was careful therefore to shoot, last spring, during the breeding-season (when the birds would certainly be in their finest state), a number of specimens for comparison; but none of those I then shot bore any resemblance in the tint of their plumage to my Torquay specimen. The ordinary Rock-Pipit, so abundant on our coasts, is known at once by its sombre olive-green colouring, and by the well-defined gorget of spots on its throat. In the Torquay specimen there is hardly any trace of this gorget-marking."

In December 1864, the Messrs. Pratt, of Brighton, sent for my inspection two vinous-breasted birds, one of which, killed near Worthing, is represented in the front figure of my Plate. Some time after this, Mr. Edward T. Booth wrote to Mr. Bond:—"Mr. Swaysland has seen ten of these birds this season; of that number he obtained eight one morning, and two more in three or four mornings afterwards, between the 14th and 20th of March 1867, at a small salt-pool just inside the sea-beach at Portslade, near Brighton. Some of them were seen crossing the sea, and pitching on the grass near the pool. They were by no means shy, but would not permit a nearer approach than about thirty or forty yards. A great number of other Pipits were crossing at the same time, all of which appeared to be the Meadow-Pipit." Two of these specimens having been sent to Mr. Bond, that gentleman allowed me to inspect them, and I found they were precisely similar to the *Anthus spinoletta* of the Continent: one had the breast strongly suffused with vinous; in the other this tint was not so extensive, the flanks being spotted with brown, from which we may infer that it was a younger bird, or one beginning to assume its summer plumage; for it is believed that the vinous tint is a characteristic of the *A. spinoletta* at that season; and it seems to me that these birds must be distinct from *A. obscurus*, because we do know that the examples of the latter species so generally distributed over this country retain the spotted plumage throughout the year. I suspect that most of the Pipits of the northern hemisphere differ in the same manner as the Wagtails, and that, if we admit *Motacilla Yarrelli* to be distinct from *M. alba*, and *Budytes Rayi* from *B. flava*, we must also regard the present bird, *A. spinoletta*, as distinct from *A. obscurus*.

According to Bailly, the *A. spinoletta* passes much of its time and breeds on the mountains—a habit so different from that of *A. obscurus* that his account, extracted from his 'Ornithologie de la Savoie,' tends greatly to prove that it is a distinct species.

"This bird is common, at all seasons of the year, both in Switzerland and in Savoy. During winter it frequents the wet meadows, the marshes, and the unfrozen springs of the lower portions of both those countries, and about the end of March or beginning of April ascends the mountains and resorts to the most sterile plateaux, fields, heaths, and stony places in the neighbourhood of water, often above the forest-region. It generally proceeds in small companies, and ascends a short distance every day as the snows disappear from its favourite breeding-places. It pairs at the beginning of May; and the united couples immediately begin the construction of their nests. These are to be found on all parts of the mountains, even near to the line of perpetual congelation—sometimes in declivities, at others on the plateaux, but nearly always in the most arid and desert places. They are placed on the ground, under stones, sometimes in clefts in the rock, but oftener in the grass, beneath the bilberry, *Rhododendron ferrugineum*, whortleberry, or some creep-

ing bush. Very fine straw, hay, the finer tendrils of the roots of plants and shrubs, and bits of moss compose the exterior; hair, small tufts of sheep's wool, and filaments of dried grass the interior. The eggs, which are four or five in number, are sometimes greyish white, at others pale greenish white, covered with small irregular spots of deep brown and greenish olive, placed so thickly at the larger end that the ground-colour is scarcely perceptible.

“Sometimes a second but less numerous brood is produced. The young scatter themselves over the meadows, the borders of pools, springs, and miry places, where they feed upon worms, maggots, flies, and snails. At times, and especially in the morning, the birds assemble on some spot exposed to the first rays of the sun, and there form a numerous company, which, as the beams become more ardent, gradually disperse into damp or shady places. On the approach of an intruder they all rise one after another, uttering warning cries of *fit, fi, fit, fi*. At the end of September or a little later, according to the season, they descend from the mountains singly, in pairs, or in small flocks, to the damp fields covered with verdure, artificial meadows, winding streams, and the borders of ponds and marshes. They are nearly always on the ground, often in company with Meadow-Pipits, running like them over the mud and the leaves of aquatic plants, in search for insects, small worms, prawns, and little shell-fish upon which they subsist. As soon as the cold becomes intense, they betake themselves to the bogs and the borders of springs and other waters that are not frozen, and pass the nights in the holes of trees, especially willows. When all other food fails from the severity of the weather, they have recourse to the smallest seeds or berries of the plants which grow near water, and swallow them whole. Should the winter continue unusually rigorous, they leave the country entirely, and return again when the snows have melted. This bird is somewhat more wild than its congeners, does not allow of a near approach, but is easily captured with nets, if one or two of its kind be employed as decoys.”

flanks olive.

Head and back of the neck grey; upper surface olive, with a dark-brown centre to each feather; wings dark brown, the coverts broadly tipped with buffy grey, forming two bands; axillaries greyish white; primaries very narrowly edged with pale olive; tail dark brown, the outermost feathers with an oblique mark of white along the apical portion of the outer web and the tip of the inner one; the next on each side with a small patch of white at the tip; superciliary stripe greyish white, lores and ear-coverts grey; under surface vinous, passing into buff on the centre of the abdomen, which again fades into the white of the under tail-coverts;

In another state the upper surface is similar, but the under surface differs in having the throat vinous, and a series of brown streaks down each side of it, while the abdomen is greenish yellow, streaked with brown on the upper part of the flanks, and the white mark on the tail feathers is much less conspicuous.

The figures are of the size of life.



ANTHUS CERVINUS.

ANTHUS CERVINUS.

Red-throated Pipit.

Motacilla cervina, Pall. Zoog. Rosso-Asiat., tom. i. p. 511.

Alauda Cæciliæ, Aud. Hist. de l'Égypte, Ois. tab. v. fig. 6.

Anthus rufogularis, Brehm, Lehrb., vol. ii. p. 963.

—— *Cæciliæ*, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 324.

—— *cervinus*, Keys. et Blas. Wirb. Eur., p. 172.

—— *pratensis rufogularis*, Schleg. Rev. Crit. des Ois. d'Eur., p. xxxvi.

I FIGURE this very distinct species of Pipit in the 'Birds of Great Britain' on the authority of one of our most experienced and enthusiastic ornithologists, Mr. Harting—who states in his recently published 'Handbook of British Birds' that an example had been killed at Unst, in Shetland, on May 4, 1854 (and recorded by him in the 'Field' for August 26, 1871), and mentions that another was taken in September of the same year near Freshwater, in the Isle of Wight. These occurrences need not occasion surprise, since it is highly probable that a bird which is frequently found breeding in many parts of Scandinavia should at one season or another casually visit Britain. To many of our ornithologists it is unknown except by name; and hence frequent mistakes as to its synonymy have been made. By some writers, both at home and abroad, it has been regarded as a variety of our ordinary Pipit (*Anthus pratensis*); from that bird, however, it differs in many particulars, the most conspicuous of which are its deep vinaceous colouring and the much more decided spotting of its back, characters distinguishing it from every other species of the genus.

As I have no additional information to communicate respecting this Pipit beyond that given in my 'Birds of Asia' from the writings of Professor Newton, Dr. Bree, and others, I am necessitated to repeat here much of what I have there recorded.

With regard to the synonymy, Professor Newton, in a letter to me, says, "The right name to be used for this species is a point on which I cannot exactly satisfy myself. Brehm's *rufogularis* appeared in his 'Lehrbuch' (vol. ii. p. 963) in 1824, while Pallas's *cervina* was only published in 1831 (Zoogr. Rosso-Asiat., vol. i. p. 511), though it had been in type since 1811. But I suspect the *Anthus Cæciliæ* of Audouin to be the same species; and if so, I imagine that name will have unquestionable priority. I have not, however, been able to refer to the letterpress of the 'Description de l'Égypte' to see if the bird is therein properly described."

Professor Newton, however, in his interesting account of the discovery of the breeding bird, published in Dr. Bree's 'History of the Birds of Europe not found in the British Isles' (vol. ii. p. 155), uses Pallas's name of *cervina*; and so also do Bonaparte, Dr. Blasius, Dr. Bree, Mr. G. R. Gray, and Dr. Cabanis; while Dr. Schlegel and others either regard the bird as identical with *A. pratensis*, as a variety of that species, or adopt Pastor Brehm's name of *rufogularis*.

I cannot agree with Dr. Bree that it "belongs to the Rock-Pipit branch of the family, its claws being much curved," and that "there has been much confusion about the bird in consequence of this fact being overlooked;" in fact it is as slender in form, and as delicate in the structure of its legs and hind toe as our own Titlark, and, moreover, has the hinder claw of the same lengthened and slender form as in that bird.

With regard to the parts of the Old World inhabited by this species, the testimony of those who have observed it in a state of nature gives Eastern Europe in winter, and Lapland, Finmark, Northern Russia, and Siberia as the countries frequented by it in summer, in all of which it probably breeds. That it also frequents the Crimea at the same season is certain, since I have seen specimens which were obtained there at that period of the year.

Dr. Bree, after remarking that the bird is found plentifully in Egypt, Nubia, Greece, Turkey, and Barbary during the winter, says, "I have been favoured with the following interesting account of its discovery in East Finmark by Alfred Newton, Esq.:"—"On the 22nd of June, 1855, a few days after our arrival at Wadso, Mr. W. H. Simpson and I, in the course of a bird's-nesting walk to the north-east of the town, to the distance perhaps of a couple of English miles, came upon a bog, the appearance of which held out greater promise to our ornithological appetites than we had hitherto met with in Norway. We had crossed the meadows near the houses, where Temminck's Stint and the Shore-Lark were trilling out their glad notes, and were traversing a low ridge of barren moor, when the solicitude of a pair of Golden Plovers plainly told us that their eggs or young were near us. . . . A little while after, as I was cautiously picking my way over the treacherous ground, I saw a pipit dart out from beneath my feet, and alight again close by, in a manner that I was sure could only be that of a sitting hen. I had but to step off the grass-grown hillock on which I was standing, to see the

nest ensconced in a little nook, half covered by herbage. But the appearance of the eggs took me by surprise; for they were unlike any I knew—of a brown colour, indeed, but of a brown so warm that I could only liken it to that of old mahogany-wood, and compare them, in my mind, with those of the Lapland Bunting. However, there was the bird, running about so close to me that, with my glass, I could see her almost as well as if she had been in my hand. I replaced the eggs without disturbing the nest, and, carefully marking the spot, we retired. In half an hour or so we returned, going softly to the place; and Mr. Simpson, reaching his arm over the protecting hassock of grass, dexterously secured the bird in his hand as she was taking flight. I then at once knew, from her pale fawn-coloured throat, that the nest we had found belonged to a species which, up to that time, I believe had been known in Europe only as an accidental visitant.

“In a week’s time we were quartered at Nyborg, a small settlement at the head of the Waranger Fjord. Here willows and birches grew with far greater luxuriance, even at the water’s edge, than lower down the inlet. Some even attained to nearly twice the height of a man, and formed thickets which, the intervening spaces being exceedingly boggy, were not easily explored. In this secluded spot we found our red-throated friend not un plentiful. We could scarcely go out of the house without seeing one; and in the immediate neighbourhood we procured some more identified nests, making a total of five, and a fine series of nine birds, all of course in their breeding-plumage. We had also abundant opportunities of watching their habits, and, above all, of contrasting them with those of the Titlark (*A. pratensis*), which was not uncommon in the district, and to which this species has been so unjustly annexed as a variety. The two birds had, according to our observation, an entirely different range, *A. pratensis* haunting a station less wooded (saving the expression) than that of *A. cervinus*, which latter we found at times feeding on the sea-shore, a habit we did not notice the former to indulge in. No one with ears, either, could for a moment be in doubt about their respective notes. It is true that the full song of *A. cervinus* did not differ so strikingly from the more feeble performance of *A. pratensis* as does, for instance, the joyous burst of *A. arboreus*; but it had an unmistakable resemblance to the louder and perhaps harsher strains of *A. obscurus*, and in all cases was sufficiently characteristic for one to be quite certain as to the nature of the performer, even when the individual was not in sight. In a word, none of our party had any hesitation as to regarding *A. cervinus* as a *perfectly good species*.

“A young bird was obtained at Mortensnæs, between Wadso and Nyborg, on the 16th of July; and as it was attended by its parents (both of which were *well seen* by Mr. Wolley and myself), it could only have just left the nest; it appeared to differ from the young of the Titlark merely in being of a ruddier complexion. . . . I have already mentioned what the eggs looked like; and it would be difficult, in words, to convey a better idea of them. All the nests I saw were simply built of dry bents, without any lining of feathers or hair.”

Middendorff, who considers *A. rufogularis* and *A. cervinus* to be identical, says of the latter, “This bird was found in both North and South Siberia. I shot a female in the Stanowoj mountains, on the 26th of May, consequently not on the passage. The rust-yellow of the Siberian specimen has a somewhat violet tint, very similar to the colour on the breast of the Turtle Dove; it covers the cheeks near the eyes, the breast, flanks, neck, and upper part of the breast. It is only found in this plumage from May to July.”

The Rev. H. B. Tristram obtained a single specimen only on the coast of the plain of Sharon in winter—that is, in the month of February.

Mr. Swinhoe states that it is “a winter bird in South China and Formosa, which passes the summer in Kamtschatka and the northern regions. Flocks pass over Amoy as late as the first week in May. Before leaving China the bird undergoes an entire moult, when the eyebrows, throat, and breast show a pale vinaceous mixed with more or less ochreous, but unspotted. As the nuptial season comes on, the silvery tinge intensifies into a uniform dusky vinaceous, which encroaches further on the lower parts. I have a fine series, showing every gradation between the pale-spotted winter and the fine nuptial dress.”

The male has the head, neck, back, rump, and upper tail-coverts olive, with a broad stripe of dark brown down the centre of each feather, even on those of the rump; wing-coverts dark brown, tipped with creamy white; primaries brown, with paler edges; tertiaries very dark brown, bordered with light greyish brown; tail brown, the two centre feathers edged with tawny, and the other part white, with a streak of brown down the margin of the inner web; the next with a triangular spot of white at the tip; throat, cheeks, and breast rufous, with a gorget formed by longitudinal streaks of brown across the latter; abdomen and under tail-coverts pale fawn-colour, streaked on the flanks with dark brown.

In the female the rufous colouring is confined to the throat and cheeks, and the breast is more thickly streaked with dark brown; in other respects the plumage resembles that of the male.

The figures, which are of the natural size, represent two states of plumage. The plant is the *Pinguicula vulgaris*.



ANTHUS PRATENSIS.

J. Gould and F. W. Wood, del. et lith.

Walter & Cohen, Imp.

ANTHUS PRATENSIS.

Meadow-Pipit, or Titlark.

Alauda pratensis, Linn. Syst. Nat., tom. i. p. 287.

—— *campestris*, Lath. Ind. Orn., vol. ii. p. 495.

Anthus pratensis, Bechst. Naturg. Deutsch., tom. iii. p. 732, tab. 36. fig. 2.

Alauda sepiaria, Brehm.

Anthus sepiarius, Vieill.

Leimoniptera pratensis, Kaup.

THE Titlark is distinguished by four very opposite features—the plainness of its plumage, its general dispersion, the tameness of its disposition, and by the circumstance of its being preeminently the foster-parent of the Cuckoo. As to its distribution, it is so general that it may be said to be everywhere, but more particularly in those parts which have a tendency to humidity—the salt flats of the sea-shore, the watery meadows of our inland valleys and undrained lands, the highland glens, and the crowns of mountains, from the Peak of Derbyshire to the Grampians. The maid who gathers a handful of cowslips in our sunny meads, and the tourist who breasts the wind, sleet, and rain on the top of Snowdon, equally flush this little bird from under their feet, and whenever this occurs it merely flits off to the distance of a few yards, utters its short *peep-peep*, and pitches again into the grass. When my thoughts are directed to the Cuckoo and its mysterious ways, I feel that I know little more respecting it than that it is a parasite, and depends upon other birds for the rearing of its progeny. But how strange is it that it should select so frail a creature as the Meadow-Pipit in preference to most other birds for this purpose. What a task it must be for this little insect-eater to supply the demands and rear the young of so large a bird as the Cuckoo, which is twenty times its own weight, and with a mouth sufficiently large to engulf the head and body of the bird which brings it food! yet so it is.

In point of structure this delicately formed species is allied to the Yellow Wagtails (genus *Budytes*). Like them, it runs nimbly over the grass and among the clods of earth; like them, also, it makes a similar movement with the tail; on the other hand, in the colouring and the character of its plumage, it offers an alliance to the true Larks. In its mode of nesting and in the colouring of its eggs it may be said to be intermediate between the two.

To say that the Titlark has no song would be untrue, at the same time it is only an apology when compared with that of the Skylark. Its mode of rising and singing in the air in the exuberance of its feelings during the pairing and breeding-season is also a very feeble representation of the actions of that bird. “The song of the male,” says Macgillivray, “is composed of a series of sharp modulated notes, which it utters on wing, first ascending silently, or emitting its usual cheep, to the height of about twenty yards, and then descending with expanded wings and tail. Sometimes also it sings when perched on a stone or crag. Its song may be heard from the middle of April to the end of July.”

The Titlark is a constant resident with us; and although I have spoken of its frequenting the summits of our highest mountains, it is only in open weather that it is found in such situations; for, unlike the Ptarmigan, which burrows in the snow when those elevated regions are covered with the white fleece, the Titlark must then descend to the running springs and rills of the mountain-side, or change its residence to the low lands, or even to the sea-shore; and if the weather be unusually severe, to a more distant part, where, the temperature being higher, it can still find food. It soon returns, however, to the drear heathery land; for there, in the company of the Grouse and the Plover, it is more at home.

The sexes are so much alike that it is impossible to say offhand which is a male and which is a female of any two birds that may have been shot. Fresh-moulted specimens are brighter, and have a yellower tinge of green than those whose feathers have been carried for a long time; still there is little difference observable among specimens procured at any season. The long, straight, and finely-formed hind claw indicates that the ground is the Titlark's natural province; and accordingly it is seldom seen to perch, except on the top of a stone or the wall of a dyke.

The distribution of the Titlark over other countries is considerable. It is a common bird in Iceland, and is stated to have occurred in Greenland. Its range extends to the extreme limit of northern Europe; and Mr. Wolley states that it is as common in some parts of Lapland as in England. In all countries lying southward, as far as Algeria, it is as frequently to be met with as in the British Islands. It also doubtless occurs in Eastern Asia; but I question whether it is ever found in India, and I fear I must have misled Mr. Yarrell when I stated that I had seen specimens from thence. Temminck includes it

in his 'Catalogue of the Birds of Japan;' but the Japanese bird is now recognized as distinct, and called *A. japonicus*.

Macgillivray states that "during the breeding-season the male is easily alarmed, and flutters over an intruder, emitting its shrill notes; but while incubating, the female will allow a person to walk close to her without rising; and when she does fly off, it is with a cowering fluttering motion, with the tail expanded, as if she were under the influence of disease or extreme terror." The following interesting account of another of the artifices employed by this bird for the protection of its eggs, has been kindly transmitted to me by Edward Romilly, Esq., of Porth Kerry, Glamorganshire:—

"The following circumstance, which I observed in the spring of 1858, would tend to show that birds are endowed with something more than instinct. A Meadow-Pipit had built her nest on a sloping bank of grass, a few yards from a path which was at the bottom. On my passing near the nest, the mother left it, and, after the fashion of her race, ran limping along the ground, as if wounded, and looking at me with an anxious and imploring expression, to attract apparently my attention to her and save her nest, which had five little brown eggs in it. The next morning the same scene was repeated; but on the third, as I passed by to look at my feathered friend, I found to my surprise two withered oak leaves placed upright on the edge of the nest, which more effectually concealed it from the path, and the mother quietly sitting behind her simple but ingeniously constructed fan in apparent security. Whether she trusted to her new defence, or had learnt to know me better, I cannot say; but we looked at each other for some seconds with mutual confidence, and I left her to her maternal cares."

To this I may append the following instance related by the late William Thompson, Esq. "Mr. J. R. Garrett has frequently found the nest of the Meadow Pipit on the banks of watercourses and drains, as well as on the level ground in fields. One which was known to him at the side of a drain, was discovered by some bird-nesting boys, who pulled the grass away that concealed it. On visiting the nest the next day, he observed a quantity of withered grass laid regularly across; having removed the grass, which, from its contrast in colour with the surrounding herbage, was supposed to have been placed there as a mark by the boys, the bird flew off. The grass was found similarly placed on the following day; and he perceived a small aperture beneath it, by which the bird took its departure, thus indicating that the screen which harmonized so ill with the surrounding verdure, had been brought there by the bird itself."

The nest is usually placed in a slight depression of the ground, often beside a tuft of grass, the better to escape notice, and is composed of various grasses, with a finer lining of the same material and a few hairs. A nest brought to me by Mr. Smither, of Churt, was externally formed of reindeer- and other mosses with an interior lining of fine grasses. The eggs are from four to six in number, 9 lines long by 7 lines broad, and of a reddish brown mottled all over with darker brown.

The birdcatchers of the neighbourhood of London affirm that this species performs a partial migration in spring and autumn, passing Primrose Hill (where some of my specimens were taken) in April, and repassing it again on the approach of winter. Independently of the difference in the hind claws of this bird and of the Tree-Lark, the two species are readily distinguished by them from the variation in the colouring of the legs, those of the former being orange-brown, while those of the latter are fleshy white.

The food of the Titlark consists of insects, worms, small shelled Mollusks, and a few seeds.

The flight is usually of a wavering character, and is performed in a series of short unequal jerks; but when proceeding to a distance, it is executed with speed and in an undulating manner.

Feathers of the head, neck, back, wings and upper tail-coverts dark brown, margined with olive-brown; wing-coverts broadly margined with pale brown; primaries, secondaries, and tertiaries brownish black, margined with light brown; outer tail-feathers on each side white, with a patch of brown on the inner web, the next on each side brown, with a small patch of white on the tip of the inner web, the remaining feathers blackish brown; chin, throat, and sides of the neck tawny; ear-coverts brown; under surface tawny, spotted with dark brown on the breast and flanks; bill light olive-brown, the culmen and extreme tip darker; tarsi and toes orange-brown, joints rather darker, nails olive; irides dark brown, surrounded by a neat feathery yellowish-buff lash.

The Plate represents the two sexes of the size of life. The plant is the Sundew, *Drosera rotundifolia*.



ANTHUS ARBOREUS, *Bechst.*

ANTHUS ARBOREUS, *Bechst.*

Tree-Pipit.

?*Alauda trivialis*, Linn. Syst. Nat., tom. i. p. 288.

—— *minor*, Mont. Orn. Dict.

Anthus arboreus, Bechst. Naturg. Deutschl., tom. iii. p. 706.

Motacilla spipola, Pall. Zoog. Ross.-Asiat., tom. i. p. 512.

Alauda turdinæ, Scop.

Anthus trivialis, Flem. Brit. Anim., p. 75.

Pipastes arboreus, Kaup, Natürl. Syst., p. 33.

Anthus foliorum, Brehm, Vög. Deutschl., p. 326.

—— *juncorum*, Brehm, ib., p. 326.

—— *herbarum*, Brehm, ib., p. 327.

I WISH I could imbue the minds of all my readers with the same degree of love for our native birds that reigns in my own, or could set forth in clear and truthful language the many charms of this comparatively plain-plumaged little bird; but as I am unable to do this to the extent or in the manner I desire, I must content myself with penning what I may to this end, and leave the accompanying illustration to show what the bird is like. First, then, I may state that the Tree-Pipit, although abundantly dispersed over every part of England and the whole of Scotland, except in the extreme north, is only a summer visitant to these islands; for as truly as the Swallow leaves us in the autumn for warmer climes, so does the Tree-Pipit. It will not even await the chilly blasts of autumn before it wings its way across the seas to the coasts of France, Spain, and Portugal, whence it proceeds by slow degrees towards the shores of the Mediterranean, which it also crosses for the more genial latitudes of the south. Here it awaits the turning of the northern portion of our planet towards the sun, and at the proper time profits by the warmth of that luminary and returns to us in April or the beginning of May, when the leaves are expanding in our woodlands and the elms in the hedgerows, when the wheat and the rye are carpeting the fields with the maiden green of their first sheathings, when the cowslip and the buttercup bespangle the mead; for it is then that the country is fitted for this bird. How great a difference is observable in the habits and economies of the Tree- and the Meadow-Pipit, species so closely assimilating in general appearance that even the ornithologist has sometimes to look twice before he can say with certainty which is which. There are, however, characters in their plumage, particularly the strongly marked edgings of the wing-coverts of the Tree-Pipit, which serve to set the matter at rest; or if we wish for a more convincing proof, an examination of the claw of the hind toe will furnish an infallible one, that of the Meadow-Pipit being long, straight, and slender, while the Tree-Pipit's is short, curved, and comparatively thick.

The *Anthus arboreus*, as its name implies, spends much of its time on trees, but only on those which skirt open plains and border fields of corn or the grassy glades of the forest. Here the male usually sits and pours forth his pretty simple song; but when the female is incubating, he mounts in the air, and warbles over his strain on quivering wings as he descends to the branch whence he started, or to the ground—a movement which is repeated again and again, as if in the exuberance of joy. The Meadow-Pipit, which, on the other hand, is a stationary species, is one of the hardiest of our little birds; for let the frost be ever so nipping, and the cold so great as to turn the sturdiest of us away from the windy hillsides, the Meadow-Pipit is there, a stone wall or turfy dyke being its highest resting-place.

I have purposely digressed from the more immediate subject of the present paper, in order to show that two birds closely assimilating in size, colour, and structure, are very different in their habits and economy. These differences have always been noticed by ornithologists, and have induced some of them to place them in distinct genera; in the present work, however, I keep all our Pipits in the genus *Anthus*; were I not to do so every species would have a different generic name.

Bailly, in his work on the 'Ornithology of Savoy,' has given a long and somewhat graphic history of the Tree-Pipit; but as much of his account is very similar to what I have already written, it will not be desirable to repeat it here. In that country, as with us, the bird is a migrant, arriving in May and retiring southwards again in August, September, and October. A few remain to breed, both in the lowlands and in the mountains; but they do not ascend to any great height, a low temperature appearing uncongenial to them. According to Bailly the Tree-Pipit is highly prized by epicures and "wine-connoisseurs" as an article of food, on account of the delicate flavour of its flesh and its extreme fatness, which is probably due to the abundance of food it finds among the vines and figs, to which it is doubtless attracted by the insects

abounding there, rather than by the fruit, which, I believe, it never eats. Being constantly seen in such situations, it is known by the names of *Vinette*, *Becfigue*, and *Becfigue de Vignes*. In Savoy it plays a very important part as an article of diet, and it is there captured or killed in various ways, principally by a kind of clap-net; but the gun is sometimes employed, and fifteen or twenty may be shot at one discharge while resting during their autumnal migration; with us, however, it is never seen in such abundance, and I question if the cost of powder and shot required to procure a dish of Tree-Pipits would not be too great to render it remunerative, or if the bird-catcher would be compensated for his time, patience, and trouble. In the way of eating all kinds of little birds, we and our continental brethren are very different people; and I can easily imagine, from what I have heard of strings of Robins and Wrens being exposed for sale in the markets of Rome and other places, that the present bird with its rolls of fat would form for them a *bonne bouche* not to be despised.

Hitherto I have only spoken of this bird as frequenting England, Scotland, and a portion of Europe; its range, however, is far more extensive, since it has been observed all over the central portions of the continent, Madeira, North Africa, Palestine, Persia, and some parts of India: further west than this it would not be safe to assign it a locality, since the species of this form inhabiting China and Japan is, I believe, the *Pipastes agilis*. As is the case with the other members of this form, the sexes are alike in colouring, and the young at a month old differ but little from the first autumn moult of their parents.

As a songster the Tree-Pipit is in some respects unsurpassed by any British bird. Though its notes may perhaps be deficient in the softer modulations which characterize those of the Blackcap and the Redbreast, in power they exceed those of the Nightingale itself. Its joyous outburst rings through the surrounding groves in a manner almost astonishing even to those most accustomed to it, while they make a stranger suspect that he is listening to the tones of some truant Canary. The bird seems to delight in singing during the sunny intervals of showery weather. At such times it may be observed springing into the air and, while on the wing, with quaint gestures, pouring forth its loud triumphant carol, which suddenly ceases as it alights on some neighbouring tree.

Notwithstanding the curved form of its short hind claw, it runs over the ground with great agility; at the same time it is less shy and recluse than its congeners, is more tame in disposition, and displays the elegance of its form by exposing itself readily to the view of the spectator while lightly perched on some bare branch of a tree, the end of a vine-pole, or the crown of a hillock, a stone, or any conspicuous elevation.

The nest is a slight structure, placed with little artifice, in a depression on the side of a bank or among the grasses in the open field or shrubbery, frequently under the shelter of a bush or tuft of herbage. With regard to its eggs, Mr. Hewitson remarks that there are none "which present so many, or such distinct varieties as those of the Tree-Pipit. No one would at first believe them to be eggs of the same species; and it was not until I had captured the bird upon each of the varieties, and also received them from Mr. H. Doubleday similarly attested, that I felt satisfactorily convinced upon the subject. All are easily procured." The most common kind are somewhat smaller than the others, and of a deep reddish hue sprinkled with fine dots of a livelier tint; the others are of as many shades of pale lilac, purplish, or buffy red, more or less minutely spotted, and blotched with darker tints of the same hue.

"The nest of this species," adds Mr. Hewitson, "is composed chiefly of dry grass mixed with moss, lined with finer grasses, and sometimes with a few hairs. It is placed on the ground, rarely far distant from trees or brushwood, and is frequently found in woods and plantations by the side of a drive or footpath. The favourite resort of the Tree-Pipit is a grassy bank on the margin of a wood, especially if ornamented by a few single trees, on the branches of which it delights to perch. In such a situation you are sure to find its nest and eggs towards the end of May or during the month of June. The eggs are four or five in number."

Feathers of the head and all the upper surface brownish black, broadly margined with reddish grey; wing-coverts brownish black, tipped with greyish white; primaries deep brown; outer tail-feathers whitish, with a broad stripe of dark brown occupying the basal three-fourths of the margin of the inner web, the next on each side dark brown, with a deeply indented mark of whitish at the tip of the inner web, the remainder wholly dark brown; above the eye a streak of buff; ear-coverts brown; under surface fawn-colour, becoming paler on the chin and centre of the abdomen, and having a series of dark-brown streaks down the sides of the neck, across the breast, and on the flanks; bill fleshy brown, lighter on the under mandible; legs and feet fleshy white.

The Plate represents the two sexes, of the natural size, on the white poplar (*Populus alba*, Linn.).



ALAUDA ARVENSIS. Linn.

J. Gould & H. C. Richter, del. et lith.

Walter, Imp.

ALAUDA ARVENSIS, *Linn.*

Sky-Lark.

- Alauda arvensis*, Linn. Faun. Suec., p. 76.
——— *italica*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 793.
——— *vulgaris*, Leach, Syst. Cat. of Indig. Mamm. and Birds in Coll. Brit. Mus., p. 21.
——— *cœlipeta*, Pall. Zoog. Rosso-Asiat., tom. i. p. 524.
——— *segetum*, Brehm, Vög. Deutschl., p. 318.
——— *montana*, Brehm, Vög. Deutschl., p. 319, tab. 20. fig. 1.
——— *agrestis*, Brehm, Vög. Deutschl., p. 320.
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It cannot be expected that anything I may attempt to say respecting the history of a bird so well known as the Sky-Lark will be imbued with novelty. From the days of Chaucer and Spenser nearly every poet of eminence has alluded to its charming song, and every writer, although unimbued with poetic feeling, has very correctly described its habits, disposition, and economy. Some authors have dwelt upon its value as a bird for the cage and the aviary, and its consequent importance as an article of commerce; while others have dilated upon its qualities as a viand for the table, and displayed their talents in detailing how a dozen larks may be made into one of the most *recherché* of dishes. For me to rhapsodize on the aerial song and other pleasing traits of the Sky-Lark would be absurd, since poems and verses on this head are almost innumerable, many of them written with much feeling, and exquisite beauty of expression.

“The busy larke, messenger of daye,
Saluteth, in her song, the mornine gay;
And fyry Phœbus ryseth up so bright,
That all the orient laugheth of the light.”—CHAUCER’S *Knight’s Tale*.

“Wake now, my love, awake! for it is time!
* * * * *
The merry larke her matins sings aloft,
The thrush replies, the mavis descant playes.”—SPENCER’S *Epithalamion*.

“Lo! here the gentle lark, weary of rest,
From his moist cabinet mounts up on high,
And watches the morning, from whose silver breast
The sun ariseth in his majesty.”—SHAKESPEARE.

“Now laverocks wake the merry morn,
Aloft on dewy wing.”—BURNS.

The Sky-Lark is universally dispersed over the British Islands, but is less numerous in the Western Isles, the Orcades, and the extreme north of Scotland, than elsewhere, especially during the months of winter. In autumn our climate, generally more humid and milder than that of the continent, attracts great numbers of Larks to our shores; and hence enormous flocks may, at this period, be seen congregated together in many parts of the country, but more especially in the central districts. Winter being over, these foreign Larks again cross the channel, and return to the summer home where they were bred and reared; while our stay-at-home birds take up their quarters in arable lands, wild heaths, and moorlands; and, before the regular migrants have arrived, they have paired, and the exuberant song of the male is attuned in joyous strains, which daily increase in volubility until the female has commenced the task of incubation; and then it is that the male, daily mounting higher and higher in the air, becomes lost in ecstasy, and during his ascents pours forth his song to the delight of his mate as well as of the lover of nature. After the female has performed her natural duty, no such solace is requisite; for both parents are now happy in assiduously attending their young until they are able to live by themselves. If summer be not in its wane, a second nesting takes place, and a similar result follows. The male forsakes the ground, ascends again in the air, and cheers the female during her second brooding.

“When the weather is fine,” says the Rev. C. A. Johns, “its song may be heard throughout the breadth of the land. Rising, as it were, by a sudden impulse from its nest or lowly retreat, the bird bursts forth, while yet but a few feet from the ground, into exuberant song, and with its head turned towards the breeze; now ascending perpendicularly, and now veering to the right or left, but not describing circles, it pours forth an unbroken strain of melody until it has reached an elevation computed to be, at the most, about a thousand feet. To an observer on earth it has dwindled to the size of a mere speck, but, as far as my experience goes, it never rises so high as to defy the search of a keen eye. Having reached its highest elevation, its

ambition is satisfied without making any permanent stay, and it begins to descend, not with a uniform downward motion, but by a series of droppings with intervals of simple hovering, during which, it seems to be resting on its wings. Finally, as it draws near the earth, it ceases its song and descends more rapidly; but before it touches the ground it recovers itself, sweeps away with almost horizontal flight for a short distance, and disappears in the herbage. The time consumed in this evolution is at the most from fifteen to twenty minutes, more frequently less; nor have I ever observed it partially descend and soar upwards again. A writer in the 'Magazine of Natural History' affirms that 'those acquainted with the song of the Sky-Lark can tell, without looking at them, whether the birds be ascending or stationary in the air, or on their descent; so different is the style of the song in each case.' Yarrell was of the same opinion, though I am not certain that I have myself attained the skill of discriminating. In July the Lark ceases its soarings and song together, but in fine weather in October it receives a new inspiration and is musical again. From time to time during winter, if the season be mild, it resumes its aerial habits, but it neither ascends so high nor sings so long, two or three minutes being now the limits of its performance. Like most other birds, it sings least about noon and the first two hours of the afternoon; but it begins before sunrise, having been heard at midsummer as early as two o'clock in the morning; and it sometimes continues its song till late on into the night, having been heard at ten o'clock, when it was quite dark. Occasionally too, it sings on the ground; and in a cage, as all the world knows, it pours out its melody with as much spirit, as if its six inches of turf could be measured by acres, and the roof of its cage was the vault of heaven." In confirmation of its having the habit of singing far into the night, I may mention that Lord Falmouth has assured me that on his estate of Tregothnan, in Cornwall, he has heard it on a fine summer evening as late as eleven o'clock.

It has always been a source of happiness to me to have been born and to live in a country having such a charming accompaniment as the Sky-Lark. How much must our American cousins regret that the bird does not form part of their avifauna! how keenly also is the blank felt in Australia! and how much would either give if the Sky-Lark could be introduced and live among them! But, however much they may wish for it, I, for one, think its establishment in either country impossible. Nature's laws are strict, and difficult to understand; we cannot tell why the Nightingale will not live in Devonshire, nor the Grouse south of Wales. Audubon and others have tried the experiment by turning out cages full of Sky-Larks on Long Island, in the State of New York; but after a very short period they had all disappeared, and doubtless were soon back in Britain, if their pinions were sufficiently perfect to enable them to cross the Atlantic. In Australia similar attempts have been repeatedly made, with, so far as I can learn, no satisfactory result. How much more, therefore, ought we to value this cheerful creature, whose innate love for its native country prompts it ever to remember it! Having stated that the Sky-Lark is not found in America or in Australia, it will be well now to define the area over which it naturally ranges; and I am sure I shall not be making too sweeping an assertion, if I say that it is found in more or less abundance over the whole of North Africa, from Morocco to the Red Sea, and that it is dispersed in equal numbers over all parts of Europe, but becomes more and more scarce as we approach nearer the extreme north. I find it has been observed in the Ferroe Islands; and it is mentioned as one of the stragglers that visit Madeira. Mr. Jerdon states that it has been seen in Affghanistan and the Himalayas, but does not include it in the birds of India. Von Schrenck enumerates it among the birds of Amoorland; and Swinhoe states that it is abundant in China.

The nest is a slight structure of dried grasses, lined with finer fibres, and is placed in a depression of the ground among the corn, or under the shelter of a tuft of weeds or grasses. The eggs are four or five in number, of a greenish grey, irregularly freckled with a deeper tint of the same colour, greyish or umber brown, placed so thickly at the larger end as nearly to hide the ground-colour. The young, during the downy state of their existence, are very beautifully marked—so much so that it becomes necessary to give a description of them, in addition to the figures on the accompanying Plate. When ready to leave the nest, their wide gapes are orange; the bill pulpy and yellowish; the legs, toes, and claws thick and yellowish; the hind toe quite yellow; hind claw partially developed, being half the length of the hind toe; stripe over the eye and the throat pale yellow, as is also the whole of the under surface, except the chest, which is a vinous stripe bordered with bluish black; feathers of the upper surface spangled with brown, blackish brown, and fawn-colour, the latter occupying the margins and tips of the wing-feathers; neat eyelash, fawn-yellow.

The Plate represents a female and a nest of young, of the natural size. The flowering plant is the Ground-Ivy (*Nepeta glechoma*).



ALAUDA ARBOREA. *Lin.*

ALAUDA ARBOREA, *Linn.*

Wood-Lark.

Alauda arborea, Linn. Faun. Suec., p. 77.

——— *nemorosa*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 797.

——— *crisatella*, Lath. Ind. Orn., vol. i. 499.

Galerida nemorosa, Brehm, Vög. Deutschl., p. 316.

——— *arborea*, Brehm, ib., p. 317.

Lullula arborea, Kaup, Natürl. Syst., p. 92.

Galerita arborea, Cab. Mus. Hein., Theil i. p. 125.

Alauda anthirostris, Landb. 1843.

THIS charming little bird, although closely resembling the Sky-Lark in its colouring, possesses many characteristics by which it may be distinguished from that species: it is considerably smaller in size, has a more slender bill, the hinder claw not so lengthened, a somewhat redder tint on the upper surface, and a tail not more than two-thirds of the length of that of its congener, a feature which at all times renders it conspicuously different.

As its name implies, it is an inhabitant of woods, or, rather, wooded lands, such as parks and scantily timbered forests, where it readily perches on the branches of the oak and other large trees—a practice not in accordance with that of the Sky-Lark, whose province is the ground, except when prompted to ascend on high, pour forth its lays to the rising sun, and herald in the day with its spirited strains. The circular ascents of the Wood-Lark, though often of greater duration than those of its congener, are never so lofty; and its sweet and soothing song is as often uttered from the branch of a tree in the neighbourhood of its mate, who is incubating her eggs in a secretly ensconced nest on the ground, as in the air. No mother's lullaby tuned over her endeared infant was ever more sweet and soothing. By one author its note is said to be among "the most touching sounds of nature;" by another, "rich and rather of a plaintive cast, frequently poured forth during the warmer nights of summer." By the French it is called "le Lulu," a term having reference to some of its softer notes. Although a common bird in England, the Wood-Lark is by no means universally dispersed therein; for it would seem that in some counties it is seldom if ever seen. In Cornwall Mr. Rodd says it is "local, not common in the west, more frequent about Truro and Tregony;" and this reminds me of a question put to me by Lord Falmouth—"What bird is it I hear at Tregothnan, singing in the air long after dusk during the months of spring and early summer?"—a question I could not at the time satisfactorily answer; but, from Mr. Rodd's assertion that the bird is common in that district, I have now no doubt that it is the Wood-Lark. It appears to be numerous in all the south-western counties, but, according to Montagu, is more plentiful in Devonshire than elsewhere. I can myself affirm that it breeds in most of the southern and midland parts of England. In the eastern division of the country it would appear to be far less numerous. Mr. Stevenson says, in his 'Birds of Norfolk,' that it is by no means plentiful there, that it is confined almost entirely to the western parts of that county, and only to be found in those localities that are best adapted to its nesting-habits. Sherwood forest one would suppose to be the place of all others for the Wood-Lark; yet Mr. Sterland states, in his history of the birds of that district, that it is not common there. Selby, referring to Northumberland, says, "with us it is by no means an abundant species." Macgillivray states his belief that it has not been observed in Scotland; and that competent authority, Sir William Jardine, remarks that he has not seen a Scottish specimen, and cannot refer to any authentic instance of its capture; yet Sir Robert Sibbald and Dr. Fleming both include it in their Lists of the birds of that country; Mr. Thomas Edwards informed the Rev. F. O. Morris that he had found this bird as far north as Banff; and Yarrell states that the late Mr. Heysham says it is sometimes taken by the bird-catchers in the vicinity of Dumfries; I apprehend, therefore, that it only wants looking for, to confirm the opinion I am now hazarding that it does form part of Scotland's avifauna. In Ireland Thompson says it is a resident but very local species. Out of the British Islands the Wood-Lark is more or less numerously dispersed over the whole of the southern and central parts of Europe, and proceeds as far northward as Sweden and Russia; it is a common bird in Palestine and the neighbouring countries, but it is not found in India. In North Africa, Loche says it is to be met with in the south of Algeria.

In most, if not all the parts of England above mentioned, the Wood-Lark builds its cup-shaped nest on the ground, among the herbage, but sometimes under the shelter of a tuft of grass. It is said to go to nest

early, and to rear two or more broods. The eggs, like the Sky-Lark's, are four or five in number, and of a reddish-white ground, spotted and freckled with brown.

The composition of the nest appears to vary with the nature of the materials at hand,—being sometimes formed of dry grass, lined with finer blades intermingled with hair—at others of coarse grass and roots, mixed occasionally with moss and the skeletons of decayed leaves, lined with finer materials of the same kind, and always a few hairs. Professor Newton informed Mr. Hewitson that in the neighbourhood of Thetford, in Norfolk, “the localities to which the birds are most partial are old sheep-walks in the vicinity of Scotch fir trees. On places such as these the herbage is so scanty that they can hardly be said to choose a tuft of grass as the situation of their nests, though they generally select a spot where the bents are thickest. I have, however, found a nest where the turf was as short as on a well-kept lawn, and I have seen one secluded in a clump of heather. Their nests are usually more compact than those of the Sky-Lark, and will bear being taken up from the hole in which they are built.”

“The Wood-Lark,” says Mr. Hewitson, “breeds annually in Oatlands Park, where heath and fir trees are abundant. In the spring of 1849, on the 4th of April, Mr. J. Hancock found a nest and eggs within a few yards of my house. It was fortunately well sheltered in a tuft of rough, dry grass; for some days after, when the old bird was sitting very close, it was completely covered, for some hours, by a heavy storm of snow.”—*Ill. Brit. Birds*, vol. i. p. 180.

Mr. Yarrell states that the voice of the Wood-Lark “has neither the variety nor the power of that of the Sky-Lark, but is superior to it in quality of tone, and by many persons preferred on that account. There is also a plaintive character in its song, which is second only to that of the Nightingale; and, like that bird, it is said also to sing during warm summer nights. Several writers have heard this Lark sing sweetly even in the months of December and January; and as the season advances, being an early breeder, it is heard to advantage in March and April, while wheeling in circles, and sometimes hovering high in air.”

“Sometimes,” says the Rev. C. A. Johns, “especially during sunshine after a summer shower, it alights on the summit of a lofty tree, to ‘unthread its chaplet of musical pearls;’ and its simpler *lulu* notes may be heard as it flies from place to place, while but a few feet above the surface of the ground.”

When taking flight, the Wood-Lark at first ascends for a short distance in a vertical line, but soon changes to a spiral progress, during which the area of each circle is increased until it has attained the height it desires; it then floats or hovers for a time, and again descends in a similar manner, with outstretched and apparently motionless wings, until it reaches the ground, along which, on alighting, it runs for a short distance. Selby says that it will continue in the air for a whole hour—and Bechstein, for several hours, singing all the while without intermission.

The old birds and the young of the year generally keep together during their first winter in small flocks, and are seldom seen in more numerous parties. The food consists of grain, seeds of various kinds, insects and worms; if the weather be very severe the Wood-Lark associates with Sparrows, Buntings, and other birds in endeavouring to obtain food in stack-yards and the neighbourhood of barns and out-houses. The young being in great request as cage-birds, they are eagerly sought for, and are captured in great numbers every year.

There is no difference in the colouring of the sexes.

The Plate represents a male and a female, of the size of life.



GALERITA CRISTATA, Boie.

A Gould & J.C. Bechler del. et lith.

Walter. Imp.

GALERITA CRISTATA.

Crested Lark.

Alauda cristata, Linn. Syst. Nat., tom. i. p. 288.

——— *galerita*, Pall. Zoog. Ross.-Asiat., tom. i. p. 524.

——— *undata*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 797.

Galerida cristata, Boie, Isis, 1828, p. 321.

——— *viarum*, Brehm, Vög. Deutschl., p. 315.

——— *undata*, Boie, Isis, 1828, p. 321.

Lullula cristata, Kaup, Natürl. Syst., p. 92.

Heterops cristatus, Hodgs. in Gray's Zool. Misc., 1844, p. 84.

Galerita cristata, Cab. Mus. Hein., Theil i. p. 125.

How remarkably defined is the limit of the range of some species of birds! a chain of mountains of no great breadth, a narrow strait, or a river of moderate width frequently forming a boundary over which they never or very seldom pass. In Australia, in the physical condition of which the hand of man has effected but little alteration, many instances of this kind occur; and in Europe, where science and agriculture have played so important a part in altering the face of the country, the restrictions are almost as permanent as ever. The Nightingale is not, nor ever has been, found in the British Islands to the south-west of Dorset, or to the north of Yorkshire, neither does the Grouse proceed southward of the Bristol Channel. I cite these two instances out of many, before proceeding to the history of a bird which forms a still more striking example of this sharply defined limit to its range. Every visitor from this country to the neighbouring kingdom of France, who takes an interest in birds, must have observed, when strolling towards the interior of the country from Calais or Boulogne, that within the distance of a mile he has risen from the dusty road one, two, or more pairs of the Crested Lark; yet on our side of the channel it very rarely occurs; so seldom, indeed, is it to be seen here, that twenty years may elapse before the most diligent observer can say he has met with it. A few solitary individuals have, however, favoured us with their presence; and for this reason we give the species a place in the 'Birds of Great Britain.'

Mr. Rodd, in his 'Guide to the Ornithology of Cornwall,' states that "two examples were obtained in September 1846, from the road-side between Penzance and Marazion. Attention was drawn to the birds by the melodious character of their chirp, resembling more the flute-like tones of the Woodlark than the buoyant song of our common Skylark." Another specimen was observed, and subsequently secured by Mr. J. N. R. Millett, of Penzance, in the latter part of October 1850. Besides these, Mr. G. D. Rowley states that an example was "brought in by a bird-catcher, from near Shoreham, in Sussex, alive on the 20th October 1863," and he had reason to believe that more were passing over during the autumn of that year.

On the continent the Crested Lark frequents France, Germany, Switzerland, Italy, and Spain, while Turkey, Greece, Asia Minor, Sicily, Crete, and Egypt claim it as one of the commonest birds of their avifaunæ; and it appears to be numerous in North Africa, Palestine, Persia, Scinde, Affghanistan, and India. Mr. Taylor states that it is excessively abundant in Egypt—so much so, that he regarded it and the *Motacilla alba* as the most numerous of all the small birds in that country. In the Eastern Atlas Mr. Salvin found it "abundant in all the plains, both in Tunis and the Salt-lake country. In the latter districts it was breeding in the month of May, but some eggs were obtained in April. The plains appear to be most frequented, but it was by no means an unusual occurrence to find it in the mountains and rocky passes."

Mr. Jerdon informs us that "it is found throughout the whole of India, but is most abundant in the north and north-western provinces; it is rare in the Carnatic, not in Malabar, more common in the Deccan, and thence spreading from Behar, in the east, to Scinde and the Punjab, where it is very numerous. It is not known in Bengal nor in the Himalayas, nor in the countries to the eastward. It prefers dry and open sandy plains to ploughed land, to grass, wet meadows, or cultivation. In winter it may be seen, in small parties or sometimes in considerable flocks, occasionally on roads and barren places. The nest is described as formed of a little grass in a hole in the ground, and the eggs as four in number, of a yellowish white, uniformly freckled with greyish yellow and a neutral tint. It is frequently caged in all parts of the country, and the bird is kept in darkness by several layers of cloth wrapped round the cage, the custom being to wrap an additional cover round the cage every year. In this state it sings very sweetly, and learns to imitate most exactly the notes of various other birds and of animals, such as the yelping of a dog, the mewling of a cat, the call of a hen to her chickens, &c."

Although the bird is stated to be generally dispersed over the south of Europe, it appears not to occur in all parts of it; for it is not included in Count Salvadori's 'Catalogue of the Birds of Sardinia,' and its

absence from that country is, as Mr. Newton remarks in the 'Ibis' for 1865, "a very remarkable fact—far more so even than its non-appearance on the north side of the Straits of Dover, while it is so plentiful between Calais and Boulogne." Lieut. Sperling says, "this is *the* Lark of the Mediterranean, as far as my experience goes. It frequents the dry plains; and from the stunted plants and bushes, where it often sits, its cry of *cheep-cheep-cheep* is constantly to be heard;" yet Mr. Wright, who had given it a place in his "List of the Birds observed in Malta and Gozo" ('Ibis,' 1864, p. 60), remarks subsequently ('Ibis,' 1865, p. 464), "I should have given Schembri as my authority for so doing; for all my endeavours to find it during many years' observation have proved unavailing. Year after year I have examined hundreds of Skylarks brought for sale to the market, in the hope of detecting a Crested Lark amongst them, but invariably with a negative result. Another writer on the natural history of Malta says it is common in spring and autumn; but he must have been mistaken. The bird-dealers, to whom I have shown preserved skins, and offered rewards should they bring me a Crested Lark captured here, all agree in declaring that they have never met with it. From this I conclude it is not a regular migrant across the Mediterranean; for, abundantly spread as it is, both on the southern shores of Europe and the northern shores of Africa, we should often observe it in Malta were its habits migratory." Bailly remarks that it is always rare in Savoy.

Its habits, actions, and general economy somewhat resemble those of the common Skylark, but in disposition it is even more tame and confiding than that species. I have myself seen it, not only on the roadsides of many parts of the continent, but in the gardens and even at the doorsteps of the houses. Its note is loud and cheerful, but not so swelling and continued as that of our charming Skylark. Both sexes have the crest; still the female has not this character so plainly developed as the male, neither is she so large in size. A striking difference exists between the present bird and the *Alauda arvensis*, the colouring of the under surface of the wings of the former being richer and having a vinous gloss, as shown in the accompanying Plate. Of its nidification I have no information to offer from my own observation. Vieillot states that the female makes a nest on the ground in cultivated fields, very like that of the Skylark, and lays four or five eggs, of a light ash-colour, spotted with light and dark brown.

Crown of the head and all the upper surface reddish brown with dark-brown centres, a few of the feathers of the head elongated, forming a backward-pointing crest; wing-coverts and wings brown, washed on their outer webs with light brown, and with dark-brown shafts—the former tipped with buffy white; two central tail-feathers nearly uniform light brown; the two lateral feathers on each side dark brown, the outer one broadly, and the next narrowly edged on the external margin with fawn-colour; the remaining tail-feathers dark brown; from the eye, passing over the ear-coverts, a streak of buffy white; ear-coverts dark brown; chin white; neck, breast, and under surface pale yellow brown, the breast and flanks streaked with dark brown; the bill, which is thicker, stronger, and more curved than that of the Skylark, is brown, becoming paler at the base; legs, toes, and claws pale brown; irides hazel.

The Plate represents the two sexes, of the natural size.



OTOCORIS ALPESTRIS.

J. Gould & H. C. Richter del. et lith.

Walter: hnp.

OTOCORIS ALPESTRIS.

Shore-Lark.

Alauda alpestris, Linn. Syst. Nat., tom. i. p. 289.

——— *flava*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 800.

Phileremos alpestris, Brehm, Vög. Deutschl., p. 313.

Otocoris alpestris, G. R. Gray, List of Gen. of Birds, 1841, p. 62.

Otocorys alpestris, Cab. Mus. Heine., Theil i. p. 121.

THIS pretty species has of late occurred so frequently in various parts of England, that there are few collections of British birds which are not adorned with examples. Some of these have been shot, while others have fallen victims to the nets of the bird-catchers. The introduction of the bird into the English avifauna was made by the late Mr. Yarrell, who, in his 'History of British Birds,' states that, in 1831, Mr. John Sims informed him of a specimen which had been shot on the beach at Sherrington, in Norfolk, in the March of the previous year. Since that period so many other instances of its occurrence have been recorded in 'The Ibis,' the 'Zoologist,' and other journals, that it would be tedious to quote more than a few of the more interesting of the notices that have appeared therein.

In a communication to 'The Ibis,' dated Brighton, Nov. 16th, 1861, Mr. George Dawson Rowley says:—"November might be called the ornithologist's month, at least on the south coast; for in it all the rare birds have been found which have come under my observation.

"On Friday (15th) two fine specimens of the Shore-Lark (*Alauda alpestris*) were taken by a bird-catcher at Rottingdean, in clap-nets; the decoy-birds used were Common Larks (*A. arvensis*), for which he at first mistook these rare northern wanderers: the man who caught them said there were five. On the following morning at the same place he took a third. These arrivals were probably due to the late severe gales; yet all three birds were fat and healthy, with no appearance of privation. The first two were males, in good plumage, and had the elongated and pointed black feathers over the eye well developed."

In the same volume of 'The Ibis' Mr. Stevenson, of Norwich, says:—"In addition to the three specimens of the Shore-Lark taken at Brighton, in 1861, I am now able to record the capture of five others, in Norfolk, between the first week in November 1861 and the 10th of January 1862. The first was killed at Yarmouth, on the 17th of November, the second at Sherringham, on the 9th, and the third at Yarmouth, on the 12th; and no others were apparently noticed on any part of our coast until the last pair were also procured at Sherringham, during the first week of 1862. Having been shot in different localities, I have been unable to ascertain how many of these birds were seen on each occasion, or whether they were the only ones seen at the time. Most probably there were others, which escaped destruction; and as these birds were performing a southward migration, it is by no means impossible that the five specimens seen by the Brighton bird-catcher were the remnant of a flight already thinned on their passage down our eastern coast.

"Besides these recent specimens, occurring in so singular a manner about the same time, I know of three other examples killed in this county:—a young male, in March 1830; an adult male, at Yarmouth, in November 1850; and a third male, also adult, at Holkham, in December 1855. I have before alluded to the curious fact of all those procured being male birds; and it is worthy of notice in so accidental a visitant, that, with one exception, all in the above list appeared in the winter months." On a subsequent page Mr. Stevenson records that another specimen (a *male*, like the others), which had nearly assumed its full summer plumage, was killed at Yarmouth, about the 24th of April, 1862; and in a letter received from him while the present page was passing through the press is an enumeration of at least ten other examples which have been killed on the coast of Norfolk.

Among my MSS. I find a note by W. P. Turnbull, Esq., to the effect that Mr. Gray, the Secretary of the Natural-History Society of Glasgow, had informed him that three specimens were shot in the Tyne estuary in 1861. More recently (in December 1869) W. Thompson, Esq., of Weymouth, sent for my inspection a specimen which, with three others, had been killed on the 3rd of that month, on Lodmoor, a tract of marsh-land, within half a mile N.E. of that town, and separated from the sea of Weymouth Bay by a shingle beach and a turnpike road. Mr. Thompson's specimen was feeding in a dry portion of the marsh, apparently on grass-seeds.

It will be seen from the above quotations that, although the Shore-Lark does not breed with us, we are almost yearly visited by sufficient numbers to render it no longer a scarce bird in England. There is no record of its occurrence in Scotland or in Ireland, which leads to the supposition that those which have

visited this island have not come from America, but from the northern portion of the European continent, where the bird breeds in tolerable abundance. Some ornithologists (Dr. Cabanis of Berlin among others) go so far as to state that the European and American birds of this form are distinct; but the difference between them is so slight that they must probably be regarded as mere races of one and the same species. If we separate them, we must go still further in subdivision than we have hitherto done; for the specimens from the Altai, although they have yellow throats and are otherwise similarly coloured, differ from the European and the North-American birds in having rather longer bills. The English, Heligoland, Swedish, Norwegian, and Lapland bird is, doubtless, the one to which Linnæus gave the specific name of *alpestris*, and, of course, is that represented with its young on the opposite Plate, from examples obtained by the late Mr. Wheelwright at Quickiock. The North-American bird merely differs in being a trifle larger, more rufous in colour, and in having a somewhat larger bill; the Altaian, on the other hand, is the smallest of the three, but has a more lengthened bill. These remarks are not made without an abundance of materials for examination and comparison, nor without my being acquainted with the whole of the described species of the genus, specimens of all of which are now before me. Here it may be desirable to state over what parts of the globe these birds are found. In the Old World some members of the genus are distributed over most parts of Eastern Europe, North Africa, Asia Minor, Persia, Western India, Afghanistan, Thibet, China, and the Amurland; while in the New World two or three species, as the case may be, are found from the United States, through Mexico and Central America, to the high lands of New Granada. I may perhaps be excused for not giving a more detailed list of the species, as much confusion exists with regard to their nomenclature, and to define them correctly would require a more careful scrutiny than is necessary in a work on the birds of Great Britain.

“The Shore-Lark,” says Mr. Wheelwright, “is the common fell-Lark, and appeared to be more numerous around Quickiock this year (1863) than usual. On the 28th of April I shot the first specimen, close to the house; and after that small flocks kept dropping in for about three weeks, when they all left and went up to the fells to breed. When in the lowlands, they kept in small flocks on the bare patches of cultivated land which the snow had left by the river-side. They were not at all shy, but very restless, sweeping just over the surface of the ground, uttering their feeble single call-note, never flying far, and soon pitching again. That they arrived in considerable numbers may be inferred from the fact that in about three weeks I obtained more than fifty specimens, all of which, with a single exception, were males. By all the Swedish naturalists the Shore-Lark is considered to be very rare in Sweden; but I think it must have been overlooked. I consider the Swedish appellation of ‘berg larkä’ or Rock-Lark much more appropriate than our British name of Shore-Lark. The colours of this bird appear to be much brighter and richer in the spring than at any other season. There is then but little difference between the male and female externally; but one of the latter sex, which I shot on the 2nd of July, had a very pale yellow forehead, the horns scarcely perceptible, the top of the head and the forehead only speckled with black, a little darkish on the forehead, throat very faint yellow, the black gorget on the breast small and not nearly so dark as in the male. In the female, which I shot on the 28th of April, the ovaries were small, but very distinct. Her colours were much brighter than in summer; and she closely resembled the male, save that the yellow was not so brilliant, although the black was nearly as deep. I have observed that twenty-four hours after death the yellow begins to fade, and that in the spring there is always a faint musky odour about these birds. Sommerfeldt describes the nest and eggs thus:—‘They breed as well close to the sea as further inland—not always among grass and moss, but in gravel and among the dead leaves which have fallen from the birch bushes. The nest is built of grass, and I never saw any feathers in it. Their three to five eggs are in general yellow, or yellowish grey, with greyish blue and brown spots, often crowded at the large end. You find them breeding early in May, and also in July.’”

The late Mr. Wolley informed Mr. Hewitson that he “found the Shore-Lark very common in East Finmark on all the cultivated lands near the sea, and also, but less numerous, on the hills. It was very delightful to hear it singing as it sat on a post, a rail, or a barn-top. It used to come on the roof of one house where I was staying soon after midnight, and sing for several hours in the cool sunshine. The nests were placed like those of the common Lark, in a depression of the ground, often near a stone; when removed they are found to be of a loose structure, and are generally lined with the down from the willow or other plants. The bird breeds on the high lands in the interior of the north of Lapland. In the autumn, flocks of it are to be seen in the corn-fields, like common Larks in other countries, on their way south along the course of the rivers.”

The figures are of the natural size.



MELANOCORYPHA CALANDRA.

MELANOCORYPHA CALANDRA.

Calandra Lark.

Alauda calandra, Linn. Syst. Nat., tom. i. p. 288.

——— *sibirica*, Pall. Iter, tom. ii. p. 708 (G. R. Gray).

Melanocorypha calandra, Boie, Isis, 1828, p. 322.

——— *albigularis, subcalandra et semitorquata*, Brehm, in Naumannia, 1856, p. 374.

It need not be a matter of surprise that the Calandra Lark should have been killed in Great Britain, since it is a very common bird in Portugal, Spain, many parts of Italy, and France, although less abundant in the latter country than in those previously mentioned; further east than Portugal and Spain—in Greece, Turkey, the Crimea, and Palestine—it is, perhaps, equally numerous. Of its occurrence in Britain there are two recorded instances—one by Mr. Gatcombe, who, in the 'Zoologist' for 1863, p. 8768, says:—"A short time since, when looking over the collection of Mr. Pincombe, taxidermist, of Devonport, I recognized a specimen of a Calandra Lark which he assured me had been killed in the neighbourhood, but that he had hitherto considered it to have been a specimen of the Shore-Lark. Now, as the Calandra Lark is said to be common in the south of Europe, I do not see why it should not be occasionally found on our coasts. But notwithstanding this, the above is the first recorded instance of its capture in the British Isles." Respecting the second instance Mr. J. H. Gurney, jun., says, in the 'Zoologist' for 1869, p. 1599, "It may be of interest to know that Mr. Gatcombe has seen another specimen of the Calandra Lark, in the possession of Mr. Byne, which that gentleman obtained from Truscott, the Exeter birdstuffer, who said it was a 'Lapland Bunting,' and killed near Exeter."

The head quarters of the Calandra Lark appear to be Southern and Eastern Europe, and Palestine; it is also numerous in many parts of Northern Africa, yet, curiously enough, seems to be rare in Egypt, if, indeed, it be not altogether absent; for Mr. E. Cavendish Taylor informed Messrs. Sharpe and Dresser that he always found it to be "conspicuous by its absence from the avifauna of Egypt, which is the more remarkable, as it is a common species both in the Pashalic of Tunis and in Syria, Egypt being situated about midway between those two countries."

In the absence of any opportunities for personal observation of this bird, I am compelled to avail myself of the numerous notes which have been published respecting it in my friend Dr. Bree's 'Birds of Europe not observed in the British Isles,' 'The Ibis,' and Messrs. Sharpe and Dresser's work 'The Birds of Europe;' and this I now proceed to do with due acknowledgment.

"Like most of its tribe, except our Skylark," says Dr. Bree, "the Calandra seems to prefer wild and sterile plains to cultivated ground for its residence. In other respects, however, its habits are very similar. Dubois remarks that 'they often fly together in flocks, and have a clear, beautiful, and varied song, which is uttered as often when flying as in repose. Notwithstanding the perfection of their song, it is impossible for amateurs to keep them in their homes, their voice being too loud. When taken young, they may be taught to imitate the voices of all kinds of birds. They often mix together the notes of Thrushes, Finches, Tits, Linnets, Quails, &c., and will even imitate the croaking of the frog.'"

When in Malta, some few years since, I observed it as a caged favourite with the inhabitants of that island, to which, according to Wright, it is "an annual visitor in March and October; and a few may not unfrequently be detected, by their larger size, amongst flocks of Skylarks. It cannot, however, be said to be very common. Numbers are yearly imported from Sicily, and kept as cage-birds for their song, which is too powerful for a room. A good songster is much esteemed, and fetches a good price."

In Algeria, according to Mr. J. H. Gurney, jun., "the Calandra occurs in large flocks up to the middle of March, is very common at Ain-Oussera and Bougzoul, but I never met with any among the Larks in the Algiers market. It is quite unknown in the Mزاب. The underside of the wing is black, which, joined to its large size, renders it conspicuous wherever it is found."

Speaking of the bird in Northern Africa, Mr. Tristram remarks:—"Though swarming on the coasts, and by far the most common Lark in the Tell, the Calandra soon becomes scarce in the interior, and can only doubtfully claim a place in the Sahara list. The two specimens I obtained on its edge are decidedly larger than those of the plains, but do not exhibit any further specific distinction. The Calandra is in high esteem by French epicures, and ranks among the best 'gibier' of the Algerian chasseur."

Respecting the Calandra in Palestine the same writer says:—"In the southern wilderness in winter the flocks of Larks were in amazing numbers, consisting not of one or two, but of eight species. The most

abundant of all was, perhaps, the large Calandra Lark, a partial migrant, and wintering in the desert and southern wilderness, but breeding in the corn-plains and in the north, especially under Hermon."

Mr. Howard Saunders states that the Calandra Lark is "abundant in the great plains south of Seville, where it breeds, making its nest in a depression of the ground, often at the depth of three or four inches. The eggs, though small for the size of the bird, are, however, very distinct from those of *Galerita cristata*. In the Isla Menor, a great place for Bustards, the Calandra is especially abundant."

The Rev. A. C. Smith, in his 'Sketch of the birds of Portugal,' tells us that the "Calandra Lark is common everywhere throughout the open plains and fields, and the most favourite cage-bird among the inhabitants of villages and towns; they may be counted by dozens in a single street, in their cages outside the windows and doors."

Mr. Salvin, in his 'Five months' Birds'-nesting in the Eastern Atlas,' remarks:—"The large size of the Calandra makes it conspicuous among its congeners in places where the other species are found. It seeks the pastures and corn-fields more than *Galerita cristata* and *Calandrella brachydactyla*, though in some places all three are found together in equal abundance. The number of eggs varies from three to five; they are laid about the second week in May, but some earlier."

Lord Lilford writes, "a few of this species are to be observed in summer in Corfu, where they breed. I have never observed this bird on the mainland."

Mr. Robson, of Ortakeuy, informed Messrs. Sharpe and Dresser that "it is common in Turkey in Europe, and in Asia Minor. In the winter they associate in large flocks; and many of them are shot by sportsmen for the table, as they are large plump birds, and in much request for eating. They affect mountains and large plains, but seem to prefer hilly tracts, and are found both on cultivated and uncultivated ground. They stay over the year, and make their nests on the ground." "Mr. Gervase F. Mathew," say the same authors, "has kindly sent us the following:—"The male, on commencing his song, springs from the ground, and with a graceful undulating motion describes a series of large circles, until he rises to an immense height; his song is then clear and beautiful, but at close quarters it is piercing and unpleasant. The call-note is loud and harsh, and somewhat similar to that of *Emberiza miliaria*. At Gibraltar it is frequent; and many are caught on the neutral ground by bird-catchers, who use clap-nets with decoy-birds. A heavy price is asked for a good singer.'"

Count Mühle says this "is undoubtedly the commonest bird in Greece, and enlivens, even before day-break, the flat country with its song. Its favourite resorts in summer are dried-up swamps and meadows, where cattle graze and, here and there, wild flowers grow. Here it is continually running about after insects, and sings incessantly on clods of earth and heaps of mould thrown out of ditches. When it rises, singing in the air, it never soars so high as *Alauda arvensis*. It nests in open fields, making a carelessly formed nest out of grass straws, which contains four or five eggs. Numbers are caught near Patras and Missolonghi, and sold at Constantinople. They are very obstinate; and when caught old, many will not sing; therefore young birds are preferred." Captain Loche describes its note as "loud and agreeable; and 'sings like a Calandra' means to sing well."

Von Nordmann, in his account of this bird in Demidoff's 'Voyage,' says:—"During the breeding-season the males may be seen pursuing each other with ardour, performing most peculiar aerial evolutions, rising to some distance with a very gentle motion of the wings, spreading and shaking the tail, describing large spirals, and uttering their sonorous and varied song, which is chiefly borrowed from that of other birds."

"The eggs of the Calandra Lark vary considerably in size, and are sometimes as small as those of the Crested Lark. In Dresser's collection are eggs from Spain and from Algeria. The largest is a Spanish specimen, and the smallest an Algerian example. The ground-colour is dull grey with a buff tinge; and the spots, which are closely scattered, are of two kinds—the underlying shell-markings, which are purplish grey and light brown, and the overlying surface-blotches, which are pale umber and nut-brown."

The sexes are very similar in outward appearance, the female merely differing in being slightly smaller and having the black spots on the breast rather less conspicuous.

The figures are about the size of life.



MELANOCORYPHA LEUCOPTERA .

MELANOCORYPHA LEUCOPTERA.

White-winged Lark.

Alauda leucoptera, Pall. Zoog. Rosso-Asiat., tom. i. p. 518, tab. 33. fig. 2.

——— *sibirica*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 799.

——— *bimaculata*?, Ménétr.

Calandrella sibirica, Brandt.

Phileremos sibirica, Keys. et Blas. Wirbelth. Eur., p. 37.

——— *leucoptera*, Blas. List of Birds of Eur., Newton's Eng. edit. p. 12.

Melanocorypha leucoptera, Bonap. Consp. Gen. Av. tom. i. p. 243, *Melanocorypha*, sp. 5.

A FINE specimen of this eastern bird was captured near Brighton in the latter part of the year 1869, prior to which the furthest westward that the species was known to have occurred is the environs of Liége; where, M. Ch. F. Dubois states in his 'Oiseaux de la Belgique,' an example, in the possession of the Baron de Selys-Longchamps, was taken in December 1855. Captain Blakiston obtained examples in the Crimea; Mr. Tristram has others from the Volga; and the earlier writers describe it as inhabiting Siberia; it is, in fact, another of the many Continental birds that have of late years wandered into the British Islands, such as the Sand-Grouse, Scindian Bustard, and others.

The White-winged Lark is a fine species, and, if it occurred frequently with us, would add considerably to the interest of our avifauna. By Pallas and Latham it was regarded as a variety of the Calandra Lark; but although nearly allied to, it is really quite distinct from that species. Its proper home seems to be Siberia, Tartary, and Southern Russia; but it occasionally occurs in Poland, and, as above mentioned, Captain Blakiston found it in the Crimea. Of its habits, manners, and general economy but little is known; that little I shall here give on the authority of the various writers.

Latham says, "this is plentiful in the sunny fields, in the neighbourhood of the river Irtish, in Siberia, where it makes its nest on the ground, like the Skylark, but is inferior to it in song."

Dubois remarks that "its voice is not so agreeable as that of the Skylark; but its movements are equally elegant. It nests like it on the ground in a slight excavation. It is not very timid, and allows people to approach closely without fear."

Speaking of the bird in the Crimea, Captain Blakiston says, in the 'Zoologist' for 1857, p. 5509:—

"A few days after this, the 5th of January, I was again on the *qui vive*, as a friend told me he had seen some Buntings, white below and rusty-colour above; with this hint I made for a camp where he said some had been shot, the ground being covered with snow; and sure enough, on looking over a heap of small birds, I found the Calandra Lark, Common Bunting, and another new to me, which I put down for distinction, as a 'Lark Bunting, No. 20,' the skin as well as the sternum of which I preserved. The same officer, a day or two after, kindly sent me a specimen of the same bird, the White-winged Lark (*Alauda leucoptera*), a male. I never observed or heard of this species again; on my return to England Mr. Gould kindly made this bird out for me."

Of the occurrence of the bird in England, all that has been recorded is comprised in the following brief notices, published by Mr. Bond in the 'Zoologist' for 1870. At page 1984, after enumerating a number of rare or new British birds which had been taken near Brighton between September and the 6th of December, 1869, he says:—"I also saw another bird, which I believe to be a young Snowfinch (*Fringilla nivalis*). I saw it very shortly after its capture, and am quite sure of its being a truly wild bird. I hope soon to send you more particulars." Accordingly at page 2022 he says:—"The bird I believed might be a young Snowfinch is a specimen of the Siberian Lark, the first that has been recorded as occurring in Britain, and a very interesting addition to our list, as it is very rare as a European species." To this the Editor adds:—"Mr. G. Dawson Rowley has favoured me with a note to exactly the same purport, and adds that Professor Newton acquiesces in this decision."

The sexes differ considerably; the rufous colouring of the crown of the male, and the greater amount of white across his wings, render him by far the finest bird of the two. The plumage of the example taken near Brighton, which is now, I believe, in the possession of T. J. Monk, Esq., of Mountfield House, Lewes, is represented by the lower figure in the accompanying Plate.

The male has the head, shoulders, and the base of the tail rufous; the upper surface of the body greyish brown, with a blackish-brown stripe down the centre of each feather; wings dark brown, the external feather margined with white, the remainder tipped with light reddish brown; secondaries

largely tipped with white, forming a conspicuous band; outer tail-feather on each side white, the remainder dark brown, narrowly edged on both margins with white, and slightly tipped with rufous; central feathers brown, broadly margined with rufous; ear-coverts striated with brown and russet red; under surface white, with numerous small striæ from the angle of the mouth; a series of brown and russet-coloured spots across the breast; and a series of rufous and brown striæ on the sides and flanks; bill dark brown, except at the base of the under mandible, where it is creamy white; legs, toes, and claws brown.

The female is very similar, but has no rufous on the head, less white across the wings, the markings less decided, and is generally of a darker hue.

The Plate represents the two sexes, of the size of life.



CALANDRELLA BRACHYDACTYLA.

J. Gould & H. Richter, del. et lith.

Walter, imp.

CALANDRELLA BRACHYDACTYLA.

Short-toed Lark.

- Alanda brachydactyla*, Leisl. Ann. d. Wetter. Gesell., tom. iii. p. 357, tab. 19.
—— *arenaria*, Vieill. Faun. Franç., p. 169, tab. 74. figs. 1, 2.
—— *pispoletta*, Pall. Zoog. Rosso-Asiat., tom. i. p. 526.
—— *calandrella* (Bonap.), Savi, Orn. Tosc., tom. ii. p. 67.
Melanocorypha itala, Brehm, Vög. Deutschl., p. 311.
—— *brachydactyla*, Brehm, Vög. Deutschl., p. 311.
—— *arenaria*, Bonap. Geog. & Comp. List of Birds of Eur. and N. Amer., p. 38.
Calandrella brachydactyla, Kaup, Natürl. Syst., p. 39.
Phileremos brachydactyla, Keys. und Blas. Wirbelth. Eur., p. 37.
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THAT a species of Lark so common on the continent of Europe, and so abundant in all eastern countries, from Palestine to China, as the *Calandrella brachydactyla* should have been taken in the British Islands need not excite surprise; we ought rather to be astonished that, instead of having been met with only once, it has not been more frequently seen; indeed, when we remember the extent of our island, and how few are the real observers of our native birds, we may very reasonably suppose that many other examples have, from time to time, visited us without their differences from the other members of the family having been detected. "At the end of October 1841," says Mr. Yarrell, "I received a letter from Mr. H. Shaw, of Shrewsbury, informing me that an example of the Short-toed Lark had been caught in a net near that town on the 25th of the same month; and shortly afterwards he very obligingly sent the specimen up to me for my examination.

"This species, having some resemblance to our Wood-Lark, is yet immediately to be distinguished from it by its stouter beak, its nearly plain unspotted breast, and its very short hind toes and claws—from which last peculiarities it has received its name. The whole length of the Shrewsbury specimen was five inches and three quarters; the tarsal bone three quarters of an inch; the hind toe half an inch, the claw of it only one quarter of an inch; the wing, from the carpal joint to the end of the longest quill-feather, three inches and a half; the second quill-feather the longest in the wing, the first and third feathers a little shorter; the tertials extend backwards as far as the end of the closed wing."

As I have never had an opportunity of becoming personally observant of the habits of the Short-toed Lark, I must, in order to make my readers acquainted with them, draw somewhat largely upon the writings of others; and this, with due acknowledgment, I accordingly shall do.

Temminck states that it is very abundant in Sicily, in the kingdom of Naples, in Spain, and in Italy, and that it is equally numerous in the central parts of France, and along the shores of the Mediterranean, but not in the north of France nor in Holland; Bailly that it is found in Piedmont, but not in Savoy. Polydore Roux includes it in the birds of Provence; and Brehm in those of Germany, which appears to be the boundary of its range northwards. Temminck further states that it migrates to the continent of Africa; and Loche informs us that it is found over the whole of Algeria. Mr. Salvin remarks that in the Eastern Atlas it is "much more local in its distribution than the Crested Lark (*Galerita cristata*), its range being confined to a few favoured spots in the elevated plains. About Ain Beida it is abundant, and throughout the great plain of El Tharf it may be commonly met with; it also occurs in the neighbourhood of Djendeli. Like the rest of its congeners, it places its nest on the sheltered side of a bush—the scrubby vegetation which clothes the whole of that arid district affording the necessary protection for its offspring. The eggs of this species vary very much; even in the same nest hardly two similar ones are to be found. So different were some of the varieties, that the greatest care was requisite in identifying their true parentage." In his notes 'On the Ornithology of Northern Africa,' the Rev. H. B. Tristram says:—"Many flocks occur in winter in the neighbourhood of the oases, and on the northern limits of the Sahara. It breeds abundantly under the slopes of the Atlas, but not, so far as I am aware, in the Desert. It is extremely local in the choice of its breeding-places. Confined to the barren salt-plains in the steppes on the verge of the Desert, where the vegetation is very scanty, its nest seems to be invariably placed under the lee of a thyme-bush, in a depression much deeper than the nests of other Larks."

Mr. E. Cavendish Taylor says that in Egypt, where it is mostly met with in small flocks, it is not to be seen before March. Mr. Chambers shot it in Tripoli, and Mr. C. F. Tyrwhitt Drake observed it on the plains of Tangier and Eastern Morocco.

Dr. Henry Giglioli, in his account of the birds observed by him in the neighbourhood of Pisa, mentions that "in spring large flocks appear, especially along the sea-shore, near the Gombo."

Lord Lilford notes that it abounds, with other Larks, near Aranjuez, in Spain, during the month of May, that in Portugal it is said to be common throughout the country, and that in Corfu and Epirus it is very numerous at all seasons.

The Rev. H. B. Tristram records that it is "common in the more barren districts of Palestine, is a summer migrant, revisiting the central country late in the spring, and not occurring in the plains or desert in the winter."

"This," says Mr. Wright, "is one of the most characteristic birds of Malta, where, in spring, it may be seen hovering over the rocky wastes covered with the aromatic-smelling *Thymus capitatus*. In the breeding-season (from April to June) it is abundantly spread in pairs all over the island; and the song of the male is then constantly heard encouraging its mate in the labours of incubation. Its mode of ascending in the air is different from that of the Sky-Lark, consisting of a succession of jerks, which may be peculiar to the species. It delights in the wastes and desert tracts of the island. At the commencement of autumn it assembles in flocks, which appear to be joined by numerous fresh comers from the north; but all speed away before the winter sets in."

The best account of the Short-toed Lark is contained in Mr. Jerdon's excellent work 'The Birds of India.' It is as follows:—

"This species is widely distributed throughout Asia, Europe, and Africa, and has even been once killed in Britain. It is found throughout India, but is more rare to the extreme south, and has not been observed in Ceylon, but is numerous in the Deccan, and thence northwards to the foot of the Himalayas, but not in the countries to the eastward.

"The Short-toed Lark appears in India in October and November in flocks, frequenting the bare grassy downs, damp spots near tanks, grain-fields, and ploughed land, and it almost always retires to corn-fields or grass for shelter during the heat of the day, whence it would seem not to issue again till next morning, for it is seldom seen flying about or feeding in the afternoon or evening. It feeds almost entirely upon seeds, both runs and hops on the ground, and has a call-note like that of the true Larks. Towards the end of March in the south (April in the north) of India different flocks often unite into vast troops containing many thousand birds and quite darkening the air, so close do they keep together even when flying. Great numbers are netted in some parts of the country, taken by birdlime, or shot; for when feeding they also keep close to each other. On one occasion, on the cavalry parade-ground at Kamptee, I bagged twelve dozen birds, after discharging both barrels, and many wounded birds escaped. They get quite fat about this time, are really very excellent eating, and are called "Ortolan" by Europeans in India. They leave the north of India about the end of April, or beginning of May; and they breed in the steppes of Central Asia, Eastern Russia, and Northern Africa—placing their nest on the ground, at the edge of a scrub or bush, and laying four or six eggs, usually marked with grey and rufous spots, but sometimes, it is said, unspotted yellowish-brown."

Captain Irby states that this Lark is exceedingly numerous in Oudh and Kumaon, where it is caught in nets by the natives, and sold to Europeans as "Ortolan;" Captain Beavan that it is common at Maunbhoom; and Mr. Allan Hume that in the lower and central portions of the Duab of the Ganges and Jumna the Short-toed Lark is found in countless flocks.

The sexes are not distinguishable by the colouring of their plumage; but, on a close comparison, the tints of the female are found to be somewhat duller than those of the male.

The top of the head and all the upper surface are of a yellowish or sandy brown, with the centre of each feather darker; quills and tail dusky brown, the two outer feathers of the latter externally edged with yellowish white; a whitish yellow streak over each eye; throat and abdomen white; ear-coverts dark brown; on each side of the upper part of the chest a blackish patch, which Mr. Blyth states is always present but in newly moulted plumage is but little seen; chest and flanks tinged with yellowish brown; bill and feet light brown.

The young, during the first autumn, have the outer edge of each feather margined with buff, similar to one of the birds on the accompanying Plate.

The figures represent an adult and a young bird, of the natural size. The plant is the *Dianthus deltoïdes*, Linn.



EMBERIZA CITRINELLA. *Lin.*

EMBERIZA CITRINELLA, *Linn.*

Yellowhammer or Yellow Bunting.

- Emberiza citrinella*, Linn. Faun. Suec., p. 84.
——— *sylvestris*, Brehm, Vög. Deutschl., p. 294.
——— *septentrionalis*, Brehm, ib., p. 294.
Citrinella septentrionalis, Kaup, Natürl. Syst. p. 142.
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THE present beautiful bird is known throughout the greater portion of the British Islands by the name of Yellowhammer, a term which Yarrell considered to be a corruption of Yellow Ammer, the word "ammer" being a common and well-known German name for many of the Buntings; he has therefore called this species the Yellow Bunting or Yellow Ammer. The Scotch biographer of our native birds, Macgillivray, also described it as the Yellow Bunting, and adds the following list of provincial names as applied to it:— Yellowhammer, Yellow Yeldring or Yoldring, Yellow Yowley, Yellow Yite, Yoldring, or Yeldrock, Skite, Devil's bird, Buidhein, Buidheag Bhuachair; while Thompson, of Ireland, mentions only the following:— Yellow Bunting, Yellow Ammer, and Yellow Yorlin. Of all these terms that of Yellow Bunting is undoubtedly the most correct; but Yellowhammer is the one by which it is generally known to the school-, the herd-, and the plough-boy. Like those sturdy sons of the soil, it is strictly a native of, and a permanent resident in, this country (for it never leaves us either in summer or winter), and is alike common in every district, from north to south and from east to west, from the low fluviatile county of Lincolnshire to the high peaks of Derbyshire, from the Lothians to the hills of Rosshire.

In the early mornings the Yellowhammer may be seen on the dew-bespangled sprays of the field-side, and there, while perched on some prominent twig, emits his singular ditty long before the vernal migrants have arrived. As summer advances, no bird is more showy, nor is there one whose appearance is more striking among the hedges which skirt the green lanes; the dense coppice and the thick wood he shuns; it is among the wide shaws in low valleys, and the bushes which grow on commons and wastes, that the Yellowhammer finds a home congenial to his tastes. It has now paired, and the couples only wait for the thorn-bush to be covered with leaves, and the ditch-side overgrown with grasses and herbage, before they commence their nests.

"Just by the wooden bridge a bird flew up
Seen by the cow-boy as he scrambled down
To reach the misty dewberry. Let us stoop
And seek its nest. The brook we need not dread,
'Tis scarcely deep enough a bee to drown,
As it sings harmless o'er its pebbly bed—
Aye, here it is! Stuck close beside the bank,
Beneath the bunch of grass that spindles rank
Its husk-seeds tall and high: 'tis rudely planned
Of bleached stubbles and the withered fare
That last year's harvest left upon the land,
Lined thinly with the horse's sable hair.
Five eggs, pen-scribbled o'er with ink their shells,
Resembling writing scrawls, which Fancy reads
As Nature's poesy and pastoral spells:
They are the Yellowhammer's; and she dwells
Most poet-like 'mid brooks and flowery weeds."

During spring and summer the Yellowhammer is associated with the *Rubus fruticosus* from the period of its flowering to that of its fully ripened fruit, the well-known Blackberry; but when the spring is past and "summer is over and gone," it betakes itself to the open fields and seeks its food on the ground, where it finds a plentiful supply of seeds, small-shelled mollusks, &c. As winter approaches, it assembles in flocks, and mingles with Finches and Sparrows around the outstanding ricks, and even ventures within the precincts of the farmyard in quest of grain or other kinds of food which such places afford. Soon, however, spring again appears, and with it comes a change of diet; for insects and their larvæ are then eagerly devoured—a kind of food with which the Buntings also feed their offspring.

No one of our native birds varies so much in colouring as the Yellowhammer; the differences in this respect are, however, too trivial to be regarded as specific, the variations being confined to the intensity or richness of its hues, and to the presence or absence of markings on the head. Some males have this part of a beautiful clear yellow, while others have a well-defined light-chestnut moustache bounding the lower part of the face; others, again, have the head and cheeks suffused with dark brown, without a trace of the

moustache. My collection contains many such varieties, of which those from chalk districts are the most beautiful. On the continent of Europe other varieties occur, and examples from Norway far exceed in size those from more southern countries, especially those of the British Islands. Having mentioned these facts, I must now state in what countries the Yellow Bunting is found besides our own. As regards Europe, it will not be necessary to say more than that it occurs in all parts of the continent, from the shores of the Mediterranean to Norway, Sweden, and Lapland; it also inhabits the whole of the northern regions of Africa, from Tunis to the Nile; further eastward it becomes scarce, but I possess the skin of a female from Erzeroom. I have never seen a specimen from India, neither does Schrenck include it in his List of the Birds of Amoorland.

M. Bailly, in his work on the ornithology of Savoy, states that "during the mornings of the months of October and November flocks of this Bunting pass through Savoy. They come from the north, traverse the valleys, and generally direct their course towards the southern countries of Europe. Some flocks, mingled with the Chaffinches and Cirl Buntings, emigrate from Savoy in order to pass the winter in more genial regions, and return again towards the end of February and beginning of March; but considerable numbers constantly remain there even during the most severe frosts. The Yellowhammer readily submits to confinement, where it will subsist on millet and hemp-seeds or buckwheat, but has no song to solace those who may keep it. When destined for the aviary, care must be taken that it be not frightened, lest it be destroyed by dashing itself violently against the bars of its prison. Its flesh is delicate and much sought after." Many modes of capturing it for the purposes of the table are resorted to. In the environs of Yenne, and particularly at St. Paul, it is hunted unmercifully. The villagers keep the entrances of their barns and granaries wide open during the day (in order that the birds may enter in quest of subsistence), conceal themselves behind the buildings, and, as soon as they have seen a number enter, rush with shouts to the doors and suddenly close them. Most of the frightened birds attempt to escape by the windows, and there become entangled in nets placed for the purpose, while those that continue to fly about are pitilessly killed with blows from rods or switches.

M. de Sélys-Longchamps informs us, in his 'Faune Belge,' that "the Belgian villagers kill many of these birds when the ground is covered with snow, by a kind of sporting called *ramaille*. On a moonless night a man goes along the sides of old hedges, holding in his hand a torch of burning straw, towards which the Yellowhammers, quitting the hedges, direct themselves, and are immediately knocked down by two or three other men with large branches of thorn."

Mr. Hewitson states that the nest "may be found upon almost every briery hedge-dyke; it is most commonly placed upon the ground, but not unfrequently occupies the centre of a thick bush. It is formed outwardly of straws, bits of moss, sometimes sticks and coarse grass, finer towards the interior, which is finished with roots and a few hairs. The female sits closely, and is not easily driven from the nest. The singularly marked eggs, which are from three to five in number, always form a large portion of the bird-nesting spoils which fill the string of the schoolboy. Although subject to great variation, they are usually so characteristic of the species that it would not be easy to confound them with those of any other bird, except the rarer eggs of the Cirl Bunting. In form they are occasionally very long and oval, and sometimes as round as a marble. I have seen a single specimen of this egg so much suffused with colour that it might have been mistaken for that of the Cuckoo."

The adult male in summer has the head, cheeks, ear-coverts, and throat, chest, and centre of the abdomen lemon-yellow, the feathers surrounding the crown streaked with dusky; the lower edge of the ear-coverts is also similarly streaked; nape yellowish, passing into a greenish-olive tint on the lower part of the neck; feathers at the back and wing-coverts black in the centre and largely margined with sandy red; lower part of the back dark rust-red; primaries dusky black, narrowly edged with pale yellow; secondaries and tertiaries also dusky black, more broadly margined with rufous; tail dusky black, the two centre feathers margined with rufous, and the two outer ones on each side with a broad patch of white down the apical portion of the inner web; breast and flanks yellowish red, each feather darker in the centre; bill bluish horn-colour; irides, legs, toes, and claws light brown.

The Plate represents the two sexes, of the size of life, on a flowering branch of the Bramble, *Rubus fruticosus*; the beautiful little plant accompanying it is the *Pyrola minor*, obligingly sent to me for the embellishment of this work by the Rev. H. Harpur-Crewe.



EMBERIZA CIRLUS, Linn

J. Gould & H. C. Richter del. et lith.

Walter, Imp.

EMBERIZA CIRLUS, *Linn.*

Cirl Bunting.

Emberiza cirlus, Linn. Syst. Nat., tom. i. p. 311.

——— *eleathorax*, Bechst. Naturg. Deutschl., tom. iii. p. 292.

Cirlus eleathorax, Kaup, Natürl. Syst., p. 153.

THE Cirl Bunting is far less generally distributed over England than the Yellowhammer; in Scotland it has never, I believe, been seen, and Ireland appears to be equally devoid of its presence. It is by no means scarce in Cornwall, Devon, Dorset and Hampshire, Sussex, Kent, and Surrey; but it is rarely seen northward of Yorkshire. In the Isle of Wight it is nearly as numerous as its above-mentioned ally, while in the neighbourhood of Chichester, Bognor, Worthing, and Brighton it may be regarded as a common bird. It generally evinces a partiality for the vicinity of the coast; but many instances of its inhabiting the interior of the country are on record. It has been frequently seen at Guildford and Godalming in Surrey; and I have known it to be often shot at Alton in Hampshire, in company with other small birds, in the depth of winter. My own observations lead me to believe that districts of a chalky character are those it prefers; at the same time I have seen it in various parts of the valley of the Thames, and some of the finest specimens in my collection were procured in the beautiful grounds of Formosa, near Maidenhead, in Berkshire.

The Rev. H. Harpur-Crewe has recorded, in the 'Ibis' for 1865, that while himself and his sisters were walking on a rough hilly down in the parish of Drayton-Bauchamp, near Tring, in Hertfordshire, they disturbed a Cirl Bunting from her nest in a wild juniper bush, containing three eggs, and states he has several times seen males in the same district, and twice had specimens brought to him from the adjoining parish of Pitstone: he is inclined to think it breeds near Tring regularly, and that it is far more common than is generally supposed.

Mr. Brodrick states that it is common about the haystacks at Ilfracombe in winter, and that it breeds in that part of the the country.

In its habits, disposition, and some parts of its economy, the Cirl Bunting differs considerably from the Yellowhammer. It is more shy and distrustful, and affects the uppermost branches of high trees rather than those of less elevation; and thus, while the female is sitting over her eggs on the sloping bank of a ditch, the male may be perched on a leafy twig near the top of an elm, where his presence will only become known by his singular song, which is even less musical and more inwardly expressed than that of the Yellowhammer, which in some points it much resembles. To convey an accurate representation of the songs or natural notes of birds is simply impossible; for they strike the ear so differently that no two persons would interpret them alike; how useless, then, would it be to attempt to describe the note of the Cirl Bunting, which, Mr. Rodd says, "is drawn out in a continuous sibilous strain, not unlike that of the Wood-Wren when heard at a short distance, and never ends with the high note which characterizes that of the Yellow Bunting, but is quicker and more tremulous."

In many of the Buntings much difference occurs in the plumage of the sexes, the males being conspicuously adorned, while the females are very plainly coloured, and in some cases those of two or more species are so much alike as to be scarcely distinguishable; but in the present instance the distinctive features of the male are strongly marked and contrasted. A glance at the accompanying Plate will render this apparent far more readily than the most minute description, however accurate; and if the reader will compare the figure of the male bird with that of the same sex of the Yellowhammer, he will at once perceive the points in which they differ. These specific distinctions are always of interest to the ornithologist, particularly if he take a general view of the science. He is pleased to see how varied are the markings of the head, neck, and breast, the parts in which the greatest differences usually occur; nor does he fail to notice that the Buntings also exhibit a well-defined character—a well-defined white mark on two or three of their outer tail-feathers, which is not observable when the bird is in a state of repose, but of which a transient view may be obtained while it is on the wing. These markings are always noted by the ornithologist, while they do not attract the attention of those who are regardless of the flight of a little bird, which may be a Sparrow or anything else, for aught they care.

On the continent, as in England, the Cirl Bunting is less abundant than the Yellowhammer; so great, in fact, is the difference in their numbers, that if a census of the two species could be taken, I suspect the latter would prove to be ten times as numerous as the former. In the south of Europe—Spain, Italy, and France—it is more abundant than in the north. In confirmation of my assertion that this species is less common

than the Yellowhammer, both with us and on the continent, I may cite the following passage from Bailly's 'Ornithologie de la Savoie':—"Although common in Switzerland and Savoy, it is less numerous than the Yellow Bunting, which it resembles in habits and manners. A small number only remain with us during the winter, the greater number retiring southwardly before the cold season commences, and returning again in pairs or small companies in March." Mr. Tristram says it is extremely rare in Algeria, only two or three pairs having been seen by him on the edge of the forest districts. The late Mr. Strickland observed that at Smyrna it haunts the vicinity of streams, and seems in that country to replace the Yellow Bunting.

Mr. Yarrell informs us that the nest "is generally built in furze, or some low bush; it is composed of dry stalks with a little moss, and lined with long hair and fibrous roots; the eggs are four or five in number, of a dull white tinged with blue, streaked and speckled with dark liver-brown; the length ten lines, by eight lines in breadth. The young are hatched in thirteen or fourteen days, and are supplied by the parent birds with insect food; when reared by hand, Colonel Montagu found grasshoppers most serviceable, with the addition of uncooked meat finely divided. Some years since, several old birds were observed, near Brading, in the Isle of Wight, to feed constantly on the berries of the woody nightshade, *Solanum dulcamara*; and a paste made of these berries, mixed with wheat flour and fine gravel, proved excellent food for some of their young birds, which were reared without difficulty.

A nest given to me by Mr. Bond closely resembled that of the Yellowhammer. It is outwardly composed of dried grasses, a little green moss, and a small quantity of wool, and lined with cow-hairs about three inches in length. Mr. Bond has seen as many as six nests in one season in the neighbourhood of Freshwater, in the Isle of Wight (where the bird is known by the name of the French Yellowhammer), and says that the eggs are never more than four, and generally only three in number.

The adult male in summer has the crown of the head dark olive-grey, with a streak of black down the centre of each feather; over each eye a broad streak of yellow, below which is a streak of black passing from the bill around and behind the eye, which is succeeded by another streak of yellow; chin and throat black bounded below by a crescentic band of pale yellow; band across the back of the neck and another across the breast olive-grey; back and scapularies rich chestnut-brown, each feather edged with grey; wing-coverts dusky black broadly margined with chestnut; primaries and secondaries dusky, very narrowly edged with yellowish; upper tail-coverts yellowish olive; tail-feathers dusky black, the central pair tinged with red on the edges, the remainder narrowly edged with pale greyish white, the two outer ones on each side with a large oblong patch of white on the inner web, most extensive on the outer feather; on each side of the breast a patch of red feathers with pale edges; belly and under tail-coverts pale yellow; upper mandible deep brown, under mandible bluish white; tarsi reddish flesh-colour, toes rather darker; irides hazel.

The female differs in being browner on the head, in being brown instead of rufous on the back, and in having the throat, breast, and flanks yellowish olive streaked with brown.

The Plate represents both sexes of the size of life, on the *Clematis vitalba* after it has done flowering.



EMBERIZA RUSTICA, Pall.

J. Gould & H. Richter, del et lith.

Walter Inap.

EMBERIZA RUSTICA, *Pall.*

Rustic Bunting.

Emberiza rustica, Pall. Itin., tom. iii. App. no. 21.

——— *borealis*, Zetterst. Resa i Lappm., vol. i. p. 107.

——— *Durazzi*, Bonap. Faun. Ital., tom. i. pl. 35. fig. 1?

Hypocentor rustica, Cab. Mus. Hein., Theil i. p. 131, note.

THIS is another bird of eastern origin which has been recently added to the list of occasional visitors to Britain, a veritable example having been captured near Brighton, in Sussex, a county which has been favoured by the occurrence of a far greater number of novelties than any other part of England. This fact has been recorded by me before, and nearly in the same words, in my account of the species in my work on the 'Birds of Asia;' and as I therein gave all that is known respecting the history of the bird, and have acquired no additional information since, I cannot do better than repeat what I have there said.

"The principal habitats of this Bunting are North China, Amoorland, and Japan, from all of which countries I have seen specimens. During the last few years solitary individuals have wandered from their natural homes, and been observed and captured in other countries, among them Heligoland, and one in this country. In my opinion, it is quite impossible for the most astute ornithologist to account for this distant wandering, instances of which may have before occurred; but we have no record of its having been found in England until the year 1867, when a fine female was captured near Brighton, on the 23rd of October, and is now in the possession of T. J. Monk, Esq., of Mountfield House, Lewes. This occurrence of the bird in Sussex was made known to us by George Dawson Rowley, Esq., of Brighton, a gentleman than whom no one has a greater love for natural history, and whose judgment is unsurpassed in discriminating any new comer that may arrive among us.

"The facts connected with its capture, as furnished to me by Mr. Rowley, are briefly these:—'On the afternoon of October 23rd, 1867, Mr. Swaysland, of Queen's Road, sent me a bird alive, just caught near Brighton. I examined it then, and next morning at his house, and I pointed out to him that it was a specimen of the *Emberiza rustica* of Pallas. Mr. Monk subsequently purchased the bird.'

"Latham states that this species inhabits the willow-beds of Dauria, and is there most frequently met with in March; Gatke informs us that it occasionally visits Heligoland; and Mr. Swinhoe, in his 'Notes on the Birds observed about Talien Bay, in North China, from June 21 to July 25, 1860,' says, 'I frequently met with this Bunting, which appeared to be the only species. Its choice habitats were the grass-covered sides of hills, where several together might be seen searching about on the ground for small seeds and insects. Occasionally flitting on the top of a rock, a male would continue to pour out a flow of rich notes, wild in their strain, but sweet and melodious. Its twittering call-note is not unlike that of the Robin. . . . I have not yet met with the bird in Southern China.'

"Mr. Henry Whitely, who shot specimens in Hakodadi, in Japan, in the month of October, informs us that the bill is reddish brown, the irides dark hazel, and the legs and toes brownish flesh-colour.

"The male has the lores, sides of the head, and ear-coverts blackish brown; posterior to the ear-coverts, within the black, a spot of dull greyish white; above the eye, from the bill to the nape, a broad streak of white in some specimens, and buffy white in others; above this is a stripe nearly black, leaving the centre of the crown brown; throat white, with a moustache-like mark from the angle of the lower mandible, formed of dark brown feathers, bordered with buffy white; nape and gorget across the breast rich chestnut-red, each feather with a paler margin; feathers of the centre of the back brownish black, margined with tawny; rump and upper tail-coverts chestnut-red, edged with tawny; greater and lesser wing-coverts brownish black, margined externally with tawny and tipped with buffy white; primaries and most of the secondaries brown, narrowly edged with tawny; the last three or four secondaries, nearest the body, conspicuously margined with tawny; under surface white, with the exception of the centres of the flank-feathers, which are chestnut-red; tail dark brown, the centre feathers edged with tawny; a broad longitudinal oblique stripe of white down the centre of the external feather, and a narrower one down the next on each side.

"In the female the general arrangement of the colouring of the body is very similar, but much paler; the flank-marks extend further down the sides; and the ear-coverts and the black above the superciliary mark are much less deep."

The Plate represents a male and a female, of the size of life, the figure of the latter being taken from the example captured at Brighton.



EMBERIZA PUSILLA, *Pall.*

J. Gould & H.C. Richter del et lith.

Walter, Imp.

EMBERIZA PUSILLA, *Pall.*

Dwarf Bunting.

Emberiza pusilla, Pall. Reise, tom. iii. p. 697.

——— *sordida*, Hodg. Journ. Asiat. Soc. Beng., vol. xiii. p. 958.

——— *oinops*, subgen. *Ocyris*, Hodgs. Proc. of Zool. Soc., part xiii. 1845, p. 35.

Euspiza pusilla?, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 130.

Emberiza oinops, Gray, Cat. of Spec. and Draw. of Mamm. and Birds pr. to Brit. Mus. by B. H. Hodgson, Esq., p. 108.

Ocyris oinops, Hodgs. in Gray's Zool. Misc., 1844, p. 84.

WITH reference to the occurrence of this Asiatic species in England I cannot, perhaps, do better than transcribe the account sent by George Dawson Rowley, Esq., of Brighton, to 'The Ibis' for 1865 (p. 113):—"On the 2nd of November, 1864," says this gentleman, "a boy brought to Mr. Swaysland, the naturalist of this place, a very small bird of an unknown species, which he had just caught outside the town. Mr. Swaysland immediately sent for me; and I carefully examined it alive to discover if possible any signs of captivity; but the edges of the feathers and the top of the head were perfect, and above all there were no square marks on the feet such as are caused by the perches of a cage. These indications being all satisfactory, I concluded that we had a wild bird before us; and a short investigation made it pretty clear that the species was the *Emberiza pusilla* of Pallas.

"I then wrote to Mr. Gould, who kindly undertook to exhibit it at the meeting of the Zoological Society on November the 8th, and he has since drawn its portrait for his magnificent book on British Birds."

In compliance with Mr. Rowley's wish I had the pleasure of submitting the specimen to the inspection of the Fellows of the Zoological Society present at the date above mentioned; and the opposite plate is an exact fac-simile of the drawing to which he refers.

The above comprises all that is known respecting the *Emberiza pusilla* as a member of our avifauna; of its history in other parts of the world I have but little to add to the information respecting it which appears in my 'Birds of Asia,' and which is here transcribed.

"This is one of the most ubiquitous Buntings in existence; for it is spread far and wide over the northern portion of the Old World, being found in China, in the Amoorland, the Himalayas, the Daurian Alps, India, the northern and central parts of Europe, accidentally in Italy and Heligoland, and has appeared once at least in Britain.

"Pallas, who was the first to make us aware of its existence, states that it inhabits the neighbourhood of the rivers and the larch-grounds among the torrents of the Daurian Alps; Dr. Bree states that it lives and breeds in the neighbourhood of Archangel, and mentions that one of four specimens sent to him from Paris was labelled '*Mer d'Ochotzsk*'; Mr. Hodgson includes it in his list of the Birds of Nepaul; Mr. Swinhoe remarks that in North China it occurs in small flocks on the banks of canals and the edges of waterpools between Takoo and Peking, and that in winter a few visit the southern parts of that country; and Mr. Jerdon says:—"This small Bunting is found throughout the whole extent of the Himalayas during the winter. I procured it at Darjeling, Hodgson in Nepal, and Adams in the north-west. It frequents bare spots of ground with low bushes, in small flocks. Adams says it has the habits of a Redpole. I shot one near Kolassee, in the Purneah district, frequenting grass and bushes near a small river; and as it is a bird not likely to be remarked, it will probably be found in similar places throughout the plains in the north of India during the cold weather.'"

"The only specimen of this small Bunting that we brought home," says Herr Gustav Radde, "I shot on the 18th September, on the upper Amoor, a little below the mouth of the Oldoi. It was a female that quite agrees with Pallas's description. In the autumn dress, the feathers of the head have rust-yellow edges, which make both the black side stripes and rust-coloured middle stripes somewhat indistinct, and only to show in spots. I found a nest of this Bunting in the lower Amoorland, in a scanty part of the pine-forest between the lake of Kidsi and the sea-coast. It lay on the ground between moor-tussocks, and was artlessly made of spines of the larch and pine. The eggs in it, five in number, were exactly of the size and form described by Middendorff, viz. strongly tapering, 17·5 millim. long, and 14 broad, covered, on a dirty-white ground, all over with very many violet-brown spots and markings: on the 17th June they were still quite unincubated. We may observe, by the way, that here and there between the tussocks in the wood there lay remains of snow." (Schrenck's '*Vögel des Amurlandes*,' p. 289.)

The following description of this bird I take the liberty of copying from Dr. Bree's valuable 'History of the Birds of Europe not observed in the British Isles:—

“Occiput, cheeks, and part of the throat ferruginous, with two distinct deep-black irregular bands extending from the base of the upper mandible over each eye, where they turn round, and in some specimens form a more or less complete collar round the neck, mingled with white or fawn-colour; throat more or less white, mingled with the ferruginous colour of the occiput and cheeks; base of the inner web of the external tail-feather white, that of the second the same, but only half as wide. First and third primaries of nearly equal length, the second the longest in the wing. Length of male five inches and three tenths; carpus to tip three inches; tail two inches and a half; beak two-fifths of an inch; tarsus seven tenths of an inch.”

Mr. Jerdon says, “the female is dull olive-greenish, with a rufous tinge; wing-coverts tipped whitish; beneath whitish yellow, sullied on the breast, and streaked on the flanks and sides of the foreneck,”—and describes the bill of the male as “horny; legs pale fleshy-brown; irides brown.”

Dr. Bree's figure of the egg of this species, which he says was copied from Middendorff, is three quarters of an inch in length by five eighths of an inch in breadth, and of a pale greyish white, numerously spotted with two shades of yellowish olive, the smaller spots being the lightest in colour.

The opposite Plate represents the bird of the natural size; the specimen from which the figure was taken is now in the possession of T. J. Monk, Esq., of Mountfield House, Lewes.



CRITHOPHAGA MILIARIA .

J. Gould & H.C. Richter, del et lith.

Walter Inup.

CRITHOPHAGA MILIARIA.

Common Bunting.

Emberiza miliaria, Linn. Syst. Nat., tom. i. p. 308.

——— *calandra*, Linn. Faun. Suec., p. 83.

Miliaria septentrionalis, Brehm, Vög. Deutschl., p. 291.

——— *germanica*, Brehm, ib., p. 292.

——— *peregrina*, Brehm, ib., p. 293, tab. 19. fig. 1.

Cynchrampus miliaria, Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 35.

Spinus miliaris, G. R. Gray, List of Gen. of Birds, 1841, p. 61.

Miliaria Europæa, Swains. Nat. Hist. of Birds, vol. ii. p. 290.

Crithophaga miliaria, Cab. Mus. Hein., Theil i. p. 127.

IF this be not the largest member of the *Emberizinae*, or family of Buntings, it is unquestionably the largest species inhabiting the British Islands.

It is a bird familiarly known to us as the Common Bunting, Corn-Bunting, and Bunting-Lark. The first of these trivial names is especially applicable, since its dispersion is so general that there is no species more ubiquitous. Not only does it inhabit the mainland of these kingdoms, but even the smallest islands around them are not destitute of its presence. Macgillivray states that no bird is more common in the Outer Hebrides, where it is known by the name of Sparrow. Now, although so generally dispersed, numerically it is less abundant than most of the other species of its family. In England at least it is a solitary creature, dotted here and there; sometimes it may be seen perched on the topmost branch of the hedgerow, at others on the telegraph-wires, which now, like great cobwebs, stretch over nearly every part of the country. The sexes being precisely alike in colour, and differing but little in size, it is impossible to say whether it be a male or a female that surmounts the hedge or sits on the outermost branches of the trees we may be approaching in our country walks. It is somewhat shy in its disposition, seldom admitting an observer to come nearer than sixty yards before it dips down towards the earth, and skims Lark-like into the middle of the neighbouring field. Its nest is built among the corn, sometimes under the shelter of a tuft of grass, at others in the midst of a small mass of tangled herbage a few inches above the ground. The eggs are very conspicuously blotched and clouded with dark brown, on a purplish-grey ground; they are four, five, or six in number.

Out of the British Islands, the Common Bunting forms part of the avifauna of the temperate and warmer portions of Europe; in the northern part of Africa "it is so abundant about Martinmas," says the Rev. C. A. Johns, "that all the trees in the public roads and squares of the villages are literally covered with these birds, and they become a staple article of food;" in Palestine, Mr. Tristram says it is as common as the Sky-Lark in England on all the corn-plains throughout the year; it is known to be equally numerous in the islands of the Mediterranean and in Asia Minor; and that it is also found in Persia is certain, for I have a specimen which was killed at Erzeroum.

The projecting, knob-like, horny excrescence on the roof of the mouth and the opposed cutting-angle of the lower jaw peculiar to the true Buntings, is perhaps more conspicuous in the present species than in any other member of the family; this structure is doubtless admirably adapted for breaking down and shelling the grain and seeds upon which they mainly subsist.

Though seen only in pairs during spring and summer, the Common Bunting becomes gregarious in autumn and winter, and may then be observed flying in flocks with Chaffinches, Sparrows, and other birds, which at that time resort to farm-yards and barn-doors in search of food. A very destructive habit, which it exhibits in these situations, is thus described by Mr. Knapp, in the 'Journal of a Naturalist':—"It could hardly be supposed that this bird, not larger than a Lark, is capable of doing serious injury; yet I this morning saw a rick of barley, standing in a detached field, entirely stripped of its thatching, which this Bunting effected by seizing the end of the straw and deliberately drawing it out, to search for any grain the ear might contain—the base of the rick being entirely surrounded by the straw, one end resting on the ground, the other against the mow, as it slid down from the summit, and regularly placed as if by the hand; and so completely was the thatching pulled off, that the immediate removal of the corn became necessary. The Sparrow and other birds burrow into the stack and pilfer the corn; but the deliberate unroofing of the edifice appears to be the habit of this Bunting alone."

During the cold nights of the winter season the common Bunting mostly resorts to thick bushes for shelter; but many of them take up their quarters in the stubble-fields, and are caught with Sky-Larks in nets employed for the purpose, and sent to market; at this time they are remarkably fat, and are considered to be superior to most of our other small birds as an article of food.

The flight is described by Macgillivray as "strong, capable of being long protracted, undulated, being performed by alternate beatings and cessations, but heavier and more steady than that of the Yellow Bunting. When surprised in a field, or roused from a corn-yard, they fly off with a direct rapid motion; but often when an individual which has been resting on a twig or wall-top starts away, it allows its feet to hang for a short time before it commences its bounding flight. I believe there is no other bird of the order with us that has this habit."

"The common note of the Corn-Bunting," says the same author, "is a strong *chuck* or *chit*, and its song consists of a hurried repetition of short unharmonious notes, terminated by a protracted one: although somewhat similar to the song of the Yellow Bunting, it is by no means so lugubrious; but if not sufficiently melodious to call forth exclamations of delight, it forms a pleasing counterpart or contrast to the sweet notes of the mellow-throated warblers. The song, such as it is, may be heard occasionally at all seasons, especially in calm weather; but during the breeding-time it is more frequent, and then the male, perched on a wall or stone, a twig, or a tall herbaceous plant, especially a dock or a bur, continues to utter at short intervals his singular cry, which, although not loud, extends to a great distance."

As spring advances the winter flocking ceases, the birds again separate into pairs, and towards the end of April begin to prepare for the task of reproduction, by the construction of nests of dry stalks and blades of grass, with a lining of fibrous roots and hair or other suitable materials. A nest formerly in the possession of the late Mr. Heysham, of Carlisle, was loosely composed of golden straw-like grasses gradually becoming coarser towards the exterior, where they were mixed with a small portion of moss; the stems of the grasses in the interior were, curiously, placed erect, with the flowering part uppermost. Mr. Hewitson describes the nest as commonly composed of a few sticks, pieces of moss and dry grass, becoming finer towards the inside, which is sometimes completed with the addition of a few hairs. "The eggs," he adds, "are four or five in number, and differ a good deal in size, shape, and colour, but always retain the character of the genus. Their size prevents them from being mistaken for those of any other Bunting." In proof of the diversity in the colouring of the eggs, I may mention that Macgillivray describes them as "greyish or purplish-white, patched and spotted with pale greyish purple, and marked with spots, dots, and curved streaks of blackish brown;" Yarrell, as "of a reddish white, or pale purple red, streaked and spotted with dark purple brown;" while one figured by Mr. Hewitson in the third edition of his work, which he remarks is larger and more richly coloured than usual, is represented of a creamy white, washed with pale purple at the smaller end, blotched on the remainder of the surface, but particularly round the larger circumference, with pink, and a few oval spots of various sizes blackish brown. The average size of the eggs appears to be about one inch in length, by eight lines and a half in breadth.

The Plate represents a male, of the natural size, on a sprig of broom, *Saurothamnus scoparius*.



GLYCOSPINA HORTULANA .

GLYCYSPIA HORTULANA.

Ortolan Bunting.

- Emberiza hortulana*, Linn. Faun. Suec., p. 84.
——— *Badensis*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 873.
——— *chlorocephala*, Gmel. ib., p. 887.
——— *Tunstallii*, Lath. Ind. Orn., vol. i. p. 418.
——— *Malbeyensis*, Sparrm. Mus. Carls., tom. i. tab. 21.
——— *citrinella*, var., Flem. Hist. Brit. Anim., p. 77.
——— *pinguescens*, Brehm, Vög. Deutschl., tom. i. p. 295.
Citrinella hortulana, Kaup, Natürl. Syst. p. 142.
Hortulanus chlorocephalus, Bonap. in Parz. Cat. Ois. d'Eur., p. 4. sp. 131.
Glycyspina hortulana, Cab. Mus. Hein., Theil i. p. 128.
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BIRDS not only contribute to the pleasure of man by their songs, their thousand actions, interesting ways, and varied habits and economies, but they also contribute their fair share towards his sustenance. Besides the amount afforded by the great group of Gallinaceæ, the marsh-, and water-birds, many of the smaller species form no inconsiderable item in supplying his wants and desires. In the acquirement of delicacies for the pampering of his appetite many devices are resorted to, some of which are accompanied by a degree of cruelty much to be deprecated: I allude to the means adopted to obtain the celebrated "pâté de foie gras," to the repeated takings of the nest of the esculent Swallow, and the continued robbery of the eggs of the Plover—acts which cause the Goose to die a miserable death, the Swallow to exhaust itself in the reconstruction of its glutinous cradle, and the Plover to weaken its system by a forced reproduction of its eggs. In Europe three little insessorial birds are especially regarded as delicacies for the table—the Wheatear, the Beccafico, and the Ortolan. The last of these (the bird represented on the accompanying Plate), which, although not indigenous to our island, is sometimes found here, is sent from the continent to London by thousands, but the great bulk of the community, the middle class and the poor, never see or partake of them; it is the noble and wealthy epicures alone who can afford to gratify their appetites with this costly "bonne bouche." The marchioness and the lady of the alderman consult their poulterers as to the more choice viands for the summer season, that nothing may be wanting for their next *recherché* dinner. A dish of Ortolans being the "chose," the fattening-cage is resorted to, and a dozen or more are taken out and killed if they have not already been trampled to death by their companions, or died during the night from apoplexy or sheer obesity, the little birds, which in a state of nature scarcely exceed the size of a Tit, having become a mass of fat the appearance of which is very unlike that of an ordinary plucked Bunting. This essence of millet and canary-seed is certainly not to be despised; and the clubman of our great metropolis frequently doubles the amount of his dinner-bill by ordering a couple of Ortolans. Alas for the fate of the little birds! which have been netted in Italy, Savoy, and France, and sent hither to be fattened and stifled in low cages, where they have not sufficient room to flutter their wings, for the special gratification of those whose gustatory enjoyments dominate over their other senses. The procuring of a string of Larks is, comparatively speaking, unattended with cruelty; a trapped Wheatear is killed in a moment, a Beccafico is destroyed with shot, or taken from the meshes of a net and immediately dispatched; but the Ortolan, captured during his migration from the southern to the northern parts of Europe, where he would otherwise have paired, loved, and bred, terminates the last summer of his existence in the cruel manner above described.

It is somewhat surprising that a bird so common on the continent, and which is a migrant withal, should not have been more frequently seen in this country; few, however, as are the instances of its occurrence, they are sufficient to entitle it to a place in our avifauna. The first specimen recorded as having been taken in England was captured by a London birdcatcher in Marylebone Fields, and was figured in Brown's 'Illustrations of Zoology,' a work published in 1776: this is the example described by Latham in the third volume of his 'Synopsis of Birds,' and moreover was the source, according to Yarrell, from which Gmelin, Lewin, Montagu, and others copied their descriptions. Bewick's figure was taken from a specimen caught at sea off the Yorkshire coast by the master of a trading vessel, and which subsequently passed into the possession of G. T. Fox, Esq. Another was killed near Manchester in 1827. A fourth, taken near London, in a birdcatcher's net, in 1837, along with Yellow Buntings, was deposited in the aviary of the Zoological Society of London in the Regent's Park. The bird is said to have been seen in Norfolk. Mr. Rodd has recorded that an example was killed at Trescoe, one of the Scilly Islands, in 1851; the next year one was

shot near Worthing, in Sussex, and in 1859 another at Lowestoft, in Suffolk. On the continent it is most widely distributed—from the hot countries of Spain and Italy to Holland, Sweden, Finland, and Norway. During my visit to Norway in 1856, few birds came more frequently under my notice; sometimes it was seen by the roadside, at others it was perched on stone walls and among small shrubby trees, but mostly on the fences of gardens and fields: my attention was attracted to it by the conspicuous colouring of its head and the tameness of its disposition. In a note sent to me by H. E. Dresser, Esq., that gentleman says, “The Ortolan breeds all over Finland; yet its nest is not so often found as might be expected. It arrives at Uleaborg in the latter end of May. I saw a good number on the 3rd of June, while walking along the banks of the Ija river; but it was too early to procure any eggs.” Speaking of the bird as seen in Savoy, M. Bailly states that it arrives in that country between the 15th and 20th of April, in small companies of four or six individuals, or in pairs, but that it is principally between the 25th and 30th of that month that it appears in great numbers. “As soon as they arrive they pair, and spread over the country, some resorting to the vineyards, oat-, and wheat-fields, others to places surrounded by hedges and copses, and others again to sandy or stony situations. These migratory flights are performed during serene and moonlight nights; and it is then that we frequently hear their cry of *thû, thê, thiû, thû, thê*, the last syllable of the three cries being ordinarily a little higher in tone than the others. They depart again at the end of August or September. The old birds are the first to leave, and are generally accompanied by the young ones that have already moulted: the others migrate as soon as they have finished changing their feathers; and these are often accompanied by one or two old birds, which usually fly at their head, as if to guide them. In the southern provinces, where they are very common, they are considered a great delicacy, and are fattened for the table in great numbers. For this purpose they are shut up in dark places, sometimes only lighted by the rays from a lantern, or in a cage covered over with silk, except the seed-drawer, to which light is admitted that they may see to feed. Millet seed, steeped for a moment in boiling water, is alone given to them. In these prisons the Ortolans, deprived of all exercise, and provided with an abundance of food, soon become covered with an amount of fat which would not fail to suffocate them, were they not killed in time to prevent it.”

When compared with the birds forming the genus *Emberiza* as now restricted, the bill of the Ortolan Bunting will be found to have a more prolonged and otherwise different form—a circumstance which has induced M. Cabanis to separate it into a distinct genus, *Glycyspina*, which, concurring with him in opinion, I have adopted.

The nest, which seems to be invariably placed in a slight hollow on the ground in fields of corn, is very similar to that of the Skylark, but is somewhat more compact; it is formed of dry grass and small roots, lined with finer grasses and hairs. The eggs are from four to six in number, of a bluish white, speckled and spotted with black.

The food consists of grain and various seeds when ripened, to which insects are added in the early part of the season.

As is the case with the other members of the family, much difference occurs in the colouring of the sexes, the male alone having the green head, which has obtained for it the trivial name of Greenheaded Bunting.

In summer the adult male has the head and cheeks of a greyish green; the back reddish brown, each feather with a darker centre; wings brownish black; the primaries narrowly edged, and the tertiaries and wing-coverts broadly margined, with reddish brown; tail brownish black, the two outer feathers on each side with a broad patch of white on their inner web, near the tip; chin, throat, and upper part of the breast yellowish green; under surface reddish buff, lighter on the abdomen and under tail-coverts; irides brown; bill reddish brown; legs, toes, and claws pale reddish-brown.

The female has the head of a greyer tint and streaked with dark brown, the breast streaked with dark brown, and her general colour not so rich as in the male.

The Plate represents the two sexes, of the size of life, on a branch of the Barberry, *Berberis vulgaris*, Linn.



EUSPIZA MELANOCEPHALA.

EUSPIZA MELANOCEPHALA.

Black-headed Euspiza.

- Emberiza melanocephala*, Scop. Ann. Hist.-Nat., tom. i. p. 142.
Tanagra melanictera, Lath. Ind. Orn., vol. i. p. 123.
Xanthornus caucasicus, Pall. Zoog. Rosso-Asiat., tom. i. p. 428. no. 74.
Fringilla crocea, Vieill. Hist. Nat. des Ois. Chant., p. 51, tab. 27.
Passerina melanocephala, Vieill. Ency. Méth. Orn., part. iii. p. 940.
Emberiza granativora, Ménétr. Cat. des Objets de Zool. du Caucase, tom. i. p. 40. no. 29.
Euspiza melanocephala, Bonap. Consp. Gen. Av., tom. i. p. 468, *Euspiza*, sp. 1.
——— *simillima*, Blyth, Journ. Asiat. Soc. Beng., vol. xxiii. p. 811.
Granativora simillima, Bonap. Comp. Rend. de l'Acad. des Sci., 1853.
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JUDGING from the number of continental birds which have been added to our avifauna during the last twenty years, we may reasonably infer that others will have to be included, and that the List of British Birds, will ever remain incomplete. My duty, as the author of the present work, is to render it as perfect as may be up to the date of its completion; and hence I am induced to give here a figure and account of the Black-headed Bunting, which, so far as positive evidence can be obtained short of seeing the bird alive or in the flesh, is one of the wanderers above alluded to, of which a fine adult female was brought to me by Mr. Robert Brazener, of Brighton, in the latter part of 1868, to ascertain what it might be. He informed me that he had shot it on the 3rd of November of that year, near Mr. Ballard's windmill on Brighton Race-course, while "it was following a flock of Yellow Hammers." His two sons were with him at the time. On an examination of the bird, a number of embryo eggs were found in the ovarium. After questioning Brazener as to the circumstances of its acquisition, noting the perfection of the skin, its freshness and the mode of preparation, and ascertaining, as far as might be, the probability of its having been mixed with continental examples from which it had not been distinguished, I could come to no other conclusion than that his statement was correct, and that the bird had really been killed in this country. From Mr. Brazener the specimen passed, through my instrumentality, into the possession of T. J. Monk, Esq., of Lewes, whose collection (comprising as it does the greater number of the *rare aves* taken in Sussex) I considered would be its most appropriate resting-place. The occurrence of the bird on our coast cannot be regarded as an unlikely event when we remember that Blasius and Gätke include it among the birds of Heligoland, although there also it must be regarded as a straggler, its proper home being the southern countries of Europe and Western India, as will be seen by the following notes recorded by various writers both English and foreign.

Dr. Bree, speaking of the bird in his valuable contribution to ornithological literature, 'A History of the Birds of Europe not observed in the British Isles,' says:—

"The Black-headed Bunting is an inhabitant of the southern parts of Europe and Asia Minor. It inhabits the Caucasus, and is very common in Georgia, about Tiflis, and in Greece, and is not rare in Dalmatia. It is common throughout the Levant, and is sufficiently so, according to Temminck, in Istria, in the neighbourhood of Trieste, in the bushes and slopes of the hills which border the Adriatic. It has occasionally, but accidentally, been found in Lombardy, Provence, Saxony, and in the neighbourhood of Vienna.

"It sings very agreeably, preferring, while so engaged, to perch on some post in the open country.

"It nests upon shrubs, particularly, according to Degland, on 'the *Bariurus aculeatus*, and not far from the ground. It lays from four to five whitish eggs, covered with very small spots and dots of a more or less ashy grey; some specimens are of greenish white, with spots of a rusty brown at the largest end.'

"Count Mühle says it comes into Greece at the end of April. On a clear bright morning in spring, the hedges near the coast are often covered with them, though previously none were to be seen. It builds and breeds in the over-grown hills, and goes away early in August. During the breeding-time, the male sits on the tops of the bushes, and continually utters its agreeable, simple, Yellowhammer-like song. It is not at all shy, and is frequently killed by those in quest of it with a stick alone. Singular to say, the female is seldom seen; I have met with a very small number of that sex."

Lieut. R. M. Sperling mentions, in his 'Notes on the Ornithology of the Mediterranean,' that he "observed lots of these birds in the high reeds at Butrinto; but they were very artful in dodging out of

sight ;” and Mr. W. H. Simpson, in his ‘Ornithological Notes from Mesolonghi and Southern *Ætolia*,’ that “the gardens and vineyards were full of this most beautiful bird.”

Lord Lilford informs us in ‘The Ibis’ for 1860, p. 139, that the Black-headed Bunting “arrives in Corfu and Epirus in great numbers in April, remains to breed, and disappears in September, has an agreeable song, and is known in Corfu by the name of ‘Ortolano.’”

The Rev. H. B. Tristram, in his ‘Notes on the Ornithology of Palestine,’ states that it is there a very common and conspicuous bird in spring and summer, and says :—“On reference to my note-book, I find I did not observe it before the first week in May ; and its plumage is too brilliant for it easily to escape notice. Its note is varied and powerful, more like a Linnet’s than a Bunting’s ; and it resorts to scrub, forests, and cultivated ground, affecting particularly olive-yards and, in the north, apricot-orchards, where it sits pouring forth its song from the topmost twig of some tall tree. The nest is placed either on the ground, in a tuft, or in a low bush, sometimes in the clump at the root of a shrub ; it is more compact than that of most Buntings, lined with fibres of roots and hair ; and the eggs, often six in number, are of a pale blue, powdered all over their surface, sometimes thickly, at others sparsely, with brown spots.”

Mr. Jerdon tells us that “In India the Black-headed Bunting is only found in the North-western Provinces, where it is most abundant in the Deccan, and thence extends into the Upper Provinces of Hindustan. It usually makes its appearance in the Deccan about the end of November, in immense flocks, which are very destructive to the crops of jowaree and other grains. It leaves early in March, and certainly does not breed in any part of India.”

Very considerable difference occurs in the appearance of the sexes—the female being destitute of the rich black colouring of the head, and of the chestnut hue of the back.

The male in full breeding-plumage has the head, cheeks, and ear-coverts rich deep black, all the upper surface and a patch on each side of the chest deep rust-red, the whole of the under surface and the sides of the neck bright yellow ; wings reddish brown, each feather conspicuously margined with grey, except the primaries, on which it only occurs as a fine line on the extreme edge of the feathers ; tail similar, but paler, and the edging not so decided ; bill bluish grey ; feet yellowish brown.

The general plumage of the female above is brown, each feather margined with pale brown ; the under surface washed with yellow, which is deepest on the under tail-coverts.

The figures are of the natural size ; the lower one, or female, was taken from the specimen killed at Brighton.



SCHÆNICOLA ARUNDINACEA.

SCHÆNICOLA ARUNDINACEA.

Reed-Bunting.

Emberiza Schœniclus, Linn. Syst. Nat., tom. i. p. 311.

———— *arundinacea*, Gmel. Edit. Linn. Syst. Nat., tom. i. p. 881.

———— *passerina*, Pall. Zoogr. Ross.-Asiat., tom. ii. p. 49?

———— *Schœniculus*, Flem. Brit. Anim., p. 78.

Cynchramus Schœniclus, Boie, Isis, 1826, p. 974.

———— *stagnatilis* et *septentrionalis*, Brehm, Handb. der Naturg. Vög. Deutsch., pp. 301, 302.

Hortulanus arundinaceus, Briss. Orn., tom. iii. p. 274.

Schaenicola arundinacea, Bonap. Consp. Gen. Av., tom. i. p. 463, *Schaenicola*, sp. 1.

HOWEVER much some persons may be disposed to carp at what they consider an undue division of the older genera, and the consequent establishment of new ones, I, for one, believe that the practice, when judiciously exercised, has a beneficial rather than an injurious influence upon the study of natural history. Thus to keep all the Buntings under one generic appellation, as was formerly done by Temminck and others, would rather embarrass than assist us in the investigation of that family of birds. No one who has studied our native birds can have failed to observe the very great difference in appearance between the Corn-Bunting (*Cynchramus miliaria*) with its uniform colouring, the beautiful Yellow-Hammer (*Emberiza citrinella*) with its gay dress, and the Reed-Bunting (*Schœnicola arundinacea*) with its black head and white neck-collar; or that these variations in colouring are accompanied by a corresponding diversity of structure, and that, besides differing in colour and form, they also differ in their habits and mode of life, each to a certain extent affecting different situations in the countries they respectively inhabit, and each being beautifully adapted to fulfil the specific office for which they were created. The Corn-Bunting resorts to arable lands and arid wastes, the Yellow-Hammer to the hedgerow, and the Reed-Bunting to the fluviatile portions of the country. Of these three species, or at least two of them, many representatives, constructed in precisely the same form, and having a similar style of colouring and markings, are found in other parts of the world. Surely then it becomes necessary that they should not be all arranged under one generic title, but that each form should have a designation of its own by which it may be at once recognized: this has accordingly been done by modern systematists.

I have mentioned that the Reed-Bunting resorts to fluviatile districts; and I may now add that it especially affects bogs, marshes, broads, and the basins of rivers, particularly where the common reed (*Phragmites communis*) grows, and osiers, alders, and willows abound. On the banks of the Thames and all its tributaries, in the fens of Lincolnshire, Cambridgeshire, Norfolk, and Suffolk, and in all situations where rank vegetation clothes the sides of water, from one end of England and Wales to the other, the bird is found. In Ireland it is a resident species, that island, from the prevailing humidity, remarks Thompson, being well suited to it. In Scotland it is scarcely less abundant. In the marshy countries of Holland and Belgium no bird is more frequently met with; neither is it much less numerous in Germany and all the central parts of Europe. It also ranges far to the north, in Norway and Sweden. Captain Loche informs us that it is found in Algeria; but it was not noticed there by Mr. Tristram and his friends, nor does that gentleman include it in his list of the birds of Palestine.

I cannot agree with Macgillivray and some other of my cotemporaries when they describe this bird as shy and difficult of approach; for I and all my fellow-fishermen, and, indeed, every one who whiles away a pleasant hour on the Thames, find it just the reverse. What bird, in fact, which frequents the banks of that beautiful river can be more nearly approached, or which sits more conspicuously on the hanging branch of the willow or the upright stem of the osier? Where is there a bird which allows you to get so near while it is in search of stranded seeds, insects, or small mollusks on the margins of the water, or while similarly occupied on the hard-trodden towing-path? All who have visited such localities must have noticed the white-necked male flit before them with a jerking flight, or cross the river at right angles to the neighbouring ait.

In Scotland this bird is said to leave the country during the winter, or, at all events, to become sensibly scarcer at that period; with us on the Thames, and, I believe, in all our central and southern counties, it is as abundant in winter as in summer. The greater number remain near water; but a few occasionally seek the hedges of the open fallow or grass fields, and, like other birds, when driven to a strait for food, it will resort to the farm-yard; not that grain under ordinary circumstances is an article of its diet, its feeble bill being better adapted for the seizure of insects, small seeds, and minute shelled mollusks, all of which are readily found in its usual places of resort, the marsh and the willow-bed.

Few birds offer a more marked difference in the colouring of the sexes than the Reed-Bunting; for the female has neither the black head nor the white collar which form such conspicuous features in the male, and which render him so ornamental an object amid the surrounding foliage. As spring draws near, this black hue of the head becomes more intense, and the white of the nuchal band more pure; in winter, on the other hand, all the feathers are tipped with brown, the abrasion of which, in the following spring, leaves them jet black.

The presence of the bird is at all times made manifest by its somewhat monotonous feeble chirp; but it occasionally utters a lengthened, agreeable, inward song, which I always listen to with pleasure, as I presume do all who hear it.

When the osiers have put forth their shoots, and the flags of the marsh grown sufficiently high to screen the nest from observation, the Reed-Bunting commences the task of incubation, and generally places its cup-shaped structure on the ground, on the stub of a willow, or on the side of a bank. The nest is composed of fine grasses, with a slight lining of long hairs. The eggs are four or five in number, of a pale stone-colour, with large unfrequent blotches and scribblings, as it were, of deep umber-brown, bounded by a suffusion of a paler tint, appearing as if the markings had been laid on and the colour had slightly spread over the neighbouring surface. The eggs are in length about twelve sixteenths of an inch, and in breadth nine sixteenths, or rather less than those of the Yellow Hammer and Ortolan. The breeding-season lasts from the beginning of May until August, during which two broods are usually produced, the first during the early part of the first-mentioned month, the other in July.

The young birds resemble the female, and do not acquire their black head until the spring following their first winter.

The figures are of the natural size. The plant is the *Carex riparia*.



CENTROPHANES LAPPONICA.

J. Gould & H.C. Richter, del. et lith.

Walter, Imp.

CENTROPHANES LAPPONICA.

Lapland Bunting.

Emberiza lapponica, Nilss. Orn. Suec., tom. i. 157.

Fringilla calcarata, Pall. Itin., tom. ii. p. 710.

——— *lapponica*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 90.

Emberiza calcarata, Temm. Man. d'Orn., p. 190.

Plectrophanes lapponica, Selby, Trans. Linn. Soc., vol. xv. p. 156, pl. 1.

——— *calcaratus*, Meyer, 3. Theil des Taschenb. Deutschl. Vög., p. 57.

Centrophanes lapponica, Kaup, Natürl. Syst., p. 158.

FROM the date, now somewhat more than forty years ago, when Mr. Selby first assigned this species a place in our avifauna, many examples have been shot or captured in this country. In most instances they were either immature or in the winter dress; it is evident, therefore, that the British Islands are not the bird's summer home, and that its occurrence here must be regarded as purely accidental. The specimen characterized by Mr. Selby had been sent to Leadenhall market with some Larks from Cambridgeshire; a second and a third were taken near Brighton; a fourth a few miles northward of London; a fifth in Lancashire, and a sixth in Westmoreland. During the autumn of 1866 one was caught near Highgate, and subsequently placed in the aviary of the Zoological Society; and another is recorded by Mr. Cooke, of Liskard, as having been purchased in the Liverpool market from a Southport bird-catcher. Mr. Stevenson, of Norwich, also records that a male was taken, during extremely severe weather, at Postwick, near that city, and, being placed in the aviary of J. H. Gurney, Esq., assumed the full summer plumage in the following spring. "The only other Norfolk specimen of this Bunting I have either seen or heard of," says Mr. Stevenson, "was shown to me by the Rev. E. J. Bell; it had been netted near Norwich, a few weeks before, and was gradually assuming its summer plumage, having the black on the head and throat imperfect, with a chestnut bar on the nape." There may be some other instances of its having been taken with us; but sufficient has been said to establish the Lapland or Lark-heeled Bunting as an occasional visitant to Britain. Its true home is whither the Fieldfare, the Redwing, and the lovely Blue-throated Warbler (*Cyanecula suecica*) retire for the purpose of incubating—the land of the Lap and the Lemming. There it breeds in abundance; and if any son of Britain desires to observe the bird during the performance of this duty, he must leave for a while the song of the Lark and the tinkle of the sheep-bell, and betake himself to the fells, the fjelds, and fjords of Norway, Finland, and Lapland, and dwell for a time among the nomadic races of those countries and their herds of reindeer; and how much pleasure he may derive thereby will be readily apparent from the following chapter from Mr. Wheelwright's papers entitled "Spring and Summer in Lapland," which appeared in the *Field* for March 31, 1863, and which cannot fail to be interesting to every one desirous of information respecting this bird:—

"The Lapland Bunting appeared to arrive at Quickiock later than any other species, and, unlike the Shore-Lark, did not rest in the lowlands, but went up to the fells at once; I don't think we saw six examples at Quickiock the whole spring, whereas in the middle of June they were literally swarming in certain places on the fell-meadows—so much so that in one night we took thirteen nests, from all of which we shot the old birds. They seemed, however, to be very local; and it was long before we could discover their breeding-place. At last we found a low flat at the foot of the highest snow-fells (but still, perhaps, 2000 feet above Quickiock), covered with tough tussocky grass and patches of willow bushes, and studded with innumerable lakes and watercourses. This was a rich tract to us; for here we also found the nests of the Blue-throated Warbler, Broad-billed Sandpiper, Temminck's Stint, Wood-Sandpiper, Phalarope, Scaup and Long-tailed Ducks. It is one of the sweetest spots that can well be imagined—a real oasis in the desert; and I never enjoyed a summer ramble so much as in this wild tract. There are certain circumstances in life, as well as places, which leave an impression on the mind never to be obliterated; and this fell-meadow forms one of the brightest flowers in the field of memory as regards my Lapland journey.

"When I first searched this spot I was attracted by a soft loud pipe, very much resembling the call of the Golden Plover. It was long before I could make it out; for I could not see the bird which uttered it: at last one rose, and I shot it on the wing; it proved to be a male Lap Bunting. The mystery was now solved; and we had no difficulty in finding the nest, as it was not far off: and I soon became more familiar with its habits. The female rarely rises, unless you tread close to the nest, but runs away on the ground, much like the Pipit. The male sits on a stone or heap of earth, uttering his monotonous, plaintive whistle, till disturbed, when he rises in the air, much after the manner of the Common Bunting, soars for a while, and then suddenly drops to the ground, as a Skylark does into a field of young wheat in England. While in the air the song of the Lap-

land Bunting is richer and clearer than that of any other of our songsters—not so shrill as that of the Lark, but far sweeter and more varied; and I thought I never listened to a more pleasing melody. Oh, how often have I at such times envied the feelings of the true naturalist, who can listen to the artless song of the little bird without wishing it in his game-bag, and watch its habits without hoping soon to see it lying on his skinning-table! There must, however, be collectors, or our knowledge of the feathered race would stand still; but, depend upon it, the study of the animal creation loses half its innocent charms as soon as we make it a matter of pounds, shillings, and pence.

“The nest of the Lapland Bunting, as far as I could ascertain, is always placed on the ground, generally sheltered by a tussock of grass, occasionally under a small bush, built invariably and entirely of fine grass, put together loosely and without much care. The eggs vary much in colour; they often resemble those of the Black-headed Bunting, but are more clouded than streaked; and I have seen them very like those of the Meadow-Pipit. Six appears to be the full number. By the end of July we shot strong-flyers, although most of the nests were taken about the 27th June.”

I have often been at a loss to imagine where these birds dwell at the season opposite to that at which they are seen on the Quickiock fells and other parts of Norway, Finland, and Russia. They certainly cannot winter in those regions; and I know of no country in which they have been seen at that season. In Central and Southern Europe the species appears to be but a casual winter visitant, while in India it is not known; and Mr. Swinhoe does not speak of it as inhabiting the southern part of China, although he says that it is abundant near Peking in winter; but doubtless these are birds which have bred further north. Professor Baird, in his ‘Catalogue of American Birds,’ gives as its habitat in that country, “Eastern North America, into the United States in winter; not yet found much west of the Missouri.”

As a counterpart to Wheelwright’s account of the bird in Northern Europe, I shall quote a passage from Sir John Richardson, in the ‘Fauna Boreali-Americana,’ respecting it as seen in that part of the world:—

“This handsome bird is common to the northern regions of both continents. According to Forster, it winters on the coast of Hudson’s Bay, arriving at Severn River in November, and departing on the approach of spring for the north. During its stay it feeds on grass-seeds and, Hearne says, also on the buds of the *Pinus microcarpa*. . . . I never met with it in the interior of the fur-countries during winter, and I suspect that its principal retreats at that season are on the borders of Lakes Huron and Superior, and to the country extending to the westward on the same parallel. In the year 1827 it appeared on the plains at Carlton House about the middle of May, in very large flocks, among which were many Shore-Larks (*Alauda alpestris*), and a few individuals of *Plectrophanes picta*. During their stay of ten or twelve days, they frequented open spots where recent fires had destroyed the grass. They came to Cumberland House a few days later in the same season, and there kept constantly in the furrows of a newly-ploughed field. In the preceding year they were seen, though in smaller flocks, in the vicinity of Fort Franklin (lat. $65\frac{1}{2}^{\circ}$) in the beginning of May; and the crops of those that were then killed were filled with the seeds of the *Arbutus alpina*. They breed in the moist meadows of the Arctic Sea. The nest, placed in a small hillock, among moss and stones, is composed externally of the dry stems of grasses, interwoven to a considerable thickness, and lined very neatly and compactly with deer’s hair. The eggs, usually seven in number, are pale ochre-yellow, spotted with brown.”

After a perusal of the above passages, it will be evident to every one that the Lapland Bunting is truly an Arctic species, that it breeds and spends the summer in all parts of the Circle where suitable localities present themselves, and that when the snow carpets the mountains, and the fells are covered up for the winter, it retires southwardly to some district where a supply of food is still to be found, and there awaits the time when its summer home will be again fitted for its reception.

A word with regard to the apparent affinities of this bird may not here be inappropriate. That it is closely allied to that section of the Buntings to which our black-headed species, *Schœnicola arundinacea*, pertains, there can be, in my opinion, but little doubt; but its long hind claw proves that it is generically distinct; in this part of its structure it differs from all insessorial birds except the Larks, Pipits, and Wagtails. Some persons have considered that the lengthened claw allies it to the members of the genus *Alauda* or true Larks; but, as Mr. Blyth very justly remarks, this is very superficial. It is a bird that is much on the ground, over which it passes differently from most others; for it neither runs like a Lark or a Wagtail, nor hops like a Sparrow, but moves in a manner which partakes of the actions of both. I have reason to believe that a considerable change of plumage takes place in the male at opposite periods of the year, and that the black head and throat, and the ruddy markings of the upper surface, shown in the accompanying plate, give place to a more uniformly coloured dress in winter.

The figures represent a male, a female, and a brood of young just ready to fly, all of the natural size.



PLECTROPHANES NIVALIS .

J. Gould & H.C. Richter, del et lith.

Walter, imp.

PLECTROPHANES NIVALIS.

Snow-Bunting, or Snowflake.

Emberiza nivalis, Linn. Faun. Suec., p. 82.

——— *montana et mustelina*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 867.

——— *glacialis*, Lath. Ind. Orn., vol. i. p. 398.

Hortulanus glacialis et montanus, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., pp. 15, 16.

Plectrophanes nivalis, Meyer, 3. Theil des Taschenb. deutsch. Vög., p. 58.

——— *borealis, montanus et mustelinus*, Brehm, Vög. Deutschl., pp. 305, 306.

IF we compare the avifaunas of the arctic and antarctic circles, we find that they are of very opposite characters—that probably no insessorial bird inhabits the southern land, and that Penguins, Gulls, and Petrels are almost the only birds that live in that inhospitable region. How different is it in the great polar basin of the north! how varied are the forms of birds which dwell therein! and what myriads of individuals there occur! If not congenial to the human race, it may be considered the elysium of a certain portion of the feathered creation: for where can they live more peacefully, or obtain their food with less trouble?—the great warmth of the brief summer and perpetual daylight being conducive to the life of so many of the lower animals upon which they live. If the shores of these ice-bound seas be not favourable to the growth of shrubs and trees, sufficient vegetation and insect life exist to nurture several little insessorial birds, of which, perhaps, the most conspicuous is the Snow-Bunting, a species which, from its abundance and extreme tameness, must be to the Esquimaux what the Sparrow and the Wagtail are to us. No northern country yet visited by Europeans, either in the Old or the New World, has been too near the pole for its existence; for, however high the latitude that has been attained, there the Snow-Bunting has been found breeding; and I strongly suspect that if the pole itself were reached, and islands or a mainland were to be found there, this interesting bird would be seen enlivening the waste; at least we may naturally conclude that such would be the case from the circumstance of its having been met with in every part of the arctic circle yet visited—Spitzbergen, Nova Zembla, Lapland, Russia, and Siberia in the Old World, while Greenland, from its position, unites it with the New. The remains of the departed and excellent Franklin and his heroic companions lie in the midst of the breeding-grounds of this species; and well does its mourning attire accord with the dreary resting-place of those brave men, many of whom were my personal friends. Heaven only knows whether the skeletons of our countrymen may not have afforded shelter for the nest of the beautiful Snowflake; for Captain Lyons found one placed in the bosom of a departed Esquimaux child—“a situation,” remarks the Rev. F. O. Morris, “suggestive of affecting thoughts, but the history connected with which must remain unknown until that day when both land and sea shall give up their dead.” One would imagine that birds are among the happiest of created beings; without effort, and with but little labour, they transport themselves from place to place, and from country to country, their wing-powers enabling them almost to annihilate time and space. They are certainly more independent than quadrupeds; for no impediments obstruct their passage from one region to another. They inhale freely the ambient air, through which they pass on their wonderfully constructed wings. To-day the Snowflake may be in the British Isles, to-morrow in Iceland, the day following in their breeding-grounds in Greenland, whence, the task of incubation accomplished, and the feathering of the young perfected, they return southward to avoid the rigours of winter, which would be fatal to so frail a bird. The individuals which leave us for the temperate regions of the northern hemisphere, singly or in pairs, in spring, return again in the autumn in flocks, and frequently hundreds together.

“This neat and elegant bird,” says Dr. Richardson, “breeds in the northernmost of the American islands, and on all the shores of the continent, from Chesterfield Inlet, to Behring’s Straits. The most southerly of its breeding-stations in the New World, that has been recorded, is Southampton Island, in the sixty-second parallel. Its nest is composed of dry grass, neatly lined with deer’s hair and a few feathers, and is generally fixed in the crevice of a rock, or in a loose pile of timber or stones. The eggs are greenish white, with a circle of irregular umber-brown spots round the thick end, and numerous blotches of subdued lavender-purple. On the 22nd July, 1826, in removing some drift timber lying on the beach of Cape Parry, we discovered a nest on the ground containing four young Snow-birds. Care was taken not to injure them; and while we were seated at breakfast, at the distance of only two or three feet, the parent birds made frequent visits to their offspring, at first timidly, but at length with the greatest confidence, and every time bringing grubs in their bills. The Snow-Bunting does not hasten to the south on the approach of winter with the same speed as other summer birds, but lingers about the forts and open places, picking up grass-seeds, until the snow becomes deep; and it is only during

the months of December and January that it retires to the southward of the Saskatchewan. It usually reaches that river again about the middle of February; two months afterwards it attains the sixty-fifth parallel of latitude; and in the beginning of May it is found on the coast of the Polar Sea. At this period it feeds upon the buds of the *Saxifraga oppositifolia*, one of the most early of the arctic plants; during the winter its crop is filled with grass-seeds. In the month of October, Wilson found a large flock running over a bed of water-plants, and feeding, not only on their seeds, but on the shelly mollusca which adhered to the leaves; and he observes that the long hind claws of these birds afford them much support when so engaged. The young are fed with insects."—*Faun. Bor.-Am.* vol. ii. p. 246.

In his 'Notes on the Ornithology of Lapland,' the late Mr. Wheelwright says:—"Although the Snow-Bunting did not appear to remain during the winter, we observed small flocks of it during our whole journey up north of Hernosand; and very soon after we arrived at Quickiock I shot specimens in nearly pure winter dress; they seem to leave the lowlands for the fells early in May. We never found a nest, although the bird breeds abundantly among the fells, and we shot old birds in their summer dress as well as young fliers in the end of July, and one of the latter as early as the 6th of that month. I am not surprised that we did not find the nest; for the wildest and most desolate spots on the fells appeared to be their summer home. On these fells there are thousands of acres, we might say many miles, covered with nothing but loose shingly slate and ironstone, and boulders of erratic rock, which are most difficult to traverse; and here we always saw the Snow-Bunting during the breeding-season; but when the young could fly they appeared to descend lower down on the fells."

During the months of September and October the British Islands are visited by numbers of these birds, the eastern coast particularly, the great promontory of Norfolk being a favourite place of resort; but it is less numerous in the southern and western parts of our islands. That it proceeds still further south is evident, Mr. Frederick Du Cane Godman having seen it in the Azores; it is said that it also visits the Canaries. I believe we have no direct evidence that the bird has ever bred with us; but we may reasonably assume that a few now and then remain for that purpose; for Macgillivray states, in his 'Natural History of the Deeside and Braemar,' that he "met with this species early in August in the corry and on the summit of Lochnagar, on the Glas-mheal, in the western corry of Cairn Toul, on the summit of Ben-na-muic-dhui, and in several other localities. Mr. Cumming and Mr. Brown inform me that it resides there all summer and breeds. In winter it frequents the valleys from Castletown to Ballater in small flocks. According to Mr. Stewart it breeds on Ben-Aun."

"Seen against a dark hill-side or lowering sky," says Mr. Saxby, in the 'Zoologist,' "a flock of these birds presents an exceedingly beautiful appearance, and it may then be seen how aptly the term 'Snowflake' has been applied to the species. I am acquainted with no more pleasing combination of sight and sound than that afforded when a number of these birds, backed by a dark grey sky, drop as it were in a shower to the ground, to the music of their own sweet tinkling voices."

So much diversity occurs in the colouring of the Snow-Bunting during its progress from youth to maturity that examples have been described as pertaining to different species, besides which a seasonal change takes place which transforms the bird amazingly; jet-black and snow-white is the characteristic of the breeding-dress of the male, while that of the female is browner, with streaks of a darker hue on the head and back, and she has much less white on the shoulder; the under surface, however, is white as in the male; the bills of both sexes at this season are jet-black.

The young, as may be seen in the accompanying Plate, are very unlike the adult, being olive-brown above, streaked with black, while the belly is tawny and the white shoulder-marks slightly tinged with the same hue.

The Plate represents a male, a female, and a nest of young, of the natural size, in summer plumage. The reduced tawny-coloured figure represents the dress in which the birds are frequently seen in autumn and winter. The red-flowering Lichen is the *Cladonia cornucopioides*.



PASSER DOMESTICUS, Ray.

PASSER DOMESTICUS, *Ray.*

Common or House Sparrow.

Passer domesticus, Ray, Syn., p. 36.

Fringilla domestica, Linn. Syst. Nat., tom. i. p. 323.

Pyrgita domestica, Cuv. Règn. Anim., 2nde édit. tom. i. p. 439.

WHERE is there a bird less valued, or one that is more persecuted than the Sparrow? A price is put upon his head, and large sums have been expended for his destruction. The strychnined corn is placed in his way; and his nightly repose is disturbed by the bird-catcher, that he may be trapped for shooting-matches. I once accompanied a person through London who had lately arrived from the Antipodes, and, aware that it was the first time he had seen the land of his parents, I inquired what object most strongly impressed him as being different from Australia; his reply was, "The tameness of your birds in the streets: we have no bird hopping before us like your Sparrow." Now, simple as it was, this reply was very truthful; for there are really no countries, except those forming the northern portion of the Old World, where such an impression could have been received. The Sparrow, then, is an institution—a prominent feature, which we now see because it has been pointed out to us, and which we have not contemplated or given a thought to heretofore, because it has always been before our eyes. Let us ask ourselves the question, Would England be England without the presence of the saucy, impudent Sparrow? What the dog is to man among quadrupeds, so is the Sparrow among birds; for with us it is in constant companionship. It follows us in our migrations, and extends its domain as civilization advances, leaving its native province and pure country air, to dwell with us in our villages and thickly inhabited towns and cities. Everywhere in the northern parts of the Old World it is in intimate alliance with Europeans; and if ever the Australians should succeed in naturalizing an animal whose proper habitat is north of the line, it will be the Sparrow. Enough has been said to show that the Sparrow is not a migrant, and that it is strictly indigenous. It inhabits every part of the British Islands, even the most western; for Macgillivray states that, according to the minister of Stornoway, in the outer Hebrides, a few individuals have appeared in that town, where they will doubtless multiply. The other European countries in which it is found are Denmark, Sweden and Norway, Holland, Germany, France, Spain, Portugal, Italy, and Dalmatia; out of Europe, it occurs in Morocco, Algeria, and Egypt. The late Mr. Strickland stated that it is the common House-Sparrow of the Levant; it also inhabits Persia and the Himalaya Mountains; and it is a question whether the Common Sparrow of the Peninsula and other parts of India, to which the name of *Passer indicus* has been given, be really distinct from it, or only a variety; if the latter be the case, the range of the bird is indeed most extensive. I will now ask the question, Is this constant companion of man, this dweller among human habitations, subject to any change in size or plumage? To a certain extent it is, but the differences are very trifling. The Sparrows of Rotterdam and Leyden are larger than those of London; the Sparrows of Marseilles have the black gorget less conspicuously developed than those of other localities; the Sparrows of Tangier have russet coloured feathers mixed with the black ones of the gorget; yet they all possess the grey crown, one of the characters which distinguish the *P. domesticus* from the other members of the genus.

As if the Sparrow had taken advantage of its constant and close proximity to man, whose hospitality it shares in spite of its persecutions, it has become the most bold and impudent of our native birds, and, were sauciness a virtue, might very justly claim the reward which we really do offer it for dwelling among us, for flooding our houses by stopping up our water-pipes with its huge nest, for disturbing our rest by its incessant bickerings before our windows at the dawn of day, for taking toll from our early peas, or levying black mail from some of the other products of our gardens. With regard to the corn-field, let the amount of evil or good he effects there be settled between him and the farmer. Perhaps the charge brought against him may be to some extent just; but surely the Sparrow is entitled to some compensation for the good offices he renders by the destruction of the myriads of insects which constitute almost its sole food during a great part of the year. On this head I can speak with confidence and earnestness, having seen these birds busily engaged in their scrutinizing search among the leafy branches of the trees, from the earliest dawn to the close of many a summer's day. To give an adequate idea of the varied positions which these birds assume while thus engaged among the willow and other trees is beyond the powers of my pen: they creep, they hang, they flutter beneath, and move about in every possible attitude. Besides carefully searching the trees, they minutely examine every crevice in the face of a wall for the lurking spider and other creeping thing which may there have sheltered; and do not neglect to explore the curled leaves of the plum and other fruit-trees of the garden, and thereby prevent thousands of caterpillars from becoming

perfect insects; they also descend to the ground, search among the grass, and fill their beaks with the creatures peculiar to such localities, and occasionally take insects in the air for the hungry and chirruping inmates of the nest in the water-spout or between the tiles of the house. Incessantly is this capturing going on, from April until August; for as soon as the first brood is able to fly, the male is again coquetting with the female; and who is there that has not seen this Sparrow-courtship, and the eternal bickering fights between the males, when two or more are engaged in a furious struggle, ending, after all, in but little harm to either of them? At the moment I am writing, August 15, 1863, some young Sparrows are chirruping in a hole near my bed-room window, in Charlotte Street, Bedford Square—a circumstance which rather militates against the assertion made by some persons that the Sparrows leave London for the corn-fields in summer; still they may do so to a certain extent, just as many of the poor of this great city seek a change of air and employment in the great hop-fields of Kent—a measure equally beneficial to man and bird. It is not a little amusing to watch closely the ways and doings of our constant attendant the Sparrow, who, as if presuming on our friendship, sets no bounds to his impudence towards his feathered brethren, and with great effrontery frequently seizes upon the hole selected by the Starling wherein to form its nest, and continues to hold possession until the Starling, losing all patience, takes him by the neck and with main force draws him from the hole. This little altercation ended, and the stronger bird in possession, matters go on more amicably. It not unfrequently happens that the fairy Martin, which constructs her mud nest under the eaves of our houses, has scarcely finished her labours ere the Sparrow seizes on the building. The Martin is said to revenge itself upon the intruder in a curious way. To fight so powerful a bird would answer no end; she therefore plasters up the entrance to the nest with mud, and thus keeps him a prisoner. The Sparrow will also frequently attempt to lord it over the Robin, by descending to the grass-plot and interfering with his avocations; in this courageous bird, however, he finds his match; for it would be beneath the dignity of the Robin to refuse a tilt with a Sparrow, in which he is sure to be victorious. When the Sparrow keeps to his own place of breeding, whether he may domicile under the roof of a house, in the hole of a pollard, or among the branches of the trees of the garden (which he frequently does, and which is doubtless the most natural situation), none of these strifes take place.

It is a vexed question, in the thinking minds of the present day, whether we are not wrong in destroying those of our native birds which are supposed to subsist upon grain and otherwise injure our crops. Generally speaking, it is undoubtedly wrong to do so; but I consider it would be quite as unwise to allow so prolific a bird as the Sparrow to increase and multiply to the extent it would do, without a check of some kind. If we destroy every Hawk that would daily carry six or eight Sparrows to its nest for the sustenance of its young, and kill every Weasel, Stoat, and Martin that enters the holes in the pollard and other trees, where the bird often makes its nest, and destroys as many more, we must act the part hitherto performed by these natural enemies of the bird. A little judgment, tempered with mercy, is, in my opinion, all that is required to keep a proper check upon the undue increase of the Sparrow, the Rook, and other birds. How shy and vigilant, however, does the Sparrow become, the moment he is watched! how well does he know, after the first shot, that the gun is a weapon of destruction to him! It is amusing to see the cunning with which he keeps out of harm's way; how superior, in this respect, he is to all other birds: his intelligence amazes us, and we say to ourselves, Can this have been brought about by a lengthened and close proximity to man?

The Sparrow is not an elegant bird, neither is he so gaily attired as the Goldfinch; yet he is adorned with many pleasing and harmonized colours, particularly in the seasons of spring and summer. In his nuptial dress, and with a coal-black bill, the Sparrow is no mean-looking bird; and when the male, with exuberant manifestations of love, displays himself before the female, the silvery grey of the lower part of the back contrasts strongly with the chestnut of his drooping wings, and the grey of his crown looks like a coronet, surrounded as it is with streaks of chestnut and black. In summer the Sparrow is in his best; and the London birds would be equal in every respect, were it not for the smoke and other impurities with which they are surrounded. In winter the males have lighter-coloured heads, and the tints of the plumage are not so conspicuous and contrasted.

The females differ less at the opposite seasons than the males; and the young of the year, of both sexes, are like their maternal parent.

The nest, when placed among the open branches of the trees, is a very large, warm, and dome-shaped structure, composed of grasses wound round and round with the greatest ingenuity, and lined with feathers, bits of rag, and other warm materials; when constructed in the hollow of a tree or under the eaves of the house, it is not so elegant or complete. The nest represented in the accompanying Plate was taken in a garden at Ray Mead; it is now under a glass shade in the British Museum, and is well worthy of the inspection of all persons interested in bird-architecture. The eggs, which are five or six in number, are stone-white, spotted and streaked with ash-colour and dark brown.

The Plate represents a male, a female, and a nest on a branch of the Plane-tree, all of the natural size.



PASSER MONTANUS.

PASSER MONTANUS, *Ray.*

Tree-Sparrow.

Passer montanus, Ray, Syn., p. 87.

Fringilla montana, Linn. Syst., tom. i. p. 234.

Pyrrhula Hamburgensis, Briss. Orn., tom. iii. p. 314.

Loxia Hamburgia, Gmel. edit. Linn. Syst. Nat., tom. i. p. 854.

Passer montanina, Pall.

Fringilla campestris, Schrank.

Pyrgita montana, Cuv.

Passer Hamburgensis, Leach.

— *septentrionalis*, Brehm.

It must not be supposed that the trivial name of Tree-Sparrow is more appropriate to this species than to the House-Sparrow; for both birds inhabit trees, and alike construct their nests among their branches and in the holes of their hollow stems. There is, however, a very great difference in the disposition of the two species—the Tree-Sparrow never seeking the favour or protection of man, and seldom approaching his dwelling nearer than the pollard-trees on the village green. If it should construct its nest among the thatch of the farmer's barn, it must be regarded as an unusual occurrence. Unlike the Domestic Sparrow, it never enters large towns or the interior of cities; and hence the London and Tree Sparrows are as different in disposition as they are in their colour and markings.

“The Tree-Sparrow,” says Mr. Yarrell, “is a rare species in most of the extreme southern counties of England, but is not included in the bird-catalogues of Sussex, Dorsetshire, and Devonshire, and Mr. Rodd of Penzance is aware of only one instance of its occurrence in Cornwall. It is not uncommon in Shropshire, and has been observed about Chat Moss in Lancashire. On the eastern side of England, this bird appears to be a winter visitant in Essex; it is also found in Berkshire, Buckinghamshire, Suffolk, Norfolk, Cambridgeshire, Rutland, Lincolnshire, various localities in Yorkshire, in Durham, and probably in Northumberland; but I am unable to trace it much further north than Newcastle. It does not appear to have been noticed in Scotland, and Mr. Thompson was unaware of its existence in Ireland. Professor Nilsson includes it in the birds of Sweden, and in his ‘Fauna of Scandinavia,’ where he says it frequents gardens. In the southern part of Europe it is well known, being rather a common bird in France, Provence, Spain, and Italy.” Mr. Yarrell seems to have been in error, when he stated that this bird was not found in Devonshire; for Mr. Gatecombe, of Plymouth, informs me that he has met with it in the neighbourhood of that town upon several occasions during the last few years.

With regard to the distribution of the Tree-Sparrow, I may remark that, however great may be the range of the Domestic Sparrow, and wide-spread the area over which it is found, the habitat of the present bird is still more extensive; for not only does it inhabit Europe, Algeria, Asia Minor, and India, but it is nowhere more common than in China and Japan, specimens from which distant countries do not differ in any respect from those killed in England, not even so much as would be necessary to constitute them a local race. It is very singular that so many of our birds should be found in China and Japan; I say, our birds, because we find little or no difference between English and Chinese examples, not even so much as is occasionally observable in specimens obtained in France and Germany. I defy any ornithologist to point out a difference between Chinese specimens of the Hawfinch, Tree-Sparrow, and Wryneck, and examples of those birds killed in England.

Speaking of this bird as observed by him in India, Mr. Blyth says:—

“When first at Akjab, during the rainy season, I remarked the British Tree-Sparrow (*Passer montanus*) to be the common species about the streets, considerably outnumbering the Indian House-Sparrow (*P. domesticus*, Ind. var.); whereas in the cold season the latter is the prevalent species about Akjab. Southward, however, I only on two occasions saw the common Indian Sparrow—once at Maulmein, and once in a Burmese village higher up the Salwin; whereas the Tree-Sparrow is everywhere in extreme abundance, extending southward to Singapore, and likewise inhabiting Java, having precisely the same habits as the other. I observed it numerously as far south as Tavoy and Mergui. At Thayet Myo, on the Irawadi, Dr. Jerdon informs me that not only are *P. domesticus* and *P. montanus* common, but also a third species, my pretty little *P. flaveolus*. When at Pahpoon, in Upper Martaban, in November last, three or four pairs of *P. montanus* appeared for one day only, entering the few human abodes in the most familiar manner, and apparently seeking convenient nooks for nesting-places; but I saw no others in that wild forest-region.”

It will be seen from the above passage that the habits of the bird in India are slightly different from

those observed in England: here it usually avoids the dwelling of man; there it would appear to be more familiar.

It now becomes necessary to point out the differences which exist in this bird and the Common Sparrow. In the first place, it is a smaller bird, neater in contour and broader in its markings; in the next, the sexes are alike in colour; and thirdly, there is scarcely any difference between the plumage of summer and winter, the bird being as nearly alike at both seasons as may be, except in the colour of the bill, which during the breeding-time is of a nearly uniform black, while in winter it is yellow at the base. In its gregarious and other habits it very closely resembles the Common Sparrow: but on this part of the bird's economy I had better perhaps quote Mr. Yarrell's account:—

“It is generally described as frequenting trees, and building in the holes of decayed pollards; but that this is not its universal habit I learn from the Rev. James F. Dimock and his brother, George Dimock of Uppingham, in Rutlandshire, who inform me that ‘This bird frequently builds in the thatch of a barn, in company with the House-Sparrow, not, however, entering the thatch from the inside of the building like them, but by holes in the outside. Five or six instances of this sort occurred in one building; and one or two pairs built about the farm-house. To be certain as to the species, some old birds were watched, shot when quitting their holes, and the eggs taken. They also built in the deserted nests of Magpies and Crows, in which they formed domed nests, like the Common Sparrow when it builds among the branches of trees; and one pair built in a hole that had been occupied by a Green Woodpecker. These different modes of building occurred in a country abounding with pollards, ash- and willow-trees. Mr. Hoy informs me that he has observed on the Continent that this species often builds in holes of the tiling of houses and in stacks of wood-faggots; and Vieillot says that in France they occasionally build in old walls not many feet above the ground. The nest is formed of hay, and lined with feathers. The eggs are four or five in number, of a dull white, speckled all over with ash-brown; the length $8\frac{1}{2}$ lines by 6 lines in breadth.’ Mr. Hewitson states that ‘they are commonly more closely mottled throughout with various shades of brown, and are subject to great variety of colouring.’

“The young,” continues Mr. Yarrell, “are supplied with insects and soft vegetables, which are also the principal substances consumed by the old birds during spring and summer; at other seasons of the year they feed on grain and seeds. Both young and old fly in flocks, with House-Sparrows, Chaffinches and other Finches, and Buntings, in and about farm-yards, corn-stacks, and any other places likely to supply food.

“The common call-note is a monotonous chirp, not unlike that of the House-Sparrow, but is more shrill; and of its higher powers of song Mr. Blyth says, ‘it consists of a number of these chirps intermixed with some pleasing notes, delivered in a continuous unbroken strain, sometimes for many minutes together, very loudly, but having a characteristic Sparrow-like tone throughout.’”

The crown of the head is rich vinous brown; lores, line under and behind the eye, chin, and centre of the throat deep black; cheeks white, with a large irregularly shaped patch of black in the centre; upper part of the back and scapularies reddish brown, with a streak of black down the centre of each feather; lower part of the back olive; upper tail-coverts and tail dark brown, fringed with yellowish olive; lesser wing-coverts reddish brown; first row of the greater coverts black, tipped with buffy white; second row of coverts black, externally margined with reddish brown, and tipped with pale buff; spurious wing black; primaries dark brown, all but the first margined at the base and for a short space about the middle of their length with buff; tertiaries darker brown, broadly margined with reddish brown and with a patch of white at the tip; breast grey, fading into white on the centre of the abdomen; flanks, vent, and under tail-coverts very light brown; bill black, except at the base, where it is orange; legs, toes, and claws fleshy brown; irides hazel.

The Plate represents a male and a female of the size of life, on a sprig of Oak.



FRINGILLA CELEBS.

FRINGILLA CÆLEBS.

Chaffinch.

Fringilla cælebs, Linn. Syst. Nat., tom. i. p. 318.

——— *sylvia*, Scop. Ann., i. p. 217.

——— *nobilis*, Schrank, Faun. Boica, p. 176.

——— *cælebs*, Cab. Mus. Hein., Theil i. p. 153.

Passer spiza, Pall. Zoogr., tom. ii. p. 17.

Struthus cælebs, Boie, Isis, 1826, p. 974.

THIS pretty bird is so universally distributed over the British Islands that it must have been seen by every one, and there is no person I should suppose who is not acquainted with its call-notes of *pink, pink*, or its more lengthened and monotonous song—a strain which, wanting variety, becomes tiring to the ear from its incessant repetition. It is distributed over the British Islands and the continent of Europe from east to west, and from north to south; out of Europe, the countries of Asia Minor, Egypt, and Northern Africa are frequented by it in equal abundance. With us, gardens, shrubberies, lane-sides, the skirts of woods, holly trees on the open heath, the groves of aspen, oak, and birch, and the plantations of larch and fir clothing valleys and hill-sides are alike resorted to. From Cornwall to the Orkneys, from Galway in Ireland to Suffolk in England, the Chaffinch is a constant resident; here, there, and everywhere does it enliven the scene with its showy colours and sprightly actions. On the continent of Europe it is just as numerous, during the months of summer, from the hot shores of the Mediterranean to the cool mountains of Norway and Lapland; wherever vegetation flourishes and trees grow, there it may be found. This assertion, however, must be slightly modified as far as it relates to Norway; for during my visit to that country I did not observe it in the birch-region or among the stunted willows, its place in those situations being invariably occupied by the Bramble Finch (*Fringilla montifringilla*). Neither did I meet with it on the higher parts of the Dovrefjeld, where, again, the Bramble Finch was abundant; on the other hand, all the great pine-forests of that romantic country were tenanted by it, its note resounding in every open glade. During my visit to the Maltese Islands, the Chaffinch was seen in the early part of April high in the air, as if coming from some distant land, and alighting in considerable numbers among the carouba, olive, and orange trees—these islands probably being a resting-place for the birds while *en route* from Africa to Europe.

In the British Islands the Chaffinch changes its quarters according to the seasons; it is a gregarious bird during the months of autumn and winter, when it resorts to upland districts and fields under cultivation, until driven by stress of weather to seek shelter with other birds in the lower lands and the straw- and rick-yards of the farmer. The sexes are now frequently separate, each assorting by themselves; and hence the name of *cælebs*, or bachelor, has been assigned to this species. The vernal season of spring, however, calls forth in the Chaffinch, as in other birds, a nuptial desire; old associations again revive, and they once more return to their summer abode. With a resumption of their songs and other manifestations of love, the males begin to assume a finer dress, and, by the time May has put forth her garlands, they have obtained a rich leaden-blue bill, a black bar on the forehead, a blue crown, a chestnut-coloured back, and a vinous breast: they are now in their best attire, and as “gay as a Chaffinch.”

What wonderful skill does this bird display in the construction of its nest! Its architectural powers are, indeed, unsurpassed among birds; and how often have they elicited the admiration of every one who has had an opportunity of inspecting an example of them! With what elevated thoughts must we all regard the inimitable structure! I write thus fervidly on the architectural skill displayed by the Chaffinch, in the hope that it may awake in the minds of those who have not yet acquired it a taste for the works of the Great Creator of all things. Much has been written on the subjects of instinct and reason, where the one begins and the other ends; but as this is a matter which would be quite out of place in the present work, I shall content myself by saying that I believe that if a young bird of this or any other species be artificially incubated and kept apart from its parents, it would at the age of maturity act precisely like them in every particular, and that the lavishly-decorated nest of one, or the careless-built nest of another, would be constructed precisely as in a state of nature. Instinct alone carries the bee back to its hive, directs the young Swallow to follow its parents to Africa, and the young Chaffinch to build its nest in strict resemblance to that which its predecessors had erected on the branches of the apple-tree or the whitethorn. The markings of the eggs, which the bird can have no power of modifying, all bear the same character in the minutest degree.

It would be unfair to the Chaffinch to say that it is a destructive and troublesome bird; for it is not so, except in situations foreign to its nature. The gardens have come to the bird, and the ploughed fields en-

croached upon his domain. The Chaffinches of the fine hanging woods of Cliveden and Hedsor rarely descend to the newly-sown radish-beds of the underlying garden of Formosa, nor do those of the primitive forests of Norway resort to the gardens of Christiania and Bergen; but Formosa and all other gardens have Chaffinches of their own, as well as the neighbouring woods, and these certainly do call forth the ire of the gardener for the pertinacity with which they will pick out his spring seeds, devour the young shoots of his early peas, and the like depredations. Chaffinches are, indeed, very destructive to gardens in the spring-time, few birds more so; but immediately they have young, their good offices come into play by the daily destruction of vast numbers of grubs, caterpillars, and perfect insects, which, if unmolested, would commit incalculably greater mischief, especially among our fruit and other trees. The farmer's newly-sown fields of oats and turnips, too, are unsparingly plundered; he has therefore good reason to complain; and hence the bird has, with some degree of truth, acquired a bad name. At this season he is, in fact, both troublesome and annoying; still, were it possible to protect the products of the garden and the field, which are not the natural food of the bird, I would do so rather than destroy a creature at once so beautiful and so useful as it really is. I would then, I say, spare the Chaffinch, and endeavour to find some means by which he may be scared from the newly-sown beds and fields: a string of dangling feathers from the wing of the next pullet your cook may kill will serve to effect this purpose in a garden.

In mentioning the note of this bird, I asserted with truth that it is wanting in variety; on the Continent, however, particularly in Germany, it is "one of the most highly prized of caged songsters, being exceedingly docile and teachable, and having great aptitude for acquiring musical proficiency:" much is it esteemed; and great are the sums given for those which have acquired a more than ordinary excellence in this respect. Bechstein says "that it would not be difficult for him to fill several sheets with observations on the song of this bird, and mentions as many as twelve different strains into which it has been divided by his bird-loving countrymen. They distinguish each of these by the term *Schlag*, or trill: thus there is the double trill of the Hartz, the rider's trill, the wine trill, the bridegroom's trill, good-year trill, &c.; and some of these are again divided into several (what shall we call them?) trillettes. In fact, not a note of this bird seems to have escaped the nice ears of the Thuringian foresters, who, in their little villages, amid the dark pine-woods and rugged mountains of their old 'fatherland,' spend much of their leisure time in cultivating the musical powers of the little Chaffinch. One of these knife-smiths (for such is their chief calling) has been known to go to a distance of sixteen German (that is, about eighty) miles for the mere chance of catching a good bird; and it has even been known that a cow has been given in exchange for an accomplished singer. Hence, they have a proverb which says that a 'Chaffinch is worth a cow,' which reminds us that the French also have a proverbial expression in reference to this bird, 'as gay as a Chaffinch,' alluding to its prettily varied plumage, cheerful song, or sprightly manners,—perhaps to all three." "It is remarkable," says the same author, "that the song of these birds varies with the district they inhabit, so that different songs are sung in the forest from those sung in the Hartz; and by this the taste of amateurs is regulated. By this it would seem that these different strains or trills are the natural songs of the birds, capable, however, of being greatly improved by culture. The double trill of the Hartz is the most rare and difficult, and the hearing of this always throws a Thuringian into an ecstasy of delight. To gain such a bird he will part with a large sum of his hard earnings, although he live on bread and water for a week after."

Are the Chaffinches of the Continent identical with ours, or different birds? My Norwegian notes remind me that I observed a slight diversity between those of that country and of Great Britain; and I well remember how much larger, finer, and more richly coloured they were; the flight-birds seen at Malta also appeared larger than our own; but these differences are too slight, in my opinion, to induce any one to regard the Continental and British birds as more than races of one and the same bird. Local variations of limited extent occur in most species, particularly where they are stationary, as the Chaffinch is in this country.

I have said that the Chaffinch is stationary; for although it is stated that we have accessions from the north in the autumn which leave us again in spring, the greater number are with us at all seasons. Not so, however, on the Continent; for the cold blasts of Lapland and the lifeless forests of Norway and Sweden cause them to seek countries further south; and probably those I saw at Malta were *en route* to northern countries.

After its autumnal moult, the Chaffinch has some very beautiful tints which are not found at any other season: the blue-coloured bill, characteristic of summer, is now changed to flesh-white, the grey of the head is suffused with brown, the tips of the secondaries are yellow instead of white, and yellow also fringes the edges of the primaries; these yellow tints, however, soon fade, and those parts are then white like the shoulders. But little change takes place in the females.

To append a lengthened description of its colouring is unnecessary, as the accompanying Plate correctly represents the two sexes in spring, the season of the Flowering Crab, on which they are drawn.



FRINGILLA MONTIFRINGILLA.

FRINGILLA MONTIFRINGILLA.

Bramble-Finch.

Fringilla Montifringilla, Linn. Syst. Nat., tom. i. p. 318.

——— *lulensis*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 902.

——— *flammea*, Besecke, Vög. Kurl., p. 79.

Carduelis septentrionalis, Brehm.

——— *lulensis*, Briss. Orn., tom. iii. p. 63.

Struthus montifringilla, Boie, Isis, 1826, p. 974.

Pyrrhula hamburgensis, Briss. Orn., tom. ii. p. 314.

Loxia hamburgia, Gmel. edit. Linn. Syst. Nat., tom. i. p. 854.

THE Bramble-Finch is so widely dispersed over the northern portion of the Old World, that the extent of its range excites our wonder and astonishment. Before me at this moment are specimens obtained in England, with others from the continent of Europe, Asia Minor, Persia, China, and Japan, all of which are so precisely alike as to leave no doubt in my mind that they are all referable to one and the same species.

To the Continent, to England, and to Ireland it is a winter visitant, migrating thither from more northern climes, the countries of the pine and the fir, the regions of the birch and the willow, the uplands of Norway, Lapland, Finland, and Russia. The Chinese and Japanese examples doubtless pass the summer in Mongolia and Tartary. The fall of the year brings us the Red-wing and the Fieldfare; and as certain as they appear, so also does the Bramble-Finch, and that in still greater numbers; for it arrives in flocks of thousands, which generally keep together until the following spring, and evince a preference for forests of beech, under the branches of which trees these great flocks of Bramble-Finches search for their natural food, which is said to be the mast of these well-known trees. In severe winters, when the ground is carpeted with snow, the Bramble-Finch often resorts to the straw-yards of the farmer, where, with numerous other Finches, they subsist on the scattered grain thrown out by the thresher; as the day closes in, they retire to roost among the lower trees of the neighbouring plantations, where they are well screened from the cold blasts of the long winter nights. The great laurel-hedges of such estates as Dropmore and Cliveden are, among other places, the nightly rendezvous of this bird during its sojourn with us. When April arrives, the Bramble-Finch is impulsively reminded of the coming season of reproduction, and a restless desire to return and perform this important duty takes possession of it. The home of the Bramblings which resort to the British Islands is Norway and Lapland. In the year 1856, I observed them breeding in various parts of the former country, but more especially in the higher or birch region. In company with Mr. Wolf, I put my hand into many nests, some containing eggs, others callow young. We were on the Dovrefjeld at the end of June; and there, in a desolate region too high for the Chaffinch, the nests were numerous, and generally placed on the stem of a birch or at the bifurcations of the branches; carrying out the decorative propensity of the Chaffinch, the outer walls were adorned with flat pieces of lichen and other materials: several of these nests were so pretty, that I brought them to England as trophies of the bird's skill in this part of its economy; and they are now as fine as when I took them six years ago.

The Brambling, as seen in this country in its winter dress, is an attractive bird, but when in its full summer costume, as it may be seen in Norway, it is an object of very great beauty: no pencil can do it justice; and the accompanying representation gives but a faint idea of the bird in a state of nature at that season.

All the nests I observed were very beautifully made, but not so neatly as those of the Chaffinch; they were also much larger, deeper, and warmer, and made of coarser materials. The walls were composed of green mosses and fine dried bent grass interwoven with cobwebs, and externally decorated with flat pieces of white lichen and thin glaucous-coloured shreds or peelings of birch-bark, giving the whole a silvery and extremely pretty appearance; and, as they are usually placed near the bole of the white-barked birch, they are not very easily distinguished; internally they were lined with fine wool and some feathers of the White Grouse, the tips of which frequently rose above the upper edge of the nest and curved inwards, so that when the female is sitting she must be almost hidden, the head, the centre of the back, and the tail being all that could be seen. Their external diameter was about five inches and a half, and their depth three inches and a half; the diameter of the interior was about two inches and a half. The different nests of eggs varied considerably in colour,—one set being clear grey-green, irregularly and faintly blotched or freckled all over with brown; in another the ground-colour was suffused with brown, the blotches or freckles not so distinct, and small chestnut-coloured dots were also dispersed over the surface. The eggs are generally six in number.

In confirmation of what I have said respecting this bird arriving in great flocks, I may cite the following passage from Latham's 'General History of Birds,' vol. vi. p. 61:—They "are also seen at certain times in

vast clouds in France, insomuch that the ground has been quite covered with their dung, and more than six hundred dozen were killed each night."

The flight-power of the Brambling is quite equal to those of the other conirostral birds, such as the Linnet and Twite. When passing from place to place, or from the feeding-ground to its place of roost, its flight is undulating and of remarkable swiftness.

The sexes differ considerably in colour, presenting in this respect a similarity to the Chaffinch, the female being much less brilliant than the male.

In summer the male has the head, cheeks, nape, and upper part of the back shining bluish black; chin, breast, sides of the neck, scapularies, and all but the last row of the lesser wing-coverts rich rusty or yellowish fawn-colour; the excepted row of coverts are pure white; greater wing-coverts dull black, tipped with buff and white; primaries dull brownish black, finely margined with primrose-yellow, and with a mark of white on the outer web, forming an oblique band across those feathers; secondaries darker than the primaries, margined with whitish on their apical half, and with a white mark near the base, forming an oblique band in an opposite direction to the one on the primaries; axillaries stained with yellow; lower part of the back white; upper tail-coverts black, fringed with grey; tail greyish black, the outer feather paler than the others, and having a narrow band of white commencing at the base of the outer web, and passing obliquely to near the tip of the inner one, where it unites with a line of white, bordering that part of the web; under surface white, ornamented with oblong spots of black on the flanks; vent stained with fawn-colour; bill blackish blue, lightest at the base; feet and legs fleshy brown; irides very dark hazel, approaching to black.

In the female, the parts which are black in the male are mottled with brown; the lower part of the back is greyish white; the markings of the wings are similar, but very much less decided; and the primaries, secondaries, and tail-feathers are brown; the throat and under surface buff, becoming paler on the lower part of the abdomen; the bill yellow at the base of the under mandible; upper mandible horn-colour.

In winter the male has the parts which are deep black in summer mottled with fawn-colour, the margins of the feathers being of that hue; the lower part of the back nearly black; the primaries more strongly margined with primrose-yellow; and the secondaries with rich fawn-colour; bill yellowish white at the base, with a black tip.

The female is similar; but the black marks on the head assume the form of a border to the crown and a line down each side of the back of the neck; the sides of the neck are grey; and the general colouring much fainter than in the male.

The Plate represents a male, a female, and a nest of the size of nature, and a reduced bird in the distance in the plumage of winter.



CARDUELIS ELEGANS.

CARDUELIS ELEGANS.

Goldfinch.

Fringilla carduelis, Linn. Syst. Nat., tom. i. p. 118.

——— *albo-ochracea*, Jacq. Vög., t. v.

——— *ochracea*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 928.

Passer carduelis, Pall.

Spinus carduelis, Koch.

Acanthis carduelis, Keys. et Blas.

Carduelis, Briss. Orn., tom. iii. p. 53.

Carduelis germanicus et septentrionalis, Brehm.

——— *auratus*, Eyton.

——— *elegans*, Steph. Cont. of Shaw's Gen. Zool., vol. xiv. p. 30.

It has been asserted that there are many persons who have made the circuit of the globe without taking the least interest in the wonders and novelties which surrounded them. Such persons would doubtless look with equal vacancy from the window of a railway-carriage, without caring to know or perceiving the occupation of yonder man who is buffeting his hands at daybreak on a November morning, when the hoar frost has covered the ground with a silvery rime. That man, who stands in the middle of Wormwood Scrubs, or in a deserted brick-field a little further on, is the Whitechapel bird-catcher, engaged in his daily calling. He must have risen early, for he has trudged by lamplight through the streets of London, carrying his nets and cages on his back, and is now in the country, where he welcomes the rising of the sun, and awaits the flight of the Goldfinch. If the passing train should send the flock up from the sides of the deep cutting, the challenge of the call-bird will be heard and responded to, and after a few gyrations in the air and exchanges of voice, they will settle on the bunch of thistles or by the side of the call-bird between the nets. Foolish birds! your inquisitiveness has made you prisoners. Hitherto you have enjoyed freedom, you have breathed the purest of atmospheres; you have shared with the donkey the most cherished parts of the thistle; you have poured forth your twittering and pleasing song to the freest of men, for the dwelling of the gipsy has been in the midst of your feeding-grounds. You will now have to struggle for life in an air charged with impurities; no more flights over heaths and upland commons will you enjoy; never will you again build among the apple-blossoms of the cottager's garden: a cage, so small that you will be unable to flutter your wings, will be your prison, and the noise of the shuttle will be the response to your song. Still you will be well treated, for it is not in the nature of the weaver, or indeed of any one, to act otherwise to so pretty a bird; it is your beauty and the charms of your voice that have engaged you, and which, surpassing those of your companions the Greenfinch and the Linnet, renders them less in request.

How vast must be the numbers annually captured of this bird may be inferred from a passage in Mayhew's 'London Labour and London Poor,' which states that 200 persons gain a livelihood by capturing Goldfinches, Linnets, and other birds, which in nearly every instance are sold to the metropolitan poor. I know no taste more commendable than a love for natural objects; and whether this be bestowed upon birds or flowers, the family which can find enjoyment in such things are amongst the happiest of their class. Besides the numbers that are captured by means of ground-nets, many Goldfinches are obtained by other artifices, and thousands of the young birds are taken from the nests, or immediately after they have flown. These bald pates or branchers, as they are called, all or nearly all find their way to the London bird-dealers; and you have only to pass through one of the principal streets of Seven Dials, about the end of June, to satisfy yourself that this is the case. Commercially speaking, the traffic in Goldfinches must be something great; for although the bird-catchers get only two shillings and sixpence or three shillings a dozen, the amount of money exchanged between the retailers and the public must be very considerable, especially when we take into consideration that the traffic is not confined to London, but is carried on, though of course to a less extent, in most of the great towns of England.

With us the Goldfinch is a stationary bird; still great accessions to the numbers of those always resident in this country arrive from the Continent. Every observer of nature who resides on the Sussex coast will tell you that Goldfinches arrive in considerable numbers from the south during their vernal flights in March or April, and that these foreign birds are larger and finer than those bred in the neighbourhood of London. Whence have this race come? and to what locality are they proceeding? are questions not easily answered.

After the breeding-season is over, the Goldfinches roam about in companies of from eight to ten in

number, and sometimes assemble in small flocks. They now affect open upland districts, commons, sterile wastes, and all situations suited to the growth of their favourite thistle, groundsel, and plantain. This food, however, is not suitable for the young, and they are accordingly fed with caterpillars and other insects; hence considerable good must be effected by these birds during the breeding-season.

Independently of the British Islands, over which the bird is generally distributed, the Goldfinch inhabits all parts of the Continent, from Norway, Sweden, and Russia to the Mediterranean and Black Seas; it is also found in Northern Africa, Asia Minor, and Persia, but not in India, its place there, or rather in the Himalayas, being supplied by another and equally interesting species, the *Carduelis caniceps*.

The history of the Goldfinch would be incomplete without an allusion to its capacity for receiving instruction, and the consequent readiness with which it may be taught many amusing tricks, such as drawing up water for itself, raising the lid of a small box to obtain the seeds within, feigning death, &c. I have already spoken of its prettiness, and I may add that its colouring is both harmonious and beautiful; its form also is graceful, elegant, and well-proportioned; the Goldfinch is, in fact, the gay gentleman of our smaller birds. In most instances where much decoration is given, it is usually confined to the male; but in the present case the two sexes are nearly alike.

Speaking of the Goldfinch in Scotland, Macgillivray states that it is "generally distributed in most of our wooded and cultivated districts; but while plentiful in some parts, it is rare in others that seem to be equally favourable. Thus, although not uncommon about Aberdeen and Elgin, it is very rare in the neighbourhood of Edinburgh, in which I never met with more than a single flock." This statement is confirmed by the following note, with which I have been favoured by the Duke of Argyll:—"The Goldfinch is a rare bird in Dumbartonshire; but small parties are seen during the winter at uncertain intervals. In Argyleshire it is wholly absent, so far as I have observed, in the more wooded and in the more mountainous districts; but it is not uncommon, and appears regularly to breed, along some of the lower western shores. I have observed young birds, in considerable numbers, in the Ross of Mull."

The nest of the Goldfinch is placed indifferently among the trees of orchards, gardens, and plantations, at various heights, according to the suitability of the sites that occur, sometimes among the very topmost branches. A very beautiful nest, taken at Formosa, near Cookham, in Berkshire, in July 1860, was placed on one of the loftiest branches of a tall sycamore, and was curiously interwoven between the slender forks of the extremity of the branch; the interior was deep, the walls somewhat thick, and the whole presented a round and compact appearance. The exterior was mainly composed of one or two different kinds of bright green lichens, firmly interwoven with dried moss and spiders' webs; the interior was warmly lined with the downy cotton-like substance of the blossoms of the willow, intermingled with wool and a very few horse-hairs, the three ingredients being felted together, so as to render it perfectly smooth and even. The eggs, four in number, were of a pale greenish stone-colour, somewhat faintly blotched with light reddish purple, the blotches becoming more numerous towards the larger end, and having among them a few very distinct patches of rich umber. The materials of the nest appear to vary considerably. One of two, formerly in the possession of the late T. C. Heysham, Esq., of Carlisle, was externally composed of dried bent grasses, interwoven with lichens, moss, and wool, beautifully lined with thistle-down and a few very fine hairs; the other was mainly formed of roots instead of grasses, and had a few feathers in its lining, besides the thistle-down and hair. Mr. Macgillivray describes the nest as resembling that of the Chaffinch in form, but as being more elaborately interwoven with wool and hair,—the exterior being composed of moss and lichens, and occasionally thread, twigs, and other substances; the interior, of the down of various plants, cotton, and such other delicate filaments as the bird meets with. Mr. Salvin mentions that at Djendeli, in the Eastern Atlas, the Goldfinch builds a neat nest, composed almost entirely of the flowers of the tamarisk.

The plumage of the adult male and female are so accurately represented in the accompanying Plate, that it will not be necessary to append a minute description of them. The young birds of the year have the whole of the head, neck, back, and sides of the chest of a nearly uniform greyish brown; in other respects they resemble the female; the black of the head begins to appear about the middle of September, and the red towards the end of that month.

The two sexes are figured, of the natural size, on the Wild Teasel (*Dipsacus sylvestris*).



CHRYSO MITRIS SPINUS.

CHRYSOMITRIS SPINUS.

Siskin.

Fringilla spinus, Linn. Faun. Suec., p. 87.

Linaria spinus, Leach, Syst. Cat. of Indig. Mamm. & Birds in Brit. Mus., p. 15.

Spinus viridis, Koch, Baier. Zool., tom. i. p. 235.

Serinus spinus, Boie, Isis, 1822, p. 555.

Carduelis spinus, Steph. Cont. Shaw's Gen. Zool., vol. xiv. p. 33.

Chrysomitris spinus, Boie, Isis, 1828, p. 322.

Fringilla (Acanthis) spinus, Keys. u. Blas. Wirbelth. Eur., p. 41.

IF the Siskin be not seen in every district, it is very numerous in many parts of the British Islands. Every lover of our native birds knows where to look for it during the months of autumn, winter, and spring, and every birdcatcher where to set his net for the capture of the many thousands required to supply the bird-shops of London and other large towns; for it is a general favourite with every one. The lady makes it her pet, and allows it to fly about the room, to sit on her shoulder, and to take seeds from between her lips; and in a cage it will amuse itself by winding a thread round its perch, or, if the aviary be sufficiently large, in constructing a nest, depositing its eggs, and rearing its young.

The localities chiefly affected by this harmless little bird are trees on the margins of brooks and streams and low fluviatile situations generally. The alder is its favourite, and the one upon which it most frequently displays its delicate and pretty plumage, while creeping and hanging to the ends of the smaller branches in a variety of graceful attitudes.

The alder, however, is not the only tree upon which it is found, or the one that solely supplies the Siskin with food; for, like the Goldfinch, it eats the seeds of the thistle, the dandelion, and of a hundred other plants in their season, and also descends to the ground for those that have fallen from the larger shrubs. In disposition no one of our Insessorial birds is so tame and confiding: it will allow of the nearest approach without evincing the slightest fear; and if captured by the limed twig of the country-boy, exhibits no sulkiness or sense of injury, but readily becomes reconciled and friendly.

I have many times met with small troops of Siskins during my rambles through the lovely woods of Taplow and Cliefden, particularly in the neighbourhood of the lower road by the Thames-side; frequently have I there seen these little birds picking minute seeds from the ground, and from among the fallen leaves, with the same activity that they display when clinging overhead to the catkins of the birch or the favourite alder. In summer the greater number of the Siskins leave the southern and middle parts of England for countries further north, and the few that remain and breed resort to situations different from those in which they are usually found. During the summer they have been seen on the commons, and building their nests in the furze, like the Linnet, or in the trees of the garden, like the Redpole; but the recorded instances of its breeding in this country are only few in number; for that the great mass of these birds migrate further north to spend the summer months I am certain. In Scotland it performs this office much more frequently than in the central parts of England. I could quote many accounts of the finding of its nest in England and Scotland, but shall content myself with giving the following short note, by Mr. O. P. Cambridge, and one or two others. In a letter, addressed to Mr. Bond, dated Bloxworth, June 29, 1863, Mr. Cambridge says, "A Siskin's nest was taken near here in June 1852 from a furze bush; it was beautifully built of moss, and thickly and entirely lined with rabbits' fur. It contained four eggs."

"The breeding of the Siskin in this country," remarks St. John, "has been much questioned by naturalists. I have, however, frequently found the nest in Moray, more especially in those woods where there are spruce-fir trees of considerable size; but owing to the extreme cunning or caution of the bird in going to and from the nest, it is not easy to make out its exact position. It is placed on a horizontal branch, towards the summit, or about two-thirds up the tree, and, owing to the thickness of the foliage, and the smallness of its size, may well escape notice. In some of the woods near Elgin the Siskin breeds regularly and in some numbers. The best time to find the nest is when it is being built, as the birds are more conspicuous and less on their guard when carrying a feather or a tuft of wool. It is sometimes, though not so frequently, built in the common Scotch fir; and is then also placed on a horizontal branch, at a considerable height from the ground. The Siskin breeds early. A nest, with five eggs, was taken near Inverness on the 10th of April; and on the 26th we found two, with young ones well fledged, in the woods near Lochnabo. Though so wary when at liberty, no bird is more tame and familiar when in confinement. A person in Elgin showed me a nest, with four young, he had taken only the day before from a Scotch fir tree, and in the cage with them the two old birds, which had been captured with bird-lime. The female

at once commenced feeding her young; in a day or two the male followed her example; and between them they reared their family with as much care, and apparently as much pleasure, as if they had still been in the woods. An old Siskin will eat out of the hands of its master a few days after it has been caught, and very soon seems to form a kind of acquaintance with, and attachment to, those who feed it. It is a cheerful, restless little bird, arrives in winter in large flocks, and feeds on the seeds of the alder and birch, and also on those of the thistle and many other weeds. Its song, though not varied or rich, is pleasing. In the spring it frequently utters a long harsh cry, like the noise of a file. The eggs are white, tinged with blue, and spotted with brown."

We learn from Mr. Hewitson's valuable work on British Birds' Eggs that "the nest is small, measuring in diameter, outside, three inches; inside, one inch and three quarters; depth of cavity, one inch and a quarter. It is composed outside of moss, twigs of the fir, and delicate vegetable fibres, lined with a few hairs and a little down; generally there is also a feather or two, and occasionally a little wool."

Mr. Wolf, the celebrated natural-history draughtsman, found the Siskin breeding in considerable numbers in most of the pine-woods at Guisachan, the seat of Sir Dudley Coutts Marjoribanks, Bart., in Inverness-shire, about the middle of June 1867, and remarked that, as they flew up in the air, the yellow colouring of their wings and tail presented a pleasing contrast to the clear blue of the sky.

The Duke of Argyll tells me that it must occasionally incubate near Inverary, because he has seen young birds in August. Small flocks or family parties may be observed every winter in Dumbartonshire, feeding on the seeds of the alder and the birch; and it is common and breeds on the Dee-side.

In case I should not have been sufficiently particular in mentioning the parts of England in which the Siskin is found in spring, I may state, in a few words, that there is no county in which it has not been seen. Mr. Stevenson informs us that it is numerous in Norfolk: a flight of 40 or 50 passed over Keswick, near Norwich, on the 7th of March 1867. On the other hand, Mr. Rodd says it is rare in Cornwall; and Thompson that in Ireland it "can only be noted positively as an occasional winter visitant." Scotland, then, appears to be its principal home (a term by which I would designate only the country in which a bird habitually breeds): and that is precisely what we might expect; for that the bird is more a northern than a southern species is apparent from the fact of its inhabiting Norway, Sweden, Russia, Siberia, and Japan. I name the latter country with certainty, because I have compared examples procured therein with others killed in England, and found no difference whatever between them. It certainly proceeds southward as far as the Atlas range in North Africa; but Captain Loche states that its appearance in Algeria is irregular. As far as I am aware, it does not visit India, its place there being supplied by the *Chrysomitris spinoides*.

In summer both sexes undergo a partial change in their colouring, the head becoming black, the dark mark on the throat more clearly defined, the breast, wings, and tail yellower, and the spots on the flanks more apparent; but even at this season the colours are not so bright, or the markings so decided, as in the Goldfinch, of which, although nearly allied, it is but a feeble representative, both in appearance and in song, the vocal powers of the Siskin (or Aberdevine, as the bird is also called) consisting of a twittering jumble of low notes, deficient both in power and continuance.

To render my account of the Siskin more complete, I quote the following passage from that portion of Dr. Saxby's "Ornithological Notes from Shetland," which were published in the 'Zoologist' for 1866, because it treats of the bird in a locality I never before heard of its visiting, and on account of the difference in the character of the food of which it was partaking.

"After shooting the two Siskins mentioned in my communication for October last, I managed to obtain some very close views of the remainder of the flock. Some individuals were rather brilliantly tinged with yellow, and deeply marked with black; but others had scarcely any yellow, and, as far as could be ascertained, were without any black on the head. They all kept mostly to the outer branches of the trees, evidently preferring the sycamores—for what reason I knew not, until I discovered that their food consisted entirely of the Aphides which so infest that species. The whole flock was almost constantly in motion; and so eagerly did they pursue their employment, that it was difficult to confine my observations to any one member of it for more than half a minute at a time. Their mode of conducting their search for food instantly called to mind the Blue Tit: like it, they seemed fond of swinging, head downwards, from a leaf-stalk or a slender twig."

The Plate represents two males and a female, of the natural size, on a branch of the alder.



SERINUS HORTULANUS.

SERINUS HORTULANUS.

Serin Finch.

- Fringilla serinus*, Linn. Syst. Nat., tom. i. p. 320.
Serinus meridionalis, Brehm, Vog. Deutschl., p. 255.
Pyrrhula (Dryospiza) serinus, Keys. et Blas. Wirbelth. Eur., p. 41.
Serinus flavescens, Gould, Birds of Eur., vol. iii. pl. 195.
Pyrrhula serinus, Degl.
Dryospiza serinus, Cab. in Ersch und Gruber's Ency., p. 217.
Serinus islandicus, Bonap.
—— *hortulanus*, Koch, Syst. Baier. Zool., p. 229.
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So many instances of the occurrence of the Serin Finch in England have now been recorded in 'The Ibis,' the 'Zoologist,' and other journals, that I cannot refrain from including it among our accidental visitors. It is not a regular migrant; yet I suspect that its visits to the southern parts of our island have been far more frequent than is generally imagined, but that it had previously escaped detection, or been mistaken for its near ally the Siskin, which it greatly resembles, especially when seen among trees.

The first notice of its occurrence in England was forwarded to the 'Zoologist,' in 1860, by Mr. Bond, who states that it was caught at Brighton, in a clap-net, on the 20th of June, 1859. In some notes kindly communicated to me by this gentleman, he says:—"I saw another fine male, which had been captured near London, in the autumn of the same year. I also heard of two others having been taken near London." In 'The Ibis' for 1861, Mr. George Dawson Rowley mentions that three specimens had been caught near Brighton, and cast aside from ignorance of their value, the bird having been previously supposed to be a mule of some kind escaped from confinement. In 'The Ibis' for 1866, this gentleman records another example, which had been sent to Mr. Swaysland, of Brighton, to be mounted, by Mr. Henry Byne, who, in reply to some inquiries respecting it, stated that it was killed in the last week of January, 1866, by William Gorett, Esq., in a small garden surrounded by trees, in Bridge Street, North Town, Taunton. Mr. Byne, in whose possession this specimen remains, kindly sent it up for my inspection; and I can therefore testify that it is a veritable Serin Finch. In the 'Zoologist' for 1869 is a notice copied from the 'Field,' that "a very fine example of this rare English visitant was shot at Worthing, on the 4th of May" of that year; and in the 'Zoologist' for 1870 Mr. Bond says:—"I have seen a fine specimen, killed in April 1869. There have now been so many examples taken in this country that I think we should consider it a British bird."

Those who may wish to become minutely acquainted with the habits and economy of this charming little songster, must refer to the works of the various Continental ornithologists; but as these are not always accessible, I cannot perhaps do better than transcribe, nearly in his own words, the interesting account (derived from these and other sources) published by my friend Dr. Bree in his 'History of the Birds of Europe not observed in the British Isles.'

"The Serin Finch is found plentifully in Spain, the south of France, in Italy, and the neighbouring part of Switzerland, in Central Germany, the north of France, and in Holland, more rarely in the south and south-west of Germany, but not in the northern part of that country. According to Faber, it has been killed between 66° and 67° N. lat. It has been found in the Hartz Mountains, and is often seen in Thuringia. It is an autumn visitor at Malta, is common in Sicily, and very numerous in Smyrna. It is said to be plentiful in the neighbourhood of Heidelberg and Offenbach, but to be rare in the intermediate country. It is very common in Greece, is included among the birds of Algeria, and is stated to be numerous about the olive-groves of Sousa, in the neighbourhood of Tunis, but rare in the more elevated and mountainous parts of the Eastern Atlas.

"The Serin Finch is generally a migratory bird, quitting its summer- and breeding-ground in October, and returning the following March; but in the mild climate of the Rhine it is said to remain all the year round.

"It lives most frequently in fruit-gardens, orchards or avenues of walnut- or nut-trees, and vineyards, and loves to dwell among willows and alders, on the banks of brooks and rivers as well as in garden-trees, in the middle of villages or near buildings. Wherever it may be, it makes itself known by its restless habits, and by its custom of always singing on the summit of the tree-tops, from which it often flies down to the roofs of buildings. In autumn it is more retiring, but remains long on the thick tree-tops.

"It seeks its food principally on the ground, never very far from trees and bushes, and still less in the open fields. In its movements it is lively and active, springing from branch to branch very much after the manner of the Siskin and Common Linnet, with which it willingly associates, particularly

the former. It is generally seen in pairs or small flocks; and the pairs do not seem to separate during the whole year, but cling to each other with the utmost affection and tenderness. If one is accidentally separated from the other, they call assiduously until they are again united.

“The male is very lively in spring, and sings continually from the tops of the trees, and delights especially in flying from one to the other, sometimes soaring, at others fluttering aloft and flying straight down again like the Tree-Pipit. In its usual flight it resembles the Siskin, moving quickly from place to place, and uttering its peculiar note, which has been compared to those of the Siskin, the Goldfinch, and the Canary. The song has much variation, and may be heard at the breeding-place all day long from March till far into August. It is a favourite cage-bird, consorting by choice with the species above-mentioned; and, like them, it may be taught many performances.

“The Serin feeds on seeds, especially those grown in gardens, and prefers the oleaginous to the farinaceous. Naumann mentions particularly cabbage-, hemp-, and poppy-, rape-, turnip-, radish- and lettuce-seed. . . The wild seeds which it seems to prefer are dandelion, hawk-cabbage, chicory, the various grasses, and, when driven to it, even oats. In autumn it seeks its food among the alders and birches.

“Its nest is much more frequently found on fruit and walnut-trees than on beech, oak, or alder. It is placed in a forked bough not very high, or on the lowest branches of dwarf fruit-trees, but not in low bushes. It sometimes resembles the nest of the Goldfinch; at others it is more like that of the Greenfinch, but is smaller, very narrow, rounded and lined with more skill than the latter. It is formed of small roots woven together with old twigs, which, however, are sometimes absent. The inside is tolerably deep, and made soft and warm with feathers and generally a large quantity of horse-hair, and single pig’s-bristles, which secure a smooth resting-place for the eggs, the whole forming one of the prettiest of nests.

“The eggs are about the size of the Siskin’s, but shorter and rounder, very tender-shelled, and in colour resembling the Linnet’s, having a ground-colour of greenish white decorated with solitary dots and short streaks of dark blood-red or reddish brown, oftentimes forming a kind of wreath round the larger end. The duty of incubation is performed entirely by the female, who sits for fourteen days, during which the male often feeds her most tenderly from his crop.”

In Bädeker’s work upon the Eggs of European birds, Brehm, speaking of the bird in South Germany, says:—“The half-bowl-formed nest is made of grass and stalks of plants, and lined with feathers and hair; in many the catkins of the willow form the under layer, whilst others are made almost entirely of rootlets, and some are built almost exclusively of the clustering blossoms of the chestnut.”

The accounts of the bird as seen in Italy by Savi and Prince Charles L. Bonaparte, and in Savoy by Bailly, are all very similar to the above. The latter states in addition that “it is easily snared, soon becomes tame, and that its charming manners and sweet song render it a general favourite. The male readily pairs with the Canary; and the young which are the result are generally very fine songsters.” The Rev. H. B. Tristram says:—“This exquisite little songster, the rival of the Canary in power, is much sought after in North Africa, as it is the favourite cage-bird of the Moorish ladies in Algiers.”

A few notes from ‘The Ibis’ will complete the recorded history of the Serin Finch.

“The *Serinus hortulanus*,” says Mr. F. Du Cane Godman, “is found in abundance throughout the Azores. It frequents the cultivated lands, where it feeds on the seed crops, and is especially destructive to the flax. It is often caught and tamed, and a great number are sold on board vessels which touch at the islands for provisions. In Fayal these birds congregate in great numbers about a small hill near Horta, and fly across in a body to the island of Pico; for what reason I do not know, as there is no want of trees in the neighbourhood.

In Palestine, the Rev. Mr. Tristram notes that “the pretty little Serin was only found in the winter season in the small glens and wooded districts near the sea, and never inland. Near Beyrout it is very common, but leaves for the north in March.”

The opposite Plate represents a male and a female, of the natural size, on a branch of the larch. The female is distinguished by being not so yellow, darker, on the upper surface, and more spotted below.



LIGURINUS CHELORIS.

LIGURINUS CHLORIS.

Greenfinch.

Loxia chloris, Linn. Faun. Suec., p. 82.

Fringilla chloris, Temm. Man. d'Orn., 1815, p. 206

Ligurinus chloris, Koch, Baier. Zool., tom. i. p. 230.

Serinus chloris, Boie, Isis, 1822, p. 555.

Coccothraustes chloris, Steph. Cont. of Shaw's Gen. Zool., vol. xiv. p. 87.

Linaria chloris, Macgill. Hist. of Brit. Birds, vol. i. p. 366.

Chlorospiza chloris, Bonap. Geog. & Comp. List of Birds of Eur. and N. Amer., p. 30.

Chloris pinetorum, *hortensis*, et *septentrionalis*, Brehm, Vög. Deutschl., pp. 259, 260, 261, tab. 17. fig. 1.

——— *flavigaster*, Swains. Class. of Birds, vol. ii. p. 281.

THE Greenfinch is strictly indigenous in our island. In winter it frequents the fields, hedgerows, and woods, and, if the weather becomes severe and the ground carpeted with snow, assembles in flocks round the farm-steadings and the immediate vicinity of houses. In spring and summer it is even still more familiar; for it then resorts to gardens and shrubberies, and often builds its nest and rears its young among the shrubs, even those close to the windows of our dwellings. Its dispersion over England, Scotland, and Ireland is so general that it would be superfluous to enumerate the localities in which it may be observed. On the continent of Europe, from the shores of the Mediterranean to Scandinavia, it is just as numerous as in England; and in North Africa, as far as the Atlas range, it is equally plentiful. I have also a specimen in my collection (a little smaller in size, and rather more brightly coloured) from Erzeroum; and, according to the Rev. H. B. Tristram, it is abundant in all the gardens of Southern Palestine ('Ibis,' 1859, p. 33), is a very common winter visitant on the coasts, and abounds especially on Mount Carmel and on any wooded hills, but is rare in the interior, and disappears in the spring ('Ibis,' 1868, p. 206).

"The Greenfinch," says Yarrell, "is found in all the cultivated parts of England, Ireland, and Scotland, except, as stated by Macgillivray, the western and northern islands of the latter country. It is included among the birds of Denmark, Norway, and Sweden, but, according to M. Nilsson, is more numerous in Sweden in winter than in summer. It is abundant in all the countries of Southern Europe, and is found even as far as Madeira. In a south-eastern direction it was observed by Mr. Strickland to be numerous at Smyrna." Wright states that it is very common in flocks during winter at Malta ('Ibis,' 1864, p. 51), and Lord Lilford and Lieut. Sperling that it is resident and very numerous in Corfu, Santa Maura, and Greece, and in winter collects in flocks on the north coast of the Mediterranean ('Ibis,' 1860, p. 138; 1864, p. 280). Dr. Giglioli observes that, in the neighbourhood of Pisa, in Italy, it frequents the tops of the white poplars which line the Piaggie and Cascine roads ('Ibis,' 1865, p. 57); and von Homeyer records, in the 'Journal für Ornithologie,' that it occurs in the Balearic Isles just as in Europe. It does not extend to India; neither is it enumerated in the lists of the birds of Amoorland or China. In Japan there are two nearly allied but quite distinct species.

The Greenfinch, as seen in our gardens during the month of April or at the time of pairing, is a very joyous and interesting bird. The male then displays himself to the greatest advantage, rising in the air with outspread wings and tail, frequently turning and pirouetting, as it were, and returning to the same tree or branch, uttering all the while its loud ringing whistle. During flight, the silvery under surface of the wings shows very conspicuously, and the fine yellow markings of the upper surface present a strong contrast to the olive colouring of the body. "When paired," says Sir William Jardine, "they resort to the garden and shrubbery, breed in the various cover which is there afforded; and at this time the male may be seen in the morning, rising with slow or heavy strokes of the wing, uttering his simple note, and performing his long winding flight peculiar to the season of love. During winter they congregate in large flocks, feeding on various small seeds on the stubble-ground, and resorting towards nightfall to the vicinity of the plantations or evergreens surrounding some mansion, flying for a time around and clustering before taking up their roost on the top of some bare tree. Their sleeping-place is returned to night after night throughout the winter; and the flock may be seen taking up the perches in the same bushes with great regularity." Thompson, after remarking that the above account is in entire accordance with his observation on the favourite haunts of the Greenfinch, to which alone they will strictly apply, adds:—"By the plantation of shrubberies I have known this handsome bird to be attracted to, and soon become plentiful in a rather wild district near Belfast, from which it had previously been absent, the Portugal laurel (*Prunus Lusitanica*), with its dense foliage, being its favourite resort."

With respect to the song of the Greenfinch, I find it so admirably described by the Rev. C. A. Johns in his 'British Birds in their Haunts,' that I cannot possibly do better than give the passage entire:—"The lively greenish yellow tint of the plumage on its throat and breast sufficiently distinguishes the Greenfinch from any other British bird; and its note, when once identified, can be confounded with no other song. Let any person who wishes to obtain a sight of one, walk anywhere in the country where there are trees, on a bright sunny day in May or June, and listen to a monotonous long-drawn croak, trying to pronounce the syllable 'twe-e-e.' No matter what other birds may be tuning their lays, the harsh monotone of the Greenfinch, if one be near, will be heard among them, harmonizing with none, and suggestive of heat and weariness. In a few seconds it will be repeated, without a shadow of variation either in tone or duration; and, if it be traced out, the author of the noise (music I cannot call it) will be discovered perched among the branches of a moderately high tree, repeating his mournful ditty with extreme complacency for an hour together. Very often it takes advantage of the midday silence of the groves, and pipes away without any other competitor than the Yellow-Hammer, whose song, like his own, is the constant accompaniment of sultry weather. The Greenfinch has another note, which is heard most frequently, but not exclusively, in spring. This is a simple plaintive chirp, which may be easily imitated by human whistling: it resembles somewhat one of the call-notes of the Canary-bird or Brown Linnet, and, being full and sweet, harmonizes with the woodland chorus far better than the monotonous croak described above. Another of the notes is a double one, and closely resembles that of the 'Pee-wit;' hence it is called, in some places, 'Pee-sweep.'"

We learn from Mr. George Dawson Rowley's communication to 'The Ibis' for 1862, p. 384, that the Greenfinch is one of the few Fringilline birds included among the foster-parents of the parasitical Cuckoo.

The situations resorted to for the purpose of nesting have been already mentioned; with regard to the nests themselves, they vary greatly in the materials of which they are composed, as will be seen from Thompson's description of one found by him in Ireland, Macgillivray's record of another taken by him in Scotland, and two or three by myself in England.

"A nest," says Thompson, "found in a beech hedge in the wild district, near Belfast, above mentioned, was so tastefully lined as to be considered worth preserving. Outwardly it was constructed of roots interwoven with mosses; but mixed with black and white hairs in the lining were swans-down and thistle-seed, this last being evidently made use of on account of its plumed appendages, all of which remained attached to the seed."

The Scotch nest is described by Macgillivray as "of good workmanship, being composed externally of fibrous roots, slender twigs, and straws, internally of finer materials of the same kind, intermixed with moss, and lined with hair of different kinds."

A nest, taken by myself near London, was built almost entirely of wool mixed with moss, a few twigs being interwoven on the outside; while internally it was composed of very fine rootlets, wool, and a few feathers. A second, in the garden of John Noble, Esq., at Berry Hill, Taplow, had an outer framework of roughly interlaced roots, to which succeeded a course of closely interwoven fine rootlets and moss sparsely lined with horse-hair.

The eggs, which are from four to six in number, are of a bluish white, spotted at the larger end with purplish grey and blackish brown, and are about nine or ten lines in length, by six or seven in breadth.

"Although," says Thompson, "the Greenfinch cannot strictly be said to build in company, yet as many as twenty nests may occasionally be found in a moderate-sized shrubbery, and not unfrequently on the than of the same plant."

The food of the Greenfinch consists of the seeds of various grasses, especially the cultivated kinds, and other plants. Occasionally the bird becomes troublesome by resorting to fields of newly-sown wheat; but Thompson tells us that it is "much fonder of the seed of the corn-marygold (*Chrysanthemum segetum*) than of the grain among which that handsome weed grows."

The sexes differ but little in their colouring, the general distribution of the tints being the same; but those of the female are less brilliant than those of the male, and the yellow of her undersurface does not extend on to the flanks. In spring the bill is nearly white, especially the basal portion of the under mandible, the tips and the culmen being clouded with a dusky hue. The nestlings are rendered conspicuous by the striation of the feathers of the undersurface; these feathers are changed at an early period in the autumn, when the young brood very closely resemble their parents in their winter dress.

The Plate represents an adult of each sex and a nest of young birds on a branch of the pink-flowering May, all of the natural size.



COCCOTHAUSTES VULGARIS.

COCCOTHAUSTES VULGARIS.

Hawfinch.

Loxia coccothraustes, Linnæus, Gmelin, &c.

Fringilla coccothraustes, Temminck.

Coccothraustes vulgaris, Fleming, Selby, &c.

————— *deformis*, Koch.

————— *atrigrularis*, Macgillivray.

THE Hawfinch, or Grosbeak, as it is frequently called, is by far the largest of the *Fringillidæ* inhabiting Great Britain, where it is a constant resident. Although somewhat local, it is far more generally dispersed over the country than was formerly supposed. Mr. Rodd mentions it in his 'List of Cornish Birds;' but it appears to be less common in Cornwall than in many other parts of England. In Sussex, Surrey, Kent, Middlesex, and Essex it is very abundant, and, although the northern counties are not without its presence, it gradually becomes less numerous towards the north; it is, however, found in the southern parts of Scotland. In Ireland it is certainly not so numerous as in England, but still it is far from rare in that country. The Rev. F. O. Morris, after enumerating the several parts of Ireland in which it has been found, says, "But in the Phoenix Park, near Dublin, where the hawthorn-trees are both among the finest and in the greatest numbers I have ever seen, it appears to be procurable in small numbers every winter." On the continent of Europe it is, I believe, not too much to say that it is universally dispersed, except in the extreme northern parts. It was met with in the eastern Atlas of North Africa by Mr. Salvin; and I have specimens in my collection which were procured in Asia Minor. This, however, is not the extent of its range in an easterly direction; for, although it does not form part of the avi-fauna of India, strange to say, it is one of the very commonest birds of the Amoor, China, and Japan, as is evidenced by the numerous examples sent home from those countries. So precisely do Chinese specimens accord with those killed in Britain, that I am quite unable to detect even such a slight variation between them as would be sufficient to constitute them a different race.

For the best account of the habits of the Hawfinch we are indebted to the pen of Mr. Henry Doubleday, of Epping, a gentleman well known as a lover of nature, and a keen observer of our native birds. In his paper on the subject, published in the first volume of the 'Magazine of Zoology and Botany,' he says, "I have for some years given close attention to their habits, and I can safely assert that they are permanent residents; nor can I perceive any addition to their numbers by the arrival of foreigners at any period of the year. Their extreme shyness has, no doubt, contributed to keep us in ignorance of their habits and economy; in this trait they exceed any land-bird with which I am acquainted, and in open places it is almost impossible to approach them within gunshot. Their principal food here appears to be the seed of the hornbeam (*Carpinus betulus*, Linn.), which is the prevailing species of tree in Epping Forest; they also feed on the kernels of the haws, plum-stones, laurel-berries, &c., and in summer make great havoc amongst green peas in gardens, in the vicinity of the forest.

"About the middle of April they pair, and in a week or two commence nidification. The situation of the nest is various, but it is most commonly placed in an old scrubby white-thorn bush, often in a very exposed situation; they also frequently build on the horizontal arms of old oaks, the heads of pollard hornbeams, in hollies, and occasionally in fir-trees in plantations, the elevation at which the nest is placed varying from five to twenty-five or thirty feet. The most correct description of the nest which I have seen is in Latham's 'Synopsis.' It is there said to be composed of the dead twigs of oak, honeysuckle, &c., intermixed with pieces of grey lichen: the quantity of this last material varies much in different nests, but it is never absent; in some it is only very sparingly placed among the twigs, in others the greater part of the nest is composed of it: the lining consists of fine roots and a little hair. The whole fabric is very loosely put together, and it requires considerable care to remove it from its situation uninjured."

A nest taken from a tall white-thorn by Joseph Gurney Barclay, Esq., who resides at Leighton, near Epping Forest, is described by Mr. Yarrell as being "formed of twigs laid across the branches, in various directions, as a framework or foundation of support; and the whole of the upper part was composed of gardeners' bass, wreathed in circles, and mixed with a few fine roots." Another nest brought to Mr. Yarrell "had a flat under surface of dead twigs of fir and birch, nearly as thick as wheat-straw, with fibrous roots and grey lichen laid flat upon them, the structure resembling the platform-nests made by Doves and Pigeons."

"The eggs," says Mr. Doubleday, "vary in number from four to six, and are of a pale olive-green, spotted with black, and irregularly streaked with dusky grey. Some specimens are far less marked than others, and I have seen some of a uniform pale green; their length is eleven lines by eight lines and a half in breadth.

"The young are hatched about the third week in May; and as soon as they are able to provide for themselves, they unite with the old birds, in flocks varying in number from fifteen or twenty to one hundred, or even to two hundred individuals. In this manner they remain through the winter, feeding on the hornbeam-seeds which have fallen to the ground, the newly cracked shells of which are to be seen in abundance at their haunts; the birds only separate at the approach of the breeding-season. I believe the male has no song worth notice; in warm days in March I have heard them, when a number have been sitting together on a tree, uttering a few notes in a soft tone, bearing some resemblance to those of the Bullfinch."

So close does this bird approach to London, that Mr. Yarrell mentions he has known it to be killed at Notting Hill; and Mr. Jesse states that it breeds at Roehampton. My own acquaintance with it has been chiefly in the charming woods of the Duchess of Sutherland, at Cliveden in Buckinghamshire, and the contiguous beautiful gardens of Formosa. As at Epping, the bird may here be seen at all seasons, but in far less numbers. I might mention many other localities where it may be found, such as the pleasure-grounds of W. Wells, Esq., at Redleaf in Kent, Windsor Great Park, &c.; but it will be sufficient to say that wherever there are trees bearing its favourite food, there will the bird be found, especially in the midland counties of England.

The Hawfinch is a stout, thick-set, and inelegant bird, its inelegance being rendered more conspicuous by the enormous size of its bill and head when compared with that of its body and short square tail; still Nature has attempted some degree of ornamentation in the purplish-green colouring and in the truncate and partially curled form of its secondaries; the form of these feathers at their extremities is indeed very remarkable, and not to be seen in any other bird. It bears confinement well, and, according to Bechstein, "will feed upon rape and hemp-seed directly they are caught, and should be chiefly fed upon those seeds, with fruit and green food." Montagu states that even in winter, during mild weather, he has heard the Hawfinch sing sweetly, in low and plaintive notes; and Mr. Selby thinks it probable that it sings well in the pairing-season; but Bechstein says, "For my part I cannot endure the unpleasant shrill call of its *zip*, which it incessantly utters; nevertheless its song, which consists of a light jingle with some shrill and harsh notes like *irrr*, is agreeable enough to many amateurs."

The sexes, when adult, vary in the colouring of their plumage, and they are also subject to a seasonal change in the hue of the bill, that organ being nearly white in winter, while in summer it is of a rich blue, sometimes uniform, at others relieved by a grey band round the base of the mandibles; the rich blue colouring is common to both sexes, but the under mandible of the female is frequently white, while the upper one is blue; the legs are either fleshy white or reddish flesh-colour, and the irides are greyish white.

The young Hawfinch, just before it is able to fly, has the bill light olive inclining to pea-green, with a tinge of orange at the base, the legs purplish brown, and the irides dark brown. At this age the wings and tail have begun to assume their adult colouring; but the plumage of the body has a very mottled appearance, a considerable amount of grey being mixed up with the commencement of the colours of maturity; the cheeks and throat are stained with yellow, and the tips of the breast-feathers are marked with brown. A young bird in this state was taken in Mr. De Vitre's garden of Formosa, in Berkshire, on the 11th of June, 1859.

The young of the first year, when fully as large as the adult, has the bill of a nearly uniform light-purplish flesh-colour, the irides brown, and the tarsi and toes pinky-red. The assumption of the adult colouring has further advanced, but the body still wears a mottled appearance; the black feathers of the throat begin to show, and the cheeks and breast are of a still richer yellow. A specimen thus coloured was taken on the 5th of August.

The male has the forehead light greyish buff gradually deepening into the rich chestnut of the crown, sides of the head, and occiput; at the back of the neck a broad collar of grey; back, scapularies, and lesser wing-coverts deep chocolate-brown; lower part of the back and upper tail-coverts cinnamon-brown; frontal half of the greater wing-coverts greyish white, the posterior half pale brown; spurious wing and primaries deep black, their inner webs crossed near the middle by a broad mark of pure white, and the third and fourth glossed with green at the tip of the same web; secondaries purplish green, their inner webs crossed near the middle with a broad mark of pure white; tail black, largely tipped on the inner webs with white, the black of the apical portion of the outer web gradually becoming paler as the feathers approach the centre; lores, a narrow line down each side of the bill, and a large patch on the centre of the throat velvety black; cheeks light orange-brown; under surface vinaceous brown, fading into greyish white in the vent and under tail-coverts.

The female differs in having only a trace of the chestnut colouring of the head on the occiput, the grey collar less defined, and the back of a chestnut instead of a deep-chocolate tint; the black throat-mark, too, is not so conspicuous, and the general tints are altogether paler.

The Plate represents an adult male in the summer plumage, a young bird about a month old, and a reduced figure of the male in the winter dress.



PYRRHULA VULGARIS.

PYRRHULA VULGARIS.

Bullfinch.

Loxia pyrrhula, Linn. Faun. Suec. p. 81.

Fringilla pyrrhula, Temm. Man. d'Orn., (1815) p. 200.

Pyrrhula europæa, Leach. Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 13.

——— *rubicilla*, Pall. Zoog. Ross.-Asiat., tom. xi. p. 7.

——— *vulgaris*, Temm. Man. d'Orn., 2d edit. tom. i. p. 338.

——— *rufa*, Koch, Baier. Zool., tom. i. p. 227.

——— *pileata*, Macgill. Hist. Brit. Birds, vol. i. p. 407.

BEFORE writing a history of our own Bullfinch, it may not be uninteresting to give a short summary of the known members of the remarkably well-defined genus *Pyrrhula*, an old-world form, the various species of which enjoy a range of habitat extending from the British Islands through Asia to Japan. None have yet been discovered in America; and North Africa would seem to be equally unsuited to these birds, since our own well-known species is the only one that has been found therein. The great Himalayan range of mountains appears to be their headquarters; and, so far as I am aware, none occur in the southern parts of India, the Malay peninsula, or in any of the islands to the southward. It is therefore strictly a northern genus. On the continent of Europe there are two species, *Pyrrhula vulgaris* and *P. coccinea*; *P. murina* inhabits the Azores; *P. nipalensis* Nepaul, Sikhim, and Bootan; *P. erythaca* the mountains bordering Nepaul and Sikhim; *P. erythrocephala* the Western Himalayas; *P. aurantia* Cashmere; and *P. orientalis* Japan. Our favourite Bullfinch is so generally distributed over England that it would be useless to particularize any one county in which it may be found more than another: at the same time, it is not alike plentiful in every district; for there are localities in which it is seldom seen, while it is abundant in others. In Scotland and in Ireland it is less generally distributed. It may be described as a woodland bird, affecting more especially those parts in which the larch is the prevailing tree. It is, however, found in the hedgerows and plantations, both of lowland and hilly districts, and at certain seasons of the year, as every horticulturist knows, visits the gardens, and commits depredations on fruit-trees to an extent unequalled by any other of our native birds. This trait in its character has very justly obtained it many enemies; for to allow such havoc to go on unchecked would be beyond the patience of mortals whose gardens are their joy, and whose fruit-trees are part of their existence. On examination, however, of the form and structure of its scoop-like bill we become at once aware that it is "Bully's" nature so to feed, and that its attacks upon the flower-buds of trees are in strict accordance with nature's intentions—as it is for the Hawfinch to split open the hard seeds of the whitethorn, the cherry, and the laurel, to obtain the kernels within. Throughout this work I have been a champion for our poor persecuted birds, and defended them as well as I could in words, on account of the great amount of good they effect; at the same time I am not unmindful of the destructive propensities of many of them. Mr. Smither, of Churt, informs me that two or three Bullfinches will strip an entire fruit-tree of its buds with such rapidity that in a few hours the ground beneath will be entirely covered with their outer coverings. It has been said that the buds are removed in order that the bird may secure the insect-larvæ supposed to be within them. But while the buds of cherries, blackthorn, and larch, and the seeds of heath, are constantly found in their crops, Mr. Selby, who dissected dozens of these birds, never found any remains of larvæ in their crops or stomachs; and Macgillivray states that the only substances he detected therein were small seeds of various kinds, and particles of quartz. Of the individuals examined, some were shot in February and April; but as the species was not common in any place where he had resided in spring, he was unable to ascertain whether in destroying buds and flowers the bird was searching for insects or feeding on those substances. I am sorry to give such a character to so fine a bird as the Bullfinch, or to be the cause of a single hand being raised against one so interesting; but the truth must be told; and that he is a sadly destructive little fellow there is no doubt.

Speaking of the Bullfinch in Ireland, Mr. Thomson says, "In some picturesque and extensive glens in the county of Antrim, near Belfast, the bird was common so long as the hazel and holly of natural growth maintained their ground; but as these were swept away, it deserted such localities as abodes, and 'few and far between' are even its temporary visits. In the neighbouring county of Down it finds a home in sequestered situations, where the hazel predominates, and in this shrubby tree commonly builds. In 'Nature's wild domain' the Bullfinch looks eminently beautiful, and can be admired without the alloy associated with it in the garden or the orchard, where it proves so destructive by eating the buds of the

fruit-trees. Its call-note and song have generally met with little admiration from the historians of the species; but, being sweetly plaintive, they are to me extremely pleasing."

As a caged pet few birds are more highly valued, both on account of the readiness with which he becomes friendly and familiar, and of his capability for learning to repeat easy tunes. Such pipers may be found in many of our bird-shops, and "Charley over the water" and "Rule Britannia" may there be heard issuing from their throats with the greatest accuracy.

Speaking of the teaching of the Bullfinch, Bechstein says, "Different degrees of capacity are shown here as well as in other animals. One young Bullfinch learns with ease and quickness, another with difficulty and slowly; the former will repeat, without hesitation, several parts of a song; the latter will hardly be able to whistle one part after nine months' uninterrupted teaching: but it has been remarked that those birds which learn with most difficulty remember the songs which they have once well learned better and longer, and rarely forget them even when moulting. Many birds when young will learn some strains of airs whistled or played to them every day; but it is only those whose memory is capable of retaining them that will abandon their natural song, and adopt fluently and repeat without hesitation the air that has been taught them. Numbers of these instructed Bullfinches are brought from Germany to London every spring, and are frequently advertised in the newspapers; their price, which is sometimes considerable, depends on the powers and proficiency of the performer."

At all other seasons, then, but that of (summer when it is breeding), the Bullfinch may be observed in little troops of four or five in number, probably the brood of the preceding year, accompanying their parents, until the return of spring prompts them to separate. These little troops can seldom be approached without causing alarm; for it is the nature of the Bullfinch to be shy and retiring; and, unlike the Robin, it seldom shows its bright-red breast more than for a moment or two as it darts across the glade and over the hedgerow and vanishes from sight. Its white rump, however, is always very conspicuous during these short flights; its presence, therefore, is seldom long hidden; and were it not visible, it would soon be detected in the covert by the faint inward plaintive call-note it is constantly uttering.

April and May are the breeding-months, the nest being generally placed in a shrub or some low tree. The beautifully constructed one figured on the accompanying Plate was taken on the 25th of April, 1859, from the horizontal branch of a box-tree in the woods of Taplow Court. It will be seen that the platform is made of the dead flower-stalks of the Traveller's Joy (*Clematis vitalba*), and that the centre is composed of very fine roots and tendrils and a few hairs. In it were six pale-greenish stone-coloured eggs, some of which were blotched at the larger end with brown, and here and there had a streak of black. The pair of birds to which this nest belonged immediately commenced the construction of another, but this time selected for the platform old flower-heads of the alder; and these were so beautifully disposed as to lead to the belief that the bird had a taste for ornamentation. In both instances the heads of the plants employed were regularly arranged in a circle; and the interior lining of both was composed of the same materials.

So much difference occurs in the colouring of the sexes that it will not be out of place, even with so common a bird, to allude to the fact, and also to mention that the young when they leave the nest differ greatly in colour from the adults. A few words, however, will be sufficient to point out these differences. The adult male is at once distinguishable by the fine red colouring of his breast, which part in the female is rich vinous brown, a colour which also occupies the centre of the back in place of delicate grey in the male. The young, for a short while after leaving the nest, have the upper and under surface rusty brown, which is also the tint of the tips of the greater and lesser wing-coverts, forming conspicuous bands across the steel-blue primaries and secondaries. The bill at this age is pale olive or pea-green, inclining to yellow, and the legs are purplish white.

In a note to me from Dr. Carte, of Dublin, that gentleman says "the Bullfinch of the Crimea is a larger and more brightly coloured bird than that of the British Islands." I suspect that the Crimean bird is identical with the *Pyrrhula coccinea* found in other parts of the European continent, which I know is also visited by our species, as I have French specimens before me which are identically the same. Mr. H. Osborne, of Wick, has also favoured me with a line, in which he states that the Bullfinch is rare in Caithness, but is plentiful in Ross-shire, and may be seen all along the roads on the east coast wherever it is thickly wooded.

The Plate represents the two sexes, with a nest and eggs, all of the natural size, on a branch of the Larch.



PYRRHULA VULGARIS.

Bullfinch Young.

J. Gould & W. Hart del et lith.

Walter imp.



CARPODACUS ERYTHRINUS.

J. Gould & H.C. Richter, del. et lith.

Walter, Imp.

CARPODACUS ERYTHRINUS.

Scarlet Bullfinch.

- Loxia erythrina*, Pall. Nov. Comm. Petrop., tom. xiv. p. 587, tab. 23. fig. 1.
—— *cardinalis*, Beseke, Vög. Kurl., p. 77, no. 166.
—— *rosea*, Vieill. Ois. Chant., tab. 65.
—— *erythraea*, Endl. u. Scholz, Naturfreund, tom. i. p. 9, tab. 5, mas; et tom. ii. p. 185, tab. 77, fem.
Pyrrhula erythrina, Pall., Zoog. Rosso-Asiat. tom. ii. p. 8, no. 180.
——— *sinaica*, Mühle, Orn. Griech.
Linaria erythrina, Boie.
Fringilla erythrina, Meyer, Vög. Lief. u. Esthl., p. 77 cum tab.
——— *flammea*, Retz. edit. Linn. Faun. Suec., p. 247.
Coccothraustes rosea, Vieill. Nouv. Dict. d'Hist. Nat., tom. xiii. p. 559.
——— *erythrina*, Vieill. Ency. Méth. Orn., part iii. p. 1003.
Erythrothorax rubifrons, Brehm, Vög. Deutschl., p. 249.
Erythrospiza erythrina, Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 35.
——— *rosea*, Blyth, Journ. Asiat. Soc. Beng., vol. xi. p. 461; vol. xii. p. 177.
Pyrrhulina roseata, Hodgs. Proc. Zool. Soc., 1845, p. 36.
——— *rosæcolor* vel *rosea*, Hodgs. in Gray's Zool. Misc., p. 85, mas.
Carpodacus erythrinus, Kaup, Natürl. Syst., p. 161.
Propasser sordidus, Hodgs. in Gray's Zool. Misc., pp. 84, 85, fem.
Hæmorrhous roseus, Jerd. Madras Journ. of Lit. & Sci., vol. xi. p. 36.
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FROM the vast extent of range over Asia and the continent of Europe enjoyed by this pretty species, it is somewhat surprising that a larger number of examples than the two recorded by Mr. Bond in the 'Zoologist' for 1870 should not have been captured or killed in this country. The occurrence of these two, however, which appear to be either females or young males that had not attained their scarlet livery, is sufficient to demand for this species, like some other Old-World birds, a place in the 'Birds of Great Britain.' The first of the two examples above referred to was taken alive near Brighton in September 1869, and is now, I believe, in the aviary of T. J. Monk, Esq., at Mountfield House, Lewes; the second, a fine young female, Mr. Bond states, was taken near Caen Wood, Hampstead, by a bird-catcher, on the 5th of October 1870, and is now in that gentleman's collection.

Much has been written by various authors respecting the Scarlet Bullfinch, the more interesting portions of which have been culled and given by Dr. Bree in his valuable work so often mentioned; and as I have had no opportunities of observing the bird myself, I shall here recapitulate his account of the species. Before, however, proceeding so to do, I may state that the bird probably frequents the whole of the countries bordering the arctic circle, from Sweden to China. Mr. Swinhoe procured it at Tientsin; Mr. Jerdon informs us that it is found throughout the greater part of India; and Adams records its occurrence in Cashmere.

"The Scarlet Bullfinch," says Dr. Bree, "is found in Sweden, Finland, Russia, and Siberia, more particularly near the rivers Volga, Samara, Oder, and Selenga. It occurs solitarily in Courland and in Poland; and Naumann especially mentions having found it in the summer of 1819, on Sylt, one of the islands on the west coast of Jutland. It occurs accidentally in France, Belgium, Switzerland, Italy, and Central Germany, and has been captured at Hesse, on the Rhine. Degland mentions that individuals have been shot at Abbeville, Tournai, in the neighbourhood of Milan, and on the Swiss Alps; and Nordmann tells us, in the 'Faune Pontique,' that it comes regularly in spring into the Botanic Gardens at Odessa, either singly or in pairs, and that it is common in the provinces situated to the east of the Black Sea. It is mentioned by Count Mühle as occurring in Greece.

"During the summer it is essentially a northern bird, but in the autumn it migrates southward. If it stays the winter, it is found more especially in the neighbourhood of dwellings, where it can be sheltered among the shrubs. It is very fond of moist situations, and is frequently found among the bushes on the banks of rivers, lakes, and ponds, where it may be seen on the willows or reeds.

"Naumann has given a very complete account of the bird, from which I have gathered the following:— 'For several years in the early spring a pair of these birds were seen near Breslau, among the willows and reeds of a swampy district. The male and female were always near together, and the former sung gaily.

They were both killed at a single shot; but the female was not found. The male is now in the museum at Berlin. Later, another pair were also shot.

“ ‘This bird does not, according to my observations, like large thick woods. I have seen it where there was none at all, namely, at Sylt, in Jutland. In one part of this island there are no other species of trees but small thorn bushes; and in the northern part, where, between high sand-downs, a narrow creek runs into the land, is a little thicket surrounded by a low earthen wall, in which is the renowned duck-decoy. The ponds, canals, and the decoy-man’s house are all surrounded by alder trees and thorn bushes. There is also a thick reed-bank about 10 feet high, which is all the protection that the neighbouring downs receive from the devastating north-west storms. Altogether it is not more than a hundred paces in circuit. The wood is quite stunted, yet it is, for such a neighbourhood, a very interesting spot; and for me it became still more so when I met with a Scarlet Bullfinch, which I had never seen before in its free state. The male came to within fifteen paces, into a thorn-bush, and sang. It allowed itself to be observed freely, without any marks of fear. The female was not to be seen, nor the young, which had already (June 7th) left the nest. The old decoy-man, who chiefly dwelt there, knew of the nest, and took me to it, assuring me that these birds had for many years bred there, and that they were not rare in the island.

“ ‘When, with my friends Von Woldicke and Boie, I last approached the celebrated decoy at Sylt, I heard the song at a considerable distance; and I drew their attention to it, that there might be no mistake. The resemblance of the song to some of the notes of the Reed-Bunting, as well as to those of the Linnet, both of which birds live in the same neighbourhood, is very remarkable. It is a very agreeable, loud, long, and, with many slight pauses, unbroken song, and is so peculiar that an ear like mine, which from earliest youth has been accustomed to observe the song of birds, can distinguish it in the far distance. In a neighbourhood where little can escape the eye, this beautifully-plumaged songster was easily recognized; and as we did not like to shoot it, we placed ourselves at a short distance, where, unseen, we were able to observe it for a considerable time. It may be an agreeable cage-bird; but in confinement the red plumage turns into a permanent yellowish green.’

“The Scarlet Bullfinch lives upon various kinds of seeds, more especially, according to Dubois, those of an oily nature, as well as those of the elm or alder. Naumann also suggests that it feeds upon the seeds of the reeds among which it likes to live. The same authority informs us that it nests among the woody plantations in the neighbourhood of St. Petersburg.

“Brehm, in Bädcker’s work upon European eggs, gives the following notice of the nidification of this bird:—‘They nest in the thick woods and bushes of Siberia, in Lausatia, in the neighbourhood of Galitz, in Galicia, and in Poland, near Warsaw, where it is found in swampy situations overgrown with alder trees. Once in June it was met with, paired, in Ruthendorf. The nest is placed in a bush, and is made of moss, sticks, dry twigs, and sheep’s wool, and is lined with hair and wool. The eggs are a lively blue-green, more or less marked with black or brownish dots and spots at the larger end. They are inclined to pear-shape in form, without being, like those of other Bullfinches, swollen in the middle.’

“In the first part of the ‘Bulletin of the Imperial Society of Naturalists of Moscow’ for 1860 there is an article by Alexander von Nordmann upon the birds of Finland and Lapland, in which he states that this bird is very common in Southern Finland, which was not the case, according to the testimony of his father, thirty years ago. It builds every year in the Botanical Gardens at Helsingfors, in the tops of the maple and *Carangana sibirica*. It arrives about the middle of May; and the young are fledged by the 25th of June.”

“The Rose Finch,” says Dr. Jerdon, “is found as a cold-weather visitant throughout the greater part of India; is somewhat rare towards the south, but common in the central and northern provinces, and in the Himalayas, chiefly, however, at the foot of the hills and in the valleys; and it extends into Assam and Arracan. It visits the plains during October, and leaves in April. In March many are taken in fine breeding-livery. In the extreme south I have chiefly seen it in bamboo jungle, feeding on the seeds of bamboos on several occasions; and so much is this its habit, that the Telugu name *Yedru-pichike*, or *Yedru-jinowayi*, signifies ‘Bamboo-Sparrow.’ In other parts of the country it frequents alike groves, gardens, and jungles, feeding on various seeds and grain, and not unfrequently on flower-buds and young leaves. Adams states that in Cashmere it feeds much on the seeds of a cultivated vetch. Now and then it is seen in large flocks, but in general it associates in small parties. It breeds in Northern Asia. It is frequently caught and caged, and has rather a pleasing song.”

The Plate represents a male and a female on a branch of larch.



PINICOLA ENUCLEATOR.

PINICOLA ENUCLEATOR.

Pine-Grosbeak.

- Loxia enucleator*, Linn. Faun. Suec., p. 81.
—— *psittacea*, Pall. Zoog. Ross.-Asiat., tom. ii. p. 5.
Fringilla enucleator, Temm. Man. d'Orn., p. 198.
Pyrrhula enucleator, Temm. Man. d'Orn., 2nd edit. tom. i. p. 333.
Pinicola, Vieill. Ois. d'Amér. Sept., tom. i. p. 4.
Strobilophaga enucleator, Vieill. Nouv. Dict. d'Hist. Nat., tom. ix. p. 609.
Corythus enucleator, Cuv. Règn. Anim., edit. 1816, tom. i. p. 415.
Pyrrhula (Corythus) enucleator, Keys. & Blas. Wirbelth. Eur., p. 40.
Pinicola enucleator, Cab. in Ersch u. Grub. Encycl., 1st sect. vol. 50. p. 219.
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ARE there any among the writers upon our native birds who have seen the Pine-Grosbeak in a state of nature? I really think not. Pennant, it is true, states that he saw a small flock flying about in the forest of Invercauld; but as it does not appear that he obtained a specimen, I am inclined to believe that he was deceived as to the species, and mistook Crossbills for Pine-Grosbeaks. Messrs. C. J. and James Paget mention, in their 'Natural History of Yarmouth,' that a flight was seen in November 1822, on the Denes,—a very unlikely place to see Pine-Grosbeaks; and as no specimen was obtained, I must be allowed respectfully to doubt the fact. I question if Montagu, Gilbert White, Selby, Yarrell, or Macgillivray ever saw a living example; neither have I, who have travelled far and wide, with an eye always attentive to the appearance of any bird strange to me. Mr. Ryland, in his 'Catalogue of the Birds of Lancashire,' includes the Pine-Grosbeak as having been obtained in Hulstone fir trees, on the authority of T. K. Glazebrook, Esq.; "and a female in my own collection," says Yarrell, "was shot some years ago at Harrow-on-the-Hill." These assertions are a little more tangible, but still to me doubtful. Mr. Stevenson, in the first volume of his 'Birds of Norfolk,' repeats the account of the flight seen on the Denes, in 1822, and the statement in the 'Zoologist,' p. 1313, that a pair were shot in Raveningham in the act of building. Mr. Lubbock also states that a pair were preserved in Yarmouth, which had been shot near that city; but as these, according to Mr. Stevenson, are no longer in existence, there remains no proof that the species was actually killed there. I would not for a moment have it inferred that the bird has no claim to be admitted into the avifauna of Great Britain; at the same time, I consider it is but an indifferent one. That it has now and then visited us is certain; and that it will continue to do so occasionally is more than probable, particularly when we remember that a mere strait of sea, as compared with the Atlantic, separates our island from the bird's natural home. If we pay a visit to the great primeval forests of Norway, Lapland, Finland, and Russia, we shall, with the aid of a little patience, be able to view this true pine-loving bird in its native haunts, and by diligent search find its nest and have an opportunity of observing its curious and interesting habits. Mr. Wolley made himself as much acquainted with them as circumstances would admit, as did also Mr. Wheelwright. From the writings of both of these gentlemen (who, unhappily, now only live in our memory) I shall make such extracts as bear upon the present subject.

Those who have read the foregoing lines will have gleaned that the bird is only an accidental or very occasional visitor to these islands, and that its true home is the northern part of the adjoining continent. Most authors have affirmed that it also inhabits Northern and Arctic America; but latterly, and I think rightly, the American bird has been regarded as distinct from the European, and the name of *Canadensis*, proposed for it by Brisson as long ago as 1760, reinstated. The American birds are always much larger in every respect than those inhabiting Sweden and Lapland; but in colour they are very similar. As, however, species are often instituted upon much more slender differences, they may be regarded as distinct. They are the only known members of a form to which at least six generic terms have been applied; of these, *Pinicola* appears to be the oldest; and I have therefore, like some of my more recent contemporaries, adopted it.

"The following quotations," says Mr. Hewitson, "are from the pen of Mr. Wolley, to whom naturalists are greatly indebted for having so perseveringly traced out and brought home the previously unknown eggs of this species:—'The Pine-Grosbeak, though plentiful in Sweden during the winter, has been supposed to go to the East for the breeding-season; and, generally speaking, this is probably true; but in the northern and eastern part of Swedish Lapland, as well as in Finnish Lapland, a few Pine-Grosbeaks make their nests.'

"Mr. Wolley made frequent excursions during the winter months, in the hope of finding old nests by which to guide his search in the ensuing spring, and on one occasion found a nest very like that of the Turtledove, in a young fir tree, six feet above the ground, which he had no doubt belonged to this species.

“As the days grew longer I eagerly listened to the beautifully clear music of the bird in more than one locality; and on a snowy morning I saw a female watching me so very unconcernedly from a tree, that I climbed up to try to catch her in my hand. It was not until I nearly touched her that she flew off, as though she thought I was carrying the joke too far, but in a way that convinced me she had no nest. I had made arrangements for working another part of the country; but I left a trusty Lap in strict charge to visit a spot in Finland where I had ascertained that in previous years the bird had bred. On my return to the neighbourhood at the end of summer, I watched day after day for the arrival of my faithful Lap. The nights were already becoming dark, when one evening I saw the well-known figure in a boat approaching our strand. I had scarcely shouted welcome before his wallet was in my hand, and my English friends and myself were in triumphal procession to the house. First made its appearance a grim wolf's head; then came forth some rein-deer gad-flies; next there was extracted an unknown nest; then a skinned Pine-Grosbeak; and at last were carefully unwrapped from a little case the wished-for eggs, and there they lay in all their fresh-discovered beauty before us.’

“A nest, which was first found on the 27th of May, contained four eggs, and was in a young spruce fir tree at about six feet from the ground. It did not touch the bole of the tree; and the branches about it were thin, short, and open; and to identify them completely, the hen was snared upon it. ‘At Midsummer a nest was found, with four fully fledged young, about a hundred yards from the spot where the former nest had been. It is now in the British Museum. Externally it is made of remarkably open work of twigs and roots, mostly in very long pieces; in the centre of the platform there is an inner bedding of barkless fibrous roots, with a little of the hair-like lichen which grows so abundantly on trees in Lapland forests.’”

Mr. Wheelwright says:—“I was much pleased on my arrival at Quickiock to see in the fir-forests close to the village small flocks of Pine-Grosbeaks, which appeared to have remained there throughout the winter; but they might have migrated and returned again; for I have noticed that, when the Grosbeaks come into the Wermland forests in winter, they usually arrive early in November, and leave in February. By the first week in May they had paired, and on the 4th of June we took a nest from a small fir, at about ten feet from the ground, on the side of a fell, in by no means a large wood; and I may here remark that all the nests taken were placed close to the stem, in small firs, never high from the ground or in deep woods, and generally in rather conspicuous situations; all the trees in the Quickiock forests are so small and stunted, and the branches so bare, that scarcely any bird, except the very small kinds, builds its nest on the branches. In all, I found five nests; of these, two contained four eggs, which I take to be the full number, although, like the Cross-bill, the Pine-Grosbeak appears sometimes to sit on three; and two had young in them. The nest is neither large nor deep, but is very compactly and neatly built, like basketwork, of very fine fir branches and thin cranberry fibres tightly interlaced, and lined with fine stiff grass and a little hair. The eggs vary much, both in size and colouring, but are usually about the size of those of the Hawfinch, and of a pale bluish green, blotched and lined with light-purple and dark-umbre spots, and minute dots thickest towards the larger end; they average one inch by three quarters.

“The food of the Pine-Grosbeak is not, like that of the Cross-bill, the seed of the fir-cones, but the small buds or embryos of the young branches which shoot out from the lateral limbs of the firs and pines. They can, however, pick out the seeds from the cones both of the pine and fir quite as cleverly as the Cross-bills. The song of the male, both in winter and early spring, is delightful, being clear and flute-like. I have also heard it on a frosty winter day sing in the air while floating from one tree to another, and noticed that the sexes often keep up a very low pretty twitter as if conversing. As soon, however, as they begin to build, the sweet song of the male entirely ceases, and he assiduously assists the female in gathering sticks and fibres for the construction of the nest. Not a note do they utter, except a gentle “cluck,” as if conversing together in an under tone; and nothing in their note or actions indicates the proximity of the nest. It is a very fine, bold, tame bird, rather foolish than otherwise (for the boys often snare it from a tree with a hair noose on a long pole), and an excellent one for the cage, but must not be kept too warm, or it will soon die.”

It would appear that the Pine-Grosbeak is subject to the same changes and states of plumage as the Cross-bills: thus, while some of the males are clothed in ashy grey, others are red, and others, again, sulphur yellow. Mr. Wheelwright believed that the red birds were adult, and the yellow still older males, and that the ashy-grey colouring was characteristic both of the female and of young males, which, although capable of breeding, had not yet assumed the fully adult livery.

The Plate represents the two sexes, of the size of life.



LOXIA CURVIROSTRA, *Linn.*

LOXIA CURVIROSTRA, *Linn.*

Common Crossbill.

Loxia curvirostra, Linn. Syst. Nat., tom. i. p. 299.

—— *crucirostra*, Pall.

Crucirostra abietum, Meyer.

———— *major*, Brehm.

Coccothraustes curvirostra, Klein, Hist. Av., p. 96.

INDEPENDENTLY of the British Islands, Norway, Sweden, and Northern Germany, the Common Crossbill is found throughout the Russian Empire and Northern China; and it is probable that the bird of this form which is so common in Japan is the same species. I have never seen examples from the Himalayas, and do not believe that it is found so far south. In France, Switzerland, and the Tyrol its numbers are about upon a par with those in the British Islands. Lieutenant Alexander von Homeyer says that a Crossbill which he distinguishes as *Crucirostra curvirostra*, var. *balearica*, is of common occurrence, even in summer, in Majorca (Journ. für Ornith. 1862, p. 256). The late Captain Loche states that it is only occasionally met with in Algeria; but Mr. O. Salvin, in the 'Ibis' (vol. i. p. 315) mentions having met with a brood just out of the nest.

The rich colouring and foreign appearance which distinguish the Crossbill from the rest of our native birds have occasioned its being noticed from the earliest periods; for, long before the times of Ray and Linnæus, records of its appearance in large flocks have been made. "I have been favoured," says Mr. Yarrell, "by the Rev. L. B. Larking, of Ryarsh Vicarage, near Maidstone, with a copy of an old MS. which refers to this subject in the following terms:—'That the yeere 1593 was a great and exceeding yeere of apples; and there were great plenty of strange birds, that shewed themselves at the time the apples were rype, who fedde upon the kernells only of these apples, and haveinge a bill with one beake wrythinge over the other, which would presently bore a greate hole in the apple and make way to the kernells; they were of the bignesse of a Bullfinch, the henne right like the henne of the Bullfinch in colour; the cock a very glorious bird in a manner, al redde or yellowe on the brest, backe, and head. The oldest man living never heard or reade of any such-like bird; and the thinge most to be noted was, that it seemed they came out of some country not inhabited; for that they at the first would abide shooting at them, either with pellet, bowe, or other engine, and not remove unitl they were stricken downe; moreover, they would abide the throweing at them insomuch that diverse were stricken downe and killed with often throweing at them with apples. They came when the apples were rype, and went away when the apples were clean fallen. They were very good meate.

"'In Queen Elizabeth's time, a flock of birds came into Cornwall about harvest, a little bigger than a Sparrow, which had bills thwarted crosswise at the end, and with these they would cut an apple in two at one snap, eating onely the kernels; and they made great spoil among the apples.'

"In June and July 1791, a bird-catcher at Bath caught one hundred pair, which were generally sold for five shillings each. In the winter of 1806, a flock inhabited for a time a clump of firs in a deep sheltered valley at Penllergare in Glamorganshire. In 1821, flocks were seen in various parts of the country, particularly in Oxford, Worcester, and Warwick shires. In 1828 they appeared in Westmoreland. In the winter of 1829 they were numerous in Yorkshire, and have been, I might almost say, plentiful in various parts of England from the winter of 1835 to the present time (January 1839), probably induced to remain longer in this country now than formerly, by the greater abundance of fir plantations, to which they particularly resort to avail themselves of the seeds of the numerous cones, which are their principal food during winter."

It is quite evident from the above account, that the Crossbill has at various times been very plentiful in England; and that it still pays irregular visits to each and every one of our counties is known to all ornithologists; we have also many proofs that it breeds here. The Duke of Argyll informs me that the bird is seen, both in spring and winter, on the Dee. Mr. Joseph Clarke, of Saffron Walden, informed Mr. Yarrell that a pair made a nest on an apple-tree in a garden in that town, in the month of March 1833 or 1835; and Messrs. Sheppard and Whitear, in their Catalogue of the Birds of Norfolk and Suffolk, mention an instance of its nesting in the latter county. Mr. Alfred Newton tells me that a flock frequented the plantations at Elveden in Suffolk for about three years, and no doubt bred there, though he did not succeed in finding a nest. Mr. Stevenson remarks that a pair, killed in Norfolk in 1856, had probably bred there. The late Mr. St. John, in his 'Tour in Sutherlandshire,' says, "Whilst fishing in the upper part of the

river, I saw numbers of Crossbills and Siskins in the beautiful woods of Dulsie. The nests of these two birds are scarcely ever found, though they certainly breed plentifully in this country. The Siskin conceals its small nest, with great care, at some distance from the ground, generally near the trunk of a spruce fir; while the Crossbill places its nest, which it assimilates as much as possible to the colour and texture of the moss, on some good-sized horizontal branch of a fir tree, so that it is nearly invisible from below."

A nest found at Benlochen, in Scotland, on the 10th of April 1858, was composed exteriorly of a kind of scaffolding, made with rather coarse twigs of the fir. These were strongly matted together with wool, dry moss, and exceedingly fine roots; these same substances also composed the interior. The walls were very thick, whilst the cup of the nest was somewhat shallow.

I will now give the gist of what has been written by Mr. Wheelwright respecting the breeding of the Crossbill in Sweden, as there is an evident love of truth in all his observations, and because it is the best account that has yet been published.

"The pairing-season begins about the middle of January, when both sexes utter a very pretty song: the note of the female is much fainter than that of her mate. Were it not for the difference of the landscape, we might almost at this season imagine ourselves in the tropical regions of the south when we watch a little flock of these birds feeding, flitting from cone to cone, or climbing over them with their backs downward, like the Parrots, their bright red or orange plumage reflected in the rays of the afternoon sun, which even at this inclement season gild the tops of the firs for an hour or two before sinking below the horizon. They commence nesting often in the end of January, always by the middle of February; we have generally taken the first eggs in March, and in the end of April we have shot young fliers. They then appeared to leave us for the summer, and we rarely saw them again till autumn. That their periods of breeding are regulated by the weather, I do not believe; for a bird that can sit when the snow lies deep on the forest, and the fir trees are covered (which is the usual case), would care little whether the cold was a few degrees more intense than usual. That their breeding-seasons are as regular as those of any other species, I fully believe; nor do I think that they or any other bird, as a general rule, breed twice in the year in Sweden. I know no bird sit so close as the Crossbill. It will never leave the nest till you put your hand on it. I have often knocked the old bird off the eggs with a small fir branch, when she would directly try to return again. As regards the colouring of the Crossbills," says Mr. Wheelwright, in his 'Spring and Summer in Lapland,' "I can truly affirm that they assume four distinct dresses at different periods. The first, which lasts from the time they leave the nest until the first moult in September, is greenish brown, with dark longitudinal streaks down each feather, and is very similar in both sexes: at this time the bills of the young birds are straight, but the mandibles soon begin to cross each other after they have left the nest; and in young birds of the year, killed in November, the bill was nearly as much curved as in the adults: sometimes the point of the under mandible crosses to the right, sometimes to the left. On the completion of the first autumnal moult, the sexes are easily distinguished. The striped feathers of immaturity are very apparent in both all through the winter and following spring; but all the under parts are tinged in the young males with yellowish orange, and in the females with bright yellow; in the former the head and rump are orange, in the latter those parts are only tinged with yellow. I think it very probable that a change of colour takes place in May; for this orange-colour appears to me gradually to redden without moulting, and so much do the shades vary that scarcely two young males are exactly alike. It is impossible to say how long this youthful state of plumage lasts, but, I am inclined to think, certainly until the second autumnal moult, and even longer; for early in November I have killed young males of a beautiful orange-red colour, which, from their size and general appearance and the total absence of the dark striped feathers of youth, could not have been birds of the year. I am almost confident that this orange-red colour is a gradual transition to the red dress of the fully adult male. Of one thing, however, I am perfectly convinced, that *none* of the young males obtain the full deep red dress at the *first* autumnal moult. Respecting the bright yellow-green dress which the old males occasionally assume, it is hard to say at what age it is put on, but, we may reasonably infer, at a very advanced period of life *in a state of nature*; it is said that as soon as a male Crossbill or Grosbeak is confined in a cage, it changes from red to bright yellow-green at once, and wears this colour till it dies."

The nestling birds are very like the young of the Greenfinch (*Chlorospiza Chloris*), as may be seen on reference to the accompanying Plate, which I have been enabled to render very complete by including figures of the fine nest and examples of the young birds sent to me by Mr. Wheelwright. The eggs are as much like those of the Greenfinch as are the young birds,—so much so, that Mr. Hewitson remarks, "it is not easy to point out anything to distinguish them, except that they are more pointed at the smaller end than the typical eggs of that species."

As is the case with the Parrot Crossbill, the most northerly range of this bird in Europe is not well known; but Mr. Alfred Newton informs me that, in 1855, he saw a small flock at Muoniovara, and that he has since received a nest and eggs from the same district.

The Plate represents a male, a female, four young birds, and a nest, all of the natural size.





LOXIA PITYOPSITTACUS, *Bechst.*

J. Gould and H.C. Richter, del. & lith.

Walter & Cohn, Imp.

LOXIA PITYOPSITTACUS, *Bechst.*

Parrot Crossbill.

Loxia curvirostra (var. γ) *major*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 843.

— *pytiopsittacus*, Bechst. Orn. Taschen. Deutsch., vol. iii. p. 106.

Crucirostra pinetorum, Meyer, Vög. Liv- und Esthl. p. 71.

— *subpytiopsittacus*, Brehm, Handb. der Naturg. Vög. Deutsch. p. 242.

LITTLE philosophy is required to divine the purpose of the curiously formed bill of this bird, since even the most careless glance would convince us that it has been designed for some special object connected with the bird's economy and mode of life. Had there been no coniferous trees, the form would probably not have been in existence, any more than there would have been honey-feeding Parrots had there been no *Eucalypti*. So far from an error, a defect of nature, and a useless deformity, as stated by Buffon, a more perfect instrument than the bill of this bird for extracting the seeds from between the scales of the fir-cones can scarcely be conceived, just as the bill of the Bullfinch is fitted for shelling the embryo flowers and buds of trees. I might, were it necessary, cite numerous other instances of adaptation to a special purpose; but I may content myself by stating that the variation in form and structure observable in all animals is accompanied by some speciality in their means of obtaining their subsistence. The home of the Parrot Crossbill is among the cones which hang on the trees of the interminable forests it inhabits—such forests as formerly existed in Scotland, but which are now only to be found in Norway, Sweden, Russia, and Siberia. It is true the peculiar class of trees of which these forests are formed extend still further south, both in the old and new worlds, and, wherever they exist, Crossbills of one or other species are also found. In countries south of the equatorial line, firs and Loxiine birds form no part of their floræ and faunæ; and neither the one nor the other, if introduced, will, in my opinion, ever thrive there. I could enlarge upon this subject to any extent, were it not foreign to my present purpose; but I merely record my opinion that none of these isolated forms will live out of their own country, and that it is futile to attempt to alter the nature and condition of one or the other.

Crossbills are wandering birds, moving about from one part of the country to another, according to the season and the abundance of cones hanging on their favourite trees; sometimes they even leave their primeval forests, and for a short time visit other districts, as will be seen in my account of the *Loxia curvirostra*. Mr. Wheelwright, who has paid special attention to their habits and economy in the neighbourhood of Gardsjö in Sweden, states that if there be an abundance of fir-cones in autumn, plenty of Crossbills will be found breeding there in the following spring—a circumstance which appears to happen about every third or fourth year; and he has observed that, if large flocks are seen in the autumn, the chances are that there will be very little snow during the following winter.

Ornithologists are divided in opinion as to the specific value of the Parrot and Common Crossbills, some believing that the former is merely a large race of the latter, or *vice versâ*. If this be really true, we may also unite with them the Crossbills of Japan, North America, Mexico, and the small species found in the Himalayas; but I do not coincide with this opinion, for the following reasons. When Crossbills are found in the Swedish forests, they are almost exclusively of the large or the smaller kind, and seldom, if ever, are they found breeding in company. Further, if the Himalayan and American birds are one and the same with our own, and the *Pityopsittacus* be merely a larger race, why should it not be found in those countries also? Such, however, is never the case; and I therefore think that such an opinion must fall to the ground. To go into the origin of species would be entering the region of speculation, without obtaining any satisfactory proofs as to how these somewhat trifling yet constant differences have been brought about; and my duty in the present work is to deal with things as we find them. I know that Mr. Wheelwright is of opinion that the two birds are perfectly distinct.

Since writing the above, I have read a passage on this very subject from the pen of Mr. Blyth, so perfectly coincident that I could scarcely persuade myself that I had not read it beforehand; but I can assure my readers that both my own and Mr. Blyth's opinion were formed independently of each other. The following is the passage referred to:—

“Mr. Bree doubts the existence of the Parrot Crossbill as a species. If that bird is to be united to *Loxia curvirostra*, why not also the small species of the Himalayas, *L. himalayana*, in which case the difference of size in the two extremes is great indeed? In America the *L. mexicana* corresponds to the *L. pityopsittacus* of Europe; but on the former continent *L. mexicana* is a more southern species than *L. curvirostra*, whereas in Europe *L. pityopsittacus* is the more northern species of the two. If all these are to be regarded as varieties of one species, why not also the two White-winged Crossbills of Europe and America respec-

tively? And why does not the allied *Strobilophaga enucleator* vary in like manner? I have seen many Parrot Crossbills, and consider them to be better distinguished from the common species than are the greater and smaller European Bullfinches of the French, the former of which is the true *Loxia pyrrhula* of Linnæus, and the latter, of course, the *Pyrrhula vulgaris* of Ray." To these remarks of Mr. Blyth I may add that the Parrot Crossbill differs far more widely from the common species than that bird does from any of the smaller members of the genus, even from *L. mexicana*. Independently of its larger size, its much thicker, shorter, and deeper bill, it never, in my opinion, assumes so deep a red colouring as *L. curvirostra*. Mr. Wheelwright has also suggested that in some instances the male assumes the red plumage immediately after the first moult, without any intermediate yellow livery; and this suggestion is partly confirmed by the condition of a specimen, in its striped dress, now before me, and shot, in the end of July 1860, in Wermland. In this example, the red feathers are appearing both on the cheeks and on the upper part of the back; and if there be any value in the law of representation, I may state that I have seen similarly coloured specimens of *L. mexicana*.

In the British Islands the Parrot Crossbill has never been known to breed; and its occurrence among us is so unfrequent and uncertain that it may be regarded, not only as one of our rarest birds, but as one which we cannot look for with the certainty of finding it. If the forests bordering the Spey and the Dee be diligently searched, the chances are that the common species may be observed; but years may elapse before a Parrot Crossbill would be met with. Still there are too many instances of its occurrence on record for me to enumerate half of them in the present work. Pennant first brought the bird under the notice of English ornithologists, two specimens having been sent to him from Shropshire about 1776; since that time, I believe, it has only been found once in Ireland and twice in Scotland: on the other hand, many instances of its occurrence in England are on record; and perhaps greater numbers have been obtained within fifty miles of the metropolis than elsewhere. Dr. Bree states that three specimens, obtained near Colchester, were brought to him in the flesh, on the 21st of February 1862; and Mr. Bond has received recently killed specimens within the last year or two. Mr. Alfred Newton has recorded, in the 'Zoologist' for 1851, the occurrence of a specimen of this bird near Riddlesworth Hall, in Norfolk, several years previously. He also mentions that he had obtained another, shot at Saxham, in Suffolk, in November 1850. From him I further learn that during the past winter (1863-64) several have been killed near Brandon, on the borders of these two counties, a couple of which, both males, are in the possession of E. C. Newcome, Esq. On the Continent, as in England, this species is far from being abundant. The countries in which it is most frequently found are Germany, Russia, Sweden, and Norway. Its extreme northern range does not seem to be known with accuracy; but Mr. A. Newton tells me he has received a single nest from Kyrč, on the Kemi River, in Lapland, about lat. 68°. It has also been taken in Holland, Belgium, and France; but in those countries, as in Britain, it must be regarded as an accidental visitor.

With respect to its nidification, Mr. Wheelwright, who has observed it in Sweden, states that "the nests of both the Common and Parrot Crossbills are almost invariably placed in a small pine, near the top, close to the stem, never in a deep forest, but always on a stony rise, where the pines are small and wide apart. The Parrot Crossbill generally goes to nest a little later than the Common one. By the middle or end of April the young birds are strong fliers, and we never find a nest with eggs after that month. The nests of both species are very much alike; but that of the Parrot Crossbill is thicker and larger than the other; it is built outwardly of dry sticks and with moss of two kinds, and lined with shreds of the inner bark of the fir tree, with here and there a feather or two. The eggs of the Parrot Crossbill are often scarcely larger than those of the Common species; but they are usually shorter, and their markings are of a bolder character. Their full number appears to be three; for we very rarely find four in a nest." They are greenish ash-colour, stained with spots of a pinkish hue, amidst which are a few others of dark umber-brown.

I am indebted to Dr. Bree for the loan of the three specimens killed near Colchester: they differ from all others I have seen—in the females being of a more sordid or dark greenish olive—and particularly from the one figured on the accompanying Plate; the male is also less brilliantly coloured, the feathers being dull red, intermingled with which are patches of sordid yellow.

The young very closely resemble the young of the Common Crossbill, figured on my Plate of that species. When they are able to leave the nest and sit upon a branch, the mandibles are just beginning to cross, and are of a purplish flesh-colour; the feathers of both the upper and under surface are striated with brown down the centre, and have greyish margins, except those of the breast, back, and rump, which are washed with yellow; the incipient primaries are dark brown, slightly margined with tawny.

Those who may wish for a minute anatomical description of the remarkable bills of these birds may consult with advantage the interesting paper on that of the Common species, with woodcut illustrations, given by Mr. Yarrell, and which is equally applicable to all the members of the genus.

It will have been understood from the description of the changes of plumage given above, that the female is dressed in grey and dull yellow, while the male is more or less orange-red, according to age and circumstances.

The Plate represents the two sexes, of the size of life.



LOXIA BIFASCIATA, *Selys.*

J. Gould and H.C. Richter, del. et lith.

Walter & Cohn, Imp.

LOXIA BIFASCIATA.

White-winged Crossbill.

Loxia bifasciata, Nilss. Skand. Faun. Illum., pl. 20.

Crucirostra bifasciata, Brehm, Handb. Naturg. Vög. Deutsch., p. 244.

——— *tanioptera*, Glog. Isis, 1828.

If we were as well acquainted with the habits and economy of this pretty species of Crossbill as we are with those of the *Loxia pityopsittacus* and *L. curvirostra*, we should probably find that it gives preference to some particular group of trees, most likely to one or other species of *Abies*. The Common Larch (*A. larix*) is a native of Central Europe, Russia, and Siberia, in all of which countries the bird is also found. Temminck and De Selys-Longchamps have each contented themselves with a mere description of the species; and I am compelled reluctantly to add, that in the present paper I am unable to give any details as to the bird's history. It is, in fact, a species of which we know little more than that it visits, at irregular intervals, the countries of Holland, Germany, Switzerland, and France, and as irregularly crosses the Channel to our own island, and occasionally proceeds still further west to Ireland, where it was killed near Belfast in 1802. In England, one was shot out of a small flock near Ipswich; Mr. Doubleday is said to have procured one in his own garden, at Epping; it has also been taken in Cornwall, Warwickshire, Derbyshire, Surrey, Suffolk, Norfolk, the Isle of Wight, Cumberland, and in Scotland. In all probability, the proper home of the White-winged Crossbill is the scattered pine- and larch-forests of Eastern Russia and Siberia, and thence it occasionally makes a western movement to Germany, Holland, and this country, and a southern one to Thibet and the great Himalaya range of mountains, whence I have received one, if not two specimens. It is doubtless the species described by Schrenck, in his 'Birds of the Amoor,' under the name of *L. leucoptera*. Both Continental and British ornithologists considered the present bird to be identical with the American *L. leucoptera* until the Baron de Selys-Longchamps, with his wonted acumen, pointed out, in his 'Faune Belge,' the peculiar features which distinguish it from that species; these may be thus stated:—the American bird is smaller than a Sparrow, has the beak small, very much compressed, and the points slender and elongated, the tail greatly forked; the males clothed in brilliant crimson, and the tail black with little or no bordering: the European White-winged Crossbill, on the other hand, is larger than a Sparrow, has the beak almost as large as that of the Common Crossbill, less compressed than in the American bird, the points less crossed and not so elongated, the tail less forked; the males clothed in dull brick-red, and the tail-feathers bordered with yellow. Mr. Yarrell has also pointed out that the claw of the hind toe of the American bird is both longer and stouter than that of the European species.

Nearly all that has at present been recorded respecting the *Loxia bifasciata* is comprised in the following passages in Professor Nilsson's 'Scandinavian Fauna' and Schrenck's 'Birds of the Amoor.' Nilsson records nearly a dozen instances of its occurrence in Sweden, sometimes in considerable numbers, so that from twelve to twenty have been killed out of the same flock, which occasionally comprises among its members examples of the Parrot and the common species.

Brandt and Middendorff state that "it is a constant inhabitant of Northern Siberia, that it is one of the commonest birds on the Jenissei, and that it proceeds further north than any other species. North of the Amoor, Middendorff found it on the Stanowoi Mountains in October; young birds at Udskoi-Ostrog in June, and among the larch- and fir-woods of the Lower Amoor about the middle of February."

"The only example of the White-winged Crossbill in Norfolk, that I am at present aware of," says Mr. Stevenson, "is the one referred to in the following note, by Mr. C. B. Hunter, to the 'Zoologist' in 1846:—'Four or five of these birds were observed on some fir trees near Thetford, in Norfolk, on the 10th of May last (1846), one of which was shot, and came into the possession of Mr. Robert Reynolds, bird-fancier, of Thetford. About a week before this, Mr. Reynolds purchased a specimen of a bird-stuffer at Bury St. Edmunds, which had but just been set up, and was obtained in that neighbourhood.' Mr. Yarrell states, in the Supplement to his third edition, that five specimens of White-winged Crossbill, examined by himself (all killed in England), belonged undoubtedly to the *European species*; and of these, one, now in the possession of Mr. Doubleday, was killed at Thetford, and this I believe to be the bird above referred to by Mr. Hunter. The Suffolk one from Bury, mentioned by the same gentleman, is now in the collection of Mr. J. H. Gurney, and has all the characteristics of the European type. Another White-winged Crossbill is also recorded to have been shot in Suffolk, some years since, from a flock of five or six, by Mr. Seaman, of Ipswich."

Those seen in Cumberland were in a small flock of six or seven in number, of which several were shot.

The male has the whole of the head, upper, and under surface mottled grey and bright brick-red, the

latter colour being richest, and predominating on the abdomen, lower part of the back, and upper tail-coverts; wings very dark or blackish brown, the coverts largely tipped with white, forming two conspicuous bands across the shoulder, whence the specific name; a few of the tertiaries are also tipped with white; tail very dark or blackish brown; primaries and tail-feathers very narrowly margined with yellowish white; bill brownish horn-colour; feet purplish brown; irides dark brown.

The female has the forehead, face, and throat grey; crown of the head mottled grey and pale brimstone-yellow, which latter colour predominates on the lower part of the back, where it becomes almost pure yellow; under surface grey, washed with brimstone-yellow on the breast, upper part of the abdomen, and flanks; lower part of the flanks streaked with brown; wings and tail as in the male, but more conspicuously margined; upper tail-coverts tipped with white; bill, feet, and irides as in the male.

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



LOXIA LEUCOPTERA, Gmel.

J. Gould and H.C. Richter, del. et lith.

Walter & Cohn, Imp.

LOXIA LEUCOPTERA, Gmel.

American White-winged Crossbill.

Loxia leucoptera, Gmel. edit. Linn. Syst. Nat., tom. i. p. 844.

— *falcirostra*, Lath. Ind. Orn., vol. i. p. 371.

Curvirostra leucoptera, Wils. Amer. Orn., vol. iv. p. 48, pl. xxxi. fig. 3, young male.

THE Gulf-stream has doubtless much to do with the appearance of many American birds on our shores; for when a straggler is once within its influence, it is borne along not unwillingly, since it finds within a distance of every five square miles large masses of floating sea-weeds and other substances upon which it may rest, and where it may procure an abundance of Mollusks, small Crustaceans, &c., upon which to subsist.

In the present instance I have departed from my plan of not figuring those American species which, having been accidentally drawn across the Atlantic, have found shelter in our island. The Belted Kingfisher (*Ceryle alcyon*), American Cuckoo (*Coccyzus americanus*), and Red-winged Starling (*Agelaius phœniceus*) have no more connexion with our fauna than the Australian Cereopsis Goose; even in America these birds more properly belong to the south than the north; and those examples which have arrived here have doubtless been driven to sea during their migration, or by some accidental cause which cannot be ascertained. The American White-winged Crossbill has, however, in my opinion, certain claims to be figured in the 'Birds of Great Britain.' It is a species which, in the New World, goes further north than any other insessorial bird, except the Wheatear, Redpolls, Pine Grosbeak, Snow and Lapland Buntings—certainly as far as any species of Pine is known to exist,—and it is consequently more likely now and then to extend its visits to that portion of the Old World which lies within the Arctic Circle than either of the comparatively southern species above referred to; moreover it has undoubtedly been found in our island—a fact I have verified by an examination of the specimen mentioned by Mr. Yarrell as having been taken in Devonshire; and it has usually been confounded with the species called *Loxia bifasciata*, the differences between the two being only known to professed ornithologists. For all these reasons, a representation of it cannot fail to be of service.

The occurrence of the specimen above alluded to, which is now in the possession of Mr. Van Voorst, is thus recorded in the 'Proceedings of the Zoological Society' for 1845, p. 91:—"September 23. Edward Fitton, Esq., exhibited to the meeting a fine male specimen of the White-winged Crossbill (*Loxia leucoptera*), in red plumage, which he had picked up dead upon the shore at Exmouth on the 17th inst. It appeared to have been injured on the back of the head, and to have crept into a crevice of one of the loose fragments of rock on the shore, where it was found by Mr. Fitton, partly covered with wet sand. The wind at the time was south-west, and had been blowing hard from north-west to west and south-west for some days." Mr. Yarrell states that both himself and Mr. Fitton examined the bird while in the flesh, and that on dissection it proved to be a male, probably in the second year of its existence. The stomach was empty.

In its native country—northern and arctic America—no species is more widely dispersed; for it is to be seen in great numbers from Nova Scotia to Labrador, from the Red River to Davis's Straits, and in the pine-forests thence to the Pacific it is everywhere to be found.

Sir John Richardson informs us that it "inhabits the dense white-spruce forests of the North-American fur countries, feeding principally on the seeds of the cones. It ranges through the whole breadth of the continent, and probably up to the sixty-eighth parallel, where the woods terminate, though it was not observed higher than the sixty-second. It is mostly seen on the upper branches of the trees, and, when wounded, clings so fast that it will remain suspended after death. In September it collects in small flocks, which fly from tree to tree, making a chattering noise; and in the depth of winter it retires from the coast to the thick woods of the interior."

Audubon "found this species common on the islands near the entrance of the Bay of Fundy early in May 1833. They were then journeying northwards; but many pass the whole year in the northern parts of the State of Maine, and the British provinces of New Brunswick and Nova Scotia: those seen on the islands above-mentioned were observed on their margins, some having alighted on the bare rocks; and all those which were alarmed immediately took to wing, rose to a moderate height, and flew directly eastward. On my passage across the Gulf of St. Lawrence to Labrador in the same month, about half-a-dozen White-winged Crossbills and as many Mealy Redpolls one day alighted on the top yards of our vessel, but before we could bring our guns from below they all left us. Within the limits of the United States I have obtained examples during winter along the hilly shores of the Schuylkil River in Pennsylvania; also in New Jersey; and in one instance in Maryland, a few miles from Baltimore, beyond which, southward, I have never met with this

species, nor have I heard of any having been seen there. Its song is at times mellow and agreeable, and in captivity it becomes gentle and familiar."

"This species," says Prince Charles Lucian Bonaparte, "inhabits during summer the remotest regions of North America. Its range is widely extended; for we can trace it from Labrador westward to Fort de la Fourche, in latitude 56°, the borders of Peace River, and Montagu Island on the north-west coast, where it was found by Dixon. Round Hudson's Bay it is common and well known, probably extending far to the north-west, as Mackenzie appears to allude to it when speaking of the only land-bird found in the desolate regions he was exploring, which enlivened with its agreeable notes the deep and silent forests of those frozen tracts. It is common on the borders of Lake Ontario, and descends in autumn and winter into Canada and the Northern and Middle States. Its migrations, however, are very irregular. It is seldom observed elsewhere than in pine swamps and forests, feeding almost exclusively on the seeds of these trees, together with a few berries. All the specimens I obtained had their crops filled to excess entirely with the small seeds of *Pinus inops*. They kept in flocks of from twenty to fifty, and when alarmed suddenly took wing all at once, and, after a little manœuvring in the air, generally alighted again nearly on the same pines which they had left, or on the naked branches of some distant, high and isolated tree. In the countries where they pass the summer, they build their nest on the limb of a pine, towards the centre; it is composed of grasses and earth, and lined internally with feathers. The female lays five eggs, which are white, spotted with yellowish. The young leave the nest in June, and are able to join the parent birds in their autumnal migration. When a deep snow has covered the ground in the northern countries where these birds are numerous, they appear to lose all sense of danger, and, by spreading some favourite food, may be knocked down with sticks, or even caught with the hand, while busily engaged in feeding. Their manners in other respects also are very similar to those of the Common Crossbill."

Independently of the smaller size and more slender form of the bill as compared with that of *L. bifasciata*, this bird may at all times be distinguished from that species by the red colouring of the adult male being suffused with a rich vinous hue, which is particularly conspicuous on the head, neck, and breast: in the arrangement of the colouring and markings the two species are very similar, each having the wing-coverts tipped with white, forming two distinct bands, and the wings and tail black, narrowly margined with yellowish white; under tail-coverts blackish brown, broadly margined with white.

The female has the whole of the head, neck, upper part of the back, breast, and flanks suffused with fine orange-yellow, the centre of the feathers being dark olive, giving the head and back of the neck a mottled appearance; lower part of the back fine yellow; the remainder of the plumage as in the male.

I have remarked that males taken in summer in high northern regions are very much richer in colour than those found to the southward, the red of the body being deeper and the black of the wings and tail more intense.

The Plate represents a male and a female on the Common Larch (*Abies Larix*).



LINOTA CANNABINA.

LINOTA CANNABINA.

Linnet.

Fringilla cannabina, Linn. Faun. Suec., p. 87.

——— *linota*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 916.

Ligurinus cannabina, Koch, Syst. Baier. Zool., tom. i. p. 231.

Linaria cannabina, Boie, Isis, 1822, p. 554.

Cannabina pinetorum, et *arbustorum*, Brehm, Vög. Deutschl., pp. 276, 277.

——— *linota*, G. R. Gray, List of Gen. of Birds, 1840, p. 45.

Linota cannabina, Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 54.

THE Linnet is one of our strictly indigenous birds, as much so as the Thrush, the Blackbird, or the Magpie, but is less frequently noticed; for although it may often be seen on the wing, few who observe it know what it really is, or distinguish it from a Sparrow or a Greenfinch. When fully adult the males are extremely beautiful, their crown and chest being washed in early spring with a delicate rosy hue, which heightens as the season advances; hence at midsummer they are finer than at the nuptial period, the grey tips of the feathers, which overlap their roseate portions, having fallen off, leaving the underlying scarlet more exposed, besides which the colour itself appears to increase in depth until the autumnal moult, when the bird assumes the nearly uniform warmer clothing of winter.

The distribution of this common species over the three kingdoms is so very general that even the Orkneys and the Hebrides are not without its presence. Although its nature leads it to prefer barren tracts of country, furzy commons and wastes bordering woods, it readily accommodates itself to the most highly cultivated districts, often frequenting gardens, lawns, and shrubberies, especially those to which open fields are contiguous. In April and May it constructs a round cup-shaped nest among the shrubs of pleasure-grounds and the furze and gorse of our common lands; in the latter case it is subject to much persecution by the village boys who wantonly take its eggs, and in the former it is shot by the gardener on account of its habit of pilfering his radish-seeds while in pod.

When the breeding-season is over and the young have their pinions perfected, the Linnets become gregarious, and assemble in flocks. During the winter months they leave the gardens and furzy commons, where they have spent the summer, and betake themselves to the open parts of the country, visiting pasture-lands, clover-leys, stubble-fields, and even farm-lands; and should the winter prove rigorous, they seek the warmer counties, and perhaps leave our islands altogether for a time.

The Linnet, like the Goldfinch, the Siskin, and the Redpole, contributes greatly to the support of many poor people, being the principal "stock in trade" of the numerous bird-catchers and bird-dealers of the metropolis. The number of persons engaged in its capture and sale are indeed far greater than is usually supposed; and a statistical account of them, could it be correctly ascertained, would be both interesting and surprising. It is not its pleasing colour alone that renders the Linnet such a favourite cage-bird; being a seed-, and not an insect-eater, it is easily kept, readily succumbs to captivity, soon becomes tame and familiar, and during the months of spring constantly cheers its possessor with its pleasing innocent song. Its natural food is the seeds of many of our common weeds, the wild rape, and the dandelion; but it would seem that it occasionally does much damage among the fields of wheat and other grain. The gravest charge I have heard brought against it was made by Mr. Smither of Churt, a close observer of nature and no mean authority in matters of the kind. Writing to me in July 1863, he says:—"No one would believe the damage done to wheat this season by the Linnets, unless they saw it; in many places the ground is covered with chaff, and the ears entirely emptied. I have seen spots of standing wheat the ears of which were covered with Linnets; and a farmer I was with this morning estimates the loss by these birds at the rate of two sacks in an acre and a half of wheat; he was greatly pleased therefore at my shooting some of them. Whether they overbalance the damage they commit by the quantity of weed-seeds they consume, I cannot say. 'Punch' writes very strongly in favour of small birds; but I think he does not quite understand the nature of them."

Besides being very common in the British Islands, the Linnet is also found all over Europe from Lapland to the Mediterranean, in North Africa, and in Madeira; I have myself seen it in abundance in the Maltese group of islands; and that it goes as far east as Asia Minor and Persia is certain, as I have thence received specimens. I am not aware of its having been found in India; neither does it form part of the avifauna of America.

"Towards the end of autumn," says Macgillivray, "the Linnets collect into flocks, which unite as the winter

advances, and betake themselves to the lower districts. These flocks sometimes mingle with other allied birds; but for the most part they keep distinct, performing their various evolutions by themselves. They generally move in a rather close mass, advance in one direction by short leaps, crouching as they go on and searching for food with great assiduity, the stragglers every now and then flying up to the main body. The flight is rapid and undulated, and performed by alternate flaps and cessations in a curved line, after the manner of the Green Linnet, but with still more activity. As the flocks glide and wheel, the individuals composing them cross the direction of each other in a very beautiful manner. On the ground it is equally active. Its voice is soft and mellow, and its song varied and remarkably sweet."

"To witness a number of Linnets feeding," remarks Thompson, "is a very pleasing sight. Several may be seen in different attitudes busy in extracting the seeds from a single thistle or ragweed, which all the while keeps moving to and fro with their weight. The ear is at the same time gratified with the lively call which is constantly uttered by one or more of the party.

"Sir William Jardine has very pleasingly observed in a note to his edition of Wilson's 'American Ornithology,' that 'every one who has lived much in the country must have often remarked the common Linnets congregating towards the close of a fine winter's evening, perched on the summit of some bare tree, pluming themselves in the last rays of the sun, chirruping the commencement of their evening song, and bursting simultaneously into one general chorus, again resuming their single strains, and again joining, as if happy and rejoicing at the termination of their day's employment.' I had daily, for a season, the gratification of thus observing them at Wolf-hill, where the effect was heightened by the black Italian poplars which they alighted on and dotted with their numbers to the very apex, having pyramidal-formed heads, and accordingly presenting several pyramids of birds, each giving forth its peal of music; when this ceased the birds descended to roost in the fine large Portugal laurels growing beneath and around the trees."

"The common Linnet," says St. John in his 'Natural History and Sport in Moray,' "is spread abundantly all over the country, breeding in furze-bushes and other dense-growing shrubs, though more frequently in the furze than in any other plant. Its nest is made of grass and dried fibres, with a little moss, and lined with wool. The Linnets collect in immense flocks towards winter, sometimes covering the top of a large tree, or wheeling in clouds over stubble-fields where groundsel and other seeds which they feed on abound. They are very fond, too, of turnip-seed."

Of two very handsome nests taken in Hampshire, and obligingly brought for my inspection by Mr. Bond, one was composed externally of coarse roots, and internally of very fine ones mixed with wool, and was decorated on the outside with a few pieces of lichen; the other was composed of coarse roots and a little dried moss, lined with a mixture of cow-hair and wool; feathers are occasionally employed in the lining.

The eggs are four or five in number, of a pale bluish white speckled with pale purple and reddish brown, particularly towards the larger end.

The young usually leave the nest at the end of May; their plumage is then very like that of the old bird in winter; their bills are purplish-olive, and their feet flesh-colour. There are generally two broods in the year.

The principal characteristics of the male have been indicated above; the females and the fully fledged young are of a nearly uniform brown, or at most so little varied as not to catch the eye. Mr. Blyth informs me that very old females sometimes assume the colouring of the male.

The Plate represents an adult male in full summer plumage, a male in his early spring dress, and a female, all the size of life. The plant is the *Juniperus communis*.



LINOTA MONTIUM.

LINOTA MONTIUM.

Twite or Mountain-Linnet.

- Fringilla montium*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 917.
——— *montana*, Penn. Brit. Zool., vol. i. p. 467.
Linaria montana, Briss. Orn., tom. iii. p. 145.
——— *montium*, Leach.
——— *flavirostris*, Macgill. Hist. of Brit. Birds, vol. i. p. 379.
Linota montium, Bonap. Geogr. and Comp. List of Birds of Eur. and N. Am., p. 34.
Cannabina flavirostris, Degl.
Acanthis montium, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 125.
Cannabina montium, Brehm, Isis, 1828, p. 1277.
——— *montium*, *flavirostris*, et *media*, Brehm.
Fringilla flavirostris?, Linn. Faun. Suec., p. 87.
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“THE nest of the Twite is placed amid the tops of the tallest heaths, and is composed of dry grasses and heather, and lined with wool, the fibres of roots, and the finer parts of heath; and the four or five eggs it contains are of a pale bluish green, spotted with pale orange-brown. The bird itself leaves the mountains in autumn, and assembles in flocks, which associate and travel with the Common Linnet, and are taken in their company by the London bird-catchers, who can always tell when there are any Twites in the flock by their peculiar note, expressive of that word.” These are the words of Mr. Selby, one of our best observers, with respect to this interesting little bird, which is very generally dispersed over the lowlands of the British Islands in winter and the mountain-tops in summer; there, amidst the pure air and flowering ling, it pours forth its mirthful little song, and brings forth its young. In the Peak district of Derbyshire, in the Cheviots of Northumberland, in the Grampians of Scotland the Twite may always be found; and northward of these localities, even to the Orkneys and the Outer Hebrides, it is the most abundant of the summer visitants, and may be seen breeding at the proper season. In the northern parts of Europe, from Scandinavia to Prussia, it is as plentiful as with us; but it becomes sensibly more scarce as we proceed southwards.

The Twite has but few fine colours to recommend it to our notice: unlike the Linnet and its allies, in which red is the prevailing tint, a little deep blood- or purplish red on the rump of the male, and the male only, is the only variation from the uniformity of its brown colouring; I must mention, however, that in the breeding-season the bill, which is usually of a mealy white, becomes of a wax-yellow. As a bird for the cage, it is less in request than the Linnet.

Macgillivray states that “it is plentiful in the Hebrides, and in winter frequents the corn-yards in large flocks, clinging to the stacks of oats and picking out the seeds. Its flight is rapid and undulating, and it wheels over the fields previous to alighting, uttering a soft twitter at intervals. When disturbed, it betakes itself to tall trees or to a distant field; but is not shy, and may be easily approached when feeding. In spring, it forsakes its winter haunts, and disperses over the hilly tracts, where it forms its nest on the ground, among short heath or on the grassy slopes of craggy spots. The nest is a neat structure of fine dry grasses, fragments of heath, and a little moss, lined with roots, wool, and hair. In habits it almost precisely resembles the Common Linnet, with which in winter it sometimes associates. Towards the commencement of that season, the individuals unite into flocks, sometimes of vast extent, and search for food chiefly in the stubble-fields, where, besides the seeds of chickweed, field-mustard, polygona, and other plants, they pick up those of the cultivated grasses. Although both this and the Common Linnet might seem too small to feed upon these latter seeds, yet in winter I have generally found the greater part of the contents of their stomach to consist of them.”

Sir William Jardine informed Mr. Yarrell that the Twite is abundant in the North Highlands, where it takes the place, in summer, of the Common Linnet in the Lowlands. A pair shot within a few hundred yards of Jardine Hall in Dumfriesshire, whither they had been driven by a winter storm, were feeding on the heads of the black knapweed (*Centaurea nigra*).

The presence of the Twite in the Orkneys has been noticed by the Rev. Mr. Low, by Mr. J. D. Salmon, and by the late Mr. Dunn. Mr. Low states that it remains there all the year, building in the heath, but seldom or never in bushes; Mr. Salmon, that the Mountain was the only species of Linnet seen by his party: two nests came under their observation; one was placed upon the ground, among the young corn, the other amidst some whins (*Ulex*): they were both alike, their outside composed of small roots and dried grass, and their insides lined with a small quantity of hair and a few feathers; and each contained six eggs, similar

in appearance, but smaller than those of the Common Linnet; and Mr. Dunn, that the "Heather-Lintee," as it is there called, is, so far as he was aware, the only Linnet that breeds there. He adds that it is very generally dispersed, and that he had repeatedly taken its nest from shaded situations among long heath. In winter it appears in large flocks, frequently in company with Sparrows and Snow-Buntings, and then infests the corn-yards.

Mr. Thompson informs us that in the heath-clad mountains of the more northern parts of Ireland the Twite breeds annually. "In the north of Ireland it is distinguished from the other Linnets by the name of 'Heather-grey.' These birds may be seen every winter in large flocks about Clough, in the county of Antrim, where they chiefly frequent the stubble-fields in the neighbourhood of the mountains. They are said to be common about Armagh in winter. I have had specimens from the county of Fermanagh; they have been obtained in Kerry, and have been shot in the middle of February, in company with the Grey Linnet, on an island in Wexford harbour, where they seemed partial to the vicinity of high-water mark, and had taken up their quarters among the grassy banks. In the north they frequently resort to the sea-side in winter, and associate with the Grey Linnet. The nests, which have been frequently found on the top of the Knockagh Mountain, near Carrickfergus, were generally placed in the heath, but in some instances were built near to the ground, in dwarfed whins growing among the heath." Mr. Thompson mentions several other localities, and adds that "it is common and breeds in the counties of Cork and Tipperary."

In autumn and spring vast flocks often frequent the fields of cole-seed in the fens of Cambridgeshire and the Isle of Ely.

In winter especially the Twite closely resembles the Common Linnet in plumage, but may be readily distinguished by its yellowish-red throat, devoid of dark streaks, and by the yellow colouring of the bill.

The Plate represents the two sexes, of the natural size, on the flowering ling (*Calluna vulgaris*, Salisb.).



AGRIOTHUS LINARIA.

ÆGIOTHUS LINARIA.

Mealy Redpole.

- Fringilla linaria*, Linn. Faun. Suec., p. 87.
Linaria borealis, Vieill. Nouv. Dict. d'Hist. Nat., tom. xxxi. p. 341.
——— *Holbœlli*, Brehm, Vög. Deutschl., p. 280?
Passer linaria, Pall. Zoog. Ross.-Asiat., tom. ii. p. 25?
Linaria minor, Leach, Syst. Cat. of Spec. of Mamm. and Birds in Brit. Mus., p. 75
Fringilla linaria borealis, Jenyns, Man. Brit. Vert. Anim., p. 139.
——— *borealis*, Temm. Man. d'Orn., 2nd edit. tom. iii. p. 264.
Linaria canescens, Gould, Birds of Eur., vol. iii. pl. 193.
Linota canescens, Yarr. Hist. of Brit. Birds, edit. of 1838, vol. i. p. 508.
Fringilla (Acanthis) borealis, Keys. & Blas. Wirb. Eur., p. xli.
——— *canescens* (partim), Schleg. Rev. Crit. des Ois. d'Eur., p. lxiii.
Acanthis linaria, Bonap. et Schleg. Monog. des Loxiens, pl. 52.
——— *holboelli*, Bonap. et Schleg. ib., pl. 53?
Ægiothus linarius, Cab. Mus. Hein., Theil i. p. 161.
Fringilla (Acanthis) linaria, Middend. Sib. Reise, tom. ii. pl. 11, p. 150.
Ægiothus linaria, Baird, Pacific Railr. Rep., Birds, p. 428.
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For many years after ornithology had become a science, two British birds of this form were confounded under one name; and I regret to say that a mass of confusion exists with regard to their true synonymy, which I fear it will scarcely be possible to unravel; indeed I know not how it can be satisfactorily effected without an examination of the type specimens to which the various appellations were applied—a measure now hardly possible. We may, however, arrive at one certain conclusion—namely, that the species to which Linnæus applied the name *Fringilla linaria* was one commonly found in Sweden; and as the only Redpole which fulfils this condition is the present, we may safely infer that it is the bird he described by that appellation.

Although the Mealy Redpole is occasionally very numerous in our islands, it must be regarded as but an accidental winter visitor. The bird-catchers, who are generally excellent observers after their own way, will tell you that this season the Mealy or Stone Redpole is more numerous than the common or lesser species, and that their takes of this bird have consequently been great—a fact which may be confirmed or refuted by a visit to that great emporium of living birds, the Dials; or they may tell you that no Stone Redpoles have been seen either in this or the last year, or that for several seasons they have not seen a bird.

“The Mealy Redpole,” says Mr. Stevenson in his ‘Birds of Norfolk,’ “can scarcely be called an annual winter visitant, although flocks of more or less extent may be met with in several consecutive seasons; but now and then, from some cause not easily explainable, their total absence is remarked upon by our bird-catchers, and, as I have frequently experienced when most wanting a specimen to supply some loss in my aviary, not a bird has been netted the whole winter through. Their numbers and appearance also cannot always be accounted for by the severity of the weather, in this country at least, either at the time of, or subsequent to, their arrival on our coasts. In 1847 and 1855, the latter a very sharp winter, they were extremely plentiful; and in 1861, from the middle of October to the close of the year, probably the largest flocks ever noticed in this district, were distributed throughout the country. Hundreds of them were netted by the bird-catchers, being far more plentiful than the lesser species, and many still retained the rich flame-coloured tints of the breeding-season. Yet the weather throughout this period was not unusually severe; and in the previous winter of 1860–61, hardly a bird was taken, though remarkable for its intense frosts; and again in 1863 and 1864 they were equally scarce, with an almost equal degree of cold.

“I am not aware that the nest of this species has ever been found in Norfolk; but Mr. Alfred Newton has recorded the occurrence of a male specimen, in full breeding-plumage, at Riddlesworth, in July 1848, which he had ‘no doubt had bred there;’ I was also assured by one of our Norwich bird-catchers, that in the spring of 1862, after the large influx of the previous autumn, he observed a flock of twenty or thirty as late as the middle of April. Both the Mealy and Lesser Redpoles, from their tameness and engaging actions, are most desirable additions to the cage or aviary, but from their happy contented natures are liable to grow too fat, and, like Ortolans, when overfed, drop off the perch in a fit of apoplexy. Mr. Charles Barnard, of this city, had a brood of young Mealy Redpoles hatched off in his aviary at Stoke, in July 1860—a very uncommon circumstance with this species.”

The irregularity in the visits of this bird cannot, of course, be accounted for; all we know is that the bird

is ever plentiful in the north of Europe, and that it breeds over the greater part of Norway and Sweden. In the former country I observed it breeding on the Dovrefjeld, while in Lapland the late Mr. Wolley obtained numerous richly coloured specimens, nests, and eggs, and, in some notes communicated to Mr. Hewitson, says, "The Mealy Redpole is seen in most seasons throughout the winter in Lapland, though the greater number go southwards. Even in the breeding-time it seems to be a gregarious bird; for a considerable number of nests are to be found in a small space of the birch-forest; and the region of birch trees seems to be its proper habitat. In 1854, I principally met with it in a small district, at a great elevation, towards the Norwegian frontier. In 1855, when all soft-billed birds were so scarce after the preceding severe winter in the south, the Mealy Redpoles were abundant everywhere, from the very strands of the Arctic Ocean, over the mountains, where the nests were often close to the ground, as indeed they sometimes are in other situations, to the extensive forests of Munioniska."

"The nest of the Mealy Redpole," says Mr. Wheelwright in his 'Spring and Summer in Lapland,' "is one of the most beautiful I ever saw—perfectly cup-shaped, built of fine sticks, then a layer of fine grass, and next an interior lining of the white down of the willow and white feathers of the Willow-Grouse."

The eggs are said to be five or six in number, and, as figured by Mr. Hewitson, are of a very pale blue or bluish white, in some cases sparingly, and in others more profusely, speckled with pale rufous round the thicker end.

Every observer of nature must have noticed that a red colouring largely pervades the nuptial and summer dress of the *Loxidae*. These bright colourings offer a striking contrast to the green foliage of the trees among which they respectively breed, give light as it were to the sprays of the pine, and life to the snow-covered branches of the spruce, their rosy breasts showing like living flowers among the birches and stunted willows during the inclement season of early spring.

Mr. Newton informs me that he considers only three species of this form to have been clearly defined. In this case the present bird must be subject to a greater variation in the size and form of its bill than any other small bird that has come under my notice. In some specimens the bill is as large, long, and pointed as that of a Goldfinch; in others it is short and triangular (the normal form of the genus); while I possess two examples, killed by myself on the Dovrefjeld, in which the bills differ from both slightly in form and altogether in colour, being nearly black. Mr. Stevenson and many other observers have noticed these differences; but no one, I believe, except Brehm, has been bold enough to characterize them as distinct species. They are indeed sadly puzzling to the ornithologist; but it is possible, if not probable, that they are dependent mainly on season. In the Brambling and Chaffinch the bill entirely changes its colour with the time of year; and it may well be, though from a different cause, that the same is the case with its form. Excluding from consideration birds that have been kept in cages, it will be found on examination that Redpoles having the longest bills are those which have been obtained towards the end of summer. This fact leads one to suspect that the peculiarity may be owing to the birds' having at that season lived almost exclusively on soft food (insects, buds, and the like), which would occasion no wearing away of the mandibles as is the case at other times of the year, when hard seeds form their principal if not their only diet. Again, in specimens obtained in winter, especially in high northern latitudes, the bill is so thickly clothed with feathers at its base that its apparent length is very greatly diminished, though if these be taken into account it will be found not so very much differing, either in size or shape, from what it is easily seen to be in summer. Future observations, no doubt, will set this point at rest.

The Mealy Redpole is subject to precisely the same changes of plumage as the Lesser Redpole: in the summer the rosy tints of its breast are most beautiful, and the further you proceed north the finer and brighter do they appear to be. In winter the male has the lores and throat brownish black; feathers of the head dusky, with a patch of deep red on the crown; back of the neck and upper part of the back pale yellowish brown, lower part of the back and rump greyish white; wings and tail dark brown, margined with brownish white; wing-coverts the same, the whitish tips forming two bands across the wing when closed; breast and fore part of the flanks suffused with rose-red; all the feathers of the upper surface and flanks with a small streak of brown down the centre; abdomen white; bill dull yellowish; irides, legs, and feet brown.

The female at this season is very like the male, but is paler in her general hue, and has no trace of the rose-red on the breast and flanks.

In summer the upper surface of the males becomes of a more uniform and darker brown, from the absence of much of the yellow bordering of the feathers; the head becomes of a deep blood-red; the breast, throat, and upper part of the flanks of a very rich rose-red, a trace of which colour appears on the rump and upper tail-coverts; and the flanks are conspicuously striated with blackish brown.

Specimens from North America agree exactly with our bird; but in that country there is certainly another species also, the true *Ægiotus canescens*, a much larger species.

The Plate represents two adult males and a female, life-size, and a branch of the alder (*Alnus glutinosa*).



ALCOTRIS REVERENS.

ÆGIOTHUS RUFESCENS.

Lesser Redpole.

Fringilla flavirostris, Linn. Syst. Nat., tom. i. p. 322?

——— *rufescens*, Vieill. Nouv. Dict. d'Hist. Nat., tom. xxxi. p. 342.

——— *linaria* (partim), Temm. Man. d'Orn., 2nd edit. tom. i. p. 373, and tom. iii. p. 167.

Linaria minor, Selby, Ill. Brit. Orn., vol. i. p. 320.

Linota linaria, Yarr. Hist. of Brit. Birds, edit. of 1838, vol. i. p. 514.

Fringilla (Acanthis) linaria, Keys. & Blas. Wirbelth. Eur., p. xli.

Linaria rufescens, Degl. Orn. Eur., tom. i. p. 239.

Acanthis rufescens, Bonap. et Schleg. Monog. des Loxiens, pl. 54.

Ægiothus rufescens, Cab. Mus. Hein., Theil i. p. 161, note.

THE Lesser Redpole is an extremely neat and trim little bird, and one of the smallest members of its numerous family, the *Fringillidæ*. It is strictly a native of Britain, where it is to be found in all situations suitable to its habits, both in winter and summer. During the former season it resorts to the low and fluviatile districts where the alder flourishes, the seeds of which appear to constitute a favourite article of food; in summer it affects the orchards, gardens, and hedgerows, but only of certain districts, for there are whole counties in which, at this period, it is not to be seen. On the continent of Europe it is by no means so generally dispersed as with us; and although it must be regarded as a northern rather than a southern species, its northern range is very limited when compared with that of the Mealy Redpole; for instead of extending throughout Norway and Sweden, it only just reaches the most southern province (Scania) of the latter country; and consequently it is almost impossible that the present bird should have been the Lesser Redpole of Linnæus. Further south than France or Germany it does not seem to occur, except as a winter migrant. Its eastern range is wider; for I have specimens from Japan, and Mr. Swinhoe states that it "comes down into North China from Amoorland in winter."

It is strictly gregarious, and, as autumn approaches, assembles in flocks of considerable numbers, when the birdcatcher makes his harvest, and many thousands are yearly captured and sold in the metropolis, its tame and confiding disposition, and the readiness with which it settles itself in its little cage, rendering it a general favourite. Of its song little can be said; but it may be easily taught to draw up its own supply of water, and to perform other amusing little feats. Among the branches of the trees it is amazingly active, and, when engaged in search of its favourite seeds, assumes many elegant positions, hanging at one moment to the tips of the twigs, and creeping about among the catkins at another. It rarely descends to the ground, except it be to search for fallen seeds or to examine the flowers of the thistle and other plants that may offer it a change of diet. Its powers of flight are amply sufficient to enable it to cross the moorlands, and pass from one part of the country to another.

Of its breeding in England Mr. Stevenson writes, in his 'Birds of Norfolk,' "The Lesser Redpole may be regarded as a resident in this country as well as a regular and, in some seasons, very numerous visitant. Its nest is found year after year in certain favourite localities. I have known as many as four taken in one summer from a garden at Bramerton, which has been a favourite resort of these little creatures for a considerable time, and they also breed regularly at Eaton, near Norwich, whence I have received young birds in August, as well as their delicate blue and speckled eggs, and the exquisite little structure in which they were laid. In these localities the nests have been mostly found in the apple- and cherry-trees, but Mr. Alfred Newton informed Mr. Hewitson that near Thetford, where it also breeds yearly, the nests are placed 'close to the trunk of trees in plantations of young larch firs of no great height,' though he once found one at least sixty feet from the ground, and placed near the outer end of a branch. In Suffolk several nests have been found by Mr. Dashwood in the neighbourhood of Beccles. The Lesser Redpole often retains in confinement, throughout the winter, the rosy tints on the head and breast, which properly belong to its breeding-plumage. A male in my aviary, netted in November 1863, and chosen from many for the beauty of its plumage, did not lose its pinky hue until the autumnal moult of 1864; once lost, however, by the actual shedding of the feathers, the red breast is not resumed, and even the red poll changes to a dull yellow—the effect, no doubt, of an artificial state of existence." It breeds quite as freely about Halifax, in Yorkshire, whence I have received some beautiful nests; according to the late Mr. John Wolley, it does the same near Beeston in Nottinghamshire; his brother found its nests in Warwickshire; Mr. Briggs in Derbyshire; and many other localities might be enumerated. In Scotland it breeds beside the wild mountain lakes, in little thickets of birch, and among the alders wherever they occur; and we learn from Thompson that it frequents many parts of Ireland, from north to south.

Its nest is one of the neatest and most elegant of the many beautiful structures built by our native birds—its lining of feathers and hair being admirably arranged, and its little freckled light-greenish-blue eggs equally charming to look upon. The materials of which the nest is composed appear to vary considerably. Mr. Hewitson describes it as “very small, of the most elegant construction, and formed of the stalks of plants, roots, moss, and dry grass, with hair towards the inside, and thickly and most beautifully lined with the catkins of the willow, equalling in whiteness and texture the finest cotton-wool;” he has, however, “found the nest without any of the last-mentioned material, hair, fine grasses, and feathers being substituted in its stead. The eggs are from four to six in number,” of a light bluish grey, freckled with pale red and a few specks of dark brown near the larger end. The time of incubation is about the middle of June, and the young are able to fly at the end of the month or the beginning of July.

Macgillivray describes the flight of the Lesser Redpole as “peculiarly bounding and buoyant, and its voice remarkably clear and loud. When starting, it emits a hurried chatter of short notes, and as it proceeds on its flight utters a single note at intervals less prolonged than those of our other Linnets. Its cry is so different from that of the Brown Linnet and Twite, being clearer and sharper, that one who has attended to it can readily distinguish the species on the wing. Although not abundant in any part of the country, it forms large flocks in winter, and betakes itself to the birch- and alder-woods. I have also seen them in August scattered over a tract overgrown with thistles, the seeds of which they pick out precisely in the same manner as the Goldfinch does. On such occasions, unless they have previously been shot at or pursued, they take little heed of approaching danger; so that one may easily approach them, and even go so near as to snare them with a noose on a long stick or fishing-rod.”

The summer and winter liveries of these little birds are very different. In the spring and during the season of reproduction the crown and breast of the male are beautifully tinted with red, which tint, contrary to the law which obtains with regard to most other birds, increases at the end of the season or after the duty of reproduction has been completed. The richness of this red colour appears to be due to the brown tips of the feathers becoming worn away or stripped off by the bird, and admitting the more brilliant part to become conspicuous; but it is very evanescent, soon fading on exposure to light. In autumn the bird moults, after which the males, females, and the young birds of the year are very similar; but the old males may be readily distinguished by the dull blood-red colouring of the crown.

The male has the lores, a band across the forehead, and the throat black, with a tinge of yellowish grey at the tip of each feather; crown of the head dull red; remainder of the upper surface yellowish brown, streaked with blackish brown; wing-coverts dark brown, tipped with pale yellowish brown, forming two bands when the wing is closed; the remainder of the wings and the tail dark brown margined with light brown; under surface pale brown, streaked with a dark tint; abdomen and under tail-coverts whitish.

The female is very similar, but has a smaller amount of red on the head, and no indication of that colour elsewhere.

In summer the bill of the male becomes greyish brown above and yellow beneath; the crown of the head crimson; the sides and front of the neck, the breast, and flanks carmine red; the centre of the breast, the abdomen, and the under tail-coverts white tinged with rose-colour.

The dress of the female at this season is very similar to that of winter, but is perhaps somewhat lighter in its general hue.

The Plate represents a male, a female, and a nest and eggs, on a branch of the whitethorn (*Crataegus Oxyacantha*), all of the natural size.



STURNUS VULGARIS, Linn.

STURNUS VULGARIS, *Linn.*

Starling.

Sturnus vulgaris, Linn. Faun. Suec., p. 77.

——— *varius*, Wolf & Meyer, Taschenb. Deutschl. Vög., tom. i. p. 208.

——— *solitarius*, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 18 (young).

——— *guttatus*, Macgill. Hist. Brit. Birds, vol. i. p. 595.

Turdus solitarius, Gmel. edit. Linn. Syst. Nat., tom. i. p. 834 (young).

THE distribution of the Starling over the British Islands is very general, but it is more plentiful in some counties than in others. The northern position of the Orkneys and Hebrides does not deter it from breeding there almost as abundantly as in some parts of Scotland, England, and Ireland. In selecting a site for the purpose of incubation it confides in the poor as well as the rich for protection during the performance of that important duty, making itself equally at home among the castellated towers of the Sovereign and on the tiled roof of the humblest cottager. It also builds its carelessly constructed nest under the eaves of churches, in the rain-pipes of the wayside inn and other country-houses, in decayed walnut-trees, in the deserted holes of Woodpeckers, or in the precipitous sides of a chalk-pit. On a summer morning, Starlings may often be seen perched, sentinel-like, on the crown of a weather-cock or on the letters indicating the points of the compass; later in the day they may be found among the cattle in the field, or sitting on the backs of sheep in the pasture. In winter such situations are partially, if not wholly, deserted, and both old and young are flocked together and engaged in seeking their daily food in the field, the meadow, and on the sea-shore; in the evening these flocks form assemblages so vast that, were I to attempt to estimate the number of birds comprised in any one of them, I should be considered to be dealing in the marvellous; I therefore leave such assertions as will be found hereafter to others, remarking at the same time that I fully believe them to be correct. In England many wonderful sights in connexion with the congregating of birds may be seen by visiting their places of incubation, their banquetings and evening meetings. The number of Rooks at Tregothnan, spoken of in my history of that bird, of Rock-birds at Handa and St. Kilda, of Gannets on the Bass Rock, or the Crag of Ailsa, are as nothing compared to the prodigious assemblages of Starlings at their roosting-places on a December evening in many parts of England. These social gatherings have been very fully described by many British authors; and some of their accounts are given below. Besides being generally dispersed over the British Islands, the Starling is also found in all parts of Europe, from Lapland to the shores of the Mediterranean, but is more numerous in Holland and similar low countries than in mountainous ones. I question if it be not an inhabitant of Africa, from north to south; of its northern half it certainly is, and also of Madeira, the Canaries, and the Azores. I believe that it also frequents many parts of India. In the temperate portions of Russia, in Amoorland, China, and Japan our veritable Starling is likewise said to occur. A lengthy chapter might be written on the changes of plumage which the bird undergoes between youth and maturity. The transformations may be termed wonderful; for so different is the youthful state from that of the adult that the young bird has been described as distinct under the name of the Solitary Thrush (*Turdus solitarius*). The uniform brown plumage which led to this error, however, is retained but for a short period, a month or so at furthest from the time it leaves the nest.

The second moult, which is complete before autumn arrives, is characterized by the feathers being spotted with white on a blackish ground; and truly beautiful are the birds at this period. This plumage, with a purplish black beak, is carried over the ensuing year, as I have had abundant proofs from numerous specimens I have killed in the second summer of their existence, when they certainly do not breed, and frequently remain flocked together when the old yellow-billed and brilliantly coloured birds are carrying on the task of incubation.

The flight of the Starling is straight and vigorous; and when a flock is sporting in the air, they perform many graceful evolutions, sweeping, dipping, and turning with rapidity and ease. These movements would appear to be preconcerted; for otherwise a clash of wings, and the utmost confusion would be the result, while, on the contrary, they are performed with the utmost regularity—the dark cloud of birds instantly changing their position by a concerted plan, only known to themselves. On the ground the Starling is quick and nimble in all its actions; pert and inquisitive, it turns its head and pries into every tuft of grass and every crevice or hole in which insects or their larvæ are likely to be found. When a flock visits the mead or waste, it moves quickly from one part of the field to another; those foremost in the van finding abundance of food, and leaving little behind them, the hinder birds are constantly rising, and pitching in-front, until the whole field has been examined; and the amount of good they must do the farmer, the husbandman, and the country at

large is, in my estimation, immense, feeding, as they almost exclusively do, on wireworms, larvæ of all kinds, grasshoppers, worms, flies, and insects generally.

It may fairly be asked if the vast hordes of this bird seen in autumn and winter are all natives of our islands, or are partly composed of accessions from the Continent. I have no hesitation in saying that the latter is the case, and that these winter visitants migrate again in spring to the countries they left in autumn; the circumstance of numbers being killed by flying against the lighthouses on our coast tends to confirm such an opinion. When the Starlings are frozen out in the northern parts of the British Islands, as is frequently the case, they seek the warmer portions of Devon and Cornwall, and usually find shelter there; but should those counties also be visited by rigorous weather, they die by hundreds. During my visit to Tregothnan, during the very severe month of January 1867, the Starlings perished in great numbers; and every Missel Thrush and many of the Redwings and Fieldfares also fell victims to the rigours of the season. It was no unusual sight to see Starlings lying dead in tens or even twenties round the farmsteads, and in still greater numbers in the belfries of the churches in which they had sought shelter. It is not a little singular that, although the Starling is so abundant in Cornwall during the winter months, few, if any, stay to breed in that county.

“From and after the autumnal migration, and all through the winter months,” says Mr. Rodd, “until the return movement in the spring we are visited in the west of England by vast flights of Starlings, which disperse in flocks of varying numbers over the open fields during the day, wheeling to and fro, from field to field, and occupying themselves in feeding until the approach of twilight, when they all unite in various-sized companies, and repair to their roosting-ground, which, in the absence of plantations, is in osier-beds, rushy bottoms, amidst flags, sedges, &c. Where, however, as in this locality, at Trengivainton and Treveshoe, a few plantations of young firs, evergreens, &c. are sparingly dispersed, it is a sight of no ordinary interest to see the almost uninterrupted stream of these birds pouring in from sunset to dusk, forming at last a countless mass which literally fills the plantation. When the day breaks, the birds disperse in small flocks in various directions until they again reunite in the evening. Previous to this grand assembly settling down to roost, they take wheeling flights round and round their haunts, sometimes presenting the appearance of a huge black cloud.”

With reference to the immense flocks assembling in the evening, Bishop Stanley says:—“At first they might be seen advancing high in the air like a dark cloud, which in an instant, as if by magic, became almost invisible—the whole body, by some mysterious watchword or signal, changing their course and presenting their wings to view edgewise instead of exposing, as before, their full expanded spread. Again, in another moment, the cloud might be seen descending in a graceful sweep, so as almost to brush the earth as they glanced along; then once more they were seen spiring in wide circles on high, till at length, with one simultaneous rush, down they glided with a roaring noise of wing till the vast mass buried itself unseen, but not unheard, amidst a bed of reeds; for no sooner were they perched than every throat seemed to open itself, forming one incessant confusion of tongues.”

“Any traveller from Norwich on the Yarmouth line,” says Mr. Stevenson, “on looking towards the river, near Brundall station, between seven and eight o’clock on a summer evening may see the Starlings making for Sarlingham broad; where in some places so great are the numbers that nightly assemble that the reeds are literally trampled down with their weight. To those at all interested in the habits of birds, I know few sights more likely to excite wonder and admiration than the regular arrival of the Starlings from all quarters to any particular broad. Mr. J. G. Davey tells me, ‘One night I watched a single flock, which appeared to extend over about *five acres*, as they were wheeling round, when another mass came from the south-west; I can form no estimate of the number; the former flock I considered large till these came; they also circled round and joined the others. They settled down in the wood in two parties, and occupied about *thirty acres*.’”—*Birds of Norfolk*, vol. i. pp. 249, 250, 251.

Nuneham Park, near Oxford, is one of the roosting-places of the Starling. The birds have taken up a position in the fine Pinetum therein, adding nothing to the beauty or to the sweetness of that charming spot; nevertheless the very estimable owner, the Rev. William Vernon-Harcourt, permits them to remain in peace. Probably the congregation which there assemble is formed by all the Starlings of that portion of the valley of the Thames and its tributaries.

The Plate represents a male and a female in their breeding-plumage, with their brood of young, all of the natural size.



STURNUS VULGARIS, Linn.

J. Gould & W. Hart, del. et lith.

Young.

Walter, imp.



PASTOR ROSEUS.

PASTOR ROSEUS.

Rose-coloured Pastor.

Turdus roseus, Linn. Syst. Nat., tom. i. p. 294.

Sturnus roseus, Scop. Ann. Hist. Nat., tom. i. p. 130.

——— *asiaticus*, Wirs. Vög., tab. i.

——— *Seleucis*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 837.

Merula rosea, Ray, Syn., p. 67.

Pastor roseus, Temm. Man. d'Orn., p. 83.

Psaroides roseus, Vieill.

Acridotheres roseus, Ranz.

Boscis roseus, Brehm, Vög. Deutschl., p. 401, tab. 22. fig. 41.

Nomadites roseus, Petaniz.

Threnmaphilus roseus, Macg. Hist. Brit. Birds, vol. i. p. 613, and vol. iii. p. 723.

Gracula rosea, Cuv.

THAT the Rose-coloured Pastors which have from time to time come to our island are rovers from their native country, and not regular migrants, will be admitted by every ornithologist. What impulse directs them to visit us it is not easy to understand, and in all probability will never be ascertained. When they do cross the Channel for Albion's shores, they generally take up their quarters with the Starlings, family affinities leading them to associate with birds having kindred dispositions, habits, and economy. What an assemblage of Starlings think when this richly-coloured species quarters itself among them, it would be interesting to know. Its fine dress may perhaps command the respect, and its lengthened and beautiful crest the admiration, of its less gaily attired relatives; I say relatives, because the similarity in the structure and mode of nesting of the Starling and Pastor, in the colouring of their eggs, and in the plumage of their young clearly proves them to be intimately allied; no birds, in fact, can be more alike than the young of these two species during the first autumn of their existence; and none differ more, not only from this dress, but from each other, when fully adult—the one becoming the beautifully spotted Starling, with its changeable hues of purple and green, and the other the rosy-coloured and silken-crested Pastor.

To Britain, as before stated, it is but a wanderer, nor does it seem to occur, except in this character, in Northern, Central, or Western Europe. In some districts of Southern Russia it is exceedingly numerous; but its precise distribution is not well ascertained. Pallas states that in the Lower Don, on the Irtish, and thence across to the Altaï Mountains, and even to Soongaria, now more generally known as Amoorland, it is most plentiful; while, on the other hand, on the Volga, the Obi, and the Jenessie, as well as in Danuria, though these regions would seem in all respects most suitable for it, it is never seen. But it is in Persia and India that this species seems to occur most commonly; and we have accounts of its being found in the latter, and even so far to the south as Ceylon, in countless myriads.

The following extracts from an account of the migration and breeding of this species in the neighbourhood of Smyrna, by the Marquis Oratio Antinori, will, I doubt not, be regarded with interest. They are taken from Dr. Sclater's translation, in the 'Zoologist,' of the original article which appeared in the 'Naumannia' for 1856:—

"The Rose-coloured Pastors began passing through the neighbourhood of Smyrna on their northern migration about the 15th of May, on which day I observed large flights of young birds of the first or second year. On the 14th of May I saw an immense multitude of old birds, passing at a moderate elevation, near a mineral spring called Ligea, on the left of the Gulf of Smyrna. On the 26th of May, about sunrise, great numbers of these birds were sitting so closely packed upon the trees as to make them look as if they were all covered with red flowers. From the 29th of May to the 5th of June the flights were most numerous; after that time they ceased, and the birds became stationary. The fields and gardens were full of them, and even in the villages they sat on the roofs of the houses. These facts convinced me that the birds were nesting in the hills surrounding the Gulf; but in spite of all our efforts, owing to the dense ignorance of the inhabitants and the unconquerable idleness of the peasantry, we could obtain but very few eggs. The man who brought us some told us that they had been collected upon a hill seven miles off in the interior, and that the Turks, who caught him in the act, had beaten and driven him away.

"The possession of these eggs determined me to undertake at once a search for them; and on the morning of the 30th of June I set out for the village of Bournatut, where I was assured the gardens and surrounding hills were full of Rose-Starlings; and I was well rewarded; for not only on the road to, but even in the streets of the village, upon the moss-grown walls, and on the trees of the courts and gardens, I had ample opportunities for making close observations on these peculiar birds.

“I must here mention that the rather high and rugged hills which hem in the sides of the Gulf of Smyrna and the Valley and Gulf of Bournatut, particularly towards the north, and form the foot of the higher hills, consist of surface beds of limestone, covered with large erratic blocks of granite, of different shapes and sizes. These massive stones, heaped one above another, leave no place for vegetation of any sort, except the *Asphodelus ramosus*. Our way led northwards towards these pathless mountains; and, after a wearisome ascent up the empty bed of a torrent, on whose banks the beautiful *Nerium oleander* and the charming *Agnus castus* grew luxuriantly, we arrived at the foot of the higher range above mentioned. We had hardly begun to mount the hill before we noticed that there was not a stone or block which was not covered with the white excrement of these birds, they resorted there in such multitudes; but how great was our astonishment when we saw, at a distance of about 200 metres above us, the rocks covered with white, as if lime had been spread out for 200 square yards! On arriving there, we found a real camp and battle-field in one; the nests were in thousands, some quite open and uncovered, others so concealed amongst the blocks of stone, that it was necessary to turn these over to find them; some were more than a foot below the surface, and others could not be reached with the arms. They were often so close as to touch one another, and were made with but little care, the birds contenting themselves with a slight hollow in the ground, in which are placed some dead stalks of the *Agnus castus*, and, in a few instances, a lining of grass; in many cases the eggs were lying on the bare earth. This mode of nesting exposed them to the many enemies which were roaming about on all sides; it was for this reason that I remarked that we had found a battle-field as well as an encampment; for, to give you an idea of the number of nestlings destroyed by jackals, martens, wild cats, rats, &c., I may state that in a space of about five square yards I counted fourteen pairs of wings and the remains of three old birds; and who can tell the number of eggs destroyed by snakes? Indeed, it is wonderful how the Rose-Starlings can propagate at all with so many enemies to encounter.

“The eggs, of which we found very few, measure, on the average, 13 lines in length by $9\frac{1}{2}$ lines in breadth. I say, on the average, because we did not find two exactly alike, some being pear-shaped, others elliptical; some are fleshy white, others pearl-white tinged with blue, and some have a few dark specks at the larger end. The shell is very beautiful, strong, and shining.

“The perseverance with which the Rose-Starlings search for grasshoppers seems to be due, not so much for a supply of food, as for an instinctive desire of destruction or antipathy against them. One morning, as I was observing five Rose-Starlings eating the fruit of a white mulberry-tree with great avidity, I saw two or three of them dart down suddenly from the tree to the ground in order to kill some grasshoppers which appeared between the swathes of a mown field of grass, and leave them without eating any of them. The birds are so far from shy, that a person can easily remain within four or five paces without frightening them, and on the trees they will remain with still greater confidence.”

“This well-known species,” states Mr. Jerdon, “makes its appearance in the peninsula of India about the end of November or beginning of December, associating in vast flocks, and commits great havoc on the grain-fields, especially in those of the *Cholum* or *Jowaree* (*Andropogon Sorghum*). When the grain is cut, it commonly feeds on insects, which it seeks for on the ground; also on various grass-seeds, fruit, and flower-buds. It disappears in March, though straggling parties are met with even in April. The majority of the birds in a flock are in an immature plumage, of dirty fawn-colour, in lieu of the delicate salmon-tint of the adult.” Mr. Elliot has the following interesting note on this species:—“It is very voracious and injurious to the crops of the White Jowaree, in the fields of which the farmer is obliged to station numerous watchers, who, with slings and a long rope or thong (which they crack dexterously, making a loud report), endeavour to drive the depredators away. The moment the sun appears above the horizon, they are on the wing, and, at the same instant, shouts, cries, and the cracking of long whips resound from every side. The birds, however, are so active that, if they are able to alight on the stalks for an instant, they can pick out several grains. About 9 or 10 o'clock A.M., the exertions of the watchmen cease, and the birds do not renew their plundering till the evening. After sunset they are seen in flocks of many thousands, retiring to the trees and jungles for the night. They prefer the half-ripe *Jowaree*, whilst the farinaceous matter is still soft and milky.”

We learn from Bechstein that, like the Starling, the bird possesses considerable imitative powers, and that a connoisseur in the song of birds, who heard the notes of one in captivity, without seeing the bird, fancied he was listening to two Starlings, two Goldfinches, and perhaps a Siskin, and, when he found that the sounds all emanated from a single bird, could not conceive how so much music could proceed from the same throat.

The Plate represents a male and a female, of the size of life, on the Tulip-tree (*Liriodendron tulipifera*), which has now become naturalized in England.



PASTOR ROSEUS.

Rose-Coloured Pastor Young.

J. Gould & W. Hart del et lith.

Walter, Imp.



CORVUS CORAX, Linn.

J. Gould & H.C. Richter, del et lith.

Walter, Imp.

CORVUS CORAX, *Linn.*

Raven.

Corvus corax, Linn. Faun. Suec., p. 29.

——— *maximus*, Scopoli.

——— *clericus*, Sparrm. Mus. Carls., tab. 2.

——— *leucophæus*, Vieill. Gal. des Ois., tom. i. p. 155, pl. 100.

THE *Corvidæ* (Ravens, Crows, Rooks, and Daws) are very widely distributed over the globe; but there are certain portions of it in which they are never found: thus, in the Old World, none occur in New Zealand, nor, I believe, in Polynesia, and, in the New, none south of Mexico. This well-marked family of birds has been divided into several genera, by the separation of the Rooks and Daws from the Ravens and Crows, and again from each other; but, for myself, I prefer retaining them all under the old generic name of *Corvus*.

It is the prevailing opinion among ornithologists that our Raven is not so ubiquitous as it was formerly supposed to be, and that the American and Thibetan species, hitherto regarded as identical with it, are distinct; but the settlement of the question is of no moment in connexion with the history of the Raven *par excellence*.

The range of the *Corvus corax* is said to extend eastward to the Punjaub and Affghanistan. It is also abundant in Palestine and Asia Minor, throughout the length of the Atlas range in North Africa, and all parts of Central Europe, even as far north as the Quickiock Fells in Lapland, and beyond this to the North Cape. It is also found in Siberia, and in Iceland is abundant and stationary. In the British Islands it was formerly far more numerous than it is now. The keepers, of course, are its most deadly enemies; for although many of them are deterred by the superstitions connected with this "bird of ill omen" from shooting it, they relieve their consciences by laying in its way a strychnined rabbit, which it eats, and either tumbles over on the spot or flies to the nearest water to slake its burning thirst, and there ceases to live, leaving its body to be devoured by a gull, a fox, or a hungry dog, which in its turn falls a victim to the virulence of the poison. I have undoubted evidence that this is often done in Cornwall, and I believe that the practice also prevails in other counties. Time was when every rocky headland had its pair of Ravens living in harmony with the Peregrine and the Sea-Eagle; and this is still the case on the rugged coasts of Ireland, the western part of Scotland, and the Hebrides. At St. Kilda, it still holds its own with the Eagle and the Falcon. The Raven does not, however, confine its breeding-haunts to rocks, nor always rear its young amid the din of the thousand voices of sea-birds. The "Raven tree" still stands in many of our inland counties; and on it the bird occasionally places its nest. In other countries its habits are precisely similar to those seen in our own; but in Palestine, as we learn from Mr. Tristram, it also breeds on the mosque and ruined towers. Although at the breeding-season only a solitary pair are to be found in any given locality, there are times when several in small flocks, and several together, may be observed in company winging their way home to their roosting-places, like the gregarious Rook. If brought up from the nest, it bears confinement apparently with pleasure and contentment; for individuals have been known to spend the whole of their time from year's end to year's end (I might almost say from century to century, so long-lived is the bird) in some brewer's yard, or about the premises of a country inn. Here it sits about on any little eminence, croaks out its harsh note at strangers, gives battle to stray dogs, catches weakly sparrows, rats, and mice (and ducklings and young chickens, if not defended by their mothers), observes, apparently with interest, all that is going on, and becomes completely one of the establishment. In a state of nature, on the other hand, they are shy, mistrustful, and not easily approached. In the air their actions are playful, and their evolutions highly graceful and interesting, sometimes circling at an immense height, at others chasing and dipping after each other like Rooks when presaging wind. Those who have witnessed these aerial evolutions, the flight of a pair in pursuit of their prey over the mountain-side, or their apparently playful tiltings with the Eagle, cannot but have admired their sweeping and graceful motions; at all events, mine were feelings of delight when watching them with never-tiring eyes. The Duke of Argyll, whose powers of observation are of the keenest, and whose opinion may always be relied upon, saw, at Inverary, a Raven sporting about in the air, with something strange in its bill, which, after a time, it let fall to the ground. On examination, it proved to be the expanded cone of a silver fir. However singular this freak of the bird may have been, it was attended with a circumstance of no ordinary interest; for the cone was covered with a parasitic plant (*Phelonites strobilina*) so extremely rare that few botanists possess it, and there was not a specimen in the British Museum until, the Duke having kindly presented the cone to me, I transferred it, with the rare fungus still attached, to the national collection.

From time immemorial the Raven's croak has been supposed to predict a death; and many a timid family has been rendered melancholy by the sound of its hoarse voice in the neighbourhood of their dwelling during the sickness of one of its inmates.

“As doth the Raven o'er the infected house,
Boding to all.” *Othello*, Act iv. Sc. i.

. “Ravens

Fly o'er our heads and downward look on us.

As we were sickly prey.” *Julius Cæsar*, Act v. Sc. 3.

“Some powerful spirit instruct the Kites and Ravens
To be thy nurses.” *Winter's Tale*, Act ii. Sc. 3.

The Raven is omnivorous, and will eat grain, fruit, and berries, maritime and inland worms, mollusks of the salt and fresh waters, dead fish, and carrion of all kinds, young hares and rabbits, eggs and young birds (both those which breed on the ground and those which rest among the rocks; and a dead cetacean cast on the shore becomes the point of attraction to all the Ravens in the neighbourhood.

The Raven breeds very early—the nest being prepared in February, and the young hatched by the end of March. Now he seeks his prey on the sea-sides or the margins of estuaries and lochs, or resorts to fields for worms like the Common Crow and the Rook. Shepherds tell us that a number of Ravens will combine and take out the eyes of a cast sheep, and that sickly lambs are sure to be attacked unless they are carefully looked after.

Dr. Lawrence Edmonstone has given some interesting details respecting the bird as seen in Shetland, and some curious information respecting the use to which it was put by the ancient Scandinavian mariners. It not only served them as a nautical pioneer, but the Raven was the sacred standard of the great Odin: for these particulars, however, I must refer my readers to Macgillivray's ‘History of British Birds,’ vol. iii. pp. 712, etc.

After alluding to the persecuted life led by the Raven in this country, Mr. Hewitson states that “in Norway, where the feathered tribes are loved and cherished, they so abound that we at one time counted as many as eighteen together. There they are pert and confident, and would frequently remain quietly seated till we had passed them at the distance of a few yards. On one island we saw several of their nests in a large sepulchral-looking cave, peculiarly suitable to the residence of birds which in some districts are regarded as of ill omen. At home the Raven breeds in the most wild and inaccessible districts, building its nest for the most part in the steepest cliffs upon the sea-coast, sometimes, when inland, upon lofty trees. They have for a great many years been known to breed in the Mausoleum at Castle Howard, in Yorkshire. The nest is large, and composed of sticks plastered together with mud, and lined with a quantity of roots, wool, and the fur of animals. The eggs are four or five in number, and are subject to much variety,—some being of a dark greenish olive, blotched all over with irregular and various-sized marks of dark brown; while others are of a pale greenish blue, streaked all over, but particularly at the larger end, with pale red; and between these there are two or three varieties, some being distinctly and more sparingly spotted, and resembling somewhat the eggs of the Jackdaw.

“Mr. Newton has sent me the following graphical notes:—‘A pair of these birds breed annually in the neighbourhood of Elveden Hall, in Norfolk. When undisturbed they have usually refurnished their last year's nest, always lining it neatly with rabbits' down. It is built on one of several lofty Scotch fir trees standing far out on a heath. The number of eggs laid is generally five, but I have known them to be content with four, while six were once deposited. While the hen is sitting, the actions of the male bird are well worth watching. He dashes indiscriminately at any bird that approaches, be it Stock-Dove or Peregrine Falcon, and, when the intruder has been utterly routed, shoots back to the nest, celebrating his victory by a sonorous croak, turning as he utters it completely on his back—an action which does not, however, in the least degree impede his onward career. He then resumes his look-out station on one of the highest boughs, perhaps leaving it again at the expiration of a few minutes to repel another invasion.’”

In the Faroe Islands and in Iceland the Raven is subject to variety, and many pied examples are met with: these were considered to be by Vieillot distinct, and named by him *leucophæus*; but they must only be regarded as varieties.

The accompanying figure represents a male about two-thirds of the natural size, on a branch of the spruce-fir (*Abies excelsior*).



CORVUS CORONE, Linn.

J. Gould & H.C. Richter, del et lith.

Walter, Imp.

CORVUS CORONE, *Linn.*

Carrion-Crow.

Corvus corone, Linn. Faun. Suec., p. 29.

——— *cornix*, Leach, Syst. Cat. of Indig. Mamm. and Birds in Coll. Brit. Mus., p. 18.

——— *subcorone* et *C. hiemalis*, Brehm, Vög. Deutschl., p. 167.

Corone subcorone, Kaup, Nätürl. Syst., p. 99.

“BLACK as a Crow” is very descriptive of this well-known British bird; for it has none of the fine play of colours observable in the Rook; still some parts of its plumage are slightly glossed with purple and green, particularly the upper surface. In size and general appearance, when in the air, the two birds are so much alike that it requires a practised eye to distinguish one from the other; this difficulty, however, disappears when two freshly killed birds are laid side by side, for many unmistakable differences in their structure and plumage are then apparent. The Rook has a more lengthened, pointed, and adze-shaped bill than the Crow, and, except during the first year of its existence, has the nostrils and throat devoid of feathers, allowing the scurfy, greyish white skin to appear, while in the Crow the same parts are clothed with feathers at all times. In their disposition, habits, and economy, also, great dissimilarity exists.

The Rook is a sociable fearless creature, which courts rather than shuns the presence of man, as is shown by its selecting the trees around his mansion whereon to assemble in vast numbers at the close of day, and often breeding in close proximity, the assemblage of its great nests forming a conspicuous feature in the landscape. It is also less predatory, living principally upon worms and grubs, and, moreover, is highly gregarious, being often seen in large, and frequently in enormous gatherings, particularly in winter. The Crow, on the other hand, is a prowling marauder, prone to evil doings, shy and distrustful, builds a more concealed nest near the bole of an elm, an oak, or on a spreading branch of a large Scotch fir, nearly if not always in some central part of the park, where the sitting bird can see all around and escape from any threatened danger, and does not depend upon worms and grubs for its existence, but will readily attack a stranded sheep or peck to death a leveret or a Grouse. The Crow, too, commences breeding in February, which is a month earlier than the Rook and two months prior to the Daw, from each of which, as well as from the Raven and the Chough, it differs in the tone of its voice and in the hoarseness of its call.

The distribution of the Crow over our islands may be said to be very general in England and the southern parts of Scotland, whether it be along the flat muddy shores of the sea or the park- and forest-lands of the interior; in the middle and northern parts of Scotland it is very uncommon; and it appears to be entirely absent from the Orkneys and Shetlands, for it is not included in the late Mr. Dunn's list of the birds observed by him in those islands; and in Ireland it is much less frequently seen than with us. On the continent of Europe the Crow is found in all the middle, southern, and western countries, but gradually becomes more scarce as we advance towards the north; according to Temminck it is entirely absent from Sweden and Norway, and is rare in Denmark. It occurs in Algeria; but I am not aware of its having been found in South Africa; Mr. Tristram states that it does not occur in Palestine. Mr. Jerdon has included it in the birds of India on the authority of Dr. Adams, who also states that it is common in Cashmere; and Mr. Swinhoe secured one of two examples seen by him on Naochow, a small island lying off the right of the peninsula of Luichow, in China.

Some extremely curious habits have been attributed to the Crow by various writers, a few of whose statements are sufficiently interesting to warrant their being reprinted here.

St. John, in his ‘Tour in Sutherland,’ says:—“Amongst the curious instincts which birds display in providing themselves with food, the one most resembling reason is that which teaches the common Crow, on finding on the shore a shell containing fish, to fly with it to a height in the air, and then to let it drop, in order to break the shell sufficiently to get at the animal enclosed in it. When the shell does not break the first time the Crow drops it, she darts down, picks it up, and ascends still higher, till she perceives that the height is sufficient for her purpose. Sometimes another Crow darts in to carry off the booty, upon which a battle ensues in the air.

“The Crows collect great numbers of sea-shells on particular favourite hillocks, which are often at some distance from the sea. I have frequently observed in this country great collections of this kind; and, from the state of the shells, it would appear that they bring them to the same place for many successive years.”

Some part of this account is confirmed by the observation of Lord Hill, who tells me that, at Hawkstone, the Crows frequently take the mussels from the lake-side, mount with them into the air, and drop them on the hard road, never on the grass.

Notwithstanding what I have said as to the unsociable nature of the Crow, I had frequent opportunities of observing small parties passing over the park at Tregothnan to roost in the great woods of Talverne, ever and anon uttering their hoarse croaking call.

Although large trees in parks and inclosures are usually the places in which the Crow constructs its nest, of sticks strongly cemented together with clay, and lined first with roots and then with quantities of wool, fur of animals, and other soft materials to the extent of two or three inches in thickness, the bird experiences no difficulty in constructing it of different materials in other situations, of which I find the following remarkable instance in Mr. Hewitson's interesting 'Coloured Illustrations of the Eggs of British Birds,' 3rd edition, vol. i. p. 223:—"In 1832 a pair of these birds took a singular fancy into their heads; deserting the habits of their forefathers and the society of their species, they repaired to one of the Fern Islands to breed, apparently thus subjecting themselves to very great inconvenience. Contrary to their usual habits they built their nest upon the ground, there being no trees on the islands. It was of most curious construction; and instead of sticks (of which it is in other instances composed, and which the neighbourhood would not supply), the outside was formed of small pieces of turf, neatly laid upon each other and formed into a compact wall; the space within was lined with a quantity of wool, which was all brought from the mainland, a distance of four or five miles." The bird will also just as readily avail itself of the ledge of a rock or any projection on a cliff-side.

Its food is much more varied than might be inferred from what has been said above, its omnivorous appetite inducing it to devour worms, snails, crustaceans, portions of dead fish or other garbage thrown up by the tide; neither does it object to the farmer's beans and potatoes or the gardener's walnuts and fruits, provided its pilfering can be carried on without a chance of detection. In its approach to the field and the garden, it exhibits much craft and caution; and the keeper, who is the Crow's deadliest enemy, has to exercise all his skill and cunning to circumvent this wary bird; a few eggs, however, or a dead rabbit placed beside a hidden trap, are irresistible temptations and often lead him to destruction. For the sake of showing this mode of capture I have in this instance gone a little out of my way, and represented in the accompanying Plate a bird in a difficulty from which he could never extricate himself. Sympathy he may obtain from his partner, to whom he has probably been united from the attainment of maturity; but assistance she cannot render him. If the Crow can be tempted to put his toes on the trap his doom is sealed, as it also is when he partakes of the strychnined piece of flesh which the keeper purposely lays for him.

The eggs are usually four or five in number, of a pale bluish green, spotted and speckled with two shades of ash-colour and dove-brown; but they vary much in the depth of the colouring, some being deeply and others lightly tinted; occasionally they are light blue, unspotted, but marked here and there with undertints of grey. They are one inch and eight lines by one inch and two lines in diameter.

The male feeds and spiritedly defends the female while sitting; and both bravely repel birds much larger than themselves (such as the Raven, the Kite, and the Buzzard) which may appear to have any evil designs upon their young.

Waterton states that the Carrion-Crow carries off eggs not in the bill, but on the point of it, after having thrust the upper mandible through the shell; both Macgillivray and Thompson, however, give an instance each in which, upon the bird being alarmed, the egg when found was still whole.

A number of interesting anecdotes respecting the cunning and predaceous habits of this bird will be found in the various works on British Birds; but I have probably said enough respecting a species so well known to every one. I must not, however, omit to mention that, according to Mr. Hogg, it may be easily tamed, and then becomes strongly attached to the person who rears it, but is apt to peck severely any one else who attempts to meddle with it.

The sexes are alike in colour; but the female is somewhat smaller than her mate. The young are like the adults, except that they have less of the metallic lustre on the upper surface.

In case ornithologists should desire to institute a comparison of the size of the European Crow with the Crows of other countries, I append the careful admeasurements of a fine old male, taken early in February, 1870:—

Total length $17\frac{1}{2}$ inches, bill $2\frac{1}{8}$, wing $11\frac{3}{4}$, tail $7\frac{1}{2}$, tarsi $2\frac{5}{8}$.

The figures are rather under the natural size. The flower is the common red poppy (*Papaver Rhœas*, Linn.).



CORVUS CORNIX, Linn.

CORVUS CORNIX, *Linn.*

Hooded Crow.

Corvus cornix, Linn. Faun. Suec., p. 30.

— *cinereus*, Leach, Syst. Cat. of Indig. Mamm. and Birds in Brit. Mus., p. 18.

— *subcornix*, Brehm, Vög. Deutschl., p. 168.

Corone cornix, Kaup, Natürl. Syst., p. 99.

THE Hooded Crow is strictly a migrant in the southern parts of England, arriving from the north early in October and departing again in April. All, however, do not leave us; for individuals have been known to remain, form an alliance, and occasionally breed with the Common Crow; still such alliances must be regarded as exceptional. Those who have visited the flat shores of the lower part of the Thames, the open pastures of Suffolk and Hertfordshire (particularly near Royston, in the latter county, whence its trivial name of Royston Crow), the rabbit-warrens of Cambridgeshire and Norfolk, or similar districts in other parts of England, must have frequently seen this species. Lord Lilford informs me that in Northamptonshire "a few pairs make their appearance early in November, and frequent the valley of the Nene; and in that of the Welland, which separates North Hants from Rutland and Leicestershire, it is even more common." A few words only are necessary to give the reader an idea of its distribution over other parts of England. In autumn, winter, and early spring it is spread over nearly all our flat shores, from north to south and from east to west, as well as in similar situations in Scotland and Ireland. The rich arable lands of the interior are, as a rule, without its presence; there the Common Crow takes its place.

The Hooded Crow is said to be very rarely found in Iceland, and not in Greenland or America. On the continent of Europe its dispersion is as general as in our islands in all situations congenial to its habits. It is abundant in the Crimea, in Palestine, Asia Minor, and on the banks of the Nile. So far as we yet know, it does not occur in India; neither, I believe, is it found in South Africa, although it proceeds from the shores of the Mediterranean into the interior of the northern part of that continent. In Egypt and Palestine it is the foster-parent (and, according to Mr. Tristram and Mr. Taylor, the only foster-parent in those countries) of the Spotted Cuckoo (*Oxylophus glandarius*), whose very dissimilar eggs it hatches, and rears the young, just as the small birds do here the egg and young of the Common Cuckoo (*Cuculus canorus*). How strange is all this! and how little do we know of the influence these parasitic birds exercise over those by which they are surrounded, both great and small! "In Norway," we learn from Mr. Hewitson, "it inhabits here and there the boundless forest, but never at any great distance from the sea, arising probably from its partiality to shell-fish." Mr. Wheelwright only saw a single pair in the district of Quickiock, in Lapland.

"Although somewhat more sociable than the Carrion Crow or Raven, the Hooded Crow," says Macgillivray, "is not gregarious; for, although four or five individuals may often be seen together, more than that number seldom convene unless when attracted by an abundant supply of food. It derives its subsistence from carrion, dead fish, crabs, echini, mollusca, larvæ, grain, and other matters, being fully as promiscuous a feeder as the Carrion Crow or the Raven, although it certainly prefers fish and mollusca to large carcasses, and very rarely feeds upon a stranded whale or even a domestic animal. Young lambs are favourite delicacies, and in severe seasons sometimes afford an abundant temporary supply. I am not, however, inclined to believe that it often destroys those animals, or that it ventures to attack sickly sheep. In districts frequented by it, you commonly find it along the shore, sometimes among the rocks, searching for crabs and shell-fish (which it has sagacity enough, when it cannot otherwise open them, to raise in the air and drop to the ground), sometimes on the beach, especially if fish or echini have been cast up. The latter are so frequently devoured by them in the Hebrides that they have obtained the name of Hooded-Crows' cups."

St. John, speaking of the Hooded Crow in Sutherland, says it is "numerous everywhere, in spite of traps and guns. Wary and strong, they manage to evade all attempts at their extirpation, and to keep up their indiscriminate and wholesale destruction of eggs of every kind. I consider the Hooded Crow to be the greatest enemy to game, and, indeed, to all other birds, that we have.

"There are one or two grassy hillocks near the lakes, to which those mischievous robbers, the Hooded Crows, bring the eggs which they have pilfered, in order to eat them at their leisure; and, until I administered a dose of strychnia, I never passed these places without finding the fresh remains of

eggs: partridges, plovers, snipes, redshanks, wood-pigeons, ducks, and teal, all seemed to have contributed to support these ravenous birds."

"On comparing specimens of the Hooded and Carrion Crows," remarks Macgillivray, "I cannot discover any difference in the form of the parts or in the texture and outlines of the feathers by which they can be distinguished; nor is there any decided difference in their size. Yet I am persuaded that the two species are perfectly distinct; for we have large tracts of country (the whole range of the Outer Hebrides, for example) inhabited by the Hooded Crow, without an individual of the other species to be seen; and in districts inhabited by both they always keep separate, the Carrion-Crow being moreover a much wilder bird than the other. It is alleged by some writers that these two species sometimes breed together, producing hybrids having characters intermediate between the two. How such hybrids could be recognized, I am unable to conjecture; for the mere extent and tint of the grey-coloured space varies greatly in the Hooded Crow.

"According to authors, this species occurs in all parts of Europe, remaining stationary in the eastern and mountainous districts, but appearing only in September and October in the western countries. In the whole of Scotland it is stationary all the year, although many individuals may probably migrate southward."

Mr. Tristram, in his notes "On the Ornithology of Palestine," says:—"In December we met with the Hooded Crow (*C. cornix*) at Jenin (Engannim), a day's journey south of Nazareth; and neither in winter nor summer did we find it further north. There is not the slightest difference in size or plumage between Palestine and British specimens, except that the former are clearer and brighter in coloration. It is curious that this bird, merely a winter visitant to all except the more northerly portion of the British Isles, should be sedentary, not only in Southern Syria, but also in Egypt, and that in the north of Palestine it should be, if present at all, at any rate very scarce. There were a few pairs at Jenin, which roosted among the palm trees, where we obtained them as they were returning home in the evening. In the district about Nablous they were scarce, but more numerous at Jerusalem, living there in society with Ravens and Rooks, but not nearly so abundant as the other Corvidæ. We never saw them in the southern wilderness, or in the neighbourhood of the Dead Sea; but on crossing to the other side of the Jordan, the *C. cornix* was widely distributed over the highlands and open plains of Moab and in the southern and eastern portions of Gilead, not loving the thick forests, but resorting chiefly to the open plains, where a few terebinth trees occasionally varied the landscape. In these regions we found it breeding, on isolated trees, on rocks, and in old ruins; and here we found the Great Spotted Cuckoo (*Oxylophus glandarius*) depositing its eggs in its nest, and obtained several. It was interesting to meet, among the ruins of Rabbath Ammon, with this corroboration of Messrs. Brehm, Cochrane, and Allen's observations in Egypt, where they frequently obtained the eggs of *O. glandarius*, but exclusively in the nests of *C. cornix*. In Spain, on the contrary, Lord Lilford took them from the nests of *Pica caudata*; and our Algerian specimens were invariably in the nests of *P. mauritanica*."

Lord Lilford tells us that the Hooded Crow is an occasional winter visitant to Epirus, where he saw it near Previsa in March 1857, that it is common on the coasts of Albania in December, abundant in Montenegro in August, and apparently quite unknown in Corfu—frequent in the island of Sardinia, where he was assured it breeds among the reeds which fringe the "stagni," or large salt-water lagoons in the neighbourhood of Cagliari, and that it is rarely met with in Northern Spain; and Mr. Howard Saunders tells me it is equally scarce in the southern part of the latter country, but is very abundant on the campagna of Rome in winter.

The Hooded Crow is an early breeder, and makes its nest upon trees in those countries where trees are found, and, in their absence, on marine rocks and cliffs. The nest is composed of sticks and straw, lined with wool and hair. The eggs are from four to six in number, of a light green, mottled all over with greenish brown; they are nearly two inches in length by one inch and a quarter in breadth.

Like the rest of the true Crows, the sexes are outwardly alike; but the female is somewhat smaller and less strongly marked than the male, and the young soon attain the livery of the adults.

The figure is of the natural size, with a nest and eggs of the Grouse (*Lagopus scoticus*).



CORVUS FRUGILEGUS, Linn.

J. Gould and H. C. Richter, del. et lith.

Walter & Coen, Imp.

CORVUS FRUGILEGUS, *Linn.*

Rook.

Corvus frugilegus, Linn. Syst. Nat., tom. i. p. 156.

Cornix frugilega, Briss. Orn., tom. ii. p. 16.

Trypanocorax frugilegus, Kaup.

WERE it desirable to collect all that has been written respecting the Rook, the accumulated material would be sufficient to form a goodly-sized volume. Pennant and Yarrell refer to Virgil as the earliest of its commentators, thereby showing that the bird had attracted the attention of that careful observer of nature, prior to the Christian era. In more recent times, our own Gilbert White, Macgillivray, and Thompson have each published extensive memoirs respecting it; and thus but little opportunity is left to say anything original on the subject; it is, in fact, "used up," for these and other authors have published every necessary detail as to its history. With such a mass of information on record, it has never been explained why the bird, in spite of the persecutions of the farmer, and the extensive destruction of the young which is annually dealt forth in every rookery, has not, if it had the powers of reasoning usually assigned to it, betaken itself to some other country, where it would receive a more friendly treatment. On the contrary, it appears never to be so happy, never so cheerful, as when it is in the immediate vicinity of man; for, its daily occupation over, the Rook regularly wings his way from enormous distances to spend the last hours of the day on the trees which surround the homestead, the baronial hall, and ancient mansion—the very trees beneath which the child trundles his hoop, the labourer slowly wends his way to his cottage, and the sportsman returns with his dog and gun without exciting the slightest alarm. Such places appear, in fact, to be considered as sanctuaries, wherein they may abide free from molestation and in safety; and unfeeling and destitute of a taste for nature must be the man who does not reciprocate this friendly confidence. Of how many pleasures would the country gentleman be deprived, were his old hall to be deserted by the Rook, whose constant cawing and busy actions give such life, and add so many charms to his stately domain! Why does the Rook seek our protection and court our presence at the time of breeding? Why does the shiest of all birds, the Woodpigeon, do the same—coming into our gardens, even nearer to our houses, than the Rook, if they contain a silver fir or other tree upon the branches of which it can lay a few cross sticks to form a nest? Why does the Thrush build in the trailing branches of the rose-trees which surround our windows? or the Blackbird in our arbours? Why, I ask, is this the case? Is it that at this particular season (the period of reproduction) their natures are entirely changed, and their suspicions overcome by the importance of their paternal duties, and that they instinctively know that man will or should then afford them shelter and protection?

Those who have not seen the vast assemblages of Rooks which occur during winter in some parts of the British Islands can form but a slight conception of the sight—a sight which almost amounts to a phenomenon. It is one which may be observed in Richmond and Windsor Parks, but in a degree which is comparatively insignificant to that which may be seen in Cornwall, particularly at Tregothnan. These assemblages are only equalled by those of the Starlings at their roosting-places near the Land's End, and in some parts of Norfolk and Suffolk. Whence have the birds forming these immense Cornish gatherings come? Are they made up by vast accessions to our indigenous birds from the continent of Europe, instinctively directed across the Channel from France and Spain? The early flights of Woodcocks which visit the Scilly Islands and the contiguous parts of Cornwall in November are supposed to have migrated from Albania, or some other eastern country, and not direct from Norway; for they always appear when the wind is favourable for such a transit; that is, when it blows from the south-east. In like manner the Black Redstart (*Ruticilla tithys*) is only found in Devonshire at the same period, and under similar circumstances.

No country can be more favourable for the Rook to winter in than the humid and comparatively warm climate of Cornwall, where frost and snow seldom occur; but that only a small number of those that winter there remain and breed seems certain, since the nests observed in summer are comparatively few in number to those which may be seen in the central parts of England, Scotland, and Ireland. If the Rooks were less numerous in these latter countries during the winter months, the difficulty would be solved; for we might naturally suppose that they had removed from one part of England to another. Great evening flocks of Rooks may be seen in Richmond Park in November and December, and consequently they could not have augmented the masses observable at the same time in Cornwall. A London Rook flies over the tops of the houses to seek his breakfast just as frequently at Christmas as at any other period of the year. But to return to Tregothnan, the seat of Viscount Falmouth, through whose kindness and hospitality I have been

enabled, during three successive Januaries, to spend as many happy months. Here, among numerous other objects of interest, multitudes of Rooks may be nightly seen assembling for the purpose of roosting. Those who have not had an opportunity of visiting the woods which form so conspicuous a feature of this domain can form no just conception of their extent; yet it is only on the trees immediately surrounding the mansion that the Rooks congregate before retiring to rest. Here at the decline of every January day, when the hand of the clock reaches four, small flights may be seen coming in from various points of the compass; and as the day departs, fresh flights arrive in quick succession. They usually assemble to the westward of the house, and afterwards move a few hundred yards to the great trees skirting the principal drive; here mass above mass may be seen perched on the topmost branches, where they sit contented for a short time, hold a social conclave among themselves, and greet each small flight as it arrives from a distant part of the country. From this second station the multitude usually remove to some high trees in the shrubbery, where they hold another conclave, in which Daws take a lively part. By this time the shadows of night are fast approaching; still small companies continue to arrive, and augment the already numerous assemblage. Those who are not acquainted with the ways of the bird might suppose that they would now remain stationary until the coming day, but such is not the case; for, just when it has become so dark that most objects are undiscernible, the Rooks simultaneously leave the trees, and, with a rushing whirlwind-like sound, fly off to a wood known by the name of the "Gonveor." Into this they descend like a shower of hail, each bird precipitating himself on to the part of the tree where he will spend the night, without any bickering or squabbling for places: all is at once quiet; the wood, with its living mass, is wrapped in slumber. The Brown Owl now sends forth its hoot from Penkivel, and the piping note of the Curlew may perhaps be heard from the waters of Lamorran. Save these, no earthly sound breaks the stillness of these great woods. As the Rooks are late in seeking repose, so are they early in leaving their resting-place in the morning; and before the sun has gilded the horizon, small flights may be observed wending their way to their feeding-grounds, some to the neighbouring fields, some to the sides of the river, others to the Land's End, and others, again, to even still greater distances in different directions. Their daily routine accomplished, when the hour of four arrives, they again rendezvous around the house.

After the above account, to say that the Rook is a gregarious bird would be superfluous, were it not to show how different all its actions and economy are from those of the Crow and its little cheerful cackling associate the Jackdaw. The solitary Crow is a very early breeder, and constructs its nest near the bole of a large tree; the gregarious Rooks heap nest upon nest on the branches; while the aristocratic Jackdaw betakes itself for the purpose of breeding to the walls of old castles, church-steeple, and precipitous rocks: it is also much later in its nidification than either of the others. The Crow is a robber in every sense of the word; the Rook pilfers also, and is doubtless very troublesome to the farmer and the husbandman, and no unprotected garden that has trees with fruit and berries is safe from its attacks. A goodly tree of walnuts is soon stripped, should a flock of Rooks once pay it a visit. Some salutary chastisement is therefore often necessary to protect ourselves from its ravages; but the wholesale poisoning so much resorted to by the farmer, particularly when the bird has young, is both cowardly and cruel. Far more manly would it be to make an example by now and then shooting a depredator, than to send the poor birds home to die by the side of their nests of craving young ones. Painful, indeed, have been the scenes of this kind that I have witnessed. Four, five, or six poor victims to poison have I found at one time beneath the trees in the small rookery of Charles Pascoe Grenfell, Esq., at Taplow, while their young were starving in the nests above my head. If our farmers are so blind to the usefulness of the bird, surely it is time that the Legislature should step in and prevent the sale of poisoned corn, which, up to this time, might be purchased at every seed-shop. The lout in a smock-frock who can raise sixpence may procure as much strychnined wheat as, when scattered on the snow, will poison a pocketful of Partridges, and it is probable that many persons may have suffered from eating game thus destroyed; it is time, therefore, that we bestir ourselves in the matter.

On the Continent the Rook is a migratory bird, is nowhere so numerous as in England, and becomes gradually more scarce as we approach the Arctic circle. It is found in North Africa, Egypt, Asia Minor, and Persia, and is said to extend its range as far east as Affghanistan. The Rook of China and Japan, though very nearly allied, has certain specific differences, and, in my opinion, should be regarded as distinct.

The term "black as a Crow" does not apply to the Rook; for the bird is clothed in beautiful tints of purple and green. There is but little difference in the outward appearance of the sexes; both have the denuded face after the bird has attained the age of maturity, while the young, during the first year of their existence, have the nostrils covered with feathers, as in other members of the genus *Corvus*.

The eggs, which are laid in March, are four or five in number, and of a pale green, blotched all over with dark greenish brown.

The figure on the accompanying Plate is nearly as large as life.



CORVUS MONEDULA, Linn

CORVUS MONEDULA, *Linn.*

Jackdaw.

Corvus monedula, Linn. Faun. Suec., p. 30.

Lycos monedula, Boie, Isis, 1828, p. 1273.

Colæus monedula, Kaup, Natürl. Syst., p. 114.

Monedula turrium, Brehm, Vög. Deutschl., p. 172.

————— *arborea*, Brehm, ib., p. 173, tab. 12. fig. 2.

————— *septentrionalis*, Brehm, ib., p. 173.

Corvus collaris, Drumm.?

Of the true Corvine birds inhabiting the British Islands the Raven is the largest, and the most formidable, and is generally regarded as a bird of ill omen. The Carrion-Crow and its near ally, the Hooded, are among most persons scarcely more in favour, from the depredations they commit; the Rook, on the other hand, has commended himself to us by his social habits, while the Jackdaw and Chough are especial favourites with all.

To say that the Jackdaw is strictly indigenous to the British Islands, that it is gregarious, and that it associates with Rooks for the greater part of the year will not be adding to the information regarding it already recorded; yet such affirmations are necessary whenever the subject is treated of in an independent work. I have said that the Jackdaw is an especial favourite; and so he really is. If left unmolested, he has no natural shyness, and we feel no repugnance at his intrusion when he forces himself on our notice during the greater part of his life; for when he is not in the fields among the Rooks or in a little company of his own kind, he is enlivening with his presence the castellated towers of a royal palace, the minster of some cathedral town, the ivy-clad tower of a famed ruin, the gateway of an ancient abbey, or the more humble clock-tower of some of the many borough towns which exist from one end of our island to the other. To all such places he resorts at one or other time of the day, but more especially in the early morning and in the evening. It is true that some Daws spend the days of autumn and winter wholly with the Rooks, and return with them every evening to their roosting-place in the woods, as I noticed many did while making my observations on the vast assemblages of Rooks at Tregothnan, in Cornwall. The strings of these birds that came in from every point of the compass to the common centre of the great assembly were each accompanied by Jackdaws, which always betrayed their presence by their loquacious cackling. In the spring, however, a complete separation of the two birds takes place—a separation which, although remarkable, is in strict conformity with the different instincts, habits, and economy of the two species. I commenced this memoir with an enumeration of the British Corvine birds, and I will now add a few words on their nidification. The formidable Raven is the first to breed, its nest being formed in January or in the beginning of the ensuing month; the Crow is a little later; the Rook, when Valentine's day comes round, may be seen coquetting with his mate; the impulses of the Daw do not, however, prompt him to perform this duty so early, and it is fully a month later before he weds; and the pairs betake themselves, for the purpose of breeding, to belfries, towers, church-steeple, precipitous rocks on the sea-shore, pits of chalk, old gateways in towns, holes of pollard trees, or deserted rabbit- and fox-holes on the hillside. It is not until the beginning of April that they collect sticks and roots to make a platform for the future nest, and wool, old rags, or other soft materials to line it with. Now, however, they may be seen actively passing to and fro the whole day long. At this time, in some situations, the Jackdaw becomes more shy and wary than at any other season, and upon being disturbed quits the pit-side with the greatest haste, or bustles out of a hole in the ground with the utmost turbulence; a short flight, however, is all he takes, perhaps only to the top of the nearest poplar, where he quietly sits until danger is past, and then returns to finish his nest or complete any other task upon which he may have been engaged. Many are the accounts on record of the extraordinary amount of materials taken down some deserted chimney or deposited on the narrow staircase of a little-frequented belfry. Apparently the sole aim of the bird is to build on from time to time, and pile up from year to year sufficient to raise its nest to the mouth of the opening; and if left undisturbed for a number of years, it generally succeeds in accomplishing its object.

Mr. Wolley informed Mr. Hewitson that he saw the nest in the turret at Eton mentioned by Mr. Jesse in his 'Gleanings,' and that it was, he believes, raised no less than nine feet from the foundation. Taking its rise from two or three steps of the circular stairs, it was built up compactly, and of a nearly uniform breadth, to a lancet window in the perpendicular wall, the bottom of which window was not otherwise sufficiently wide to support a nest. Referring to the point in dispute, whether or not birds of the Crow

kind cover their eggs, Mr. Wolley says, "About ten days ago Henry Walter and myself amused ourselves by climbing up to Jackdaws' nests placed in holes in the trees about Bearwood, on the borders of Windsor Forest. In the course of three days we must have examined several scores of nests. On the first day none of the eggs were covered; but on the second and third days we found that several of the nests that had been visited before, now had their eggs either partially covered with loose pieces of wool, or the eggs in some cases were nearly buried in the woolly lining of the nest, and this whether the bird had just flown from the nest or not." (Hewitson's Col. Ill. of Eggs of Brit. Birds, 3rd edit. vol. i. pp. 232, 233.)

The eggs are four or five in number, of a regular oval form, and of a pale greenish blue, covered, particularly at the larger end, with round, distinct spots of dark brown and pale purplish brown; their length varies from one inch and a third to one inch and a half. They are laid in May, and the young are able to fly by the end of June.

Besides his love for the society of man, the popularity of the Jackdaw is enhanced by its graceful and buoyant flight round and about church and other towers, its loquacious cackling, the readiness with which it becomes domesticated, its powers of imitating the human voice, and its droll and comical ways; while in the sheep-walk he is no less interesting for the inquisitive manner with which he probes the close-cropped turf before the nose of the sheep, and perches on their backs with the utmost complacency.

There is but little difference in the colouring of the sexes when adult. The young have no trace of the hoary hind head until after the first moult; but as they increase in age the crown becomes of a steel-blue, the hinder part of the head and neck hoary; and the irides during the first autumn are generally of a dark brown, which ultimately gives place to pearly white. To describe the body-feathers as black would be incorrect; for, like those of the Rook and the Chough, they display a considerable diversity of colour as the rays of light impinge upon the various parts of the body.

As a feeder, the Jackdaw may be said to be omnivorous; for he disdains not to eat carrion, insects, grubs, worms, shelled mollusks, and crustaceans; to which are added grain, seeds, and fruits, eggs, and even weakly birds.

As regards distribution, if the Jackdaw of Macedonia (*Corvus collaris*, Drumm.) be regarded as a mere local variety, then the present bird ranges over central Europe (as far north as nearly to the 65th degree of latitude), the islands of the Mediterranean, North Africa, Cashmere, and Amoorland.

The *Corvus monedula* and its near allies, the *C. dauricus* and *C. neglectus*, form a small section of the family *Corvidæ*, to which the generic appellations of *Lycos*, *Monedula*, and *Colæus* have been assigned by various authors, with the present bird as the type: in a general work on ornithology I should have adopted this view, and figured the bird as *Lycos monedula*; but here I have thought it advisable to retain it under the old name of *Corvus*.

A history of the Jackdaw would be incomplete without some reference to its capability of domestication, and its thievish propensities; both of which points are well illustrated in the following article from the pen of Mr. John Denson, senior, which appeared in the sixth volume of 'Loudon's Magazine of Natural History.'

"Doubtless it is well known that the Jackdaw can be domesticated. He frequently is; and a playful, merry, mischievous little fellow he becomes. One that came into my possession as soon as it was hatched, I kept for more than twelve months. It soon became the favourite of the family, and when able to fly, would follow me or any of the household into the garden or anywhere near the house. Many a time has he perched on my shoulder and amused himself by preening the side of my head, and sometimes giving me a nip on the ear; and then he would call out 'Jack!' lustily, put his powdered head knowingly on one side, and look in my face as if to see how I liked it. The garden was his general haunt; there he would amuse himself for hours looking for insects. Earwigs and spiders were his favourite food. I recollect his leaving my shoulder and pouncing upon a large spider and its white bag of eggs. The Jackdaws from the tower of the village church frequently flew round in circles, and seemed by their calls to invite him to join their society; but Jack could not be persuaded to leave his abode. Still, although he made our house and outbuildings his home, he was not against visiting his neighbours. Many a thimble, portion of thread, a spoon in one or more instances, or anything that was portable, has he purloined from the neighbouring cottages, and concealed under the moss that grew on the thatch of the barn. Jack by this means got a very ill name, and if any little thing was missing he was sure to be accused. The ladder has been raised, his hoard searched, and the lost goods returned. Jack was a very early riser, and would imitate the human voice. After a while I lost sight of him, and heard some years afterwards that his thievish and mischievous propensities had brought him to an untimely end."

The figures in the accompanying Plate represent the two sexes of the natural size. The plant is the common Ivy, *Hedera Helix*, Linn.



FREGILI'S GRACULUS.

FREGILUS GRACULUS.

Chough.

Corvus graculus, Linn. Syst. Nat., tom. i. p. 158.

——— *coracias*, Lapiere.

Coracia erythroramphos, Vieill. Nouv. Dict. d'Hist. Nat., tom. viii. p. 2.

Pyrrhocorax graculus, Temm. Man. d'Orn., 2nd edit. tom. i. p. 122.

——— *rupestris*, Brehm, Vög. Deutschl., p. 175.

Fregilus graculus, Cuv. Règn. Anim., 1817, tom. i. p. 406.

——— *europæus*, Less. Traité d'Orn., p. 324.

——— *erythropus*, Swains. Class. of Birds, vol. ii. p. 268.

Coracia gracula, Gray & Mitch. Gen. of Birds, vol. ii. p. 321.

CHOUGH, Cornish Chough, and Red-legged Crow are three of the trivial names by which this bird is commonly known. It was formerly much more numerous in the British Islands than it is now. When I was a boy it occurred plentifully at the Needles, in the Isle of Wight; and it was there that I killed the specimens figured in my 'Birds of Europe.' To say that the bird has totally disappeared from that place, the neighbouring Beachy Head, and Shakspeare's Cliff at Dover would perhaps not be deviating from the truth. Now as these steep and precipitous chalk rocks, and the closely cropped downs at their backs, have undergone no change, and consequently are as well suited to the habits of the bird as in former times, it is the hands of the relentless gunner and egg-collectors which have either extirpated it or driven it away to other localities. On some of the cliffs of the south coast of England it still holds its own, as is evidenced by the following note received a short time since from W. R. Glennie, Esq. Writing from Osborne House, Swanage, this gentleman says:—"You asked me whether I had met with Choughs of late on the south coast. As we were talking then of Devon, perhaps the question had reference to the south coast of that country only; but I send a line to say that I find them pretty frequent here on the Dorset cliffs. I saw several pairs yesterday in a walk of about eight miles along the coast, between this place and Kimmeridge, and stood behind a stone wall watching one pegging away for beetles within fifteen yards of me." In his 'List of British Birds,' Mr. Rodd states that the Chough is much less numerous in Cornwall than formerly, but is still sparingly observed in different localities along the coast, and that it breeds annually in Zennor Cliffs. It is numerous in many parts of Wales and in the Isle of Man, is very abundant in Islay, Galloway, and some of the western islands of Scotland, but appears to be comparatively scarce in the north-eastern parts of that country. Thompson states that it inhabits the precipitous rocks of various parts of Ireland. Temminck informs us that on the European continent it inhabits the high Alps of Switzerland, Italy, the Tyrol, Bavaria, and Carinthia, and that in rigorous winters it accidentally occurs on less elevated mountains, such as the Jura and the Vosges, always in the vicinity of regions covered with rime. Mr. Howard Saunders found it abundant in the mountain-districts of Southern Spain, especially at the back of the Sierra Nevada. It is said to inhabit the island of Crete; but Lord Lilford remarks that he did not meet with it in Turkey or Greece; yet, according to Loche, it frequents the nearly opposite high mountains of Algeria, and it was seen in large flocks near Tetuan, in Eastern Morocco, by Mr. C. F. Tyrwhitt Drake. The Rev. H. B. Tristram did not meet with it on the Lebanon, where, he remarks, it surely ought to be. Whether it ever occurs in Northern Russia or Siberia is a question I am unable to solve. The bird of this form that exists there may prove to be the very different *Fregilus himalayanus*.

Many of the actions of the Chough remind us of the Jackdaw. It is very active in its movements, both during flight and when on the ground; is cheerful and happy under restraint, and readily becomes reconciled to the aviary, where its inquisitive disposition renders it very amusing. Like its congener, it is fond of petty thieving, particularly of any thing that is glittering. In the British Islands it mostly dwells among the rocks on the sea-side; it is not, therefore, to be sought for inland, except in high and mountainous districts. Its eggs, which the collector always looks upon with interest, are very difficult to procure, in consequence of the excessive caution of the birds in selecting their places of nidification, which, the Rev. W. D. Fox informed Mr. Hewitson, are always on the face of the steepest cliffs, and in general in clefts far in, the passage to which turns at right angles frequently, so that you cannot reach the nest, or even see it. The nest is outwardly composed of sticks, succeeded by a quantity of roots and dry grass, lined with very fine roots, grass, and wool. The eggs are easily known from those of any of the Crow-kind; they are

most like those of the Magpie, from which they differ in their greater size and more ochreous colouring. Mr. Yarrell describes them as four or five in number, of a yellowish white, spotted with ash-grey and light brown, 1 inch 8 lines long by 1 inch 1 line in breadth.

The flight of the Chough is very similar to that of the Rook, but is somewhat more rapid; and it sometimes flies round in circles, with but little motion of the wings. Its food consists of insects (of various kinds) and berries; and that it, occasionally at least, feeds on small crustaceans is certain, Mr. Thompson having found minute *Ligia oceanica*, *Aselli*, &c., mixed with vegetable matter, in the stomach of a specimen he examined.

"This species," says Thompson, "is more generally diffused around the rock-bound shores of Ireland than British authors would lead us to believe it is on those of Scotland and England. It may be met with in such localities in the north, east, south, and west of the island. The basaltic precipices of the north-east coast are admirably adapted for it; and about the promontory of Fairhead it particularly abounds. In Dr. J. D. Marshall's memoir on the statistics and natural history of the Island of Rathlin, lying off the north of the county of Antrim, it is remarked:—'This is by far the most numerous species on the island. In the month of July I found them everywhere associated in large flocks, at one place frequenting inland situations, and at another congregated on the seashore. They had just collected together their different families, now fully fledged, and were picking up their food, consisting chiefly of insects, either on the shore, in the crevices of the rocks, or in the pasture-fields. Mr. Selby mentions that the Chough will not alight on the turf if it can possibly avoid it, always preferring gravel, stones, or walls. In Rathlin its choice of situation seems to be but sparingly exhibited, as I found it frequenting the corn- and pasture-fields in even greater numbers than along the shores.' The Chough is of a restless, active disposition, hopping or flying about from place to place; it is also very shy, and can with difficulty be approached. Some of the latest writers on British Ornithology appear to think that the Chough never leaves the vicinity of the sea; and in one work it is stated that the species is 'never observed inland,' although Crow Castle has been noticed by Montagu as one of its haunts. This is situated in the beautiful Vale of Llangollen, in North Wales, where the Lombardy poplar, spiring above the other rich foliage around the picturesque village of the same name, imparts, in addition to other accompaniments, quite an Italian character to the scene. A pair of these birds were, some years since, observed, throughout the breeding-season, about a ruin between Newtown-Crommelin and Cushendall, in the county of Antrim, three miles distant from the sea; and at Salagh Braes, a semicircular range of basaltic rocks in the same county, nearly twice that distance from the coast, the Chough builds." Mr. R. Davis, jun., of Clonmell, informed Mr. Thompson that "great numbers of Choughs breed in the precipices over the lake in the Commeragh Mountains, in the county of Wexford, about seven Irish miles from the sea, where they are very rarely molested, on account of building in almost inaccessible spots."

The voice of the Chough is described as shrill but not disagreeable; according to Mr. Yarrell, it is something like that of the Oyster-catcher; to others it resembles that of the Jackdaw, from which, however, it is easily distinguished. Meyer renders it by the words "*creea, creea, and deea*." It also emits a chattering sound, not unlike that of the Starling.

Montagu has given an interesting account of a Chough he kept in captivity, which exhibited the utmost amount of prying curiosity, evinced a great love of being caressed, and would stand quietly by the hour to be smoothed, but resented an affront with violence and effect by both bill and claws, and held so fast by the latter that he was with difficulty disengaged. To children he had an utter aversion, and would scarcely suffer them to enter the garden. Strangers of any age were challenged vociferously; he approached all with daring impudence; and so completely did the sight of strangers change his affections for the time, that even his best benefactors could not touch him with impunity in those moments of displeasure.

The sexes are alike in colouring; and the young attain the adult plumage, and the coral-red of the bill and legs, by the end of the second year, prior to which they are of a dull dirty yellow.

The figures are somewhat under the natural size. The plant is the *Ophrys aranifera*.



PICA CAUDATA.

PICA CAUDATA.

Magpie.

Corvus pica, Linn. Faun. Suec., No. 92.

Pica caudata, Linn. Syst. Nat., edit. 6, gen. 40, sp. 8.

— *Europæa*, Cuv.

— *Melanoleuca*, Vieill. Ency. Méth. Orn., part 2. p. 883, pl. 139. fig. 1.

I TRUST the day may arrive when the people of this country will have acquired a greater taste for the ornamental than at present; they may then have their eyes opened to the charms of that one of our native birds in which is combined all that is graceful and elegant in form and beautiful in colouring: I mean the British Magpie—the Magot Pie of the immortal Shakspeare. For my own part, I never see this bird in a state of nature without a feeling of admiration. I watch all its actions with interest and pleasure. I do not fail to notice how its varied plumage contrasts with the greensward over which it walks, and, when it is flying towards a coppice or tree, with what regularity and precision its wings are marked with black and white. I also admire its pertness, and the elegance of its actions among the branches. I observe how in this country it sedulously avoids man, and particularly the keeper of game, while he walks, gun in hand, his daily rounds; while in others, such as Norway and Sweden, it is just as familiar in the approaches it makes to the gardens and to the houses, to the roofs of which it flies for protection, if protection be necessary. How fortunate, then, are the Magpies of those countries, and of France, where they are similarly treated! Surely this will awaken some of our landed proprietors to the necessity of at least in some degree rendering its existence here a more happy one.

If Mr. Waterton can keep the Magpie within proper bounds, and find that its propensities are not fatal to the reproduction of other birds within his walled demesne, and if Sir William Jardine (who, I know, affords it his protection), has not his Pheasants' eggs destroyed, or his garden ravaged of its summer fruits, surely others may allow it to live and ornament the scene. But is the Magpie so ornamental? some of my readers will ask: black and white, it is true, form the most striking contrast; but where are the beautiful colours? This the accompanying Plate will show, although it but faintly represents them; for it is almost beyond the power of the artist to give their faithful portraiture in an ordinary illustration. It will show, however, that many beautiful tints of purple, blue, and green are comprised in the colouring of the tail. The wings, too, are ornamented with two distinct colours—lively blue and bronzy green; and thus it will be seen that there is much less black in the Magpie's dress than is usually supposed. Where the black does occur, however, it is intense; and the same may be said of the purity of the white, which, with the rest of the colours, is well disposed. When on the ground or on the branches of trees, the breadth and boldness of the markings form a most harmonious combination, well worthy the attention of the artist. Let me ask those of my readers who are not well acquainted with the colouring of the Magpie's tail to give it a careful examination: they will find it far more beautiful than they had previously imagined.

The Magpie is so generally dispersed over the British Islands, that any minute account of its distribution is unnecessary; but I may state that it does not go so far north in Scotland as the Orkney, Shetland, or Western Islands. In Ireland it is said to have been introduced about the time of Elizabeth; a long dissertation on which subject may be found in the valuable work, on British Birds, by my late friend Mr. Yarrell. On the continent of Europe it is nowhere more common than in Norway and Sweden; and, indeed, it occurs throughout Europe to the borders of the Mediterranean. In an eastern direction its apparent limit is the neighbourhood of the rivers Don and Volga; at least we find, to the east and south of this, Magpies which, although bearing a general resemblance, are specifically distinct. The one from Siberia I have lately named *P. leucoptera*: the Magpie from Mesopotamia has yet, I believe, to be characterized. In the great Himalayan range there are at least two—the *P. Bactriana* and *P. Bottonensis*; while in China and Japan there exists a closely allied one—the *P. media*. The northern parts of America give us two, which appear to represent each other in the respective countries they inhabit, viz. the *P. Hudsonica* of the east, and the *P. flavirostris* of the west. In Northern Africa (the temperate climate of the great Atlas) occurs another very distinct bird—the *P. Mauritanica*.

In my history of the Jay, I alluded to the wide distribution of the genus *Pica*: I may now add that no one species of the family is found very far south, either in the Old or in the New World. The sexes in our bird, as well as in all the other members of the genus, closely assimilate in their colouring, and, moreover, are not subject to any seasonal change: from the nest, they are Magpies to a feather. Of course, the mature bird excels in brilliancy those of extreme youth; and that is all. As an architect, perhaps no bird is more clever; and the

construction of its nest is well worthy of our attention. Think not, my readers, that the huge pile you see in yonder tree is the work of an ordinary bird; for the labours of the Crow, the Rook, the Daw, or the Jay may hide their diminished heads when brought in comparison with the skill of the Magpie. A minute description of this fabric would fill a page of this work: briefly, I may say that the foundation is composed of crossed sticks of various sizes; next follow shreds of bark, earth, clay, moss, or any similar material near at hand; then comes a lining of fine roots and tendrils; and lastly, a thick and impenetrable dome, which, with the nest, forms a spherical mass. No basket-work was ever more complete than is that part which unites the rim of the nest to the dome; and when the materials used are those of a cut quickset hedge, as is often the case, such a nest is worthy of being placed in a museum, large as it is; for it will serve to show that the bird has displayed no ordinary skill. Generally there is but one entrance to the nest; but sometimes there are two, so that the bird can take advantage of either when disturbed in the duty of incubation. The situation of the nest is most varied, sometimes on the top of a high silver fir in a plantation, on an elm or other tree on the field-side, or in a low thick thorn-bush in a hedgerow, whence the name of Hedge-Magpie is given to those that choose such situations for their nest. This name, however, should be abolished; for I am certain that no specific differences occur in the Magpies of this country. I have been looking for the supposed second species from my childhood, but have not yet found it; my opinion may therefore, I hope, have some weight. The eggs are usually six or seven in number, of a pale-bluish white, spotted all over with ash-grey and two tints of greenish brown; they are one inch four-and-a-half lines long, by one inch broad. The young generally follow their parents during the first autumn; and it not unfrequently happens that, in those districts where they are not hunted down, several broods unite; and the little flock becomes still more ornamental than when seen singly or, as is usually the case, in pairs. The food of such assemblies consists principally of worms, grubs, and insects; but they will readily eat carrion of any kind, and a stranded sheep or sick lamb must carefully guard their eyes, or a worse calamity may befall them. To this kind of food the eggs and young of the Pheasant, the Domestic Fowl, or of almost any bird, are added, if opportunities for pilfering them be afforded: they also consume fruits of every kind, and berries of various sorts. In its disposition it is prying and most inquisitive; in actions pert and cunning; somewhat garrulous during the months of spring, if anything strange, such as the discovery of a sleeping Owl, a Fox, a wired Hare, or a nest-robbing Squirrel excites its ire; it then utters a peculiar chattering noise, betokening that something wrong or unusual has taken place. Hold council with yourselves, good keepers, and spare the Magpie for the information he has afforded you.

When taken young, the Magpie may be readily reared and domesticated. Confined, as it frequently is, in a willow cage, far too small for its comfort or the display of its agile actions, it exhibits a degree of cheerfulness and apparent happiness almost to be envied. In this limited prison it lives to amuse the humble cottager, who usually greets it with its common sobriquet of "Mag," or attempts to extend its vocabulary by more lengthened sentences, the bird sometimes acquiring the vernacular quite equal to many of the passers-by. In some individuals the power of mimicry is complete and very extraordinary: the mew of the cat, the sawyer at his work, the young chanticleer, the whining dog, are each successfully imitated.

The flight of the Magpie, though apparently laboured, is easy and graceful, but, as its rounded wings would indicate, is not of long duration: if assailed, however, by a Hawk or a Falcon, it displays a quickness of movement perhaps unequalled by any other bird; and I believe I am right in saying that if a covert be gained it could not be followed; for, leaping from branch to branch, it dives about the wood with the utmost agility. A pinioned Magpie in a coppice will give half a dozen boys an appetite before they get hold of its wing or tail; and then the punishment inflicted by its sharp-pointed bill will leave a lasting remembrance of their capture of a wounded Magpie. When hawking was in vogue, this was considered one of the birds which afforded the greatest amount of sport: see an interesting note on this subject from the pen of Sir John Sebright, in Yarrell's 'British Birds,' vol. ii. p. 109.

Crown black, slightly glossed with purple; remainder of the head, neck, back, and breast black; the throat-feathers open in their texture, and terminating in a bristle; scapularies, abdomen, and flanks pure white; across the lower part of the back a band of dark grey; upper and under tail-coverts, vent, and thighs black; lesser wing-coverts black; greater coverts, spurious wing, secondaries, and tertiaries glossed with blue and green; central portion of the inner webs of the primaries pure white, their margins and the outer webs black, glossed with olive; two centre tail-feathers bronzy green nearly to the end, when that colour gradually passes into rich purple, then blue, and lastly deep green; the lateral feathers are precisely similar on their outer webs, but their inner webs are dull black, except at the tip, where they are green, like the outer ones, the iridescent colouring near the tips of the feathers forming a beautiful zone; irides dark brown; bill, legs, and feet black.

The figure is of the natural size, on a branch of the Spruce Fir (*Abies excelsa*).



GARRULUS GLANDARIUS.

GARRULUS GLANDARIUS.

Jay.

Corvus glandarius, Linn. Syst. Nat., tom. i. p. 256.

Pica glandaria, Klein, Av., p. 61.

Garrulus glandarius, Flem. Brit. Anim., p. 86.

Glandarius pictus, Koch, Syst. Baierisch. Zool., p. 99.

If birds had the faculty of speech, the Jay might appropriately exclaim, "Save me from my friends, and I will endeavour to avoid my enemies; by the former I am often imprisoned for my grotesque actions and beautiful plumage, and the latter are always waging war with me for certain pilfering habits and other little misdeeds which it is my nature to commit." To myself, personally, it is very pleasing that our avi-fauna comprises so charming a bird; and although I cannot but plead guilty to having often raised my gun at this woodland tenant, I hope to be more sparing in future. Impulsively, however, does every sportsman take his shot at the Jay, when it deridingly passes over his head in the midst of our great covers. Hundreds are thus killed during the pheasant-shooting season, and it requires all the craftiness with which the bird is endowed to keep it out of harm's way. Of course it finds still less favour with the keeper and the gardener, eggs and cherries having irresistible charms for its palate.

In the days of Linnæus, the Crow, the Jay, and the Magpie were all associated under the generic title of *Corvus*; but the three birds have since with great propriety been made the types of as many genera, the old name of *Corvus* being retained for the true Crows, while that of *Pica* is assigned to the Magpies, and *Garrulus* to the Jays. That such a separation is both natural and proper no ornithologist of the present day will attempt to deny. Structurally each differs from the other, while at the same time the plumage of all the known members of the three forms is strictly in unison, and never partakes of the colouring of either of the others. Of course their habits and economy are modified in accordance with their difference of form. Their distribution teaches us some interesting facts. The members of the genus *Corvus* are more widely spread than those of the genus *Pica*, and the latter more so than those of the genus *Garrulus*; still the last-mentioned form has representative species in nearly every part of the northern portion of the Old World; that is, Jays are found from the island of Japan in the east to Ireland in the west, while in North Africa there is one species not found elsewhere.

In the Americas, both North and South, many representatives of this family occur, but these have been assigned by modern systematists to distinct genera. The following is a tolerably correct list of the species of the true Jays, genus *Garrulus*. In the Japanese islands there are two, *G. japonicus* and *G. Brandtii*; in China one, very similar to, but distinct from, the *G. bispecularis* of the Himalaya. To this bird I many years since assigned the name of *G. sinensis*. In the Amoor and the Altai the *G. Brandtii* occurs, as well as in Japan. The fauna of India claims the *G. bispecularis*, *G. lanceolatus*, and *G. Lydthii*; Syria and Asia Minor, the *G. melanocephalus*; North Africa, the *G. cervicalis* and *G. glandarius*; and Europe, the *G. glandarius* and *G. melanocephalus*, the former being found throughout the whole of the continent, from Spain and the Grecian islands to Great Britain, Sweden, and Norway. Thus we find that, in lieu of the one known to the learned Swede, we are now acquainted with no less than eight species of this particular form.

With these prefatory remarks, we may proceed to a more detailed history of one of the most beautiful and ornamental of the British birds. First, then, I may state that the Jay is strictly stationary in Great Britain; and that its numbers do not appear to be increased by accessions from other countries, nor have we any reason to believe that those which are bred here ever leave our islands. Mr. Rodd states that, in Cornwall, it is very rare in the neighbourhood and to the westward of Penzance, but that it is common in the woodland districts of that county. From this western point it is very generally distributed over the whole of England and Wales; it is also found, but in far less numbers, in the southern and midland counties of Scotland and Ireland, in which latter country, I trust, it is now in better favour than in the days of George the Second, when a price was put upon its head, from an unfounded imputation that it did injury to young trees.

Unlike the Crow, whose structure is alike adapted for aerial, arboreal, and terrestrial progression, the wing-powers of the Jay are somewhat restricted, as are also its powers of progression over the surface of the earth; but whatever is denied to it in this respect is amply compensated by a structure admirably befitting its arboreal habits. If we examine the form of its foot, we find its hind toe and claw largely developed, and placed on the same plane as the anterior ones. This hand-like foot is admirably adapted for grasping the smaller branches of trees, and hence it is that the bird is always found in thick woods and hedgerows. In winter it is often solitary, living in the midst of the most extensive covers, where perchance the only other

bird-life that exists is the Pheasant and the familiar little Robin. In these secluded retreats it noiselessly searches for fallen acorns, wild nuts, and such insect-food as its prying eye may detect. In the spring-time it becomes more noisy and animated, frequents the outer glades and pathways, builds on some low tree often within reach of the hand, and, if the nest be not detected by the keeper or juvenile birds-nester, it rears its four or five young ones, which, as soon as they are fledged, follow in the train of their parents for the remainder of the autumn. Sometimes two or three broods unite and form a small community, which appear to live in harmony. In their usual habits they are still and quiet; but a poaching cat, snared hare, prowling fox, or anything strange is sure to attract their attention; their energies are then aroused, they become all animation, and their garrulous and harsh cry is oft repeated. This trait in the character of the Jay is at least useful to the keeper of game, as it directs him at once to the spot where danger to the objects of his care may be apprehended. In its thievish habit of stealing eggs the Jay displays great energy and diligence, descending to the lowest branches of the trees and surveying everything with the most prying and inquisitive eye. Strictly omnivorous, it also feeds on chafers and other large Coleopterous insects, worms, mice, frogs, young birds, &c.: this kind of food is varied with the fruits of the wild-cherry berries, or any of the products of the garden. Besides uttering its own harsh, disagreeable note, it has a power of mimicry, excelling, perhaps, that of any other bird; every sound, from the crowing of a cock to the mewling of a cat, being within the range of its imitative powers.

Notwithstanding the rather bad character I have given to the Jay, I am sure that, from the nobleman down to the humblest lover of nature, we should all be sorry not to have the bird amongst us. Let a necessary check only be exercised to keep its numbers within bounds, and the "larder" of the keeper be more sparingly graced than it usually is; and let us see less of the revolting sight so frequently exhibited, of numbers of this bird impaled, with many others so wrongfully called vermin. What would our existence be without bird-life in all its varied forms? It may be truly said to be one of the most pleasing of Nature's works. The colours of the Jay, when seen during flight, are very attractive; for the white of its upper tail-coverts and its wing-markings are then displayed to great advantage, and their hues form a striking contrast to the colours of the other parts of the plumage. On a nearer acquaintance, the delicacy of its tints and the beauty of its wings are very charming; and surely it is not the province of any of our great landed proprietors utterly to destroy this handsome bird.

The nest is of a cup-shaped form, about 9 inches in diameter, and is constructed of crooked sticks and coarse roots, neatly lined with other extremely fine hair-like roots and a few hairs. The eggs are five or six in number, and of a yellowish white, thickly speckled all over with light brown; they are 1 inch and 4 lines in length, by 1 inch in breadth.

Like other Corvine birds, little or no difference is observable in the colouring of the sexes; neither are the young differently clothed—a nest of young Jays, by the time they are ready to fly, exhibiting all the colours with which their parents are adorned.

Forehead and space around the eye greyish white, with a streak of black down the centre of each feather, the tips of those approaching the occiput becoming of the same cinnamon-brown hue as the back and sides of the neck, back, and lesser wing-coverts; from each side of the lower mandible a broad streak of black, forming a conspicuous moustache; chin dull white; breast and abdomen grey, washed with vinous brown, which becomes the prevailing hue on the flanks; lower part of the abdomen, vent, thighs, upper and under tail-coverts white; greater wing-coverts barred on their external webs and at the tip of the inner web with black, deep and pale blue alternately, the base of the inner web brown; primaries black, all but the first margined with dull white; secondaries black, the basal half of the external web snow-white; tertiaries barred across the base of the outer web with blue, the two or three nearest the body chestnut, tipped with black; tail dull black, indistinctly barred with blue at the base, the outer feather paler than the others above, and greyish beneath; legs, feet, and claws flesh-colour; bill black, becoming of a fleshy hue at the base of the under mandible; irides pale-bluish white.

The Plate represents an adult male of the natural size, and a female in the distance.



NUCIFRAGA CARYOCATACTES.

J. Gould and H.C. Richter, del et lit.

Walter Inp.

NUCIFRAGA CARYOCATACTES.

Nutcracker.

Corvus Caryocatactes, Linn. Syst. Nat., tom. i. p. 159.

——— *Nucifraga*, Nilss. Orn. Suec., vol. i. p. 90.

Nucifraga, Briss. Orn., tom. ii. p. 59, pl. 5. fig. 1.

——— *guttata*, Vieill. Gal. des Ois., tom. i. p. 166, pl. 105.

——— *brachyrhynchos* et *macrorhynchos*, Brehm, Handb. Naturg. Vög. Deutschl., pp. 181, 182.

——— *Caryocatactes*, Selby, Ill. Brit. Orn., vol. i. p. 368.

Caryocatactes nucifraga, Flem. Brit. Anim., p. 88.

WITH the Nutcracker must ever be associated recollections of Alpine scenery, forests of pine, cols, and passes, the Alpine Club and its spirited climbers, the Bouquetin, the Chamois, and the Lämmergeyer; for the bird is often seen by the British tourist among the Alps. There it dwells in the forests of pine, which clothe the sides of the mountains as high as those trees can grow. If my readers wish to see the bird in its native haunts, let them look around when crossing the romantic Tête noire, the Grimsel, or while visiting the beautiful scenery of Zermatt. Wherever the *Pinus cembra* grows, the Nutcracker will certainly be perceived, just as we see the Jay in the oak-woods of Kent, and the Magpie in the valley of the Trent; and it may be approached sufficiently near to admit a close observation of its sprightly and singular actions—actions which always remind me of those of the Great Tit, with a little of those of the Jay. At one moment it may be seen climbing head downwards, and hammering away at a cone to obtain the seed within; at another, with its breast and tail well up, and its head thrown back—the position in which I have figured it. If disturbed by the traveller pointing his alpenstock towards it, it merely flies a few yards further off, or crosses the roaring torrent to the opposite side of the hill. Alpine Switzerland, however, is not the only place the bird inhabits; for it is found much further south and a long way toward the north. It not only visits the dark, gloomy forests of Germany, Scandinavia, and Russia, but also breeds there. It will be conceived, then, that if the kind of country I have described be essential to its existence and well-being, the British Islands can offer it but little temptation; still in its journeyings to and fro, like a mariner who has unshipped his compass and lost his way, individuals do occasionally get driven out of their course and come among us; and that such accidental visits are not unfrequent is certain, for I shall be within the mark when I say that there are at least fifty recorded instances of examples having been shot within the precincts of our islands. Sir John Crewe tells me that some years ago two were killed in Oakley Park, in Suffolk, the seat of Sir Edward Kerrison, in whose possession they now are. Macgillivray states that a specimen in the Museum of the University of Edinburgh was said to have been shot at Peterhead, and a third in Scotland; one was killed in Pepper Harrow Park, the seat of Lord Middleton; two or three more have been shot in Devonshire, and others have been obtained in Northumberland, Somersetshire, &c.

From the earliest date at which ornithology became a study this bird has been an object of interest, and to gain a knowledge of its nest and eggs a desideratum. On the subject of its nidification many pages have been written: some have asserted that the bird deposits its eggs in the holes of trees, like a Woodpecker, others that it builds a large nest among the branches; some that its eggs are very similar to those of a Jay, while others, again, describe them as nearly resembling those of a Magpie. It seems that none of these and similar assertions are to be depended upon; and the credit of ascertaining the truth of the mystery must be shared, I believe, between some gentlemen at Copenhagen and Herr Schütt, of Waldkirch in Bavaria. This last-named naturalist published, in the 'Journal für Ornithologie,' an account of the nidification of the Nutcracker, from the translation of which, given in the 'Ibis' for 1862, I quote the following extracts:—

Dr. E. Schütt, after describing the difficulties of penetrating through the fir-plantations on the south-eastern spur of the Kandel at an elevation of 3500 feet, states that he was about giving up the search, when a Nutcracker flew out a few paces before him, without uttering any cry. "This inspired new courage, and in the course of another half-hour I found a nest on a tree, 35 feet high, hard by a sledge-path, but, to my disappointment, without eggs. It was placed close to the stem, at a height of about 25 feet, and was very difficult of detection from below. It was found on the 19th of March; and on the 23rd the first egg was laid, and on each third day the two others. After the bird had been three days without laying an egg, a boy, to my regret, took the nest and eggs away. At the discovery of the nest, the bird was crying in the distance; and when we were a mile away from it the cry could still be heard. At the taking of the nest it flew off as the boy climbed up, and then, settling on the summit of the same tree, intently watched its removal. It is only to the Jay's nest and eggs that those of the present bird bear any resemblance. Outwardly the nest

consists of slender dry fir-sticks, to which cling beard-moss and lichens, tender tree-bark and bast; with these are interwoven green fir-twigs, apparently gathered from the tree in which it was placed; the inner lining consists of beard-lichens, bast, and dry grass-stalks, forming a nearly hollow hemisphere 4 inches and 8 lines in diameter by 2 inches and 10 lines in depth. The form of the eggs varies in the same nest from an elongated to a robust oval. Their ground-colour is a very pale bluish green, strongly contrasting with the bright buff-coloured blotches which are equally distributed over their surface. These blotches are both large and small, and many run into one another; but they are smaller than in the eggs of all Corvine birds known to me, even than those of the Jay, though they have numerous spots placed so thickly that the ground-colour nearly disappears. On one egg only is there an accumulation of blotches at the blunt end, but not in a zone-shaped form. The smallest egg of the Nutcracker equals the largest of a Jay, and is more robust."

The Danish gentlemen I have mentioned have been still more successful in their contributions to the history of the Nutcracker; and from the full account of their proceedings which has at different times been communicated to the Zoological Society by Mr. Alfred Newton I now give the chief details. MM. Erichsen, Fischer, and Pastor Theobald, the gentlemen in question, having ascertained from a trustworthy forester in Bornholm that this bird inhabited the woods on that island throughout the year, made an expedition, in the spring of 1862, in search of its eggs. After many days' inquiries, they succeeded in finding two nests, and young birds flying near them. Both the nests were of the same size and construction: they were built in fir trees (*Pinus rubra*), close to the bole, and at about 20 or 30 feet from the ground. The young moved with difficulty among the branches, and one fell to the ground. The old birds cried occasionally, with an anxious voice not unlike a Magpie's, and then all was silent again. The bird they thus ascertained to be an early breeder, but could scarcely have eggs before the beginning of April. In the neighbourhood of the nest they found, on the rocky ground, a good number of freshly cracked hazel-nuts, which, as no nut-trees grow there, must have been fetched by the birds from a distance of at least an English mile. The nest (which, together with one of the newly fledged birds, was exhibited by Mr. Newton) was of large size, some 5 or 6 inches in thickness, with an outside diameter of about a foot, and a shallow depression of 6 inches across; but the cup was probably much deeper before its brim was subjected to the weight of the young birds. It was composed outwardly of sticks and twigs, among which were to be recognized those of the larch, spruce, and birch. These latter showed the period at which it must have been built, as the buds, though enlarged, had not burst. It had a thick lining of grass, which appears to have been plucked while growing. The down with which the nestling had been covered, and traces of which were still observable on a few of the back-feathers, is of the dark brownish grey usual among the young of the *Corvidæ*. The first plumage much resembles that of the adult, but is duller in colour, and the white tear-drops are less conspicuous.

In the spring of 1863, the efforts of Pastor Theobald and his friends produced no important result; but in 1864 the reward they had so long merited was reaped. In that year, two lads who had accompanied them when the young birds were obtained, and who had since been enjoined to pay particular attention to the old ones, and especially to watch them after they had paired, found a nest in a tree quite close to that which had held the nest formerly sent to Mr. Newton, and to all appearance the property of the same pair of birds. This nest corresponded exactly in structure with the first one, and contained four eggs, which, having been kindly transmitted to Mr. Newton, were by him exhibited at a Meeting of the Zoological Society. Since then, he informs me that he hears from Pastor Theobald that in April 1865 two nests of the Nutcracker were obtained in the same forest on the Island of Bornholm, containing, the one three, and the other four eggs, which are exactly like those of the preceding year, of a very pale blue colour, marked with a few minute spots of light brown.

M. Bailly states that "the Nutcracker searches with avidity for fruits, berries, insects, and larvæ; picks out the little wild nuts, swallows them whole with their woody envelopes, and deposits them in a slender pouch in the upper part of the œsophagus and neck. There they undergo the first process of maceration; and when the bird wishes to feed, it squats down, lowers its head, disgorges one or two, and cracks them without difficulty by means of the sharp edges of its beak. The pouch or sac is capable of distention to such an extent that it is not rare to find therein as many as twelve, fifteen, and even twenty entire nuts, or an equal number of the kernels from the cones of the *Pinus cembra*."

I am indebted to John Gatcombe, Esq., for the loan of the fine specimen from which my figure, which is of the natural size, was taken; and to Dr. Sclater for the branch of the *Pinus cembra*, with its half-plucked cones, which he brought from Switzerland.



NUCIFRAGA CARYOCATACTES.

Young.



CUCULUS CANORUS, *Linn.*

J. Gould and H. Richter, del. et lith.

Walter & Cochrane, Imp.

CUCULUS CANORUS, Linn.

Cuckoo.

Cuculus canorus, Linn. Syst. Nat., tom. i. p. 168.

——— *hepaticus*, Sparrm. (in immature plumage).

——— *borealis*, Pallas, Zoogr. Ross.-Asiat., i. p. 442.

I KNOW of no circumstance that raises such joyous emotions, that has given rise to so much speculation, or is coupled with so many pleasing associations as the arrival of the Cuckoo. The Nightingale has doubtless many charms by which to recommend itself to our notice, and has justly many admirers; but it is known comparatively to few persons, the countries and the situations it affects being very circumscribed. On the other hand, this herald of summer (for so the Cuckoo may justly be designated) is so widely spread, that there is no portion of our country but resounds with its well-known cry; from the Land's End to the outermost Hebrides, from the beautiful woods of Killarney to the Giant's Causeway, its gliding flight may be observed. The ancient Briton, the Gaul, and the Celt probably included it among their superstitions, a remnant of which, in connexion with this bird, exists among country-people to this day. The nurse and the child both stop to listen to its voice; the boy mockingly cries "Cuckoo!" as he wends his way to the village school; the southern squire and his ploughman, the Scotch laird and his gillie, alike greet it on its arrival; the Lapp turns out of his hut, and the nomad Kirghis from his tent, at the sound of its welcome note. Not being choice as to locality, the Cuckoo, immediately after arriving in April, disperses so generally, that the marsh and the mountain, the woodland district and the heathery waste, the green lane and the village garden, all seem suited to its habits and mode of life. What are these habits? I feel that I am now entering into a part of the bird's economy which distinguishes it from all others, that is fraught with the highest interest, and which is still involved in the greatest mystery. It has been the theme of the naturalist, from the days of Aristotle to the present time; still, after the lapse of so many centuries, and notwithstanding the close attention which has been paid to the habits and economy of the bird, many points connected therewith remain as obscure as ever. To say that the Cuckoo is a parasite, and that it confides its eggs to the care of various little birds who hatch them and bring up its young, would be merely a repetition of what is universally known, while the why and the wherefore, and the mode by which the eggs are deposited, we can none of us understand; nor are we any wiser with regard to the instinctive power which enables it to find the nests best suited to its purpose, or the fascination which it exerts over the whole of the smaller kinds of birds. All these features in the habits of the Cuckoo have occasioned me much thought and patient research, without my arriving at any satisfactory conclusions. To give all the details that have been published on the subject, from Gilbert White to the last number of the 'Zoologist,' would occupy too large a space; I shall therefore content myself with giving my own observations, and a few extracts from the writings of others which may seem to be of the greatest interest.

If we exclude from the European list of birds that accidental visitor the *Oxylophus glandarius*, our fauna will be adorned with but a single species of a very extensive family, comprising many diversified forms, and distributed over almost every part of the Old and New World, including the islands. Nearly all the various forms of the *Cuculidæ* of the Old World, from the huge Australian *Scythrops* to the diminutive *Chalcites*, are parasitic, and entirely depend upon other birds for the fostering of their young. The *Scythrops* is said sometimes to lay its egg in the nest of the Piping Crow (*Gymnorhina tibicen*), and I have known many instances of the eggs of *Chalcites* being deposited in the dome-shaped nests of the *Maluri*. Our well-known European bird evinces a preference for those of the Wagtail, the Titlark, the Black-headed Bunting, and the Reed-Wren; and thus the migratory as well as the stationary, the hard- as well as the soft-billed species are alike called upon to take their part in nurturing the offspring of another bird. Nor do either fail to answer to the demand made upon them—a demand which seems the more unnatural, since it leads to the destruction of their own young.

The influence exercised by the Cuckoo over the smaller birds is one of the most inexplicable things in nature. No sooner does it arrive on our shores, than it is followed by a string of Swallows and other small birds; and when it alights or descends to the ground, these little followers settle in close proximity, and do not rise until the Cuckoo again takes wing. In heathy and open moorlands the same inquisitive attention is carried on by the Titlarks, the Buntings, and the Linnets. On the willowy aits of our beautiful Thames, it is the Sedge-Warbler and the Reed-Wren which are raised to consequence by being selected to perform the important office of fosterparent to so grand and mysterious a creature as a young Cuckoo; in the gardens it is the Wagtail, the Robin, and the Wren. Mr. Smither, of Churt in Surrey, informs me

that he has usually found the egg of the Cuckoo in the nests of the following species:—Common, Reed, and Yellow Buntings, Robin, Flycatcher, Greenfinch, Chaffinch, Linnet, Hedge-Accentor, Pied and Yellow Wagtails, and Tree- and Meadow-Pipits, occasionally in those of the Skylark, Chiff-chaff, and Willow-Wren; in one instance in that of a Blackbird, in another in that of the Red-backed Shrike, and thrice in those of the Dartford Warbler.

Dr. Baldamus, in 'Naumannia,' 1853, p. 307, has some most interesting remarks on the fact, as he considers it, that the egg of the Cuckoo is always found to present a very recognizable resemblance to the normal appearance of the egg of the species in whose nest it is deposited. In 'Naumannia,' 1854, p. 415, he gives a list of references to a plate in which are figured sixteen Cuckoo's eggs, selected to show that this is the case. The similarity in many instances is very obvious, and the subject of the article, which does not seem to be generally known to British ornithologists, deservedly merits further attention. If the Doctor's assertion be true, it adds still more to the wonderfully mysterious economy of this bird.

Mr. Alfred Newton informs me that he has more than once found two Cuckoo's eggs deposited in the same nest. He also tells me that it not unfrequently lays its eggs in the nest of the Brambling in Northern Lapland.

Although so much has been written on the means by which the egg is deposited in the nest, yet nothing quite positive has been ascertained; but a considerable amount of certainty has been the result of repeated watchings. The generally received opinion is, that the Cuckoo drops her egg on the bare ground, carries it in her mandibles, and places it in the foster-nest; indeed there are such nests, as those of the Wren and the Robin, which, when built in the hole of a wall, will admit of no other means of deposit; certain it is that the eggs of the little green *Chalcites* of Australia cannot have been placed in the domed nests of the *Maluri* in any other way.

When the Cuckoo takes up its station near a garden, it hunts, in the early morning, the ivy-clad wall for the nest of the Wagtail as closely as a schoolboy, next the espalier-apples trained beside the walk, the flower-covered trellis over the door of the mansion, the *Wistaria* upon the railing of the steps, or wherever it is likely the bird may have fixed upon for a breeding-place; at other times it watches the Wagtail flying from the boat-house, on the rafters of which, or among the thatch, it may have placed its nest. It will resort to the more exposed nest of the Flycatcher, often in close proximity to the house; or the actions of the Robin or the Wren may attract its attention to the hidden nest on the bank-side. These depositories once discovered, the egg is inserted at the proper moment for the development and well-being of the future nestling.

The following notes on the nidification of the Cuckoo were the result of some observations made by myself in the garden of Mr. De Vitre, at Formosa, near Maidenhead, in Berkshire, in May and June 1860. A pair of Wagtails had built a nest on a beam of the boat-house, two yards distant from the edge of the roof, and, when first noticed, were in a state of great excitement from the presence of a Cuckoo. The latter succeeded in depositing an egg, which, with those of the Wagtails, was taken on the 21st of May. In the beginning of June, Briggs (the gardener) and myself observed another Cuckoo hunting the espalier apple-trees in the inner garden; among which we afterwards found a Wagtail's nest with five eggs—four belonging to the little architect, and one to the parasite; when first seen, the latter was on the outside of the others. On the 18th all the eggs were hatched, nearly simultaneously; and the young Cuckoo and the young Wagtails continued to occupy the nest in company until the third day, when, at five o'clock in the morning, the latter were found dead on the border beneath the tree: the parasite had now the nest all to itself, and, when I examined it on the 22nd, was still callow, helpless, and blind. On the evening of the 6th of July, the young Cuckoo was just able to hop out of its nest, and could even manage to fly a short distance. Its weight at this time was exactly three ounces.

The eggs of the Cuckoo simulate so closely, both in size and colouring, those of most of the birds to whose care they are confided, that to many persons they would be undistinguishable. How singular it is that the eggs of so large a bird should be so small! Here again is mystery, fraught with thought and interesting speculation for the theorist. The development of the chicks in the egg of the parasite and in those of the fosterparent, whatever it may be, goes on simultaneously, and all are hatched as near the same time as possible, that is, in about twelve or fourteen days. For the first two or three days the callow, blind, and helpless young can scarcely be distinguished one from the other; by the end of that time the parasite is generally left sole tenant of the nest, and if search be made for its late companions, they will be found dead on the ground. As to how they are ejected there is much diversity of opinion: the general belief is that they are shouldered out by the parasite; but from this I entirely dissent, for the simple reason that, judging from my own observation, I do not believe that at the end of the third day the parasite has the physical power requisite to eject the rightful possessors from a deep cup-shaped or a domed nest. By whom then is this unseemly cruelty performed? Is it by the old Cuckoo, which is constantly seen in the neighbourhood of the nest, or by the fosterparents? May we not more readily imagine that it has been done by the latter, who, having bestowed all their attention on the parasite, thus cause the death of their own young, which are then cleared out of the nest in the same way as broken eggshells, fæces, and other extraneous matters?



CUCULUS CANORUS.

Young ejecting its nestling Companions.
(See Introduction/ article/ Cuculus Canorus.)

J. Gould & W. Hart, del et lith.

Walter, Imp.

On the other hand, if the young should survive until the Cuckoo has gained sufficient strength, I have no doubt it would, as Dr. Jenner and others have asserted, have both the disposition and the power to effect the ejection; but I do not believe it has this power on the third day after being hatched; yet it is on that day that I have always found the Cuckoo the sole occupier of the nest. The Rev. C. A. Johns states that a pair of Meadow-Pipits were positively seen to throw out their own young ones to make room for the intruder. The growth of the usurper is so rapid after the destruction of his companions has secured the entire supply of food to himself, that he soon fills the nest. He has now the entire attention of the birds by whom he was incubated; and most industriously do they work to keep him in health and condition. At the end of a week or ten days, his size and appearance is very similar to that of a moderate-sized toad; at this time his small, dull, unmeaning eye enables him to discern the approach of an intruder, against whom he manifests his displeasure by swelling out his body and opening his wide mouth. After this, his feathers make their appearance, and by the eighteenth day he has the power of hopping in and out of the nest; but he seldom leaves it until his pinions are sufficiently developed to enable him to fly to a branch in some obscure part of a tree, where he sits from day to day, receiving contributions from his fosterparents and from other birds also: here again its power of fascination is brought into play. "A young Cuckoo which had been taken from the nest, and was being reared by hand, escaped from confinement. Having one of its wings cut, it could not fly, but was found again, at the expiration of a month, within a few fields of the house where it was reared, and several little wild birds were in the act of feeding it. The Bishop of Norwich, in his 'Familiar History of Birds,' mentions two instances in which a young Cuckoo in captivity was fed by a young Thrush which had only just learned to feed itself." ('British Birds in their Haunts,' by the Rev. C. A. Johns.)

How wonderfully solicitous are the little birds for its welfare, and with what spirit do the fosterparents defend their nurtured Cuckoo! If its removal be attempted, they display the greatest uneasiness. Wagtails will even fly in the face of the person who thus teases them; and if it be returned to them, they will evince their joy by fondling and dancing around it, leaping over its back, and exhibiting many other demonstrations of delight. Yet in a few days their charge will wing his way to the leafy branch of some tree in the forest, and there sit uttering most strange, piercing, bat-like notes, varied occasionally by others resembling the syllables *chat-chat*.

As some of my readers may consider that I have not sufficiently stated whence the Cuckoo comes in spring, and whither it goes in autumn, I may state that those individuals which frequent Britain in summer, spend their winters in the western portion of Africa, and that they follow the little spring birds in their migrations to and from that country. The British Islands, however, are by no means the only parts in which the Cuckoo spends its summer and performs its peculiar functions; the whole of Europe, from south to north, is alike visited by it, and even within the Arctic circle its call serenades the ear. It is also equally abundant in every part of Asia, visiting the temperate and northern portions in summer, and retiring southwards at the opposite season; and thus India, Southern China, Persia, Arabia, and Egypt are countries of whose fauna it forms a part. The Cuckoos have always appeared to me to constitute a part of a large but not yet clearly defined group of birds, in which the Woodpeckers and Wrynecks must be included: these, as well as the Cuckoos, are very reptile-like in many of their actions and economy. Their brilliantly coloured eyes, the darting action of their lengthened tongues, their mode of progression on the boles of the trees, the peculiar colour of their plumage, particularly of the Wrynecks and Woodpeckers, their extraordinary snake-like contortions, and other indescribable actions, all point to their similarity.

A young Cuckoo, taken from the nest of a Wagtail at Formosa, exhibited many strange actions, which very strongly reminded me of a Rattlesnake. If the hand was put towards it, it raised itself on its legs, protruded its neck, puffed out its feathers, and threw its head forward with a quick and determined stroke, precisely like a Snake or Viper, struck the hand with the open mouth just as a Snake would do, and immediately drew the head back in readiness for another stroke. On the second day after it was taken, the bird was sufficiently reconciled to me and my daughter to take small pieces of raw beef and mutton and caterpillars from the hand, but continued to utter its piercing shriek whenever we approached it. Does not this peculiar electrifying shriek attract the attention of the smaller birds when it requires food? A delicate ear will hear this sound at the distance of thirty or forty yards; and it is probably heard by the smaller birds at a still greater distance. On the 14th of June I gave the bird to Mrs. Noble, of Berry Hill, who attended to it with the utmost care, and succeeded in rearing it until it could feed itself; at length the period of migration arrived, when the impulse to depart became so strong, that it killed itself by flying against the top of its cage, in one of those paroxysms which occur with all migrants under restraint.

I am indebted to John Gatcombe, Esq., for the following interesting account of the habits of a young Cuckoo, drawn up by Thomas Archer Briggs, Esq., of Plymouth, who succeeded in keeping it alive for more than twelve months, when it was accidentally killed:—

"On the 26th of June, 1858, I obtained a young Cuckoo from a labourer. From the first it was fierce and pugnacious. It was fed principally upon raw and dressed meat, and a paste composed of the yolk of eggs and soaked bread; and about the beginning of the second week in July it was able both to fly and to

hop. At times it was impatient of confinement, and evinced an anxiety to escape from its cage, but was not at all afraid of any one it was accustomed to. Being let out into a room on the 17th, it endeavoured to get through the glass of the window. About the middle of August it would peck at a caterpillar, and seemed particularly partial to the larvæ of the Buff-tipped Moth (*H. bucephala*), which it generally passed through the bill, holding them by the extremities and shaking before eating them. In the third week of September it became very restless in the early part of the night, and occasionally, when it was moonlight, endeavoured to get through the window. On the 29th of October it was still restless, but continued to be fed by hand. On several evenings about the middle of November, during candle-light, it would flap its wings and fall or flutter off its perch, occasionally uttering *cuc*. It became much more contented about the 23rd of November, and the migratory instinct seemed to be succeeded by extreme voracity: its plumage now much resembled that of the Woodcock. On the 28th, between nine and ten o'clock, it again became restless. On the 3rd of December it was quite quiet. About the 25th of January, 1859, it began to moult, and was still restless at times during the early part of the night, as it had been more or less ever since it was able to fly. On the 7th of February it pecked at and ate some small pieces of meat and yelk of egg. In the beginning of the second week of this month, some of the fibrous ends of the new feathers were exposed. During candle-light of the evening of the 12th, it uttered a loud shrill noise resembling the laughing-note of the Green Woodpecker; by the middle of the month it became much less restless; some of the new feathers appeared on the back, and it generally fed itself by taking meat with egg, or meat alone, from my hand or the bars of the cage, sometimes descending to the bottom to pick up pieces that had fallen. By the end of the second week in March, much of the new plumage appeared on its back and breast; but many old feathers still remained on the wing, at the back of the head, and on the upper part of the breast. Black beetles (*Blattæ*), to which it evinced a decided partiality, and meat with egg now constituted its chief food. It was still restless at times, and on the 16th of April made a loud noise. On the 28th I gave it a dead mouse, which it appeared to regard as an edible article, for it took it in its bill and shook it several times. On my taking it to pieces, it ate some of the skin, fur, bones, and flesh. It had not yet changed all its wing-feathers. On the 15th of May it called 'Cuckoo.' On the 28th of July it was observed to drink for the first time. Unfortunately I did not record the date of my bird's death; but it was alive on the 28th of July; I therefore kept it for more than twelve months. It was tame with those to whom it was accustomed, but became pugnacious when teased with the finger, and would occasionally peck at it with raised wings and the utterance of a loud noise. It would sometimes plume its feathers, and was fond of being placed in the sunshine, when it would droop its wings and appear to greatly enjoy the heat. It was very capricious with regard to its food, sometimes eating much raw meat and many black beetles, of which it would devour several in succession, while at others it would eat very little; after eating, it would often wipe its bill. If the top of its cage were uncovered, it would occasionally fly upwards and cling to the band of osiers running across between the dome of the cage and the part whence it sprang, and then fall to the bottom. It had a very curious habit of snapping its bill and shaking its head when I spoke to it; but this was not invariably done. When a cat or any unusual object attracted its attention, it would stretch out its neck, depress the tail-feathers, and anxiously watch the object. I never observed it cast up any portion of what it had eaten, in the manner of Hawks and Owls, not even the fur of the mouse mentioned above. For months it was never seen to drink, but was sometimes given water from the finger or stick; and the paste of egg and meat, or bread and egg, had usually water put with it. It was a male bird, and had two white spots on the head before its first moult."

The food of the Cuckoo consists of insects of various kinds, particularly in their larva or caterpillar state; for these it searches the lofty branches of the trees, over which it climbs and clings like a Parrot; it also descends to the grassy meads for moths, grasshoppers, and Coleoptera.

The sexes of the Cuckoo, when fully adult, are very similar; sometimes, however, the female is more or less diversified with brown. The young bird, during the first autumn, resembles the Woodcock in its general colouring; but in some instances the ground-colour is white, as in the adult. When about three parts fledged, it is a squat object, with a short stumpy tail, the feathers of which are about an inch in length, and tipped with snow-white; those of the head and body are dark blackish grey, with crescentic markings of greyish white at the tips of the feathers; in some instances the breast and under surface are white, barred with blackish grey, as in the adult; there are no brown markings except on the scapularies; the eye is deep-sunken, and of a blackish-brown hue, with a narrow dark olive-coloured lash; the bill and the round swollen nostrils mealy olive; corners of the mouth narrowly edged with orange, inside of the mouth bright fiery orange; legs and toes delicate fleshy white.

Cuckoos are occasionally found in Europe in spring, still wearing the livery of the nestling. This has caused several naturalists to fall into the error of supposing they were another species.

The Plate represents a male, drawn from life, of the natural size, and a young bird of the first autumn, being fed by a Wagtail. These latter figures are drawn from stuffed specimens, obligingly lent to me by J. G. Barclay, Esq., and which were mounted in commemoration of the incident.



OXYLOPHUS GLANDARIUS.

OXYLOPHUS GLANDARIUS.

Great Spotted Cuckoo.

Cuculus glandarius, Linn. Syst. Nat., tom. i. p. 169.

——— *pisanus*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 416.

——— *Andalusiaë*, Briss. Orn., tom. iv. p. 126.

——— *macrourus*, Brehm, Vög. Deutschl., p. 153.

——— *gracilis*, Brehm, ib., p. 154.

Coccyzus pisanus, Vieill. Ency. Méth., Orn., part iii. p. 1349.

Coccyzus glandarius, Savi, Orn. Tosc., tom. i. p. 154.

Oxylophus glandarius, Bonap. Geog. and Comp. List of Birds of Eur. and N. Amer., p. 40.

Coccytes glandarius, Keys. et Blas. Wirbelth. Eur., p. 34.

It may seem an act of supererogation to include a figure and account of this curious Cuckoo in a work on the Birds of Great Britain, since its native country is Africa, whence it migrates to a limited extent in spring to Spain, Portugal, Italy, and Syria, and, after reproducing its kind (somewhat, but not precisely, after the manner of the Common Cuckoo), departs southward again to winter in a warmer climate; but, anxious to render this work as perfect as possible up to the time of its completion, I have followed the example of my late friends Thompson and Yarrell, and given it a place herein on the ground of an undoubted wild example having been captured in Ireland, and because I think it probable that others may have from time to time visited that country and even England, but have so far escaped detection, and that more may yet favour us with their presence during some unusual wandering.

The following, with one or two verbal alterations, is Mr. Yarrell's account of the above-mentioned example:—The Great Spotted Cuckoo was taken near Clifden, in the county of Galway, about Christmas 1843, and is now in the Museum of Trinity College, Dublin. It was taken by two persons walking on the Island of Omagh, where, pursued by Hawks, it flew for refuge into a hole in a stone fence or wall, was captured alive, and lived for four days (attempts being made to feed it on potatoes). The inhabitants had never seen any bird like it before. When chased by the Hawks, it appeared fatigued, weak, and emaciated, as though it had taken a long flight—as Woodcocks and other birds of passage do on their first arrival.

This fine bird has especially attracted the notice of every ornithological traveller who has visited the southern countries of Europe, Morocco, Algeria, Egypt, and Palestine, many of whom have published interesting notices respecting its peculiar habits and manners; and of these, not having myself had the advantage of observing the bird in a state of nature, I shall make a selection of the more important, with due acknowledgment.

The first correct account of the reproduction of this Cuckoo was inserted by Dr. A. E. Brehm, in Cabanis's 'Journal für Ornithologie,' of which a translation by P. L. Sclater, Esq., appeared in the 'Zoologist' for 1853, from which the following is an extract:—"It is well known to have hitherto been undecided whether *Cuculus glandarius* sits upon its own eggs or not. Even I, notwithstanding my somewhat lengthened sojourn in Africa, could for a long time learn nothing certain on the subject. I was well acquainted with the bird, its laughing Magpie-like cry and all its habits; and I knew that it usually dwelt among the thick low mimosa-woods, in which it is to be seen, generally in battle with another of its own species, as it flies quick as an arrow through the thickest bushes. On the 5th of March, 1850, seven examples were collected near Siut, in Upper Egypt. Among them was a female with a fully developed egg in the oviduct. Unfortunately this was destroyed by the shot; the broken fragments were bright green, with darker brown spots. On the 2nd of March, two years later, I attentively watched the motions of a Great Spotted Cuckoo in a garden near Thebes, and at last saw it slip into a large nest placed upon a rather low Salicaria tree. After rather more than a quarter of an hour, out it flew again and departed from the garden; I climbed up to the nest and found it to belong to *Corvus cornix*, and containing altogether six eggs. Among them I found two smaller ones belonging to some other bird, but nearly resembling those of the Crow in size and colour." Having on comparison found these eggs to agree with the fragments of the one taken from the oviduct of the female above mentioned, Dr. Brehm says:—"This discovery would have been quite sufficient to settle the question; but on the 12th of March it was still further confirmed. In one of the village gardens, thickly planted with trees, my attention was attracted by the clear-sounding but harmonious cry of an old Cuckoo, 'kiek-kiek-kiek-kiek,' when I obtained two old birds, and soon after found a young one also, which was being fed and provided for by Hooded Crows."

“In Herr Bädeler’s work on the Eggs of European Birds, it is stated that Dr. A. Brehm has received from two naturalists in Spain, MM. Villanova and Graëlls, information corroborating the above account. In Spain the Common Magpie (*Pica caudata*) has generally the doubtful honour of being chosen to act as foster-mother to the infant Cuckoos” (*Ibis*, 1862, p. 294). But Lord Lilford found an egg in a Raven’s nest in a high pine tree about a mile from Aranjuez.

“The wooded hills on the south side of Lake Djendeli,” says Mr. Salvin, “and the neighbourhood of Madracen, both which districts lie a little to the eastward of the high road between Constantine and Batna, may be regarded as favourite breeding-localities of *Oxylophus glandarius*.”

“The most interesting of the scansorial birds of Palestine,” says Mr. Tristram, “is the Great Spotted Cuckoo (*Oxylophus glandarius*). There it is by no means rare in spring and summer, and has a wide range, visiting alike the forests of Gilcad and the olive-yards of the western country; but we never saw it in the Ghor, and probably it does not visit those districts where neither the Jay nor the Hooded Crow is found. It is a migrant, returning early in March; we first met with it in the plain of Gennesareth on the 4th of March, on which day I shot three specimens, one male and two females. They were then evidently on passage; and we never afterwards found them, excepting in wood on the higher ground. They were exceedingly noisy, keeping up a continuous chatter in the *Zizyphus*-bushes, and occasionally darting off in pursuit of a locust, with which they would return and devour it leisurely on their perch. A few remained there for a couple of days; but on our two subsequent visits we never observed them on the plains, although the Common Cuckoo was frequently heard and seen. In the open oak-glades of Bashan, at the end of March, we found *Oxylophus glandarius* generally distributed, but never in great numbers. The small birds were apparently suspicious of its habits; for the Spanish Sparrows pursued it in flocks with a deafening din, till even a Cuckoo’s life ought to have been a burden to him. Whether the Sparrows had discovered that he had the appearance of a Raptor without his powers, and therefore enjoyed the luxury of bullying him with impunity, or whether a high moral sense of the iniquity of any evasion of parental bird-duties impelled them, I know not; but their persecution was unrelenting, and a most unquiet time the ‘Longtails’ must have had of it. Their only revenge seemed to be to keep up as incessant a chatter themselves. When at peace, they were often to be seen hopping clumsily about in the open places with an ungainly attitude, as though their tails were rather too long, or at least as if they were not mounted high enough on their legs.

“It was not till the 2nd of May that we obtained the Spotted Cuckoo’s egg, when four were brought to us with three Hooded Crow’s eggs from the same nest in a gorge near Mount Gilead. One of the Cuckoo’s eggs was fresh, two others ready to hatch, and the fourth addled, while the Crow’s eggs had been for some time incubated. Thus it was evident that there must have been long intervals between the deposition of the Cuckoo’s eggs; and it is very possible that the Cuckoo may have laid an egg before any of the Crow’s were laid. This is exactly in accordance with Lord Lilford’s experience in Spain, where he took the eggs of *Oxylophus* from a nest of the Common Magpie containing no other eggs—and with the experience of our party in the Atlas, where we repeatedly found several Cuckoo’s eggs and none others in the nest, and were thus led to believe that it incubated its own. Of its parasitic habits there can now be no doubt. We did not find its eggs in any other nests in Palestine. At the time of its arrival the Jackdaw’s had hatched, and the Jays had not generally begun to breed; and, in accordance with the observations of Messrs. Allen and Cochrane in Egypt, it prefers the nest of *Corvus cornix* when it can be had.

“*O. glandarius* has three notes:—a call-note somewhat like that of *Cuculus canorus*, probably used by the male; its cry of alarm, something between that of the Jay and the Roller; and its third note, ‘*Wurree Wurree*,’ from which it doubtless derives its Arab name, just as the Common Cuckoo is called by them ‘*Jookook*.’”

According to Mr. Stafford Allen, “the food of the Great Spotted Cuckoo consists chiefly of caterpillars and different kinds of insects, as many as twenty-four of the former having been found in one bird. It seems, however, occasionally to indulge in eggs (another habit of its English congener), as an egg-shell, apparently that of the Common Fowl, was found in the stomach of one on dissection.”

I find no notice in any writer as to the meaning of the rufous primaries which are found in dark-coloured specimens. I presume they are characteristic of immaturity, because I find this feature very conspicuous in a young male kindly lent to me by Howard Saunders, Esq., to whom my thanks are due for this and many other acts of attention. Want of space precludes my adding to the above account the observations made by this gentleman on the bird as seen by him in Spain; they will, however, be found in ‘*The Ibis*,’ 1869, p. 401.

The figure represents a male of the size of life. The female has the primaries tinged with brown; in other respects she is very similar.



PICUS MAJOR, Linn.

PICUS MAJOR, *Linn.*

Great Spotted Woodpecker.

Picus major, Linn. Syst. Nat., tom. i. p. 176.

— *cissa*, Pall. Zoog. Ross. Asiat., tom. i. p. 442.

— *pipra*, Macgill. Hist. Brit. Birds, vol. iii. p. 30.

— *varius major*, Briss. Orn., tom. iv. p. 34.

— *discolor*, Frisch, Vög., pl. 36.

Dryobates major, Boie, Isis, 1826.

Dendrocopus major, Koch, Baier. Zool.

Picus Baskhiriensis, Verr., 1854.

— *brevirostris*, *P. alpestris* et *P. mesopilus*, Reichenb. Handb. Spec. Orn., p. 365, pl. DCXXXIII. fig. 4212.

— *pityopicus*, *P. montanus*, *P. pinetorum*, *P. frondium*, *P. leucorum* et *P. sordidus*, Brehm.

Who can take a fresh-killed specimen of this bird and open its wings without being struck by its varied markings of black and white, relieved by just sufficient red to render the contrast pleasing to the eye? with what mathematical precision are all these markings placed! in what graceful curves are the white spots arranged across the outspread wing! and how truly have these markings been retained without any variation occurring between specimens killed at the present time and those which have been in our museums for more than fifty years. Were it not so, there would be an end to specific characters, and to Ornithology as a science.

The *Picus major* is universally dispersed over the British Islands, being found in England, Scotland, and Ireland. It is also very plentiful in Norway, Sweden, Russia, Central and Southern Europe. It may be regarded as one of the most typical of the Woodpeckers, and belongs to that section of the family for which the Linnæan name of *Picus* is alone retained. Its natural province is the larger trees, from the boles and branches of which its diet is obtained. I have said that the Great Spotted Woodpecker is very generally dispersed over the British Islands; and it is so; but it is more numerous in the central counties of England than elsewhere; and if it be not seen in every extensive wood, or its loud ringing hammering be not resonant in every timbered estate, it is because the collector, the keeper, and the sportsman have not been able to refrain from levelling their guns whenever their attention has been attracted to this singular bird. I feel that I have never written a more truthful remark than this; and were it not for that extensive nursery of European birds, the densely wooded and thinly peopled country of Norway, whence we constantly receive accessions, I very much doubt if the few remaining in this country would not soon disappear.

At present the New Forest in Hampshire, the sunny and beautiful woods of Cliveden, Hedsor, and Taplow, wherever suitable trees occur, and the bird is free from molestation, are places where it may be found. In its habits there are few birds more shy and recluse. Unlike the Green Woodpecker, it seldom approaches the dwelling of man, but keeps to the topmost branches of the large trees; occasionally, however, it deviates from this kind of life and descends to the pollard oak, the willow, or the fence-rail, and in autumn resorts to gardens, for the sake of the wall-fruit. The young birds of the year are particularly mischievous in this way, and are often caught in the garden-net, or destroyed by the gardener's gun. Most persons must be so well acquainted with the mode of progression of this and all other Woodpeckers, that a description is almost unnecessary; but I may state that it traverses in a series of jumps both the larger stems and the smaller branches by means of its short tarsi, strong zygodactyle toes, and sharp curved claws, and is supported, when at rest, by the close application of the stiff tail-feathers to the trunk or branch. While thus rambling over their surface, it carefully scrutinizes every crevice for spiders, coleoptera, and the larvæ of insects. The flight is performed in a series of dippings, produced by the sudden expansion and contraction of the wings.

This bird makes no nest, but deposits its six pinky white eggs in an aspen, apple, oak, or other tree. When able to fly, the young differ from the parents in having their crowns red instead of black.

It may not be out of place if I here mention that great accessions to the numbers of this bird take place in autumn. The numbers which arrived in 1861 were so great that they attracted the notice of many observers, as will be seen in various works. Of these records, the following, respecting the occurrence of the bird in Shetland, appears to be the most interesting:—"I have already recorded," says Mr. Henry L. Saxby, "the capture of two specimens of the *Picus major*, in the island of Unst, on the 3rd of September. During the next few weeks many more were killed, not only in Unst, but also throughout nearly the whole of the Shetland Isles; the wind was blowing steadily from the south-east at the time.

I am also informed that several were killed in Orkney about the same period. The sudden and almost simultaneous appearance of large numbers of this species in various localities where it is usually an uncommon visitor, is a fact well worthy of the attention of ornithologists, inasmuch as a careful investigation might tend to throw considerable light upon the question of migration. It would be interesting to ascertain the proportion of the sexes among those specimens which were obtained, as well as the direction of the wind at the time of their arrival. The first two presented nothing unusual in their appearance; but on examining the third, I at once remarked the worn look of the bill, tail, and claws. I immediately suspected that this was caused by the scarcity of trees having driven the bird to seek its food among stones and rocks; and upon opening the stomach, my suspicions were confirmed by the discovery, among other insects, of several small beetles which are only found upon the hills. I afterwards saw Spotted Woodpeckers on various parts of the hills, on walls, and even in high sea-cliffs. I also saw them on the roofs of houses, and upon dunghills; and although several were killed upon corn-stacks, I never found any grain in their stomachs. They were frequently to be met with upon the ground, among the heather, where at all times they were easily approached, particularly in rainy or misty weather, when, their plumage becoming saturated with moisture and rendering them too heavy for flight, many were stoned to death by the boys. Those in the garden fed largely upon seeds of the mountain-ash, which they procured by breaking open the berries, sometimes dropping a whole cluster upon the ground and descending to feed, but more frequently breaking the berries to pieces as they hung upon the trees. Even in the garden they did not confine themselves to the trees; at one time they might be seen busily searching among moss and dead leaves, at another in the midst of a tuft of coarse weeds, and again intently examining the spiders' webs upon the walls. It was quite a common occurrence to see them in open meadows scattering aside the horse-dung with their bills, and thus procuring abundant supplies of worms and grubs. I crept very close to one thus engaged, and was very much amused to observe how cleverly it used its bill, first striking off large masses, and then dashing them into fragments in all directions by a rapid and peculiar movement of the head from side to side. By means of a powerful pocket-glass I have seen them climbing the face of a large rock or of a rough stone wall, curiously peering into every crevice, and occasionally varying the amusement by a smart tap or two on the unyielding surface of the stone." (Zoologist, 1862, p. 7932.)

Mr. Stevenson informs me that in Norfolk this bird is "not very numerous, and somewhat local, but is resident throughout the year. There is no doubt that migratory specimens are more or less numerous in autumn, since the greater number of specimens are killed in October and November. In the latter part of 1861, many adult and immature birds were killed in Norfolk, between the beginning of November and the end of December, chiefly in the vicinity of the coast, as at Lynn, Yarmouth, Wisbech, &c. In Norwich alone, upwards of twenty were brought in to be stuffed." One can readily understand the birds resorting to Norfolk and similar counties; but what could have induced it to visit the Orkneys? The examples which there occurred must either have been on their travels from Sweden and Norway, or have been blown out of their usual course.

During the pairing-season, this bird produces a most peculiar, loud, jarring sound, by a rapid succession of strokes with its bill upon the dead upright branch of a tree; this extraordinary and indescribable noise resounds through the forest, and may be heard at the distance of a mile in this country, and even further in the still and almost lifeless woods of Norway. It also utters its "*gich*"-like note at intervals when perched on the pine and other trees; it was this latter note which generally drew my attention to the bird in the interior of the great pine-forests of Norway.

We learn, in Mr. Hewitson's 'Eggs of British Birds,' from a note communicated to him by Mr. H. Double-day, of Epping, that in the three instances which had come under his notice, the eggs of this bird were placed "in the horizontal branches or arms of oaks, where a smaller branch had been broken off and the part had decayed; the place was carefully plastered up so as only to leave a hole just large enough for the bird to enter; in one instance, where the arm was hollow, the eggs were nearly three feet from the opening; they were laid upon the bare decayed and soft wood."

The sexes are alike in plumage, with the exception of a band of scarlet across the occiput of the male.

The Plate represents an adult male of the size of life, and a female and a young male in the distance, about half the natural size.



PICUS LEUCONOTUS, *Bechst.*

PICUS LEUCONOTUS, *Bechst.*

White-backed Woodpecker.

- Picus leuconotos*, Bechst. Orn. Taschenb., p. 66.
—— *leuconotus*, Bechst. Naturg. Deutschl., tom. ii. p. 0 34.
Dendrodromas leuconotus, Kaup, Natürl. Syst., p. 142.
Picus cirris, Pall. Zoog. Rosso-Asiat., tom. i. p. 410.
Pipripicus uralensis, "Malh.," Bonap. Consp. Vol. Zyg., p. 8.
—— *leuconotus*, Bonap. ib., p. 8.
Picus uralensis, Malh. Mon. Pic., tom. i. p. 92, tab. 23. figs. 4, 5, 6.
—— *polonicus*, Brehm, Vogelf., p. 69.
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I AM indebted to Mr. J. H. Gurney, jun., for the loan of a bird, on the label attached to which is inscribed "Great Spotted Woodpecker, Halligarth, Shetland: Dr. Saxby." It is doubtless one of the specimens killed from among the great flight of Woodpeckers which visited and dispersed themselves on two recent occasions over the Hebrides (see the 'Zoologist' for 1862, p. 7932; the same periodical, second series, 1869, p. 1761, and the extract from it in my account of *Picus major*). That Mr. Gurney's bird cannot be referable to the last-mentioned species I feel quite certain; and it therefore becomes necessary for me to say what it is, and thereby reply to the question in Messrs. Sharpe and Dresser's account of *Picus major* embodied in the following passage:—

"The most extraordinary specimen of a Pied Woodpecker that we have yet seen is one lent us by Mr. J. H. Gurney, jun., from Shetland, where it was obtained during the large migrations which have twice visited those islands. We must state that we are at present unable to identify this specimen, the chief characteristics of which are the grey on the nape and wing-coverts, and the stripes on the breast—characters which seem to separate it from the *Picus major*. It is too large for *P. medius*, and cannot be *P. leuconotus*, which, so far as we are able to discover, has the lower back white at all ages. In appending a full description of Mr. Gurney's specimen, we beg leave to ask the assistance of all our ornithological friends in identifying the species to which it belongs."

The opinion I have myself formed, after a careful comparison, is that, contrary to Messrs. Sharpe and Dresser's statement, it really is a young specimen of *P. leuconotus*. I have not the least doubt that most (if not all) other ornithologists will agree with me, and that in all probability the greater number of the individuals that visited the bleak and almost treeless islands above mentioned were of the same species. I have therefore no hesitation in figuring the bird as one of our accidental visitors, as by so doing further information on the subject may be elicited from those who have been so fortunate as to procure other examples, which, if made known, will enable us to come to a definite conclusion. It is true that the white rump, so conspicuous a character in the adult *P. leuconotus*, is absent from Mr. Gurney's specimen; but if the long black feathers of the back be lifted, a large amount of white will be found beneath. The *P. leuconotus* is a larger bird than *P. major*; and the male of each may be readily discriminated by the difference which exists in the extent and colouring of the red on the head—the former having the crown and upper part of the nape of a scarlet hue, while the nape only of the latter is crimson. Characteristic differences are also to be seen in the young of both species, that of *P. leuconotus* being decorated with somewhat obscure lengthened striæ on the flanks, which are well seen in Mr. Gurney's specimen, but which do not exist in that of *P. major*.

The native home of the *P. leuconotus* is Sweden, Norway, Finland, and other parts of Scandinavia; it appears to be quite unknown in Denmark, the Low Countries, the greater part of France, Spain, and Italy. According to Meyer it is not uncommon in Livonia, where it visits gardens and places in the neighbourhood of houses; it has been taken in the neighbourhood of Moscow, is tolerably common in Poland, rare in Eastern Germany, has been captured in Bohemia and in Southern Austria, and it is said to breed in the Hautes-Pyrénées.

The following interesting account of the habits of the bird, as observed in Poland by Dr. Taczanowski, was communicated by that gentleman to Messrs. Sharpe and Dresser, from whose work I take the liberty of extracting it:—

"The White-backed Woodpecker is found everywhere in the kingdom of Poland, but is not common—indeed, is less so than *P. medius*. It inhabits the green-wood forests, especially those which contain birch, oak, and elm

trees, but is not found in conifer woods. It is the least noisy and most phlegmatic of our Woodpeckers, quieter in its movements; and its note is softer than that of the others. It will remain sometimes for hours on the same tree, climbing about quietly, and searching silently for insects. Although its beak is stronger than those of the other Spotted Woodpeckers, it does not make so much noise in tapping on the trees; for it works quietly, and generally on very rotten ones, where it only shells off the bark. In winter it is often found in gardens and in the villages, where it will sometimes spend whole days, only visiting a few trees or hedges; it stands in far less fear of man than its congeners. During the breeding-season it makes the noise which is common to all our Woodpeckers by tapping rapidly on a dry branch; but it is not so loud as that of the others, and cannot be heard at any distance. It feeds exclusively on insects. In nidification it generally precedes the Great Black Woodpeckers (*Dryocopus martius*) by a few days, laying as early as the beginning of April; and by the middle of May the young quit the nest. It makes its nest-hole in very rotten trees, especially in birches, ash trees, elms, and, but rarely, in oaks, most generally in the trunk of the tree, about two or three fathoms from the ground. It generally chooses trees so rotten that they are only held together by the bark. It once happened to me that on slightly shaking an old trunk which contained young of this bird, and which had been used for the purpose of nidification for the two or three preceding years, it broke, and literally fell in pieces. The nest of this Woodpecker can easily be recognized by the shape of the exterior opening, which is perfectly circular all along the horizontal passage; whereas those of the other species are elliptical at the beginning, and, after that, circular to a certain distance from the bottom. The interior is far more spacious than in those of *P. major*, and even sometimes exceeds that of the Green Woodpecker. The *débris* of wood thrown out at the foot of the tree is larger than is the case with the other species; and this also serves to point out its nest. Two or three eggs are generally deposited; I only know of one instance when four were laid; and it is therefore easy to see how this species is less numerous than the others. The eggs are exactly like those of *P. major*, and also vary very much in form, some being much elongated, and others very short."

The middle figure in my Plate is a faithful portraiture of the young specimen killed in Shetland above mentioned, and now in the collection of Mr. J. H. Gurney, jun., of which the following very careful description is given by Messrs. Sharpe and Dresser in their account of the *P. major*:—

"Young male shot at Halligarth, Shetland, in September 1861, by Dr. Saxby. Forehead buff; crown of the head crimson, bordered with greyish black above each eye; nape clear grey; orbital region and ear-coverts, as well as the sides of the neck, dull white; malar streak greyish black, extending right down the sides of the neck, and joined to the crown by a narrow line of black just behind the ear-coverts; back blackish, becoming more grey on the rump and upper tail-coverts; scapulars white, irregularly barred with greyish black; wing-coverts clear grey, the centres of the feathers blackish, the shafts being especially plainly marked, the innermost greater coverts white, much varied with black, especially at the base of the feathers; quills blackish, becoming browner towards the tip of the feather, the white markings on the outer web forming three distinct white bars across the wing, but more irregular on the primaries, where no distinct bands are to be seen, the extremities of the primaries tipped with white; tail blackish, the three outermost feathers white towards the tip, this colour being least developed on the third rectrix, more on the second, and on the outermost occupying more than the apical half of the feather, all these white portions irregularly crossed with blackish bars; under surface of the body dirty white, with very distinct streaks of black down the sides of the body; vent pale vermilion; the pectoral half-collar of black very feebly developed; under wing-coverts almost white, some of the lower ones barred with blackish. Total length 9·7 inches, culmen 1·05, wing 5·6, tail 3·9, tarsus 0·95."

The Plate represents, besides Mr. Gurney's bird, an adult male and a female from Scandinavian specimens, all of the natural size.



PICUS MINOR, *Lin*

PICUS MINOR, *Linn.*

Lesser Spotted Woodpecker.

- Picus minor*, Linn. Syst. Nat., tom. i. p. 176.
— *varius minor*, Briss. Orn., tom. iv. p. 41.
— *striolatus*, Macgill. Hist. of Brit. Birds, vol. iii. p. 86.
— *discolor minor*, Frisch, Vög., pl. 37.
Dendrocopus minor, Koch, Baier. Zool.
Picus pipra, Pall. Zoog. Ross. Asiat., tom. i. p. 414.
— *Ledouci*, Malh. Faun. Orn. Algérie, p. 22.
Pipripicus minor, Bonap. Consp. Vol. Zyg. 1854.
Piculus pusillus, *P. hortorum*, *P. herbarum*, *P. crassirostris*, Brehm, der Vollft. Vogelf., p. 70, 1855.
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THE Lesser Spotted Woodpecker is stated by some writers to be one of our rarest birds; but in this opinion I cannot coincide, for I am sure that if looked for it may be found in every English county from Cornwall to Yorkshire. North of this I admit it becomes more scarce, and beyond the Scottish border it is not to be met with; neither does it occur in Ireland. Morris, in his 'British Birds,' states that one was shot near Stromness, in Orkney, by Mr. Low in 1774, and another was observed at Sanday on the 14th of October 1823; but these were in all probability stray birds from northern Europe. This Woodpecker is so common in all suitable situations within an area of fifty miles round London, that it is quite unnecessary to name any particular places in which it may be found. In my 'Birds of Europe,' published in 1837, I stated that Kensington Gardens was one of its favourite resorts; but the vast increase in our great city, and the consequent superabundance of smoke, having rendered the fine old trees in those gardens no longer tenable by insects, the bird has deserted that locality. In Richmond and Windsor Parks, the woods of Taplow and Cliveden, and the fine elms of the playing-fields at Eton it is tolerably numerous.

The actions of the Lesser Spotted Woodpecker are restless in the extreme, for the bird is constantly flitting from branch to branch, and from tree to tree. Like the Long-tailed Tit, it appears to have a daily round, at one time traversing the great woods, at others the line of elms growing in the hedgerow. It seldom descends to the large boles, but flits from top to top with an onward movement, in the course of which a considerable distance is traversed between morning and night. This bird especially attracted my attention in the days of my boyhood; and from that period to the present time I have watched it with great interest, in order that I might become acquainted with its breeding-places and economy, respecting which so little has been recorded that I may be excused if I should be somewhat diffuse on the subject. To render credit where credit is due, I must first acknowledge my obligations to Mr. Briggs, gardener to M. de Vitré, Esq., of Formosa, near Cookham, in Berkshire, for the assistance he has rendered me in the acquisition of the knowledge I desired. During the last few years several pairs have bred in this beautiful spot, their holes being always made in the upright stems of the broken branches of the loftiest poplars, at such a height as to be all but inaccessible to any one but a sailor or an Australian "black fellow." Aware of my anxiety to become acquainted with every detail connected with the history of this species for the purposes of the present work, Briggs, at considerable risk both to body and limb, has mounted several of these mast-like stems, sawn them off, and lowered them to the ground without the least injury to the eggs or the young birds.

About the end of April 1861, a pair commenced excavating in one of the lofty poplars alluded to, at which they laboured assiduously for two or three weeks, bringing the chips, one by one, to the opening, and throwing them out in quick succession; after the work appeared to be completed, a certain time was allowed to elapse for the deposition of the eggs, when the dead branch was sawn off a few inches below where the bottom of the excavation was supposed to be. A hole, perfectly round and an inch and a half in diameter, had been made about six inches from the extremity of the branch (the upper part of which had been blown off by the wind), and was continued downward for about a foot, gradually increasing in diameter to the bottom, where it terminated in a round cavity about the size of a breakfast-cup. Unfortunately, sufficient time had not been allowed for the deposit of the full complement of eggs, three only having been laid, on a few chips of wood almost as fine as sawdust.

In the year following, the same pair of birds drilled a circular hole through the flinty bark of the same branch, and excavated down the stem to a similar depth. On sawing off the branch, on the 10th of June, four young birds, nearly ready to fly, were found in the cavity. They were very active, frequently ascending to the entrance of the hole, and uttering a loud querulous cry. These young birds were sent to the Zoological Society, but did not survive many days.

In the spring of 1863, the same pair made a hole and deposited four eggs in the dead branch of another of the Formosa poplars, at a height of fifty-five feet. These delicate flesh-coloured eggs were very beautiful, and measured three-quarters of an inch in length by half an inch in breadth.

Some persons have stated that the eggs of this bird resemble those of the Wryneck; but a comparison of blown specimens will at once show that they are very different—those of the Wryneck being of a dull opaque chalky white, while those of the Woodpecker are so transparent, that when placed on pink wool the colour is plainly visible through them; the surface, too, is glossy, and approximates in appearance to those of the Kingfisher, Roller, and Bee-eater.

The Rev. Mr. Bree states that “its loud, rapid, vibratory noise, most extraordinarily loud to be produced by so small an animal, can hardly fail to arrest the attention of the most unobserving ear. Though I have watched the bird during the operation within the distance of a few yards, I am quite at a loss to account for the manner in which the noise is produced. It resembles that made by the boring of a large auger through the hardest wood; and hence the country people sometimes call this bird the ‘pump-borer.’” Mr. Dovaston informs us that in the woods near Shrewsbury it never failed in April to astonish him “with his prodigiously loud churr on the ranpikes of the trees, which, the atmosphere being favourable, may be heard more than a mile. It much resembles the snorting of a frightened horse, but louder and longer; in performing this sound the bird vibrates its beak against the tree; the motion is so quick as to be invisible, and the head appears in two places at once. It is surprising, and to me wondrously pleasing, to observe the many varieties of tone and pitch in their loud churry, as they change their place on boughs of different vibration, as though they struck on the different bars of a gigantic staccato. When boring they make no noise whatever, but quietly and silently pick out the pieces of decaying wood, which, lying white and scattered beneath on the ground and plants, leads the eye up to their operations above. They have several favourite spots, to which they very frequently return. Their voice is a very feeble squeak, repeated rapidly six or eight times, *ee, ee, ee, ee, ee*. They bore numerous and very deep holes in decayed parts, where they retire to sleep early in the evening, and though frequently aroused will freely return. Whatever be the purpose of this enormous noise, they certainly do very nimbly watch and eagerly pick up the insects they have disturbed by it. They fly in jerks, and always alight on the side of a tree.”

“The loud noise above described,” says Macgillivray, “is supposed by some to be an amatory performance, as it is heard only or chiefly in spring, while others conjecture it to be produced by a rapid tapping of the bill, for the purpose of disturbing insects that are lodged in the bark. This latter opinion is more probable; for in spring it besides emits its ordinary notes so much more frequently and loudly than usual, that they may well pass for a love song.”

This species is very rare in Holland, but is very generally dispersed over nearly every other part of Europe, and in the forests of the three provinces of Algeria.

The sexes are distinguished by the colouring of the crown, which is scarlet in the male and white in the female, a distinction which also obtains in the young birds before they leave the tree in which they have commenced their existence; in all other respects the plumage of the two sexes is alike.

I have not failed to remark that our birds are very diminutive when compared with examples killed in Norway and Russia. I am certainly within the mark when I say that the Continental specimens are a fifth larger than those killed in this country. Our birds are also less pure in colour, both on the upper and under surface.

The male has the forehead pale brown, bounded above by a narrow line of dull white; crown scarlet interspersed with lighter marks when the bases of the feathers are exposed; occiput and nape black; each side of the nape white; under each ear-covert a patch of black; upper surface, wings, and four central tail-feathers black; wing-coverts tipped with white; wing-feathers with a series of angular spots of white on their outer webs and rounded spots of white on their inner webs; centre of the back white, irregularly barred across with black; the whole of these white markings forming, when the wings are closed, a series of bands across the body and wings; lateral tail-feathers black at the base largely tipped with white, which on the two outer ones is crossed by a couple of narrow interrupted bars of black; cheeks, throat, and under surface dirty white, with a few oblong lines of black on the sides of the chest, and a few blackish spots on the under tail-coverts; bill bluish lead-colour; legs, feet, and nails dark pea-green, the nails the darkest; irides brownish red; eyelash leaden grey.

In the young birds the general hue is the same; but there is a wash of yellow over the under surface, and a tinge of the same colour over all those parts which are white in the adult.

The Plate represents the two sexes and some young birds, all of the natural size.



DRYOCOPUS MARTIUS.

DRYOCOPUS MARTIUS.

Great Black Woodpecker.

- Picus martius*, Linn. Faun. Suec., p. 34.
—— *niger*, Briss. Orn., tom. vi. p. 21.
Dryocopus martius, Boie, Isis, 1826, p. 977.
Dendrocopus pinetorum, Brehm, Vög. Deutschl., p. 185, tab. 13. fig. 3.
—— *martius*, Brehm, ibid., p. 185.
Carbonarius martius, Kaup, Natiirl. Syst., p. 131.
Dryotomus martius, Swains. Faun. Bor.-Amer., p. 301.
Picus (Dryocopus) martius, Keys. et Blas. Wirbelth. Eur., p. 34.
Dryopicos martius, Malh. Mém. Acad. Nation. Metz, 1849, p. 320.
Dryopicus martius, Malh. Mon. Pucid., tom. i. p. 31, tab. 10. figs. 5, 6, 7.
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THE Great Black Woodpecker was first described as a British bird by Latham, in 1785, on the authority of his friend Mr. Tunstall, who informed him that it had sometimes been seen in Devonshire. During the interval between that date and 1869, no less than thirty notices of its occurrence in various English counties have been recorded; and every ornithologist of repute, from Montagu to Yarrell, have included it as a conspicuous species in our avifauna; besides which many other persons—collectors, sportsmen, and country gentlemen—have stated to me, and, doubtless, to many others, that, in such and such a wood, on some named day, they had seen a Great Black Woodpecker, one or more affirming that they had followed the bird from tree to tree without being able, from its extreme shyness, to get within shooting distance. In the 'Field,' of January 29, 1870, Mr. J. E. Harting gave a detailed account of the first twenty-five recorded instances of the occurrence of the bird in our island; and in a note with which he has recently favoured me, he has enumerated a number of others, making a total of thirty reported instances of this bird in Great Britain. "It is not likely," remarks Mr. Harting, "that they can *all* be mistakes."

I regret, however, that I am unable to endorse this opinion. I had hoped that so fine a Woodpecker would have headed our indigenous *Picidae*; but, of the many persons who have asserted the occurrence of the bird, not one, I believe, has been able to verify his statement by pointing out where an authenticated British-killed specimen is to be seen; nor, I think, can any public museum or private collection produce one. To omit, however, from the present work a species the appearance of which in our island has been asserted by so many respectable authorities, would scarcely be just. I therefore give a figure of it, for the purpose of showing those who are unacquainted with the bird what it is like, and how it differs from the Greater Spotted Woodpecker, the Jackdaw, and the Nutcracker, one or other of which has probably been mistaken for it.

Apart from England, and even just over the North Sea, the Great Black Woodpecker is tolerably common. In the pine-forests of Norway, Sweden, and Finmark it finds a congenial home, breeds, and rears its young. It also inhabits Switzerland, Sicily, Turkey, Greece, the Ionian Islands, Germany, Russia, Siberia, and Japan; and, if I mistake not, Mr. Swinhoe showed me specimens from Northern China. It is not found in the Atlas range, in North Africa; at least it is not included in Loche's 'List of the Birds of Algeria'; consequently the European shores of the Mediterranean is the limit of its range in a southern direction.

From one of the most interesting accounts of the bird as observed in Sweden I take the liberty of making a lengthy extract, nearly in the author's words:—"Towards the latter end of May 1856," says Mr. Simpson, "I happened to be staying with a Dane, the overlooker of a large forest belonging to Count L——. When he heard that I had come all the way from England to find the 'Bo' of the Spilkråka (*Picus martius*), he sent for his chief woodman to inquire what chance there was of getting one. The woodman said he had frequently seen birds throughout the spring, and had in former years noticed their 'Bo,' but that it was generally so high that nobody could get at it; that this year a pair of birds were known to frequent the edge of a clearing about four miles distant, and that if we would accompany him early the next morning we might possibly discover the object of our search. This was cheering intelligence, and caused us to make an early start. Our way lay chiefly through a monotonous wood of spruce-firs, very uninteresting in appearance and apparently destitute of any species of bird. But on crossing the clearing (a square of about 1000 yards), a Spilkråka was seen to slip quietly away from the upper part of a tall spruce and to fly towards the far corner of the square, where he uttered a single warning cry and disappeared. It took us a very short time to cross the remaining space in the direction he had gone, and it speedily became manifest that the object

of our journey was attained. Not far from the edge of a marsh stood the remains of an ancient birch some 30 feet in height; near the top was a fresh hole, out of which peered the unmistakable head and bill of a *P. martius*, gazing at the party without evincing much alarm. A tap from the woodman's axe caused the bird to retreat, when we commenced operations, pending which the old ones remained in the vicinity. Sometimes they came within gunshot and then swung round to the other side of the tree, poking so much of the head forward as to enable them to see what was going on. In this position they would beat a rapid and angry tattoo upon the trees, and occasionally utter, in addition to their ordinary cry, one of the most peculiar notes I ever heard from a European bird, and which more resembled the sharp and momentary ring of a shrill-toned bell than any other sound with which I am acquainted. We afterwards heard this note whilst operating upon another nest; but it appears not to be uttered except under great excitement, and then, perhaps, only by the female. The entrance-hole was within two feet of the top of the tree. On examining it I found the edges much rougher than those of the holes made by *P. viridis*, the sides sloping slightly upwards towards the interior. In shape it was elliptical, the horizontal being perhaps a fourth larger than the perpendicular diameter. The roof of the cavity was quite honeycombed by the strokes of the bird's bill; and this peculiarity was noticed in the two nests subsequently discovered. The depth of the cavity below the entrance-hole was rather less than two feet, quite sufficient to prevent my ascertaining what lay at the bottom. An alarm that the old stump was giving way with my weight brought me very speedily to the ground. The woodman meanwhile cut down a young spruce, and had it reared up against the ancient birch to prevent the anticipated catastrophe. He then went up himself and laid open the nest with his hands alone so far as to introduce his arm into the cavity. To my intense delight he proclaimed that there were eggs at the bottom. I immediately ascended, in order to see them *in situ*; but that was impossible without further enlarging the hole, for which my fingers were not strong enough. In the interval the party below had rigged up a long pole with a cap attached to the end of it, into which I deposited the eggs, and then slipped down in time to receive them once more into my hands. They were five in number, one much fresher than the others, which were partially incubated. In their smooth ivory texture these eggs very much resemble the well-known eggs of *P. viridis*. The fresher one was glossy white and sufficiently transparent to show the colour of the yolk; the others were slightly wood-stained, and presented a duller appearance, owing to their having been incubated. When blown this difference was removed, but the wood-stains of course remained and somewhat detracted from their beauty. In shape they resemble the eggs of *P. viridis*, and are not so much larger as I expected would be the case. The hole was of this year's making; the bird, however, is not in the habit of always making a fresh hole. Of the three inhabited nests discovered, two were new and one old."

The Great Black Woodpecker, like its congeners, is very shy and wary, and its power of flight appears to be very limited; its food consists of insects, which it searches for in the crevices of the bark of decaying trees. Latham states that "it is so very destructive to bees that the Baschirians in the vicinity of the River Ufa, as well as the inhabitants of other parts, who form holes in the trees 25 or 30 feet from the ground wherein the bees may deposit their store, take every precaution to hinder the access of the bird, and, in particular, to guard the hive with sharp thorns; notwithstanding which the Woodpecker finds means to prove a most formidable foe, and is most numerous where the bees are in the greatest numbers."

Specimens of the Great Black Woodpecker are often brought in the flesh from the Continent to the London markets, and I suspect that it is from this source that some of the reputed British examples have been derived; at least I know of one instance in which a specimen was purchased there, taken into the country, and palmed off as such.

The following notes of the colouring &c. of this bird were taken from an example in the flesh purchased in Leadenhall Market and kindly submitted to me by Mr. Gatcombe. The eyes were bright king's yellow; the naked orbits reddish black; basal portion of the sides of both mandibles wax-white, the remainder black; legs and feet olivaceous black; general plumage dull black, slightly tinged with green on the neck and chest; crown of the head scarlet.

The female has the back part of the head only scarlet.

The figures represent a male and female, of the size of life.



GEVINUS VIRIDIS.

GECINUS VIRIDIS.

Green Woodpecker, or Yaffle.

Picus viridis et *P. semirostris*, Linn. Syst. Nat., tom. i. p. 175.

— *alba* et *P. viridis*, Nozem. Nederl. Vog., tom. iv. p. 373, pl. 190.

Gecinus viridis, Boie, Isis, 1828, p. 316.

— *frondium*, *G. pinetorum*, et *G. virescens*, Brehm, Lehrb., p. 197.

Brachylophus viridis, Swains. Class. of Birds, vol. ii. p. 308.

Chloropicus viridis, Malh. Nouv. Class. des Picinées, Mém. Acad. Metz, 1848–1849, p. 351.

I KNOW of no one of our indigenous birds which gives a more tropical character to the scenery than the *Picus viridis*, with its strongly contrasted colours of green, yellow, and scarlet; how desirable it is, then, that this fine bird should not be unnecessarily persecuted! When unmolested, it will not only inhabit our woods and fields, but will very frequently resort to our shrubberies, and trimly mown lawns, where its actions may be watched and studied from the window of the breakfast-room or the arbour in the garden; here it may be seen awkwardly leaping sideways over the grass, prying for ants and other insects, which it secures by darting forth and retracting its long tongue with such amazing rapidity as to excite the astonishment of the observer. On leaving the grass-plot for the trees, it flies in a series of undulations, showing its bright yellow rump and scarlet crown to the utmost advantage. The terrestrial habits of the Green Woodpecker are quite in unison with its structure, which, particularly in the more feeble character of its legs and the less wedge-shaped form of its bill, differs from that of the Spotted Woodpeckers and the other members of the restricted genus *Picus*; it is also far less arboreal than they, mostly confining itself to fallen and decayed trees, pollard willows, and old wood fences. The ant-hill has far more attractions for it than the most beautiful tree; it is also said to be destructive to bees, and not to reject the fruits of the garden. Its loud, wild, laughing cry resounds through the woods, and may be heard far over the mead: this cry is so peculiar that, once heard, it can never be forgotten. In the spring the Green Woodpecker becomes very garrulous and noisy, and thus often betrays the site of its breeding-place, in a hole of some upright stately tree, to which it returns again and again for many years, unless it be displaced by the Starling, against which bird it is ever on the watch. The Duke of Argyll informs me that in Cliveden woods he has seen the Green Woodpecker sit motionless for hours together, at the entrance of its hole, to prevent its being occupied by a pair of Starlings which frequented the neighbourhood.

In England the Green Woodpecker is strictly an indigenous bird; for it remains with us all the year, and breeds in nearly every county. Mr. Rodd states that it is very common in the eastern woodlands of Cornwall, but that it is rare in the western, and almost unknown in the neighbourhood of Penzance. Macgillivray states that it “does not occur in any part of the northern or middle divisions of Scotland; and if it exist in the southern, it must be extremely rare.” In Ireland it is unknown. M. Malherbe states that it inhabits the whole of the European continent, Persia, and Asia Minor.

“The Green Woodpecker,” says Mr. Yarrell, “is generally seen either climbing over the bark of trees in search of its insect food or passing, by a short, somewhat laboured, and undulating flight, from one tree to another. When seen moving upon a tree, the bird is mostly ascending, in a direction more or less oblique, and is believed to be incapable of descending, unless this action be performed backwards. On flying to a tree to make a new search, it settles low down on the bole or body of the tree, but a few feet above the ground, generally below the lowest large branch, and proceeds from thence upwards, alternately tapping to induce any insect to change its place, pecking holes in a decayed branch that it may be able to reach any insects lodged within, or protruding its long extensible tongue to take up any insect on the surface; but, the summit of the tree once attained, the bird does not descend over the examined part, but flies off to another tree, or to another part of the same tree, to recommence its search lower down, and nearer the ground.

“The tongue and its appendages are admirably adapted to the bird’s mode of life. Its great extensibility is obtained by the elongation of the two posterior branches or *cornua* of the bone of the tongue, which, extending round the back of the head and over the top, have the ends of both inserted together into the cavity of the right nostril. These elongations, forming a bow, are each accompanied throughout their length by a slender slip of muscle, by the contraction of which the bow is shortened, and the tongue pushed forward; another pair of muscles, folded twice round the upper part of the trachea, and from thence passing forward, are attached to the anterior part of the tongue, and by their contraction bring the tongue back again. The tongue itself is furnished at the tip with a horny point, and also with four or five bristle-like hairs on each side, which are directed backwards. At each side of the head, behind and below the external

orifice of the ear, is a large and elongated parotid gland, from which a membranous duct passes as far forward as the point of union of the two bones forming together the lower mandible, on the inner surface of which the glutinous secretion of these large glands passes out, and may be seen to issue, on making slight pressure along the course of the glands. The flattened inner surface of the two bones, which are united along the distal part of their lower edge, forms the natural situation of the tongue when at rest within the mandibles; and every time it is drawn into the mouth, when the bird is feeding, it becomes covered with a fresh supply of the glutinous mucus. From a close examination of the stomachs of many specimens, I am induced to believe that the point of the tongue is not used as a spear, nor the food taken up by the beak, unless it be too heavy to be lifted by adhesion.

“Insects of various sorts, ants and their eggs, form the principal food; and I have seldom examined a recently-killed specimen the beak of which did not indicate, by the earth adhering to the base and to the feathers about the nostrils, that the bird had been at work at an ant-hill.

“The Green Woodpecker inhabits holes in trees, which it excavates or enlarges for its use, chiefly in the elm or the ash, in preference to those of harder wood. When excavating a hole in a tree for the purpose of incubation, the birds, it is said, will carry away the chips to a distance, in order that they may not lead to the discovery of their retreat, as other birds are known to carry away the egg-shells and the mutings of their young. It makes no nest, but deposits its eggs on the loose, soft fragments of the decayed wood. The eggs are from five to seven in number, smooth, shining, and pure white, 1 inch $2\frac{1}{2}$ lines in length by $10\frac{1}{4}$ lines in breadth. The young birds are fledged in June, and creep about the tree a short distance from the hole before they are able to fly. I have known the young birds to be taken from the tree and brought up by hand, becoming very tame, and giving utterance to a low note, not unlike that of a very young gosling. The adult birds also make a low jarring sound, which is supposed to be the call-note of sexes to each other. Their more common note is a loud sound which has been compared to a laugh, and they are said to be vociferous when rain is impending,—hence their name of Rain-bird; and as it is highly probable that no change takes place in the weather without some previous alteration in the electrical condition of the atmosphere, we can easily understand that birds, entirely covered as they are with feathers, which are known to be readily affected by electricity, should be susceptible of certain impressions, which are indicated by particular actions: thus birds and other animals, covered only with the production of their highly sensible skin, become living barometers to good observers.”

The male has the feathers of the base of the upper mandible, the lores, and a space surrounding the eye clothed with black feathers; crown and occipital feathers grey at the base, tipped with bright scarlet; from the base of the lower mandible a broad black moustache, in the centre of which is a brilliant patch of scarlet; neck, back, scapulars, wing-coverts, and wings olive-green, tinged with yellow; rump sulphur-yellow; primaries greyish black, spotted with yellowish white along the outer web and on the basal half of the inner web; secondaries and tertiaries green on the outer web, and greyish black spotted with dull white on the inner web; tail olive-black, indistinctly barred with dull yellowish white; sides of the head, throat, and under surface light yellowish grey; flanks greenish yellow, with zigzag markings of green on the thighs and also on the under tail-coverts; irides creamy or pearl-white; eyelash purplish blue; upper mandible and tip of the lower mandible dull leaden black; the base of the lower mandible greenish yellow, fading into white near the gape; legs, toes, and claws olive-green.

The female is distinguished by having a smaller amount of scarlet on the head, and in the absence of the scarlet patch on the moustache.

In young birds the scarlet of the head is mingled with yellow and greyish black, the feathers changing from greyish white to yellow, and then to scarlet; similar changes take place in the scarlet of the moustache; the feathers of the upper surface are tipped with yellow; the under surface is streaked longitudinally on the neck, and transversely on the abdomen, with greyish black.

M. Malherbe, in his valuable ‘Monograph of the Woodpeckers,’ enumerates three or four varieties of this species which have come under his notice. These were chiefly remarkable for a deficiency in the usual colouring; but J. H. Gurney, Esq., has described, in the ‘Zoologist’ (p. 3800), a bird which had recently been presented to him, in which the feathers of the rump and upper tail-coverts were all margined and tipped with a beautiful flame-coloured red, instead of the usual edging of yellow; the feathers of the back were pointed with the beautiful golden-yellow edgings characteristic of the rump, and a similar colouring was observed on the ends of the feathers forming the three lower rows of the wing-coverts. In a subsequent page of the ‘Zoologist’ (4250), Robert Birkbeck, Esq., has mentioned that in the Museum at Pisa he saw three or four specimens similarly coloured; they were regarded as varieties of *P. viridis*.

The Plate represents the two sexes of the natural size, with a young bird in the distance.



GEVINUS VIRIDIS.
Young.



YUNX TORQUILLA.

YUNX TORQUILLA.

Wryneck.

Yunx torquilla Linnæi et auctorum.

WRYNECK, Cuckoo's mate, Snake-bird! How shall I commence its history? For its every action and whole economy are as singular as the markings of its plumage are chaste and beautiful. Mate of the Cuckoo it has been called, because it arrives in the spring, foretelling, like that bird, that summer is near at hand. Its peculiar cry is known to every cottager, and welcome is its monotonous and repeated call of *pee, pee, pee*. Africa, which it has lately left, is its winter residence; but as the sun advances towards the north, it follows in his path, well knowing that it will find a congenial home in Great Britain. What, if I depict it in one of its grotesque attitudes, when it writhes its head, snake-like, from side to side, with its neck contracted to the size of a quill; or in the period of courtship, when, with erected crest, drooping wings, and outspread tail, it is bowing and coquetting before the object of its attention? If I had portrayed it thus, it would scarcely have been recognized. The accompanying illustration presents the Wryneck mated and sobered down for the important duty of reproduction; the hollow branch will afford the eggs and young birds protection from all intruders, and enable it to rear its numerous progeny to an age when they may wing their way to the distant lands from which the parents had lately arrived.

Not only is the Wryneck a summer visitant to Great Britain; for in all, or nearly all, of the countries of the Old World lying under the same parallel of latitude is it to be found, even as far east as India, China, and Japan, from all of which countries, as well as from Western Asia, I possess specimens; it will be obvious, therefore, that few birds are more widely distributed. In the British Islands, where the Wryneck arrives at the latter end of March or the beginning of April, it is very generally, though not universally, dispersed over all the southern and midland counties, gradually becoming scarce and scarcer still until we reach the border-line of England and Scotland, which may be considered the extent of its range in that direction. I believe it to be more common in the eastern part of England than in the western. Mr. Rodd, in his "List of British Birds, as a Guide to the Ornithology of Cornwall," states that it is "rare in all parts of the county; occasionally observed in the neighbourhood of Penzance in the autumn, near the coast, probably preparing for migration." In Ireland it is unknown. Having remained with us during the summer, and reared its progeny, it departs southward again in August and September, passing through Spain to its winter abode in Morocco. I know that the Wryneck is occasionally found in the neighbourhood of Rome and at Marseilles in winter; but doubtless the same great migratory movement takes place on the continent of Europe as in England; indeed, I know that such is the case. Always solitary and recluse in its habits, its presence would rarely be detected by any but the most keen observer, were it not for its peculiar and loud cry, which, once heard, can never be forgotten. I know of no bird whose colours are less attractive at a distance, or whose flight, when it rises from the ground, from the rail of a fence, or from the bole of a tree, is more like that of a Sparrow; and hence, when flying, it seldom attracts notice; but when closely watched, especially during the pairing-time, as before stated, it will be seen that it performs a number of singular and extraordinary evolutions. Like the Woodpecker, the Wryneck has a tongue equal in length to that of its entire body; and truly complete must be the muscular arrangement connected with an organ which the bird has the power of protruding and retracting at will to such an extent that the deepest interstices of the bark of trees, as well as the terrestrial ant-hill, are probed with ease. Insects and their larvæ, ants and their eggs, constitute, I believe, the principal food of the Wryneck; and beautifully, indeed, is its whole structure adapted for obtaining this kind of diet.

"The anatomical construction of the tongue," says Mr. Yarrell, "and the consequent mode of taking its food, will amply repay the closest examination. By an elongation of the two posterior branches of the bones of the tongue, and the exercise of the muscles attached to them, this bird is able to extend the tongue a very considerable distance beyond the point of the beak; the end of the tongue is horny and hard; a large and long gland is situated at the under edge of the lower jaw on each side, which secretes a glutinous mucus, and transfers it to the inside of the mouth by a slender duct. With this glutinous mucus the end of the tongue is always covered for the especial purpose of conveying food into the mouth by contact. So unerring is the aim with which the tongue is darted out, and so certain the effect of the adhesive moisture, that the bird never fails in obtaining its object at every attempt. So rapid also is the action of the tongue in thus conveying food into the mouth, that the eye is unable distinctly to follow it; and Colonel Montagu, who had an opportunity of seeing this bird feed while confined in a cage, says that an ant's egg, which is of a light colour, and more conspicuous than the tongue, had somewhat the appearance of moving towards the mouth by attraction, as a needle flies to a magnet."

Like those of the Woodpecker, the toes of the Wryneck are zygodactyle ; that is, two of them are placed anteriorly and two posteriorly, the outermost of the latter being the longest,—an arrangement which affords the bird ample support while clinging to the upright boles of trees ; not that this is its exclusive habit, for it as frequently perches across a small branch, or takes up a position on the top of a post, rail, or dead limb. The moth-like markings of its plumage assimilate it most closely with the bark of trees and the objects with which it is generally surrounded. Its bill is conical, and terminates in a sharpish point, but is not so wedge-shaped as that of the Woodpecker ; it is formed, indeed, for a different end and purpose, the bird never, I believe, even attempting to make a hole for itself, let the tree be ever so rotten,—the hollow spout of an apple branch, a decayed hole in a willow or other tree, being selected as a place of deposit for its ten or twelve pinky-white eggs, which are laid on the bare wood, or upon the rotten dust in the cavity.

There is something so odd and indescribable in this bird, when captured and held in the hand, that language can scarcely convey an adequate idea of it. Many of its actions are indeed snake-like ; if held by the legs, the writhings and contortions of the head and neck, with its tail outspread like that of a Peacock, are ridiculously grotesque. If the hole in which its eggs are deposited be approached, the intruder is met with a rustling noise and serpent-like hisses, the bird frequently rushing to the entrance, and as quickly retiring, until at length it darts forward with arrow-like swiftness, and dippingly flies off to the nearest tree. The number of eggs laid by the bird appears to vary very considerably ; from nine to twelve is probably the usual number ; but I have known several instances in which they were more numerous ; and Mr. Salmon relates that, upon one occasion, he induced a female to lay no less than twenty-two, by repeatedly disturbing an old nest of a Redstart, which the bird had selected for a place of deposit. The eggs, which before being blown are of a delicate flesh- or rosy-white tint, are about nine lines and a half long by seven lines broad. The birds are said to frequent the same hollow in a tree for several successive years.

Mr. Yarrell says, “ the young birds are easily tamed, and are great favourites with boys in this country ; but still more so in France, where it is customary to tie a piece of thin string to one of the legs of the bird, and, carrying it from one tree to another, allow it to search the bark for insects ; and when brought back to hand by the string, it climbs with equal facility over any part of their clothes.”

In plumage the sexes are precisely alike, but the size of the male rather exceeds that of the female ; the young, too, at once assume the plumage of the adult, the only exception to this strict similitude being that their general tint is somewhat darker, and the spots and bars rather more conspicuous ; crown of the head grey, crossed by narrow irregular bands of brown ; sides of the head and neck, lower part of the back, and upper tail-coverts grey, minutely freckled with brown ; from the occiput, down the centre of the neck, and between the shoulders, a broad mark, composed of mingled streaks of black and brown ; wing-coverts brownish grey, each feather tipped with greyish white, bounded posteriorly with a mark of dark brown ; outer webs of the primaries alternately barred with yellowish brown and black ; inner webs toothed with buffy white ; tail-feathers mingled grey and brown in minute freckles, and crossed by four irregular bars of black ; chin, throat, ear-coverts, front of the neck and breast pale fawn-colour, crossed by narrow lines of brown ; from the angle of the eye a streak of brown, and anterior to and parallel with this a narrower one of black ; under surface dull white, speckled with black ; under tail-coverts pale fawn-colour, crossed with lines of dark brown ; irides light-brownish hazel ; upper mandible fleshy brown ; under mandible, legs, and claws pale sickly olive.

While writing this account of the Wryneck, I have before me specimens from Japan, China, India, Asia Minor, Italy, and Great Britain, in all of which slight differences are observable ; the Japanese and Chinese birds are smaller, redder, and more strongly marked than those from India, which, again, are more lightly coloured than those of Europe. The bird from Rome differs from all the others in having the whole of the under surface crossed with broad bars instead of a few arrowhead-shaped marks as in the English specimens. I cannot, however, consider these as anything more than mere local varieties or races of one and the same species, as the differences are not, in my opinion, of sufficient importance to warrant their being regarded as distinct.

The Plate represents a male and a female of the size of life, the figures being taken from specimens killed in April, just prior to the breeding-season, when the birds are in the finest state of plumage.

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