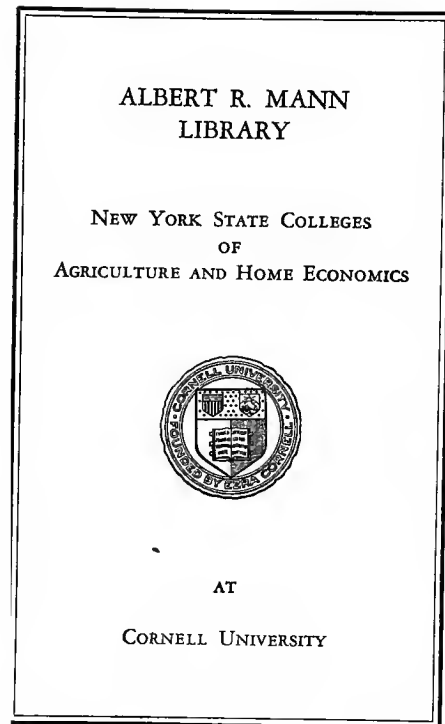




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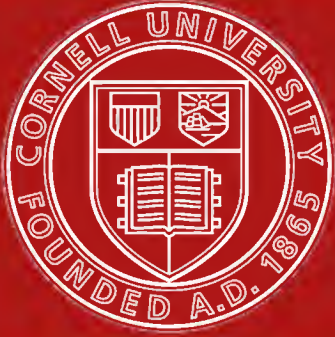
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British birds with their nests and eggs



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BRITISH BIRDS

WITH THEIR

NESTS AND EGGS

IN SIX VOLUMES

ORDER PASSERES

(SECOND PART)

By ARTHUR G. BUTLER, PH.D., F.L.S., F.Z.S., F.E.S.,

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"FAVOURITE FOREIGN CAGE-BIRDS" AND NUMEROUS SCIENTIFIC WORKS AND MEMOIRS
DEALING WITH VARIOUS BRANCHES OF ZOOLOGY

ILLUSTRATED BY

F. W. FROHAWK, M.B.O.U., F.E.S.

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BRITISH BIRDS,

WITH THEIR NESTS AND EGGS.

ORDER PASSERES

(CONTINUED)

FAMILY ORIOLIDÆ.

THIS family consists of a tropical group of brightly coloured birds in which yellow and black, or scarlet and black, are the prevailing hues. Although in the general form of their heads they somewhat remind one of Starlings, they must not be confounded with the so-called "Orioles" of the New World, which belong to the family *Icteridæ* or Hang-nests and Troupials, a group of birds linking the Finches and the Starlings, and feeding very largely upon seeds.

The late Henry Seebohm was of opinion that the Orioles were nearly related to the Crows; he therefore placed the genus *Oriolus* in his Subfamily *Corvinæ*, from which he said that they chiefly differed in their exposed nostrils, although he admitted that the tarsus might perhaps be slightly shorter, and the prevailing colours different; whilst the sexes also were dissimilar.*

* The fact that they hop when on the ground, would hardly serve to distinguish the Orioles from the Crows; for anyone who has watched a Raven, must have been vastly amused by its ungainly hopping in all directions.

BRITISH BIRDS, WITH THEIR NESTS AND EGGS.

In addition to the above distinctive characters, the third primary of the wing (not the fourth or fifth) appears to be the longest, in the Orioles; whilst the whole character of the nest, which Seebohm often made much of in his classification, is quite unlike that of a Crow; being neatly woven, and slung like a hammock between the forks of a branch: moreover, whereas the eggs of the Crows are usually of some shade of green or blue, heavily spotted and speckled, or blotched and mottled, with various shades of olive or brown, those of the Orioles vary from white to salmon pink, clearly spotted with blackish brown, and sometimes with lilacine greyish shell markings.

The call-notes and songs of the Orioles are bright and melodious; but this fact would not be a sufficient reason for dissociating them from the Crows; although our native species of *Corvidæ* do not shine as whistlers, in their wild state. I think, however, that Howard Saunders was fully justified in adopting the present family for the Orioles.

Family—*ORIOOLIDÆ*.

THE GOLDEN ORIOLE.

Oriolus galbula, LINN.

BREEDS in suitable localities throughout Europe south of the Baltic and in Algeria; passes through Greece, Asia Minor, Palestine, Egypt, and Nubia, on migration; and winters in North Africa, south-eastwards to Madagascar, Natal, and westwards to Damara Land: stragglers sometimes occur in Madeira, and the Azores.

The Golden Oriole is a regular visitor to our shores in spring, the largest number having been seen in the Scilly Islands, and Cornwall; it has, however, been met with in not a few of the southern and south-eastern counties, and several instances of its breeding with us have been recorded. In 1868, I saw a male specimen of this bird near Linton, in Devonshire, and in July, 1887, I was just too late to see the species in Essex; Mr. Fitch, of Maldon (whom I was visiting)



GOLDEN ORIOLE ♂ ♀

informed me that the bird had been seen in one of his thickets during the previous week. We visited the place in the hope of discovering a nest, but were unsuccessful.

In Ireland it has chiefly occurred on the east coast, most of the examples being females, or immature males; a specimen was recorded as shot in the Færoe Islands, in May, 1893, by Col. H. W. Feilden. Perhaps the nearest point to London at which it has been recognised, was noted in the "Zoologist" for 1892, an example having apparently been seen in Richmond Park.

The male of this species is bright gamboge yellow, the lores, wings (excepting the terminal third of the primary-coverts) and a great part of the tail black; the primaries, excepting the two outermost, are edged externally, and the secondaries are tipped with yellowish white; the two central tail-feathers are yellowish at the base, and yellow at the tip, and the other feathers have the terminal third of the outer webs, and borders of the inner webs yellow; bill reddish ochreous; feet leaden grey; iris bright red. The female is much duller than the male, greener, and with the black colouring replaced by deep brown; the throat, breast, and centre of belly whitish; the throat, breast, and flanks streaked with greyish. Young birds are greener and browner than the female, but otherwise similar; nestlings have the upper parts olivaceous, spotted with yellow.

The Golden Oriole frequents gardens, groves, plantations, thickets, and the outskirts of large woods, especially in the neighbourhood of water; it seems to prefer the haunts of man, yet is so shy that it rarely remains in view for more than a minute as it flies rapidly, in somewhat Thrush-like, though more undulating fashion, from cover to cover; choosing ever the densest foliage, as if aware of the perilous brilliance of its plumage: possibly it may slowly be acquiring a hereditary knowledge of the fact that, if but a glimpse is obtained of it, an attempt at least is made to put an end to its life; or if it fails to comprehend so much, it may inherit a dread of the thunder and lightning which, for generations, have heralded its appearance: birds are not naturally fearful of man; for even those which have been taught by their parents to dread him, can be generally converted by gentleness and petting: moreover the fact that a grown man can tame a small bird, whereas even the tamest will always show the greatest fear of a little boy, certainly seems to prove that the instinctive dread of the monkey nature in the latter is deeply implanted in all birds; just as is that of a cat, even though that animal may never have been seen by the bird previously.*

* I found that Thrushes, Blackbirds, and Starlings, taken quite young from the nest, and hand-reared, showed the utmost alarm when they caught sight of a cat in my garden. I find that all birds fear boys much more than girls, but especially when the children are quite young. These facts are entirely opposed to Charles Dixon's theory that everything has to be learned by each individual, nothing being instinctive or inherited.

The nest of the Golden Oriole is usually, though not invariably, suspended between the forking branches of an oak, frequently at a considerable height from the ground, and at the end of a somewhat slender bough. The outer walls are formed of broad-leaved sedges, grasses, strips of bark (often white birch-bark) wool etc., carefully interwoven, and including the branches between which it hangs; the lining consists of fine grasses, sometimes with the flowering heads attached. The eggs, which number from four to five, are shining milk-white, with scattered purplish black spots, and occasionally a few greyish shell-spots.

The season of nidification appears to be from May to June.

The call-note of this bird is clear and flute-like, but its alarm-note is a harsh croaking *khrr*: the song is short but melodious; Seebohm renders it "*wheet, li, wee-o.*" The Rev. H. A. Macpherson states that the males have a cat-like call: he also observes (*Zoologist*, 1891, p. 467) after noting the fact that the females as they grow older approach the male colouring:—"I do not think that the female of this Oriole would be at all exposed to danger when sitting by bright colours. It is not easy to see even a male Golden Oriole in the top of a big oak or elm in the breeding season. The birds crouch close to the boughs if alarmed, and neither they nor their nests are easy to distinguish among the fully expanded leaves."

The food of this bird consists largely of insects and their larvæ, spiders, and the like; but as the fruit season approaches, its diet somewhat changes, cherries being especially relished by it: in confinement it does well on the usual food for insectivorous birds. Being both beautiful and musical it is much esteemed as a cage-bird, and years ago I asked a friend to obtain nestlings for me; but perhaps it was as well that he did not succeed in securing me any, for they seem not to be easy to bring up. Lord Lilford remarks:—"I have found the young very difficult to keep alive for more than a week or two, though I know of instances in which they have been reared with success."

I think it extremely probable that aviculturists, when trying to rear insectivorous birds, feed them far too well: in the case of large birds like Thrushes, Starlings, or Orioles, I believe that the mixture on which I have always been successful in rearing the two former, would answer well for all three—oat-flour, fine peameal, and sifted Spratt's food (or ground dog-biscuit); but in the case of the Orioles, it might be advantageously varied with soaked ants' cocoons, or living ants' cocoons if readily procurable.

The Orioles in confinement do not differ from other insectivores in their passionate love of both mealworms and spiders, and a few of either every day are not only wholesome, but tend to tame them.

FAMILY LANIIDÆ.

THE Shrikes or Butcher-birds form a large and well-defined group of birds of somewhat predaceous habits, strong in their bills, but comparatively weak in their claws. The mandibles are short and thick, the upper one with curved culmen always with a tolerably well-defined terminal hook, preceded, on the inferior or cutting edge, by a slight sinus, behind which is a prominent wedge-shaped tooth; the nostrils are oval, lateral, and basal, and there are well-defined rictal bristles, as in the Flycatchers.

Dr. Hans Gadow greatly extends the family, to include many types, observing that the diagnosis of the *Laniidæ* * * as given by Mr. Sharpe * * is applicable to *Lanius* only: he, however, admits that the family, as defined by himself, contains some very aberrant forms, and I think all naturalists will agree that this should not be the case, if there is any way of avoiding it. Families, Subfamilies, and genera are conveniences, and the more sharply they can be defined, the more convenient they are; it is far better to have a small and compact family, than a large and heterogeneous one.

Dr. Gadow observes in his Catalogue that "The *Laniidæ*, as described in this volume, form neither a group complete in itself, nor are the lines of distinction always drawn closely enough."

Most of the Shrikes are inhabitants of the Old World: in Great Britain they are represented by the typical genus *Lanius* alone—a group which contains altogether about forty species, four of which have been obtained on our shores, though only two of these appear to breed with us.

Some authorities consider the Shrikes to be nearly related to the Crows; indeed Seeböhm made them a Subfamily close to the *Corvinæ*, although he admitted that their "exact affinities are very difficult to determine"; he considered that they approached the Crows in the form of their bills, the strong bristles, and short feathers partly covering the nostrils, and in their feet. Howard Saunders, from the position which he assigns to them in his Manual, seems to regard them as more nearly related to the Flycatchers.*

* See also Lord Lilford's note at end of account of the Woodchat-Shrike.

Family—*LANIIDÆ*.

THE GREAT GREY SHRIKE.

Lanius excubitor, LINN.

ORNITHOLOGISTS differ in opinion as to whether this bird is distinct from Pallas's Grey Shrike (with the single white bar on the wing): Seebohm considered the two forms as distinct as the Carrion and Hooded Crows, but Mr. Howard Saunders brought forward sufficient evidence to show that they had but little claim to the title of separate species. In his Manual we read:—"Many of the specimens obtained in winter have a white bar on the primaries only, the bases of the secondaries being black; whereas in the typical *L. excubitor* the bases of the secondaries are white, and the wing exhibits a double bar. The form with only one bar is the *L. major*, of Pallas, and, as shown by Prof. Collett (*Ibis*, 1886, pp. 30-40) it meets and interbreeds with *L. excubitor* in Scandinavia, typical examples of both races being actually found in the same brood, while intermediate forms are not uncommon. Where the sexes have been determined, the double-barred bird has generally proved to be a male, and the single-barred a female. Typical *L. excubitor* breeds as far east as St. Petersburg, beyond which, in Siberia, *L. major* becomes the representative form. In the valley of the Yenesei, the latter meets, but does not interbreed with the whiter winged *L. leucopterus*; the last ranging through Turkestan to Southern Russia, where, by its union with the typical *L. excubitor*, it seems to have produced an intermediate race, known as *L. homeyeri*."

The Great Grey Shrike is a tolerably frequent visitor to Great Britain in autumn and winter: it is also sometimes met with in England in the summer; indeed, on more than one occasion, when out birdsnesting with a keen old student of nature—Dr. John Grayling, of Sittingbourne, he has called my attention to a specimen of this species, conspicuous by its pied colouring: there is, however, no satisfactory evidence that it has nested in the British Isles, although an egg in my collection, taken somewhere about the year 1880 by Mr. John Woodgate, at Hadley (Herts.) certainly looks remarkably like that of *L. excubitor*.

The adult male of this species is of a pale bluish ash grey above, this colour becoming paler on the rump and upper tail-coverts; forehead, a line over each eye, and the scapulars white; wing black, with white bases and tips to the flights;



GREAT GREY SHRIKE ♂ $\frac{1}{2}$

central tail feathers black, outer feathers white, intermediate feathers grading between the two colours; under surface white; flanks slightly greyish; the lores, cheeks, and ear-coverts black: bill black, the lower mandible paler at the base; feet black; iris dark brown.

The female chiefly differs from the male in its slightly duller colouring, and in having the neck and breast barred with greyish brown. The young are dull grey above, and dull white below, the barring of the underparts extending over the belly; the bill and feet are also paler than in the adults.

The flight of this bird, as judged by the two or three specimens which I have seen, is somewhat wild and undulating: in its habits it resembles the common Red-backed species, keeping much to the open country, the outskirts of woods, or to hedgerows; when first noticed it was in each case just leaving a bare projecting branch of a tree.

The food of the Great Grey Shrike consists of good sized insects, new-born birds, or adult birds of such genera as *Parus* or *Regulus*, frogs, lizards, slow-worms, mice, etc.: it is more raptorial than the Red-backed Shrike; and, not only sometimes hunts down and hovers over its prey, but even holds it down on a branch and deliberately picks it to pieces after the manner of a hawk; though, as a rule, it spits it on a thorn after the fashion of its kind.

The nest is usually placed at a much greater height from the ground than that of our common British species, viz:—at from ten to thirty feet, in the forked branch of an olive, apple, pear, oak, or fir tree; it is bulky, and large as that of a Blackbird, and is formed of twigs, bents, dead leaves, green grass, and moss; the lining consisting of rootlets, wool, hair, and feathers. The eggs number from five to seven, usually five, and vary from creamy to bluish white, with lighter or darker olivaceous spots and blotches, frequently forming a well-defined zone just above the middle, and accompanied by lilac-grey shell-markings; sometimes they form a large patch at one end (usually the larger one).

Nidification as a rule commences about the middle of May; incubation lasts fifteen days; and, during the rearing of the young, this species is most courageous in their defence, driving away even the Crow-family from the vicinity of its nest.

Gätke says:—“This bird, though very cautious in general, is yet not unfrequently caught in the thistle bush; that, however, such a fate is well deserved, is shown by the discovery of many a poor little Redbreast with its brains hacked out, the work of this ruthless aggressor. I have even on one occasion seen a Blackbird, as it was hastening along over the grass, pounced upon by one of these daring robbers, and succumb, after a short struggle, to the bites of his assailant.”

Lord Lilford says that about the end of December, 1880, he received a fine

young bird of this species alive: it had been taken by means of bird-lime near Glendow, on November 19th; he kept this bird alive for some months. Herr Mathias Rausch (*Gefiederte Welt*, 1891, p. 475) observes that this bird is not of the slightest value for aviculture as a singer, for although he both mocks well and sings industriously, he, by his call-notes, makes the other singers crazy with anxiety and fear, and thereby disturbs them in their song. "One can only find it caged in the possession of peculiar fanciers, who mostly aim at completeness, in respect of all birds belonging to this category." *

From a long study of birds in confinement, I should imagine that Herr Rausch speaks here theoretically, and not from experience: if the cry of a Shrike in a cage is calculated to terrify a small song-bird in another cage, surely the small song-birds of South America ought to be alarmed by the cries of the Pileated Jay, or even those of the Sulphur Tyrant; yet they pay no more heed to them than to the calls of perfectly innocent birds: I believe that predaceous species are recognised by sight, more readily than by their voice.

Family—LANIIDÆ.

THE LESSER GREY SHRIKE.

Lanius minor, GMEL.

THIS is so rare a straggler, on migration, to the English coast, that I cannot consider it has sufficient claim to be described in the present work. In 1883, Seebohm mentioned that only four examples had been recorded; and, at the end of 1889, Howard Saunders was unable to add to this number.

* I imagine his meaning to be that they keep all Passeres, whether interesting or not.



RED-BACKED SHRIKE ♂ ♀

Family—LANIIDÆ.

THE RED-BACKED SHRIKE.

Lanius collurio, LINN.

SEEBOHM observes that this species "is a summer visitor to the whole of the continent of Europe up to lat. 64°, with the exception of the Spanish peninsula, where it is only an occasional straggler to the north-east. In Greece, Asia Minor, and Palestine, it is only found in the pine-regions. Eastwards its breeding range extends through Northern Persia, and throughout Turkestan as far as the Altai Mountains. It passes through Asia Minor and North-east Africa on migration. A few winter in the valley of the Indus; but the great stream of migration appears to follow the valley of the Nile to South Africa, where it is abundant during our winter in Natal, Damara Land, the Transvaal, Angola, and the Cape Colony."

In Great Britain this bird is common but local; though most abundant in the southern counties, it has rarely been met with in Cornwall; in Wales, and the central counties it is not uncommon, yet it is becoming rarer in Norfolk, and in Lincolnshire is almost unknown; in the northern counties it is rare, probably increasingly so; to Scotland it is only a chance straggler, though it has been recorded as breeding in the south-east. In Ireland a specimen was shot in 1878, and others were said to have been seen at the same time.

The upper parts of the male are grey, excepting the scapulars and back which are chestnut brown; the wing-coverts black, margined with chestnut; wings dark brown, the feathers edged with chestnut; the two middle tail-feathers black, the rest white on the basal half, black, edged with white on the terminal half; frontal band, lores, and ear-coverts black; under parts rosy buffish, whiter on the chin and under tail-coverts; bill and feet black; iris dark brown. The female is usually quite unlike the male, her upper parts being reddish-brown, slightly barred on the mantle, her under parts buffish-white, barred (excepting in the centre) with brown; there is no black on the head, but a pale buff streak above the eye. Young birds are somewhat similar to the female, but whiter on the forehead, with ill-defined eye-streak, their upper parts barred, and their feet greyer.

The common Butcher-bird reaches us early in May, and usually leaves us again in August or September, although a late straggler has been reported as captured in November; it is therefore probable that only one brood is reared. I have taken fresh eggs as late as the 8th June in Kent, but not later than the 29th May in Norfolk; in the latter county, however, I only met with the nest twice; it is therefore possible that later nests may occur; the first week in June appears from my dates to be the earliest laying-time in the north of Kent; perhaps a few nests may be occupied earlier.

The nest of this species is most frequently placed in a hawthorn bush, or hedge, but sometimes in the fork of a stunted tree, seldom more than five feet from the ground, and frequently less: the number of eggs is usually five, but sometimes six. Although there is a good deal of difference in the form and tinting of the eggs, the general character of the markings is very characteristic in most specimens laid by this bird: the ground-tint varies from greenish white to creamy buff, and from the latter colour to salmon-pink; the spots vary from olive to red-brown, with underlying spots of bluish-ash; sometimes the surface spots are wholly wanting, the grey markings alone being in evidence; the spots are usually almost entirely confined to the broader half, rarely to the apical half; and, still more rarely, irregularly scattered over the whole surface; in most eggs they are largest, and form an irregular zone, just above the middle.

In Kent I found the pink variety of the egg extremely rare, indeed I only once succeeded in taking a full clutch of this form by fighting my way edgeways through a dense (six-foot thick) hawthorn hedge, the hen bird *chacking* away, and making little frantic rushes at my fingers, as I gradually struggled nearer to the prize. In some counties I am told that the pink form is the prevalent one; it certainly is the prettiest.

I found the nests of the Red-backed Shrike most commonly in the neighbourhood of Maidstone; taking three in one morning from the forked branches of stunted trees near the river: in such positions it was invariably more solidly built than when placed in a bush or hedge: in character it is not unlike some nests of the Greenfinch, but deeper; the outer walls formed of coarse grass-stalks and moss, and the lining of fine bents, wool, and horsehair.

As is well-known the name of Butcher-bird has been given to this species owing to the habit which it has, in common with other Shrikes, of impaling its prey upon thorns, in order, it is said, more readily to tear them to pieces: * per-

* Considering that my bird swallowed five of the largest cockroaches I could find in succession, without even dismembering them, I think this explanation can hardly be founded on fact: its swallowing capacity is extraordinary, and one wonders, not only how it can get the food down its throat, but where it manages to stow it all away.

sonally I have never found any of its victims in this unpleasant condition, but hundreds of observers have done so.* Its food consists of insects, young and old birds (even up to its own size) lizards, and mice: it seizes its prey suddenly, dropping upon it when unsuspecting an attack; for, although a migratory bird, the Red-backed Shrike is not very powerful on the wing.

The note of alarm and anger, as already hinted, is a harsh *chack* or *char*, the call-note a harsh chirp, but the song, though short, is very pleasing. Herr Mathias Rausch says (*Gefiederte Welt*, 1891, p. 446) "The best singer and mocker among the rapacious birds is acknowledged to be the Red-backed Shrike or Thorn-piercer (*Lanius collurio*). He is also the commonest and most widely distributed of all, inasmuch as he may be found in a wild state throughout nearly the whole of Europe. Especially good and varied singers are, however, only to be met with in regions rich in birds. I have already owned Red-backed Shrikes, which copied the Nightingale, the Golden Oriole, the Quail, the Blackcap, the Garden Warbler, the Icterine Warbler, the Meadow-, and Tree-Pipits, and Song-Thrush perfectly, and portions of the songs of other birds tolerably well. The only pity is that the voice of this bird is so weak, that it is unable to reproduce the song of many other cage-birds kept at the same time, but it always repays one to tend and care for this songster as a cage-bird; moreover it is easily and cheaply secured, and also kept alive without difficulty. This bird, however, should especially be secured by such aviculturists as cannot put up with too loud a bird-song, and who make a point of not keeping several birds on account of their dissimilarity of song, for by its song they will at once be satisfied in both respects."

Of course this savage though pretty bird should never be turned into an aviary, as it would undoubtedly murder and devour its companions, even though as large as itself; a flight cage, therefore, is the most suitable home for it: the staple food should consist of egg, pieces of cheese, with the addition of minced raw meat, cockroaches, or other insects, and occasionally a dead mouse or bird: indeed the food for all the Shrikes should be almost exactly the same as for most of the *Corvina*, but somewhat less varied; because many of the latter eat fruit, nuts, grain, and even acorns, greedily, as well as the usual soft food.

It is best to rear this species from the nest; for then it is supposed to become very tame and confiding; my brief experience of the bird, caught when quite young, and given to me on the 12th August, 1896, is that it is as wild as any adult bird, and cuts itself all to pieces in its incessant efforts to force its way

* The Rev. H. A. Macpherson informs me, however, that he has observed both the present species and the Woodchat, and Great Grey Shrikes, when engaged in devouring insects *piecemeal*. He has kept all three species in captivity, and is intimately acquainted with their habits in a state of freedom.

through the wires of its prison ; from the nature of its food its cage needs constant cleaning, otherwise it smells abominably ; its note of rage, *char, char*, is frequently uttered, but nothing else. As it will not now learn its natural song, a few good performers such as the Nightingale, Blackcap, Skylark, Grey Singing-finch, or the Pekin Nightingale, should be kept in cages near by ; in order that it may study their notes.

One advantage in this bird is—that however wild it may be, and however intolerable the odour of its cage may be, the bird always appears to enjoy robust health. Even if one is ill, and perchance no fresh food is supplied to this bird for twenty-four hours, he makes no trouble of that, but only attacks his food more vigorously when the opportunity comes. Moreover, having by foolish behaviour so reduced his wings that he cannot reach his perch, he contentedly passes the night on a box in a corner. These are redeeming points in his character.

Family—LANIIDÆ.

THE WOODCHAT SHRIKE.

Lanius pomcranus, SPARRM.

HOWARD SAUNDERS observes that “On the Continent the Woodchat breeds as far to the north-east as the line of the Baltic and the valley of the Vistula, beyond which it is of accidental occurrence ; while southward it is generally distributed throughout Europe, and in the countries bordering on the Mediterranean is very abundant. Even there, however, it is only a visitor ; arriving about the end of March, or early in April, and leaving again between August and October. Eastward it breeds in South Russia, Turkey, Asia Minor, Palestine, and Persia ; while in winter it occurs in Arabia, and down the East African coast to about 5° N. lat., also on the west side to the Gambia and the Gold Coast. Through-



WOODCHAT SHRIKE ♂ ♀

out Northern Africa it is abundant in summer, arriving from the southern side of the Sahara in March."

To Great Britain this species is an irregular straggler, and principally on migration; nevertheless about thirty examples have been obtained in various parts of England, chiefly in the southern and eastern counties, and, on two occasions, it has been recorded as breeding at Freshwater, in the Isle of Wight.

The adult male has the middle of the forehead, front of crown, lores, ear-coverts, sides of neck, and back black; an elongated white spot above each nostril; crown and nape bright chestnut; lower back grey, shading into whitish on the rump and upper tail-coverts; wings black, the coverts and secondaries tipped with white, the primaries white at the base; tail black, tipped with white, the two outermost feathers white at the base, and with white outer web; the under surface white, the flanks washed with buff; bill black; feet dark brown; iris hazel. The female is duller in colouring than the male, the black parts suffused with rufous. The young are russet-brown, streaked and spotted above with dark brown and whitish, the wing-feathers broadly bordered and tipped with rufous; the tail also tipped with rufous, the outermost feathers pale; under surface heavily barred with brown; bill yellowish horn brown; feet darker horn brown..

Like the Red-backed Shrike, this species haunts chiefly open or thinly timbered country; but in Algeria, from what Dixon says, it appears to frequent the open spaces in forests of evergreen oak; and Lord Lilford observes (*Birds of Northamptonshire*, Vol. I, p. 78) "In Southern Spain, where the Woodchat is a very common summer visitor, it is to be met with in all sorts of localities—the outskirts of woods, olive-groves, gardens, and occasionally the great open treeless plains, where the tall thistles alone offer it a perch or look-out station. In general habits it much resembles the Red-backed Shrike, but so far as I know does not attack small birds, which show no fear of it as they do of the former bird."

Seebohm, speaking of the food of the Woodchat, says that it "is composed of beetles, grasshoppers, and many other insects, which, like the other Shrikes, it will spit on thorns for the purpose of securing them until they are eaten. As already remarked, it will also feed on small birds and mammals. It is often seen on the wing, like a Flycatcher; and when the capture of an insect is made it returns to its old perching place, ever watchful for an object for a fresh sally into the air."

The nest of this species is placed in the fork of a low tree; it is formed of coarse bents and grasses, sometimes intermingled with cudweed (*Gnaphalium*) and wool; the lining is either formed of fine grasses and moss, or of the flowers of cudweed mixed with a few leaves and a little vegetable wool. The eggs number

from four to six, usually five, and somewhat resemble those of the Red-backed Shrike, but are usually slightly larger; the reddish variety which, in the better known species, is local but not uncommon, is very rarely met with in eggs of *L. poméranus*.

Speaking of the Woodchat in Malta, Mr. C. A. Wright (*Ibis*, 1894, p. 59) says:—"Perched on the uppermost twig of some tree, its shining white breast forms one of the most conspicuous objects in the ornithological landscape in April. On the first appearance of danger, it flies off to another and more distant tree, and, taking up a similarly elevated position, scans the country round till the danger which had excited its alarm has passed away. It builds here in May and June, constructing a compact and well-formed nest in the fork of a carob or almond-tree. Its affection for, and the courage it displays in the protection of, its young are remarkable. Wary as it is at other times, on these occasions it seems to lose all fear; uttering piercing cries, it will fly close round the head of the intruder, and actually make a feint of dashing in his face."

Howard Saunders says:—"The note usually heard is a harsh *krah kack krah*; but the male has also a low and rather pretty song in spring, and shows great capacity for imitating the notes of other birds." Seebohm observes:—"Its song is by no means unmusical, and very gentle to proceed from such raptorial jaws.* It reminded me very much of the twittering of a Swallow, or the warble of a Starling. Some of its call-notes, however, are loud and harsh enough; and I at first thought it was imitating the notes of other birds, in order to attract them within reach; but inasmuch as the greater number of notes it apparently imitated were of birds far too powerful for it to grapple with, such cannot be the case."

Dixon says that he "met with this species (in Algeria) in all parts of the country wherever the vegetation was sufficient to afford it shelter."

Herr Mathias Rausch says of the Woodchat Shrike, that in many regions it is somewhat rare, and it costs a good deal of trouble to obtain a good bird. "It sings louder than the Red-backed, or the Lesser Grey Shrike, has moreover a certain roughness in its voice, which somewhat detracts from its imitations, and thus prejudices their distinctness." Possibly it was this which led Seebohm to think that the cries of this species were imitations of rapacious birds. The mimicry practised by the Woodchat must, however, be fairly good, inasmuch as it was noticed even in Bechstein's time; as pointed out by Charles Witchell (*Evolution of Bird song*, p. 174).

Herr Rausch considers that, as a cage bird, the Woodchat belongs to the

* In this respect it does not stand alone: the song of the S. American Pileated Jay is almost as gentle as that of a Mannikin, whilst his cries are shrill, harsh, or gruff.—A. G. B.

second order of merit (Gefiederte Welt, 1891, p. 499). Although rarer than the Red-backed Shrike, there is not the least doubt that its song is neither so pure, nor so perfect in its imitative power; and, when one has to keep a species in a separate cage, on account of its domineering, spiteful, or even dangerous character, it is most satisfactory to get something in exchange for the extra trouble required to preserve it in health: therefore, if I already possessed *Lanius collurio*, I certainly should not covet its rarer relative.

In contradiction to the statement of Mr. C. A. Wright respecting the shyness of the Woodchat, excepting when defending its young, Lord Lilford's observations are interesting; for he states that the "Woodchat is a very familiar and fearless bird, and seems often to prefer the vicinity of human habitations for its nest. In all its habits this Shrike seems to me to approach closely to the Flycatchers." Seebohm also says of *L. pomeranus* (which, however, in common with most Ornithologists, he calls *L. rufus*) "It is not a wary bird, and, with due precaution, may be quite closely approached." It is therefore probable that this species would not be difficult to tame, if kindly treated.

FAMILY AMPELIDÆ.

FORMERLY this constituted a fairly large group, including even such distinct looking birds as the members of the genus *Liothrix*, birds moreover which, in their habits, nearly resemble our Accentors: I believe, however, that the relationship of *Liothrix* to *Accentor* is now recognized. Jerdon even included the Tits, as well as the White-eyes and Accentors, in the same family.

Seebohm, who only admitted one family for the *Passeres*, necessarily regarded the present group as a Subfamily "consisting of birds having the wing of a Starling, the foot of a Shrike, and a bill intermediate between that of a Shrike and a Swallow. They are probably most nearly allied to the Shrikes and the Starlings: from the former they may at once be distinguished by the minuteness of their bastard primary, their short tarsus, and their nearly obsolete rictal bristles. Ornithologists are perhaps justified in placing them in a distinct Subfamily, in

consequence of the shortness of their tarsus, their shorter, wider, and notched beak, and the presence of small bristles which cover the nostrils" (Hist. British Birds, Vol. II., p. 1).

Although the species of *Ampelis* have somewhat the flight of a Starling, they build open nests in the branches of trees; and, in their actions, somewhat resemble Tits. In all probability they are more nearly related to the Shrikes than to any other group of British birds; but they are not predaceous like that murderous family, being insectivorous and frugivorous, and they appear to have little idea of song.

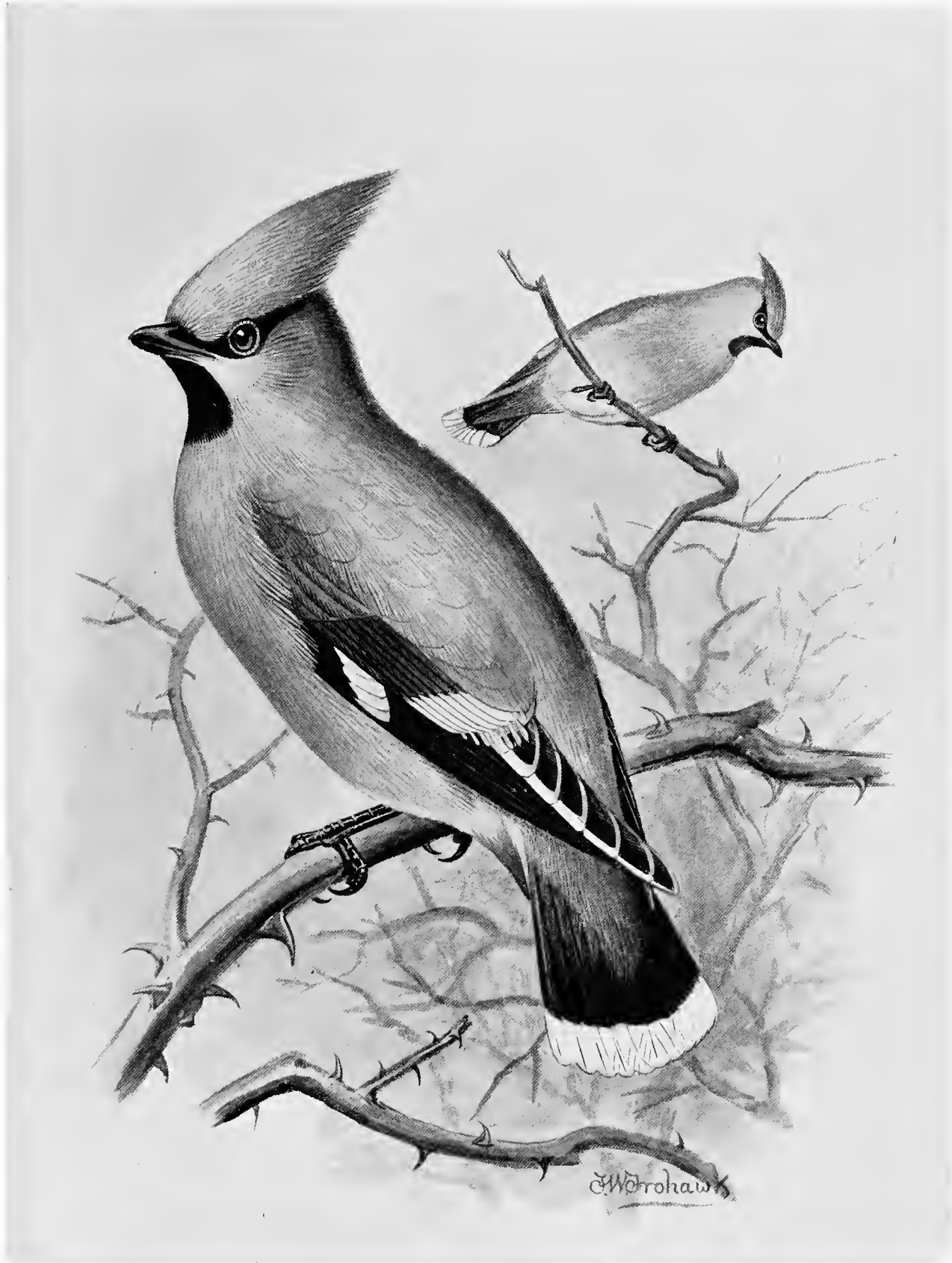
Of late years Waxwings have been somewhat largely kept as cage birds; but, in spite of their beauty, they are anything but pleasing pets, their lack of vocal merit, and their greediness, which results in a perpetual dirty condition of their cages, are great drawbacks.

Family—*AMPELIDÆ*.

THE WAXWING.

Ampelis garrulus, LINN.

AN abundant though irregular winter visitor to our islands, the Waxwing, says Seebohm, "is almost a circumpolar bird, breeding in the pine regions of both hemispheres at or near the Arctic circle." "Throughout Central Europe it is a tolerably regular winter visitor. It occurs accidentally on Heligoland, and occasionally strays as far west as France, and as far south as Lombardy and Turkey, but has not yet been recorded from Spain or Greece. It winters in South Siberia, occasionally straying as far as Turkestan, Mongolia, North China, and the north island of Japan. In America its winter range extends as far south as Lakes Michigan and Erie; but it appears to be only an accidental straggler further east, and it is doubtful if it has ever occurred west of the Rocky Mountains."



WAXWING ♂ ♀

In Great Britain the Waxwing has been most frequently met with in the northern and eastern counties; Mr. Frohawk tells me that in the winter of 1867-8 a flock of seven visited a small plantation at Brisley, in Norfolk; but in England it has from time to time been observed in almost every county, whilst in Ireland it has been but rarely obtained; its visits to Scotland have been tolerably frequent, extending even to the islands of Skye, Orkney, and Shetland, but it has not been recorded from the Outer Hebrides.

The upper surface of the adult male Waxwing is pale rosy-brown, gradually changing to ash-grey on the rump and upper tail-coverts, and into chestnut on the sides of the crest and forehead; a narrow frontal band, the lores, and a streak from the back of the eye black; wings and tail almost black, the wing-coverts, the inner webs of the primaries, and outer webs of the secondaries tipped with white, the latter tipped with wax-like vermilion points, the outside webs of the primaries tipped with yellow, joining the white tips of the inner webs so as to form V-like markings; tail feathers broadly tipped with yellow; under surface rosy-brown, shading into chestnut on the cheeks; a white streak at the base of the lower mandible; front of throat and chin black; centre of belly whitish; under tail-coverts chestnut; bill and feet black; iris hazel. The female is slightly duller, usually without the white tips to the inner webs of the primaries, and with smaller wax-like terminations to the secondaries; the tips of the tail-feathers somewhat narrower. The young are browner, and have no black on the throat.

This species appears in the breeding-season to haunt the more open portions of forests of conifers and birch, but chiefly woods of pine, or larch, nesting in colonies. The nest is a large open cup-shaped structure built upon the branch of a tree, upon a foundation of twigs and reindeer moss, composed principally of black hair-lichen, interwoven with slender twigs, bark, moss, and feathers, the latter appearing most prominently in the lining. The eggs usually number from five to six, rarely seven, and are described by Professor Newton, who owns the greater part of the large series acquired by John Wolley (the discoverer of the breeding-grounds of this species) as "delicate sea-green, sometimes fading to French white, but often of a more or less pale olive, and occasionally of a dull purplish grey. On this are almost always bold blotches, spots, and specks of deep brownish black, though sometimes the edges are blurred. Beneath these stronger markings there is nearly always a series of blotches or streaks of greyish lilac, and among them well-defined spots or specks of yellowish brown are interspersed. In some eggs the darkest markings are quite wanting, in others the ground is of a deep olive colour."

According to Seebohm, who, in 1867, kept a pair of this species in a cage,

“They were remarkably silent birds; the only note I heard was a *cir-ir-ir-ir-re*, very similar to a well-known note of the Blue-Tit. Occasionally this succession of notes was repeated so rapidly as to form a trill like the song of the Redpole.”

In the summer time the Waxwing appears to be largely, if not wholly insectivorous, crane-flies seeming to constitute its favourite food; but later in the year it devours great quantities of berries of juniper, privet, guelder-rose, as well as hips and haws: it is especially fond of mistletoe berries. In the winter, when Waxwings are very fat, they are said to be greatly esteemed by the Russians as an article of food.

Lord Lilford, in his “Birds of Northamptonshire,” speaks of “the chatter of a party of Waxwings passing overhead whilst we were inspecting my aviary in the pleasure-grounds at Lilford,” and he adds—“I am well acquainted with the note of the Waxwing from having kept many of them in confinement, a proceeding which I cannot recommend, as they have no merit whatever except their beauty, being dull, quarrelsome, greedy, and filthy to an incredible degree, and in most instances dying from plethora after a short captivity. Hips and haws, currants, raisins (in fact, small fruits of all kinds) are voraciously devoured by these birds, and appear to be their favourite food, but they will also eat chopped meat, hard-boiled egg, hemp-seed, bread-crumbs, carrots, potatoes, and ants’ eggs; they drink a great deal, but seldom wash, and I have more than once seen a Waxwing deliberately eat its own fæces, though it was abundantly supplied with many varieties of food; none of these birds ever became tame with me, and I shall certainly never buy any of them again.”

Seeböhm gives them much the same character:—“They were most voracious eaters, and the cage required cleaning several times a day. They were very active and restless, and even when perched at rest seemed to be continually moving their heads. If alarmed they would stretch out their necks to almost double the usual length.”

On the other hand Swaysland (Cassell’s Cage-birds, p. 340) says:—“It is easily tamed, and in the aviary is docile and quiet. It should be fed upon German paste, sponge-cake, a little hard-boiled egg, Juniper berries, soaked grocers’ currants, or any other soft-skinned fruit.” I think it quite likely that, associated with birds of its own size in an aviary, the Waxwing would become far more easily reconciled to captivity, would eat less, bathe more frequently, and keep in better health, than in a cage: moreover, I should certainly not recommend either raw meat or grocers’ currants to be given to it as articles of food.

FAMILY MUSCICAPIDÆ.

THIS large family of birds was not even regarded by Seebohm as a distinct Subfamily, but was included by him in the *Turdinæ*; yet it forms a very characteristic group: the bills of Flycatchers are somewhat flattened and broad at the base, compressed and somewhat curved towards the point; the rictal bristles which, in insectivorous birds serve to prevent the escape of winged insects from the base of the bill, are very strongly developed, and numerous in this family.

The Flycatchers, as their name indicates, are rapid flyers, and consequently have long pointed wings; their eyes also are large and full; they perch mostly on trees, very rarely descending to the earth; their feet, as might be anticipated, are small, the middle toe being considerably longer than the lateral ones.

The nests of the Flycatchers are open, and more or less cup-shaped in character; they are frequently placed in holes or crevices in trees, rocks, or walls; but some of the species build upon thick branches, or even in the forks of branches; the eggs of the different species vary considerably in character, some being heavily spotted, and others spotless.*

The flight is undulating; the song low-pitched, and not of great merit; the food consists mainly of insects, but is supplemented occasionally by a little fruit.

Formerly the limits of this group of birds were much more extended than at present; Jerdon even included the Blue-throats, and expressed it as his opinion that the Tyrants of the New World belonged to the family: Seebohm observed that—"The Flycatchers inhabit the Palæarctic, Oriental, and Ethiopian Regions, extending southwards to the Moluccas, but not occurring in the Australian Region. Four species are found in Europe, of which two breed in the British Islands, and one is an accidental visitor." The latter, at the time when the "British Birds" appeared, had only occurred here three times, but of late years other examples have been obtained.

* The little New World genus *Polioptila*, referred by Dr. Sclater to this family, is said to build in bushes, and to lay white eggs.

Family—*MUSCICAPIDÆ*.

THE SPOTTED FLYCATCHER.

Muscicapa grisola, LINN.

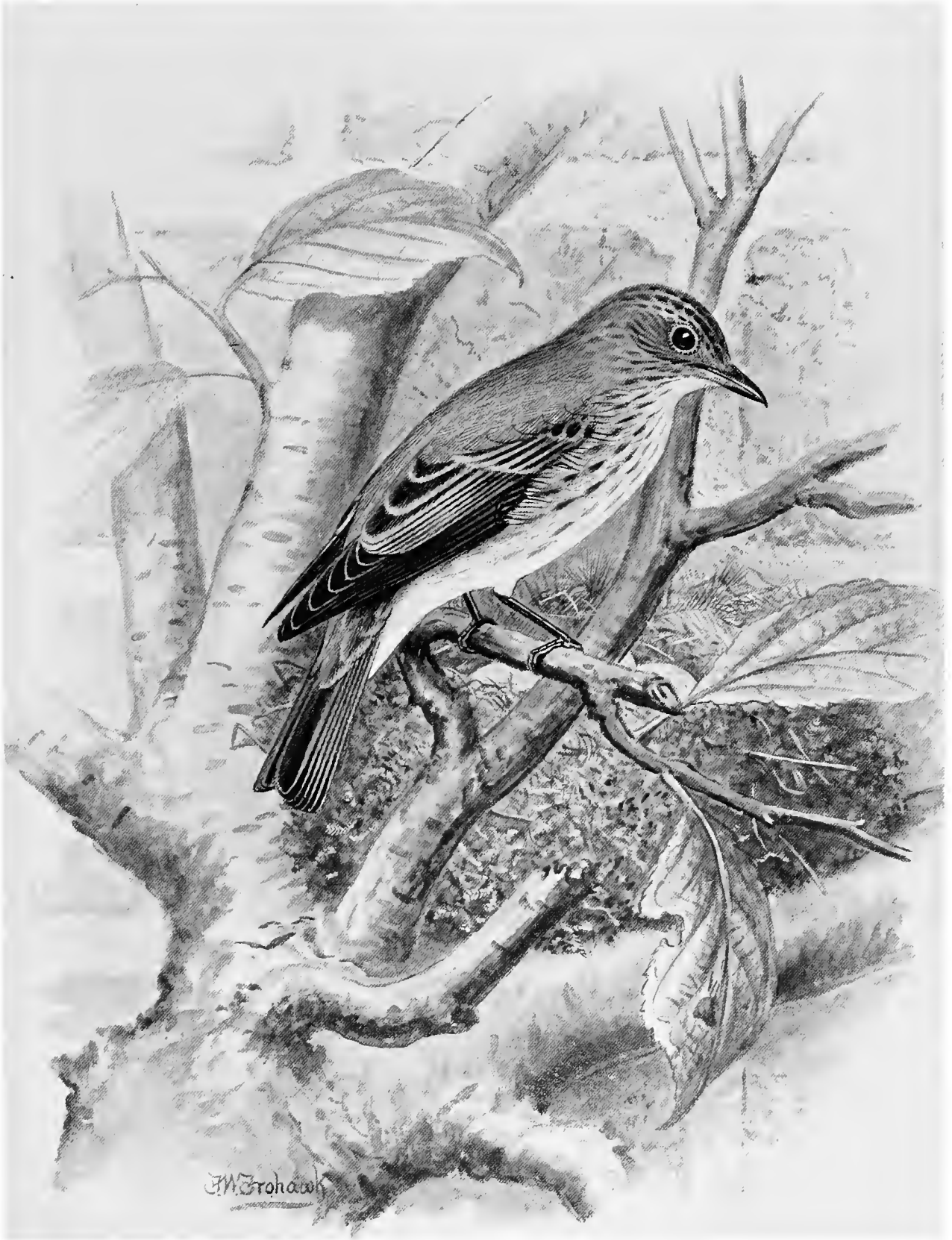
HOWARD SAUNDERS states that this species “breeds as far north as Tromsø, in Norway, and Archangel, in Russia; while southward it is tolerably abundant throughout Europe, nesting down to the northern shores of the Mediterranean; also on the African side, and in Asia Minor, Palestine, Persia, Turkestan, and Siberia as far as Irkutsk. In winter it visits India, Arabia, and Africa to the Cape of Good Hope.”

In Great Britain the Spotted Flycatcher breeds in suitable localities in every county, but in England and Wales it is far more abundant, and more generally distributed than in Scotland and Ireland: its distribution in the latter island is certainly local, and it is probable that some counties are unsuited to its requirements.

The colouring of this bird is decidedly sombre, its upper surface being brown, slightly paler and with dark shaft-streaks on the crown; the wings and tail darker brown, with paler margins to the wing-coverts and secondaries: its under surface is greyish white; the breast and flanks slightly buff brownish, and streaked with brown, as also is the throat; bill dark brown; feet black; iris dark hazel. The female resembles the male. The young have buff centres to the feathers of the upper surface, whilst the wing-coverts, secondaries, and tail-coverts are tipped with this colour.

The Spotted Flycatcher haunts the outskirts of woods, high hedges on the borders of parks and pleasure-grounds, plantations of hazel, orchards, and gardens, and in such places it breeds, usually placing its nest either in a slight depression in the branch of a tree, frequently near the trunk, or on the branch of a fruit-tree trained against a wall; it has, however, been known to build in crevices of the bark of old trees, in trellis-work overgrown with creepers, and I have taken the nest from the hollow top of a tree stump, from a tall hawthorn hedge, and one in my collection was taken from a narrow hole in a wall.* The form of the nest varies in accordance with its surroundings; if placed upon a branch or in the top

* It is said also to have been found among roots overhanging water, and in metal gutters on roofs of houses.



SPOTTED FLYCATCHER ♂

of a hedge it is circular, if on a fruit-branch trained against a wall, semicircular, and the nest which I obtained from a hole in a wall was of the exact shape of a small slipper; the materials of the nest also vary somewhat, but they generally consist of twigs and roots, or fine grasses, mixed with a quantity of green moss interwoven with spiders' webs, and lined with fine grass, hair, and sometimes two or three feathers. The eggs vary in number from three to six, five being the most usual number, the ground colour being frequently pale pea-green, but sometimes bluish-white, blotched, zoned, mottled or spotted with various depths of ferruginous red-brown; when the mottling is very dense the egg, excepting in its inferior size and narrower shape, somewhat reminds one of that of the Robin, and when the markings are chiefly represented by a zone near the larger end, it vaguely suggests that of the Greenfinch.

The Spotted Flycatcher rarely reaches us before May; but, nevertheless is in no hurry to go to nest; the earliest date at which I have taken its eggs was on the 30th of that month, and they are rarely obtained before June.

As proof that birds are sometimes unable to recognize their own eggs, the following fact (already recorded in my Handbook of British Oology) is of interest: On the 4th June, 1878, I removed three eggs from a rather small nest of the Spotted Flycatcher formed in the hollow top of a tree stump in a small plantation of hazels. I substituted three hazel-nuts for the eggs, and these completely filled the cavity of the nest. On the 8th of June I returned and found the hen sitting; she had ejected one of the hazel-nuts to make room for a fourth egg.

Respecting the notes of this species, Seebohm says:—"It is very widely and popularly believed that the Spotted Flycatcher is not gifted with any powers of song; but this is an error. His song is heard but rarely, it is true, and is uttered in such a low tone as to be scarcely heard a few yards away. It is given forth both when the bird is sitting at rest and when fluttering in the air after insects. It consists of a few rambling notes, not unlike part of the Whinchat's song. The monotonous call-note may perhaps be best expressed by the letters *st, st*; it is uttered in rapid succession from one perching-place, and every now and then the tail is jerked to and fro with graceful motion. Sometimes a second syllable is added to the call-note, which then sounds like *st-chick*."

I think that Seebohm is incorrect in this last statement: in 1894 I had a family of young Spotted Flycatchers in my garden for over a week, and I found that their call to their parents was *st-chick*, and the answer of the parents was *st*. I never heard an adult bird use the longer call.

The food of the Spotted Flycatcher in the summer months consists of insects, spiders, and centipedes, but in the autumn it is said to eat the berries of the

mountain-ash: much of its food is obtained on the wing, either by repeated sallies into the air, by hawking low down over the meadows, or hovering in front of old walls, or manure heaps.

As this species rarely has eggs before the beginning of June, and usually leaves this country in September, it is not surprising that it is single-brooded.

Mr. Gurney's experience of the perseverance with which this species adheres to a building site was published many years since in the "Zoologist"; but nevertheless is sufficiently interesting to bear repeating here; he says:—"About the end of June last, a Spotted Flycatcher began to build a nest over the door of the lodge at the entrance of my grounds. The woman who lives in the lodge, not wishing the bird to build there, destroyed the commencement of the nest; every day for a week the bird placed new materials on the same ledge over the door, and every day the woman removed them, and, at the end of the week, placed a stone on the ledge, which effectually baffled the Flycatcher's efforts at that spot; but the bird then began building at the latter end of the ledge, from whence it was also driven, and three stones being then placed on the ledge, the bird relinquished the attempt to build at either end of it, and commenced building a nest on a beech-tree opposite, which it completed, and laid two eggs in it. When the bird was thus apparently established in the beech-tree, the stones over the door were taken away, when the Flycatcher immediately forsook its nest and eggs in the beech, and again commenced building over the door on the part of the projecting ledge, which it had first chosen. The nest was again destroyed, and two slates placed over the spot; the bird contrived to throw down one of the slates from a slanting to a horizontal position, and then began to build upon it. The nest was again destroyed, and the three stones replaced and kept there a fortnight, after which they were again removed, and, directly they were taken away, the bird again began building. The nest was subsequently destroyed several times in succession; the bird was twice driven away by a towel being thrown at it; a stone wrapped in white paper was placed on the ledge to intimidate it, but the Flycatcher still persevered, completed a nest, and laid an egg. On hearing the circumstances I directed that the persecution of the poor bird should cease, after which it laid two more eggs, hatched all three, and successfully brought off its brood."

Some years since a young Spotted Flycatcher was brought to me; it had flown against a lamp, was temporarily stunned, and a lad picked it up without difficulty. I tried to keep it, but it refused to feed, as most birds do after they have left the nest, and, although I forced it to eat, it died the next day: perhaps I lost nothing by the death of this bird; for the Flycatchers are not especially suited to cage or aviary life, are neither attractive in plumage or song, and are



PIED FLYCATCHER ♂ ♀

said to be delicate and difficult to keep in health. If reared from the nest they would doubtless eat the usual soft food, but I should expect them to follow the example of the *Hirundinidæ*, eat to repletion and take little exercise. They have been kept, but it may be questioned whether it is worth the trouble.*

Family—*MUSCICAPIDÆ*.

THE PIED FLYCATCHER.

Muscicapa atricapilla, LINN.

RESPECTING the distribution of this species outside Great Britain, one cannot do better than quote Howard Saunders:—"A wanderer to the Færoes, the Pied Flycatcher breeds regularly up to 69° N. lat. in Scandinavia, 65° in Finland, and about 60° in Northern Russia to the Ural Mountains; southward, in suitable wooded localities, throughout the greater part of Europe, down to the centre of Spain; and eastward as far as Palestine; while it has been met with in Northern Persia. In Algeria it is said to be a resident species, its migrations extending to the Canaries, and down the west side of Africa to the Gambia, as well as on the east side to Egypt."

In Great Britain this species is far rarer, and much more local than the Spotted Flycatcher, but especially during the breeding season: although nests have from time to time been obtained in many of the southern counties of England, it principally affects the western counties, Wales, and the north, but more particularly the Lake district. In Scotland, and especially in the northern counties, it is considerably rarer than in England, and in Ireland it has been very seldom met with.

The adult male in breeding-plumage has the upper parts black, greyer on the

* In 1887, 1895, and 1896 examples were exhibited at the annual Crystal Palace Show.

rump, and browner on the wings; the forehead, central coverts, outer borders of secondaries, and under parts white; bill and feet black; iris dark brown. The female differs from the male in the browner colouring of the upper parts, and all the white areas with a buffish stain. The male after its autumn moult more nearly approaches the female, inasmuch as the black colouring becomes brownish. Young in nestling plumage have the upper parts spotted with buff, and the under parts with dark brown.

The Pied Flycatcher arrives on our coasts towards the end of April, and the first eggs may usually be obtained by about the middle of the following month, although some pairs nidificate several weeks later. Unlike its relative the Spotted Flycatcher, it always nests in a hole, either in a tree, a rock, wall, or bridge, (especially when built over water); deserted nesting-holes of Woodpeckers or Tits are sometimes utilized: it haunts groves of oak, beech, aspen, or chestnut, in preference to dense wood; although, according to Dixon, it may sometimes be met with in the latter situation. Lord Lilford says that "the nest is generally situated in the hole of a pollard, willow, or other tree, often in an old wall; in fact, very much in the sort of locality that we should look for a nest of the Common Redstart."

The nest is somewhat loosely constructed of dry bents, rootlets, and a little moss; the lining being formed of wool, feathers, and sometimes hair. The eggs vary in number from four to eight, five to six being usual. As Lord Lilford observes "Yarrell records an instance of eight in a nest, but, from my acquaintance with this species in Spain, I should consider that number as very exceptional." The colouring is always a very pale blue and unspotted, there is a slight variation in depth of tint, but otherwise the only modifications in the eggs of this bird are in size and outline, depending much upon the age and condition of health of the parent bird.

W. Warde Fowler in his charming "Summer Studies of Birds and Books," gives a most delightful account of the Pied Flycatcher, which is well worth quoting in full, if only space would permit; but I must content myself with an extract:—"On the Continent I have always seen him in just such places as he loves in Wales, among the larger timber of a Swiss mountain-side, or on the forest slopes of the Taunus range. Just as the trout loves swiftly-running streams, or as the Wood-wren is sure to be heard where the oak is the prevailing tree, so there are certain spots which you instinctively feel that this bird ought to have chosen for his habitation, and if you are in the right district you may fairly lay a wager that he will be found there. Such a spot, on the edge of the beech forests of Wiesbaden, will always remain in very clear outline in my memory, for it was

there I first heard the song of this bird. It is very seldom now that I hear a song that is quite new to me. If it were not that so many of our songsters sing all too short a time, and that when they tune up one by one for the orchestra of the spring season each instrument touches the ear with the fresh delight of recognition, I might feel as much at the end of my tether as the mountaineer who has no more peaks to climb. But this song was not only new, but wonderfully sweet and striking. 'Something like a Redstart's' say the books, and this is not untrue, so far as it represents the outward form, so to speak, of the song—the quickness or shortness of notes, the rapid variations of pitch. But no one who has once accustomed his ear to the very peculiar *timbre* of the voice of either kind of Redstart will mistake for it the song of the Pied Flycatcher. My notes, taken on the spot, and before I had seen any other description of it, recall the song to my memory—the short notes at the beginning, the rather fragmentary and hesitating character of the strain, and the little *coda* or finish, which reminded me of the Chaffinch, but all this will have no meaning to my readers. There is but one way of learning a bird's song, and that is by listening to it in solitude again and again, until you have associated it in your mind, with the form, and habits, and haunts of the singer."

Gätke states that the Pied Flycatcher "visits Heligoland in larger numbers than any of its near relatives. It is especially abundant during the autumn migration, returning from its nesting quarters as early as the beginning of August, if the weather is fine and warm, and the wind from the south or south-east." Why this bird should migrate before scarcity of food or cold compel it to do so, it is difficult to understand; probably the tendency has been inherited, and points back to some remote period when the summers of Europe were of short duration.

The food of this species consists largely of insects, but it rarely, if ever, pursues them in the air like the Spotted Flycatcher, preferring to watch from the end of a branch, and pounce suddenly down upon them; it is not therefore surprising that among the pellets of undigested matter ejected by this, as by other insectivorous birds, wing-cases of small beetles predominate; it is, however, said to pick flies and gnats from leaves upon which they have settled, and to eat worms. Later in the year, as currants, raspberries, elderberries, etc., become ripe, the Pied Flycatcher is said to add them to its dietary.

Far more beautiful than its Spotted relative, and with a much better idea of music, it is no wonder that, where opportunity offers, this species is prized as a cage-bird; yet I have never seen one exhibited in England; though in Germany the Pied Flycatcher has put in an appearance at the exhibitions of the "Ornis" Society. Being so much more local in Great Britain than the Spotted Flycatcher,

this species is much less frequently obtained at the right age for hand-rearing: when once obtained, however, Swaysland assures us that it is far more easy to keep than the commoner species, and may be turned either into cage or aviary, and fed in the same way as Warblers, or as the Nightingale. Doubtless the food recommended for *M. grisola* by Mr. Louis Bonhote (Avicultural Magazine, Vol. I, p. 58) would answer equally well for this species; he says:—"In captivity, they should be fed on ants' eggs, and hard-boiled eggs, mixed in equal parts, and as many mealworms as their keeper can afford to give them. They become very tame, and will rise in the air and catch mealworms as they are thrown to them. In catching a mealworm, they leave the perch and hover in the air, waiting for the mealworm to drop, and catch it as it passes them; if they should miss it, they follow it closely and catch it as soon as it reaches the ground." The Pied Flycatcher would probably do the latter every time.

Family—MUSCICAPIDÆ.

THE RED-BREASTED FLYCATCHER.

Muscicapa parva, BECHST.

WITH respect to the distribution of this species, Seebohm informs us that it "breeds in Germany, Austria, and South Russia as far north as the Baltic Provinces, arriving during the latter end of April, or early in May, and departing again in August or September. Its occurrence in Western Europe is only accidental." "Loche says that it is found in Algeria, where it may be a rare winter visitor. It passes through Transylvania, Turkey, Greece, and Asia Minor on migration, and winters in Nubia." "It breeds in the Caucasus, and winters in Persia." His further remarks tend to show that it passes through Turkestan on migration, occurs in the Baikal district, has been obtained in Kam-schatka, and winters in North India and South China.

Up to the date of the publication of Vol. I. of Seebohm's "History of British



RED-BREASTED FLYCATCHER ♂

Birds" in 1883, four examples had been shot, and a fifth seen in Great Britain; the first specimen, a female, was killed near Falmouth, on January 24th, 1863; the second and third were shot, or caught on Trescoe, in the Scilly Isles, in October of the same year; and a fourth was shot on the 5th November, 1865. On October the 5th, of 1883, too late to be included by Seebohm, a male was shot at Berwick-on-Tweed, and on October 23rd, 1887, a young bird was picked up on Arklow (South) light-ship, near Wexford: since that time other specimens have been obtained: the specimens recorded up to the end of 1890, being thus summed up by Mr. J. H. Gurney ("Zoologist," 1891, p. 136):—"On September 13th, a female Red-breasted Flycatcher, *Muscicapa parva*, Bechstein, was shot at Cley by Mr. Ogilvie, the eighth on record, Cornwall being accredited with four, Ireland one, Berwickshire one, and Yorkshire one, which last was shot at Scarborough, October 23rd, 1889, the same day of the month as the Irish example in 1887." It would therefore appear that this little Flycatcher is likely to occur, especially late in the autumn, upon our coasts; and, inasmuch as one example has thereby lost its life, upon an average, nearly every three years (taking the dates from 1863 to 1890), the importance of admitting the species into the present work will be recognized.

This elegant little species has a curious resemblance to our Robin, and Seebohm expresses the opinion that it is "a connecting-link between the Robins and the Flycatchers"; his description of the bird is so satisfactory that, in the present instance, I shall quote it in full:—"The Red-breasted Flycatcher has the general colour of the upper parts, except the crown, nape, and sides of the head and neck which are bluish-grey, olive-brown; central tail-feathers blackish-brown, the outer ones white at base, and broadly tipped with blackish-brown; throat and breast orange-chestnut; rest of underparts white, suffused on the flanks and under tail-coverts with buff; beak brown, paler at the base; irides hazel; legs, toes, and claws dark brown. The female in general colouration resembles the male, except that the rich orange-chestnut throat is replaced by buff, and the bluish-grey is wanting on the head and sides of the neck.

Males of the year scarcely differ from the female, and breed in the following spring in immature plumage (*M. minuta*). In the second year the chestnut appears on the throat (*M. leucura*); in the third year the chestnut appears on the upper breast (*M. parva*); and in the fourth year it extends also on to the lower breast" (*M. hyperythra*). "Young in first plumage are spotted on the breast and upper parts, as in all the allied species."

I believe that this is by no means the only species which has received a different name for each plumage: I have already noted* that examples of *Munia*

* Foreign Finches in Captivity, p. 249.

atricapilla which I received in young plumage in 1887, did not acquire the distinctive black ventral band until the second moult; but a more curious change occurred in the spring of 1896, when one of my old examples of *Quelea quelea* assumed the breeding-plumage of *Q. russi*, the black mask being wholly lost.

This species appears to be more essentially a forest-haunting bird than our other Flycatchers, breeding in beech-woods, and only visiting gardens in their vicinity. The song is said by Seebohm to be very unobtrusive and intermediate between those of the Robin and Redstart, and he describes the alarm-note as *pink, pink, pink*, something like the *spink* of a Chaffinch; probably Naumann's call-note of this species is the same sound, and he expresses it "*füid, füid*," I therefore have no doubt that the true rendering of the note would be "*phwick*" or "*phwit*"; for no Chaffinch ever had a note the least bit like *spink* or *pink*, and *t*, not *d*, is one of the terminal sounds in bird-notes: Dr. A. Walter, according to Gätke, describes the call as a rattling sound, but doubtless the latter would be a scolding note.

In its actions the Red-breasted Flycatcher resembles our other species, sometimes it pursues its prey in the air, but sometimes it picks them from the trunk of a tree: in addition to insects it also eats small fruits.

The nest is usually placed in a beech-tree, either in a cavity, in trunk, or branch, or against the trunk, supported by outgrowing twigs; in form it is a somewhat deep cup, formed of moss, a few fragments of lichen, and a few soft feathers; the lining of fine bents and hairs. The number of the eggs varies from five to seven, bluish-green, more or less mottled or speckled with rusty-brown, sometime so densely as almost to conceal the ground-colour, and with greyish-brown shell-markings: in character they are intermediate between those of the Spotted Flycatcher and the Robin.

This bird is said to be almost as pugnacious as a Robin; therefore it would be well to use caution in associating it with other species in an aviary. As a cage-bird it has been both kept and exhibited in Germany, and if reared from the nest would doubtless be very tame and make a most attractive pet, feeding readily on the usual soft food; Seebohm, however, states that "birds of this species in confinement feed upon the common house-fly with great avidity, preferring it to any artificial food." Doubtless this statement is correct, but it would be quite out of the question to attempt to feed this, or any other bird upon flies alone.

FAMILY HIRUNDINIDÆ.

SEEBOHM widely dissevers the Swallows from the Flycatchers, placing them immediately after the Buntings; possibly because of the fact that they only possess nine primaries: he says that they "are distinguished by their long pointed wings, slender, wide bills, and small legs and feet. They have no bastard primary, and the second primary is generally the longest. The tarsus is scutellated in front, and the tail is generally forked. The most marked feature in the Swallows is that they have no autumn moult, their new dress being assumed in February."

The broad bill, small feet, and long pointed wings of the Swallows, appear to me to show some affinity to the Flycatchers; whilst I find that *Hemichelidon fuliginosus*, which Jerdon placed among the most typical Flycatchers of India, is said to have "very much the aspect of a Swallow, both in colour and structure" (Birds of India, Vol. I, p. 458). That certainly seems a hardly natural classification, which interposes the whole of the Crows, Waxwings, Starlings, and Finches, between two groups of birds so similar in their methods of feeding, and so eminently fitted for an aerial existence as the Flycatchers and Swallows.

The *Hirundinidæ* constitute a large, interesting, and widely distributed family of very beautiful birds; their nests, familiar to everyone, are triumphs of skill and perseverance; and, as regards our three British species, show good distinctive features.

Although it would hardly be supposed that Swallows were suitable subjects for aviculture; attempts have been made, with varying success, to keep the whole of our three species: but, to preserve the health of such active birds, a great deal of exercise is a necessity, and a very large aviary a consequent requisite: as cage-birds, Swallows quickly succumb to indigestion from over-feeding, and lack of exertion.

Family—*HIRUNDINIDÆ*.

THE SWALLOW.

Hirundo rustica, LINN.

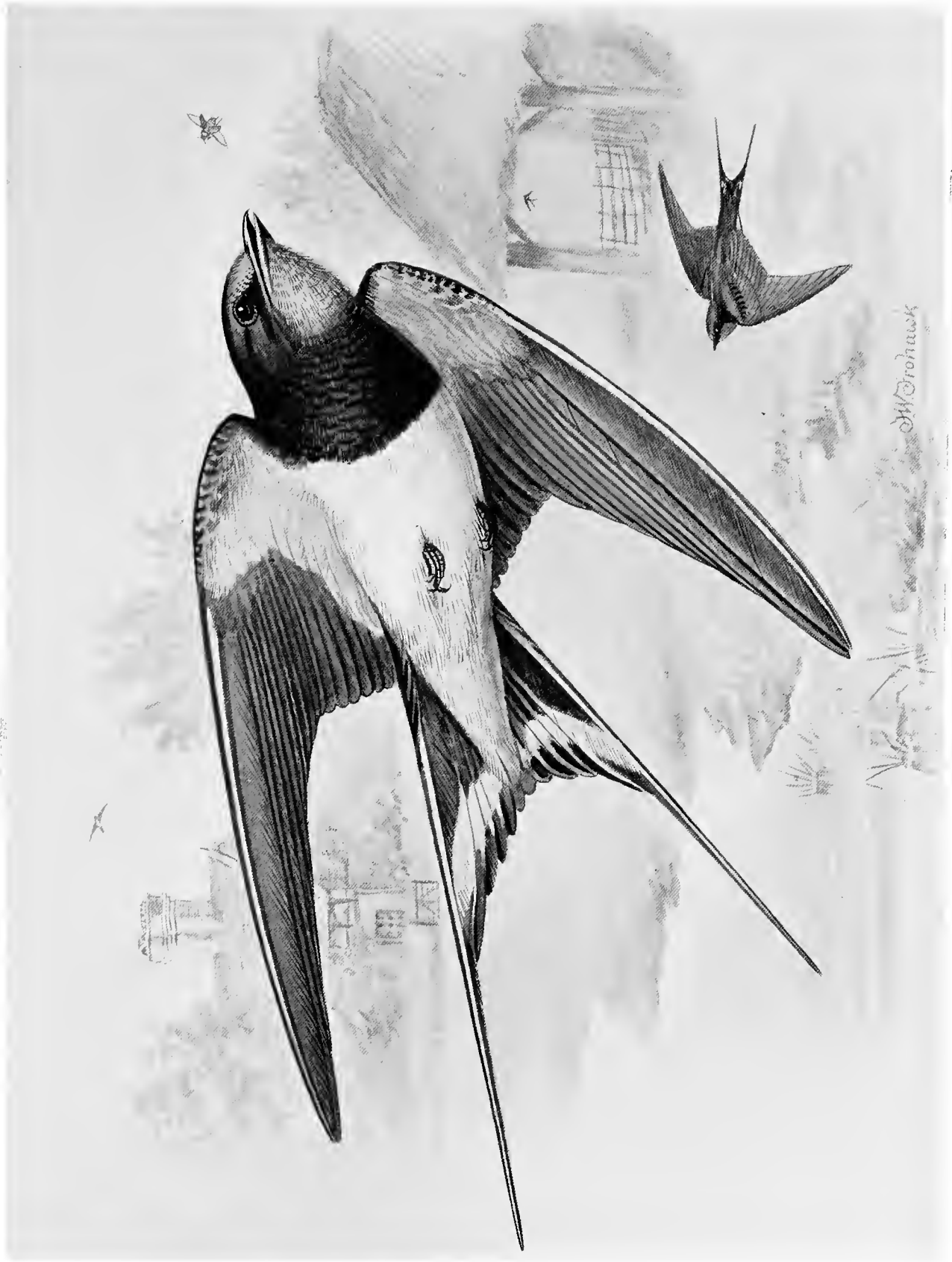
THE Swallow breeds throughout the greater part of Europe, Asia, north of the great mountain ranges, and Northern Africa: in winter it has been obtained all over India, to Burma and Malaysia, and throughout Africa: exceptional cases of its occurrence in East Finmark, Spitzbergen, and Nova Zembla have been recorded.

Throughout Great Britain the Swallow is generally distributed, although it is said rarely to breed in Shetland, and never in the Outer Hebrides. According to Capt. Feilden it is common in the Færoes, in May, but is not known to nest there. At the season of migration the Swallow collects into flocks, and Mr. Frohawk, in September (about the 28th or 30th), counted 113 sitting on one stretch of telegraph wire at Buckland, in South Devon.

In adult plumage this species has the forehead chestnut, upper parts prussian-blue, wings and tail brown, with the outer webs of the feathers bluish-green; the inner web of the innermost greater wing-covert greyish-white; all the tail-feathers excepting the central pair, with white patches on the inner webs: under parts almost white, the throat chestnut; a belt of prussian-blue across the breast; under wing-coverts and belly buffish; bill and feet black; iris hazel. The female chiefly differs from the male in the shorter tapering outer tail feathers, somewhat duller colouring, whiter under parts, and narrower breast-belt. Young birds are duller, with the chestnut portions paler, and the spots on the tail somewhat rufous.

It is believed that the Swallow pairs for life, and it is certain that it returns year after year to the same breeding spot, sometimes even utilizing the previous year's nest; it is naturally a gregarious bird; though perhaps not so much so as the House- and Sand-Martins; where one nest occurs, in chimney, barn, or out-house, there are sure to be three or four close by, but I never observed more than half a dozen or so, even in the largest barn, whereas it is not unusual to see eight or ten nests of the House-Martin under the eaves of a House, whilst the occupied burrows of Sand-Martins in a single sand-bank frequently number from twenty to thirty.

The favourite haunts of the Swallow are country villages, hamlets, or even



J. H. Trohawk

SWALLOW ♂ ♀

isolated houses, and cottages; but it rarely penetrates far into the larger towns. It places its nest in various situations—on joists of barns, out-houses, boat-houses, in which case the form of the nest varies from an oval to a half-, or quarter-cup; against perpendicular walls under eaves of barns*; inside chimneys, wells, and mines; in corners of pillared porticoes to large houses; under rustic bridges; cases have even been recorded of nests built in a hole in a tree about thirty feet from the ground, and in the forking branch of a sycamore. In its wild state in mountainous or rocky localities this bird naturally builds against the sides of cliffs under overhanging ledges of rock, or in caves; but in Great Britain it usually seeks the habitations of men for nesting-sites.

The nest is always open above; the walls thick, and formed of mud-pellets mixed with straw, hay, or hair; the lining consists of fine grass-stems, usually almost concealed by a quantity of feathers, though in some instances these are absent.

As is usually the case with nests more or less exposed to light from above, the eggs are not wholly white and immaculate, the ground-colour is pure white, appearing rosy when not incubated; speckled, spotted, and occasionally heavily blotched with deep pitchy brown, often intermixed with sienna reddish spots, and with lavender grey shell-spots; in some eggs the spots are small and tolerably evenly distributed over the entire surface, sometimes they are larger, and principally collected at the larger end; sometimes there is an imperfect zone of spots, and even large blotches near the larger end: some eggs are elongated ovals, others short and well-formed.

The Swallow when approaching its nest always utters a plaintive warning note, the intention of which doubtless is, to call the attention of its young to its advent; but this call is uttered even before the eggs are deposited, and is continued after the nest has been robbed: this has given the impression to unobservant persons that the parents mourn over the loss of their possessions.

Seebohm asserts that the Swallow builds a fresh nest every year; but I have proved conclusively that, when built under the shelter of a portico, where it is protected from wet, the same nest is sometimes used for three consecutive years; indeed I have in my collection a nest with the clutches of eggs which it contained in June 1881 and 1883: in 1882 I was forbidden to touch the eggs because the lady of the house said “the poor birds cried every time they approached the nest” †

* Seebohm had an idea that this method of building was confined to the Continent, but I have found it equally common in Kent.

† In my “Handbook of British Oology,” I spoke of *two* successive years, forgetting that an interval had elapsed between the taking of the two clutches; but an examination of the dates on the eggs reminded me of the fact.

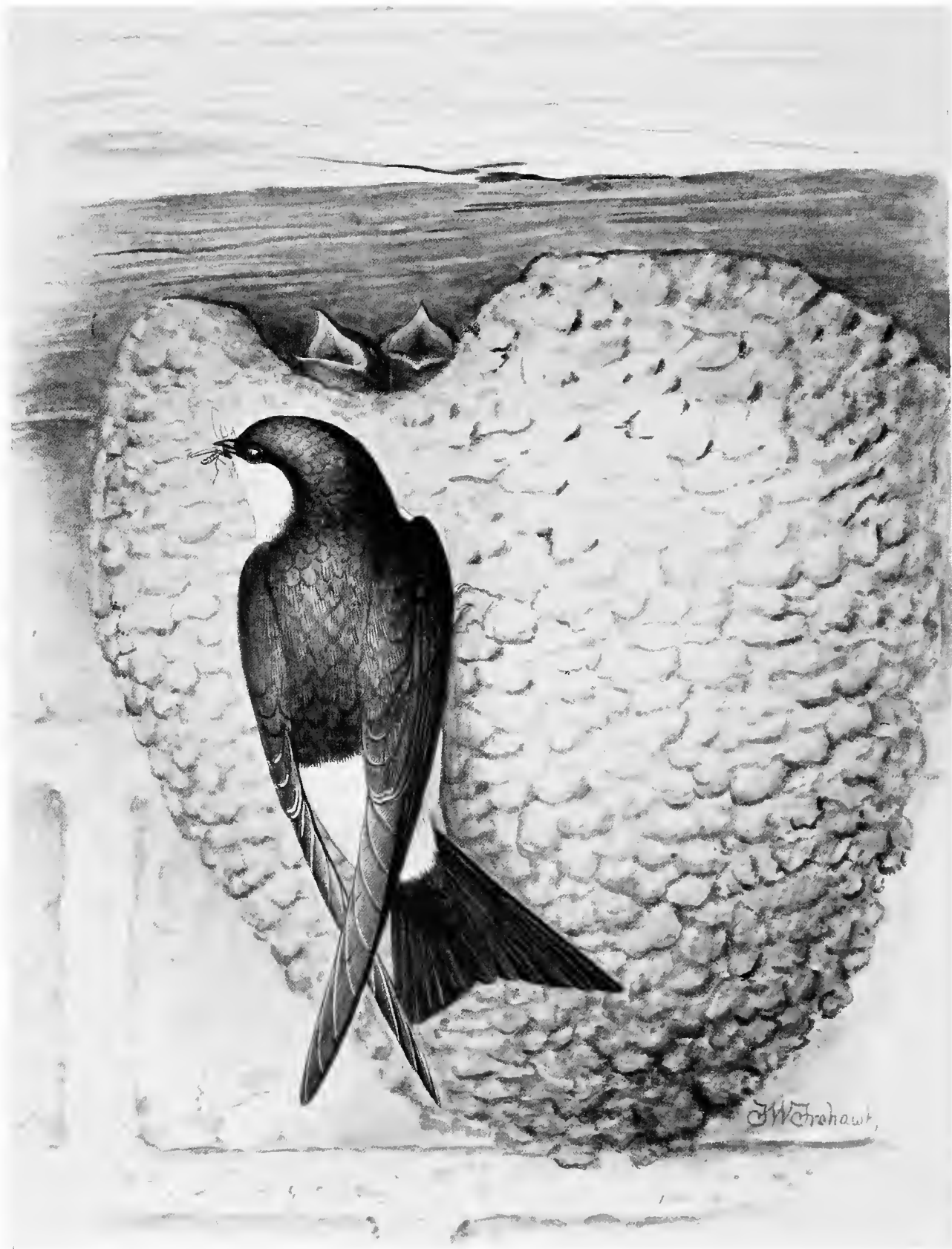
after I had taken the first clutch: these eggs are more heavily marked than any which I have obtained elsewhere.

The Swallow is an admirable singer, and I shall not easily forget the pleasure with which I first heard it, as it poured forth its sweet melody from the girders of a large railway-station in Switzerland, in 1869; I have heard it several times since, both in Kent and Norfolk, singing from a telegraph wire: the song is very varied and, to my mind, far more melodious than that of a Linnet. Its call may be heard as it chases its insect prey—*hwit, hwit*, or as it greets a passing comrade, *hwit-tit-tit-tit*.

The food of the Swallow consists largely of gnats, small flies, and ephemeræ; but it frequently settles on the roads, or on manure heaps, to search for small dung-beetles: owing to its short legs, its progression on the earth is somewhat awkward, and when hurried it uses its wings to help it along: it usually drinks on the wing; skimming the surface of the water as it glides over: its rapid graceful flight is too well known to need description, sometimes at such an elevation that the eye can scarcely follow it, sometimes so near the earth that the grasses wave under the rush of its outspread wings.

As a cage-bird the Swallow is a mistake; he sits upon his perch all day looking miserable, rarely moving excepting to eat or drink: specimens have been exhibited at the Crystal Palace shows, held in 1889, 1890, 1891, 1893, and 1896: in one case the bird was awarded a prize, although it only had one perfect wing; as a rule the staple food placed in the cage for the consumption of these unhappy captives consisted of gentles.

So far as I can judge, the object of the owners of caged Swallows is, not to make their pets happy, but to rush them from one show to another, in the hope of gaining many awards before their prisoner dies; one of the unfortunates was described as “Winner of 23 First, and 11 Special Prizes”—Poor Swallow!



MARTIN ♀

Family—*HIRUNDINIDÆ*.

THE MARTIN.

Chelidon urbica, LINN.

THE House-Martin breeds throughout Europe, ranging even further north than the Swallow. Seebohm says of it:—"It occasionally straggles to the Canaries and Madeira, and breeds abundantly in North-west Africa. In Egypt and Nubia it is only known on migration; but it breeds in Palestine, Asia Minor, and Persia. Scarcely anything is known of its winter quarters, which probably are somewhere in Central Africa. A few birds are supposed to winter in Algeria, and stragglers are said to occur in Turkestan and India."

Generally distributed throughout Great Britain, with the exception of the Outer Hebrides.

The adult Martin has the upper parts to the rump glossy blue-black; the rump, inner tail-coverts, and under parts pure white; wings and tail brownish-black, slightly tinted with green; bill black; feet horn-yellowish, but densely covered with fine white feathering; iris hazel. Female similar to the male. Young birds are smoky brown above, the rump and under parts sordid white; the innermost secondaries tipped, and most of the quills edged with white; the tail shorter and less forked.

Apart from its colouring, this species is easily distinguished on the wing from the Swallow by the absence of the long tapering points to the outside tail feathers; but the white rump is also usually very conspicuous.

The Martin arrives in this country about a week later than the Swallow; that is to say between the middle and end of April, according to the nature of the season; it usually leaves again between the end of September and beginning of October, though stragglers have been known to linger even to December.

In its habits and haunts this species much resembles the Swallow: why Seebohm went out of his way to assert that "its legs are too short to allow it to walk" I do not understand; for it certainly can not only walk, but run nimbly for short distances, without erecting its wings; though, if in a hurry, it uses its wings to assist it in taking surprising leaps. The call-note of the Martin is a thin whistled sound, something like *szeet*; the song a modulated twittering.

The House-Martin builds its nest against a wall, and immediately below and up to a projecting ledge; rectangular eaves of houses are preferred, but sometimes projecting bricks on railway- and other arches are used, or ledges of rock; the nest being completely closed in with the exception of a semi-circular or demi-semi-circular hole at the top, and usually in the centre.

The nest is formed of mud without, and with hardly any admixture of grass or hair; it is consequently so much more brittle than that of the Swallow, that, with the greatest care, using a long sharp table-knife, I never succeeded in obtaining a perfect specimen; indeed most nests fall into fragments at the first attempt to detach them, leaving nothing but the lining with the eggs in the hand held below as a support: this lining consists of dry grass, and sometimes, but not invariably, a few feathers. The eggs number from four to six; in form they are generally elongated ovals, pure white, and immaculate, but appearing rosy when fresh-laid; they are smooth and thin shelled, moderately glossy, but not exactly shiny.

When attempting in vain to secure a perfect nest of this species, it has often surprised me that the mere weight of the nestlings does not burst the fragile mud shell; the glutinous saliva of the bird is supposed to assist in uniting the mud pellets in the first instance, but one would expect a driving rain to be more than sufficient to counteract that slight advantage: why this species so rarely uses hay and hair to strengthen its walls is another puzzle, for the additional stability which it gives to a Swallow's nest is so considerable; that, taking a metal dipper filled with hay to the top of a chimney, I have only had to lower the edge of the metal pan below the nest and jerk it upwards, to secure the nest uninjured.

The food of the Martin consists wholly of insects, which it obtains on the wing; in confinement, however, it readily feeds upon the usual soft food. In the first week of July, 1891, my colleague, Mr. W. R. Ogilvie Grant obtained a nest of four House-Martins about a week old, and gave them to me. Following out the mistaken notions of many aviculturists I at first fed these young birds partly upon raw rump-steak finely minced; but I also gave them a mixture of carefully selected ants' cocoons, and preserved yolk of egg, ground up in a mortar with maizena wafers, the whole carefully mixed together, and slightly damped. Upon this diet all four attained their full size, after which they refused the raw meat, but continued to eat the mixture greedily.

I kept these birds in a basket filled with hay, and several times each day they were taken out and encouraged to fly about the room; but now they began to object to return to the close confinement of their basket; therefore I purchased a large cage, hung up a cocoa-nut nest lined with flannel in one corner, and taught

them to retire to it every evening, or whenever they appeared to feel the cold. At the end of a month the Martins were able to feed themselves, and, like all the *Hirundinidae* when accustomed to soft food, they ate far more than was good for them. I now tried a change of diet, giving "Abrahams' Food for Nightingales," damped ants' cocoons, cut up mealworms, and flies; but it was of no use, for three of them soon died of plethora, and probably, in part, owing to insufficient exercise, although we did our best to encourage them to exert themselves in various ways. One of our plans was to put all four on the ground at one end of the room, then run to the other end and call them: this was the signal for a most comical race, in which at first they ran at a surprising rate though very awkwardly; but, as they became excited in the race, used their wings, and finished with a series of astounding leaps, finally flying on to our arms, and either running up our sleeves, nestling down in the hollowed palms of our hands, or perching on our shoulders. My son used often to hold one up in his hand, and it invariably sprang up and pecked his nose, but only one of the four would do this.

Although naturally so greedy, our Martins would invariably leave their food and fly to us when called; they could not therefore be accused, like most cage-birds, of cupboard-love; they were also unlike other birds in their fondness for being handled and stroked.

My fourth bird lived until the morning of September 18th, and became a general pet: his cage was kept in a small spare room, the wire door being usually left open, so that he could go out and in at pleasure; every day, as soon as I returned from town, I used to run up and call him, and he would at once fly to me and nestle down in my hand. Towards the end of his life he appeared to feel the cold, and usually retired early to his cocoa-nut nest, but he generally tumbled out as soon as he heard my footstep. Two days before he died his cage door was shut and he had got into his snuggery, but I called out, "Well little chap, how are you?" In a moment his head was popped out and he sprang to the cage-door: I opened it, stepped back to the end of the room and called him, and he immediately flew across as usual.

I don't think I was ever more fond of any pet than I was of that House-Martin, and I felt his death acutely: but, nevertheless, I do not recommend the species as a cage-bird; its wings are so long, and its legs so short, that the primaries constantly get dragged through the dirt and need frequently cleansing, which tends to give the birds cold. A long and well-warmed corridor would make a suitable aviary for them.*

* I published this account in slightly different words in the "Zoologist" for 1891, pp. 397, 398.

Family—*HIRUNDINIDÆ*.

THE SAND-MARTIN.

Cotile riparia, LINN.

OF the distribution of this bird outside the British Islands, Howard Saunders writes:—"In the Færoes and Iceland the Sand-Martin has not yet been obtained, but on the Continent it is generally distributed from 70° N. lat. to the Mediterranean in summer; while it also breeds sparingly in the northern districts of Africa, and abundantly in Egypt and Palestine. Eastward, it is found across Asia; on the American Continent it breeds in large colonies in Alaska, and up to 68° N. lat. on the Mackenzie River; and we trace it to Newfoundland. In winter it visits Mexico, Central America, and the valley of the Amazon; and—in the Old World—China, the Indian region, and South-eastern Africa down to Zanzibar. Occasionally it wanders to the Canary Islands."

In Great Britain this bird is generally distributed wherever the nature of the soil is suited to its requirements when breeding: to the Shetlands, however, it appears to be only an occasional visitor.

The adult Sand-Martin has the upper parts mouse-brown, slightly darker on the crown and paler on the rump; the wings and tail blackish-brown; under parts white, with a broad brown band across the breast; bill black; feet dark brown, with a few buffish feathers at the back of the tarsus; iris hazel. The female nearly resembles the male, but is said to have a slightly narrower band across the breast.* The young have most of the feathers of the upper parts tipped with buffish white, and the under parts, especially the chin and throat, more or less washed with buff.

The Sand-Martin reaches our shores at the end of March, or beginning of April, and immediately repairs to its chosen building site, usually a nearly perpendicular wall of hard sand or gravel, either on the bank of river, loch, or lake, along the sea-shore, at the side of a railway-cutting, a road-side where the banks are high, a sand- or gravel-pit, or a brick-earth cutting. Seebohm also mentions having seen heaps of half-rotten sawdust utilized; but of whatever substance the

* This difference is often given to distinguish the sexes of foreign birds of various species; but in some cases I have found it very unreliable.



SAND-MARTIN ♂ ♀

bank may consist, the Sand-Martin proceeds to excavate a slightly sloping, or at times even a very obliquely upward slanting tunnel. In the first season this tunnel rarely exceeds a foot, or at most eighteen inches, in length; and, if the bird finds any obstruction, such as a flint-stone or tough root in the way, the tunnel sometimes turns almost at right angles, or even slopes obliquely backwards and upwards: year by year this tunnel is excavated further inwards, until it sometimes reaches a length of from three to four feet. At the end of the tunnel a small chamber is hollowed out, sometimes a little above, but in a line with the tunnel, but often on one side of it; and in the bottom of this chamber the nest is formed.

The nest of the Sand-Martin is very slight, and loosely constructed of a little dry grass, rootlets, and rarely a straw or two; the lining, when there is one, consists of feathers; when the nest is not far from the entrance the feather lining is either absent, or a few collected at random are carelessly pushed into the centre; but when at a great distance from the light, white feathers are usually selected and neatly arranged, each feather lying on its face with the curved under surface upwards, and the base of the shaft in the centre of the nest: when carefully removed from the burrows, nests of this character are very pretty; the pinky-white eggs appearing to lie in a pure white flower-like cup; unhappily a very slight puff of wind disturbs their symmetry, whilst the removal of the eggs inevitably displaces the lining, so that one never sees a really perfect Sand-Martin's nest in any collection. One reason for the slovenliness of many cabinet nests probably may be, that where nests are abundant, the collector is satisfied with those most readily attainable, and thus fails to secure the best-formed specimens.

The eggs vary in number from four to six, and in form from a long to a short oval; in colour they are pure white, very slightly glossy, and when freshly laid show the yolk through the shell, which gives them a rosy appearance.

The burrows of Sand-Martins, although an irresistible attraction to the birds-nester, are often a source of considerable annoyance to railway companies: every year fresh tunnels are added, as those first formed extend too far inwards to please the birds, one tunnel runs into another, is abandoned, and a new one excavated: thus the bank of the cutting becomes so much undermined, that frosts and thaws bring about a land-slip, and a temporary block to traffic is occasioned.

Of all nests which I have taken, I know of none which so swarms with fleas and ticks as that of the Sand-Martin; the young birds if taken out and examined, will frequently be found to have large ticks attached to their heads, usually either on the crown or nape; whilst, in old colonies, the fleas skip about in myriads: how the poor birds exist under the incessant irritation of these lively vermin is a puzzle; but perhaps, like the African attacked by chigos, they enjoy the sensation.

The call-note of this bird is thin and shrill—a sort of *sweer*: the only attempt at a song which I have heard is a short low twittering, somewhat vaguely resembling part of the song of the Reed-Warbler, and usually uttered when two birds meet in the air and flutter a moment before continuing their onward flight.

Like the other Swallows, this bird is purely insectivorous; its food principally consisting of gnats and small flies, which adhere to its viscid saliva, as with wide-open gape it pursues them in the air: it has been stated to feed its young occasionally with large dragon-flies, but this seems rather improbable, the bodies of these insects being so long, that (if given entire) they could not be swallowed by such tiny birds: the only chance is, that the greed of these nestlings which, when fed, frequently try to swallow one another's heads, might possibly enable them to tear the body of the dragon-fly in half. The Sand-Martin usually produces two broods in the year, the first nest being rarely full before the beginning of June, and the second about the middle of July, or even later: the return migration commences late in August, and sometimes continues up to the middle of October.

As a cage-bird the Sand-Martin cannot be commended:—when on a nesting excursion in Kent, in July, 1887, a family of five little Sand-Martins was brought to me: as the birds were too young to let fly, I determined to try and keep them as pets, but I found it a harder task than I had anticipated to induce them to open their mouths for the food (Abrahams' Nightingale Mixture) which I gave them. However, after nearly a week's perseverance, my wife and a girl who then assisted in looking after my birds, succeeded in persuading four of them to open their mouths when food was offered. All five were then in excellent health, though rather too fat: they were very pretty, and when sitting on one's finger, looked exactly like diminutive hawks. Unfortunately, although by this time the Martins were well able to fly, they could only be induced to do so if taken into a room where their food was not in sight. In less than a fortnight they could feed themselves, and after that they would eat incessantly, swallowing such huge mouthfuls of the soft food, that it seemed marvellous where they could stow it all away: then they would fall asleep, sitting upon the edge of the food-pot, and remain in a state of stupor for perhaps half an hour, when they would wake up and begin to gorge again. Naturally this life did not agree with birds whose nature it is to be incessantly on the move, and who get their food slowly and in minute morsels; they grew rapidly thinner and weaker, staggered in their walk as if drunken, and dropped off one by one, until, in just over three weeks from the time when I received them, the last of them died. Possibly, if it had been practicable for me to be at home to attend to them, I might have given these birds their food at

stated intervals, and compelled them to take exercise; in which case, perhaps their lives might have been prolonged: but Sand-Martins are not suitable birds for the aviculturist.

FAMILY FRINGILLIDÆ.

THIS family consists of a number of hard-billed, largely seed-eating, birds. Howard Saunders only distinguishes these as Finches (*Fringillina*) and Buntings (*Emberizina*); but the Catalogue of Birds, of the British Museum, regards the Grosbeaks as constituting a third Subfamily (*Coccothraustina*.) Seebohm agreed with Howard Saunders in uniting the latter Subfamily to the typical Finches; but, in my opinion, there is more difficulty in distinguishing between some of the foreign Buntings, and Grosbeaks, than between the latter and the true Finches. I would, in any case, rather err on the side of too much regard for structural differences, than on the opposite side.

The *Fringillidæ* have only nine quill-feathers to the wing, the first primary being wholly absent; the bill is hard and conical, and is (to my mind) better described by the term "beak"; the Finches feed their young from the crop, regurgitating the food when partially digested: naturally during the breeding season, I believe all are more or less insectivorous, although seed forms their staple food: in confinement, however, many of the Finches will live for many years upon seed alone.

The *Coccothraustina*, or Grosbeaks, of which the Hawfinches are typical, are characterized by a very heavy and powerful beak, with hardly any angle to the chin; the nasal bones produced backwards beyond the front margin of the eye-socket. (cf. R. B. Sharpe, Cat. Birds, Vol. XII).

The *Fringillina*, or true Finches, the type of which is our English Chaffinch, usually have a somewhat less powerful beak, with the angle of the chin slightly more defined, but still very feebly shown; the mandibles almost terminating at the same point; the nasal bones not produced backwards beyond the front margin of the eye-socket.

The *Emberizinae*, or Buntings, of which our Yellow Ammer may be considered typical, have a well-marked angle to the chin; the lower mandible terminating well within the upper one, and not completely closing in the centre of the cutting edge; the more typical Buntings also have a hard horny knob on the palate, and a compression of the lower mandible to meet it; they also walk when on the earth, and are largely insectivorous (in which respects they approach the Chaffinch and Brambling among the true Finches): many Buntings, however, are not walking birds.

The *Fringillidæ* are favourite cage-birds, chiefly on account of the ease with which their food can be provided.

Family—FRINGILLIDÆ.

Subfamily—COCCOTHRAUSTINÆ.

THE GREENFINCH.

Ligurinus chloris, LINN.

OF the geographical distribution of the Greenfinch, Dr. Sharpe says that it inhabits:—"Europe generally; the countries bordering the Mediterranean; accidental in Madeira; extending eastwards in Persia and North-western Turkestan."

In Great Britain this common and well-known Grosbeak is generally distributed, breeding in all suitable localities; but to the Orkneys, Hebrides, and Shetlands, it is chiefly an autumn and winter visitant.

The Greenfinch varies considerably as regards brillance of colouring; the birds of the spring immigration being stated to be much paler and brighter in colouring than the resident birds: the latter are largely added to in the autumn, by the advent of immense flocks which arrive in October on our eastern coasts.

The adult male above is yellowish olive, more yellow on the forehead and rump; greater coverts grey; primary coverts edged with yellowish; primaries



GREENFINCH ♂ ♀

greyish brown, edged with yellow; secondaries with paler outer webs; tail feathers yellow at the base, blackish at the ends, the central ones largely blackish; lores blackish; a broad superciliary yellow stripe; ear-coverts grey; sides of face and cheeks yellow, the latter somewhat greyish; under parts yellow, becoming whitish on the abdomen; flanks greyish; beak flesh-coloured, darker towards the tip; feet horn-brown; iris hazel. The female is similar in pattern to the male, but slightly smaller, much duller and browner, the feathers of the head and mantle with dark shaft-streaks; the underparts also are less yellow. After the moult the margins of the feathers are paler, and the yellow less bright; but in the spring, as with many other species, the tints become purer and more lively. The young are very like the mother bird, but the feathers are somewhat more streaked; they acquire the adult plumage after their first moult; but the colouring does not attain its greatest brilliancy in the first year.

During the summer months the Greenfinch is a somewhat skulking bird, and chiefly haunts the borders of woods, parks, plantations, shrubberies, gardens, and dense hedgerows; but in the winter it may often be seen feeding in company with Sparrows, Chaffinches, and Buntings, in stubble-fields, farms, and gardens. Excepting when feeding its young, the song may frequently be heard; it is always bright and clear, and some individuals sing remarkably well, reminding one somewhat of a Norwich Canary; only, unfortunately the song is always interrupted at the end of a phrase or two by a harsh *zshweer*, and terminated with the same disagreeable note. The call-note is a sound like *tirri*, or a shrill sharp chirp, somewhat resembling the *chink* of the Chaffinch; the call of defiance is the same as the harsh note introduced into its song; the call of the young for food resembles that of many Finches—*chirwi* or *chirri*.

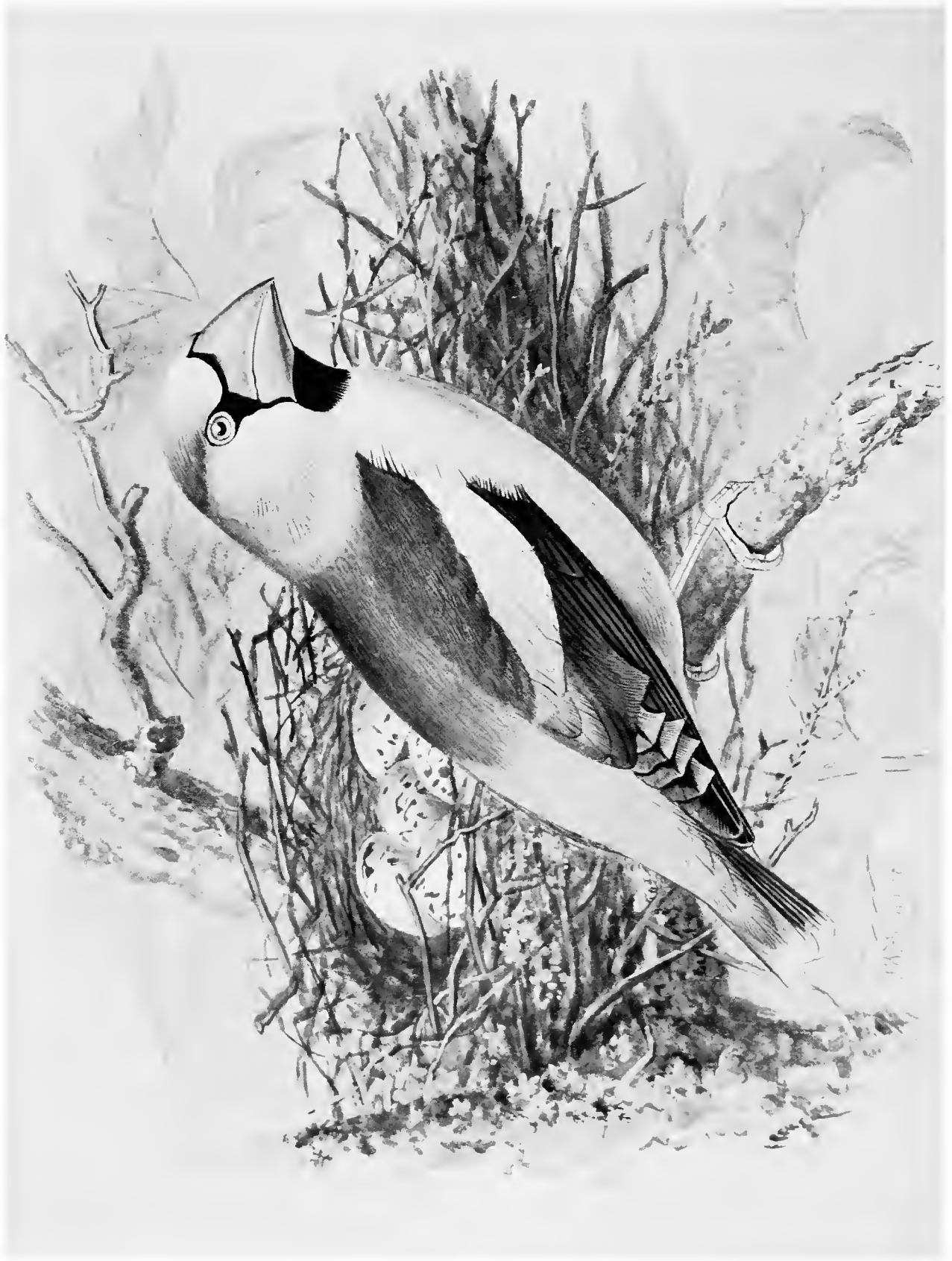
The nest is very frequently placed in hawthorn hedges; indeed I once found three nests of this bird within a distance of two yards, two of them being only a foot apart, and all three at a height of about five feet from the ground; it is also commonly placed in clumps of tall furze-bushes; I have also found it in *laurus-tinus* bushes, in ivy on walls, in the forks of low trees, chiefly yews and spruce-firs, and a friend found me a nest among the twigs sprouting from the stump of a branch, cut from a tall oak (about eight feet from the ground) this being placed at a greater elevation than any other nest of the species which I have met with; Seebohm, however, speaks of the Greenfinch sometimes selecting a site "fifty feet or more from the ground, in a fork of an elm, or even in a cavity in the trunk."

The nest varies considerably, the thickness of the walls being from one to two inches, and usually very firmly, though occasionally loosely constructed; the depth of some nests is also double that of others; as regards materials I

cannot do better than quote my own descriptions of eight selected nests from my "Handbook of British Oology":—"1.—An outer framework of rough twigs and coarse roots, the walls of fine roots and green moss, and the lining of fine reddish fibrous roots. 2.—Of coarse, half-decayed straws, bents, and roots, thickly lined with fine root-fibre. 3.—Of slender withered grass-straws, and a mass of greyish wool, felted together, and lined with a few black horse-hairs. 5.—Of coarse plaited roots externally; of finer roots, moss, slender white hairs, and a little wool, matted together inwardly, and lined with a few black horse-hairs. 6.—Of green moss, with a few twigs and roots, and thickly lined with cocoanut fibre and a few black hairs. 7.—Loosely constructed of green moss and spiders' webs, with a few twigs; lined with vegetable fibre, and a few black hairs. 8.—Of twice the usual depth, (like a nest within a nest) formed of green moss, wool, and fibrous roots, in patches, which give it an extremely soft and variegated appearance; a few twigs outside, and a little hair in the lining." In form the nest is usually a fairly regular cup; but the nest taken from sprouting oak-twigs, noted above, is shaped like a sabot. The eggs number from four to six, usually five, and vary in ground-tint from greenish to pinkish-white, rarely to pale green, or buffish; the markings are, more often than not, chiefly confined to the larger end, and consist of spots, comma-shaped markings, irregular lines occasionally, and blotches of pitchy brown, or blackish, with underlying spots, and sometimes large blotches of sienna reddish, or reddish chocolate. In some eggs the markings are principally confined to a zone near the larger end, and sometimes they are scattered here and there like fly-marks over the entire surface: the form is by no means constant, a shortish oval type being common, though all gradations may be found between this and a long almond or even spindle-shaped type.

The Greenfinch will pair freely, both in cage and aviary, with the Canary; and crosses between it and the common Linnet in a wild state, are probably the most frequent and the best authenticated of the numberless well-known wild hybrids which have been recorded. In confinement the Greenfinch breeds as readily as a Canary, and brings up its young much better, not attempting to pluck them (like that foolish bird) after they have left the nest. It is very pugnacious in the breeding-season, dashing straight at its opponent like a bull at a gate.

One year I had a cock Greenfinch in an aviary with a pair of Canaries, and of course, the Grosbeak fancied it could easily dispose of its slim opponent, and take possession of his wife; so, with a harsh defiant *zshweer*, it charged blindly at him: the Canary took little apparent notice of the Greenfinch until it was within a foot or two, then with a graceful little curving flight he alighted on its back, and plucked out a beakful of feathers. This manœuvre was successfully repeated



HAWFINCH ♀

every time that the more powerful bird attacked him; so that at length the blundering bully came to consider that discretion was the better part of valour.

I found that a pair of Greenfinches in an aviary built in an ordinary nest-box hung upon the wires, building and feeding exactly as a Canary would; but not attempting to incubate until the third egg was deposited: they not only hatched all their eggs, but brought up their family without one failure.

In the winter, especially in severe weather, this bird may readily be caught in the ordinary cage-trap, especially if a decoy bird is placed in the cage, and a few sunflower seeds upon the platform. The larger Grosbeaks are all fond of these seeds, and it is no uncommon sight in spacious gardens to see the ripe sunflower heads covered with Greenfinches busily at work extracting every seed.

I once knew two old ladies who were great breeders of Canaries: on one occasion I called upon them to try and obtain a cock bird for breeding purposes; and, seeing that they had paired a Greenfinch and hen Canary in one of their cages, I asked why they were trying to breed such ugly unremunerative mules. They replied that their stock was getting weak, and they always introduced Greenfinch blood when their birds were falling off in vigour, and then bred out the taint, pairing the mules with Canaries. This has been supposed an impossibility; yet it was spoken of as a matter of course. Since then other mules, said to have been bred from hybrids, paired with either parent stock, have been exhibited at the Crystal Palace.

Family—FRINGILLIDÆ.

Subfamily—COCCOTHAUSTINÆ.

THE HAWFINCH.

Coccothraustes vulgaris, PALLAS.

THIS extremely ungainly bird is distributed over nearly the whole of Europe; breeding in Russia as far northwards as St. Petersburg, but only visiting Scandinavia in the winter; its range extends eastwards to Asia Minor, and the

Caucasus, and possibly to Northern Persia and Turkestan. On the African Continent a few examples breed in Algeria, and the species has been known to straggle as far northward as Egypt.

In Great Britain the Hawfinch is local, being rare in Wales and the extreme western counties from Cornwall to Cumberland; but breeding in suitable localities in most of the counties of England and in Ireland. To Scotland it is an accidental winter visitant.

Although the form of the Hawfinch is anything but graceful, its colouring is rather pleasing:—The adult male has the head of a cinnamon brown colour, a line round the base of the bill, the lores, chin, and throat, black; the nape is smoky grey; the back and scapulars dull chestnut, somewhat paler on the rump, and becoming rather yellower on the upper tail-coverts; wings bluish black, the median coverts white; the quills with a white patch near the middle of their inner webs, gradually increasing on the inner feathers, and tipped with blue; the tail-coverts cinnamon brown, much elongated; tail feathers black, white at the extremity of the inner webs: under surface of body pale Dove-brown, fading to white on the under tail-coverts: beak in summer bluish grey, darker at the tip; in winter brownish flesh-coloured; feet flesh-coloured; iris whitish. The female is duller in colour, with the white markings less pure. The young are without black on the throat, or grey on the nape; the head is also yellower, and the under surface of the body whiter; the mantle is mottled, and the breast and flanks are barred with dark brown.

The Hawfinch is resident with us; but it is probable that at least some of the young leave our shores at the approach of winter, their places being taken by immigrants from the north: in the autumn they not infrequently fly into the nets of the birdcatchers, and are disposed of at very moderate prices. During the summer months the Hawfinch is an exceedingly shy bird, and is far more frequently heard than seen; its call-note, consisting of a whistle four times repeated, and drawn out at the finish, being familiar to most frequenters of its haunts; the harsh Greenfinch-like sound, sometimes mistaken for its call-note, is probably its cry of defiance. The song is a very inferior performance of short duration, somewhat like that of an inferior Greenfinch.

The Hawfinch frequents well-wooded localities, such as forest-clearings, small woods, plantations, shrubberies, heavily timbered parks, where patches of yews or hawthorn and bramble are left to break the monotony of the landscape, and old orchards; in such places it builds, varying the site of the nest according to the haunt which it frequents; thus in a wood or clearing it usually makes its home in some old hawthorn, tangled with blackberry, vines, or in a holly, or on the

branch of a fir, oak, or beech-tree, some fifteen to thirty feet from the ground; but in an orchard, an old lichen-covered apple or pear-tree is chosen.

The nest of this bird most nearly resembles that of a Bullfinch, being very shallow, and always formed in a foundation of twigs; one which I found in course of formation, had the whole of this external structure formed of strongly spined interlaced twigs of hawthorn, from which all the leaves had been stripped, and presented a most formidable appearance; sometimes, however, the twigs are intermixed with coarse roots and dead plants, and ornamented with lichens; the nest itself is built of dead grasses and bents, and the lining consists of rootlets and hair: altogether it is so large that the Wood-Pigeon has been known to add a few twigs to it, and thus adapt it to its own purposes.* The eggs number from four to six, though five is the usual complement; they are pale bluish or buffish green in colour, and vary in pattern between that of the Common- and Reed-Buntings; the surface spots, blotches, and streaks being deep pitch brown, with underlying spots of lilacine grey: in size and form they correspond pretty closely with eggs of the Common Bunting.

The flight of the Hawfinch is rapid and powerful, somewhat undulating when the bird is passing from tree to tree, but more direct when long distances are covered. On the wing it often utters a peculiar clicking sound, a kind of *tic*, which may also sometimes be heard when the bird is caged.

The food consists largely of seeds, those of the hornbeam being much relished; but when feeding its young it devours insects, especially caterpillars, and probably buds; later in the year peas, cherry-kernels, beech-mast, yew-berries, and haws are eaten. In confinement sunflower-seeds, hemp, oats, beech-nuts, canary, and millet may be given.

Personally I have had but little experience of the Hawfinch as a cage-bird. On September 14th, 1893, a birdcatcher brought me a specimen which had flown into his nets: he was evidently afraid to handle it, and cautioned me against attempting to touch it without gloves, saying that its bite was frightful and drew blood; however I soon had the bird in my hand and caged it; but, although I placed the cage on a high shelf, the Hawfinch never became tame, but so wore the feathers of its wings and tail by its efforts to escape, that when after a few weeks of captivity it died, the skin was not worth preserving. I am therefore convinced that the Hawfinch should either be turned into a large aviary, or be hand-reared.

Speaking of a pair taken from the nest and brought to him in 1880, Lord

* When I wrote my "Handbook of British Oology" I had not found one finished nest of the Hawfinch; one or two seen subsequently in Hertfordshire had already been deserted.

Lilford says:—"My two caged Hawfinches * * readily devoured meal-worms and house-flies, but I imagine that this is an unnatural and acquired taste." In this I think his Lordship is in error, for there can be nothing unnatural in a bird largely reared upon partly digested caterpillars, subsequently eating mealworms. Ripe apples would probably be a welcome addition to its prison-diet; for, according to my friend Mr. Horatio Fillmer, of Brighton, the Black-tailed Hawfinch is especially fond of fruit.

As a pet the Hawfinch has but little to recommend it; it is not a pretty bird, is quarrelsome, spiteful, and can on no account be trusted in an aviary with any species weaker than itself. It is, moreover, fully as much trouble to its owner in respect of food as many a far more attractive species: yet, according to the Rev. H. A. Macpherson, it has one merit; although its own song is insignificant, the Hawfinch is not wholly destitute of the imitative faculty. In my friend Charles A. Witchell's interesting work on the "Evolution of Bird-song," we read (p. 172): "Even so poor a songster as the Hawfinch will imitate when a captive. The Rev. H. A. Macpherson informs me that they will pick up any sounds."

Nevertheless, when a bird has no beauty of form, and when its colouring is little superior to that of a hen Chaffinch, its song should compensate for other deficiencies; and, as Major Alexander von Homeyer remarks (*Gefiederte Welt*, Vol. XX, p. 489) the cherry-kernel biter is "not gifted with natural song."

It appears to me that, in dealing with British birds, it is far more convenient to introduce the Bullfinches (the so-called Grosbeaks) immediately after the true Grosbeaks: in their habits they are not dissimilar; whereas, to place them, as Howard Saunders has done in his "Manual," between the more slender-billed Finches and the Buntings, seems rather unnatural: I have, therefore, not followed him in this respect.

There is not the least doubt that, so far as their habits are concerned, the most typical Finches (that is the members of the genus *Fringilla*) approach far more closely to the Buntings than any other species of the Subfamily, and next to *Fringilla*, I should consider *Passer* (in spite of its aberrant nest) to show relationship to the *Emberizinae*: I speak as an Aviculturist of course, and do not venture to criticize the classification from a structural standpoint.



TWO-BARRED CROSSBILL ♀ ♂

Family—FRINGILLIDÆ.

Subfamily—FRINGILLINÆ.

THE TWO-BARRED CROSSBILL.

Loxia bifasciata, C. L. BREHM.

HOWARD SAUNDERS gives the following account of the distribution of this species, and its claims to be regarded as British seem to be well supported:—It “inhabits the coniferous forests of Northern Russia, and Siberia, as far as the Pacific; wandering in autumn and winter to South Sweden, Denmark, Heligoland, North Germany, Holland, Belgium, the North of France, North Italy, Austria, and Poland. In our Islands the first recorded specimen was obtained near Belfast, Ireland, on May 11th, 1802, and in July or August, 1868, a second was obtained in co. Dublin. A few years prior to 1843, one was killed in Cornwall; in the autumn of 1845, a flock appeared in the neighbourhood of Brampton, in Cumberland, and ten or eleven were shot, six of them being in female plumage; in May, 1846, two or three were killed from a flock near Bury St. Edmund’s, Suffolk; and about the same time the late H. Doubleday shot a bird in his garden at Epping. Others have been observed in various parts of the United Kingdom.” (Manual of British Birds, p. 195).

The adult male has the feathers of the upper surface of a rose-madder tint, browner on the back, and inclining to carmine on the rump, the bases of the feathers broadly black; the wings are black, the greater and median coverts being broadly tipped with white; the inner secondaries edged with white at their extremities; tail brownish-black, with rosy white edges to the feathers; under surface rose-madder, whitish on the belly, becoming quite white towards the vent; beak and feet horn-brown; iris hazel. The female above is greenish-grey, washed with yellow, and streaked with brown; the rump is yellow; under parts sordid yellow, streaked with brown; the throat and abdomen paler. The young bird is distinctly greyer than the female, more prominently streaked, with narrower tips to the median coverts; the flights and tail-feathers with well-defined greenish-white margins.

The American form of this species (known as the “White-winged Crossbill”) has, on several occasions, been obtained upon our shores; but, considering the numbers of American Passeres imported yearly to this country, it would be indeed

surprising if some of them did not fall victims to the desire implanted in the hearts of many collectors to secure every strange bird which they see; moreover, quiet and confiding as the Crossbills and Rose-finches are in confinement, they are in some respects far less attractive pets than many other birds; therefore it is quite conceivable that the owner might weary of them, and give them their liberty.

This near relative of our common species, agrees very closely with it in its habits, frequenting and breeding in forests of conifers, and feeding largely upon the seeds of these trees: in confinement it is said to be very fond of apples; but I suspect, as is the case with the common Crossbill, it merely chews up and drops the fruit in order to secure the pips, which these birds eat with great relish.

The nest is described by Mr. Dresser, as chiefly differing from that of *L. curvirostra* in being smaller and slighter; the eggs also are said to resemble very closely those of the common species, but are smaller and darker.

The song is stated to be superior; but, as the Common Crossbill can hardly be said to have a song worth mentioning, it need not be especially meritorious on that account; indeed, Herr Mathias Rausch speaks of the Crossbills collectively (*Gefiederte Welt*, Vol. XX, p. 396) as of trifling value as cage-birds, on account of their song; with which opinion Major Alexander von Homeyer (p. 489) agrees.

Herr Gätke says that in 1889 this species "occurred more frequently (on Heligoland) than on any previous occasion. On the 14th of August I obtained a beautiful scarlet-red male, and an old female. On the 1st, 16th, 18th, 20th, and 22nd of September, from two, five, up to eight males and females were seen daily, accompanied by larger numbers of the common species; but among all these only one bird in the grey- and black-striped early dress. For my collection I stuffed three fine red old males, a younger yellow male, two old females, and the young bird already mentioned. A large number were consigned to cages by fanciers: some of them having been sold, the rest subsequently died out."



COMMON CROSSBILL ♀ ♂

C. A. Johnson

*Family—FRINGILLIDÆ.**Subfamily—FRINGILLINÆ.*

THE COMMON CROSSBILL.

Loxia curvirostra, LINN.

ACCORDING to Dr. R. Bowdler Sharpe, this species inhabits “the greater part of Europe and Northern Asia, to Japan and North China, Himalayas, North America as far as Mexico.”

In Great Britain, the Crossbill is principally confined during the summer months to the pine forests of Scotland; though it has bred in several of the eastern counties of Ireland, and in Tipperary, as well as in some of the counties of England: here, however, it is most frequently met with during the winter, sometimes in flocks, though often only in small parties.

In colouring this species nearly resembles the Two-barred Crossbill, excepting in the absence of the white tips to the greater and median wing-coverts: perhaps the male is a little less brilliant in colour, and the female a little more orange; but as these birds vary in these respects with age, it is not safe to speak positively: one thing is certain—that, in captivity the red colouring is entirely lost after the first moult; but whether permanently it is not safe to say without experimenting, inasmuch as many birds, notably the American Nonpareil (*Cyanospiza ciris*) lose their red colouring in the same manner; yet the Nonpareil, at any rate if exposed in an airy and sunny aviary for a year or two, and supplied with plenty of insect-food, reproduces the red colouring. The mandibles of the young bird are straight, the lower mandible being covered by the cutting edges of the upper; but in the adult birds it curves upwards towards the tip, that of the male (in the ordinary variety) barely reaching to a level with the culmen of the upper mandible, on the inside if viewed from above; that of the female, which has much the longer, less arched, and more slender beak, projecting well above the culmen on the outside. This different crossing of the mandibles in the sexes probably enables the male to feed the female; otherwise it is difficult to understand its object.*

The Crossbill is an irregular migrant; consequently if food is scarce in the north, it wanders southward to search for sustenance there: in winter the species

* Since writing the above, I find that this character is not constant; it would therefore be of interest to note whether pairs are ever shot from one nest having their beaks similarly crossed. A.G.B.

is more gregarious than in summer, though even during the latter season Seebohm tells us that "small parties of males may be seen seeking food in company. They are very early breeders; and fresh eggs are usually found in February and March. Eggs have been taken in April and May; but these are probably laid by birds whose first nests have been destroyed by their numerous enemies, or by heavy falls of snow, and are not second broods, as some ornithologists have supposed. If these birds are successful in rearing a brood, the family party appear at once to commence their gipsy life. If they meet a similar family-party, they appear to fraternise at once, and form the nucleus of a flock, which is sometimes seen far from home as early as June, wandering in search of food. It is a very pretty sight to see these flocks feeding upon the berries of the mountain-ash,* or stripping the larch or spruce trees of their cones. In winter they are exceedingly tame, and will allow the observer to approach very near and watch them without showing any signs of alarm. They are very active, and when busily engaged in feeding, place themselves in all sorts of positions, like a Tit or a Willow-Wren. They pass from tree to tree with strong but undulating flight, continually calling to each other. In late winter or early spring the males have a low warbling song, which reminds one somewhat of that of the Starling. The female is said also to sing nearly as well as the male." (Hist. British Birds, Vol. II, pp. 32-33).

I have never heard the Crossbill sing, but should imagine that it would not differ greatly from that of the so-called "Pine Grosbeak" (when recording probably; for hitherto I have only heard the latter utter a little bubbling chirrup, consisting of six or eight notes): in any case it must be a poor song, if we are to trust the judgment of our musical friends the Germans.

The call-note, and the only note which I ever heard proceed from the beak of the Crossbill, is *chip, chip; chip, chip; chip, chip*; repeated incessantly, from morning to night, with the monotonous regularity of a pendulum: but Seebohm declares that the bird sometimes says *tsup*, or *tsop*; in which I think he must have allowed his imagination to lead him astray, as it certainly has when he likens the cry to those of Chaffinches and Linnets.

The horizontal branch of a fir near the trunk, or at a distance from the trunk, or the forking branches of a pine, sometimes not more than five feet from the ground, are occasionally selected as building sites; but it is stated that apparently the favourite position is almost at the top of the tree, in the centre of the forking branches which thus form a sort of frame in which to support it. The nest itself is built after the pattern of that of the Bullfinch, a foundation of twigs of Scotch

* Hardly so early as June though, for I do not remember to have seen these berries really ripe before the first week in August.—A.G.B.

fir, enclosing a cup-shaped structure of dry grass and lichen; the lining being formed of somewhat finer materials, mixed with moss, wool, or feathers.

The eggs number from four to five, but rarely exceed four; they vary in colouring from greenish-blue to greyish-white, and are spotted, speckled, and sometimes almost streaked with dark brown; there are also underlying spots of pale reddish brown, and the larger end is occasionally dusted with greyish. The specimen figured on our plate is from the collection of A. B. Farn, Esq.

Whilst feeding their young the Crossbill feeds largely upon caterpillars, and other larvæ, also the chrysalides of a little moth, as well as buds of trees; but later, as the fir- and pine-cones ripen, it extracts the seeds with its powerful mandibles and feasts upon them. Berries of various kinds are largely eaten, and Seebohm says that the Crossbill is very fond of apples, but this is not strictly correct, for it simply tears the fruit to pieces and drops it, eating only the pips; I frequently observed the destructive part in the case of a pair of caged Crossbills once in my possession, but they never ate the pips.

Lord Lilford (*Birds of Northamptonshire*, Vol. I, pp. 205-6) observes:—"We have generally found the Crossbills very tame and easy of approach, and a flock of these birds, busily employed in feeding on the seeds of a snow-laden fir-tree, is a beautiful and most interesting sight. Their actions in quest of food very much resemble those of the smaller Parrots as they cling to and clamber about the large cones, from which they extract the seeds with wonderful rapidity. In confinement we have found this species, though it soon becomes perfectly tame, invariably very restless, and constantly climbing over all parts of its cage as if seeking to escape. As above mentioned, fir-seeds are the natural and favourite food; but these birds will readily feed on hemp-seed, and almost any of our common berries." "Although we have found our tame birds very fond of the pips of apples, we never could induce them to extract the said pips from the fruit for themselves." *

My own experience of the Crossbill as a cage-bird agrees very closely with the above as regards its disposition and behaviour: the following are my notes on this species: In the winter of 1886-7, my friend Mr. J. Johnston gave me a pair of Crossbills, and within a week the cock-bird would take sunflower seeds from my fingers. These birds are quiet but amusing creatures, much like Parrots in their actions. I placed their seed in one of the ordinary tin hoppers to prevent their wasting it, but in two days they had found out how to lift up the lid at the top, after which the cock-bird almost invariably took his seeds out there, clinging head downwards to the wires as he fed: in a few days the Crossbills became accustomed to their cage, and immediately set to work to do all the mischief they

* My birds always did so from the first, though they did not eat them when extracted.

could. They tore to pieces perch after perch, so that incessant renewal was necessary; then they began to tear away the woodwork of the cage, which was anything but pleasing to me, as it had cost me more money than I could afford to throw away: moreover, they fought for supremacy, and their bad language at such times was incessant *chip-chip-chip*. At last the *chip* of beak and tongue was more than I could stand, and I greatly desired to be rid of the dear creatures.

I think it likely that my Crossbills refused to take the trouble to eat apple-pips, because they were well supplied with sunflower-seed, with which they were perfectly satisfied. On the 6th February, 1887, I removed the Crossbills from their large wooden-framed flight-cage to a much smaller metal prison (such is sometimes used for Canaries); two days later the cock-bird discovered how to open the door; and, after carefully shutting it behind him, flew up to the roof of the greenhouse in which the cage was hung, and amused himself by walking about on the creepers head downwards. It was quite three quarters of an hour before he could be again secured in his cage, and he used his mandibles to some purpose upon his captor. The door of the cage was now fastened with wire, to prevent another exhibition of the bird's skill as a prison-breaker. On the morning of the 9th the cock-bird died, apparently out of pique, for we could discover no cause for his death, his organs being all in perfect condition; but possibly he may have been squeezed when captured: the following day the hen had a fit and followed his example. Thus my hope of exchanging my Crossbills for some less destructive species were disappointed.

Family—FRINGILLIDÆ.

Subfamily—FRINGILLINÆ.

THE PINE-GROSBEAK.

Pyrrhula cnucleator, LINN.

FROM time to time some five and twenty occurrences of this species in Great Britain have been recorded; but, as Howard Saunders says:—"Professor Newton (4th Ed. Yarrell's B. B.) has disposed of all but five as unworthy of belief;



BULLFINCH. ♀ ♂

while, to my mind, few even of these sifted records are entitled to acceptance.”

It seems to me that even if the species has been shot here, the probability is that (in every case) the examples have either escaped or been freed from confinement; inasmuch as it is not only imported from time to time as a cage-bird, but in my short experience (commencing in July, 1896) * the birds, though wonderfully tame and intelligent, are too powerful and destructive to be trusted with weaker companions, and eat so voraciously that their food makes a distinct difference in one's expenses: they are like most insect-eating finches, very fond of earthworms and green food; but the quantity of sunflower-seed and hemp which they devour in a day is astonishing, whilst their chief amusement in my aviary consists in tearing ivy to pieces. A man in a hurry to part with such birds would be very likely to turn them loose.

Family—FRINGILLIDÆ.

Subfamily—FRINGILLINÆ.

THE BULLFINCH.

Pyrrhula europæa. VIEILL.

DR. SHARPE gives the distribution of this species as follows:—"Western, Central, and Southern Europe. The eastern range is undefined, but it apparently ranges as far as Central Russia." The larger race known to aviculturists as "Russian Bullfinch" is regarded by the Doctor as a distinct species, which he calls "*Pyrrhula pyrrhula*." I must say I do not approve of this adoption of the generic name for the species, and should prefer to follow Brehm in calling it *Pyrrhula major*: it occurs in Northern and Eastern Europe, and in Siberia.

The Bullfinch, or Bloodolf, as it is called in Norfolk, is pretty generally distributed in all well-wooded districts throughout the British Isles.

* My friend Mr. James H. Fleming, of Ontario, very kindly sent me half a dozen specimens, all of which reached me in good health.

The male bird has the upper part of the head to below the eye and backward to the nape, as well as the chin, glossy blue-black; the mantle and back bluish ash-grey; the rump white; the larger wing-coverts black, broadly tipped with white; flights and tail black, but the primaries somewhat ashy on the inner webs and the second to the fifth with narrow whitish margins to the emarginate portions; the outer web of the innermost secondary largely suffused with red: the sides of the face, neck, and under surface bright salmon-red, the vent and under tail-coverts white; beak black; feet dark brown, changing to flesh colour in confinement; iris brown. The female is slightly duller in colouring on the upper parts, and the whole of the red is replaced by soft Dove-brown. The young most nearly resemble the female, but have no black on the head, and a sordid white wing-bar.

It is well known that feeding entirely on hemp in confinement has the effect of rendering the plumage black, just as that of the Canary is altered to orange-vermilion by extensive cayenne feeding: to call black Bullfinches rare feathered varieties (as is sometimes done at bird-shows) is therefore absurd: as a matter of fact they are merely internally stained.

During the summer months the Bullfinch chiefly haunts the outskirts of woods, plantations, dense shrubberies, private pleasure grounds, where clumps of conifers with tangled undergrowth of brambles have been left, to vary the landscape or to form cover for game, or clearings covered with two or three years growth; less frequently lanes skirted by tall hedges; but never far from woods. In such places it builds its shallow nest, and once I found one in a loose wayside hazel-hedge, about three feet high and quite at the top, barely concealed by a leaf.

The favourite site for the nest is on the upper surface of a horizontal branch of a spruce-fir, or yew; but I have also met with it in dwarf hawthorns tangled with blackberry vines, and in the side of a hawthorn, half buried by elm-foliage, on the edge of a wood: sometimes a small box-tree is selected, or very rarely a slight gap in a tall hedge. The outer framework of the nest consists of a tangled platform of slender twigs or roots, surrounding a neat, and sometimes stoutly built, but usually somewhat frail looking cup of plaited rootlets and bents, with a lining of root-fibre and black horse-hairs. According to Seebohm "in some nests a little wool or a feather or two are found," but I never found either, though occasionally a dead leaf drifts into the cup and is left there. The eggs number from four to six, but rarely exceed five; in colour they are pale blue, sometimes almost white; spotted with blackish brown, mixed with spots or blotches of purplish, red-brown, and now and then lavender; most eggs are chiefly spotted at or near the larger end; sometimes there are one or two Bunting markings among the spots; rarely the zone of markings occurs near the smaller end of the egg; and lastly, in the

very aberrant, almost white variety, the whole of the spots are chocolate brown diffused at the edges.

There is no doubt that, when feeding its young, the Bullfinch eats aphides, small green caterpillars, seeds, and leaves of weeds; so that, in a measure, it atones for the mischief which it does to the fruit-grower in autumn and spring.

It is said that the Bullfinch frequently rears two broods in the season; its first eggs being laid towards the end of April; the young would therefore be hatched early in May, and perhaps be able to look after themselves by the end of that month; the second nest, if built in the last week of May, would again have eggs by the end of the first week in June. My own experience is that, in Kent, nidification is later; the first nest having eggs in the early part of May, and the second early in July, so that the old birds must be close upon, or in their moult by the time that the young leave the nest. Is it certain that these birds would be reared? I am inclined to doubt it. In 1890 a pair of Bullfinches in one of my aviaries built a typical nest (in August) in a small yew-tree; she laid four eggs and sat steadily for a week, when she deserted them and died the following day: examination showed acute inflammation of the cloaca: two of the eggs, which I put under a Canary, were hatched but not reared.

The natural song of the Bullfinch is very poor, reminding one of a Jew's-harp; but hand-reared birds can, with the help of a musical-box, be taught to whistle entire tunes very prettily. The call-note is a soft plaintive whistle, difficult to write down, as it commences without any initial consonant; the word *diu* which has been frequently used to express it, bears no resemblance whatever to the sound; *hoo* would be nearer, but is too abrupt; *wheo* is a better rendering.

In the winter the Bullfinch becomes much less retiring, and more confiding in its habits, frequenting gardens and orchards: and in its love for buds, particularly of fruit-trees, often doing considerable mischief: father, mother, and family, sometimes taking up positions on the same tree, and going to work systematically. Attempts have often been made by well-meaning Ornithologists to defend this action on the part of the Bullfinch, by declaring (without a particle of evidence in favour of the assertion) that the birds are in reality the fruit-grower's best friends; inasmuch as they only select those buds which contain maggots. Such utter nonsense could only be written by those who have not studied birds in captivity, and in large aviaries containing living shrubs and creepers.

Seebohm was far more sensible than to perpetuate so flimsy an excuse, for he says:—"It is seldom respected by the gardener, who, in shooting it down, makes bad worse, and does more damage in one discharge of his gun than a host of Bullfinches would do in a week. Early in the year the bird may often be seen

on the branches of cherry-, plum-, apple-, and pear-trees, or on the twigs of the gooseberry- and currant-bushes, and the ground is strewn with the cases of the buds, marking out its course. Singularly enough the bird confines its attentions to the flower-buds, those producing leaves being passed by. This destructive habit of the Bullfinch cannot be defended or excused; but further research may prove that the bird is, after all, a real benefactor to the tree from which it levies such a costly tribute."

It does not strike me as singular that the Bullfinch should prefer the short stout buds to the thin pointed ones, but that is a detail. One thing must be borne in mind, however, that, in the older trees, if the Bullfinches reduce the number of fruit buds, they save the gardener the trouble of pruning away superfluous fruit; so that, as a matter of fact, the resulting crop may be just as good in the end, though with less trouble to the grower.

If you want a tree to die, there are few surer ways of killing it than by boring a hole into the centre of the trunk and pouring in shot; the gardener who empties a charge of shot into the branches of his fruit-trees, can therefore hardly expect them to be benefited thereby. If he were wise he would bait a cage-trap, catch his Bullfinches and sell them at a shilling apiece for cage-birds: they would, even then, die quite soon enough to satisfy any feelings of enmity which he might nourish, for my experience of these birds in captivity is—that it is quite exceptional for them to become really tame even in large aviaries; consequently, unless hand-reared, they rarely live for more than eighteen months in captivity.

When first turned loose in an aviary, a cock Bullfinch always creates a panic; his brilliant colouring seems to greatly alarm other Finches, so that his flight through the midst of them produces much the same result as the rush of a bull through a crowded street. Yet this powerful looking bird is really most inoffensive; if annoyed he only opens his mouth and makes grimaces, and if he does become tame, he is not long in doing so: one which I had was tempted to take sunflower-seeds from my fingers three weeks after its capture: a Canary, with which I paired it, was far less afraid of it than our indigenous Finches.



SERIN ♂ ♀

*Family—FRINGILLIDÆ.**Subfamily—FRINGILLINÆ.*

THE SCARLET ROSE-FINCH.

Carpodacus erythrinus, PALL.

A FULL account of this species will be found in my book "Foreign Finches in Captivity." I do not admit its claim to be called British, for although two examples have been obtained in England, one at Brighton, in 1869, and the other at Hampstead in the following year, it is quite possible that both may have escaped from some ship passing our shores, or (soon after importation) from an aviary.*

This bird, sometimes called "Scarlet Grosbeak," is, superficially, in no respect like a Bullfinch; whereas in notes, form of beak, outline of body, and behaviour, it approaches the Serins. After its first moult in captivity the male loses all its rosy colouring, just as the Crossbill does.

*Family—FRINGILLIDÆ.**Subfamily—FRINGILLINÆ.*

THE SERIN.

Serinus hortulanus, KOCH.

D R. SHARPE gives the geographical distribution of this species as:—"Central and Southern Europe, ranging eastwards to Asia Minor, Palestine, and

* Mr. Howard Saunders tells me that he believes these two specimens were genuine wanderers to our shores, because they were both in the dull plumage of young birds, and therefore were not likely to have been imported. But both hens and young birds are imported, whilst cocks soon lose their distinctive colouring in captivity.

Egypt: and northwards to Northern Germany, Denmark, and occasionally the British Islands.”

Although there is no absolute proof that the few specimens of this species which have been obtained in Great Britain may not all have escaped from confinement, the Serin being a well-known and tolerably freely imported cage-bird; the fact that it breeds in the Netherlands, renders it quite possible, and even probable, that they may have been stragglers to our coasts. Seebohm observes:—“It is said that a Serin was caught near Portsmouth, in April, 1852, another at Taunton, in 1866, and a third at Worthing, in 1869; but by far the greater number are those brought by the Brighton bird-catchers to Mr. Swaysland. Rarely a year passes without two or three being thus obtained, although it sometimes happens that none are caught for a couple of years.” The claim of this bird to be included in the British list is, therefore, considerably greater than that of the Scarlet Rose-finch, a bird generally to be obtained in Calcutta, and frequently included in consignments of cage-birds from India.*

The male Serin, of which the wild Canary is considered to be a sub-species, has the forehead, a superciliary streak, the rump, and the under-parts, bright yellow; the under tail-coverts are, however, almost white, and the flanks streaked with brown; the remainder of the body, as well as the wing and tail-feathers, are deep olive-brown, mostly with yellowish margins; but the greater wing-coverts and secondaries are margined with sordid white; beak dark horn-brown, paler at the base of the lower mandible; feet pale brown; iris dark brown. The female is duller and more prominently streaked than the male, and in the winter both sexes are distinctly duller than in the summer. The young show very little yellow colouring in their plumage.

As bearing upon the question whether or not the Serin is likely, from time to time, to visit England, the following note by Herr Gätke is of interest:—“Now, although one can hardly expect to hear of this bird building a nest in Heligoland, the occurrence here of five young grey individuals during the summer months at all events seems to admit of the conclusion that these birds may have been bred in the neighbourhood of the island, perhaps in Sleswick-Holstein. I do not, however, share the view that breeding attempts of this kind, made in districts far distant from the regular home, justify one in assuming an extension of the breeding area.” It is conceivable, that birds bred far from their usual summer haunts, might

* It may be asked how these birds would be likely to escape. In 1896, a friend of mine, who has a collection of some five or six hundred foreign birds, had his aviaries broken into, a few birds stolen, and all the aviary doors left wide open: not a few interesting foreigners escaped, and were not recaptured by the owner. This is the second time that he has been plundered, yet he is but one among hundreds of aviculturists in Great Britain.

at the season of migration, join a stream of migrants, which would land them on our shores.

According to Naumann, the Serin prefers the hilly, cultivated districts to the plains, chiefly frequenting orchards, plantations, avenues of fruit- and walnut-trees, vineyards, and even gardens in the middle of villages, or close to houses. Dixon, who met with it in Algeria, observes (Jottings about Birds, p. 59)—“It is widely distributed, not only in the mountain districts, but in the more northern oases.” Also, in his notes quoted by Seebohm (British Birds, Vol. II, p. 85)—“It is a bird that appears to love the richest districts, and we never met with it in the pine- and cedar-forests on the Aurès. In the oases the birds inhabited the luxuriant gardens, the groves of fig-trees, and were seen amongst the apricot-trees and wealth of shrubs beautifully clothed in the fairest of blooms. But amongst this semi-tropical verdure, the Serin is difficult to see, and you only catch a hasty glimpse of it as it appears on the outermost branches for a moment and then disappears again.

Amongst the date-palms, however, it is very conspicuous. There is little or no underwood beneath these trees, and the bird perches exclusively upon them. It was seen sitting on the topmost point of the broad leaves, sixty feet from the ground, whence it occasionally took a little fluttering flight into the air to catch an insect from the swarms flitting round the tree-tops. All the Finches in summer-time are more or less insectivorous, and the little Serin is no exception; indeed it seems most industrious in its search after insects, not only flitting into the air but occasionally clinging to the stems of the palm-trees, as if searching for its food amongst the rugged bark. We repeatedly saw it, too, upon the tops of the walls that divide the Arab gardens; but it was always rather shy, and after a moment or two's rest flew off to its usual refuge, the tops of the date-palms.”

The nest is placed either in a fruit-tree, or some other tree of moderate height, a shrub, or bush; it is loosely but neatly constructed of bents and roots, compacted together with vegetable down, wool, and spiders' cocoons, or lichen and grey moss, and is softly lined with similar materials. The eggs number from four to five, usually five, and chiefly differ from those of the Siskin, or Goldfinch, in their smaller size, being very pale green, marked with dark reddish-brown blotches, spots, and sometimes lines, and with underlying sienna-reddish spots; most specimens are principally marked at the larger end.

The food of the Serin consists chiefly of small seeds, and it is said to give the preference to those of an oily nature: when rearing its young, however, as is the case with other Finches in a wild state, various small insects are also eaten, and doubtless leaves and unripe seeds of weeds.

The call-note somewhat resembles that of a Canary, a plaintive *wheet*, but the song is described by Naumann as more nearly like that of a Siskin; and Howard Saunders says:—"The song resembles the word *zi-zi* often repeated, and a flock of birds settled in a tree produces a peculiar buzzing or almost hissing sound." The bird often sings on the wing after the manner of the Siskin.

The Serin being only subspecifically distinct from the Canary, the fact recorded by Dr. Carl Russ—that hybrids between the two, proved fertile to the third and fourth generation (Vide Gefiederte Welt, Vol. XX, p. 289) is not very surprising: the only question is whether the Doctor was justified in speaking of them as "Bastarde." Mr. H. C. Martin, of Old Charlton, bred three crosses between the Serin and Canary in 1896, and kindly gave a female to me, so that I hope to be able to repeat Dr. Russ' experience.

Mr. Septimus Perkins in the "Avicultural Magazine," Vol. II, pp. 152-3, gives his experience of the Serin in captivity; he says:—"The Serin Finch is not expensive to buy, but is not always to be obtained when wanted. A good many, however, are generally brought over from Germany in the autumn, and it is then that the wary aviculturist will purchase a pair or two, with which he may hope to breed the following year.

Canary and German rape-seed, with the daily addition of a little hemp, suit the Serin Finch best as a diet. I have always found him most inoffensive towards his companions in the aviary, a tame, confiding little bird, and, to my mind, singularly attractive, in spite of his sober colours.

My pair of Serins were bought in the autumn, when they were in very shabby plumage and not the best of health. In due time they improved greatly in both respects, but became, unfortunately, a great deal too fat. In May of the following year the hen began to build, selecting a corner of the aviary, on the floor of the room, as a nesting place; although the aviary abounded with more suitable spots, there being nesting boxes of various sorts and abundance of bushes. The nest was a neatly formed but flimsy edifice, rather hastily put together, and the three pretty eggs rolled out, one by one, upon the floor a day or two after the hen began to sit. She stuck to her nest so long as an egg remained in it; but when the last rolled out, she gave up in despair. No other nest was built."

I do not doubt that if a Hartz cage had been hanging on the wall, the Serin would have built inside it, and reared her brood: the common Canary in an aviary prefers this to anything else, and when it is not present, builds in a bush or a bundle of twigs.

Ornithologists have long differed in opinion as to whether the specimens of the wild Canary which have from time to time been caught or killed on our coasts



SISKIN ♂ ♀

are stragglers to Great Britain or escaped cage-birds; Seebohm insisted that they were the former, because they showed no evidence of having been in captivity, although the same might be said of most birds which have been carefully attended to in spacious aviaries. Howard Saunders did not hesitate to regard them as freed captives, observing that "although cages-full are known to be imported, there are persons who wish to believe that the individuals captured are not escaped birds, but stragglers from a warm to an inhospitable climate." Here again, the same might be said of other species with equal fairness, yet I think he is probably correct.

Family—FRINGILLIDÆ.

Subfamily—FRINGILLINÆ.

THE SISKIN.

Chryomitris spinus, LINN.

THE distribution of the Siskin or Aberdevine* extends throughout Europe to the limit of conifer growth: in Africa it is said to occur during severe winters in Morocco and Algeria; it is also found in Northern Asia, and across Siberia to China and Japan.

In Great Britain during the summer months the Siskin is chiefly confined to the fir-woods of the north, consequently it is somewhat local in its distribution; in some parts of Scotland and Ireland it is fairly abundant as a breeding species, as also in some of the northern counties of England: it has, moreover, been known occasionally to breed in Surrey, Sussex, and I am tolerably sure that it has bred at Keston, in Kent, near to the lakes, where there is a belt of tall conifers, for I saw a pair there early in June, 1886, and heard the male singing its sprightly song, with the unmistakeable hurdy-gurdy finish. In the winter the

* Generally called "'Appy divine" by the London bird-catchers; but one man who called occasionally, used always to ask if I wanted any "Abbies."

distribution of the Siskin is much more general, extending into Western Scotland and the South of England.

The adult male has the general colouring of the upper parts olive-green with darker shaft-streaks, the rump much more yellow, showing the shaft-streaks distinctly at the junction with the lower part of the back; crown of head black; wings black, the coverts tipped with yellow, the flights with white diffused borders to the inner web excepting towards the tips, the primaries narrowly margined with yellow and, excepting the first three, with broad yellow bases, forming a belt which extends across the secondaries: central tail-feathers blackish, the remainder yellow, with black shafts and broad blackish tips; a broad superciliary streak extending from above the eye to the nape; lores blackish; sides of face greenish yellow, more green on the ear-coverts; chin black; throat and breast bright yellow; belly white, the flanks sordid yellowish, streaked with black: beak horn-brown, paler at the base (becoming paler and pinker in confinement); feet pale brown (also becoming more fleshy in captivity); iris dark brown. The female is slightly smaller and has a broader crown than the male, she is altogether duller and greyer in colouring, with less yellow on the rump, wings, and tail, and with the underparts much more streaked; she has also no black on the crown or chin. The young are still duller and greyer than the female.

The Siskin is a bird of the pine woods during the breeding season, though in winter it wanders about the country in small or sometimes large flocks, which reach the south of England in September, and are eagerly welcomed by the bird-catchers who net considerable numbers to sell as cage-birds. The Siskin is an extremely restless bird, and in all its actions reminds one strongly of the Tit-mice; its flight is rapid but irregular, like its song; but the latter to my mind is superior to that of any other British Finch, in spite of its comical finish with six coupled notes and a harsh *chair* at the end. The call-note is neither *glee*, *zeisig*, nor a weak *tit-tit-tit-tit*; it is distinctly *hoootelee*, *hoootelee*; the word *glee* is doubtless a corruption of the *telee* (which is all that the ear can compass in the open, though in an aviary with sloping roof the whole sound is clearly audible); the term *zeisig* probably was given to this bird by the Germans more on account of its frivolous nature, than because it in the slightest degree represented the character of either song or call-note;* I can only explain the quadrupled *tit*, on the assumption that a party of young Robins happened to be in a tree occupied by Siskins.

Mr. R. J. Ussher's notes on this species, which I quoted in my "Handbook of British Oology," will bear repeating here; he says:—"In April and May, 1857, Siskins were unusually common at Cappagh, in the woods of fir, both on the low

* The Mealy Redpoll is sometimes called "*Leinzeisig*."

ground and on the hill-side; in fact, the woods were continually ringing with the song of this bird. You might hear it as it flew over the wood uttering its peculiar cry, half chirp, half song; at one time flying straight forward, as if to some destination, then turning and making a circuit, as if it did not know its own mind, or as if it were loth to descend from its joyous flight, then again darting off in a new direction, whilst its notes would gradually die away. Its every tone and movement is full of animation and delight, as if it were beside itself with pleasure; this is particularly the case in the nesting season, at which time I have seen the male flying slowly towards some topmost spray of a fir-tree, pouring forth his delightful little warbling song, which very much resembles that of a Goldfinch, but is to my ears far sweeter. It very often sings when flying, but more frequently when perching on some fir-tree top; indeed the Siskin in spring seems more like a visitor from a happier world."

The Siskin usually places its nest high up, near the end of a lateral branch of a fir- or birch-tree, or even at the top against the main stem; but the nest is also said to be sometimes built quite low down in spruce, furze, or juniper bushes, though Seebohm was inclined to doubt the correctness of the records upon which this statement is based, Naumann having asserted that the nest is always in conifers, seldom less than twenty-five feet from the ground. The nest itself is neatly constructed of moss and rootlets, upon a slight foundation of heather and bents, and the lining consists of vegetable down, horsehairs, and sometimes a few feathers. The eggs number from five to six, and exactly resemble those of the Goldfinch in size, colour, markings, and variations: they are bluish green, usually pale; spotted, dotted, and sometimes streaked with dark chocolate brown, and with lilacine greyish shell-markings; as with the eggs of all the typical Finches, they vary considerably in size.*

Like all the true Finches the hen bird builds the first nest and incubates alone, although the male as usual tries to help and only succeeds in hindering; whether he works in earnest at the second nest I do not know; but, from his close relationship to the Goldfinch, he should be capable of doing so.

The Siskin feeds largely on seeds of weeds and beech-mast; but during the breeding season it eats a considerable number of aphides, and probably small green caterpillars, milky, unripe seeds of groundsel, sow-thistle, and similar weeds; whilst at all seasons, it is as mischievous as a Tit in destroying tender buds. In captivity it eats the usual seeds, being especially fond of hemp and teasel, also soft food,

* The characters given by Howard Saunders to distinguish eggs of the Siskin from those of the Goldfinch are only individual; I have known a Canary lay eggs as blue as those of a Bullfinch in one nest; and in the next, considerably larger and almost white eggs: this is characteristic of all *Fringillinae* which lay bluish eggs.

green food, and (although I do not approve of such food) it is as fond as the Goldfinch and the whole of the Tits of picking a bone, clinging to it in all positions, and behaving in every respect exactly like a Tit. The Siskin is one of the most charming of all aviary birds, on account of its wonderfully confiding nature. I turned a pair which I purchased in November, 1889, about three weeks after their capture, into a large aviary; and, in three days, they had so thoroughly learned to trust me, that they flew into my hand and disputed over poppy-seed and egg; one of these birds lived for three years, and would even permit me to raise my hand until my nose touched her beak, when she would fly off to a twig, and return directly I held my hand out to her again; there were two hens and a cock in this trio, and the male outlived both of his wives; finally he appeared to have acquired a growth in his throat, which obstructed his breathing; therefore as my experience of doctoring birds is, that in nineteen out of twenty cases it kills them within ten minutes, I thought I would give my Siskin the opportunity of doctoring himself; so I turned him loose in my garden, where he remained for about an hour, and then flew straight away. I have had many other Siskins at various times, sometimes three or four pairs together; they have always become very tame in a surprisingly short period, and have been altogether delightful pets; but most of them have died within a few months. Siskins do not seem to have anything like the constitution of most Goldfinches. One tame little hen bird, however, lived to a good age; and, when she had lost three husbands in succession, I caged her and made a regular pet of her. After six months I wearied of the extra labour (every separate cage adding to the time occupied in providing for my large family); I therefore turned Cissie, as I called her, into one of my bird-room aviaries; but she had forgotten all about liberty, flew wildly against the wires in the greatest terror, and presently settled down in a corner with her face to the wall; having evidently decided that life was no longer worth having: I therefore picked her up and restored her to her cage, where she sat looking stupid for half an hour before she recovered. I subsequently gave this bird to a young lady, who christened her Priscilla, and made much of her to the day of her death about a year later.



GOLDFINCH. ♂ ♀

*Family—FRINGILLIDÆ.**Subfamily—FRINGILLINÆ.*

THE GOLDFINCH.

Carduelis elegans, STEPH.

DR. SHARPE states that this bird inhabits Europe generally, except the extreme north; the Canary Islands, Madeira, and the countries bordering the Mediterranean: it is a winter visitant to Egypt and Palestine. In Siberia it extends to Omsk and Krasnoyarsk, and winters in Turkestan.

In Great Britain the Goldfinch is pretty generally distributed throughout England, and in suitable localities in Scotland and Ireland, though the wholesale destruction of woods, plantations and so-called waste land has rendered the species comparatively rare and local in many parts of Great Britain. In the north of Kent, where the nest might be obtained fairly commonly, year after year, about a quarter of a century ago, it is now hardly ever met with, excepting perhaps in strictly private gardens, pleasure-grounds, and orchards: indeed, I believe it is fully fifteen years since I last saw a wild Kentish Goldfinch in the summer-time.

This is the most beautiful of our British Finches: the adult male has the forehead broadly satiny crimson, extending at the sides as a superciliary streak which sometimes passes behind the eye and unites with a broad patch of the same colour on the front of the face below the lores, and on the throat; the lores, feathers at base of beak and chin black; crown and feathers behind the cheeks black; cheeks snow white (slightly stained in the centre with buffish brown, especially in young birds) continuous with a white belt encircling the back of the throat: back greyish copper-brown, with a transverse white spot on the nape; wings blue-black, occasionally slightly glossed with Prussian-green on the lesser coverts; greater coverts golden-yellow; the basal two-thirds of the primaries, excepting the first, with the outer webs bright golden-yellow, the secondaries also with broad yellow bases, so that the wing appears to be broadly belted with yellow; inner primaries and outer secondaries tipped with white, inner secondaries with buffish-brown; upper tail coverts whitish, washed with buffish-brown; tail feathers blue-black, the central ones tipped with white, the two outer ones with a large oval white patch on the inner web; under parts mostly white; a band across the fore-chest, the sides of breast, and the flanks bright fawn-coloured; under tail-coverts washed

with buffish; beak pinkish-white, with the terminal half of the upper mandible and tip of the lower mandible dark horn-brown; feet flesh-brown; iris hazel. In confinement the beak and feet become paler and more pink in tint.

The female is usually slightly smaller than the male, has a narrower crown, and a much narrower, straighter, and more regularly tapering beak; the crimson on the head rarely extends quite so far backward on the forehead and throat; the cheeks are much more stained with buff-brownish; the lesser coverts are distinctly browner; the yellow on the wing is rarely so brilliant; and the under parts are not quite so pure a white, showing a suspicion of grey when compared with the male. Young birds, known to bird-catchers as "Grey-pates," show no black or crimson on the head, have buffish tips to the wing-feathers, and brownish underparts, with indistinct spotting on the breast. The general characteristics of the adult birds are acquired after the first moult, but the full beauty of the species is not brought out until after its second moult.

Birdcatchers always distinguish the sex of the Goldfinch by "the colour of the shoulder," intense black in the male, rusty black in the female: this, however, is not so easy to note in young birds as is the different outline of the beak when seen from above, or the greater arch of the culmen in the male beak when seen from the side.

Although the Goldfinch does not haunt the interior of thick woods, it frequently hangs about the more open spaces on their outskirts, especially where rank weeds such as thistles, teasels, or plantains abound, upon the seed of which it delights to feed; but orchards, shrubberies, gardens, and waste patches on badly cultivated ground are its favourite resorts in the summer time; whilst in the winter it wanders throughout the country in small or large flocks seeking for food. A considerable number of Goldfinches nevertheless join the stream of migrants towards the south in the autumn months.

The Goldfinch is certainly much rarer in our islands than it formerly was, but I cannot think even Mr. Swaysland's statement—that at one time a boy could catch forty dozen in a morning, or the undoubted fact that birdcatchers would rejoice if they could do so now, will at all account for the great diminution in their numbers; the continual reckless destruction of all kinds of birds of prey would probably counterbalance the numbers obtained by 'catchers, who only capture sufficient to supply the bird-market, whereas the Merlin, Sparrow-Hawk, Hen-Harrier, and most of the Owls, which are more or less destructive to small birds, pay no attention to close-seasons, but destroy throughout the year. On several occasions bird-catchers have brought me Sparrow-Hawks which have swooped at the decoy-Goldfinch and been caught in the nets.

The nest of the Goldfinch is most frequently to be found in orchards, preferably on the lichen-covered branch of an old apple-tree, though it also occurs at times in the branches of a pear, horse-chestnut, beech, plane, poplar, yew, cypress, laurel, or even in a deciduous shrub: in Norfolk I took it from near the top of a tall hawthorn hedge. Usually the nest, which is small and cup-shaped, is neatly formed of moss and lichen, interwoven with rootlets and wool; it is lined with thistle-down, small soft feathers, and horse-hair: my Norfolk nest, however, is without the lichens, and is chiefly lined with some woolly substance, probably vegetable-, but hardly white enough for thistle-down: the eggs in this nest are also unusually small.

The Rev. H. A. Macpherson writes:—"The most curious nest of the Goldfinch that I ever saw was built entirely of stems of dry grass. It contained a full complement of tiny Goldfinches, and was built in a plum-tree."

The eggs number from four to five, usually the latter, and are similar to those of a Linnet, but usually rather smaller; they are greenish-white, spotted and streaked, especially at the larger end, with purplish-brown, and with lilacine-grey shell-spots; they, however, vary greatly from this type, some eggs being merely speckled and spotted with dull blood-red, whilst others are almost without markings.

The song of the Goldfinch is much over-rated; it is cheerful, but scrappy in character; the hen sometimes sings quite as well as the cock, and the song is the same: some years ago I carefully noted the whole performance, going over it again and again, with the bird singing close to me, until I had it all down exactly as follows:—*Whce-c-ur, whce-c-ur, whce-c-ur, too-oo-ce, ti-weea, ti-weea, whitweea, chiwit, chiwit, chiwit; wheec, wheec, wheec.* The last three notes are accompanied by violent lateral jerks of the tail and a corresponding movement of the body, which sometimes almost upsets the bird's balance. The call-note bears some resemblance to that of the Canary; but the scolding note, or note of defiance, is a sharp shrill *chit*, sometimes continued into a *chitteri-tit, tit*: as the Goldfinch is tolerably quarrelsome, this note, which somewhat reminds one of a common autumnal utterance of the Robin, is frequently heard.

The food consists largely of seeds, buds, and the leaves and flower-heads of weeds, especially groundsel; but when rearing their young the old birds also feed to a great extent upon aphides and small green caterpillars: in confinement soft-food answers the same purpose.

As a cage and aviary bird the Goldfinch is a general favourite; some aviculturists admiring it (most unaccountably) for its energetic, though absurd song, others for muling purposes, others again for its lovely plumage, and a few on account of its capacity for learning the usual stupid tricks "violating the laws of

nature," as the editor of the 4th edition of Yarrell most aptly observes.

As a cage-bird the Goldfinch is too restless to be pleasing; he is on the front wires half his time, and keeps jumping backwards and forwards from perch to wires almost incessantly, vainly repeating a fragment of his song—" *chiwit, chiwit, chiwit.*" In an aviary everything is altered: he darts hither and thither with undulating flight, poises on the top of, or hangs underneath a twig, or the extremity of a spray of fir, picking out buds or leaves; he squabbles with his brothers in the bath or the seed-pan, fights furiously for possession of a wife, and, having secured her, wages incessant warfare with all who dare approach her. For a nesting-site he chooses a Hartz-cage hanging high upon the back of the aviary, assists his wife with her first nest, and builds a second in another cage whilst the young are still under her care; such at any rate was my experience in 1895: four young were hatched in my first nest, of which three flew and were brought up, being fed as usual from the crop, upon partly digested seed and the soft food prepared for my insectivorous birds.

After leaving the nest the mother-bird ceased to trouble about her young, but began to lay in the second nest almost immediately; the male bird now having to undertake the double duty of feeding his first family and his wife. About thirteen days later five young were hatched, and but for the playfulness of the first family would doubtless have been reared; but the young ruffians pulled them all out on the sand and left them there. Shortly afterwards the hen put a fresh lining into her first nest and sat again upon a clutch of six eggs, all of which she hatched; unhappily all these, excepting the last one, which I put under a Canary, shared the fate of their predecessors: even the sixth bird was plucked to death by its foster-mother.

In 1896 my Goldfinches again built, quarrelling for bits of wadding, robbing one another's nests, changing their minds as to the site of a nest, and pulling the latter to pieces when completed; eventually one hen laid two or three eggs in a Canary's nest, and the two mothers were so constantly disputing that, although the young were hatched, none were reared. After the autumn moult one of the birds produced a golden instead of crimson colour on the face; but the Rev. H. A. Macpherson tells me that this is of common occurrence in captivity.

I always purchase my Goldfinches as "Grey-pates"; and as they have plenty of exercise and abundance of nourishing food, my birds when adult are invariably mistaken by breeders for "Russians"; when first turned out they always have plenty of hemp and teasel, with groundsel and chickweed; and there is usually a saucer of soft-food in the aviary: the colours of the male birds are wonderfully pure and brilliant, and the birds themselves are large and well-formed.



MEALY REDPOLL ♂

W. Woodcock

Mule-breeding between Goldfinch and Canary is easy enough, for I was successful in my first essay; but between the Goldfinch and other Finches, there is more difficulty (although this species sometimes hybridizes with the Greenfinch in a wild state) especially in the case of the only really handsome cross—between the Goldfinch and Bullfinch. The variety of Goldfinch known as a “Cheverel” is sometimes preferred for muling purposes; it differs from the normal form in having the centre of the throat white.

The bird-catchers assert that Goldfinches from different parts of our islands sing differently; and they call the best singers “Slammers,” from a fancied resemblance of part of the song to the words—“Slam-so-witty, slippity-cur,” with other rubbish which no bird could whistle.

Family—FRINGILLIDÆ.

Subfamily—FRINGILLINÆ.

THE MEALY REDPOLL.

Acanthis linaria, LINN.

SEEBOHM treats the Redpolls as races of one species, but considers that the typical form, *A. linaria*, and the two extremes, *A. rufescens* and *A. hornemanni*, are worthy of subspecific rank; at least that seems to me to be the only construction to be put upon his observations. Howard Saunders, on the other hand, unites *A. linaria* and *A. hornemanni*, remarking:—“for the sake of convenience, I propose to treat the Mealy Redpolls under one heading, and to take our small, dark Lesser Redpoll separately.” As this appears to me to be the most reasonable course to pursue, I shall do the same. Dr. Sharpe regards the Lesser Redpoll (*A. rufescens*) as a subspecies of *A. linaria*, but distinguishes *A. hornemanni* as a subspecies of *A. exilipes*, the latter being considered a different species from the Mealy Redpoll, on account of its greyer rump. When no two Ornithologists agree

as to the limits of various closely-related types, the evidence in favour of these all belonging to one species would seem to be very strong indeed. Nevertheless, as regards Great Britain, the two Redpolls usually met with are sufficiently distinct to be separately treated.

Dr. Sharpe gives the distribution of our Mealy Redpoll as:—"Northern Europe, across Siberia to North America, wintering in more southern localities."

To Great Britain this bird is a more or less irregular winter visitor; Howard Saunders states that it "is a regular winter visitor to Shetland, from September onwards, and the track of its migration appears to be principally along the east coast in Scotland, and the north of England, for the bird is rarer, and of more uncertain occurrence on the west side. South of Durham its visits become irregular; in the eastern counties it has occasionally been obtained in spring, and exceptionally in summer; and in some years large flocks have been noticed down to the Channel; but in Cornwall it is as yet unknown. In Ireland an example was taken in co. Kildare, in February, 1876." (Manual British Birds, p. 182).

The male Mealy Redpoll in breeding-plumage has the upper parts pale brown, lighter on the back and sides of neck, and streaked with blackish-brown; the forehead crimson; the rump greyish white, suffused with rose-pink; wings dull blackish; median and greater coverts with pale brown edges and whitish tips; the quills and primary coverts with greyer edges and narrower tips: tail dark brown, with paler edges to the feathers, the inner webs margined with white; base of forehead and lores black; a superciliary streak and a short streak below the eye whitish; sides of face pale brown, the cheeks slightly rosy; chin black; throat and breast rose-pink; remainder of under parts buffish-white, becoming quite white on the under tail-coverts; flanks streaked with blackish-brown: beak yellowish horn-colour, darker at the tip and more yellow at the base; feet dark brown; iris hazel.

The female is slightly smaller than the male, and has a rather broader crown;* she is also darker above, more prominently streaked below, and wants the rose-colouring on the rump, the throat, and breast. The young chiefly differ from the female in the lack of crimson on the forehead, and in the more sandy colouring of the upper parts.

In confinement, the crimson and rosy colouring entirely disappears after the first moult, excepting in large and well ventilated aviaries, when it is sometimes

* It is the general rule in birds that the sex which builds the nest has the broader crown, but if both sexes build, the male usually has the advantage in this respect; he also then has a broader and somewhat shorter bill, with less evenly tapering sides: in the typical Finches the female usually has the broader head, but in the Grass-finches, the reverse is often the case. The male also has a narrower and somewhat more tapering wing, formed for speed; so as to enable him to overtake the female.

partially retained: this statement also applies to the Lesser Redpoll, the Twite, and the Linnet.

In its habits, this and all the Redpolls are much alike, restless, fidgety little creatures, Tit-like in their actions, inquisitive, and mischievous; but intelligent, and therefore easy to teach all kinds of meaningless tricks: principally on account of the last qualification they have become favourite cage-birds with that class of persons which is charmed with what is unnatural. To the true lover of nature a talking bird may be amusing, because it is the nature of many birds to imitate sounds; but a performing bird is offensive.

Seebohm (Hist. British Birds, Vol. II, pp. 118-119) has some interesting observations on the habits of this species, both abroad and in this country, which are worth noting. He says that in winter they are principally ground-feeders, which we should have expected to be the case from what we know of Linnets and Goldfinches; like which birds they "alight in a flock on a bed of dead thistles," and amuse themselves by picking them to pieces. He also records the fact of their picking seeds from the droppings of horses in the roads; which is instructive, as showing that they look upon oats and kindred grain as wholesome food; a fact which aviculture taught me many years ago.

The nest of the Mealy Redpoll is usually placed in the fork of a birch-tree at no great height from the ground; it has also been found in grass-tussocks: it is neatly constructed of twigs, bents, strips of bark, and lichens, or moss; the lining of willow-catkins, vegetable down, hair, wool, and sometimes feathers. The eggs number from five to six, and vary in colour from pale greenish to pale bluish, with dark brown surface-spots, and paler red-brown underlying markings.

Although there is no satisfactory evidence to prove that the Mealy Redpoll has ever bred in Great Britain, a male in breeding-plumage was observed at Riddlesworth, in July, 1848, and noticed by Prof. Alfred Newton in the "Zoologist" (p. 2382); still this bird may possibly have escaped from an out-door aviary after a few months confinement.

The song of this species, if such it can be called, is merely a prolonged trill, such as may be imitated either by vibrating the soft palate as you whistle, or by using a pea-whistle, and the call-note somewhat resembles that of the Canary, a kind of *tewey*.

The favourite food consists of seed of the birch, but many other seeds are eaten, and in confinement the same food is eaten by the Redpolls as by the Canary; the most wholesome seeds being Canary, German rape, and oats. Curiously enough, aviculturists do not appear to be aware of the fact that most seed-eating birds are fond of the last-mentioned wholesome and cheap seed, and they quite laugh at the

mere idea of offering oats to small birds, imagining that, because the seed is large, it is only suitable for Cardinals or other large birds: this is a curious mistake. In addition to the above, grass-seed, thistle, and teasle are good for a change, especially during the breeding and moulting seasons.

Not being particularly fond of Redpolls in an aviary, I have never purchased the Mealy race; but Henry Stevenson in his "Birds of Norfolk" (p. 229) says:—"Both the Mealy and Lesser Redpolls, 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 over-fed, drop off the perch in a fit of apoplexy. Mr. Charles Barnard, of this city, before mentioned as so successful in breeding the Bramblings in confinement, had a brood of young Mealy Redpolls, hatched off in his aviary at Stoke, in July, 1860, a very uncommon circumstance with this species."

Of late years the judges at some of our large shows have been very unwilling to award prizes, in the British classes, to birds which do not breed with us; asserting, in support of their action, that most of these birds have not even been captured upon British soil; but have been imported as cage-birds direct from Germany. Singularly enough, they invariably waive this objection in the case of the Mealy Redpoll, which (though it may be in wild breeding-plumage, and by no means tame) usually carries off the prizes over the heads of the more soberly clad though home-bred Lesser Redpoll. Such inconsistency can only be explained on the supposition that the life-history of the Mealy Redpoll has not been so intimately studied as it ought to be by those who have to deal with it upon the show-bench.

As Gätke observes:—"The breeding stations of the Mealy Redpoll lie within the Arctic Circle, both in the Old and New World." Speaking of the migration of this species, the same author says that on the 4th and 5th November, 1847, "countless flocks" and "innumerable multitudes" visited Heligoland: "the whole island was literally covered with these birds, so that one might have thrown a stone in any direction one chose, and it was sure to hit birds as long as it continued rolling along the ground." It is during such unusual manifestations of feathered life, that the bird-catcher gathers in his harvest, and the markets are glutted throughout Europe.



LESSER REDPOLL ♂ ♀

*Family—FRINGILLIDÆ.**Subfamily—FRINGILLINÆ.*

THE LESSER REDPOLL.

Acanthis rufescens, VIEILLOT.

OC CURS in Western Europe, and probably breeds in some of the mountains of the South-West; one nest having been obtained from the Veglio Alps, in Italy, about 7,000 feet above the sea-level.

In Great Britain this Redpoll is resident, breeding most freely in the north of England and Ireland, and in well-timbered localities in Scotland, more particularly in plantations of birch. This bird is, however, by no means restricted to the north of England, or Ireland, during the breeding-season; its nest having been found in most of the southern counties to the east of Somerset: in Kent I believe it breeds regularly, though not abundantly, every year.*

The upper surface of the adult male in breeding plumage is ruddy olive-brown, longitudinally streaked on each feather with blackish; wings and tail darker brown, with pale margins; innermost secondaries broadly margined; median and greater coverts with broad buffish tips; crown bright satiny crimson in front; rump washed with rosy red; lores and centre of throat black; sides of head and throat golden olive-brown; breast rose-red; sides and flanks golden olive-brown, streaked with blackish; belly white, stained with buffish: beak ochreous yellow, dark brown at the tip of the upper mandible; feet blackish-brown; iris hazel. The female is slightly smaller than the male, with a broader crown; upper parts slightly darker; rump and breast without rose-red colouration; the under parts also somewhat more streaked than in the male. The young nearly resemble the female, but have no red on the crown. After the autumn moult the rose-colouring disappears, but towards the spring it gradually reappears in the feathers without a moult: this reproduction of bright colouring does not, however, take place in caged Redpolls, but, where they are confined in large well-ventilated sunny aviaries, it does in the first season.

In its habits, haunts, food, and song, the Lesser Redpoll nearly resembles the Mealy type: its nest, which is placed in the fork of a tree, a hawthorn, or goose-

* E. A. Swainson (*Zoologist*, 1891, p. 357) records the fact that this species breeds every year near Brecon in Wales.

berry bush, a hedge, or a large grass tussock, usually near water, is not unlike a small, neatly formed, and very softly lined Linnet's nest; it is firmly constructed of plant-stalks, roots, moss, and dry-grass, with hair towards the interior; the lining consisting of pure white willow-down, wool, or occasionally very fine grasses and feathers. The eggs, which number from four to six, are either pale blue, or bluish white, with dark purplish brown surface spots, and sometimes short linear dashes and underlying blood-red spots and speckles; some eggs are spotted nearly all over, and others principally at the larger end, an imperfect zone of spots is often present at this extremity: there is considerable variation in size.

I have not only seen and heard the Lesser Redpoll in Kent during the breeding season, but have on several occasions flushed the hen bird from her nest; twice I obtained the nest with six eggs from grass-tussocks growing upon narrow foot-paths through marsh and pools of water, at Murston,* and once from a hawthorn bush on marshy land, at Kemsley; the last-mentioned nest was less firm than usual, though compact, the body of it being formed almost entirely of wool, with an outer thin framework of dried grass and an inner lining of hair.†

Lord Lilford (*Birds of Northamptonshire*, Vol. I, p. 196) observes:—"About Lilford these birds appear occasionally in flocks of from twenty to fifty or sixty, almost always in very severe weather, and then haunt the alders by the river-sides, their habits and manner of feeding at that season much resembling those of the Siskin as above described. They are exceedingly tame, and may be very closely watched as they cluster like bees on some hanging sprays, searching for buds, and keeping up an incessant twittering music, pleasant enough, but not by any means so melodious as that of the Siskin."

Speaking of the nesting of the Lesser Redpoll in various parts of Norfolk, Henry Stevenson says:—"In these localities, the nests have been mostly found in the apple and cherry trees, but Mr. Alfred Newton, in a communication to Mr. Hewitson (*Eggs British Birds*, 3rd Ed.) remarks that near Thetford, where it also breeds yearly, the nests are placed "close to the trunk of the tree in plantations of young larch and 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 his "Notes on the Birds of Donegal," (*Zoologist*, 1891, p. 336) H. C. Hart

* I was unfortunate with these two nests; in one of them the eggs were just ready to hatch, and were so much injured in the attempt to blow them, that I did not preserve them: one egg of the second nest also burst, but I saved the remainder.

† Mr. Wharton (*"Zoologist,"* p. 8951) also records the discovery of the nest of the Lesser Redpoll in Kent. In the *"Zoologist"* for 1887, p. 428, Mr. Joseph Vine states that he found two very young birds of this species, dead, but quite fresh, at Highgate, in September. One of these nestlings was taken in the flesh to the Rev. H. A. Macpherson, for identification. He informs me that it could almost have flown, and had probably fluttered out of the nest when alarmed by some marauder.

says of Lesser Redpolls:—"I have noted them in May settling themselves about Glenalla in small flocks, and scattering to breed. About Rathmullan and Carrablagh they are also frequent in summer. In winter these birds come to roost, with several other species, every night in the plantations round my house at Carrablagh, where there is the best shelter for several miles. 'Very common about Killybegs in the breeding season. Have known four nests in the hedgerows along the first mile of the Donegal road from here, in the same season.'—(A.B.)."

Speaking of the species as observed by him in Wales, E. A. Swainson, of Brecon, says:—"I have noticed it every summer here for some years, but this season (1891) it has been unusually common, and I have often heard its musical little trill and triple flight-note about the alder swamps and adjacent hedges. In June last I found two nests of this bird, placed in honeysuckle growing in tall hedges, each containing fresh eggs. Both nests had the usual lining of white down, but one was peculiar in having a quantity of honeysuckle bark-strips interwoven amongst the grass round the outside of the nest. This beautiful little nest contained four eggs, of a bright blue-green, blotched, two of them very boldly, with reddish-brown."

As a cage-bird the Lesser Redpoll is usually a great favourite, chiefly on account of its tameness and a certain amount of reasoning capacity which it possesses, whereby it has discovered, under the pressure of hunger and thirst, that it can pull up with its beak and hold with its claw little pails or waggons containing its food or water: it is by no means the only bird which has been taught this senseless trick, but many thoughtless bird-lovers seem to consider that all captives (even birds) ought to be compelled to work for their living. I have seen the process of teaching this bird in all its stages, and consider it anything but kind.

The Lesser Redpoll in confinement is for ever fidgeting about on the wirework of its cage, somewhat after the fashion of a Tit: during the breeding season the male and female spend half the day in caressing like a pair of Love-birds; whilst the song of the male at that season is frequent, but is a very poor performance, not unlike a feeble Brambling's song, consisting (as already hinted) of a mere monotonous trill, resembling a distant railway-guard's whistle: this trill is sometimes copied by young Canaries, and is considered ruination to their notes.

My experience of this species in an aviary is that no Finch of its size is so mischievously meddlesome as the Lesser Redpoll; not only does it rarely breed, but if another bird which happens to be building, leaves its nest for fresh material, the Redpoll immediately flies down and commences to pull it to pieces. On the other hand, Mr. G. C. Swales, of Beverley, has been rather successful in breeding Redpolls.

The first Redpolls I ever had, cost me about three shillings for the pair; but I soon discovered that I had paid at least three times their value, inasmuch as the price asked by birdcatchers for equally good birds varies from eightpence to a shilling the pair: altogether I have had a good many, and yet never cared much for them: it is true that they very soon grow tame, although never so completely so as Siskins; but after their first moult in close confinement all the crimson and rose colouring disappears and never returns, the forehead becoming yellowish; and even in an aviary it goes after their second moult, so that a very soberly clad, restless, inquisitive little bird, with no proper song, but a large appetite, is all that remains.

Herr Gätke's account of a pair of Redpolls which nested in his garden in Heligoland is rather puzzling: he speaks of only discovering the nest in the autumn when the leaves were falling, yet is sure of the identity of the species from the fact that on one occasion he picked up two of the young birds, and restored them to their home amongst the elder branches. Can the Redpolls have been breeding in the autumn?

Family—FRINGILLIDÆ.

Subfamily—FRINGILLINÆ.

THE TWITE.

Acanthis flavirostris, LINN.

ON the Continent the Twite, according to Dr. Sharpe, is generally distributed throughout Europe, west of Russia, and south of the Baltic, breeding in Scandinavia. Howard Saunders observes that it "is found in summer among the islands and along the coast of Norway up to about 70° N. lat., but in Sweden it is scarce even in the sub-alpine districts, and it is somewhat doubtful if it nests in Northern Russia. On migration it visits Denmark and Northern Germany—sometimes passing in large numbers over Heligoland—Holland, Belgium, and



TWITE ♀ ♂

France; but it seldom goes far south, and its occurrences in Spain, Italy, and Southern Russia, are few and far between."

In England during the breeding-season the Twite occurs locally in suitable localities from the midlands northwards; in North Wales it is common; in Scotland and Ireland it is pretty generally distributed, being especially abundant in the west of Scotland, the Hebrides, Orkneys, and Shetlands.

The adult male in breeding plumage has the feathers of the crown, nape, and back ruddy olive-brown, with blackish centres and paler edges; the rump rose-red; wings dark brown; the median and greater coverts with paler edges, whitish towards the tips; the quills with pale edges; the inner primaries margined, and the secondaries tipped with white; tail-feathers blackish-brown, the three outer pairs with whitish edges. A superciliary streak, the lores, ear-coverts, and cheeks rufous-brown, the ear-coverts with dusky streaks; under parts mostly pale tawny-brown, clearest on the throat; centre of breast and abdomen sordid white, as are the under tail-coverts; sides of breast and flanks streaked with blackish: beak pale ochre yellow; feet dark brown; iris hazel. The female has no rose-red on the rump; and in width of crown and beak differs as does the Linnet. After the autumn moult this species shows less of the dark centres to the feathers, and the beak becomes paler. Young birds nearly resemble the female, but have somewhat more dusky beaks; the males, however, show a tinge of rose-reddish on the rump.

The Twite, Mountain Linnet, Hill Lintie, or "Yellow-neb Lintie," as it is variously called, is a frequenter in summer of the hilly districts and moorlands of the northern portions of Great Britain and Ireland; but, as winter approaches, it deserts the bleaker regions and wanders in small flocks through the cultivated lowlands in search of seeds of charlock and other weeds, upon which it feeds: at this season it frequently consorts with the Linnet.

Lord Lilford says that his acquaintance with this species is chiefly confined to having often met with it on the moors of Scotland, when Grouse-shooting in August and September. "At that season it is generally to be met with in small family parties of six or eight, flitting about grassy spots amongst the heather, and feeding on various small seeds. It may be distinguished, even at some distance, from the Common Linnet on the wing by its lighter make, darker colour, and sharp call-note. In captivity this species becomes very tame, but has not much to recommend it, as the song, though sweet, is short, broken, and of little power."

The call-note has been described as resembling the word *twah-it* of which the name Twite is a fanciful rendering; on the wing it twitters, somewhat in the fashion of the Linnet; the song, though inferior, is not much unlike that of the same bird.

The nest of the Twite is usually built low down in heather, sometimes even on the ground among grass, or on a rocky ledge; it is also said to occur in bushes, and occasionally in ivy: it is neatly formed of rootlets, or heather intermingled with grass-bents, and is lined with wool, hair and feathers, or thistle-down. The eggs number from four to six, usually five, are pale greenish blue, speckled, spotted, blotched, or streaked with reddish-brown; they are indistinguishable from those of the Linnet, though most observers seem to agree in saying that they are more frequently streaked than eggs of that bird. As a matter of fact, if a number of eggs of the Goldfinch, Lesser Redpoll, Twite, and Linnet were indiscriminately mixed, no living Ornithologist could sort them again with any degree of confidence: they all vary in size, depth, and tint of colouring and markings.

Although I am satisfied that the Twite could, as easily as other Finches, complete its nest in two or three days provided it was ready to lay, Saxby has recorded an instance in which both sexes were occupied for eight days in completing one: this is often the case at the commencement of the breeding season,* when the birds are in no special hurry, just as with Canaries in the breeding-cage, but there is no such trifling with the second structure. Although a late breeder, not commencing nidification before the middle of May, the Twite is double-brooded.

It is probable, as in the case of allied species, that this bird feeds partly upon small caterpillars, as well as the leaves and unripe seeds of weeds. In confinement it is passionately fond of soft food.

From time to time I have had Twites brought to me by bird-catchers; and, in 1889, I purchased two males and turned them loose in one of my cool aviaries: they very soon became fairly tame, but nothing like so confiding as Redpolls; they nevertheless sang from the first. Most birds are selfish, but very few are so persistently greedy, and spiteful withal, as Twites: I had some Canaries in the same aviary; and, as they had barely completed their moult, a saucer of egg-food was daily placed in the aviary for their benefit; no sooner, however, did the Twites discover that egg was good, than they simply took possession of the saucer, savagely attacking every Canary that attempted to come near it until their somewhat voracious appetite was sated.

In the spring of the following year my Twites began to assume the rosy colouring on the lower back and rump, but before they had fully developed it, they caught enteric fever from a sick Canary, and, early in June, both of them died. I never cared to purchase others.

In the first volume of the "Avicultural Magazine," p. 118, Mr. G. C. Swailes,

* Nevertheless Mr. Swailes' experience recorded below proves that, in confinement, the Twite builds as rapidly as the Canary; the nest being built in two days.

of Beverley, Yorks., gives the following interesting account of his experiments in breeding Twites in confinement:—"A pair of Twites (*Acanthis flavirostris*) have this season bred and reared young in my small aviary, and as it is, I believe, a rather uncommon occurrence, a few notes may be acceptable * * * * * . The birds are a very interesting pair, both being abnormally coloured—the cock about half white pied, and the hen pure white (the latter may be known to some of my readers, as it has been exhibited at both the Palace and Aquarium shows). They are kept with about half a dozen other Finches in an aviary quite out in the country.

The hen commenced to build on May 14th, and laid her first egg on the 17th, laying altogether five eggs and sitting closely after the third was laid. I did not again look at the eggs, but saw the old birds busy feeding on the 2nd of June and following days. I looked in the nest on the 8th, hoping to find some fine young birds, but the nest contained only one poor starved thing which died on the following day: the weather was very stormy at the time they were hatched and I think this was the cause of their doing so badly.

On the 15th I noticed that the hen had nearly completed another nest, and she laid on the 16th and three following days: having a Redpoll nesting at the same time, I gave her two of the Twites' eggs, making up the number for each with infertile eggs; both birds hatched on the same day; the two in the Redpoll's nest perished at once, though she is a good feeder, and has reared two broods of her own this season; the Twite successfully reared hers, and they left the nest on July 19th, and are now very fine birds, but quite normally coloured; this I expected, as I have reared a large number during the past few years from both white, pied, and cinnamon Lesser Redpolls, and have inbred them, but have never had one vary in the least from the normal colour.* Young Twites are not nearly so precocious as Redpolls; they were a long time before they attempted to peck for themselves, and even now (August) clamour to the old ones for food, whereas I have seen young Redpolls a week after leaving the nest shell hard Canary-seed. My birds have no soft food given them, but as much of the flowering top of the dwarf-grass, dandelion, and hard-head tops, thistle, plantain, etc., as they wish, and as many aphides off rose, apple, or plum-trees as I can at the time obtain; infested branches being put in the aviary for the birds to peck them off. The latter, I consider, are very essential for the successful rearing of Finches in confinement, especially for the first few days after they are hatched." †

* Nevertheless continuous inbreeding is believed to be the principal cause of albinism.—A.G.B.

† If soft food is given, I do not find aphides to be essential.—A.G.B.

*Family—FRINGILLIDÆ.**Subfamily—FRINGILLINÆ.*

THE LINNET.

Acanthis cannabina, LINN.

BREEDS throughout Europe south of lat. 64° in Scandinavia, and of lat. 59° in East Russia; it is also resident in North-west Africa, the Canaries, and Madeira; eastward it extends to Turkestan. In Persia and North India a representative race replaces it, in which the general plumage is more ashy, and the breast of the male more scarlet in colouring.

Excepting in the mountainous parts of Scotland, where it appears to be replaced by the Twite, the Linnet is pretty generally distributed throughout Great Britain; it has not, however, been obtained from the Shetland Isles.

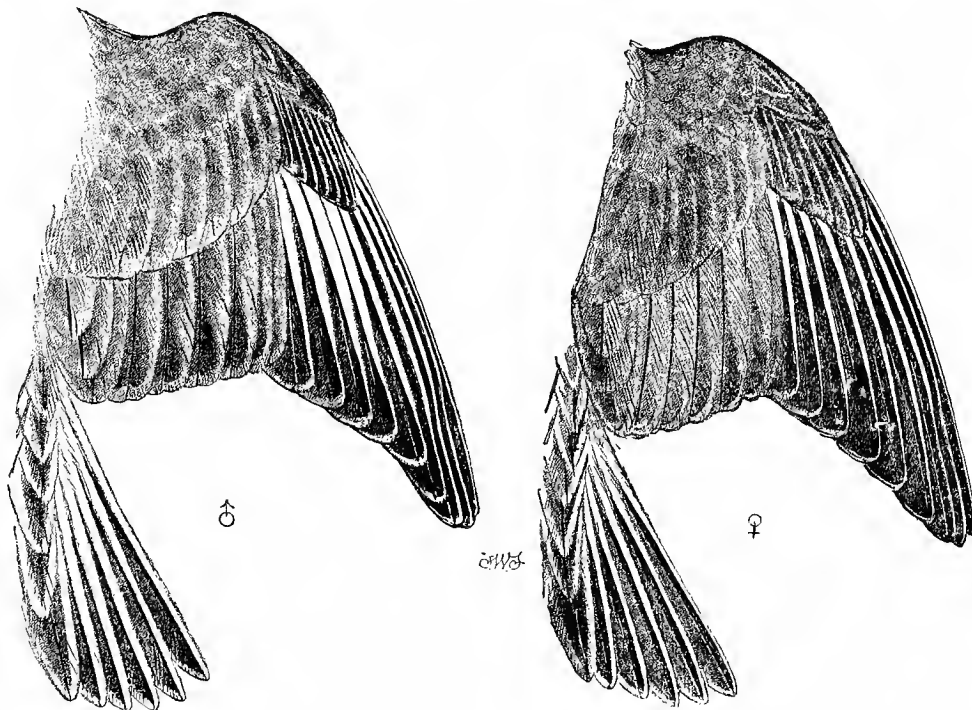
The male Linnet in breeding plumage has a glossy crimson patch from the base of the upper mandible to the centre of the crown; remainder of head, nape, and sides of neck brown, with an ashy suffusion and darker mottling; back and wing-coverts ruddy golden-brown, broadly centred with dark brown; upper tail-coverts dark brown, with broad buffish-white borders; tail-feathers black, the outer web narrowly, and the inner web broadly bordered with white; flight feathers blackish, the primaries with a conspicuous white stripe on the outer webs, and with a broad whitish-ash border along a great part of the inner webs; secondaries bordered, especially along the outer webs, with ruddy golden-brown; lores, a streak above and another below the eye, buffish; ear-coverts and sides of face greyish; chin and throat buffish-white, with small brown streaks; throat and breast crimson, somewhat suffused with chestnut in youngish birds; belly buffish-white; flanks tawny brown, with darker centres to the feathers, and sometimes slightly tinted with rose-reddish; beak greyish horn-brown, paler at the base of the lower mandible; feet brown; iris hazel. In captivity all crimson disappears from the plumage, and both beak and feet become paler and flesh-tinted.

The female differs in the absence of all crimson colouring; the entire upper surface browner, with blackish centres to the feathers, the much more prominent streaking of the under surface, the decidedly broader crown and base of beak, and the considerably narrower white outer margins to the primaries and tail feathers. It also differs remarkably in the form of the wings the distinctions being precisely



LINNET. ♀ ♂

what one notices between the sexes of many butterflies. The different form of the wing in the sexes of birds appears rarely to be noted, the mere length being recorded. The radius and ulna in the male are longer and the depression in front of their junction with the humerus deeper than in the female, the primary coverts are less exposed in the male, whilst the second, third, and fourth primaries are emarginate in front, in the male; but only the second and third, in the female; in the latter sex the primaries are more perfectly graded, whereas in the male the outer edge forms a slight sinus; the tail differs much in outline, as will be at once seen from the cut.



Young birds are very like the female. After the autumn moult the feathers of the crown and breast have greyish borders, the crimson being dull and presenting a mottled appearance; this (in fully adult males) gradually changes to the bright colouring at the approach of spring.*

This species, which is variously called the Grey, Brown, or Red Linnet, according to the age or plumage of the specimens so named, during the summer

* Seebohm almost always explains this change of colouring, by asserting that the tips of the feathers drop off; but if one obtains a bird in its transition stage the tips are frequently neither dropped nor abraded, although undoubtedly in some species the edges are worn off, whilst in others the colouring alters in the feathers themselves.

months haunts commons, hedgerows, plantations, small woods, orchards, and shrubberies, in all of which situations I have very often found its nest, the latter being most frequently constructed in a furze-bush or hawthorn-hedge, though I have taken many a nest from hazel-branches in a plantation, from evergreen and other shrubs, from tangled bramble, sometimes almost or quite on the ground, from currant and gooseberry bushes, and even from tufts of heather.

In size, strength, and materials, the nest varies considerably, but it is always tolerably compact, and rarely so large as that of a Greenfinch: among those which I took under the impression that they differed, I selected eight for my collection all of them dissimilar in character, five of these which I took in 1883 I thus described in the "Zoologist" for that year:—"only one had any moss in its construction; this one is somewhat slightly built for the species, but the walls are strengthened with coarse straws, evidently selected from a dung-hill. The second, excepting that it is not so deep, is not at all unlike a small nest of the Yellow Bunting. Its construction is, however, decidedly firmer, and the grasses used in the walls are similar to what one sees in the nest of the Greater Whitethroat. The third nest is untidy, loosely put together, and has blackish straggling roots projecting from the sides. The fourth is unusually deep, and is formed of roots, fibre, and wool, with a few white hairs towards the interior. The fifth is very ragged in construction, formed of coarse bleached roots, lined with fine fibre and wool."

The eggs number from four to six, five being the usual clutch; they are either pale bluish-green or pale buffish; those of young birds being occasionally unspotted, but most eggs spotted, speckled, blotched, and sometimes (though rarely) streaked with reddish- and purplish-brown; the markings are usually most numerous at the larger end, the dark spots now and then forming a subterminal zone.

The flight of this bird is swift and undulating; as it flies it usually twitters; in the autumn and winter when Linnets collect into flocks, often of considerable size, and pass over the fields in search of food, this twittering is especially characteristic. The bird-catchers declare that the birds say "*tell, tell, tell*" as they fly, and at a distance from the flock you can understand what is meant by this rendering, but when you get three or four Linnets under a sloping roof in a good sized aviary, and listen attentively as they fly together from end to end, you find that what they really say is—"turra, tit, turra, turra, turra."

The ordinary call of the Linnet is a rather high pitched *twit, twit*; the sexual call is *te-cwy*; the call of the young for food is *chiwi, chiwi, chiwi*; the song, to my mind, has been too much extolled; it is pretty enough, but there is too much chuckle and too little brilliance in it; the notes give one the idea of whistling

through soap-suds, a clear note escaping at the end of the phrase through bubble and sputter—"chick, chick, achock; chick chicka-chick, chick; chick, chick, achoo"; moreover, half a dozen Linnets quarrelling sound nearly as well as one Linnet singing. For clearness and vigour not a note in the song of *Acanthis cannabina* will compare with the joyous, though somewhat monotonous, song of the Chaffinch: of course I am aware that this is rank heresy; but heresy is often truth. Howard Saunders observes that "it is the capacity for learning the notes of other birds which makes the Linnet so great a favourite for the cage": perhaps he is right; but, although I have never been without the species since I first began to keep birds, often having as many as six or eight cock Linnets at the same time, I never observed any capacity for mimicry in any of my specimens: even the three males now in my possession, which have been flying together in the same aviary for more than four years, still sing nothing beyond their natural wild song. That nestling Linnets will learn a song of another bird if kept separate from examples of their own species, as recorded by Sterland (Vide Charles Witchell's "Evolution of Bird-song," p. 170)* is not remarkable; but it does not account for the caging of many thousands of adult Linnets yearly.

Linnets are known to be largely migratory, and Seebohm observes:—"Although the Linnet is a resident in this country it is probable that many, if not most of the birds of the year join the flocks of this species that pass our islands every autumn, and migrate further south with them."

The food of the Linnet consists principally of seeds of dock, plantain, dandelion, groundsel, thistle, etc., and it is fond of hemp, oats, and turnip seed. Probably when feeding its young it also eats aphides and small caterpillars. In confinement German rape, Canary, and oats are the best seeds on which to feed it. Why the last-mentioned very wholesome and cheap seed is so seldom used by aviculturists I cannot understand, unless they imagine that the smaller hard-billed birds are unable to crack it: this, of course, is a very mistaken notion, for most seed-eating birds, including Canaries, are very fond of oats.

When hand-reared, Linnets become extremely tame; but, if they are to be kept so, they must be caged separately; for association in an aviary with other birds, renders them as wild as caught specimens in a few days; a fact which I proved first in 1886, and have since been able to confirm. It is also a mistake to trust the rearing of caged nestlings to the parent birds: I tried this in 1887, hanging up the cage in a tree near the nest from which I had removed the young. The old birds are willing enough to feed their young in a cage, but the

* In my opinion the Linnet mentioned in the same work (p. 172) as warbling the songs of the Blackcap and Wren, must also have been a nestling when caged.

strongest nestlings always fight their way to the front, so that the weaker birds are unable to get sufficient food to sustain life and quickly die.

In 1888 I successfully reared two nests of Linnets (nine birds) feeding them at first on egg-food; and, as they grew stronger, upon scalded German rape; unfortunately the whole of them died after their moult from inflammation of the bowels. Since then I have been contented to return to my original plan and purchase my Linnets from the birdcatchers.

The Linnet occasionally hybridizes in a wild state with the Greenfinch (Vide Stevenson, *Birds of Norfolk*, p. 220; Seebohm, *British Birds*, Vol. II, p. 77; Howard Saunders, *Manual Brit. Birds*, p. 162; Gurney, *Zoologist*, p. 3388; Rev. H. A. Macpherson, *Zoologist*, 1887, p. 303, etc., etc.); and in captivity it has been successfully crossed with several species, including the Canary: this last-mentioned bastard is not at all difficult to produce, for my first attempt resulted in three mules; but to breed hybrid Linnet-Canaries good enough to carry off prizes at our shows requires judgment and experience. The rarest and most valued examples are those known as clear mules, in which the colouring of the Canary is combined with Linnet characteristics: theoretically these should be most readily produced, when both parents have been inbred for several generations; albinism, or the absence of dark colouring, being a frequent result of inbreeding.

Family—FRINGILLIDÆ.

Subfamily—FRINGILLINÆ.

THE HOUSE-SPARROW.

Passer domesticus, LINN.

THIS scavenger of towns and scourge of the country is distributed over the greater part of Europe, but in Italy and on the island of Corsica is replaced by a form to which the name of *P. italia* has been given; eastwards it ranges to



HOUSE-SPARROW ♂ ♀

Persia and Central Asia, India and Ceylon; westwards it is found in Madeira. In Africa it occurs from Morocco to the Albert Nyanza. It has been introduced into Australia, New Zealand, and the United States, where it has increased to such an extent as to be an unbearable nuisance. (Vide Sharpe and Saunders).

Throughout Great Britain and Ireland, wherever man has made his home, the Sparrow has quickly followed his example, even isolated houses usually providing a pretext for the presence of this bird, sometimes to the extent of scores of individuals.

The adult male Sparrow in breeding plumage has the crown, nape, and lower back slate-grey, slightly washed with olivaceous, but the sides of the nape bright chocolate-reddish in continuation of a broad streak from the ear-coverts; upper back blackish, each feather broadly bordered with dull chestnut; lesser wing-coverts bright chocolate-reddish; median coverts black, broadly tipped with white so as to form a prominent bar across the wing; greater coverts blackish, broadly bordered with dull chestnut; primaries blackish-grey, all excepting the first with pale chestnut edging to the wider part of the outer web, but the inner primaries with this edge continuous; secondaries blackish, with chestnut borders, paler and greyer on the inner webs; tail blackish-brown, the feathers edged with whity-brown; a narrow white line over the eye; lores black; cheeks, and sides of neck white; throat and chest black, sometimes suffused with chocolate; remainder of under parts white, ashy at the sides, and brownish on the flanks; beak leaden black; feet brown; iris brown. After the autumn moult the male has whitish-ash fringes to the feathers of the head and throat, which appear to be very delicate in texture, and break away in the spring;* the under parts are also more uniformly ashy, the upper parts duller, the wing band yellowish, and the beak becomes yellowish-brown.

The female is duller and browner than the male; the broad borders to the feathers of the mantle and back being tawny rather than chestnut; the superciliary line and wing bar less pure and conspicuous; the under parts browner, with no black on throat and chest. Young birds chiefly differ from the female in their paler colouring; the beak is dull yellow.

In towns the House-Sparrow is a useful bird, inasmuch as it feeds largely on oats and other grain which it picks from horse-manure, and which otherwise would render the latter less suitable for garden purposes; it also acts as a scavenger, eating scraps of all kinds which have been thrown into the gutters, and which if not removed in warm weather would soon become offensive. In very dry seasons,

* This I do not give on the authority of previous writers, although they mention the fact, but on the clear evidence of a good skin (in my possession) of a bird which died in the middle of its change of plumage.

when caterpillars and aphides, but especially the latter, are abundant, the Sparrow makes itself somewhat useful in the country, although it must be admitted that he drives away many more strictly insectivorous birds who could do the same work far more efficiently.

On the other hand both to the gardener and farmer the Sparrow is a positive scourge, completely ruining beds of young carnations, or borders of crocuses and primroses, breaking tender shoots in its ponderous struggles to secure insects, scattering earth right and left over freshly gravelled paths in its search for newly sown flower-seeds; sampling peas, fruit, and grain of all kinds in abundance. Moreover, even the insects which it devours when feeding its young, only represent a portion of their diet; whole rows of young beans and lettuce are devoured and partly digested by the parents for the same purpose: it must also be borne in mind that even the holding capacity of the ever hungry Sparrow is limited, and that it feeds its young from the crop for some days after they leave the nest (as anyone may see, who watches the birds in his garden, or in the thoroughfares of cities and villages) so that there is by no means that incessant destruction of noxious insects during the rearing of a Sparrow's progeny, which renders the Titmice such enormous benefactors to the fruit-grower.*

The young town-bred Sparrow, instead of being nourished on clean partly digested grain, young vegetables, and insects, has to put up with all kinds of refuse and garbage, and when it leaves the nest and is almost able to peck for itself, I have sometimes been amused to see its mother satisfy its cries for food by scooping up a beakful of mud out of a half-dried puddle and emptying it into its gaping mouth: it is not surprising that we sometimes see city-bred birds with ruffled plumage and dull eyes, almost too ill to get out of the way of approaching vehicles.

The nest of the House-Sparrow is placed in any suitable hole or crevice either in buildings, trees, or banks, on projecting bricks amongst ivy growing over walls, on beams in barns against a wall or upright support, in nests of House- and Sand-Martins; but in nearly all such situations its nest is not characteristic, being either extremely untidy and almost shapeless, or formed like that of most Finches in cup-fashion, though with somewhat less regular walls. The more typical nest is built in the branches of trees, hedges, and (according to Dixon) in furze-bushes; it is a very bulky bag-shaped structure, the entrance being either close to, or at the top, so that the light falls more or less directly into the cavity: this form of nest is also usually built on beams in barns, and I once found a simply gigantic

* Henry Stevenson, who quotes an estimate as to a pair of Sparrows destroying 3,400 caterpillars in one week to feed their young, seems not to have been aware of the fact that, only when teaching their offspring to peck, do Sparrows offer insects to them entire. A Sparrow on a fence will feed three or four young in succession without leaving its post.

specimen in a large pail hanging on the branch of a tree, the depth of this nest was at least 16-inches, and the width close upon a foot: it was too bulky to carry away and was hardly suitable for a collection, so I left it where it was. But the most marvellous Sparrow's nest I ever saw is one in my collection obtained from the forking branches of a large hawthorn, at Kemsley, near Sheppy; it is roughly circular, saucer-shaped, and altogether has more the character of a Duck's than a Sparrow's nest; the four eggs in it also all differ, the darkest egg being similar in character to the most richly coloured eggs of the Tree-Sparrow, whilst the lightest is white with smoky grey spots and dots crowded chiefly at the larger end, so that it has quite a Shrike-like character. (figs. 142 & 143 are from this nest.)

The number of eggs ranges from four to seven, but rarely exceeds six: the colouring both of ground-tint and marking varies more than in most birds, and as I have selected all the best-marked modifications for illustration on our plate, it would be only a waste of space to describe them; but it may perhaps be as well to call attention to the fact that the whitest and least boldly marked varieties are found in places to which light has had little access.

In 1877 I had clear proof of the unthinking obstinacy of the Sparrow, a pair having built in the roller-box of a sun-blind during dull weather, the pulling down of the blind with the first hot day destroyed the nest; no sooner, however, was the blind pulled up than the Sparrows set to work and replaced it. This went on so continually and repeatedly that I wrote to the late Charles Darwin, asking him whether he did not think it would be interesting to publish the fact, as evidence of the feeble reasoning powers of this species: his reply, dated May 9th, 1877, I still have, with other letters from him.—“My dear Sir, I have been always inclined to think that Sparrows were acute and crafty birds, but you certainly show that they are fools, and if they go on behaving in so idiotic a manner, you will do quite right to expose their conduct in some public journal!—Yours sincerely, Ch. Darwin.” As this unreflecting perseverance under difficulties continued altogether for nearly a month, I sent an account to the “Zoologist,” 1877, pp. 299-300.

The House-Sparrow can hardly be said to have a song, its best performance being little more than a chirrup interspersed with sharp chirps, but often early in the morning you will hear several apparently engaged in conversation *chow, chow, chivi, chivi, chow, chivi*, to which the reply is *whit!* perhaps followed by two or three rapid harsh chirps: *chivi* is the cry of the young for food, and the adult bird when caught in a trap expresses his rage by indignant *chows*. I never heard the Sparrow utter any sound like *tell*, but think the note which Mr. Witchell renders *tell*, must be that which sounds to me like *chow*.

This species is of no interest as a cage-bird, unless hand-reared: a caught Sparrow rarely lives long, is always wild, vicious, voracious, and unmusical; if hand-reared it has been known to learn and sing the songs of the Goldfinch, Linnet, Canary, and Skylark. A friend of mine had one which imitated the Canary's song perfectly, but seemed ashamed of its performance, for it always turned its face to the wall and sang quite softly; it also never sang until the evening when the Canaries had gone to sleep. For feeding caged Sparrows I should recommend sunflower-seed, oats, Canary, and German-rape; groundsel- and plantain-heads; with a few insects and their larvæ.

Albinism seems to be on the increase in this species, and more particularly in London; where, if one examines each flock that one passes in a half-hour's walk through the streets, it is not at all unusual to see several pied varieties: there are always two or three among those which collect for crumbs in front of the Natural History Museum.

Family—FRINGILLIDÆ.

Subfamily—FRINGILLINÆ.

THE TREE-SPARROW.

Passer montanus, LINN.

SEEBOHM gives the distribution of this bird as follows:—"The Tree-Sparrow is common, though somewhat local, throughout the Palæarctic Region from the Atlantic to the Pacific up to and, in Europe, slightly beyond the Arctic circle. It appears to be very rare in North Africa, and to be absent altogether from Greece, Asia Minor, Palestine, Central and Southern Persia, Baluchistan, and India south of the Himalayas; it is, however, abundant in Turkestan, Afghanistan, and the Himalayas, and is found in suitable localities throughout the rest of Eastern Asia, including Japan, Formosa, Hainan, and Java."



TREE-SPARROW ♀ ♂

The distribution of this species in Great Britain is imperfectly known, owing to its general resemblance to the House-Sparrow and its comparative rarity, but it is believed to be most abundant in the eastern and midland counties of England, and the eastern counties of Scotland: in Ireland it was not discovered until 1852, but is steadily extending its range and increasing in numbers.

It is believed that in the autumn the numbers of our resident Tree-Sparrows are largely added to, by flocks of immigrants from the north; many hundreds arriving on our east coast, in company with Greenfinches, during October and November.

The Tree-Sparrow chiefly differs from the House-Sparrow in its slightly inferior size, chestnut crown and nape, a white-bordered triangular black patch on the ear-coverts, a second white bar across the wing; and in the fact that the female scarcely differs from the male. Young birds have the black markings replaced by brown, and the wing bands suffused with buff.

During the summer months this species in our islands differs somewhat in its habits from those on the Continent, seeming to avoid towns and the larger villages, and (according to Seebohm) chiefly haunting "the fields and wilder districts away from houses"; but curiously enough the whole of the nests which I have taken, both in Kent and Norfolk, were found in holes in trees within a stone's throw of at least one house, and sometimes at a distance of only a few yards. "On the Continent, however," (says Seebohm) "the bird has so far overcome its shyness, and adapted itself to circumstances as to frequent the towns, and is quite as pert and impudent as its congener, which it otherwise resembles in its habits."

As a site for its nest the Tree-Sparrow seems to prefer holes in pollard willows when obtainable, and, more often than not, the selected hole is at the top of the stump, though I have also taken it out of a hollow and decayed lateral branch, about five feet from the ground: in Norfolk all the nests I found were in willows; but in Kent I took one nest from a hole in the front of an old oak-tree facing the road, whilst Lord Lilford says that in Northamptonshire they "are to be found nesting generally in small colonies of three or four pairs in old hollow trees, especially (in our neighbourhood) decayed ash, willows, and walnuts." Yarrell speaks of the species as building "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 (sic), but by holes in the outside"; whilst Howard Saunders mentions its building "beneath the tiles of roofs, as well as under the coping of old walls and in sea-cliffs"; I have taken it from a hole in a ruined lime-kiln; and, in the "Zoologist" for 1887, p. 265, I recorded the fact of my finding a nest with six perfectly typical eggs (on May 24th) in an exposed mole-burrow in

a brick-earth cutting at Kemsley, near Sheppy. Nidification lasts from May to August, nests being most abundant in the latter half of May.

The nest is usually bag-shaped, consisting of a mere thick lining to the hole in which it is situated; the top being widely open, so that the light generally falls directly upon the eggs; the materials are similar to those used by the Common Sparrow—straw, hay, and a mass of poultry-feathers. The eggs number from four to six; they are rather smaller than those of the House-Sparrow, and vary nearly as much (perhaps quite as much, if one could obtain a sufficient series to decide the point); I have taken them greenish-white, with scarcely perceptible grey speckling; greenish-white, speckled with grey, spotted with two shades of sepia, sometimes with the heaviest markings in a subterminal zone; somewhat greyer, mottled and streaked with grey (not unlike an egg of the Pied Wagtail); greyish-white, thickly mottled and blotched with grey, most densely at the larger end, also with one or two blackish dots (not unlike a Titlark's egg); dull white, heavily blotched and streaked with vandyke-brown in two shades, and with small grey shell-spots; similar, but so densely streaked and splashed with brown as almost to hide the ground-colour; lastly rufous-brown, speckled and streaked, especially at the larger end, with darker brown (resembling a reddish variety of the Tree-Pipit). The darker and more ruddy eggs are most characteristic of the species; but most of those which I obtained from Kentish nests were of the lighter varieties, though the eggs in one clutch sometimes exhibit considerable modification in this respect. It is possible that the colouring of the eggs may have a local significance, inasmuch as Lord Lilford's experience in Northamptonshire led him to the conclusion that the ground-colour, as a rule, was lighter than in eggs of the House-Sparrow; whilst those which I obtained in Norfolk were usually remarkable for their darker ground-tint, although exceptions did occur.

It seems to me more probable that light in some way affects the colouring of eggs; inasmuch as, not only are most eggs which are laid in the dark pure white, but all those which I have found in heavily shaded positions have been pale and little marked, in comparison with those exposed to direct daylight; the lightest eggs of the Tree-Sparrow which I obtained in Norfolk were those taken from the horizontal branch of a willow, where the light only entered imperfectly over one side of the nest-cavity; those in the top of the stump, which were fully exposed to the sky, were deepest in colouring; the nest containing an almost white egg was from the ruined lime-kiln, and was almost as much in the dark as if it had been taken from a Sand-Martin's burrow. Lord Lilford's eggs being taken from holes in full-sized trees, and not from the tops of pollards, were probably but little exposed to light.

The Tree-Sparrow is a more active sprightly bird than its commoner relative; and, although it can hardly be said to have a song,* its chirruping is somewhat more melodious, its chirp is sharper, and the indignant utterance of a recently captured bird is shriller.

Although the Tree-Sparrow does not breed so continuously as the House-Sparrow, which in mild seasons appears to rear family after family throughout the greater part of the year, there is no doubt that it frequently produces three broods in a season. When feeding its young it eats caterpillars, spiders, and various kinds of insects, as well as leaves and unripe seeds of weeds; but at other times it appears to confine its attentions principally to different kinds of seeds.

On several occasions bird-catchers have offered me Tree-Sparrows at from twopence to threepence apiece; but the birds looked so vindictive and chirped so savagely that, considering their powerful beaks, I decided not to risk associating them with the other members of my feathered family. Although opinions differ greatly respecting the character of this species, I am satisfied that I adopted the safest course. Stevenson (*Birds of Norfolk*, Vol. I, p. 209) says:—"In confinement the Tree-Sparrows are certainly the shyest and most untameable of any birds I have ever introduced into my aviary, and even time seems to work but little change in their wild nature, as on the approach of any person, whether a stranger or not, they dash about the cage in a reckless manner, and when exhausted and panting with fright, will creep into any corner or dark spot to escape notice."

Lord Lilford observes:—"In captivity the Tree-Sparrow thrives well upon canary- and millet-seed, and becomes very tame." †

Swaysland, who has had considerable experience in keeping many of our British birds, remarks:—"When caught do not place immediately in an aviary, as they would then invariably sulk and behave wildly, frightening the other birds, but rather keep in a small cage until tame."

Howard Saunders (*Manual*, p. 174) says:—"In captivity this species has bred with the House-Sparrow." It would therefore appear that, if properly treated, this species does become steady enough to breed in confinement.

I have been told, by Aviculturists who have kept the Tree-Sparrow, that it is not tyrannical in an aviary; it must, however, be borne in mind, that an individual does not necessarily exhibit the characteristics of a species; even half a dozen specimens may all be of a peaceful disposition (as was the case with my Robins, which never fought with any but their own species). On the other hand

* The Rev. H. A. Macpherson assures me that the Tree-Sparrow *has* a very sweet song; a fact vouched for independently by Mr. J. Whitaker and the late Edward Blyth.

† I should certainly add oats.—A.G.B.

one vicious Tree-Sparrow, associated with birds weaker than itself, might do much mischief in a very short space of time: its powerful beak would enable it to kill or maim any smaller or weaker bird without the least trouble.

Family—FRINGILLIDÆ.

Subfamily—FRINGILLINÆ.

THE CHAFFINCH.

Fringilla cœlebs, LINN.

ALTHOUGH the type of the family *Fringillidæ* and therefore the Finch of Finches, this species and the Brambling differ much in their habits from the other British species of typical Finches (*Fringillinae*) and one is surprised that any man, having the knowledge of living birds which Seebohm undoubtedly had, should have been content to place forms with Tit-like habits (Siskin, Goldfinch, Redpolls) in the same genus with the true species of *Fringilla*—birds which have the habits of Buntings. If distinctive structural characters were wholly absent, one could understand it.

The Chaffinch is distributed as a breeding species throughout Europe almost up to the North Cape, but in the south of Europe it chiefly haunts the mountains during the breeding season, wintering in the plains. It occurs locally in Morocco and Algeria, and winters in Egypt. In Asia it is said to breed in Palestine, Asia Minor, and Western Persia, and to winter in Turkestan.

In Great Britain the Chaffinch is generally distributed; breeding freely in all wooded or cultivated districts, and in solitary bushes on the more barren portions of our islands.

The fully adult male Chaffinch in breeding plumage has the forehead velvety black, the crown and nape steel blue, the former sometimes tinged with green, the latter somewhat ashy; the mantle bright chestnut; lower back bluish ash-grey at



CHAFFINCH ♂ ♀

base of feathers, sap-green at tips, changing to bright sap-green on the rump and upper tail-coverts; lesser and median wing-coverts white; greater coverts black tipped with white; quills smoky brown, with narrow dull yellow edges to the outer webs; two central tail-feathers smoky-brown, remaining feathers blue-black; the two outer feathers with broad wedge-shaped white patches, that on the outermost one occupying fully half the feather; sides of head, throat, breast, and front of belly vinous chestnut, lower belly and flanks somewhat duller and greyer; under tail-coverts white; beak leaden blackish, paler beneath; feet dull brown; iris hazel. After the autumn moult the feathers of the crown have brownish edges, the under parts are slightly paler and the beak is flesh-brown, with dark tip. The female has the crown and back buffish brown, and the under parts buffish-grey; it also appears to be slightly smaller than the male. The young in first plumage are similar to the female, but rather paler: in the first year they do not attain their full beauty, the crown being brownish with two dusky longitudinal stripes; indeed the full sheeny lustre is not acquired until about the third year; the median wing-coverts also are more exposed in old birds, making the white belt across the wing broader.*

Like the British Buntings, the Chaffinch both runs and hops; on the ground it almost invariably either runs or walks; also during the summer months it is almost exclusively insectivorous; like the Buntings again, it accustoms its young to taking food from its beak at a much earlier age than do the other typical Finches: its position therefore should certainly be at the end of the Subfamily of which it is the type, and immediately before the *Emberizina*. It has even been asserted that the Chaffinch pairs on the wing, but this fable is based upon its violent and impetuous courtship, in which respect it corresponds with the members of the New World genus *Sycalis*, both sexes sometimes falling to the earth struggling desperately. No sooner, however, is the hen Chaffinch once subdued than she is treated with gentleness and affection: pairing frequently takes place on the earth, but sometimes on a branch.

In the autumn there is a considerable immigration of Chaffinches, chiefly on the eastern and south-eastern coasts of England, and it would seem that there is a return migration early in the year, as this species passes over Heligoland both in September and March.

Early in February the Chaffinch begins to practise his song; at first this bears no resemblance to the full powerful melody which is eventually developed;

* I have not seen these points noted in any description, indeed they may pass for variations to those who have not reared Chaffinches from the nest; they are also overlooked by judges at shows, who often give a prize to birds of the year (not in full adult colouring).

but merely sounds like *tsip, tsip, tsip, turrrrrrl, torrrrrrl*, a sort of liquid bubbling; a little later there is an effort to get in the terminal notes, then by twos and threes the other notes come out weakly; until, by March, the full song is remembered and rings out from the trees and hedgerows; when perfect it is a full rattling scale, ending variously in different individuals, although the same bird at times varies his terminal phrase: sometimes it is *chucha churr*, sometimes *tissi-ear*, and frequently *wheatear*; the bird-catchers call the birds which use the first phrase "*chuckwados*," and those that use the two last "kiss-me-dears." In Kent, and I believe in some other counties, the Chaffinch is said to sing—"If we wait another month, we shall have the Wheatear."

The call-note of the Chaffinch is, I believe, that described by my friend Mr. Charles Witchell as "a loud short whistle very rapidly slurred upwards in the interval of about a fifth or sixth. It may be pronounced *twit*."* The call of the young for food is *chizzit, chizzit, chizzit*; Mr. Witchell, (who, however, renders it *chizzick*) says that he has heard the old birds utter the same note. The war-cry undoubtedly is a shrill *chick, chick*, with a slight metallic *n* sound before the *k*: this cry has been variously written *twink, spink, pink, bink, and fink*; it is usually uttered twice only by our Chaffinch, but the Madeiran Chaffinch repeats it rapidly four times; so that it almost leads up to his rather monotonous and poor song, the terminal phrase of which is never uttered by my male example. As the song of the Chaffinch is itself sung in rivalry and as a challenge, there is every reason for believing that it has been gradually evolved from the single note of defiance and not from the call-note.

The nest of this species varies exceedingly; not, as has been stated, with the deliberate design of the bird to conceal it; for, if such were the case, this pretty little structure would never be so glaringly conspicuous as it sometimes is; but simply from the fact that, like most birds, the Chaffinch uses those materials which are most handy, provided that they are capable of being woven into a soft warm mass. The nest is most frequently placed in hawthorn hedges, where mimicry of its environment would be absolutely useless; preference is given to hedges enclosing orchards, but roadside hedge-rows are often utilized, as also those along the margins of woods; the forks of young fruit-trees and the boughs of old apple-trees are sometimes selected as nesting-sites, and Seebohm speaks of the "lichen- and moss-covered branches of the birch- and ash-trees, far up in the towering branches of the oak, the alder, and the poplar, and on the lowly branches of the holly, more rarely of the yew, and frequently in the gorse shrubs." I have found it in the yew, but never in gorse.

* To my (perhaps less musical) ear, it sounds more like *phwit*.

The nest takes from five days to a fortnight to construct, all depending upon whether the bird is ready to lay. In form it is a small neat cup, slightly contracted at the top, and tolerably deep; but curiously enough Seeböhm quotes a note by a Mr. C. Doncaster on a very aberrant nest seen by him on a thorn tree by the river Derwent, which appears to have been like that made by an English Chaffinch sent to New Zealand, and which has been figured by Dixon as evidence that birds do not inherit the design upon which they construct their nests. This year (1896) I again turned a Canary loose in an aviary, and had the pleasure of seeing her prove the fallacy of Dixon's belief, by building a cup-shaped nest in a bunch of fir-twigs, her only pattern being set by a Canary on the opposite side of the aviary sitting in the usual square box.

The materials of the nest, as already stated, vary a good deal; the normal type being firmly felted together and formed of moss, a few lichens and spiders' cocoons, and lined with rootlets and hair, intermingled, or covered, with a layer of thistle-down; but one of my nests has a rather rough aspect, being constructed of roots and fibre, mingled with fine worsted, and with hardly any moss or lichen in the outer walls, but with the usual lining; others have feathers mixed with the usual materials in the lining. The eggs, four to six in number, are, as a rule, either greenish, or rosy flesh-coloured, the markings consisting of diffused sienna or ruddy brownish patches and streaks, some of which enclose blots, commas, dots, streaks, or hair-lines of blackish-brown; in some eggs the reddish markings are chiefly massed over the larger end; in others the darker markings form a subterminal zone, whilst in rare instances they are wholly absent, the eggs being bluish, slightly clouded with reddish: the rarest type, of which I have only taken two clutches, is exactly like some eggs of the Bullfinch, clear blue, with grey shell-spots, purplish patches, and almost black surface spots. The Chaffinch certainly frequently rears three broods in a year; nidification lasting from April sometimes to August.

The natural food of the Chaffinch in summer, as already stated, consists largely of insects, their larvæ, spiders, and the soft foliage and unripe seeds of weeds; but at other times it lives chiefly upon various kinds of seeds of weeds, and of grain. In confinement it may be kept for years in health without insect food, but nevertheless a few caterpillars, mealworms, cockroaches, or spiders certainly are good for it.

I think it was about the year 1887 that I took and hand-reared a nest of four young Chaffinches, which eventually proved to be two pairs: the nestlings are not easy to feed, as they always back away from the food, wagging their heads violently from side to side, so that it requires patience and dexterity to pop it into their wide-gaping mouths. My two male birds came into magnificent colour, and sang

extremely well, probably learning their song from a Chaffinch which still lives in one of my aviaries as I write, though it must now be quite fifteen years of age. This old fellow was a fine Essex bird when I bought him, and a very good singer; and, although he has now been unable to fly for two or three years, and his white eye-lashes show his advanced age, he still sings strongly in the spring: but his chief interest to me lies in the fact that he once took a Canary to wife.

In the spring of 1886 the veteran above-mentioned was flying about with other Finches in a small aviary, and one of my hen Norwich Canaries took a violent fancy to him, following him about everywhere: at first he did not seem to reciprocate this feeling, but eventually he began to feed her from the crop. When I noticed this, I placed the two apart in a large flight-cage where they soon paired. The Canary then built and commenced to lay, but I only found the shell of the first egg (which was so exactly marked like that of a Chaffinch that it would have deceived anyone).

Although I found the Finch feeding his wife as she sat in her nest, I felt certain that he must have destroyed her first egg; therefore I promptly removed him to another cage. After this the Canary laid three other eggs, all more or less marked like the first, and sat steadily upon them for three weeks; when, knowing that there was no chance of their hatching, I took them away and found that they were all clear.*

The idea prevalent in the minds of many naturalists, that the Chaffinch differs from other *Fringillidae* in not feeding its hen and young from the crop, is probably based upon the fact that it begins to give its nestlings solid food before they leave the nest. This is certainly the case with some, if not all, members of the Sub-family *Emberizinae*.

* A friend of mine was extremely indignant because I quoted Howard Saunders' suggestion that the green eggs sometimes laid by Blackbirds may have been the result of a cross between Blackbird and Song-Thrush. He said it was absurd to suppose that the male in any way influenced the colouring of an egg. Is it? I don't know; but I do know that the Canary paired with a Chaffinch laid eggs which could have been mistaken for those of the latter bird, and yet they were not fertile: possibly the colouring of the shell may be the first thing affected; we absolutely know nothing about the causes of the colours and markings of eggs, and therefore have no right to be dogmatic.—A.G.B.



BRAMBLING. ♂ ♀

*Family—FRINGILLIDÆ.**Subfamily—FRINGILLINÆ.*

THE BRAMBLING.

Fringilla montifringilla, LINN.

OF the distribution of this species Howard Saunders says:—"To the Færoes the Brambling is only an exceptional visitor. On the mainland it breeds throughout the sub-Arctic pine and birch forests, from Norway to the valley of the Amur: while on migration it occurs in Japan, China, Northern India, Asia Minor, and the whole of Europe; but it is only in very severe winters that it pushes its wanderings to the African side of the Mediterranean. Immense flocks sometimes visit Belgium, Holland, Germany, and Heligoland; but statements that this species has nested in the Pyrenees, the Alps, or the Ardennes, are as yet unconfirmed." (Manual of British Birds, p. 177).

To Great Britain the Brambling is chiefly a winter migrant, although there is reason for believing that a few pairs have occasionally remained to breed with us. Although pretty generally distributed throughout our islands in winter, it appears to be rather more numerous in Scotland than in England, whilst in Cornwall, the west of England, and the south of Ireland, it is rarer than elsewhere; and in very severe winters it is more abundant, but particularly near beech-woods.

The adult male in breeding plumage has the upper parts blue-black, some of the feathers with tawny margins, the middle of the lower back and rump white; scapulars and lesser wing-coverts bright tawny; median coverts white; greater coverts black, tipped with white, so as to form a prominent bar; quills smoky black; the primaries with narrow yellowish white margins, the inner ones with white bases; secondaries with white margins towards their extremities; upper tail-coverts black, with ashy tips; tail black, the outer feathers with a little white at the base of the inner web, and about half the outer web broadly white; sides of head black; throat and breast reddish tawny; belly white, the flanks spotted with black, and the thighs black behind; under tail-coverts white, tawny on the vent; beak blue-black; feet reddish-brown; iris hazel. After the autumn moult the feathers of the head and back have broad tawny margins, as also have the tips of the greater wing-coverts and the innermost secondaries; the quills and

tail-feathers have fairly broad yellow margins; the feathers of the sides of the neck have ashy edges; the sides and flanks are washed with orange-tawny, the black spots on the flanks are less prominent, and the beak becomes bright ochre-yellow, with brown tip.

The female somewhat resembles the male in winter plumage but is altogether duller, the black of the upper parts being replaced by brown, and the bars on the wings are much less prominent. The young at first are very like the female, but the males quickly develop their characteristic colouring.

The breeding plumage of the male is acquired without a moult, and it is said that the change is effected by shedding the tips of the feathers.

Although somewhat less active than the Chaffinch, this species is quite as quarrelsome in the breeding season (at any rate in confinement); in winter, however, the flocks which travel about through woods and over fields in search of food agree perfectly with one another and with Chaffinches. Speaking of them as observed near Sheffield, Seeböhm observes:—"They are remarkably noisy birds, and sit upon the tree-tops twittering to each other until dusk; they sometimes fly up into the air in a compact mass, and after wheeling round several times again alight. They roost in the yew and holly trees, and a fair proportion of them seek quarters in the ivy."

The site chosen by the Brambling for its nest is usually at a height of from fifteen to twenty feet from the ground in a birch or fir-tree, at the junction of a branch with the trunk; the nest has, however, been found in juniper bushes. In his "Catalogue of Birds of the Dyke Road Museum, at Brighton," p. 126, the late Mr. E. T. Booth says:—"In the summer of 1866, while fishing on the river Lyon, in Perthshire, I had occasion to climb a beech-tree to release the line which had become entangled in the branches, and while so engaged a female Brambling was disturbed from her nest, containing three eggs, which was placed close to the stem of the tree. As I was anxious to procure the young I left her, and on visiting the spot in about a fortnight the nest was empty, and, judging by its appearance, I should be of opinion that the young birds had been dragged out by a cat. This is the only instance I have ever known of the Brambling attempting to rear its young in Great Britain."

In the "Field" for July 23rd, 1864, p. 52, the Rev. J. C. Atkinson recorded the fact of a nest with five or six eggs having been taken at Baldersly Park, near Thirsk, Yorks., by the Hon. Guy Dawnay.

The nest is larger and more coarsely made than that of the Chaffinch, being formed of white and buff birch-bark, moss, lichens, and spiders' web, and lined with fine grass and feathers. The eggs, five to seven, usually six, in number, are

frequently indistinguishable from those of the Chaffinch; but usually they are decidedly greener, with smaller and less defined markings: a hen Brambling in my possession, which must have been taken as a cage-bird to South America and liberated there (I picked her out of a batch of newly imported Brazilian birds) occasionally drops an egg from the branch on which she roosts; these eggs are greenish-blue, like those of a Hedge-Accentor, but with four or five deep brown spots on sienna-reddish smears towards the larger end: of course they are always broken when I find them.

Like the Chaffinch, this species feeds largely on insects in the summer time, and on various kinds of seed in the winter, it is especially fond of beech-mast, but also eats the seeds of many noxious weeds, and fruit. On the ground it both runs and hops, but chiefly the former.

The call-note is usually described as a harsh chirp, probably referring to the grating *zshweeo* which it utters (in common with the Greenfinch, the Baya and Manyar Weavers, and many other birds); if so I have no hesitation in asserting positively that this is its note of defiance, inasmuch as it not only utters it after its song, but when disputing with another bird. I suspect the true call-note to be a sharp *whit*. The alarm-note according to Seebohm is a hurried *ziv, ziv*, but I have not heard this note from any of the birds which I have kept. The song, which I have frequently heard sung by two of my male Bramblings, is very like that of the Chaffinch without the terminal notes; as, however, it is generally followed, almost immediately, by the harsh cry of defiance, it would almost seem as if this might represent the *wheat-ear* or *tissi-ear* of that species. The scale of the Brambling is rather shorter than in the song of the Chaffinch, and delivered with less vehemence; but, in this respect, individuals may differ.

A pair of Bramblings formed part of the little collection with which I commenced my studies in aviculture: I kept them with a pair of Goldfinches, a Hedge-Accentor, and one or two other birds, in a large home-made flight-cage. These were the worst tempered Bramblings I ever had, they disputed incessantly, and at first gave the hen Goldfinch a wretched time of it, viciously pecking her whenever she went down to feed near them: but one day the cock Brambling made a mistake and pecked the male Goldfinch, which simply sprang at him, grasped his body with its claws, and tore a bunch of feathers from his breast. After this both Goldfinches were let alone, but the male and female Bramblings fought incessantly, the hen eventually pecking out one of her husband's eyes, soon after which he died: curiously enough she only survived him a few days.

In 1886 I purchased a charming male bird of this species, so gentle and tame that its plumage was always in perfect condition; it was passionately fond of bath-

ing, and sang regularly in the spring: unfortunately I kept this example in a cage, and, at its third moult, all its quills grew out like fans, giving the bird a most wild and uncanny aspect; indeed it was such an object that I gave it away to some poor child who took a fancy to it.

About 1889 I again purchased a Brambling from a bird-catcher, and turned it into a good-sized aviary with other British species: it soon became fairly tame, sang well each spring, and rarely made itself objectionable to its associates; it lived principally upon seed, but ate a certain amount of soft food and any chance insects which were thrown to it. The plumage of this bird was so perfect that a friend who greatly desired to have it for show-purposes persuaded me to let him purchase it.

Bramblings have not only bred in confinement, but have been successfully crossed with Chaffinches. The Natural History Museum at Florence contains several hybrids between the Brambling and Chaffinch. These specimens show ample evidence of their origin, and were netted in a wild state by the Italian birdcatchers.

Family—FRINGILLIDÆ.

Subfamily—EMBERIZINÆ.

THE BLACK-HEADED BUNTING.

Emberiza melanocephala, SCOP.

IN spite of the fact that the Black-headed Bunting has hardly any claim to be called a British bird, it is necessary to give an account and illustration of it, in order that the confusion existing in the minds of many, respecting this species and the Reed Bunting, may be abolished.

Dr. Sharpe summarizes the distribution of this bird as follows:—"Southern Europe from Asia Minor and Greece, westwards to Southern Germany and Southern



BLACK-HEADED BUNTING ♂ ♀

France, eastwards to North-western and Central India." Howard Saunders says:—"In Greece, Turkey, the Danubian Provinces, Southern Russia, Asia Minor, Palestine, and Northern Persia, it is common from the end of April to autumn, after which it leaves for its winter quarters in North-western and Central India."

Gätke, speaking of it in Heligoland, observes:—"I obtained the first example of this large and handsome Bunting on the 4th of June, 1845; it is an old male in which, singularly, the normal black markings of the head not only extend downwards along the sides of the neck, but the fore-neck also has a long black longitudinal patch. Since that time the species has occurred here about fifteen times, and has been killed in most of these cases."

When Seebohm published his *History of British Birds*, Vol. II, in 1884, only one example of this species had been obtained, it was shot by Mr. Robert Brazener, on Brighton racecourse, on the 3rd November, 1868. In 1888, Howard Saunders was able to add two occurrences of the Black-headed Bunting (*Manual British Birds*, p. 197) one recorded by the Rev. J. R. Ashworth (in the "*Zoologist*" for 1886, p. 73) as having been shot in Nottinghamshire; and the other as having been captured about November 5th, 1886, near Dunfermline, and exhibited at the Crystal Palace Show, February 12th to 17th, 1887, where it was recognised by the Rev. H. A. Macpherson. It was then purchased by Mr. J. C. Steele, of Beckenham, who exhibited it at the Palace every year up to 1891, taking a first prize up to 1890. In 1891 it was recognised and labelled as "Black-headed Bunting" by the late Mr. Jenner Weir at the West Kent Ornithological Show; but, knowing that the carelessness of some popular writers had prejudiced the public mind by confounding this species with the Reed Bunting, Mr. Steele probably wished to avoid discussion, and therefore again entered it for the Palace Show of that year (February 14th to 19th) as "Bunting-Cock." The bird was then growing old, and was in poor plumage; therefore the judge passed it over: soon afterwards it died, was stuffed, and is still in Mr. Steele's possession.*

The adult male in the breeding season has the crown, lores, sides of face and ear-coverts black; the back and rump cinnamon-brown; wings and tail brown, the former with whity-brown margins to the coverts, and broad pale borders to the innermost secondaries; the outer pair of tail-feathers with a narrow white edge to the inner web; a collar at sides of neck and entire under surface bright golden yellow; beak greyish leaden; feet pale brown; iris hazel. The female is altogether duller—above sandy brown, with darker streaks; the rump slightly yellower, the wing-coverts and quills margined with buffish white; under surface sordid white,

* A bird said to be this species was exhibited in 1896: unless my memory deceives me, it was a Reed-Bunting.

more sandy on the breast and flanks which are also narrowly streaked with brown, belly and under tail-coverts washed with yellow. The young nearly resemble the female. After the autumn moult the male has dull greyish-brown margins to the feathers, and the rump somewhat tinged with yellow, so that it then more nearly resembles the female.

Seebohm thus speaks of the Black-headed Bunting:—"In Greece and Asia Minor, it does not arrive until the end of April, amongst the last half dozen summer migrants. As soon as it comes nest building commences; and during the last half of May its eggs are so abundant in the olive and vine region of the Parnassus, that when I was there I had not time to blow more than half of the clutches which I found or saw. One reason may perhaps have been that the nest of this bird was the easiest of all nests to find. The males were so extremely handsome and so very conspicuous that whilst it may perhaps be scarcely correct to say that no other species of bird was so common, certainly no other appeared to be so."

Further on, he says:—"the plain joins a steep rocky slope, where the olives are smaller and more scattered, and where clematis and white and pink roses half conceal the stony ground, and dwarf oleanders, pomegranates, figs, almonds, and other shrubs compose a half-wild landscape, the only sign of cultivation being a vine-terrace here and there. This seems to be the paradise of the Black-headed Bunting; and it is not an uncommon thing to see three or four males perched conspicuously on the top of as many isolated trees, singing in rivalry. When disturbed it seldom flies far, but drops down from its perch, and after a short flight, low and undulating, rises up again to the nearest tree-top, on which it is so anxious to perch that its legs may be seen extended for the purpose long before the desired haven is reached."

The nest is usually placed amongst creepers, such as brambles or clematis; but often in rose-bushes; sometimes in rows of peas or beans, and occasionally on the ground. It is large and loosely constructed of the seed-bearing heads of small flowering plants; and is lined with dry grass, bents, rootlets, and hair. The eggs number from four to six, usually four; they are pale greenish-blue, with brown surface spots and grey shell spots; usually they are most densely massed at the larger end, but sometimes they are scattered over the entire surface; they also vary in size, though as a rule both large and small spots occur on the same egg.

Jerdon says of this Bunting (*Birds of India*, Vol. II, p. 378):—"It makes its appearance in the Deccan usually about the end of November: is found in immense flocks, and is 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." Tristram



CORN-BUNTING ♂

states that it breeds in Corfu, frequenting brushwood on the hill sides, and has an agreeable song." According to Seebohm this song consists of only "two or three slight variations of a not very loud nor yet very melodious note, rapidly repeated, with a slight pause in the middle. The ordinary call-note is a loud *chit*, *chit*, and the call-note of one sex to the other a more plaintive and longer continued *tsee-a*." Howard Saunders says:—"The call-note of the male is a vibrating monotonous *chiriviri*."

As a captive, little pleasure can be derived from keeping the Black-headed Bunting in a cage; doubtless its feeding is simple enough, millet and canary forming its staple diet, varied in the summer by a few mealworms or cockroaches; when wild it is said to eat grasshoppers; it also eats a little fruit. A caged example is chiefly interesting for the show-bench; consequently the unfortunate specimen captured in Fifeshire seems to have had a busy life at the hands of his owners. In an aviary this species would doubtless be more interesting, but it would want watching at first, unless associated with birds as powerful as itself; for some of the Buntings are dangerously sportive towards smaller and weaker birds.

Family—FRINGILLIDÆ.

Subfamily—EMBERIZINÆ.

THE CORN-BUNTING.

Emberiza miliaria, LINN.

IT would be useless to attempt to improve upon Seebohm's account of the distribution of this species:—"Beyond the British Islands its range extends throughout Central and Southern Europe. It is only found in the extreme south of Norway and Sweden; and east of the Baltic its northern limit appears to be Riga. It is doubtful if it has ever occurred as far north as Moscow or the Ural Mountains; but it is very locally distributed in Southern Russia, where it is a

partial migrant. It is a resident in the Caucasus and Western Turkestan, and there is an example in the museum at Omsk, said to have been obtained in the neighbourhood. It is a resident in the Canaries and North-western Africa; but in Egypt and Arabia Petraea it is only found during winter, whence it probably migrates to Central Europe to breed. It is a resident in Palestine, Asia Minor, and North Persia, as far south as Shiraz." (Hist. Brit. Birds, Vol. II, pp. 148-9).

In Great Britain the Corn-Bunting is very local in its distribution, being most abundant in well-cultivated grain-producing districts. In the south of England it perhaps deserves its name of "Common Bunting," though it is by no means so abundant as the Yellow Hammer, but northward it is rarer and far more local; in Scotland it occurs most generally on the western lowlands during the summer, but becomes much commoner in the eastern districts during the winter; westwards its range extends to St. Kilda, and northwards to the Outer Hebrides. In Ireland it is local, but common in suitable districts. In October flocks of Corn-Buntings migrate to our shores, considerably adding to the numbers of our home-bred birds.

The adult male Corn-Bunting has the feathers of the upper surface pale brown, with blackish central streaks; the wing-coverts and innermost secondaries dark brown, bordered with warm buff and with whitish tips; quills dark smoky brown, the first primary with yellowish margin to the outer web; tail blackish-brown, with pale edges to the feathers; lores and a superciliary line buffish-white; under parts buffish-white, the throat sparsely spotted with black, and separated from the cheeks by a moustachial line of dark brown spots; breast numerously marked with triangular black dashes, which are somewhat rufescent at the sides; centre of breast and abdomen whitish, sides streaked with dark brown; beak with the upper mandible dark horn-brown, edged with yellow; lower mandible ochre yellow; feet pale flesh-brownish; iris hazel. The female is slightly smaller than the male, and greyer in colouring. The young are more richly coloured, the wing-coverts and secondaries more prominently bordered with fulvous, the spotting blacker and the under parts tinged with buff. After the autumn moult the adult birds are generally more rufescent than in summer.

Owing to its sombre colouring and its habit of roosting on the ground, this species has sometimes been mistaken for a Lark, and in autumn and winter it is frequently netted in company with Skylarks: possibly for this reason it often receives the name of Bunting-Lark.

The Corn-Bunting chiefly haunts open and cultivated districts, more especially where cereals are freely grown. It is not a nervous bird, and I have frequently stood within a few yards criticizing its ungainly figure and miserable apology for a song as it sat perched upon a scraggy bush, stump, or fence, apparently quite

satisfied with its performance: the latter has been variously described; but, to those not acquainted with the songs of some of the Marsh Troupials of the New World, or the Abyssinian and Rufous-necked Weavers (which have the same character, though more prolonged and varied) the most accurate idea of the discord is conveyed, by saying that it resembles the sound made by crushing broken glass in a mortar. Seebohm describes the song as "*tees, tees, tees, tis-is-is-s-s-r-r-re,*" Howard Saunders as "*tic-tic-teese,*" Lord Lilford as "tedious and rasping notes."

Seebohm observes that "the ordinary call-note of this bird is very loud, and resembles the word *tsit*; the note between the sexes is a long drawn-out *kaak*, and frequently the two notes are heard together *tsit-kaak*."

The Corn-Bunting, in spite of its clumsy aspect, is very strong on the wing, and may be recognised from the fact that its legs hang down as it pursues its undulating flight; it also frequently sings as it goes. It is very fond of dusting itself in the road after the manner of a Sparrow or Skylark.

The nest is either placed in a depression in the ground, in a tuft of grass, ragged-robin, or other low-growing herbage; in brambles, or freshly sprouting hawthorn on ground recently cleared; also in fields of growing corn, peas, or clover: it is large, deep, cup-shaped, and roughly constructed of mingled coarse and fine grass, occasionally (though rarely) with a fragment or two of moss, and sometimes a few roots; the bulk of the nest really consisting of a thick inner lining of fine grass and black horsehair. The eggs number from four to six, five being usual; they frequently resemble abnormally large eggs of the Yellow Bunting; as a rule they are pale pinky-lilac, but sometimes creamy-white; the markings are blackish purple or deep pitchy brown, with greyish lavender shell-markings; they vary considerably in character, either consisting of finely and densely scribbled lines, of boldly scrawled streaks, of combined streaks and blots, of broad irregular smears and paler blurred spots, or of partly confluent blots, sometimes forming a zone near the larger extremity of the egg.

The time of nidification is from about the last week of May to the first week of July, one brood only being reared in a season; the hen is a close sitter, and rarely leaves her nest until one has almost put foot or hand upon her; so that, apart from the size of the eggs, there is seldom any difficulty in identifying them.

During the breeding-season the food of this bird consists very largely of insects and their larvæ; but it has been said to eat both peas and beans, and it is certain that it devours quantities of unripe corn: in autumn and winter the Corn-Bunting lives almost exclusively upon grain and various kinds of seeds, in search of which it frequents rick-yards, stubble-fields, and pastures.

Although this species is tolerably common in Kent, I do not think I took its

nest more than half a dozen times during the seventeen successive years in which I was an enthusiastic birds-nester; but as I had a strong objection to trampling down crops on the bare chance of discovering a nest, it is probable that I may frequently have passed within a few yards of a nest of the Corn-Bunting without being aware of the fact.

This is not a suitable bird for the Aviculturist, being unpleasing in appearance and voice, as well as voracious; it is, therefore, rarely caged. It is, however, possible that we underrate the vocal powers of this bird, for in the "Zoologist" for 1887, p. 300, the Rev. H. A. Macpherson proves that it has some capacity for mimicking the notes of other species; he says:—"When birds-nesting on the Upper Rhine, near Mulheim, I found the Corn-Bunting abundantly established on the lower grounds. During great heat the males sang incessantly (their mates were sitting) perching indifferently on the ground, on low bushes and rails, on the tops of walnut trees, and on the telegraph wires. Their song seemed to be identical with the dialect of those I had met with at home, with a single exception. On June 19th, a Corn-Bunting perching on a telegraph wire poured forth a liquid and sweet song, embodying the notes of the Crested Lark, which latter species is resident, though scarce, in that district. That the Reed Bunting has a good ear, and can be trained to sing the Skylark's song I have recorded elsewhere, but I never suspected the Corn-Bunting of a similar capacity."

Family—FRINGILLIDÆ.

Subfamily—EMBERIZINÆ.

THE YELLOW BUNTING.

Emberiza citrinella, LINN.

THE Yellow Ammer or Hammer, as this bird is generally called (from the German name Goldammer, which means Golden Bunting)* is generally

* Also locally known as Yellow Yorling or Yoldring.



YELLOW BUNTING ♀ ♂

distributed throughout the greater part of Europe, breeding in Scandinavia as far north as lat. 70°, and in the valley of the Ob, in Siberia, up to lat. 64°. To the more northern portions of its range it is only a summer visitor, and it only visits the more southern portions in the winter, but in the temperate regions it is resident; in winter it occurs southwards through Turkey into N.W. Persia and Turkestan. Although almost unknown in S.W. Spain, it is said to be resident in Teneriffe.

Throughout Great Britain this species is abundant and generally distributed, breeding everywhere excepting, perhaps, in the Shetlands.

The male Yellow Bunting in breeding plumage appears to vary considerably in beauty of plumage, the birds of Mid-Kent appearing almost like a distinct species from those of North-west Kent, owing to the much greater development of yellow on the head. The crown and nape bright Canary-yellow, with an olive-brown streak across the forehead and bounding the sides of the crown;* or lemon yellow much more streaked with olive-brown; remainder of upper parts chestnut, the feathers of the mantle and back with strongly marked black longitudinal streaks; wing-coverts and inner secondaries dark smoky brown, bordered with chestnut; remaining secondaries and primaries sooty blackish, with more or less yellow margins to the outer webs and slightly ashy tips; two central tail feathers dark smoky brown, with pale cinnamon brownish borders; remaining feathers sooty blackish, with very narrow yellowish edging to the outer web; the two outer feathers with large snow white wedge-shaped patches on the inner web; under parts lemon yellow, an olive-brown streak partly bounding the ear-coverts; breast and flanks slightly washed with olive and streaked with olive-brown; beak dark horn-brown on the culmen, becoming more leaden at the sides, lower mandible much paler, especially along the edge and just in front of the chin; feet pale flesh-brown; iris hazel. The female is much less yellow than the male (excepting in pairs netted in West Kent which, even in breeding plumage, differ comparatively little) the yellow on the crown represented by irregular mottling; the chestnut of the upper parts much less pronounced, excepting on the rump and upper tail-coverts; whilst the olive-brown streaking of the under parts is more defined. After the autumn moult the feathers of the head have dark tips and the other feathers of the upper parts somewhat ashy margins; all of which are said to be shed in the spring. The young nearly resemble females in winter plumage.

I have repeatedly tried to get hold of Yellow Hammers in brilliant plumage; but, living on the borders of North-west Kent, I find that the catchers invariably

* Mr. Frohawk has shown me a wonderful specimen in which there are no streaks on head or neck, and the wings are varied with white.—A.G.B.

bring me dull-plumaged birds; the more intelligent of them have assured me that they have never seen a brightly coloured male Yellow Hammer in the neighbourhood, which exactly agrees with my own experience. In the males of North Kent, on the other hand, all the males are especially fine in colouring, the dark markings on their heads being so much reduced as to be indiscernible at a short distance.

The Yellow Hammer is abundant in all open country, but more especially in the better cultivated districts where one sees the males dotted here and there like sentinels on the topmost sprays of the hedges, or sailing with rapid undulating flight down the lanes and country roads; in wild moorland and commons this bird may also be often seen, though at times when it sits upon a flowering furze-bush it is overlooked until its ringing song directs one's attention to the performer.

The song of the Yellow Bunting is not especially meritorious, though bright and cheering; it consists of a rapid descending scale made up of a repetition of a sharp note which may be rendered *chip* or *chink*, and terminating with a double note *chee-chee*; it rather suggests the shaking up of shillings between the hands, and has been likened to the words "Give me a little bit of bread and no cheese," though "green cheese" would have been a better interpretation: occasionally the double note is omitted; but more especially when the bird is beginning to sing in the early spring. Being a late breeder this species continues his song well into the autumn, and often recommences in February. The male call-note is described as *chich, chich, churr*.

The nidification of this bird commences about the middle of April, and not unfrequently continues up to the end of August: I have myself taken a nest as late as the 12th August with three fresh eggs (Vide "Zoologist" for December, 1883) and eggs have been obtained in September.

The nest is usually placed low down, though occasionally at a distance of from four to five feet above the ground in a hedge, and (according to Howard Saunders) exceptionally at a height of seven feet. I have often found it in low bushes, but only once in furze; in low scrub on partially cleared waste ground; in holes in grassy banks by the road-side; or under a low dividing hedge between fields; also at a considerable height (from thirty to forty feet) in a niche in the side of a gravel or chalk-pit surrounded by tufts of plantain and grass. The structure is a loose one, occasionally so much so that, when taken, the outer walls have to be supported to prevent their falling apart; these consist of coarse straws, dead grasses, and sometimes a few twigs interlaced; and, in one nest which I took from a hedge, there was an edging of dead chestnut leaves; the lining consists of fine withered grass-bents, and a few rootlets and horsehairs.

The eggs of the Yellow Hammer are extremely variable, both in ground-tint

and marking, although most of them exhibit the purplish black characters which have earned for this bird the title of "Scribbling Lark." In tint they vary from greenish-white, through greyish-lavender, to pale rosy-brownish; whilst one egg, taken by my brother Frank, in Cornwall, was bright sienna-red, with a single irregular blackish line across one side, and somewhat resembles a rare form of the egg of the Tree Pipit (Plate III, fig. 100). On two occasions I have taken the greenish white egg almost or entirely without markings, the first time I only secured the first egg (as I had to return to town the following day) on the second occasion I obtained a clutch of three; four elliptical eggs in one clutch were dull greenish-white, one of them with only a few delicate hair-lines, a second with a single additional rectangular line across the lower third enclosing a second shorter club-shaped line, the two other eggs were fairly normal in marking; another nest of four is slightly tinted with lavender, the markings are mostly fine, and look like tangled silk, mixed with a few thicker streaks of purplish black, one of these eggs is almost a perfect sphere; other greenish eggs have extraordinary markings (like written notes in music, oriental letters, or the little men which children sometimes draw on their slates) intermixed with finer scrawlings and patches of lavender; the lavender tinted eggs chiefly differ in being clouded with a deeper shade of the same colour, often at the larger end; one egg which I obtained vaguely resembles that of a Chaffinch, being of the same size and with very few linear markings, only the diffused patches are greyish lavender, instead of looking like blood-stains.

The number of eggs in a clutch varies from four to five, four being the commoner number; if less are obtained in an incubated condition, either the first nest has been destroyed before the completion of the clutch, or one or more eggs abstracted or broken accidentally. During incubation the hen bird sits very close; so that frequently you may almost tread upon the nest in stepping through tangled brushwood; then *fferrelup!* that sound of hurried flight familiar to the birds-nester, makes you suddenly look to catch a glimpse of the startled bird rounding a bush, or passing over a hedge; and in a minute you are crouching down and turning aside the foliage to look at its treasures: often when searching among brambles and hawthorn have I felt my hand brushed by the wing of this bird as it has started from its nest.

I am satisfied that three, if not four, broods are reared in a year: the male is said, on good authority, to assist the female in incubation, but in every instance in which I have flushed the bird from the nest, it has invariably been the hen; indeed the male has always been singing somewhere close by. It is well-known that the hens of many species as they grow old assume a plumage closely resemb-

ling that of the male bird; therefore unless a cock of this species has actually been shot, or at least been heard to sing, upon the nest, and its sex proved, I think the statement that it assists the hen in her duties, should be received with a certain amount of hesitation.*

The food of the Yellow Hammer in the breeding-season consists largely of insects and their larvæ; also, like all the Buntings, this species devours insects whenever it can obtain them; but, like all more or less insectivorous birds, it is still fonder of spiders, and this fact should, I think, be taken into account when summing up the virtues and vices of birds. If man would let nature alone, he would find the balance perfect, but he interferes everywhere and makes a mess of it.

In autumn and winter the Yellow Bunting feeds largely upon grain and seeds of weeds, wandering over the country in flocks in company with Chaffinches, Bramblings, etc.

Although a beautiful bird, the wild caught Yellow Hammer never commands a high price, bird-catchers generally being well satisfied to receive a shilling for a pair: the fact that the bird is not a fine singer partly accounts for this, but the wildness of newly caught specimens is another serious drawback to the popularity of this species; inasmuch as, after weeks of confinement, it still rattles about its cage whenever it is approached, uttering a whining sort of chirp. An aviary suits it far better.

In October, 1888, I purchased a pair from a bird-catcher, and turned them into a large covered aviary: in the succeeding spring they built a typical nest in an *Arbor-vitæ*; but, as already related previously, a hen Hedge-Sparrow took possession of this nest as soon as it was completed, and subsequently the unhappy Buntings were a long time in deciding upon a new building-site; towards the end of July they selected a very damp corner on the ground behind a marsh-flag and began to build; they, however, never finished this nest, but continued to carry about hay and straw in an undecided desultory manner until November, when they finally gave it up as a bad job. Early in 1890, both birds died: possibly they did not receive sufficient insect-food to keep them in good health.

Cases have been recorded in which this species has been discovered sitting upon eggs deposited in a slight depression on the bare ground; there is no doubt that the explanation of such behaviour is—that its nest has been taken. I once removed a nest with three eggs from a hedge, and passing a day or two later saw the bird sitting on a little platform of ivy twigs upon which the nest had been partly supported; as I approached she flew away, disclosing her fourth egg.

* This statement has, however, been so definitely made, that doubtless the fact has been proved beyond all question.



GIRL BUNTING ♂ ♀

Family—FRINGILLIDÆ.

Subfamily—EMBERIZINÆ.

THE CIRL BUNTING.

Emberiza cirrus, LINN.

THE range of the Cirl Bunting is more restricted than that of the other European species as it does not extend into the northern parts of the Continent. In Central and Southern Europe it is resident, but in Southern Italy, Greece, and Asia Minor, it seeks the mountains for breeding purposes. In Belgium and Holland it is said to be rare. It has been found breeding in Algeria, but appears to be chiefly a winter visitor to North-west Africa.

Though resident in Great Britain and not rare, the Cirl Bunting is decidedly local, being essentially a southern species. Formerly every work on British Birds which was published, used to assert that this bird was found breeding in all the southern counties from Cornwall to Sussex, being apparently absent from Kent; and even after Mr. Bidwell had recognised in my collection a clutch of eggs of this species, which I had taken at Iwade, near Sheppy, on June 5th, 1877, as being unquestionably those of *E. cirrus* (a fact which I believe I promptly recorded in the "Zoologist") the same statement was repeated, until the appearance of Howard Saunders' Manual in 1888. It has, however, been found breeding as far northward as Yorkshire, but it is of accidental occurrence at any season either in the midlands or the northern counties.* In Scotland it has occurred as a chance straggler, but its recorded occurrence in Ireland has been questioned.

The adult male Cirl Bunting has the crown and nape olive-green, longitudinally streaked with dull black; the rump and upper tail-coverts olivaceous; the sides of the head blackish olive, with a lemon-yellow stripe above, and a second below the eye, from the base of the beak to the neck; the chin and throat to the sides of the neck dull black, bounded by a half collar of lemon-yellow; across the chest is a greyish olive belt; sides and flanks chestnut, narrowly streaked with black; remainder of under parts lemon-yellow: in other respects this species nearly resembles the Yellow Bunting, the back, wings, and tail being very similar; the

* In the "Zoologist" for 1891, p. 353, Mr. E. A. Swainson records its occurrence in Cardiganshire, and observes:—"This species, which has in the last two years become rather common in parts of the adjoining county of Brecon, where it was previously very rare, appears to be gradually extending its range westwards."

beak is dark horn-brown above, but paler and bluish below; the feet yellowish horn; the iris hazel. The female is much duller, and chiefly differs from that sex of the Yellow Hammer in the absence of yellow on the crown, and the olivaceous rump; the yellow of the under parts is also not so bright, and the streaking is better defined. Young birds nearly resemble the female, but are still duller. The male, after the autumn moult, has ashy fringes to the black feathers of the throat, which, however, disappear in the spring.

In disposition the Cirl Bunting appears to nearly resemble the Yellow Hammer; but during the breeding-season it is evidently somewhat more skulking, for although I have frequently heard it singing in the hedges and in rough scrub, in the lanes and little frequented roads of Kent, I have very rarely seen the performers: even in an aviary I found it at all seasons much more shy and retiring. I should therefore be inclined to think that an example mentioned by Lord Lilford (*Birds of Northamptonshire*, Vol. I, p. 176) must have escaped from confinement, after some years of captivity in an aviary. He says:—"as I was watching my Emus and other birds in the courtyard at Lilford, a fine male Cirl Bunting flew down from a high elm tree, settled on the ground within a few yards of where I stood, and began feeding on the grain which had been scattered for the Emus, and at which several Sparrows and Chaffinches were already busy. I had this bird in full view for some minutes, as he hopped about and regaled himself, till he was attacked by a Sparrow, and flew up to the tree from whence he had come."*

The song of the Cirl Bunting differs from that of the Yellow Hammer chiefly in the absence of the terminal double note; it has therefore been compared with that of the Lesser Redpoll and Lesser Whitethroat. The call-note of the young and adult are said by Mr. Witchell to be "not unlike the call-squeak of the Tree Pipit"; according to Seebohm the adult call-note "sounds like a monotonous and plaintive *chea-che*."

Subsequent to taking my first nest of the Cirl Bunting in 1877, I frequently heard and occasionally saw the cock-bird in the same neighbourhood, but I did not obtain a nest again until 1884, when I found two at Tunstall, the first on the 24th and the second on the 30th May: four years later I obtained permission to nest in some private grounds near Frinstead, in Kent, and on the 26th May I took my fourth and last nest of this species.

The Cirl Bunting appears to be double-brooded, the first nest being usually built some time in May, and the second in July. The sites chosen for the nest are very similar to those selected by the Yellow Bunting: according to Howard

* Howard Saunders observes that in snowy weather, in the south of France, he has seen small flocks feeding along with Sparrows and other Finches, on the refuse in the streets, but Lord Lilford's bird was noticed at the end of June, when one would have expected it to be shy.—A.G.B.

Saunders who found it not uncommon on the chalk-hills of Surrey, it "is placed in a bank among the stems of a hazel or other bush, though sometimes in furze, or juniper, at a little distance from the ground." My nests were all found within a foot or two above the earth, the first in a stunted furze-bush tangled with a blackberry vine, two others in low juniper scrub overrun with bramble, and the fourth in a young hawthorn bush.

The nest is tolerably compact internally, though externally somewhat loosely put together, the outer wall usually consisting of coarse dead grass, bents, and vegetable fibre; the lining of fine fibre and black horse-hair: occasionally a little moss is said to be used in the lining; but this material is rarely used by any of the British Buntings. The eggs number from four to five (my nests contained respectively four, four, three, and two eggs) and are often somewhat broader than those of the Yellow Hammer, they are white, generally very faintly tinged with lilac; streaked, spotted, and dotted with purplish black, especially towards the larger end; with small, and frequently indistinct lilacine greyish shell-spots. The markings often terminate in round blots; and, occasionally, some of the streaks are chocolate. Seebohm describes an abnormal nest in his collection as "somewhat loosely put together, and made externally of various plant-stems, blades of grass, roots, and quantities of dead leaves. It is lined with one or two scraps of moss, a few pieces of fine grass, and a great quantity of short hair."

The eggs of the Cirl Bunting vary much less than those of the Yellow Bunting; but Seebohm states that some of them have a greenish-white ground-tint.

Lord Lilford says:—"The few nests I have met with were all placed on steep banks by the side of a road or footway, amongst low bushes and herbage, and were built of moss and grass-stalks, with a lining of cow's hair."

Herr Gätke (Birds of Heligoland, p. 371) states that he has only twice obtained this Bunting on the island; he gives *Zaunammer* as the German trivial name of the species; but Von Homeyer (in the *Gefiederte Welt*, 1891, p. 444) applies this name to *Emberiza cia*, using the term *Zippammer* (used for the Meadow Bunting alone by Gätke) in a generic sense. If two such distinct species as *Emberiza cirlus* and *E. cia* are each called "The Hedge Bunting" by well-known writers, the confusion respecting them is likely to be as fruitful of mischief as the incorrect application of the trivial name of Black-headed Bunting to *Emberiza schoeniclus* has been in England.

The food of this species is similar to that of its congeners; consisting largely of grasshoppers, beetles, moths, caterpillars, and spiders, during the breeding-season; but in autumn and winter, of various seeds and grain. In confinement

it lives well on the usual mixed seeds, including oats, with the addition of an occasional mealworm, cockroach, or spider.

Like most of the British Buntings, the Cirl Bunting (if kept in an aviary) is, as Lord Lilford observes, "dull, silent, and greedy." Rarely one may hear it sing, once or twice perhaps in the course of a month: it is not, however, an aggressive bird; and, when it does show itself, makes a pretty addition to a collection of Finches. My friend, Mr. Phillip Crowley, purchased a pair at the Crystal Palace Show some years ago, and turned them out into his mixed garden aviary, where I believe they lived for several years; but one which I had (I think in 1893 or 1894) only survived for about a twelvemonth, dying suddenly without apparent cause.

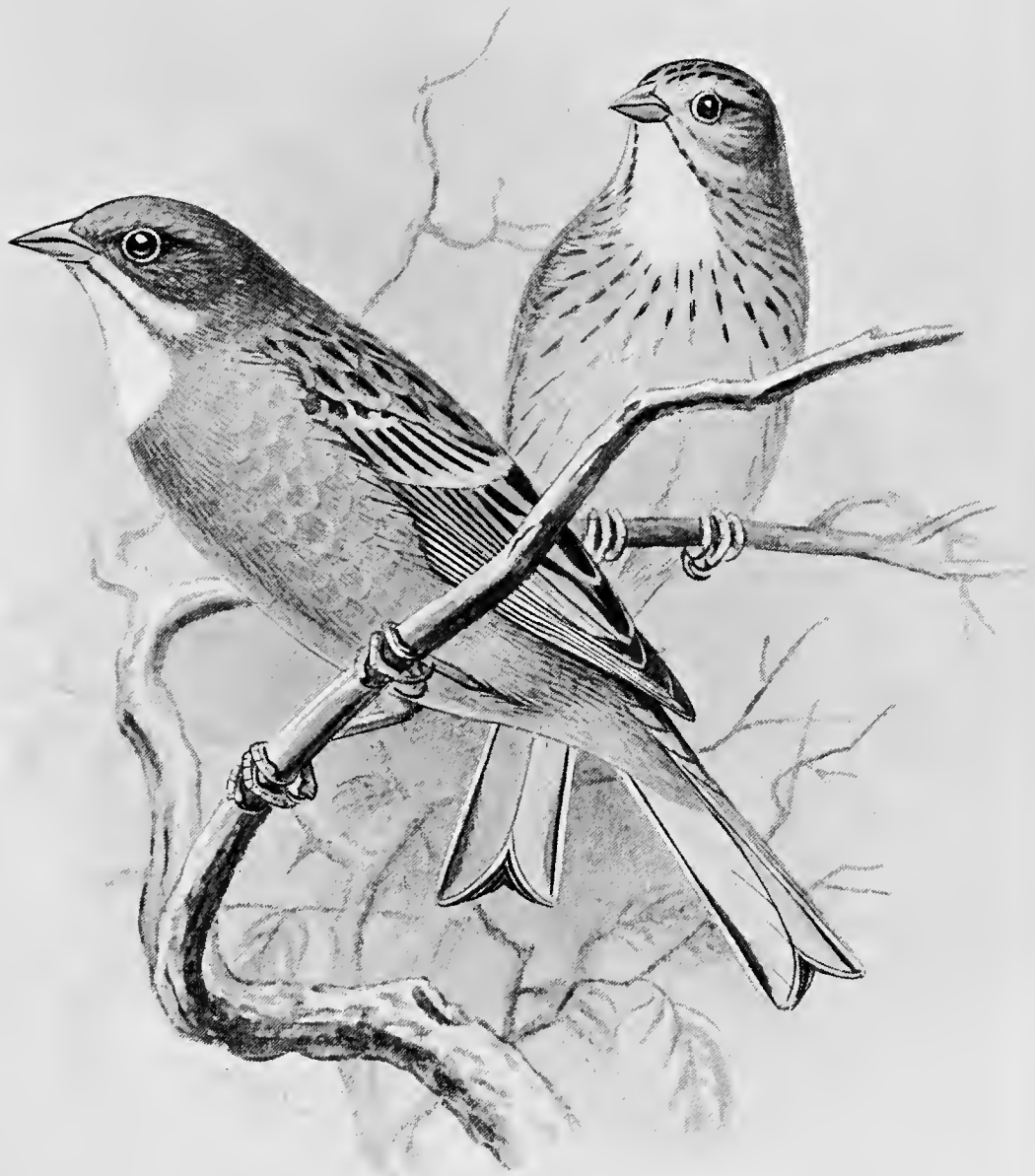
Family—FRINGILLIDÆ.

Subfamily—EMBERIZINÆ.

THE ORTOLAN BUNTING.

Emberiza hortulana, LINN.

"IN Scandinavia the northern limit of its breeding-range extends to the Arctic circle"; "in the Ural Mountains it is not found further north than lat. 57°." "In Siberia, the eastward limit of its range appears to be the valley of the Irtysh, as far as its source in the Altai Mountains; thence it extends westwards through Turkestan and Persia to Palestine and Asia Minor. In all these countries it is a summer migrant, and in the two latter it is principally known as passing through on migration, though a few retire to the mountains to breed. This appears to be the case also in Greece and Italy; but to the rest of Europe, south of the northern limits above mentioned, it is a regular summer visitor. A few remain to breed in North-west Africa, but the majority passes southwards in autumn, and doubtless winter somewhere in West Africa. It also passes through Egypt on migration, and winters in Abyssinia; a few also winter in North-west India." (Seebohm, *Hist. Brit. Birds*, Vol. II, pp. 153-4).



ORTOLAN BUNTING ♂ ♀

Although there can be little doubt that several of the Ortolans shot, captured, or seen in Great Britain, have escaped from the poulterers shops, having been imported from the Continent to supply the tables of the wealthy; the fact that it is a common species at no greater distance than the north of France, renders its occasional visits to our coasts extremely probable. The first recorded instance of its occurrence was that of an example caught in Marylebone Fields, and figured by Brown in 1776, since which time somewhere about thirty specimens have been either obtained or seen, mostly in various parts of England; about five being recorded from Scotland, and one from Ireland.

The adult male Ortolan Bunting has the head, nape, and upper breast greenish grey; eyelid whitish; lores, a moustachial streak, the chin and fore-throat sulphur yellow; back, wing-coverts, and secondaries pale reddish-brown, with blackish central streaks to the feathers; lower back and rump with barely defined streaks; the remaining feathers of the wings and the tail brown, the three outer tail feathers with large terminal patches of white on the inner webs; lower breast, belly, and under tail-coverts pale reddish brown; beak vinous brown; feet reddish clay-coloured; iris dark brown. The female is altogether duller and browner than the male, the head greener and streaked with dark brown. Young birds nearly resemble the female, but are yellower and more streaked below, and only have white patches on the two outer pairs of tail-feathers.

After the autumn moult the head and breast of this species are somewhat greener, and the beak paler, more flesh-coloured.

According to Hamilton, the Hindostani name for this bird is "Jamjohara."

Respecting the habits of this bird when at liberty, Seebohm remarks:—"I found the Ortolan Bunting breeding on the mountains in the pine-regions both of Greece and Asia Minor. When I was at Valconswaard, we constantly heard its plaintive monotonous song, as it sat perched for a long time on the branch of a tree in the lanes, or in the hedges that surround the fields close to the village; and in the wilder districts of Norway, when driving in our carioles from Lillehammer towards the Dovre Fjeld, it was by no means uncommon in the trees by the roadside. It is not a shy bird, and frequently remains for a very long time on the same twig, generally near the top of the tree, especially in the evening, when its simple song harmonizes with the melancholy stillness of the outskirts of the country village."

The nest of the Ortolan is formed in the latter half of May, being placed in a slight depression on the ground amongst herbage, under bushes, or in the open fields. It is formed of dry grass strengthened with roots, and is lined with rootlets and hair. The eggs number from four to six, and vary from pale lilac to

rosy salmon, boldly blotched, spotted, and slightly streaked with purplish black, chiefly towards the larger extremity, where the markings sometimes form an imperfect zone; the shell-markings are violet greyish: in form they vary much in the same manner as eggs of the Yellow Hammer.

The food of this bird does not materially differ from that of the other species of *Emberiza*, consisting mainly of insects in spring and summer, and of seeds and grain in autumn and winter.

The song of the Ortolan Bunting consists of one melancholy whistled note repeated five times, the fifth repetition being prolonged—"Hoo, hoo, hoo, hoo, hoooo." I have heard it dozens of times, and am absolutely certain that this is a fact. To be sure of a song, it is necessary to make a note of the exact sounds whilst the bird is uttering them; if you wait until you are lying in bed in a somnolent condition and attempt to recall a song, you may feel quite positive that you have hit upon the very notes; you reach over to your pockets and abstract pencil and paper to jot the phrase down before it escapes you: later on, you compare your production with the original, and discover that you are wide of the mark: there is absolutely no resemblance between the dream and the reality.

About 1891 a pair of Ortolan Buntings was given to me by Mr. P. J. Lowrey; and, judging (from my experience of Yellow Hammers and Reed Buntings in captivity) that this species would be equally inoffensive, I turned them out into a large covered aviary with English Finches, and many small Ploceine Finches. At first the Ortolans were quiet enough, their feathers being somewhat abraded (owing to the fact that they had been kept in a cage in some small bird-shop): no sooner, however, had these birds moulted and thus recovered their full power of flight, than they occupied themselves for the greater part of each day in chasing the unfortunate Waxbills and Mannikins all over the aviary. Apparently, the Ortolans had no vicious intentions in the pursuit of their weaker associates; they never actually pecked them, when they had an opportunity of doing so; but they could not resist the pleasure which the frantic terror of the little Finches evidently gave them: they darted up and down the aviary almost with the rapidity of a Swallow, whilst the poor little hunted birds, unable to escape by mere speed, were forced to fling themselves against the wirework and double back to avoid their pursuers.

Seeing that it was impossible to keep Ortolans in an aviary containing Ornamental Finches, I now captured my birds and placed them in another aviary with Redwings, Greenfinches, Chaffinches, &c., here they suddenly dropped all the active habits which had previously characterized them, becoming as dull and listless as other members of their genus: their health, nevertheless, was always perfect, and their plumage tight and glossy. I parted with this pair at the same time as

I sold my Redwings, and subsequently they were made use of for show purposes.

In the late autumn of 1894 I selected a male Ortolan from a consignment of Weavers (out of colour) which had just been received from Africa: it had been imported, together with Abyssinian and Russ' Weavers, and with these I continue to keep it in one of my cool aviaries.

Like its predecessors, this Ortolan, associated as it is with naturally quarrelsome and powerful birds, is singularly quiet and retiring in its demeanour; indeed it often seems to weary of the constant wranglings and strong language of the Weavers, and perches quite low down, or even on the earth; where, from time to time, it utters its melancholy little monotonous song: although it never has a chance of securing any insect food, all of which is greedily devoured as soon as it is thrown into the aviary by three specimens of a Cape Weaver *Sitagra* (*S. capensis?*) it appears to find all that it needs for its health in the few dried ants' cocoons remaining in a saucer of soft food, which has already been picked over by examples of *Liothrix* and *Zosterops*: it also eats a good many oats, in addition to Canary and other seeds.

In spite of their usually placid behaviour, this and all the Buntings are very pretty additions to a mixed aviary; their plumage being usually quite uninjured and scrupulously clean. Although perhaps not so passionately fond of bathing as some of the more typical Finches, they perform their ablutions once or twice each day in a methodical and business-like manner, which is probably quite as effective as the hurried splashing, characteristic of a Goldfinch or Canary.

Family—FRINGILLIDÆ.

Subfamily—EMBERIZINÆ.

BRANDT'S SIBERIAN BUNTING.

Emberiza cioides, BRANDT.

AN example of the Chinese race of this species, said to have been obtained near Flamborough, in October, 1887, was purchased in June, 1888, by Mr.

R. W. Chase, of Birmingham: there seems, however, to be some question as to the date of capture;* and, in any case, it appears to me to have no claim to be called a British species.

Family—FRINGILLIDÆ.

Subfamily—EMBERIZINÆ.

THE RUSTIC BUNTING.

Emberiza rustica, PALLAS.

AN accidental straggler to our shores, of which the first example was captured near Brighton, on October 23rd, 1867, the second was shot on the Holderness coast, Yorkshire, on September 17th, 1881, and the third captured at Elstree reservoir, near London, on November, 1882.

Family—FRINGILLIDÆ.

Subfamily—EMBERIZINÆ.

THE LITTLE BUNTING.

Emberiza pusilla, PALLAS.

ONE specimen was captured near Brighton, on November 2nd, 1864. At best it can only be regarded as a very rare and chance wanderer to Great Britain, although there is no reason why it should not occasionally visit us.

* Vide "Zoologist," 1891, p. 363. where this specimen is stated to have been obtained in November, 1886.



REED-BUNTING ♀ ♂

Family—FRINGILLIDÆ.

Subfamily—EMBERIZINÆ.

THE REED-BUNTING.

Emberiza schoeniclus, LINN.

FREQUENTLY, though incorrectly, called Black-headed Bunting, Reed Sparrow, Water Sparrow, and Mountain Sparrow; also well-known under the popular name of Black-bonnet, is distributed over the whole of Europe from the North Cape to the Mediterranean, as well as in Western Siberia; but it is only a summer visitor to the more northern parts of its range, and chiefly a winter visitor to the extreme south; at this season it is also met with in Asia Minor and North Africa. Races of this species occurring in the south of Europe, in Siberia, Mongolia, and China, and a subspecies in Turkestan and Yarkand, have been distinguished by names; but none of them occur in Great Britain.

The Reed-Bunting is resident with us, and generally distributed throughout our islands, although only a chance visitor to the Shetlands. In the autumn there is an extensive immigration from the Continent, which reaches our eastern coasts and the coasts of Ireland in September.

The adult male has the head, including the chin, throat, and centre of breast jet black; a white moustachial streak running from the base of the lower mandible to join a white collar continuous with a belt which bounds the black of throat and breast; feathers of back, wing-coverts, and secondaries black, bordered broadly with bright chestnut; lower back and upper tail-coverts bluish-ash, the feathers tipped with chestnut, those of the lower back partly black-centred; primaries smoky brown, with narrow chestnut edges to the outer webs; tail blackish, the two outer feathers on each side with the greater part of the outer web and a large wedge-shaped patch on the inner web white; remainder of under parts dull white, tinged with bluish ash and buff, and streaked with black on the flanks; beak brownish-black, underside of lower mandible much paler; feet brown; iris hazel. After the autumn moult, the feathers of the head, back of neck, chin, throat, and front of breast, have tawny or brown tips, and the feathers of the lower breast and belly are stained at the tips with buff. In the female the feathers of the head are dark brown with reddish-brown borders; the lores and a superciliary stripe bounding the ear-coverts pale buff; the throat is white, bounded on each

side by a broad blackish streak; the breast is streaked with brown; otherwise she is similar to the male, though slightly smaller. The young bird is very like the female.

During the summer the Reed-Bunting is essentially a marsh-loving bird, frequenting all moist spots in the neighbourhood of rivers, broads, canals, drains, or streams, wherever rushes, reeds, and the wiry grasses which delight in damp soil abound; in such spots its nest is almost sure to be found by careful searching.

At this season the Black-bonnet is always paired, but as autumn approaches it wanders over the country in small flocks, often associating with Corn Buntings, Larks, Pipits, or Wagtails, and wandering through stubbles and rick-yards in search of scattered grain, or waste corners where weeds abound, the ripened seeds of which afford them food.

But the summer time affords the most satisfactory opportunities for watching the habits of the Reed Bunting, and Norfolk is one of the best counties in which to study it. As Stevenson observes:—"the broads in this county must be looked upon as the chief home of this species, where they (sic) may be met with at all seasons uttering their somewhat harsh and unvaried notes from the tops of the bushes, or whilst clinging to the reed stems; and in these localities the nests are built on the ground, frequently at the foot of a small bush, placed in a hollow amongst the soft moss that forms the foundation."

It was around these broads that I first met with the Reed Bunting in any numbers; I had seen individual examples from time to time not far from Canterbury, but I never obtained the nest until 1885, when I first met with it on Hickling Marsh on the 13th May, and Mr. Salter sent me a second taken at Downton, in Salisbury, on the 21st May. Curiously enough, although I had never come across it during many years in which I had birds-nested in Kent, the month after I had secured these two nests, my friend, Mr. William Drake, forwarded a third to me which he had found on the saltings at Kemsley, near Sheppy. When at the broads, in June, 1886, I dropped upon a nest (on the 2nd of the month) at Mudfleet, containing five entirely unmarked eggs, but these were so much incubated and so brittle that, with the greatest care, I was only able to save two of them. (*See fig. 198.*)

All my nests were in slight depressions in mossy ground, sodden with wet and not always safe to walk upon, even with bare feet and trousers rolled up above the knees; indeed I and my companion Mr. O. Janson had to walk very circumspectly, part of the marsh here and there being detached and simply floating in a pool of deep water, so that as you put a foot down it would dip

under, wetting you frequently to above the ankle. The nests are not conspicuous, are partly overhung by wiry grass-tussocks or sedge, and might easily be overlooked, excepting for the presence of the birds which causes one to search for them carefully: but to men whose eyes have been trained, as Entomologists, from their boyhood, and who have been accustomed to recognize and pounce upon tiny ground insects, a bird's nest is a very large and conspicuous object, however cleverly concealed. This is a very strong argument against the theory as to the cause of mimicry in nature; for it seems to me absurd to argue that insectivorous birds, whose eyesight is so keen and quick that they can follow every movement of the tiniest insect on the wing, should, when anxious for food, be deceived by the vague resemblance of a conspicuous moth to a dead leaf;* that the powerful vision of a predacious bird should be utterly unable to detect a sitting bird on account of her subdued colouring, or her nest because its walls were decked with lichen. That mimicry does exist we know; that it renders objects less conspicuous to the uninterested onlooker, and therefore may be in a measure protective, is probable; but that it exists with any definite intention, is no more than a guess.

Lord Lilford's view as to the site usually selected for the nest of the Reed Bunting coincides with my own limited experience, for he says:—"All the nests which we have met with were situated on the ground, or the crust formed by the roots of the common reed." Hewitson, however, in the third edition of his "Eggs of British Birds," observes:—"I have, though rarely, found them at an elevation of two feet or more above the water, and supported by a branch of the common reed, not fixed like the nest of the Reed-Warbler, *attached to the perpendicular stems*, but *supported* upon a bunch of them which had been prostrated by the wind." Sometimes the nest is placed in young spruce firs, and it is often found in herbage on a bank.

The materials of the nest seem to vary considerably: all mine are formed of fine dead grasses and a few bents, or coarser bents with a blade or two of broad-grass; and are lined with very fine grass and horsehairs, or fine grass alone. Stevenson's nests seem to have been formed of fine bents and lined with the feathery tops of reeds. Lord Lilford's were composed of moss and sedge, with a lining of reed tops, and sometimes a little hair. Seebohm mentions withered leaves of rushes as one of the materials employed, and Howard Saunders speaks of withered flags. The eggs number from four to six, and are of various

* As a matter of fact my own experiments conclusively proved that they were not deceived, but only slightly puzzled for a moment or two; the resemblance to an insect being evidently more apparent to the bird than its similarity to a crumpled leaf.

stone tints varying between pale brownish lavender and olivaceous buff; blotched, spotted, speckled, and often more or less boldly streaked with purplish black, the underlying spots appearing a lavender grey: they have the opaque appearance characteristic of eggs of the Chaffinch, but more nearly resemble one variety of those of the Tree Pipit.

The nesting-season usually commences late in April or early in May, though Lord Lilford mentions having taken a full nest as early as March 23rd, and as from two to three broods are reared, nidification must continue until at least the end of July, if not to the middle of August. It has been stated that the male takes part in incubating the eggs, but I have not had sufficient experience of this species to be able to dogmatise on the point. As a rule it is engaged in singing its poor song, whilst the hen sits near by; and when the nest is discovered both birds try to divert the attention of the intruder by tumbling about, as if wounded, upon the earth. The song consists of a few monotonous notes *cheo, cheo, cheo, chee chee chee chee*, and terminates with a harsh *zshwee*; the call-note is said to be *tschee*, and Mr. Witchell states that he has heard another note, resembling the battle-cry of the Chaffinch.

The food consists chiefly of insects, their larvæ, and small mollusca in summer, but of seeds in winter; in confinement, however, very little insect food is necessary to keep this bird in health. In October, 1888, I purchased my first male Reed Bunting from a catcher. I turned it into my largest covered aviary, where it lived a perfectly inoffensive, though stupid and absolutely silent life until 1891; the winter following the death of this bird my man caught a second (in company with Skylarks) which also lived about three years, dying before its spring change of plumage, whilst a third example was given to me and died more quickly. Not one of these three birds ever uttered the slightest sound, and although fairly tame they all showed a skulking disposition, rarely appearing in the open part of the aviary excepting to feed, and showing none of that somewhat sprightly activity which characterizes this species in its wild state. As an aviary bird, I can therefore only recommend this Bunting on account of its quiet beauty of plumage and absolute innocence.



LAPLAND BUNTING ♀ ♂

Family—FRINGILLIDÆ.

Subfamily—EMBERIZINÆ.

THE LAPLAND BUNTING

Calcarius lapponicus, LINN.

INHABITS the greater part of the circumpolar regions, with the exception of Iceland—to which it is only an occasional straggler from Greenland—and Spitzbergen and Novaya Zemlya, whence it has not yet been recorded. It is only at considerable elevations, such as the Dovre-fjeld, in Norway, that it is found breeding to the south of the Arctic circle; but east of the North Cape it is common in Lapland, while in Northern Siberia it is extremely abundant, being, according to Mr. Seebohm, not only the commonest, but also the most widely distributed bird on the *tundras*. In Asia it migrates further southwards than in Europe, reaching to about 30° N. lat. in China; whereas it is rare in the south of Russia and in Northern Italy, and as yet unknown in Spain. In Central Europe its occurrences are accidental, but further north they are naturally more frequent, and are regular on Heligoland in autumn. In America this species breeds throughout the far north; wintering in South Carolina, Kansas, and Colorado.” (Howard Saunders, *Manual of British Birds*, pp. 213-214).

To Great Britain this species is an occasional, though not very infrequent visitor; upwards of forty examples apparently having been obtained previous to 1890, since Selby first recognized the bird, amongst some Larks forwarded to Leadenhall Market from Cambridgeshire, early in 1826. Since 1890 this species has visited us more frequently. In October and November, 1892, J. H. Gurney stated that at least fifty-six were netted and shot in Norfolk. In the following year considerable numbers were seen on the Lincolnshire coast, a good many were recorded as having passed along the downs in February. In November of the same year a flock of from sixty to eighty was seen near Flamborough by Matthew Bailey, and later a flock of from a hundred to a hundred and twenty by J. Cordeaux. Finally, in the *Zoologist* for 1894, the Rev. H. A. Macpherson stated that in the southern counties a few had been taken annually for the past dozen years near Dover, but that in November, 1893, only three were caught near Brighton.

The male in breeding-plumage has the head, including the throat, and the breast velvety-black; a broad white superciliary stripe extends backwards over the

ear-coverts, and is continued downwards on the sides of the neck; across the back of the neck is a broad collar of bright chestnut; the remainder of the upper surface (including the wing-coverts and secondaries) is blackish, the feathers bordered with tawny-buff, or creamy-whitish; the primaries and tail-feathers deep brown, with narrow ashy margins, the two outer pairs of tail-feathers with elongated dull white patches on the inner webs: remainder of under surface creamy white, with black streaks on the flanks: beak yellow, tipped with black; feet blackish-brown; iris hazel. The female is paler above and without the defined collar on the nape, the feathers of the crown have tawny margins, and a whitish stripe runs down the centre of the head: the ear-coverts are brown, partly edged with blackish; the cheeks and under-surface are creamy-white: a black line running below the cheeks to the upper throat, where the feathers are also black, though partly concealed by broad whitish borders. After the autumn moult all the feathers have pale tawny borders, but the distinguishing characteristics of the male are not wholly lost. The young nearly resemble the female, but are more tawny and more uniformly streaked above.

There is always a chance of anyone familiar with the appearance of this species being fortunate enough to observe and recognize it upon our coasts during the autumn or spring migrations: since the completion of Howard Saunders' Manual, numerous examples have been either killed or noticed. Even as late in the year as the 11th May, Mr. John Cordeaux ("Zoologist," 1893, p. 225) observed an adult male in full summer dress on the short herbage at the edge of the Bempton Cliffs, in Yorkshire. Mr. Cordeaux, who was accompanied by Mr. M. Bailey, of Flamborough, says:—"We both observed it for some little time through our glasses, about half a dozen yards away, till it flew down the cliff-face amongst a crowd of Guillemots and other rock birds, and did not after this show itself again. What particularly struck me when watching this bird was the intense black of the dark parts as contrasted with the yellow bill, broad white streak over and backward from the eye, and chestnut collar."

Judging from Seebohm's account of this species it is, as might be expected, a late breeder, he says:—"In the valley of the Petchora we did not meet with it at Ust Zylma, in lat. 66° , until the 18th of May; and in the valley of the Yenesay, on the Koorayika, in lat. $66\frac{1}{2}^{\circ}$, a solitary Lapland Bunting appeared for the first time on the 4th of June—in each case at least six weeks after the arrival of the Snow-Bunting. In both cases I had an excellent opportunity of watching their habits. The first birds to arrive were males, principally in company with Shore-Larks; they passed through on migration for about a fortnight, the latter flocks being almost entirely composed of females. They seemed to be entirely ground-

feeders, and ran about very actively wherever there was any bare ground; but before the snow had entirely disappeared the Lapland Buntings had also taken their departure, and we did not meet with them again until we had passed the limit of forest growth. On migration they repeatedly perched in trees, and when disturbed generally sought refuge in a tree. Like the Shore-Lark and the Snow-Bunting, the Lapland Bunting occasionally hops; its flight is quick and powerful, but more undulating than that of the Snow-Bunting. In its song the Lapland Bunting reminds one both of the Snow-Bunting and the Tree-Pipit. The notes are not very loud, but are musical, and are continued for some time; and every now and then a curious note is introduced which sounds like *cheng*, the consonants, both at the beginning and the end, being pronounced gutturally, as in German. This note is also frequently repeated alone, and is probably the note of endearment between the sexes.* The song is generally heard when the bird is flying in the air, soaring like a Lark, and is continued until the bird alights on some grassy knoll or stunted bush, descending with outspread wings and tail. What I take to be the alarm-note of this bird is a plaintive but loud *chee-up*, often heard near its nest. The female has a song almost as rich as that of the male. The Lapland Bunting is not such a coast-bird as the Snow-Bunting, and seeks the swampiest ground it can find so long as there are dry tussocks of grass full of flowers where it can breed; if there are also a few stunted willows or birches upon which it can perch, so much the better. The nest is almost always placed in some hole in the side of one of the little mounds or tussocks which abound on the marshy parts of the tundra; it is composed of dry grass and roots, and profusely lined with feathers. The eggs of the Lapland Bunting are from four to six in number, and differ very much both in size and colour. They vary in ground-colour from pale grey to pale brown, more or less obscured by a profusion of underlying blotches and streaks, which vary in colour from yellowish-brown to reddish-brown; the overlying markings are generally much fewer, and are principally streaks mixed with a few blotches and spots of dark reddish-brown." (Hist. British Birds, Vol. II, pp. 132, 133).

Herr Gätke states that this species, in its character, "is altogether unlike the Snow Bunting, having nothing of the boisterousness and wildness of that species, but being of a gentle and quiet disposition. Indeed, I have frequently for years kept it confined in a cage, and its melodious, if somewhat melancholy, tune has given me much enjoyment during many a summer night spent at my desk over these pages. The song of the Snow-Bunting has exactly the same character; but

* If, however, as is now generally believed the songs of birds are sung in rivalry, this note would probably represent the *chink* of the Chaffinch, or the *zshweeo* of the Greenfinch, and would be a note of defiance.—A.G.B.

the melodious, flute-like notes are fuller, and the bird in confinement will only give utterance to them during the first hours of June and July nights. The Snow-Bunting remains, however, so utterly intractable, crying like one possessed when any person approaches its cage, that it is impossible to make friends with it, and one generally ends by once more giving the peevish fellow his liberty.

The Lapland Bunting, on the other hand, ceases fluttering after one or two weeks confinement if one keeps renewing its food, and soon becomes so tame that it will take flies from the finger. It also invariably accomplishes its autumn moult to perfection, and in a very short time." (Birds of Heligoland, pp. 385-386.)

Stevenson's experience of this species as a cage bird seems to have been much the same as Gätke's; he says:—"Unlike most birds when first confined in a cage, it seemed perfectly at home, feeding readily on the seed placed for it, and both in its gait and manner of looking up, with the neck stretched out, reminded me of the actions of a quail. In the aviary of Mr. J. H. Gurney, this bird assumed its full summer plumage in the following spring, and thrived so well in its new abode, that over-feeding was probably the cause of its death in May, 1856, when, for the second time, it had acquired the black head and plumage of the breeding season, and was certainly a perfect lump of fat when skinned for the purpose of preservation." (Birds of Norfolk, Vol. I, p. 181).

The food of this species consists largely of insects in the summer and seeds in the winter; but in confinement it should be treated like the other Buntings. It is undoubtedly the most desirable of all the British Buntings for the aviculturist, and should certainly be freely imported as a cage-bird.



SNOW-BUNTING ♂ ♀

Family—FRINGILLIDÆ.

Subfamily—EMBERIZINÆ.

THE SNOW-BUNTING.

Plectrophenax nivalis, LINN.*

A CIRCUMPOLAR species, breeding chiefly in the Arctic regions beyond the limit of forest growth; or at high elevations further south, excepting in the Færoe Islands and Shetlands where it places its nest little above the sea-level. In winter it migrates southwards to Central Europe, South Russia, Turkestan, North China, Japan, and North America as far south as Georgia. It has been known to visit the Azores, Morocco, Malta; and is a rare, but regular, winter visitor to Italy.

To Great Britain the Snow-Bunting is chiefly a winter visitor, generally reaching the eastern coast of England in October, though rarely in September, and commencing its return migration from March to April. Although rare in England and Ireland, this bird is decidedly commoner in Scotland, where a few pairs remain to breed: the first nest being obtained in the Shetlands by Saxby, on July 2nd, 1861. In July, 1886, Messrs. Peach and Hinaman found nest and young in Sutherlandshire, and in June, 1888, Mr. John Young discovered a nest with five eggs. I believe it has since been obtained by Mr. W. R. O. Grant.

The adult male in breeding-plumage has the mantle, scapulars, inner secondaries, terminal half of primaries, four central tail-feathers and greater part of the next pair black; the outer webs edged with white; outer feathers mostly white; centre of lower back and rump black (with white edges to the feathers) but the sides white; remainder of plumage white: beak and feet leaden black; iris deep hazel. The female has all the black parts of the plumage greyer, and with pale edges to the feathers, the head and neck mottled with blackish. After the autumn moult the feathers of the upper surface, breast, and flanks are bordered with dull chestnut, which gradually changes to white during the winter, and the beak becomes orange-ochreous tipped with blackish. The young are greyish, with dark centres to most of the feathers, but the wings and tail resembling the autumn plumage of the adults.

* For this bird the genus *Plectrophanes*, having been instituted for the Lapland Bunting, has been abandoned.

This bird has received many trivial names, such as—The Lesser Pied Mountain Finch, The Snow-bird from Hudson's Bay, The Tawny Bunting, The Mountain Bunting, The Lorrain Bunting; but its prettiest name (and that by which it is almost as well known as Snow-Bunting) is Snow-flake.

Seebohm writes respecting the habits of this bird as follows:—"The flight of the Snow-Bunting is peculiar, and is something like that of a butterfly, as if the bird altered its mind every few seconds as to which direction it wished to take. It can scarcely be called an undulating flight. The bird certainly does rest its wings every few seconds; but either they are expanded when at rest, or they are rested for so short a time that the plane of flight is not sufficiently altered to warrant its being called undulating. The Snow-Bunting is almost entirely a ground-feeder, and is consequently continually seen on the ground. These birds run along the snow with the celerity of a Wagtail on a sand-bank; but they can hop as easily as a Sparrow, and I have very often seen them do so. The idea that they seldom or never perch on trees is a mistake, which has no doubt arisen from the circumstance that on the steppes, where they delight to winter, and on the tundra, where they breed, there are no trees. In the valley of the Petchora we had abundant opportunity of seeing them in trees." (Hist. Brit. Birds, Vol. II, pp. 127-128).

Lord Lilford observes:—"In the few instances in which, * * * *, we met with this bird in the highlands of Inverness-shire, we found it exceedingly tame, running about within a few yards of us, and feeding on the seeds of various grasses which grew by the burn-sides: in one instance the bird was so confiding that I nearly caught it with my cap; but this was no doubt caused by the fact that a Merlin was hunting over the moss at the moment when the 'Snow-flake,' as this bird is often called, fluttered up at our feet. The call-note of this species is pleasing and musical, and the male has an agreeable song, which, however, I have only heard from a caged bird. In captivity the Snow-Bunting will eat almost any sort of seed, and generally dies of plethora unless strictly dieted." (Birds of Northamptonshire, Vol. I, pp. 171-172).

Mr. Saxby speaking of them in Shetland, says:—"Seen against a dark hill-side or a lowering sky, a flock of these birds presents an exceedingly beautiful appearance, and it may then be seen how aptly the term "Snow-flake" 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 notes." (Zoologist, p. 9484).

The nidification of the Snow-Bunting is late; most nests being apparently

obtainable in June and July, although in Iceland it nests as early as May; it chooses heaps of stones, crevices in rocks or behind boulders, or piles of drift-wood in which to build.

The nest is bulky and constructed of dry grass, rootlets, sometimes birch or other twigs, and a little moss: it is lined with down, hair, and a quantity of feathers. The eggs number from four to eight; six or seven being (according to Seebohm) a usual clutch. Both in size and colouring they vary considerably, the ground-colour being creamy or greyish-white, or pale greenish, spotted and blotched with chocolate, and occasionally striated with blackish; the shell-markings are pale reddish-brown and lavender; most of the markings are usually collected towards or at the larger extremity.

The food during the breeding-season consists largely of insects, but at other times all kinds of seed are eaten, as well as corn. John Cordeaux says (Birds of the Humber District):—"The little Snow-flake will find food and thrive in the severest winters, after all our small feathered friends have been driven by frost and snow from the cold and exposed marshes, feeding on the seeds of various grasses picked from the withered bents rising above the carpet of snow. They are nearly always excessively fat." "Roosts generally amongst rough grass on the pastures."

During incubation, the male bird is in full song, its notes being heard both when perched or fluttering in the air, like a Tree-Pipit: the song is described as a melodious warble, similar to that of the Lapland Bunting and Shore-Lark; when flocks of this and other species are flying together they are said to twitter after the manner of other Finches; the alarm note is described as a loud *tweek*, and the bird has another note resembling the harsh *zshweeo* of the Greenfinch and Brambling, but Lord Lilford's observations* prove that this is not the call-note; it is more probably a note of defiance: indeed Saxby probably means this note in his description of "the sudden jarring sound which is uttered by the bird when suddenly directing its course towards a neighbour. That the note in question is sometimes one of anger I have repeatedly observed when two of the birds have been quarrelling over their food." (Birds of Shetland, p. 91.)

As a cage-bird, the Snow-Bunting, in spite of Herr Gätke's adverse estimate, is pretty generally admired; and is very frequently exhibited at shows. Stevenson's opinion of the species certainly differed widely from that of the veteran of Heligoland, for he says:—"In confinement, I have found the Snow-Buntings very gentle in disposition and extremely affectionate to one another, forming an amiable contrast in both respects to the Brambling Finches. A pair, which were kindly sent me for my aviary in 1862, by Mr. Fowler, of Gunton, near Lowestoft, netted

* Mr. Harting also (Birds of Middlesex, p. 75) likens the call-note to that of the Linnet.

from a very large number at that time frequenting the Corton beach, attained very nearly their full summer plumage, their beaks also, which are yellow in winter, assuming a dark leaden tint. Both these birds, unfortunately, suffered from a diseased state of the feet, which were painfully swollen, and the scutella on the anterior portion of the tarsi and toes were greatly enlarged and ragged. With this exception, they lived in apparently good health till the autumn of 1863, when the female wasted away and died, and the male survived his partner only a few weeks."

It is certain that the Snow-Bunting ought not to be restricted to a cage, unless it be a very large one: half the charm of this beautiful species consists in seeing it fly: moreover it is only to be expected that a bird accustomed to wander over some of the wildest regions of the earth and sea, should feel stunned and miserable when confined within narrow limits and constantly subjected to inspection in a stuffy room. An out-door aviary would be the most suitable home for it, and the larger the better. Swainsland indeed states that "as it is a somewhat dull bird, it is not desirable for either cage or aviary," and others have told me that it makes a stupid cage-bird; but Swainsland gives no details; indeed his account of the species inclines one to the belief that he is not speaking from personal experience: in any case its song should atone for everything, for Captain H. W. Fielden (P. Z. S., 1877, p. 30) in a paper on the Birds of the North Polar Basin, says:—"On the 13th May, 1876, I heard the first Snow-Bunting (*Plectrophanes nivalis*) as we lay in our tent on the floe at the base of a cliff. The note came from above, clear and musical, and each inmate of the tent started into a sitting posture, and said 'Hush, hush, do you hear it?' One of the sailors said to me, 'What bird is that, sir? it is sweeter than a thristle.'"

FAMILY STURNIDÆ.

THE Starlings are an Old World family of birds linked to the Finches through the *Icteridæ* or Troupials and Cow-birds of the New World; but, on the other hand, showing affinity to the *Corvidæ* or Crow-family. They are characterized by a long straight slender bill, with the nostrils placed low down, without rictal bristles; a very small bastard primary and very long second primary; the tarsus is scaled in front, but not behind.

Starlings when on the ground progress in a purposeless, irregular fashion, mostly by walking or running; on the wing their flight is powerful, but peculiar, so that, when at a great height, it has a twinkling appearance; when at a lower elevation this is explained by the fact that they rapidly flap their somewhat long wings and then sail straight forwards.

These birds are practically omnivorous, always hungry and consequently large feeders; they are therefore unsuitable for caged pets, unless considerable attention can be paid to them by their owners: in themselves, however, they are cleanly, being exceedingly fond of bathing.

The songs of Starlings are either altogether, or partly, harsh in character; in which respect and in their powers of mimicry, they somewhat resemble their allies the Crows. Like the latter also they soon become tame and confiding in captivity; in which respect they widely differ from the *Icteridæ* which never seem to get the least bit tamer after years of confinement in an aviary, and always remain nervous in a cage: in one respect, however, in addition to their general outline, the true Starlings resemble the so-called "Meadow-Starlings"; they are very gregarious.

In their nidification the *Sturnidæ* differ both from the *Icteridæ* and *Corvidæ*, building their nests of all kinds of rubbish, in holes or crevices of trees, banks, rocks, walls, or buildings: their eggs are uniform in colouring and usually greenish-blue.

No birds are so easy to capture as Starlings, nets and traps awaken no suspicion of danger in their unreflecting brains; they see food, and rush in helter-skelter to secure it; so that a small trap will sometimes secure from three to five at one fall.

Family—*STURNIDÆ*.

THE STARLING.

Sturnus vulgaris, LINN.

GENERALLY distributed over the greater part of Europe, breeding as far to the south as Northern Italy. The European birds which migrate, pass the winter in the south of France, Portugal, Spain, Italy, Greece, Northern Africa, and Palestine. The Asiatic birds breed in Southern Siberia, Persia, Turkestan, and eastward to the Amur: they winter in India, passing through Mongolia on migration.

In Great Britain the Starling is partially resident and generally distributed throughout Great Britain and Ireland, although in the latter island it is rather local in the breeding-season, and in Cornwall and Wales it is somewhat rare at that season. In Scotland, where it used to be by no means abundant, excepting in some of the islands, it is now very common in nearly every county.

The adult male in breeding-plumage is glossy black, brightly shot with metallic green, rosy violet, and Prussian blue, the rosy and purplish tints being usually most prevalent on the head, nape, mantle, and breast; the bluer feathers varying in certain lights to Prussian green: the feathers of the upper surface, excepting the head and fore-neck, tipped with dead gold, or sandy buff; flights and tail-feathers dark smoky-brown, bordered with black, and edged with sandy-buff; thighs and under tail-coverts blackish, the latter with broad buff margins: bill lemon-yellow; feet reddish-brown; iris hazel. The female is less metallic than the male and has larger buff tips to the feathers, the under surface of the body being more or less spotted throughout the year; the bill is also blackish towards the tip.

After the autumn moult all the feathers of the upper parts are broadly tipped with sandy-buff; the wing-feathers are greyer; and the sides of the face and under surface are more or less conspicuously spotted with white: * the bill also becomes partly, or altogether, dark brown. The young are greyish brown, the quill and tail-feathers margined with pale brown, and the feathers of the under parts with whitish margins.

* A bird which I had a few years ago used to have these white spots on the under parts so large that many of them ran together into patches giving it the appearance of having faced a snow-storm.



STARLING. ♂

There is considerable difference in the metallic colouring of individual Starlings: the example which I have noted below, as being heavily white-spotted in winter, used to develop the most brilliant violet on neck and breast in the breeding-season; the blue and green tints were also very bright; whilst the buff markings above had a well-defined golden gloss: indeed, the whole bird appeared as if formed out of burnished metal.

Wherever the House-Sparrow is, one may be pretty certain to meet with the Starling either in town or country: it is a bird which is always conspicuous, whether on the wing or on the ground: in spring one sees a dozen or more flying round a Rook, regularly mobbing him as he carries home some grub to his callow young, until in his fright he drops the dainty morsel and down go the Starlings with much noise to quarrel over it; later the tables are turned, the Starling as it carries food to its young being similarly tormented by Sparrows. Now one sees the male bird sitting high up on some naked branch, on a chimney-pot, or the corner of a gable, discoursing what he evidently considers sweet music.

Marvellous is the song of the Starling! a curious combination of whistling, squeaking, gargling, and the sucking hiss made by pulling out the handle of a brass garden squirt: a few of the whistled notes are clear, and the song, if not melodious, is at any rate comical enough to be not unpleasant: moreover the energy which the bird puts into the performance is ridiculous; his head is somewhat retracted, the feathers of crown and throat all somewhat raised, his bill wide open, his wings quivering, and his whole body shaking. As Mr. Witchell observes: "In early spring the phrases of the Starling are concluded with a harsh squealing cry." Mr. Witchell tells us that he has heard about half a dozen of these birds singing the following phrase in chorus; that the intervals were fairly correct, and the unison was seemingly perfect: he says that one bird commenced the phrase



with the first two notes and then the others joined in. I cannot say that I have ever had a similar experience; but then I have not had the musical training which Mr. Witchell has received.

The warning-cry of the Starling is a *cah*, not unlike that of a rook, but the cry of terror is a harsh shrieking; then there is a prolonged reedy whistle, apparently a note of excitement, only heard in the spring; and lastly there is the call of the male bird to his mate:—*Joey dee-ur hee-ur* (the *hee* very much prolonged).* The cry of the young for food is very loud and harsh.

* It is noteworthy that all talking Starlings are reported as saying "Joey," or "Joey dear."

The nest is placed in any hole in a tree, a bank, a cutting, a sand- or chalk-pit, a rock, wall, ruin, chimney, in thatches, or roofing of summer-houses, cottages, and out-houses, in stove- or gutter-pipes. It is roughly constructed of grass or straw, sometimes with a lining of wool and a few feathers, and usually contains from four to six eggs, though sometimes only three, smooth and somewhat glossy and beautifully oval; always unspotted, but varying in tint from bluish-white to turquoise-blue; an intermediate shade between these extremes being the commonest type.

In my "Handbook of British Oology" I have described a curious nest which I took from the stove-pipe to a conservatory at the village of Upchurch, near Newington, Kent, and which filled no less than twelve feet of 4-inch piping: we took the latter to pieces and pushed the nest out in form of a long cylinder. This nest was entirely constructed of fragments of straw or bast, with a few long pieces at the sides, and had been collected since the arrival of mild weather and the consequent disuse of the stove. It contained three partly incubated eggs, which were about a foot from the top of the pipe. I do not believe that, if hatched, the three young birds would have been able to sit comfortably in the pipe, and it is doubtful whether they could have easily escaped from it.

Nidification lasts from April to June; in mild seasons the first nests being commenced towards the end of March; two broods are sometimes reared in a year, and it is not very rare to find two hens in charge of one nest, in which case seven, eight, or even more eggs will be found together:* this I have proved on more than one occasion, but only in the case of nests built under thatching, where I flushed both hens from the same hole, as I rested my ladder against the roof, and putting in my hand felt the whole of the double clutch in the one depression: so far as I could make out, only one male owned the nest and its two occupants.

The food of the Starling consists during the breeding-season of worms, slugs, leather-jackets (the larvæ of crane-flies) and many other destructive grubs; also of spiders and various insects; indeed these are always eaten when procurable, but in autumn fruit and the softer berries are devoured, whilst in winter hips and haws, and seeds of many kinds, as well as all kinds of household scraps are greedily swallowed.

In the autumn Starlings collect into immense flocks, consisting of hundreds of thousands, if not millions of individuals; as they pass overhead, wheeling in an immense circle, the sound of their wings is like the rushing of water, and the earth is darkened below as by a heavy passing cloud. I have seen two or three of these vast assemblages following one another and wheeling incessantly over a

* Cf. also *Zoologist*, 1895, p. 307 for supposed polyandry, and 1896, October.



ROSE-COLOURED STARLING. ♂ ♀

large park in Kent; and, when at length they drew out into a long continuous belt and gradually settled, the trees were black with birds.

In captivity the Starling rapidly becomes friendly and is always amusing, but he is a ravenous bird with a powerful digestion, and therefore needs constant attention if kept in a cage: an aviary is the place in which to see him to perfection; there he is always perfect in plumage excepting when moulting, for he is constantly bathing and preening his feathers.

I reared my first nest of young Starlings in May, 1887, feeding them on a moistened mixture of oat-flour and pea-meal: they were no trouble to rear, but very noisy, greedy, and quarrelsome. When full grown one of these birds used to spend nearly the whole day in turning back-somersaults from the top perch of his cage to the bottom one, or to the floor, and back again: I used to wonder whether it had a diseased brain, but it seemed quite sensible in other respects: another of these birds distinguished itself by singing incessantly right up to November: its performance consisted of a comical jumble of chuckling sounds, mixed with a few Canary notes and the alarm-chatter of the Blackbird: it also cleverly imitated the guttural note of the Missel-Thrush. Unless they are required for training, it is better to catch than to rear Starlings, selecting brightly coloured males, close-feathered, with long snake-like neck and head, and generally slender body: these are really the best birds, although they rarely win at shows unless kept warm and forced before their time into summer plumage. Most judges of British birds ignore form, being simply attracted by bright colouring.

Family—STURNIDÆ.

THE ROSE-COLOURED STARLING.

Pastor roseus, LINN.

OF the geographical distribution of this bird, Seeböhm says:—"It breeds more or less regularly in Asia Minor and on the western shores of the Black

Sea. The most westerly recorded instance of its breeding in large numbers is in Lombardy. At Villafranca, near Verona, in 1875, great numbers bred in the castle, having followed in the wake of a flight of locusts. They have not been known to breed in Palestine; but Tristram describes enormous numbers passing through on their spring migration. Eastwards they breed in South Russia and the Caucasus, Turkestan, and South Siberia, as far east as Lake Saisan. They have been observed in North-west Persia and Afghanistan in spring. They winter in India in enormous numbers, and are occasionally found as far south as Ceylon. The most easterly locality recorded of this bird is the Andaman Islands, where flocks were seen by Col. Tytler, in January ("Ibis," 1867, p. 331). At this season of the year, and on the spring and autumn migrations, they have occurred in almost every country of Europe, from Spain in the west to Sweden in the north, and have been known to stray as far south as North Africa, one or two examples having been recorded from Egypt and Algeria."

In Great Britain the first recorded specimen was killed at Norwood, in Surrey, and was described in 1743; since then it has been met with in almost every county; the latest occurrence being of one observed on an apple-tree at Greatham, near Liss, in Hampshire, on May 4th, 1896, and secured by its observer (Vide Zoologist, 1896, p. 382).

The male in breeding-plumage has the head, neck, and breast glossy purplish black; the wings including the coverts, the tail and coverts of both surfaces glossy greenish black, and the remainder of both surfaces pale salmon-rose; the bill is also rose-coloured, but more orange towards the base which is blackish; the feet brown: iris bright brown. The female is altogether duller, and has a somewhat smaller crest. After the autumn moult the black feathers are tipped with greyish brown, and the rosy feathers with dusky brown, the crest being also undeveloped; but a gradual change takes place in the spring. The young are very similar to adults in winter plumage, but show no trace of black or rose-colour on the feathers, their wing- and tail-feathers have buff edges; the bill is browner, and the feet are more flesh-tinted.

Like the common Starling this bird is eminently gregarious in its habits. Jerdon observes that "it usually makes its appearance in the Deccan and Carnatic about November, associating in vast flocks, and committing great devastations on the grain fields, more especially on those of the Cholum or Jowaree (*Andropogon sorghus*)"; he then quotes the following from Mr. Elliot's manuscript notes:—"Is very voracious and injurious to the crops of 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 the long whips, resound from every side. The Tillyers, 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 Tillyers do not renew their plundering till 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."

It must not, however, be supposed that the Rose-coloured Pastor is altogether injurious to agriculture: on the contrary it does good service by its wholesale destruction of locusts and other noxious insects. Seebohm gives the following account of it in his History of British Birds:—"In driving across the steppes between the Danube and the Black Sea we now and then came upon small flocks of these birds. At a distance they are indistinguishable from common Starlings; they run along the ground in the same way, they have the same rapid straight flight, and the same habit of clustering together. On the ground they feed with the same eager anxiety, but frequently perch on the stunted bushes, when their pink colour is very conspicuous. The notes of this bird are almost exactly the same as those of the Starling, they chatter together in the same way, and in confinement the low warble mixed with the chatter is very similar in both species. In most places where this bird breeds it is protected on account of the enormous number of locusts it devours. In autumn it takes its toll on the fruit (mulberries, cherries, etc.); but its usefulness in spring is so apparent, that the Greeks and Turks do not begrudge it so small a trifle. In Asia Minor, as in the Dobrudscha, I had the misfortune to arrive the day after the fair. Dr. Krüper and I were informed by our friend Guido von Gonzenbach that the Rose-coloured Starlings had bred in the previous spring (1871) in enormous numbers in the neighbourhood of Smyrna, and had devoured the grubs and locusts to the admiration of the peasantry."

The nest of the Rose-coloured Starling is built in holes or crevices in rocks, heaps of stones, earth-cliffs, quarries, walls, and old ruins, and is said to be strongly constructed, not unlike that of a Blackbird; but at times a mere accumulation of sticks, straws, and various dead plants, with a central depression for the eggs lined with plant fibre, leaves, moss, and feathers. The eggs number from five to six, and are glossy white with the faintest bluish tinge.

This species appears to be single-brooded; the hen is a close sitter and is fed upon the nest by the male bird, chiefly with locusts.

It appears to be generally admitted by Ornithologists that the favourite food of the Rose-coloured Starling consists in early summer of locusts, and later of cherries: in confinement it eats cockroaches with avidity; it should certainly never be fed as that unfortunate example was, which many years ago was winged at Chelmondiston, in Suffolk, and is said by Messrs. Sheppard and Whitear to have been kept alive for three months on raw meat. All true Starlings will eat meat, but it is not good for them, though less injurious than in the case of members of the family *Turdida*.

Lord Lilford observes that "The Rose-coloured Pastor thrives well in captivity, but the constant chatter of even a single bird is almost overpowering in a room." Doubtless this is the case, but no rank-feeding voracious birds are suitable pets for a dwelling-room, for other reasons: in a bird-room they are more bearable; but, to see Starlings to perfection, they should be kept in a good-sized aviary.

I have frequently seen *Pastor roseus* offered for sale, but was not sufficiently struck with the bird to give the price required for it. Herr Wiener, however, observes (Cassell's Cage-Birds, p. 424):—"I doubted the accounts I had read of Starlings waging a war of extermination against locusts and grasshoppers; till seeing one day a Rose-coloured Pastor offered for sale, I remembered that I had a hot-pit over-run with crickets, and resolved to try an experiment. The Pastor was placed in an aviary, and I proceeded to catch crickets by placing balls of crumpled brown paper into the warmest corners of the pit. Hundreds of lively crickets could be shaken out of the papers in the morning, and I could thus produce at pleasure something like a swarm of grasshoppers. A well-bred terrier will face any number of his natural enemies—rats; but his zeal is nothing compared to the Pastor's powers of methodical destruction of grasshoppers and crickets. The crickets covered the ground on which the bird stood: they ran up his legs and over his body, and coolly would he peck away, devouring one after the other, until none were left. Where he put all the insects seemed incomprehensible; but the immense services which such insectivorous birds, with endless appetites, can render to the agriculturist are palpable."

In confinement this species should be fed like the Common Starling upon the usual soft food, with the addition of such fruit as happens to be in season, and any insects which can be obtained. Doubtless, like *Sturnus vulgaris*, it would be all the better if allowed to have access to a saucer of seed: the fact that the bird is a perfect scourge in the Indian fields of white millet being a sufficient answer to those aviculturists who assert that seed is an unnatural food for insectivorous birds.

FAMILY CORVIDÆ.

THE Crows are generally characterized by their large size: in the form of the bill they differ considerably; but it seems to be invariably hard, with the nostrils at the base, and usually concealed by feathers; the feet are always strong and scutellated, with powerful curved claws; the middle toe shorter than the tarsus, the outer and middle toes united at the base and often to the first joint; the tail has twelve feathers.

The family is represented in the British Isles by five genera:—*Pyrrhocorax*; in which the bill is slender, arched, pointed and compressed; the wings graduated, with the fourth primary longest: *Nucifraga*; in which the bill is stout, straight, and with swollen base; the wings graduated, but with the fifth primary longest: *Garrulus*; with stout compressed bill, straight at the base; the crown with erectile crest; wings moderately long and rounded, the fourth to sixth primaries nearly of equal length: *Pica*; with stout compressed bill, straight at the base, arched towards the tip, near to which the edge of the upper mandible is slightly emarginate; the wings short and rounded, with the fourth or fifth primary longest; the tail very long: *Corvus*; with bill nearly as in *Pica*; the wings long and graduated, with the fourth primary longest.

The Crows are cosmopolitan: according to Seebohm they “are almost omnivorous, and are found in most localities, however bare and sterile. They are birds of powerful, though rather heavy flight, and on the ground walk with ease. Their notes are harsh and unmusical. They build bulky nests of sticks, moss, roots, etc., in the branches of trees, on cliffs, and in holes in tree-trunks, walls, and rocks. Their eggs are from four to eight in number, and vary from almost white to green, and in one or two instances red, in ground-colour, spotted and blotched with green of varying degrees of intensity.”

As pets the *Corvidæ* generally are favourites, on account of their intelligence, the ease with which they can be tamed, their amusing tricks, their general hardiness, omnivorous tendencies, and lastly the marvellous mimicking powers which some of them possess: the chief drawbacks to keeping these birds are their natural tendency to mischief and pilfering when allowed comparative liberty and the labour necessary to keep them clean when caged: they are best kept separately in small flights—about three feet high, two feet wide, and seven feet long.

Family—*CORVIDÆ*.

THE CHOUGH

Pyrrhocorax graculus, LINN.

IN a cage the general aspect of this bird is rather that of a Starling than a Crow; but on the wing it has a decidedly more Corvine character. Of its distribution outside the British Isles, Howard Saunders says:—"In the Channel Islands, especially Guernsey, the Chough is tolerably common, and it breeds in some of the rocky portions of the north-western and west coasts of France, as well as in those of Portugal. It is, however, in inland, mountainous situations, such as some parts of the Alps, the Carpathians, the Parnassus, the Urals, the Appenines, the Pyrenees, and the south of Spain, that it is most abundant, while on the rocky islands of the Mediterranean it is plentiful; it is also resident in the hill-regions of Northern Africa, Abyssinia, Arabia, Asia Minor, the Caucasus, and Persia, and throughout the mountain ranges of Asia, as far as north-eastern China."

Although scarcely a migratory species, it is considered capricious, inasmuch as localities long inhabited by it are, for no apparent reason, suddenly abandoned; in Great Britain this has been especially noticed. In 1868 and 1869, I observed great numbers of Choughs about the cliffs at Clifton, and again between Linton and Ilfracombe, but some twelve years ago a friend who was staying at the latter place had the greatest difficulty in obtaining an egg of the species. Seebohm observes:—"It still breeds in Cornwall, the north of Devon, on Lundy Island,* and at many places on the Welsh coast, in Glamorgan, Pembroke, Anglesey, Flint, Denbigh, and possibly on the rocks of the Calf of Man. On the east coast of England, More states ("Ibis," 1865, p. 132) that a few pairs were known to nest near Fast Castle, in Berwickshire, and Hancock corroborates the statement, whilst in the Channel Islands the bird, although local, still breeds. In Scotland it appears to have been much commoner quite recently than at the present time, and to have now quite deserted its inland haunts, being only found on the ocean cliffs." "In Ireland the numbers have also decreased."

* Howard Saunders, however, says—"in 1887 I found that it had almost disappeared from Lundy Island, where it was formerly abundant, owing in a great measure to the ravages of the Peregrine, which, in default of Pigeons, is very partial to Choughs—especially the young."



CHOUGH ♂ ♀

In colouring the Chough is shining black, glossed with blue and purple; the wings slightly greenish; the bill and feet are orange-vermilion; iris brown. The female is a little smaller than the male. Young birds have the bill and feet dull orange.

The haunts of the Chough are chiefly sea-side cliffs and rugged mountain sides, and Dixon mentions that he observed a colony in Algeria "in a low ridge of rocks, on the side of one of the barren stony valleys near the snow-capped summit" of Djebel Mahmel. It is gregarious in its habits and appears to pair for life. Its flight is somewhat characteristic; consisting largely, as Howard Saunders says, of "a series of curves in the air, alternately rising with a scream, and then suddenly dropping with almost closed wings"; its red bill is distinguishable at a considerable distance: on the earth it both walks and runs.

Seebohm renders the cry of the Chough as *Khéé'-o*, *khéé'-o*; but Howard Saunders says—"The usual cry is a clear metallic 'Kling,' but in autumn I have heard flocks uttering 'chough-chough' very plainly." The food consists of insects and their larvæ, worms, probably mollusca, berries and grain.

The nest is usually situated in some wholly inaccessible hole or crevice, often at some distance from the opening, in the face of an overhanging cliff or near the roof of a cave; but sometimes in old castles, church-towers, or disused lime-kilns; it is constructed of dry plant-stems, frequently of heather, and lined with dead grass, rootlets, wool, and hair, or with some of these materials only. The eggs, three to six in number, vary from dull creamy to greenish-white in ground-colour, and are more or less boldly spotted and streaked with various shades of brown and grey, some specimens having the markings pretty evenly distributed over the entire surface, whilst others have them chiefly massed towards the larger extremity.

Nidification generally commences late in April or early in May.

Many local names have been given to this bird, amongst which those of Cornish Crow and Red-legged Crow are somewhat freely used; one of the names Hermit Crow is hardly applicable to a bird which lives and breeds in colonies.

Seebohm says that the "Chough, like the Rook, leaves its roosting-place early in the morning, and repairs to the neighbouring pastures in search of food, sometimes even being seen to follow the plough to pick up worms and grubs. It is always a restless and a wary bird, never remaining long in one spot, but shifting its ground in short uncertain flights."

It may be questioned whether this species ever attains a great age in confinement, but it is very difficult to form any definite opinion, because of the apparent carelessness with which exhibitors note the ages of birds: thus a Chough for many years has taken a first prize at the Crystal Palace which seems to have been five

years old in 1887, ten years old in 1890, and twelve years old in 1891; since which time it has been contented with a twelve-month year: possibly there may have been three cock birds; but, with a species the nestlings of which must be difficult to secure, this would seem less probable than that an error had occurred in stating the age, due perhaps to the fact of no record having been kept to which reference could be made. That the Chough can be induced to breed in a state of partial domestication has been proved by Lady Nevill ("Zoologist," 1882, p. 431); she says:—"For years when I lived at Dangstein I kept Choughs (*P. graculus*) able to fly where they liked. They once attempted to make a nest in a stoke-hole, but were disturbed, and never did so again. On my removal to East Sussex I brought the Choughs (two pairs) with me, and the next year one pair made their nest in a tower attached to the house, and laid three eggs: but they did not sit well, and the eggs were not hatched: two of them were pulled out of the nest. The one pair drove the others away, for when they first came they all roosted in the tower."

It seems extremely probable that breeding experiments with one pair would be successful. There is, however, one very strong objection to Choughs in captivity: I understand that my friend Mr. Reginald Phillipps, a very well-known aviculturist, at one time attempted to keep these birds; but the noise which they made was so appalling that the neighbours were driven to the verge of madness, and he wisely parted with his pets before any tragic climax had been arrived at.

Family—CORVIDÆ.

THE NUTCRACKER.

Nucifraga caryocatactes, LINN.

OCCURS in pine-forests throughout the Palæarctic Region; breeding in Europe, in South Norway, Sweden, some of the islands of the Baltic, the



NUTCRACKER ♀

Black Forest, the Alps, Carpathians, and mountains of Hungary: it probably breeds also in the mountains of Southern Spain and Sardinia. Although apparently a resident bird in the countries of its birth, it occasionally wanders in winter, occurring in various other portions of Europe, as well as in Japan and North China.

To Great Britain the Nutcracker is an occasional straggler, about a score of tolerably well authenticated instances of its appearance in our islands having occurred, always in autumn or at the commencement of winter; in Scotland it has occurred, but not in Ireland.

In colouring the Nutcracker is dull chocolate, freely spotted with white, excepting on the crown, wings, and tail: wings greenish-black, some of the secondaries tipped with white; the tail feathers black, tipped with white; bill brownish-black; feet black; iris brown. Female similar, but rather smaller and with the wings slightly browner. Young sordid brownish, with the spots greyish, but otherwise like adults.

Stevenson (*Birds of Norfolk*, p. 284) commenting upon the difference in the form of the bill in various examples of this bird shot in Great Britain, suggests that it is a sexual character; the distinctions which he records are exactly such as one would expect to find—the male with a stout straight bill, the female with a longer and decidedly narrower one.* I believe that all Passerine birds differ sexually in this respect, and that the male birds recognize the females by their faces alone; indeed there is little difficulty in detecting the dissimilarity in the features of any of these birds, when the sexes are compared side by side. Using this character alone, which was first pointed out to me by Mr. Joseph Abrahams, I have never yet failed to correctly pair up the sexes of birds for breeding purposes, where no assistance could be gained by a study of the plumage. I am therefore certain that its importance has not been appreciated by Ornithologists.

In his account of the Nutcracker Seebohm takes the late Rev. F. O. Morris somewhat too seriously: there is no doubt that when the latter gentleman compiled his work on *British Birds*, he was unable to discover any facts relating to the nidification of our species, and therefore fell back upon the nesting habits of the genus as given in *Jerdon's Birds of India*, where we read—"They breed in holes in trees, which they excavate, or enlarge, with their powerful Woodpecker-like bills," etc., and doubtless when the revised edition was published in 1870, Mr. Morris had not discovered that a genuine description of the nest had been published in 1862, which differed in all points from that accepted by Dr. Jerdon.

In June, 1862, Professor Newton exhibited the nest and fully fledged young

* This difference is, however, frequently reversed.

of this species at a meeting of the Zoological Society of London: he had received them from Pastor Theobald, and J. C. H. Fisher, of Copenhagen, who had taken them in Bornholm. At that time they had failed to secure eggs of the species. At a meeting in January, 1867, Professor Newton exhibited a nest with four eggs, observing:—"In 1863, my friends were again disappointed of getting the eggs of this bird, which proved to be a still earlier breeder than they had given it credit for; and on the 9th of April three young ones were found. In 1894 they determined to "be wise in time." They kept two young men on the watch all the winter, and as spring approached careful search was made. At length, on the 23rd of March, after eight days' labour, the nest was found, in the same part of the forest as the nest of the year before, being indeed only some fifty feet from the same spot. It was, therefore, in all probability, built by the same pair of birds. It was in a fir tree, about fifty feet high, and built quite in the same manner as that of the former year. The seeker took the precaution first to climb up a near-extending tree, and then, seeing the Nutcracker on the nest, ascended the nest-tree itself and took the four eggs, which, when sent to Herr Theobald, were blown by him and found to be quite fresh."

In 1865, owing to the severity of the preceding winter, these gentlemen did not receive a nest quite so early, their seekers only discovering one containing three eggs on the 10th of April; but they secured a second, with four eggs, on the 30th of the same month: finally, in March 1866, a nest with one egg was found, but the birds deserted it without laying again. Seebohm observes that "the breeding-season of the Nutcracker in the Arctic regions is evidently June and July—at least ten weeks later than in Central Europe."

The situation of the nest is said to be always on a not very tall pine-tree, from eighteen to twenty-five feet from the ground, on a branch against the stem. It is about a foot in diameter, about five inches in depth, with the cavity four inches in diameter, and from one and a half to two inches in depth. The foundation is composed of lichen-covered twigs of larch and spruce, finished off with fresh birch-twigs, and lined with dry grass and the inner bark of trees, with a little loose earth; the final lining is grass, generally dry, but sometimes fresh." The number of eggs is from three to five; they are bluish or creamy-white, with the surface spots olive or leather-brown, and with grey shell-spots: in the distribution of the markings and their size they vary much as in other *Corvidæ*.

Although, in the winter, Seebohm says that "Their tameness was quite absurd. They allowed us to go within three feet of them; and sometimes they even permitted us to touch them with a stick," this confidence disappears during the breeding-season when they become very shy and wary.

The food of the Nutcracker consists of insects of all kinds and their larvæ; the larger dung-beetles having been found in its stomach, as well as many other species of different Orders, seeds of conifers, nuts, acorns, berries, etc. It is probable that it also devours the eggs and newly hatched young of other birds.

Seebohm mentions two notes:—the first, which he considers to be the call-note, is a sort of plaintive *kray, kray*; the other, which he thinks is the alarm-note is a loud grating *kr-kr-kr*.

The following notes respecting the Nutcracker in captivity have been kindly forwarded to me by the Rev. H. A. Macpherson, who has, from its commencement, taken the greatest interest in the success of the present work:—

“It was early in the year 1893 that a pair of Nutcrackers entered my possession. I understood that the London dealer from whom I purchased them had received them from Hungary. They were in fine condition, and I placed them in an out-door aviary. The plumage of these birds was identical, but the male was a finer and larger bird than his companion. Their lively movements recalled my observations of this species in the Bernese Oberland. All their actions were sprightly and animated. The agility with which the Nutcracker hops from one branch of pine to another resembles the action of the Common Jay. These tame birds lived upon Spanish nuts. We usually broke the nuts open for them, but they could perform the task for themselves. The Nutcracker first inserts a nut into a suitable crevice, and then breaks it with repeated blows of the bill. The nut is then shelled, and the kernel is swallowed, the outside being allowed to fall to the ground.

The male bird seemed to tyrannize over his mate, at least he gave her many sly pecks which she accepted as a matter of course. They differed occasionally about the possession of a nut, for the cock often tried to rob his mate, and she made every endeavour to retain her tit-bit, squeaking in a low key. It was on the 19th of February that I first saw the male Nutcracker feeding his mate: she fluttered her wings all the time, and cried as a young bird might have done. Thereafter the relations of these birds became most intimate. I tried my best to induce them to nest in the aviary, but they could not make up their minds to breed in confinement.

Unfortunately, my health broke down completely in the spring of 1893: I was obliged to leave my birds to the care of a friend. When I returned to duty in the following September I found my birds newly dead, to my great regret. The female had died from moulting troubles. It was thought that her faithful mate had died of grief, as he pined away from the day of her decease.

The late Lord Lilford informed me in 1893, that he had kept a number of

Nutcrackers in confinement. He said that his birds were specially fond of hazelnuts and walnuts. They were supplied also with 'every other variety of nut and berries that could be procured—hips, haws, peas, beans, acorns, blackberries, beech-mast, cones of spruce, boiled rice, stale bread-crumbs, hard-boiled egg, now and then a little boiled liver, beetles, earthworms, and crushed hemp-seed. The latter was mixed with dried ants' eggs.' I must say that my birds declined to eat anything except nuts; but I was away on sick-leave during the months in which their diet would naturally have varied most.

The late Mr. John Hancock kept a specimen of the Nutcracker in confinement for six years. 'Its voice was very peculiar. It had an extremely harsh, loud cry, resembling the noise produced by a ripping saw while in full action. This cry was so loud that it could be heard all over the house. It had also a sweet, low, delicate, warbling song. This was only uttered when everything was quiet.'

I never heard my male sing. He *crowed*, with a loud guttural caw, which was uttered while the bird perched in a drawn, upright position, the mandibles being visibly extended. He had a low squeaking note of pleasure, and could address his mate in curious terms of endearment."

Family—CORVIDÆ.

THE JAY.

Garrulus glandarius, LINN.

WIDELY distributed and resident throughout Europe excepting in the south-east: in Asia and Algeria several more or less differentiated forms occur which interbreed and produce intergrades, thus rendering their separation by Ornithologists a very arbitrary and difficult task.

Although still fairly common in the woodlands of England, in spite of the incessant persecution to which it is subjected by game-keepers, farmers, and



JAY ♂

gardeners, the Jay is rapidly becoming rarer in Scotland, yet is still by no means scarce in the southern counties, whilst in Ireland, where it was (in all probability) at one time, pretty generally distributed, it is now not only confined to the south, but is only of local occurrence.

About the month of October, a considerable immigration of Jays takes place, largely adding to the number bred in Great Britain.

This beautiful bird has the crown covered by a well-defined crest, the smaller feathers of which are tipped and the larger ones streaked with black; nape and back vinous-brown; rump and upper tail-coverts white; wing-coverts with the outer webs regularly barred with black, white, and silvery-blue, the inner webs black; primaries dull black, externally edged with white, secondaries shining black, the innermost feather mostly chestnut, the remainder with large white patches on the basal half of the outer web; tail black, the outer pair of feathers brownish; ear-coverts pale vinous-brown; a broad black moustachial streak from the base of the bill; chin and throat buffish white; breast and abdomen vinaceous, deeper on the flanks; vent and under tail-coverts white. Bill blackish horn-brown feet brown, iris pale blue. The female resembles the male in colouring, but differs somewhat in the form of the bill. The young chiefly differ in having the iris brown.

Not many years ago this was a tolerably common bird in the Kentish woods; nevertheless I but rarely found its nest, not more than three or four times at most. I can only suppose that, in that county, the Jay may have been so persecuted, that it has to some extent departed from its customary plan of building low down; and, like the Magpie, has made its home in the inaccessible branches of some lofty tree: that such a proceeding would not be unprecedented is clear from the fact that Sterland described a nest which he found at the top of a beech tree, fifty or sixty feet from the ground.

The Jay is essentially a bird of the woods and is far more frequently heard than seen on account of its extreme wariness; now and again you may come suddenly upon it and catch a glimpse of its showy plumage as it flaps irregularly across some opening into the sheltering foliage, screaming harshly as it flies—*chaik, chaik, chaik*: indeed I once disturbed a company of five in a small clearing.

Seebohm gives a singularly accurate account of the habits of this bird in a state of freedom:—"The Jay becomes noisiest in the evening; and its discordant notes may then be heard together with those of the Pheasant and the Magpie. Numbers of the birds call together, or answer each other from different parts of the cover, and, with the note of the Wood-Owl and the purr of the Nightjar, make a concert sounding singularly uncanny amidst the gloom of the forest. The flight of the Jay is a somewhat laboured one, performed very irregularly and with

rapid beatings of the wings. The Jay's peculiar flight is seen to the greatest perfection when the bird is flying in the open; for in the thick cover they appear to scurry off amongst the branches, anxious to conceal themselves as soon as possible. In spring the Jay may sometimes be observed to fly at a considerable elevation above its native woods, and, suddenly closing its wings to shoot downwards like an arrow into the cover below. Although capable of long-sustained flight, in this country it rarely flies far, preferring to go from tree to tree or to pursue its way through the tangled undergrowth. When perched in a tree the Jay sits well upright, its tail sometimes wafted to and fro, its head constantly turned from side to side, and its crest erected or depressed, its restless actions showing its wariness and timidity at being so far from cover. When thus perched the Jay can sometimes be approached very closely; and it is a noteworthy fact, that singularly beautiful and conspicuous as the bird's plumage is, it is rarely seen until its harsh note proclaims its departure to a safer retreat."

If not aware of the vicinity of man, however, the Jay is by no means so shy, his curiosity soon gets the better of his nervousness and he comes into the open to investigate the cause of every sound; yet he is ever on the alert and the least sudden movement sends him back instantly to cover.

The nest of the Jay is believed to be rarely built at a great height from the ground, of those which I found the highest elevation was about sixteen feet, in the branches of a sapling too slender to support the weight of a man, so that I and my companion were compelled to draw it gradually down until I was able to lift out the nest from its cradle of twigs. My first nest was in a plantation of ash-trees and so near the ground that I was able to lift it down without climbing, it contained a full clutch of six eggs, and I had no sooner taken it than both parents, who were close by, made the whole neighbourhood ring with their harsh screams of rage; I caught a glimpse of one of them, but only for a moment, it had not sufficient courage to come close.

The nest is frequently placed in hawthorn, sloe, hazel, fir, yew, or holly, and is very compact and strongly built, though externally it has a ragged appearance, being constructed of interlaced sticks and twigs, which become denser and are moulded into a neat cup-shape in the centre: the lining consists of rootlets or grasses and horsehair. The eggs number from five to seven and, excepting that their average size is larger, much resemble one of the less typical varieties of the Blackbird's egg: in ground colour they are pale green, so densely mottled with lighter or darker clay-colour that their general tone is either pale olivaceous stone-colour, or pale clay-colour; at the larger extremity which is usually slightly deeper in tint, there is very frequently an irregular black line, like a crack: sometimes

the darker area forms a scarcely perceptible zone, the extremity itself being quite pale. The time of nidification is from the latter end of April to about the middle of May, most nests being found in the second month; but it has been known for the Jay to be still later, perhaps owing to a first nest having been plundered.

The food of this bird consists in summer of worms, spiders, insects, eggs, young birds, and fruit; but later in the year, chiefly of berries, acorns, beech-mast and nuts. In captivity its food is still more varied, Mr. J. H. Gurney, (Zoologist 1892, p. 429,) gives the following as the diet supplied to two tame Jays—"The first one would eat worms, grapes, and acorns, with equal avidity; but its beak could not pierce the acorn's husk until it had been partly pared off, then holding it with its foot the bird would rapidly pull it to pieces with its strong beak. In the same way, if a dead sparrow is given to a Jay, it will stand on one part of it while with its beak it tugs at another, after the manner of a hawk. My Jay would eat the orange berries of the Solanum, if hungry, but did not care in the least for yew and privet berries. Jay No. 2 devoured peas by making a hole in the side of the pod, and after it had got them all out it would amuse itself by pulling the pod to pieces, no doubt to look for more. Sparrows' eggs dropped into the cage were adroitly caught before they reached the bottom, and a mouse or a shrew was very acceptable. Being put into the same cage as a Carrier Pigeon and a Turtle Dove, in spite of a disabled wing, and though the cage was nine feet long, the Jay soon despatched the latter by pecking its back."

As cage-birds Jays are great favourites, not only on account of their wonderful powers of mimicry, but because, as Lord Lilford says, "In captivity the Jay is a most amusing pet and becomes very tame. There is little trouble in keeping it in good health and condition, as in the matter of food scarcely anything comes amiss. We have found, however, that more than one of these birds in our possession preferred the eggs of small birds to any other food."

Personally I have had no experience of the English Jay as a cage-bird; but, judging by the American Pileated Jay, I should be inclined to add to Lord Lilford's statement respecting eggs, that it does not care at all about their condition: whether fresh, stale, ready to hatch, addled, or dried up, all eggs are relished. All Jays have certain habits in common; I believe that, when thoroughly tame, they all erect their crests, dance, and sing a weak crooning song to their owners, if they are talked to; that they all tear their prey by bringing their bills down repeatedly, pickaxe-fashion, on one point, until they have made a good hole; then deliberately catching hold of the edge, tear sideways right and left, the carcass being firmly grasped with one foot at least, sometimes between the two.

Family—CORVIDÆ.

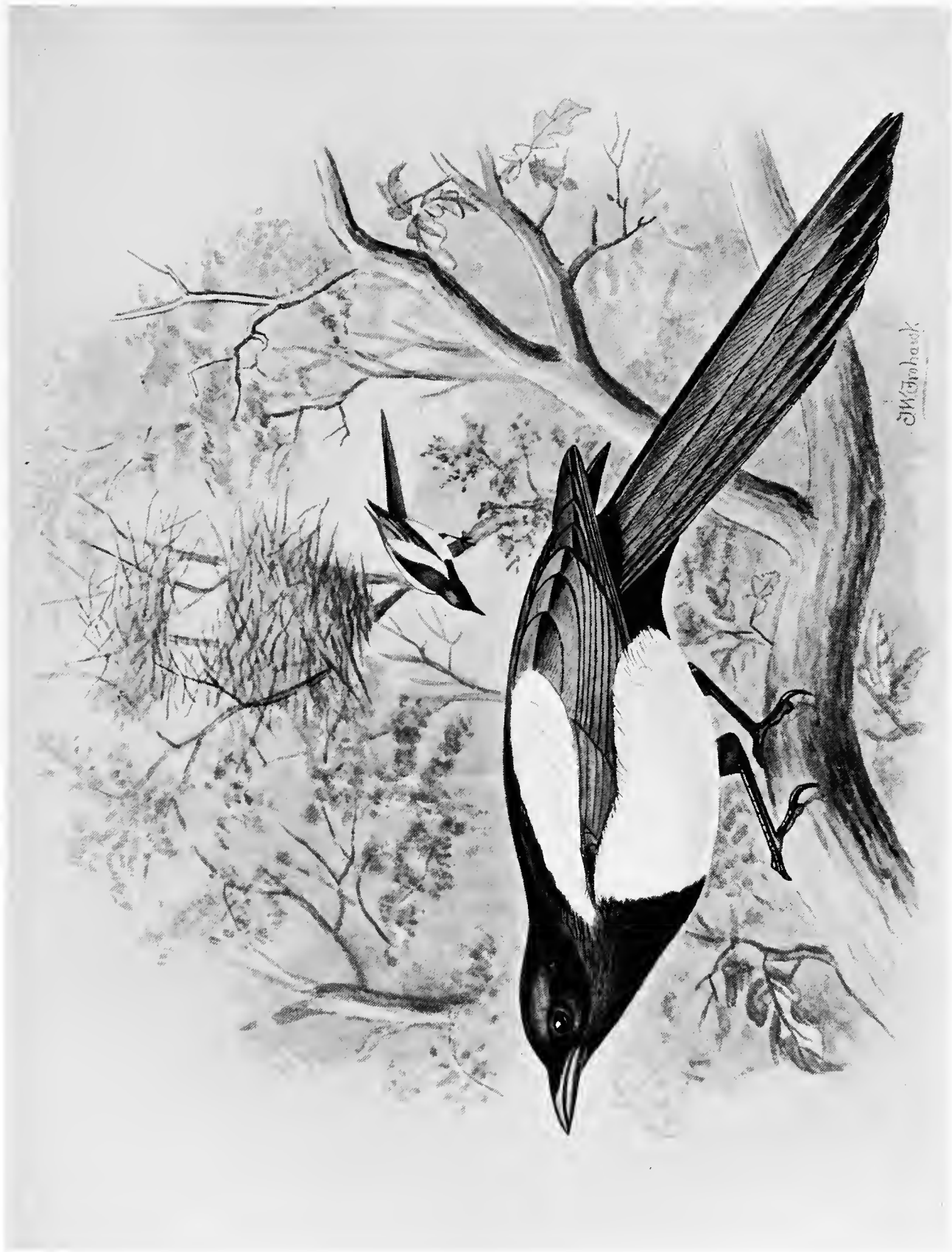
THE MAGPIE.

Pica rustica, SCOP.

BEAUTIFUL, beyond all our other Crows, the Magpie unhappily has so many enemies among game-preservers, that its numbers in some parts of Great Britain have sadly diminished. Its distribution is most clearly defined by Howard Saunders:—"From the North Cape in Scandinavia southward, it is found, more or less plentifully throughout Europe, except in the islands of Corsica and Sardinia; but it does not occur in Palestine, although found in Asia Minor. Eastward—subject to a variation in the amount of white in the plumage, which has led to the creation of several bad species—the Magpie is found across Asia to India, China and Japan, and also in the northern portion of America from the Pacific to Michigan."

In England, Wales, and Scotland, this species is still fairly common and widely distributed. In Ireland it is not only abundant, but its numbers are increasing. Perhaps the comparative scarcity of this species at the present time in some of the southern counties may be due almost as much to the wholesale destruction of timber which has of late years been carried on by land-owners, as to the undoubted enmity which game-keepers show to it. In a wood near Newington, on the Chatham and Dover line, I have often seen several pairs both of this bird and the Jay simultaneously flying up from their feeding-ground in a small clearing; but now that wood is converted into pasturage and hop-gardens: and the same may be said of many a once grand hunting-ground for the Naturalist, for miles and miles around that neighbourhood. Alas for Kent, once the garden of England! it is rapidly becoming a mere dreary expanse of wire-fenced fields and hop-poles.

The Magpie is chiefly glossy black, showing purple and green reflections; but the rump is whitish-grey; the scapulars white, the inner webs of the primaries with a white patch; the tail with greenish-bronze and purple reflections, and with a purplish-black subterminal band; abdomen snow-white: bill and feet black, iris dark brown. Female slightly smaller and duller than the male. Young birds somewhat duller than adults.



MAGPIE ♂ ♀

To see the full beauty of this grand bird on the wing, one must be behind it, as with buoyant but somewhat jerky flight, it floats down some broad pheasant drive, exhibiting its pied wings and superb tail to perfection; it however rarely remains long in view, its aerial excursions being generally of short duration.

Although fond of woodland and forest, the Magpie is not strictly confined to them, for it often wanders through well timbered valleys, or even over moorland; whilst in the pastures it may not unfrequently be observed upon the backs of feeding cattle, searching for ticks and maggots. Referring to this habit Lord Lilford observes:—"I am assured by an experienced tenant-farmer in our neighbourhood that he considers this remedy worse than the disease, as the Magpies in the search for maggots acquire a taste for beef, and cause hideous sores which are difficult to treat."

The Magpie is at times both restless and noisy, but chiefly when aware of the approach of man whom it has learnt from sad experience to look upon with suspicion. Naturally less shy than the Jay, it would doubtless soon be confiding if mankind would but treat it more gently: it is indeed an ascertained fact, that wherever it is not persecuted, this bird commonly builds its nest close to the habitations of men, and in most conspicuous places. Even where it is not looked upon with favour this is sometimes the case, for in 1884, I noticed the unmistakable nest of this species at the top of a lofty elm-tree within a hundred yards of the house in which I was staying, at Upchurch, near Newington, Kent. The tree formed one of a row along the end of a field, and quite close to the main-line of the Chatham and Dover Railway. I also saw the nest close to the little village of Bobbing in a small spinney.

Although half afraid to trust one, and ever on the alert, the Magpie often keeps but a short distance ahead as one passes through its haunts, either in the trees above, or on the ground; at one moment it will be peering and chattering from a branch, the tail rising and falling, or opening and shutting, after the manner of the South American Jays; now it will drop buoyantly down to the scrub, whence it will appear upon the path, and then for a short space flit down the same to rise again to a branch and repeat the whole performance.

The Magpie is single-brooded and breeds early, usually constructing its nest towards the end of March, though sometimes as late as May, and most frequently placing it in the outer branches, though less often near the highest point of the main stem: sometimes, however, tall, or even low hedges as well as thorn-bushes are selected as a building site. J. B. Pilley, (Zoologist 1891, p. 352,) observes that, when he was a boy, he and his companions believed that there were two species of Magpies, one building in a tree, the other in a hedge, and he says:—

“I can distinctly remember the sorry plight I sometimes presented after climbing to the top of a high hawthorn hedge to discover the contents of a nest.” S. A. Davies, (*Zoologist* 1892, p. 29,) remarks that:—“In Norway they nearly always prefer bushes, if procurable. Whilst travelling in 1890, in the Saetersdal, I observed that—as noticed by Mr. Saunders in his ‘Manual of British Birds,’—very often the nests were built under the eaves of the houses. In some cases the peasants had placed large props under the eaves for the nest to rest upon: in others the nest appeared to be built half inside the house, between gaps in the timbers. The Magpie is regarded as a bird of good omen, and it is constantly encouraged as much as possible to nest near the house. In one place I saw, in a low fir-tree close to a house, no less than nine Magpies’ nests. I never heard before of Magpies nesting in colonies.” Lord Lilford says that in Spain he frequently met with “nests which could be examined without any climbing, and, still more, whose contents were attainable from horseback:” he also, as recorded by Howard Saunders, “found several nests in the papyrus reeds of the Anapo, near Syracuse.”

The nest itself is very bulky and when built openly is always roofed over with a basket-like covering of thorny sticks, between which and the nest proper, which is made of the same materials cemented together with mud, there is only a narrow entrance: the cup of the nest is very deep and neatly lined with rootlets.

The eggs number from six to eight, rarely nine, and are pale emerald green (or exceptionally fleshy-white); a clutch of five in my collection obtained in the village of Bobbing in Kent, in May, 1888, are uniformly flecked all over with short irregular olive markings interspersed with dots of the same colour; but others have the spotting massed at the larger, or more rarely, at the smaller end, and in some cases there are blotches and streaks of brown among the other markings, and I have seen eggs coloured and marked like those of the Pied Wagtail.*

The male takes his share in the duties of incubation.

The food of this bird consists of snails, worms, insects and their larvæ, eggs, young birds, mice, carrion; and later in the year, fruit, beech-mast, and acorns, as well as grain when procurable. Early in August, 1879, Mr. Frohawk saw considerable flocks feeding on the fallows in North Devon.

The natural note of the Magpie is a harsh chattering; but, like some of the other Crows he is a good mimic and, as Swaysland observes, “is easily taught to talk.” Lord Lilford remarks:—“In confinement or, more properly speaking, in semi-captivity, the Magpie is a very amusing bird, but his ceaseless chatter is, to

* A variety also noted by Seebohm.



JACKDAW ♂ ♀

our ears, most unmusical and annoying, and his thieving- and hiding-instincts have long been historically famous or infamous."

Mr. J. Lewis Bonhote of Cambridge, who has kept all the British *Corvidæ* at various times, with the exception of the Raven, writes as follows:—"The Magpie is a nice sprightly bird, and when hand-reared is beautifully tame: he seems to be the least pugnacious of this rather vicious family. His merry rattling note is a nice change from the ordinary croak so frequently uttered."

Family—CORVIDÆ.

THE JACKDAW.

Corvus monedula, LINN.

BREEDS and is resident throughout the greater part of Europe, but does not occur northwards beyond central Scandinavia; southwards in the Mediterranean basin it becomes very local: it has straggled along the African coast as far as the Canaries. In Asia it occurs northwards in Western Siberia as far as lat. 60°; but in the valley of the Yenesei Seebohm only observed it as far north as lat. 56°; southwards it is common in South Russia, Turkestan, westwards through the Caucasus to Asia Minor and Palestine, and southwards to Cashmere and Afghanistan where it breeds, visiting the plains of N. W. India in the winter.

In Great Britain it breeds and is resident in most suitable localities; though on the rock-bound portions of our coasts it is frequently replaced by the Chough; the two species being very rarely found occupying the same district. In the Outer Hebrides it has not been met with, and to the Shetlands it is only a straggler.

The upper parts of the male Jackdaw are glossy black with purple and green reflections; the ear coverts, nape and side of neck ashy-grey inclining to white; under parts dull black; bill and feet black, iris greyish-white. The female is

slightly smaller than the male and has a slightly smaller and duller grey patch on the nape. The young are dull black, the grey patch very feebly indicated.

There are few places where the Jackdaw cannot find a home: coming from the Continent to England, this bird may be seen in numbers flying in and out of holes in the cliffs of Dover, its incessant cries *chack, chack*, being a welcome sound; so also in country or town, in ruined castle or modern palace the Jackdaw is everywhere to be seen. I must confess that I like the Jackdaw: he is a bird with considerable sense of humour, and (in spite of much persecution) he seems to bear no malice. The late Lord Lilford, however, could find nothing good to say of him: the following being some of his remarks respecting the Jackdaw in his 'Birds of Northamptonshire':—"This amusing but most pernicious bird is extremely common in our county, and probably only too well known to most of our readers. In the hollow trees about the park and pleasure-grounds of Lilford they used to swarm at the breeding-season, till we found it absolutely necessary to wage war upon them in the interests of our garden, poultry, and game, to say nothing of those of the Barn Owl, a species for which we have always entertained a sincere respect and affection. The Daws not only carried off numbers of young chickens, pheasants, and partridges, and committed havoc among our green-peas and other vegetables, but in several instances, to our knowledge, took possession of the Owls' nests, destroyed their eggs, and piled up their own nests in the cavities selected by the harmless and most useful bird of night; occasionally, however, the tables are turned, as we have previously mentioned when treating of the Barn Owl. For these misdemeanours we have for some years past made a practice of shooting the old Jackdaws and destroying their nests and eggs wherever we found them, with the result of decided benefit to ourselves and our neighbours. The Jackdaw disputes the palm for noisy and obtrusive impudence with the House-Sparrow, and does not, to our knowledge, compensate us in any way for his misdoings. That the Daw fulfils his duties in the great scheme of Nature I do not deny, but must confess that I am unable to discover what they may be."

Seebohm, however, although he admits that it levies blackmail on the Gulls, says of the Jackdaw:—"It is quite as harmless a bird as the Rook, and at certain seasons of the year it is very useful. You have but to watch its actions in the fields to be convinced of this."

The Jackdaw's flight is like himself, strong, but somewhat purposeless; he sets off to fly to some point, changes his mind, swings gracefully round and alights on the exact spot from which he started; indeed he is very fond of aerial evolutions; his wings are rapidly flapped when on the wing, and when he alights on the ground he generally comes down with either a see-sawing or spiral

motion. On the ground he is almost as fussy as a Starling in his search for worms or leather-jackets of which I have seen him carry many to his nest from my garden: undoubtedly he does fulfil his duties in the scheme of Nature.

The cries of this bird have been variously described as *cae*, *caw*, *quick*, *jack*, &c., but the only notes which I have heard uttered by wild Jackdaws have been *chack* and *chark*, from which sounds, without question, its name has been derived: its note is utterly unlike that of the Rook or any of the other British Crows.

The Jackdaw as a rule is gregarious in its habits; although in the suburbs, a pair will sometimes take possession of a chimney, in which they will build alone; consorting however, when feeding, with the Rooks which inhabit some avenue of elms in the neighbourhood: but, whenever possible, this species breeds in colonies, the nest being almost invariably placed in some crevice or hole in rock, building, tree,* or even a rabbit-burrow; ivy-clad ruins and belfries of old churches being favourite sites.

Nidification commences in April or May, frequently not until the later month, and the nest varies considerably in bulk according to the site in which it is constructed; it is always carelessly formed and generally of the veriest rubbish; wool and moss are often used, but those which I have found in belfries consisted merely of sticks and a little dirty straw, with a few feathers; whilst one in my collection taken from the winding staircase leading up to the belfry of old Milton Church, near Sittingbourne, on 25th May, 1887, consists of a great mass of hair (either the winter-coat of horses, or refuse from a barber's) with a little loose earth, a dead leaf or two, and a little dirty straw: the depression for the eggs is very shallow.

The eggs number from four to six and vary a good deal, but the commonest type is pale blue, more or less boldly spotted with sepia, and with lavender-grey shell-spots; sometimes the spots are absent, and I have seen a few eggs in which the markings were small, numerous, and pale, almost resembling eggs of the Magpie.

The Jackdaw pairs for life: it rears only one brood in a season. Its food consists in summer chiefly of worms, all kinds of injurious grubs, especially those of the crane-fly, the cockchafer, the wireworm, also insects, mollusca, and (it must alas be admitted) eggs and young of other birds, grain, peas and early fruits: later in the year, fruit, beech-mast, acorns, and all kinds of refuse, including carrion, are eaten.

Not only is the Jackdaw keensighted, as I shall presently show, but its scent would seem to be very acute: my friend Mr. J. C. Pool, of Birmingham, writes

* Seebohm says that "When the hole is too deep to suit its purpose it makes a foundation of sticks, and will sometimes deposit bushels of twigs to raise the level high enough."

(11th January, 1896,) respecting a nest of this species which he found:—"The nest was in a hole in a decaying tree about fifteen feet from the ground. I climbed the tree, and on looking into the hole I saw a number of young ones which seemed to be a week or ten days old. In order to ascertain the number of young, I took three out of the nest and held them in my hand, while I looked again into the nest and found only one remained. I then replaced the three in the nest and left them. Next morning I passed by the bottom of the tree and was surprised to see a young Jackdaw lying on the ground dead, and as I was certain I had placed the three young ones properly into the nest, and also that they could not possibly have fallen out, the nest being fully two feet below the entrance, I again mounted the tree. Half way up to the nest I found a second young one lying on a branch, dead, and a third lying on a ledge inside the hole of the tree, but about a foot from the nest. One young one still remained in the nest alive and strong. I did not touch this one, but I subsequently observed the old birds flying to the nest with food.

I think there is little doubt that the old birds threw out the three that I had had in my hands, probably because they had contracted the scent. I was visiting my friend on whose ground the tree is last week, and I found the Jackdaws have again nested in the same hole, but they had not hatched then. If I can get over again before the young ones leave the nest I will try the experiment again and test them."

Later in the year Mr. Pool wrote:—"I did not have a chance of confirming the matter of Jackdaws, for when I went to do so, I found someone had been before me and had taken the young ones."

In captivity, in spite of the fact that its imitative faculty is inferior to that of the Raven, Magpie, or Jay, as also that it is the most incorrigible thief of all the Crows, the Jackdaw is a very general favourite. It is always full of mischief and takes quite as much delight in practical jokes as its owner gets from watching their performance: there is something irresistible funny in watching a Jackdaw and a cat together; the latter anxious to indulge her selfish and indolent nature, by curling up in the sun to sleep away the best hours of the day; whilst the Jackdaw, equally bent on keeping her awake, slips up behind and tweaks her tail. Before the cat can spring to her feet, swearing and spitting, the Jackdaw has hopped sideways under a chair; and, as she swings round to avenge herself, he snaps at her tail again; the mystification and rage of the cat are exceedingly ludicrous, as also is the adroit way in which the Jackdaw invariably evades her.

The keenness of vision of the Jackdaw is perhaps never so much appreciated as when one experiments with a tame example. For many years my old friend



RAVEN ♂ ♀

Dr. John Grayling of Sittingbourne had a tame Jackdaw in his garden. This bird was particularly fond of hazel-nuts, and would catch every one that was thrown at him; but if you took two or three nuts with about the same number of pebbles in your hand, and flung them at the bird, one after the other as rapidly as possible, he caught every nut, and evaded every stone, without fail: his manner of avoiding a missile made you look small, for he never moved farther than was necessary, sometimes merely lowering his head, or taking a step to right or left. When one considers how marvellously powerful a bird's vision must be to enable it, in a second, to distinguish between a nut and a similarly-coloured pebble, leading it instantaneously to decide whether to catch or avoid it; it seems preposterous to imagine that it can ever hesitate as to the nature of a leaf-like insect, however well it may seem to be disguised to our less discriminating sight: indeed I am fully convinced that if a dozen leaf-like insects (recently killed to prevent their showing movement) and an equal number of similar crumpled leaves were flung on the floor of an aviary containing insectivorous birds of any kind, it would not be long before all the insects had been selected and devoured.

As the Jackdaw is almost omnivorous, there is never any difficulty in feeding it in captivity: but the bird is less entertaining in a flight-cage than when (with one wing clipped) it is allowed the run of the place.

Family—CORVIDÆ.

THE RAVEN.

Corvus corax, LINN.

DISTRIBUTED throughout Europe from the limit of land in the north to the Mediterranean in the south and throughout northern Asia to the Himalayas; whilst in America it extends across the continent from the Pacific to Greenland and southwards to Guatemala and possibly Honduras, though to the east of the Mississippi it is somewhat rare and local.

In England, probably owing to the systematic persecution to which it has been subjected, the Raven is becoming very rare, though a few pairs still breed regularly in the rocky headlands of our southern and south western coasts. Howard Saunders observes that nests built in trees, although far rarer than formerly, are less uncommon than might be supposed at short distances inland. Not long ago several pairs bred in Essex. To this I can add that in the winter of 1885-6 a pair of Ravens used daily to pass over my garden at Penge (where I then lived) and on mentioning the fact to a friend in the train he told me he knew of a pair which had a nest in the spring of 1885 not far from Beckenham, but he intended to keep its situation to himself lest I should be tempted to try and secure the eggs.

In Scotland, and particularly the Outer Hebrides and other Western Isles northwards to the Shetlands, it is still common; whilst it is found in the wilder regions of Ireland.

The Raven is glossy black, with iridescent purple and Prussian blue tints on the upper parts and throat; bill and feet black, iris brown. The female is smaller, and less distinctly shot with purple and blue. The young resemble the female, but lack the metallic gloss of adult birds.

The bird of Odin is widely regarded with superstitious awe; its sable colouring, gruff croaking notes, and its delight in carrion, however foul and putrid, have doubtless conspired to stamp it as a bird of evil omen; yet, to watch a pair of Ravens at play, gives one no feeling of horror or disgust; for their foolish antics and absurd lateral jumps are irresistibly laughable.

Lord Lilford ('Birds of Northamptonshire,' vol. I, pp. 212-213) observes:—"We have had many opportunities of closely observing the habits of this eminently sagacious bird in various parts of the world, and, in spite of his tendencies to murder, assault, and robbery, we must confess to a great liking for him. The Raven is in this county a very early breeder, generally selecting a secure ledge in a cliff, more rarely a tall tree, and returning to the same locality for nesting year after year. The young birds often leave the nest during the first fortnight of March, sometimes before that date. We have more than once heard of a full complement of eggs early in February, and, on the other hand, found unfledged young in more than one Raven's nest as late as the middle of May. The old birds are always wary, one always keeping a close look-out whilst the other is on the nest, and immediately uttering a warning note on the approach of danger. We have heard of Ravens vigorously attacking persons attempting to harm their nests, but have never witnessed anything of the sort, our experience being to the effect that, during the siege, the parent birds usually

soar high in air over the nest, uttering, besides their usual croak of alarm or anger, a curious sound, like the noise made by drawing a tightly fitting cork from a bottle, occasionally turning complete somersaults in the air, and making ferocious stoops in the direction of the invader, but always keeping well out of gunshot-range. For some time after the young Ravens leave the nest they roam in company with their parents, but soon separate and start off singly or in couples on marauding expeditions on their own account."

Although not strictly speaking a gregarious species, this bird when attracted by food often assembles in considerable numbers; when approaching a carcass it does not fly directly to it, but alights at a short distance and approaches it warily with heavy ungainly hops. Upon the wing it flaps heavily, but its flight nevertheless is powerful and tolerably rapid.

The nest of the Raven is always bulky, though more so when built on ledges of rocks than when placed in trees; it consists of sticks, twigs, heather-stems, and sometimes a tangle of sheep's wool. The lining is of roots, grass, wool, fur, or other soft materials. The eggs number from four to six, frequently five; in ground-colour they usually vary from greenish-blue to olive-greenish more or less densely marked with deep olive-brown, the shell markings appearing frequently like smears or faint patches of the same colour (as if partly washed out); the pattern and character of the markings vary much as usual, sometimes the streaks and blotches are few and large, sometimes they are mingled with numerous smaller markings, sometimes again the small spots are so close together as to give a different tone to the egg; the depth of the markings also varies much, at times almost approaching black. Seebohm speaks of a variety of rare occurrence which is "reddish-white in ground-colour, spotted with rich reddish-brown and splashed with violet-grey." Of the examples represented on our plate figs. 229, 231, and 232 are from Mr. A. B. Farn's collection; fig. 230 is one of a series of eggs collected some years since and given to me by my friend Dr. Vincent Blachford, who took them at Charlton, All Saints, near Salisbury.

The commonest note of the Raven has been variously described as *cruck*, *cruck*, or *pruck*, *pruck*; to me it sounds like *whurk*, *whurk*; its note of rage has been described as "a menacing bark" and "an angry hoarse growl."

The food consists of grain, berries, fruit, insects, worms, mollusca, reptiles, batrachians, eggs, young poultry and game, sickly lambs, rats, moles and carrion of all kinds.

Mr. E. C. Phillips in a paper on the Birds of Breconshire (Zoologist 1882, pp. 45-46) says:—"This bird lives to a great age. When a boy, in Wiltshire, I used to pay a visit—generally on a Sunday—to some friends that lived in a

manor house where there was a tame Raven, he was then about twenty years old, and full of all sorts of mischief and iniquity, but being a great favourite and a good talker he had pretty much his own way. I remember him well, for on one occasion he took a small slice out of my leg, *ut mos fuit*, and retired to the top of the spout to digest it, amidst my yells and the threats of the whole party. Happening to be near the place twenty-five years afterwards, I ventured to ask for my old friend, and to my surprise out he came with the same side-long hop, the same malicious twinkle in his eye, and looking more sleek and diabolical than ever. I only heard of his death last autumn. He took a similar liberty with a large dog that he did with my leg, and got a nip in return that killed him. He must have been fifty years old when he died, and was one of the finest birds I have ever seen."

Lord Lilford's account of his Ravens is very entertaining, especially that of his bird Sankey:—"He would take any opportunity that presented itself of testing the consistency of the lower garments or shoe-leather of an unwary male of our species; but we seldom heard of his attacking a woman. At any strange dog, large or small, he 'went in,' and after bestowing a hearty dig on his hinder parts, used to retire to some coign of vantage and mock his foe, with an often-repeated 'bow-wow,' uttered in a complacent and sympathetic tone, which must have been peculiarly aggravating to the injured one."

"Any superfluous food was generally hidden away for future consumption, and the hiding-places often quaintly chosen; e.g. we once saw the Raven carefully part the long feathers on the back of one of our Emus, insert a small fish from his pouch, rearrange the feathers, and hop off with the air of having done a very clever thing."

As regards the possibility of this species breeding in confinement, I may quote the following note given to me by Mr. J. E. Harting for my "Handbook of British Oology":—"In March, 1864, a pair of tame Ravens which had the run of a garden belonging to Mr. Winterbottom, of Cheltenham, built a nest in a box in a shed about six feet from the ground. The nest was built of sticks, old fern-leaves, and the stalks of dead wall-flowers, and was lined with dead leaves and tufts of grass. On March 4th two eggs were found in the nest, and the following day a third was laid; but the hen bird did not sit well, perhaps because too much disturbed by visitors, and the eggs were not hatched.

Lord Lilford's last pair of Ravens, which, however, had considerable liberty, reared four young ones, all of which were living in 1894.

Mr. J. H. Comyns, of Lyvenden, S. Devon, forwarded to me a full account of a Raven and Buzzard taken by him in 1896 from nests in trees:—"The Raven

was perfectly, I may say aggressively, tame within a week, but the Buzzard remained obdurate for fully three times as long, his timidity and suspicion being truly exasperating." "As soon as my bird was full-grown, I tried the experiment of turning him in with 'Grip' the Raven (who is confined in a disused stable on account of his depredations in the neighbours' gardens). As I anticipated, Grip instantly dashed at the intruder with murderous intent, but what followed was a surprise to me. The Buzzard, after flying two or three times round the stable, hotly pursued by Grip, suddenly alighted on the floor and confronted him with every feather bristling. The valour of the sable bird of Odin was evidently tempered with a wholesome caution; he stopped too, with ruffled head held low down and open beak, panting like a hound, whereupon the Buzzard to his astonishment and consternation sprang at him. He instantly beat a headlong retreat, and the victor, after pursuing him for a short time from perch to perch, rested on his laurels. For a fortnight after this, the Buzzard was master of the situation, and the Raven got nothing in the shape of meat to eat unless I was there to give it to him. The Buzzard would stoop at him and snatch his food out of his very beak, as he unearthed it from his various hiding-places. Grip now changed his tactics, and took to sneaking up behind and furtively tweaking the Buzzard's wings or tail, and strange to say, a persistent course of these harrassing attacks has now utterly destroyed the Buzzard's spirit, evidently too superficial to stand at all a severe test, and reduced him from a really noble-looking bird to a woe-begone wretch, denuded of both tail-feathers and primaries. Hitherto I have kept the birds together in the hope that the Buzzard might recover his lost courage, but I have now arranged to separate them, as I am afraid of the Buzzard being permanently injured." The remainder of Mr. Comyns' notes are more in accordance with general experience, and therefore of less interest.

Mr. Frohawk saw seven examples of this species at the mouth of the Avon (S. Devon) at the end of September 1895; they all kept together and may perhaps have been the old and young of the same family.

Family—CORVIDÆ.

THE CARRION-CROW.

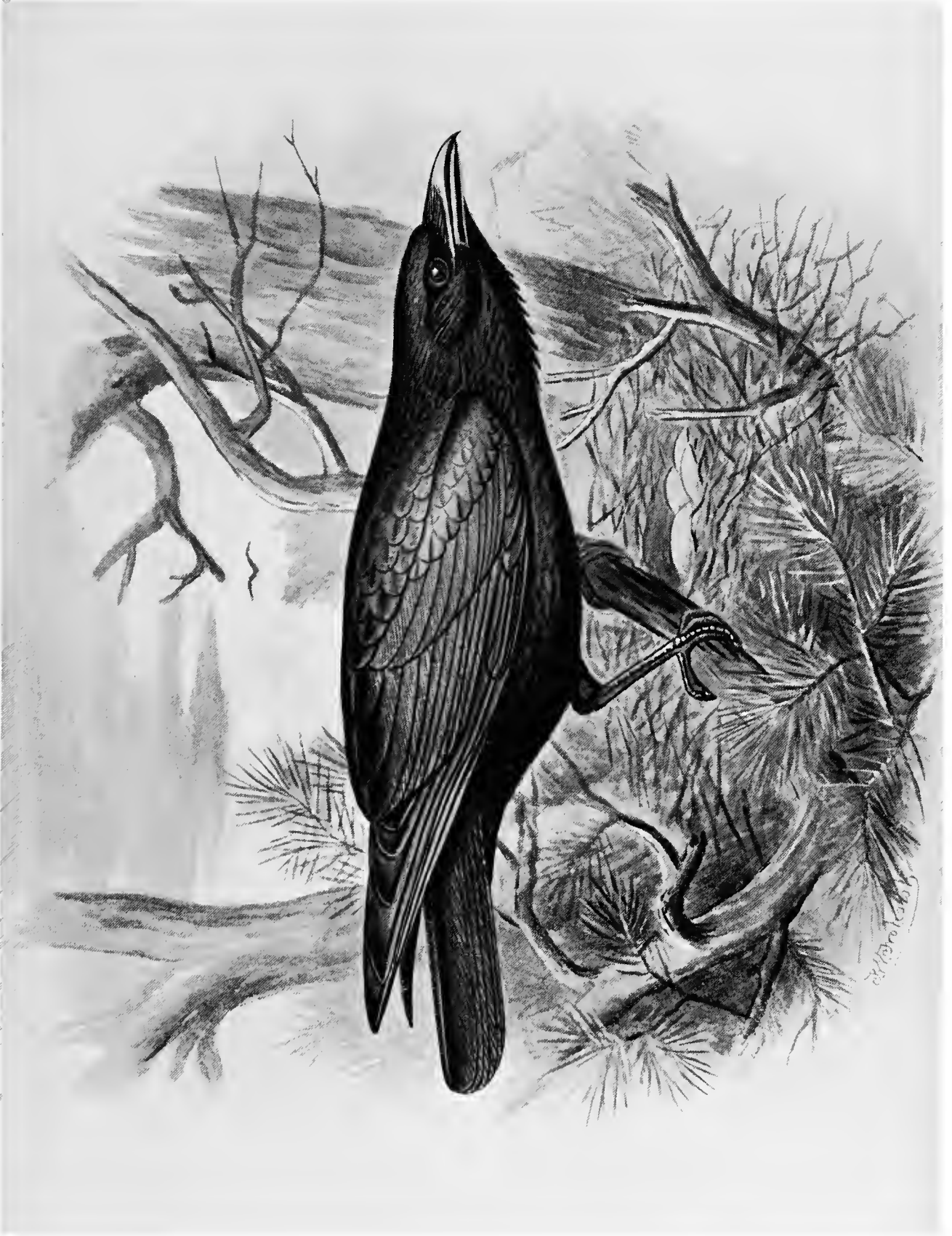
Corvus corone, LINN.

IN Siberia, according to Seebohm, this species occupies the forest country lying between Yenesay and the Pacific coast, extending northwards in summer almost to the limits of forest growth and south-eastwards to Japan. Westwards he is of opinion that, following the mountain-ranges of southern Siberia into Turkestan, it crossed the Caspian, passed through an equally large colony of Hooded Crows by way of the Caucasus, the northern shores of the Black Sea and the valley of the Danube and keeping to the north of the Alps spread over Germany, the Netherlands, the British Isles, France and Spain. He was able also to prove that this species interbreeds with the Hooded Crow in the valleys of the Elbe and Yenesay (as it is known to do in Scotland) producing many intergrades between the two species, examples of which he presented to the Trustees of the British Museum; these have been carefully mounted, and form one of the most instructive and attractive cases in the entrance-hall of the Natural History branch of that Museum at South Kensington.

In Great Britain this species is justly disliked and persecuted, both by shepherds and gamekeepers; yet it is still by no means rare in the well-timbered portions of England and Wales, becoming however decidedly commoner in the northern counties, whilst in Scotland it is abundant; in the islands off the Scotch coast it again becomes scarce and it is doubtful whether it really occurs in the Orkneys or Shetlands. In Ireland it is a very scarce bird.

The male Carrion-Crow is glossy black; purplish above, and with green tints on the head and neck; the wings similarly tinted; bill and feet black; iris brown. The female is perhaps slightly less glossy than the male, but does not otherwise differ in plumage. Young birds are without gloss and the inside of their mouths is pale flesh-coloured.

As opposed to the absurd notion that because this species is proved to hybridise freely with the Hooded Crow and produce fertile offspring, it cannot be a distinct species, Herr Gätke shrewdly observes:—"The very circumstance, however, that despite pairing having taken place for several thousands of years,



CARRION-CROW ♂ ♀

the two colours of the respective species have remained pure and distinct, forms the most striking proof of the specific independence of the two; for, if they had not existed originally as two fixed primary forms, to which the mongrel offspring reverted, though this may have occurred only after several generations, we should at present know neither the one species nor the other in its pure simple coloration, but should meet only with unlimited gradational stages of mixtures of grey and black forms."

This argument however is not unassailable, unless it be claimed that the three Pheasants—*P. colchicus*, *P. torquatus*, and *P. versicolor*, which also interbreed freely and produce endless intergrades are therefore not distinct species. It must also be borne in mind that in some cases acknowledged sports of the same species when crossed do not produce intergrades, but from one clutch of eggs reproduce examples of each variety, as has been proved in the case of the Barbary Turtle-Dove, the Gouldian Finch, and the supposed fertile hybrid known as the Bengalee.

In many respects the Carrion-Crow resembles the Raven, inhabiting similar haunts, whether among the rocky uplands, or in woods and game-coverts. In its predatory habits it is almost, if not quite as much dreaded, both by shepherd and game-keeper. Ever seeking for food from dawn till dark, the mischief done by a pair of this species in a single season must be enormous. That this bird has some courage seems probable from the fact that it will sometimes dispute with a Gull or even a small Hawk, but it appears soon to weary of resisting a combined attack, otherwise the young chicks of pheasants and partridges would indeed fare badly. Lord Lilford observes:—"We have not a word to say in defence of the Carrion-Crow. His habits appear to us to be purely noxious, and neither his personal appearance, voice, or manners in captivity offers anything in extenuation of his natural evil propensities."

The flight of the Carrion-Crow is somewhat laboured, though at times very rapid, its wings regularly beating the air; when approaching the earth it usually wheels round in circles. On the earth it either walks; or, if in a hurry, leaps forward with half opened wings after the fashion of its kind.

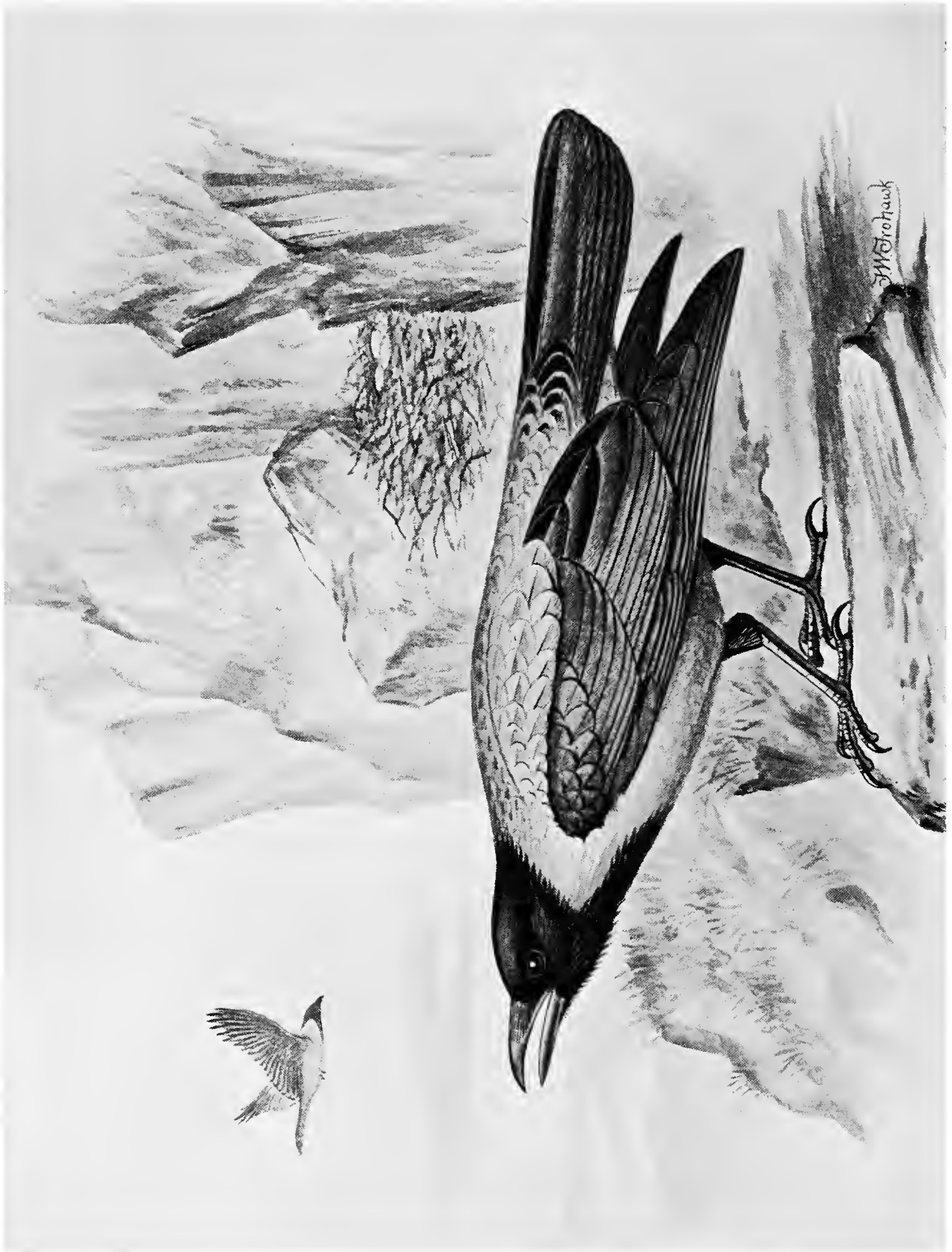
The time of nidification of the Carrion-Crow is from the latter half of April to nearly the end of May (a clutch which I purchased from a shepherd, whose boys had just taken them from a nest near the top of an elm-tree at Iwade near Sheppy, consisted of three full-sized eggs and one small yolkless one, all of which were quite fresh on May 25th). The nest is bulky and the same structure is believed to be used and added to year after year; it is either placed in a niche, or on a ledge of rock, or in a tall tree,—oak, elm, or pine; but in Holland it is

said to be built upon the ground. J. B. Pilley of Hereford (Zoologist 1891, p. 352) records the discovery of a nest containing five eggs on the top of a tall hedge, in some meadows near the city. The nest is somewhat flat and formed of dead sticks, twigs, grass-tussocks and roots, with a lining of fur, wool, feathers or other soft materials neatly smoothed down. The eggs number from four to six, five being a frequent clutch, and are sometimes indistinguishable from those of the Raven, but usually they are somewhat smaller; the ground-colour is bluish-green and the markings which vary considerably in density consist of spots, longitudinal streaks and blotches of olive and olive-brown; some of the markings are frequently almost black and others almost grey. It is believed that this Crow pairs for life.

Of the eggs of this species figured on our plate figs. 233, 234 and 235 are from Mr. Farn's collection and 236 from that of Mr. Frohawk; my own specimens were not varied or characteristic enough to be worth representing.

The call is a hoarse croak, but some of the other cries of this species are less objectionable. The food of this bird in summer consists of almost any kind of animal too weak or sickly to defend itself, wounded sheep, helpless lambs, the young of hares and rabbits, moles, young poultry, ducks, pheasants, partridges and grouse; but he does not confine himself entirely to this diet, he also feeds on mollusca, which he extracts from the shells (as mentioned many years ago by Messrs. Sheppard and Whitear) by carrying them up to a considerable height and dropping them on to a stone; stale fish cast up by the waves, and carrion of all kinds are devoured greedily, as well as insects, their larvæ, and grain. In the winter he is more limited and has to content himself with grain, berries, and such weakly half-starved birds or beasts as he can manage to kill.

Mr. O. V. Aplin (Zoologist 1883, p. 409) published the following note on the food of this species:—"An old disused bridle-gate standing near one corner of Clattercutt Reservoir has this season served as a feeding spot for a pair of Carrion-Crows, which reared their young in a tall elm on one side of the pool. One evening in June, after the grass was cut, I found strewn around it the remains of several toads and frogs, and of one partly fledged nestling finch, also a number of broken shells of the eggs of the Wild Duck and Partridge. The state the gate was in showed that it was a much frequented perch, and a tell-tale wing-feather would have named the robber even if he had not hurriedly left an adjacent tree at my approach, and with loud croaks expressed his displeasure at my intrusion on his banqueting hall. I have always tried to defend this fine bird, and was sorry to find such ample proof of its destructive habits. Only a few days ago (October 1883) I counted thirty-two Crows in a stubble-field close



HOODED CROW ♂ ♀

to this village, and considering their abundance in this district, it is only a wonder that any game or wildfowl can rear their young at all."

Although inclined to a solitary life during the breeding season* the Carrion-Crow is seen in larger or smaller crowds during the autumn and winter; considerable numbers arrive on our eastern coasts in autumn.

Seebohm's statement that this bird "makes almost as engaging a pet as the Raven" hardly accords with Lord Lilford's opinion of the Carrion-Crow. The following is Mr. Bonhote's experience, communicated November 2nd, 1896:—"The Hooded and Carrion-Crows are to be strictly avoided; the latter bird when hand-reared is very tame and can articulate a few words, but has no interesting actions or habits and scarcely moves the whole day. The former bird (Grey Crow) is not only stupid, but dangerous, and is never satisfied till he has the whole aviary to himself, having murdered the other inmates."

Family—CORVIDÆ.

THE HOODED CROW.

Corvus cornix, LINN.

"FOUND throughout Europe east of about long. 10°, and in Asia extends north of Turkestan, throughout Asia Minor and Persia into Afghanistan, and through Palestine into Egypt. Examples from the Persian Gulf have the pale slate-grey replaced by nearly white, and have been called *C. capellanus*; but Siberian birds are intermediate in colour, and the Persian birds can only be looked upon as a local race."—*Seebohm*.

An autumn and winter visitant to England and Wales, where a few pairs

* This bird has, however, been known to build among Rooks, but they do not appear to appreciate his society.

have, from time to time, remained to breed; whilst in the Isle of Man it is believed to breed regularly. Throughout Scotland and Ireland it is pretty generally distributed, resident, and common, interbreeding occasionally with the Carrion Crow in the former country.

The typical Hooded Crow has the head, throat, and front of breast, wings, tail, and thighs black, with purple and green gloss; remainder of plumage ashy-grey, with the exception of the centre of the upper tail-coverts which is blackish, becoming quite black close to the tail; bill and feet black; iris dark brown. The female is similar in plumage, but slightly smaller, and the young are duller in colour.

There is a large migration of Scandinavian Hoodies southwards at the approach of winter, to which fact we owe our seasonal visitation.

The late Henry Stevenson in his "Birds of Norfolk," says:—"The Royston or Grey-backed Crow, as this species is also called, visits us in autumn in large numbers, arriving about the first week in October, though occasionally earlier, and leaves again by the end of March or beginning of April. They frequent for the most part the broads and marshes near the rivers, particularly the mouths of tidal streams, and are extremely numerous on the sea coast, where they also gradually collect together towards the time of their departure in spring. It is fortunate for Norfolk that this destructive species leaves us so regularly in the breeding-season, as no greater enemy to the game-keeper probably exists, neither eggs nor young birds, nor indeed, in some cases, old ones either, being safe from its prying eyes and carnivorous propensities. There are, however, one or two instances on record of its having remained to nest in this neighbourhood, but not of late years."

Mr. Stevenson also quotes the following from St. John's "Natural History and Sport in Moray," p. 59:—"It kills newly-born lambs, picking out the eyes and tongue while the poor creature is still alive. It preys on young grouse, partridges, hares, etc., and is very destructive to eggs of all sorts. In certain feeding spots in the woods I have seen the remains of eggs of the most extraordinary variety and number. No sooner does a wild duck, pheasant, or any bird leave its nest, than the Hooded Crow is on the look-out, and I have no doubt that a single pair often destroys many hundred eggs in the course of a season. All birds seem aware of this, and Peewits, Gulls, Redshanks, etc., attack most furiously any Crow which they see hunting near their nests. The 'hoody' is also very fond of young ducks, and destroys great numbers. In the mountains it is bold enough to make prize of the eggs of the eagle, peregrine falcon, or osprey, if the parent birds happen to be driven off their nests."

In their "Notes from Redcar" (Zoologist, 1893, p. 6) speaking of the immi-

gration of Hoodies from the 12th to the 30th of October, Messrs. T. H. Nelson, and F. Pilling observe:—"The Hoodies are generally noticed in largest numbers during thick weather in October and November." According to Seeböhm this species migrates by day, and Gätke says:—"In the autumn, and with favourable weather, the migration commences at about eight o'clock in the morning, with flocks of from fifty to one hundred individuals; the movement soon passes into a stream of flocks, consisting of from a hundred to at least five hundred examples, and continues in this manner, without gaps of any kind, until two o'clock in the afternoon. We can scarcely, in a case of this kind, assume that we are dealing with a stream or route of migration which just chances to cross Heligoland, for the movement proceeds in equal magnitude from east to west as far as the eye can reach. More than this, on days when powerful migrations of this kind take place, the migration-front or column has been seen from boats eight miles north of the island to stretch farther to the north, as far as the limits of vision extend; while on the south it reached, simultaneously and in equal magnitude, up the Weser, at least as far as Bremerhaven, as was determined from the steamer which regularly plies between this island and the latter place. We thus get a migration column of at least thirty-six geographical miles in breadth."

Herr Gätke proceeds to make many other observations of considerable interest, which it would be well worth our readers' while to peruse, but for which we cannot find space here; nevertheless, his concluding paragraphs are, we consider, important; as showing how little the agency of man can affect the extinction of species, so far as it is directed merely against birds, their nests and eggs:—"Finally, I would add one further remark, as regards the position of these Crows in the economy of nature. Everywhere the protection of birds creates the greatest interest, and man is always put in the foreground as the greatest enemy of the feathered creation. Now, although the destruction of song-birds and other small species, as it appears to be carried on in Italy, ought to be resisted by all possible means; nevertheless all that is offered for sale, in the way of eggs and small birds, in Italy during one complete migration period, would scarcely equal the quantity of eggs and nestlings destroyed by the Hooded Crows during one single summer day.

"It is perhaps true that the number of individuals of Hooded Crows becomes nowhere apparent in such preponderating quantity as in Heligoland, in consequence of which their destructive influence is under-estimated; but if one had the opportunity of seeing the hosts of them which travel past during two months of autumn, in uninterrupted sequence, and return in the spring, as is the case here, where no tree, wood, or hill, impedes the view; and if one at the same time

remembers that all these fellows, impudent as they are cunning, do nothing else during the long summer days, from early dawn to sunset, but plunder the nests of other birds, from the Lark to the Eagle (Dresser), one would indeed wonder that there are still any birds, other than Hooded Crows, left in the world. By all means let us nurture and protect our little bird friends in every possible manner, more especially by abstaining from destroying any small shrubbery or bush, the sole use of which may, perhaps, be that it affords some small songster a hidden nook for its nest; above everything, however, let us aim at compassing the destruction of Hooded Crows unsparingly, year in year out, by all the means placed at our command."

The nidification of this species is similar to that of the Carrion Crow; in Ireland it commences about the middle of March, but in Scotland later; the nest does not differ from that of *C. corone*, and is similarly situated, although it has been found built on the roofs of huts, according to Gray. The eggs are precisely like those of the Carrion Crow in all their varieties.

The cries of this species and of *C. corone* are indistinguishable, and the food is the same; but the Hooded Crow is bolder and even more destructive.

Dixon is the only Ornithologist who seems to have a good word to say for this Crow; he says:—"I must confess that, in spite of the dark tales of plunder and his questionable mode of getting a livelihood, the Hooded Crow is a favourite bird of mine, and his habits and regular movements never fail to interest me." Many readers of his life have doubtless held similar views with regard to Jack Sheppard.

As a matter of fact there appears to be no redeeming point in the character of the Hoodie, he is a scourge when wild and when kept as a pet; not only useless, but dangerous so long as he is alive: when dead, however, Herr Gätke tells us that the Heligolandiers esteem him as an article of food. Lord Lilford says that "the habits of the bird are always abominable, and although, from the accident of its not nesting in our county, we are not exposed to the detriment from this thief to which those dwelling on the other side of the Tweed are subject, we have no plea to urge in defence of the Grey Crow, and hold him as a sturdy vagrant to be summarily dealt with at all times and in all places. We should be sorry to *exterminate* any bird; but this one could be better spared than any other with which we are acquainted."



W. Woodhouse del.

Rook ♂ ♀

Family—CORVIDÆ.

THE ROOK.

Corvus frugilegus, LINN.

IN Western Europe the Rook breeds as far to the north as the Arctic circle, but not so far in the East. It is also found in the summer throughout Central and Southern Europe, being resident in the more southern portion of its range, but migratory in the more northern countries, whence at the approach of winter it retires to Southern Europe, North-east Africa, the Mediterranean islands, and Asia Minor. Eastwards it breeds in Western Siberia and Turkestan, wintering in North Persia, Afghanistan, Cashmere, and N. W. India.

In England, Wales, and Ireland the Rook is pretty generally distributed in all suitable localities; in Scotland though rarer and more local, it is rapidly increasing, occasionally wandering to the Outer Hebrides and now breeding as far north as the Orkneys and Shetlands.

The male Rook is black glossed with purple, most brightly on the upper parts. From the base of the bill is a bare grey warty patch, extending over the chin and upper part of the throat. Bill and feet black; iris brown. The female is slightly smaller and less glossy than the male. The young bird is still less glossy and has the base of the bill covered, as in the Carrion-Crow, with bristly feathers; it may be distinguished by its more slender bill and the deep flesh-colour of the inside of the mouth, this however changes to slate-colour with age.

In England the Rook is a useful bird so long as it can obtain a sufficient quantity of insects and their larvæ to support it and its offspring; but when, owing to protracted drought it cannot obtain these, it becomes somewhat mischievous after the fashion of its congeners. In Scotland, where pastures are somewhat limited, it is dreaded and detested almost as much as the Carrion-Crow. It is certain that when pressed by hunger it will sacrifice weak birds to satisfy its craving for food; for, as noted in my 'Handbook' I have on several occasions witnessed this predatory habit in severe wintry weather.

The Rook is essentially a gregarious bird and haunts well-cultivated districts, preferably where tall trees are numerous and pastures are large; here he may be seen day after day busily feeding on snails or digging for worms, leather-jackets

and other noxious grubs; in the fallows, whilst he doubtless swallows a little grain, he does incalculable good by destroying wireworms and larvæ of cock-chafers, whilst in the turnip-fields he not only devours such examples of the latter grubs as he can find, but does considerable execution upon the dreaded and destructive caterpillar of a common moth (*Agrotis segetum*).

The nests are generally placed in the upper branches of tall trees; either in copses, plantations, pleasure-grounds, parks, or when planted in rows bounding the margin of a pasture, or forming an avenue over a country road; but Stevenson rightly says:—"Though for the most part selecting the tallest trees, and placing their nest near the upper branches, they will build also on low Scotch firs, in the most exposed situations," and he adds:—"A still more novel site has also been chosen by a few pairs at Spixworth Park, where, for the last two or three seasons, they have built in the tops of some fine laurestinus bushes, about twelve or fourteen feet from the ground, and others in a dwarf ilex, close to a flight of stone steps, connecting one part of the garden with the other, yet so low down that the feeding of the young was plainly visible from the windows of the hall." When a rookery is well established, the birds are not easily persuaded to abandon it, excepting for private reasons of their own; moreover the continual noises of a great city do not seem to disturb them at all, as is evident from the fact that Rooks still build and breed in the old trees which have been left standing in the busiest parts of London.*

The nest is usually commenced or repaired early in March, but after unusually mild winters building operations sometimes commence much earlier. After the exceptionally open winter of 1895-6 I saw several young Rooks sitting just outside the nests in which they had been hatched as early as the 6th March, whilst I had noticed the Rooks in a rookery close to my house repairing their nests in January, and in February a pair daily visited my garden for worms: a friend of mine living at Dulwich first directed my attention to the early preparations for nesting made by these birds, assuring me in January that he had seen a pair of Rooks carrying sticks up to their nest. In the 'Feathered World' for April 24th, 1896, Mr. W. N. Rushen says:—"I saw two young Rooks near Wanstead Park, on April 8th, which were as strong on the wing as their parents; and, to be as forward as this, they must have left the nest for some weeks." †

The structure is usually very compact, formed of strong sticks and twigs,

* Sometimes the nest is said to be placed on chimneys, ornaments of church-spires, and rarely on the ground.

† Mr. Rushen is well-known to readers of this paper as one of its most reliable contributors; a keen student and enthusiastic lover of our British birds.

plastered with mud, lined with turf, straw, roots, and sometimes moss, dead leaves, and feathers. The eggs number from three to five and vary considerably both in form and colouring, exhibiting similar forms to those of the Carrion-Crow; they are, however, noticeably smaller. The ground-colour varies from pale blue to green, and is lighter or darker in different nests; the spotting is olive-brown, fine and sparse or coarser and thickly distributed over the entire surface and sometimes with a few larger deep brown blotches or streaks.

Of the eggs figured on our plate, figs. 241 and 242 are from my own collection, and 243 and 244 from that of Mr. A. B. Farn.

When the young first leave the nest they are awkward and weak on their legs, sitting huddled on a branch with their heads well down between their shoulders; as the wind sways the branch they tip forwards, and have to open their short wings to recover their balance; but, after daily short excursions from branch to branch, they gradually gather strength and confidence, until finally they are able to accompany their parents to the fields and get their first lesson in finding food for themselves.

To those who have not noticed the methods by which the various species of Crows are taught by their parents, I cannot do better than recommend the admirable account given by Mrs. Olive Thorne Miller in her fascinating book entitled "Little Brothers of the Air."* The accuracy of this lady's observations will be at once recognized by all who have carefully studied the habits of birds. The authoress' plea for the Crow, at the end of that chapter of her book, though true in a measure of our Rook, could not be used in defence of the Carrion or Hooded Crows; she says:—"A Crow parent on a foraging expedition is a most unwelcome visitor to the farmer with young chickens, or the bird-lover interested in the fate of nestlings. Yet when I saw the persecuted creature in the character of provider for four hungry and ever clamorous mouths, to whose wants she is as alive as we are to the wants of our babies, I took a new view of Crow depredations, and could not see why her children should not have a chicken or a bird for breakfast, as well as ours. Poor hunted Crow, against whom every man's hand is raised! She feels, with reason, that every human being is a deadly enemy thirsting for her life, that every cylinder pointed upwards is loaded with death, that every string is a cruel snare to entangle and maim her—yet whose offspring, dear as ours to us, clamour for food. How should she know that it is wrong to eat chickens; or that robin babies were made to live and grow up, and Crow babies to die of starvation? The farmer ignores the millions of insects she destroys, and shoots her for the one chicken

* Published by Houghton, Mifflin & Co., Boston and New York.

she takes, though she has been amply proved to be one of his most valuable servants."

The note of the Rook is usually *carr*, but sometimes *caw*, and one of the birds in a neighbour's rookery, born and reared during incessant rains, seems to have contracted a chronic cold, for his note is like that of a Golden Eagle, *ar-ell-o*.

The food in summer consists of grain, worms, snails, insects and their larvæ, and in dry-seasons or arid localities, of mice, fish, mollusca, young birds, eggs, the maggots in carrion and possibly the flesh itself. Later in the year fruits, beech-nuts, acorns, and berries; but in winter, when all these are gone, it has to get what it can from refuse heaps or from the scraps cast out from houses; though, when opportunity offers, it does not scruple to destroy sparrows and other small birds.

The Rook is not suitable either for cage or aviary; my brother had one for some time, but it was anything but an interesting pet. Mr. J. Lewis Bonhote writes:—"The Rook is harmless; but, like the Carrion-Crow, very sluggish in its movements; scarcely ever uttering a sound. It is also very wild and never attempts to talk, at least that is my experience."*

FAMILY ALAUDIDÆ.

THE position in which Howard Saunders has placed this family does not strike one as natural: it would certainly have fitted in better with one's sense of order in Nature, to have seen it placed next to the *Motacillidæ*, as in Seebohm's "History of British Birds," and as evidently advocated by Dr. Sharpe, to judge by his remarks on the family in the "Catalogue of Birds."

It is difficult to imagine that the Larks can be more nearly related to the Crows than to the Pipits, and one wishes that the author of the Manual had in his arrangement borne out Seebohm's opinion—"The Larks appear to bear the same relation to the Pipits that the Thrushes do to the Warblers," or Jerdon's—

* In the 'Zoologist' for 1887, p. 268, is an account by Mr. C. R. Gawn of a hand-reared Rook (which was allowed its freedom) building two nests in a rookery, near the house, and feeding two hens, partly on raw meat and bread and milk from the outhouse where he was fed. Good living had made a bigamist of him!

“The Larks may be said to grade to the Finches on the one hand, through *Montifringilla* and *Plectrophanes*; and, on the other, into the Pipits through *Corydalla*.”

The chief characteristic of the family is the scutellation at the back of the tarsus; and it is probably because of this peculiarity (and not because they are allied to the Crows) that Howard Saunders subordinating his own views, as he says, “to those of the majority of the B. O. U. Committee respecting the positions of the *Alaudidæ* and the *Corvidæ*” has placed the Larks at the end of the *Passeres*, all the other groups having the feet scaled only in front.

The Larks are walking birds, building and in many species roosting on the ground: with the exception of the more arboreal forms, they rarely perch on trees; and when they do, they select the thicker branches. They do not wash, but dust themselves after the manner of Sparrows or Gallinaceous birds. Their food consists of spiders, centipedes, insects, larvæ, and seeds or grain.

Larks are powerful flyers, their wings being large and pointed; the wings of the males are also stronger and more elongated than those of the females, doubtless to enable them to maintain their soaring hovering flight when singing: as a natural result of this increase of wing-power the sternum is somewhat more prominent, giving greater fulness to the chest. By these characters the bird-catchers are enabled to tell the sex of Larks directly they grasp them, the male being, in their own words, “a handful.”

Practically the *Alaudidæ* constitute an Old World family, one species only occurring in North America, whilst, as Jerdon observes, “They are very sparingly represented in Malayana and Australia.”

Family—*ALAUDIDÆ*.

THE SKY-LARK.

Alauda arvensis, LINN.

FOUND during the summer months throughout the whole of Europe; nesting in Scandinavia as far north as lat. 70°, whilst in North Africa it breeds sparingly as far south as the slopes of the Atlas Mountains, and in the east, in Russia and Siberia, and at high elevations in Japan, the valley of the Amoor, South-east Mongolia, Turkestan and Persia. In winter it visits China, North-west India, Afghanistan, Persia, Asia Minor, Palestine and Egypt. It has been met with at Madeira, and is reputed to have occurred on Greenland. It has also been introduced into the United States,* New Zealand, and Australia.

Throughout Great Britain and Ireland, the Sky-Lark is widely distributed, abundant, and (excepting in the extreme north) resident.

The climatic variations of the Sky-Lark have been separated under several distinctive names, such as *A. dulcivox*, *A. japonica*, *A. cantarella*, *A. liopus*, *A. blakistoni*, *A. gulgula*, *A. australis*, *A. cœlivox*, *A. wattersi*, and *A. sala*; but so many intergrades exist that Ornithologists generally are now content to regard them as one variable species.

Our Sky-Lark in breeding-plumage has the upper parts golden brown, with blackish centres to the feathers; edges of greater wing-coverts paler; the outermost tail-feather white, with the exception of a blackish streak on the inner web; the second feather white on the outer web only: under parts buffish-white, spotted and streaked with blackish brown on the throat, breast, and flanks; bill dark brown above, paler below; feet yellowish-brown; iris hazel. The female is rather smaller than the male, and has shorter wings, but does not differ in plumage: young birds have broad buff tips to the feathers. After the autumn moult both sexes are more tawny in colouring.

In order to tell the sex of the Sky-Lark, the London bird-dealers take the bird in the left hand with the tail towards them, and with the right hand draw down the wing until the point of the first long primary touches the tip of the outermost tail-feather: the wing of the male being distinctly longer than that of the

* One example was also shot in the Bermudas, in 1850.



W. Woodhouse

SKY-LARK ♂

female, the so-called 'shoulder' then appears to be much more angular in the former than in the latter sex. I have seen considerable numbers of birds thus tested, the males being caged and the females returned to the catchers, and I never knew the test to fail: but females are rarely forwarded by experienced bird-catchers, most of them being killed at the nets and sold to the poulterers.

Although abundant enough on moors and commons, downs, grassy cliffs, and even mountains, the Sky-Lark certainly prefers arable land, pastures, and parks: it seems especially to delight in fields of clover: it shuns all places thickly studded with trees, such as woods, copses, and plantations, but is almost always to be met with in country cemeteries.

Excepting when in pursuit of another individual of its own species, the flight of the Sky-Lark does not strike one as being particularly rapid; it is somewhat undulating, and there is a fluttering motion, even when it is crossing a field, which is very characteristic. The male, when soaring, always commences its upward flight with this butterfly-like hovering action, and sometimes it is continued until it reaches its highest elevation; at other times it rises obliquely and rapidly, its song the whole time fitting its movements: in its descent it sometimes drops abruptly perhaps for forty or fifty feet, pauses a second and drops again, making perhaps three or four stages in its fall, until, as it nears the ground, it flutters round in a half-circle to the earth; each drop being accompanied by the finishing shrill *wee, wee, wee* of its song: often it comes down with a wide graceful sweep.

The nest is placed in a depression in the ground, generally amongst growing crops, often merely sheltered on one side by an overhanging tuft of coarse grass or other vegetation, and sometimes without any shelter whatever; a singular nest with a kind of lid formed of water-weed, which was pointed out to me by a shepherd in the Isle of Sheppy, is described in my 'Handbook.' The nest itself is more or less loosely constructed of dried bents and dead grass, and lined with finer grass-stalks. The eggs number from four to five, and sometimes three may be found incubated, but it is doubtful whether so small a number ever represents a full clutch: in ground-colour they vary a good deal—white, whity-brown, buffish clay-coloured, or pale olive-green; generally densely mottled with olive or smoky grey-brown over the entire surface, but frequently with a denser zone at the larger, and more rarely at the smaller end; sometimes there are a few scattered streaks and spots of deeper brown. The most aberrant egg which I have seen was one lent to me for illustration in my 'Handbook' (pl. XI, fig. 11) which bears a curious resemblance to some eggs of the Common Bunting; it is white with a deep brown patch at the larger end, shading into sienna and slightly macular along its inferior margin.

Although the Sky-Lark pairs in March, nidification does not commence until late in April, nests being most numerous towards the end of May; two broods are reared in the year, the second nest being furnished with eggs late in June or early in July. Both male and female are very wary in approaching their nest, never descending close to it, but at some distance, whence they may be seen threading their way in the most irregular fashion in and out of the herbage towards it. This is best seen where the nest is somewhat exposed on an open pasture, the mother bird wanders about apparently in the most aimless fashion, but constantly approaching the nest until about a foot from it, when she makes straight for it and settles down. By watching patiently through a glass one can thus sometimes discover the nest.

The Sky-Lark's song is so much admired and so well-known that it is hardly necessary to describe it; it consists mainly of a shaking water-bubble trill, interspersed with long drawn notes, and is marvellously exhilarating, considering how little variety there is in it. The bird sings either soaring, or perched on a stump or a thick branch.

In the summer the food of the Sky-Lark consists of spiders, insects, their larvæ, and worms; but in winter, and more especially during frosty weather, it gets little else but seeds of grasses, plantain, etc. During the latter season this species is very gregarious in its habits, and consequently immense numbers are netted, the male birds usually realizing from 9d. to 1s. apiece, according to whether they are disposed of to dealers or private persons; the females, as already stated, are generally killed for the table.

In 1886, I made my first attempt at rearing Sky-Larks from the nest: I obtained seven young birds about eight days old, and at first kept them in a basket of hay; but no sooner was this opened than these active little things bounded out like grasshoppers, often clearing my shoulders and alighting on the floor behind me. This I considered dangerous, and therefore bought a long 'Lark-runner,' an elongated cage about two feet in length, by nine inches high, wired in front only. In one corner I fixed a Sedge-Warbler's nest, put my birds in one by one, keeping my hand over to prevent their jumping out until all were inside, when I covered them with a warm flannel. When they began to get hungry I went the blanket and the whole family tumbled out of bed and stood in a row in front of the door shouting—*tee-u, tee-u, tee-u*; and after their meal they raced up and down their cage until weary, and then tumbled back into bed and I covered them up again. They seemed strong and sound, but one by one they got cramp and died until I had lost them all.

I subsequently purchased a young male and an old female and at first kept

them together, but finding that they did not get on well together I separated them, keeping the male bird in an ordinary Lark-cage and the female in an aviary where she contented herself with running backwards and forwards continually over about a foot of ground, never flying, excepting when startled, when she flew up recklessly and fell back regardless of consequences to the detriment of her plumage. The male turned out a good singer and was so tame that he used to peck and pull at my finger when I put it through the wires; he was also very intelligent and would claw the wires and look round at a bottle containing watercress, of which he was very fond, evidently asking me to give him some.

In July, 1887, I obtained two nestling Sky-Larks and brought them up upon my Nightingale food, and in October they both began to sing, but one of them died the following year; the other made a grand singer, and used to introduce the song of the Persian Bulbul into the middle of its performance: it lived for several years.

In May, 1888, I took a nest of three young Larks when they were only six days old (I first saw them as eggs) and was obliged to take them when I did, as I was then returning home. Although they all had a touch of cramp, I successfully reared them, but during their autumn moult two of them died; the third, which was a wonderfully tame little bird, I turned loose in an aviary where it was quite happy; it used to strut about in a consequential manner with its crest up, and although it was a small bird it sang so well that I felt certain it must be a cock and never examined it; eventually it settled the point by laying an egg. This bird was very fond of perching upon a branch with the long hind toe and claw hanging straight down over the back of it, but it always roosted on the earth after the manner of its species.*

Judging by my own experiences in rearing Sky-Larks I am inclined to think that a turf in the cage, with a hole cut in it, and a Whitethroat's nest fixed therein is an advantage; the young birds at first sleep in the nest, but as they get older they crouch down on the turf, and the moist warmth seems to lessen the tendency to cramp; but I am sure that another and a more important thing is to give them food containing plenty of egg and moistened ants' cocoons. When adult, two or three mealworms a day, a handful of canary and millet-seed once a week, and watercress when obtainable, should be given in addition to the usual soft food.

I think it was in the winter of 1891-2 that my man, having nothing else to do, took my nets out and brought me home thirteen Sky-Larks, in addition to a few other birds; about eight of these proved to be cock birds, and I selected the

* Hand-reared hen Sky-Larks often sing, but I never knew a wild caught hen to do so.

three best singers as cage birds; one of these I finally retained, parting with the remainder to friends. This bird was always tame and healthy: he lived in a two foot "runner," half turfed and half sanded; he was a grand singer, producing the wild song so perfectly, that if you shut your eyes you could imagine his upward flight, and finally his dropping notes as he returned to earth. Towards the end of 1895 he failed to get well through his moult, and one morning I found him dead with his head under his wing.

Mr. Seebohm's account of the migration of Sky-Larks as observed by him in Heligoland is exceedingly interesting; but unfortunately I have not space to quote it here. Speaking of the complaints respecting the diminution of birds, Herr Gätke says:—"To a witness, however, of the enormous passage of migrants, of the myriads of individuals which on autumn nights travel past this island, like the flakes of a snow-storm, not only within the area of the lighthouse, but for miles north and south out to sea, these complaints seem quite incomprehensible. It is surely impossible that the hand of man can exercise any perceptible influence on such enormous migration streams"; and he adds that the number of 15,000 Larks caught in one autumn night does not approximately express a proportion of one for each 10,000 individuals of such a migrant stream.

The figures of eggs 245-8 are from Mr. A. B. Farn's collection; 249 from Mr. Frohawk's, and 250-4 from the author's series.

Family—ALAUDIDÆ.

THE WOOD-LARK.

Alauda arborea, LINN.

“IN summer the Wood-Lark inhabits the southern portions of Scandinavia, and Russia below about 60° N. lat., as far east as the Ural Mountains, while in Northern Germany it is common. Southward, it is found in places suited to its habits—especially in Central France—down to the Mediterranean, Black and



WOOD-LARK ♂

Caspian Seas; its numbers being increased by accessions from the north in winter at which season it also visits Northern Africa and Palestine, and in the latter it is said to breed on the high ground."—*Howard Saunders*.

In Great Britain the Wood-Lark is by no means a common bird, and is very local in its distribution; occurring chiefly on undulating sandy or chalky soil dotted about with small woods, copses, or plantations. It is most frequently to be met with in suitable localities in the southern counties of England and Wales; but has, from time to time, occurred in most of the northern counties. In Scotland it is very scarce, but has once been known to breed in Stirlingshire. In Ireland it is principally confined to the east and south.

In general colouring the Wood-Lark nearly resembles the Sky-Lark, but can always be distinguished both when perching and on the wing by its short tail. It is also smaller and has a more slender bill; the bastard primary is much longer; the blackish centres to the feathers of the upper surface are wanting on the rump and upper tail-coverts, the primary-coverts have white tips; central tail-feathers reddish-brown, with dusky centres, outermost feather brown, the outer web dusky at the tip, the inner web with a broad black patch; remaining feathers blackish, with terminal triangular white spots; a broad buffish-white superciliary stripe extending backwards to the nape; ear-coverts rufous, with darker upper margin; cheeks and throat whitish, becoming distinctly yellowish buff on the breast and abdomen; flanks brownish; throat narrowly streaked with black; breast and flanks broadly streaked: bill dark brown above, paler below; feet light horn brown; iris hazel. The female differs as in the Sky-Lark. Young birds are more rufous above, the feathers tipped with buff; below they are more yellow and much more freely spotted with black than in adults.

On account of the different character of the nostrils (in this species) which are half exposed and overhung by an operculum, Dr. Sharpe and others have separated it as a distinct genus—*Lullula*, *Kaup*, doubtless suggested by the French 'Lu-lu,' a name given as an indication of its flute-like notes.

Col. L. H. I. Irby, in his "Ornithology of the Straits of Gibraltar," says that "on the Andalucian side the Wood-Lark is sparingly and locally distributed during the winter months up to as late as the 21st of April, frequenting scrub where not very thick, a favourite locality near Gibraltar being the *Chaparales* (ground covered with brushwood) in the Cork-wood. Well known to the Spanish bird-catchers, and highly valued as a cage-bird; they assured me that the Wood-Lark never remains to nest near Gibraltar, but they are known to breed near Malaga."

The Wood-Lark is only to be found in timbered country; not that it confines

itself strictly to the immediate neighbourhood of woods, or clearings in plantations, parks, and groves, although these are its favourite resorts; for it also frequents commons; but trees appear to be necessary to its happiness, and where these do not exist it will not be met with.

Although very fond of perching on the branches of trees, the Wood-Lark feeds principally on the ground, where it also roosts and builds its nest. The latter is placed in a depression in the earth, sometimes under a grass-tussock or small bush; it is more compactly built than that of the Sky-Lark; sometimes of couch-grass and a little moss, with finer grass and a little hair for a lining; sometimes wholly of grass bents, the finer ones forming the lining. The eggs, which in this country are often deposited by the middle of March, are apparently not laid in Central Spain until the beginning of May (*Lilford*) or in the Parnassus until the third week of that month (*Seeböhm*): they number from four to five, and are buffish- or greenish-white, spotted with reddish-brown, or brownish-lilac, and with underlying greyer spots: as with the allied species they may either be evenly distributed over the entire surface, or more densely massed at the extremities, or in a zone near the larger end; as a rule, however, the spots are smaller and less confluent than in eggs of the Sky-Lark, those of the Wood-Lark being generally admitted to more nearly resemble some varieties of those of the Crested Lark. The Wood-Lark is double-brooded, and I have never been out of town quite early enough for the first brood.

The food of this bird is exactly similar to that of the Sky-Lark, consisting chiefly of insects in summer, and seeds in winter.

The Wood-Lark's song is very pure and melodious and by many it is considered only second to that of the Nightingale, but it certainly is not so full of variety as the song of that bird; nevertheless it has the merit of being persevered in throughout the year, excepting during the moulting season; it is usually commenced, and sometimes completed, from the branch of a tree; but more frequently the tree only represents the point at which the flight-song begins: the last time that I heard the flute-like music of this bird, I was down at Dover with my old friend Dr. John Grayling of Sittingbourne; we were approaching a wood when, from a tree at the side of the road, we heard the delightful song of a Wood-Lark; looking up we soon espied him on a branch and were able to identify him without difficulty by his short tail and prominent eye-streak. Presently he soared away, rising at first obliquely and then gradually swinging round, still singing, and rising until he had reached the height of his ambition, when with wide spiral curves he descended to the earth. The Wood-Lark is said sometimes to sing throughout the night,

and it certainly does sing well into the "gloaming," which has led rustics at times to confound it with the Nightingale; but, by careless observers, it is much more generally confused with the Tree-Pipit.

Although this bird sometimes soars quite as high as the Sky-Lark this is not its general habit; moreover it flies more in circles and descends to the earth in a wide spiral, instead of obliquely or by jerky drops.

As a cage-bird, the Wood-Lark is a great favourite, and yet I have never possessed an adult specimen. On one occasion when driving through a country road in Kent, with woods on either side, a young bird was seen scampering and leaping to get out of our way. The driver pulled up and succeeded in catching it for me; but although it soon fed itself and to repletion, it quickly got cramp and died. Later on, in June 1887 my son and I caught sight of a slightly older example of this species in a somewhat similar situation and exerted ourselves to catch it, but it made for a tall hawthorn hedge, up which it escaped with such rapidity, that before we could come up with it, the bird was out of our reach. About September, 1894, I was beautifully taken in by an unprincipled bird-catcher: he had told me of a lovely Wood-Lark which he had, and which he described as singing splendidly. One dark night he knocked at my front door and told me he had brought this bird, which I could have for three shillings. I put my hand through the opening at the top of the cage, and took the bird out; it had a short tail, but (even in the dark) looked somewhat uncanny; however he told me he was quite certain that it was a Wood-Lark, so I gave him the money: he hurried off so quickly that I doubted again; and, taking it indoors to the light, I discovered that the bird was a hen Sky-Lark whose tail had been pulled out and had half grown again. I could not help laughing, but I have never bought a bird from that man since.

The egg figured on the plate is from Mr. A. B. Farn's collection.

Family—*ALAUDIDÆ*.

THE CRESTED LARK.

Alauda cristata, LINN.

RESIDENT in Central and Southern Europe, its northern range extending up to 60° N. lat. in Russia and Sweden; North Africa, southwards to Senegambia and the Niger on the west coast, and from Abyssinia eastwards, through Arabia and India, to North China.

To Great Britain this species appears to be a rare straggler: most examples have been obtained in Cornwall, one in summer and the four others in autumn and winter; one is said to have been caught in the Isle of Wight, and two have been obtained in Sussex. The statements—that one has been taken from a nest in the Isle of Wight, and that it has occurred in Ireland, require verification.* It is also reported from Blackheath and Macclesfield.

There are many slight climatic modifications of this Lark, all of which have been regarded either as species or subspecies. The typical form has the upper parts greyish brown, with darker centres to the feathers, excepting on the rump and upper tail-coverts, which are sandy brown; the long pointed crest has the centres of the feathers darker than elsewhere; the bastard primary is large; the tail-feathers are dark brown, with greyish margins, excepting the outermost feather which is pale brown with buff outer web, and the second feather which has a sandy buff margin to the outer web; the superciliary stripe is broad, extending far backwards from above the eye, and is buffish white; the under parts are principally buffish white, deeper on the flanks and thighs; sides of throat spotted with blackish brown; breast spotted and streaked with dark brown; flanks slightly streaked; bill brown, under mandible paler; feet fleshy horn brown; iris hazel. The female has a shorter crest, and is rather smaller than the male. The young are more rufescent and have blackish subterminal bars and pale buff tips to the feathers of the upper parts. After the autumn moult the plumage of the Crested Lark becomes

* If all the stories respecting the nesting of birds in the Isle of Wight are to be accepted, it must be a very wonderful place; not only in birds but in insects it is reputed to be exceedingly rich in rarities: I once had a small New Zealand Moth shown to me by a man who assured me that he had caught it near Ventnor.



CRESTED LARK ♂

more sandy in tint, and the dark centres to the feathers are less conspicuous.

Col. Irby, in his "Ornithology of the Straits of Gibraltar" gives the following account of this species:—"The Crested Lark is one of the most abundant birds both in Morocco and Andalusia, though never seen in any great numbers together. They are distributed in pairs on every road-track and open plain, often at intervals of only some twenty yards. Excessively tame and fearless, they have acquired the name of *Carretera*, from their habit of frequenting roads, to which they resort as much on account of the horse and mule-dung, at which they are to be seen pecking, as for the purpose of dusting themselves; and they are often to be noticed on the sea-shore, running about like a Sanderling within a yard of the water.

They have no song worthy of the name, and are altogether rather vulgar and uninteresting birds. This species is one of those which I could not detect migrating in the slightest degree.

The Crested Lark usually commences to lay about the 20th of April, placing the nest in some tuft of grass or under shelter of a small stone or clod of earth—constructing it, like those of other Larks, with bits of grass, bents, etc., lined with hair."

Howard Saunders says:—"The nest, often commenced early in March, is usually placed in some such depression of the dry ground as a hoof-print, or amongst herbage, but sometimes on an old wall or bank of earth, or even on the ridge of a low thatched shed in the fields; the materials employed being dry grass and roots. The eggs, four to five in number, vary from greyish-white distinctly spotted with brown and violet grey, to greenish-grey mottled with olive brown: average measurements '95 by '68 in. Incubation, in which the male takes part, lasts a fortnight. The Crested Lark is a tame and conspicuous bird, frequenting sandy roads—in which it is fond of dusting itself—and running with great rapidity, while I have often seen it glide beneath a horse when at a slow walk, rather than take wing. Its flight is undulating and resembles that of the Wood-Lark. It is not gregarious, and is generally seen singly, or in pairs and family parties. The short but rather liquid and melodious song of the male is generally uttered on the ground, though often during a short flight, and occasionally from a bush; the note may be syllabled as 'coo-hai.' The young are fed on insects and their larvæ, but seeds and grain form the principal food of this species, and in snowy weather it may be seen examining horse droppings, etc." *Manual of British Birds*, p. 244.

Dixon says that in Algeria he "often saw this bird soar into the air for

perhaps a hundred yards or so, all the time warbling its simple song."

Speaking of it in India, Theobald describes the nest as "a little grass in a hole in the ground, with four ovato-pyriform yellowish white eggs uniformly freckled with greyish yellow and neutral tint."

Jerdon says that the 'Chendul' "feeds on various insects, chiefly grasshoppers, and in default of this food on grains and seeds." In his "Birds of India," Vol. II, p. 437, he gives the following account:—"It is not known in Bengal nor in the Himalayas, nor in the countries to the eastwards. It prefers dry open sandy plains, or ploughed land, to grass, wet meadows, or cultivation. It rises in the air singing, though not so high as *A. gulgula*,* nor is its song so fine. In winter it may be seen in small parties, or sometimes in considerable flocks, occasionally on roads and barren places."

From what Jerdon says, the 'Chendul' as the Hindoos call the species is much esteemed on account of its song (although Seebohm states that the latter is short and monotonous, not unlike that of a Corn-Bunting) he observes: "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, etc., etc."

Herr Rausch speaks of the Crested Lark as an original songster, but considers that, as regards its adult wild song it is an insignificant and almost worthless singer. Perhaps Herr Rausch, like Seebohm, may only have heard the bird sing like a Corn-Bunting, and it is quite possible that the different races of the species vary considerably as regards the excellence of their performance. This we know to be the case with *Pycnonotus leucotis* the Persian specimens of which have a fine variable liquid song, whereas the smaller examples found in N.W. India are very poor singers. Judging by Jerdon's account the Crested Lark of India can be little inferior to the Mongolian or Tientsin Lark, the song of which, though it contains some harsh scolding notes, is exceedingly amusing and in some of its phrases really fine. My advice to aviculturists would therefore be, not to accept Mr. Rausch's decision as final; but, if they desire to keep the Crested Lark, import it from India, or even from Peking, where according to P re David (P.Z.S. 1871, p. 390) it is resident and common, as it also is in Mongolia.

In India this bird, according to Jerdon (cf. Cat. Birds, E. Ind. Comp.,

* An eastern race of the Sky-Lark.—A.G.B.



SHORT-TOED LARK ♂

Vol. II, p. 466) "feeds on various insects, chiefly grasshoppers, and in default of this food, on grain and seeds." This supports the statement made by Seebohm:—"The food of the Crested Lark does not differ from that of its congeners. In the spring and summer it is chiefly composed of insects and larvæ, and in the autumn and winter of various small seeds and grain." It is exactly what one would expect. In captivity it should have soft food, seeds (Canary and millet) also insects, mealworms, etc.

Family—*ALAUDIDÆ*.

THE SHORT-TOED LARK.

Calandrella brachydactyla, LEISL.

HOWARD SAUNDERS admits that this species has "been justifiably placed in the genus *Calandrella*, characterized by the absence of crest, a stout conical bill, straight and short hind-toe, and infinitesimal bastard primary." I therefore see no advantage in continuing to call it *Alauda*.

Inhabits Southern Europe in summer and is resident in Spain and Portugal, as well as the Canaries and North-west Africa; in winter it occurs in North-east Africa and southwards as far as Abyssinia; eastwards it breeds in Persia, Turkestan, and North-west India.

To Great Britain the Short-toed Lark is a rare straggler, about nine authenticated instances of its occurrence having been recorded, six of them in autumn, one in April, and one in July: of these one was obtained on the Scilly Islands, one in Hampshire, four in Sussex, one in Cambridge, and one in Shropshire: in 1890 one caught near Portsmouth was exhibited at the Crystal Palace.

The general colouring of the male in breeding-plumage is pale rufous or

sandy brown, with dark brown centres to the feathers; the central tail-feathers are smoky brown, the remainder blackish, but the two outer feathers have pale buffish patches, similar to the white patches on the tail of the Sky-Lark; a white superciliary streak; under parts white, suffused with pale buff on the breast and flanks; a few dark streaks on the sides of the neck: bill dark brown, paler below; feet yellowish horn-brown; iris hazel. The female resembles the male in plumage. The young have all the feathers of the upper parts tipped and bordered with buff. After the autumn moult the plumage is redder.

Colonel Irby (Ornithology of the Straits of Gibraltar) says:—"On the Andalusian side of the Straits the spring arrival commences about the middle of March, and the passage continues for a month later, at which time nests with eggs may be found near Gibraltar. Excessively abundant, as above stated, in the same situations as the Calandra; they prefer fallow ground, nesting under shelter of some clod or in any slight depression of the ground. I never could find the nest, except by putting the old bird off."

Howard Saunders says:—"During the breeding-season the bird frequents dry and sandy soil, and plains where the herbage is somewhat scanty; while its tameness is such as often to cause difficulty in shooting a specimen for identification without blowing it to pieces, and I have seen a bird cut down with a whip in the road. The male utters his short and feeble song while perched on some clod or low wall, or during a brief, undulating, and somewhat jerky flight. In autumn and winter large flocks are formed."

The season of nidification, as Seebohm has pointed out, of the Short-toed Lark varies, commencing at dates decided by the conditions of climate in the countries where it spends its summer; in the warmer regions it begins as early as April, whilst in colder countries nesting operations may be delayed until June.

The nest, like that of all its allies, is in a slight depression on the ground, sometimes barely sheltered by irregularities of the soil, but frequently as with other Larks, placed amongst grass or partly sheltered by a bush. It is of the ordinary type, and consists of grass-bents, rootlets, down, and sometimes feathers with a few hairs as a finish to the lining.

The eggs as well as the nest are very similar to those of our Sky-Lark, excepting in their inferior size, and (as is the case with that bird) a nest will sometimes only contain a clutch of three; but I have always considered it probable, when the normal number of eggs is from four to five, as with the Short-toed and Sky-Larks, that the bird has been disturbed in its first

nest and has had to build again in a hurry. In colouring, the eggs are creamy-whitish freely sprinkled with pale smoky-brown spots and with greyer shell-spots; these markings are more or less dense in different specimens, sometimes almost concealing the ground-tint and often with a zone of heavier marking near the larger end; but these variations are common to all the Larks and might almost be taken for granted.

Jerdon (cf *Cat. Birds, E. I. Comp.*, Vol. II, p. 473) observes:—"This bird appears on the table-land of Southern India in October. It associates in vast flocks, frequenting the bare grass-downs, and is fond of damp spots, as at the edge of tanks, etc.; it also frequents grain-fields, and almost always retires to them for shelter during the heat of the day; from whence it does not in general issue again till next morning."

In his "*Birds of India*," Vol. II, p. 427, he adds the following facts:—"It feeds almost entirely on seeds; both runs and hops on the ground, and has a call-note like that of the real 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, or taken by bird-lime, or shot; for when feeding, they 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, and are really very excellent eating, and they are always 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 also in Northern Africa, placing their nest on the ground at the edge of a scrub or bush, and laying four to six eggs, usually marked with grey and rufous spots, but sometimes, it is said, unspotted yellow brown."

It is probable that, as with all the Larks, insects form a large proportion of this bird's food in summer and seed in winter.

Herr Gätke says (*The Birds of Heligoland*, pp. 359-360):—"Formerly, hardly a year passed without this pretty little Lark being observed here at the end of May or June, even though only in very solitary instances.

In former years, when more favourable conditions of weather prevailed, the bird was seen pretty frequently in autumn, sometimes even as late as November. During the time I have been collecting, it has passed through my hands about thirty times; and besides that, it has been seen and heard, without being killed, on an equal number of occasions.

“I kept one of these pretty little birds over a year in a cage; it had been momentarily stunned by a very light shot which had grazed the back of its head, but recovered very soon, and became extraordinarily tame. It underwent a complete moult in the autumn, managed to get safely through the winter, and sang heartily during the spring; but died, much to my regret, at the beginning of the summer. Its song was much more like that of a Bunting than a Sky-Lark. I fed it on Canary-seed, which, like a Lapland Bunting in a cage hanging by its side, it used to peel before consuming;* a Shore-Lark on the other hand, which I had had for over ten years in a cage, never did this.”

Family—ALAUDIDÆ.

THE WHITE-WINGED LARK.

Melanocorypha sibirica, GMEL.

THIS species is admitted into the British list in consequence of a female having been captured alive near Brighton on November 22nd, 1869, and exhibited by Mr. G. Dawson Rowley at a meeting of the Zoological Society held Jan. 27th, 1870. I quite agree with Seebohm that it “has not the slightest claim to be considered a British bird.” It is a common Russian species; and, by anyone acquainted with the allied Mongolian Lark, is exceedingly likely to have been brought to England, and liberated when the discovery was made that (being a female) it had no song. Had it been a male it would probably never have been seen at large. The allied Calandra Lark, which is a well-known cage bird, has quite as much claim, in my opinion, to be regarded as British.

* This should have been translated ‘husk’ (not peel).—A.G.B.



SHORE-LARK ♀ ♂

Family—*ALAUDIDÆ*.

THE SHORE-LARK.

Otocorys alpestris, LINN.

BREEDS within the Arctic Circle beyond the limits of forest-growth in the northern portions of the Old and New Worlds; on migration it occurs throughout the greater part of Europe, though hitherto not recorded from Spain and Portugal; eastwards it is met with in Turkestan, S. Siberia, and N. China.

To Great Britain this bird was at one time only an irregular visitor, but since the winter of 1869-70 when there was a considerable immigration to our eastern coasts, its appearance in autumn and winter has been regular; according to Mr. Aplin specimens have visited us on the northward migration in spring as late as April 22nd. On the eastern coast of Scotland it has been met with as far north as St. Andrews.

The adult male of the Shore-Lark has the forehead, a stripe partly enclosing the eye and ear-coverts and extending over the sides of neck and uniting with a patch over the chin and fore-throat creamy-white; the front of the crown and an erectile tuft on each side of the crown, the lores, cheeks and a belt across the lower throat and breast, black; ear-coverts creamy, tipped with brown; nape, mantle, lesser wing-coverts, and upper tail-coverts vinaceous brown; wing-coverts tipped with white; quills smoky brown, the first primary white externally, the others with ashy margins; feathers of the back greyish brown with black centres to the feathers; two central tail-feathers coloured like those of the back, the remainder black, the outer feather with white margin to the outer web; remainder of under parts creamy white, becoming vinous on the breast, flanks, and thighs; flanks streaked with brown; bill and feet black; iris deep brown. The female is smaller, duller, with less black and no erectile tufts on the head, but with dark centres to all the feathers of the upper parts. Young males resemble the winter plumage of the female, but young females show no yellow on the forehead and have black bases to the feathers of the crown. After the autumn moult adult birds have yellow margins to the feathers on the head and nape.

In summer the Shore-Lark inhabits the dry sandy plains and rocky hills of the tundras only approaching the rivers to drink. Seebohm says that it seems to be entirely a ground bird, and he never saw it either on a tree or a bush.

Everyone speaks well of the song of the Shore-Lark, for although it is short and not very varied it is full of melody. It is sung by the bird not only when on the earth—but, as with the Sky-Lark, much more frequently when the bird is soaring in the air. At such times it is said to atone for the brevity of its song by repeating it over and over again: this is practically what *Alauda arvensis* does if you take the trouble to listen to him attentively. The call-note is described as loud and clear.

As is the case with all our Larks this species forms its nest in a slight depression in the earth or among stones; sometimes entirely unprotected, but at other times under the shelter of rushes. The nest, owing to the country where it is constructed, naturally differs somewhat in its materials from those of the Larks with which we are familiar in England; externally it is similar, being formed of dead grasses, bents, etc.; but internally it is lined with willow-down and reindeer hair. The eggs number from four to five, rarely three (the latter probably not representing a full clutch) and chiefly differ from those of the Sky-Lark in their generally more olive tint.

To show how easily this apparently conspicuous species may be overlooked, Mr. Fenwick Hole in the "Field" for Nov. 19th, 1864, recorded the fact of his shooting a pair, of which he only secured one, under the impression that they were common Sky-Larks. He says "I was only led to shoot at them at all from a desire to try my big duck gun at such small objects on the ground; you may therefore judge of my surprise, when picking up the dead specimen, at my double stroke of good luck—firstly, chancing to alight on such a rarity; and secondly, firing at it at all."

Speaking of three specimens shot out of a flock of about twenty at Lowestoft in February, 1865, the late Henry Stevenson says:—"The contents of their crops * * * appeared to consist of seeds of *Polygonaceæ* and the chrysalis of some small insect."

The food of this Lark consists very largely of seeds, although in the summer insects, their larvæ, and pupæ, as well (doubtless) as spiders are eaten; it also devours small mollusca and crustacea cast up on the sea-shore.

Being both tame, beautiful, and musical, the Shore-Lark is often caged; and of late years, it has frequently been exhibited at bird-shows.

Herr Gätke observes:—"On account of its pleasing appearance I have kept one of these birds for years in a cage. The song, though by no means loud, is

nevertheless agreeably Lark-like; its call-note, with which it cheerfully greets me as soon as it hears my step, two large rooms off, is loud and mellow. Most of the birds are peevish in captivity, and tire themselves by impetuously fluttering against and shaking the bars of their cage; this is probably due to the fact of one's not being able to avoid selecting the prettily-marked old males for cage-birds. My example, however, which I have kept now for more than ten years, is so tame that it will take flies from the finger, and even allows me to put my hand into the cage and softly stroke its back with my finger.

In the spring this bird will accept so-called earwigs, and in the summer flies, but rejects both these insects as autumn approaches. Small and moderately sized moths are always acceptable, and spiders are received with the utmost readiness at all times of the year. Its staple food, however, is Canary-seed, and as much green food as is procurable. Sustained in this manner, the bird keeps in excellent condition, renewing its plumage every autumn to such perfection that it is in no way inferior to a bird living in a state of nature."

This is a point which I have always insisted upon, with regard to the treatment of Larks—To keep them in condition the grass- and other seed which they freely eat when wild, must be represented by Canary-seed: they will eat millet, but they undoubtedly prefer Canary, for if the two seeds are mixed together and supplied in one pot, the Canary is all consumed before the millet is touched. It is also no uncommon thing for a Lark to husk every seed before swallowing it; this is done either by fixing it in a convenient crevice and hammering it with the end of the bill, or by giving it two or three blows in the feeding trough; but a hungry Lark swallows it with the husk on, and probably rejects it as a pellet later, as most insectivorous birds do.

When one considers that, during the winter, Larks would be simply starved to death if their life depended upon insects; and consequently that they then subsist almost entirely upon seeds of weeds or grain; it becomes evident that—to feed them in captivity solely on soaked ants' cocoons, yolk of egg, and mealworms, is in the highest degree unnatural.

To obtain good singers of any of the Larks you may either hand-rear them, purchase them when recently fledged, that is as "branchers" (the bird-catcher's term for young Larks) or catch them when fully adult; it matters very little, only hand-reared birds and branchers will be tamer at first than adults (although even these become perfectly tame in a few months) and, in addition to their natural song, will pick up parts of the songs of other birds.

ADDENDA.

Emberiza melanocephala, p. 100.—I understand, from a letter received Feb. 6th, from Mr. W. C. J. Ruskin Butterfield, of St. Leonards, that, among some birds in the possession of Mr. Daniel Francis, he recently recognised an example of this species. It was caught in an exhausted condition by one of the Coastguardsmen at Bexhill-on-sea, on Nov. 3rd, 1894. Mr. Butterfield also calls my attention to the occurrence of the large race of the Bullfinch in Yorkshire in 1894; but, as I do not consider *P. major* can ever with certainty be distinguished from large examples of our familiar Bullfinch, I did not think the fact worthy of special notice. It is quite possible that these so-called 'Russian Bullfinches' may have been the produce of typical English ones, just as my frequently so-called 'Russian Goldfinches' undoubtedly were born of Kentish parents.

In completing the Passeres it may perhaps be as well to mention that single individuals of one or two species not previously recorded have recently been shot upon our coasts, such as *Proregulus viridanus*, the Greenish Willow Warbler, obtained in Lincolnshire, on Sept. 5th, 1896, and *Phylloscopus proregulus*, Pallas' Willow Warbler, obtained in Norfolk, on Oct. 31st, 1896. It seems very doubtful whether either of these species will ever earn a fair title to the name of British Birds.

END OF VOLUME TWO.

