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GOLDFINCH & CANARY MULE.

CHAMBER AND CAGE BIRDS:

THEIR MANAGEMENT, HABITS, DISEASES, BREEDING,
AND THE METHODS OF TAKING THEM.

TRANSLATED FROM THE LAST GERMAN EDITION
OF DR. BECHSTEIN'S CHAMBER BIRDS,

By W. E. SHUCKARD,
AUTHOR OF "ELEMENTS OF BRITISH ENTOMOLOGY," ETC.

A NEW EDITION;

REVISED AND PARTLY RE-WRITTEN, AND THE POINTS OF SHOW BIRDS DESCRIBED.



By GEO. J. BARNESBY,
JUDGE OF SHOW BIRDS, DERBY.



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PREFACE.

BECHSTEIN'S "Chamber Birds" have for many years enjoyed a world-wide reputation, having been translated into every language having a literature, and into our own language it has been translated many times. The present edition has had the advantage of being revised by Mr. Barnesby, one of the most eminent of our breeders of fancy birds and judges of their merit, whose own remarks we append.

"What can be more interesting and innocent," he says, "than a love for cage-birds? As a domestic enjoyment, a fondness for these sweet warblers often assists in developing kindly feelings and habits of watchful attention in the members of a family, which not only tend to embrace a wider range and a higher scope, but culminates in the formation of that which renders home both cheerful and happy." "To me," says Wilson, "it appears that of all inferior creatures Heaven seems to have intended birds as the most cheerful associates of man." Whatever tends to direct the attention and to employ the mind in providing for the pleasure and enjoyment of others, is useful discipline. The care of birds does this in a

remarkable degree. What joy Wordsworth must have felt when he wrote—

“ The birds around me hopped and played,
Their thoughts I cannot measure ;
But the least motion which they made
It seemed a thrill of pleasure.”

That there is much delight to be derived from the study of cage-birds, which of late years has become more of a science, especially so far as the treatment and moulting of them are concerned, there is evident reason for believing. To gain a thorough knowledge of bird-keeping, breeding, and general treatment, practical observation and love for the birds are requisite.

Twenty-five years' attention and devotion to the bird cause—no short period in one's lifetime—have furnished me with varied experience respecting the Canary and other song-birds. Of late years much more attention has been paid to this portion of the bird creation, judging from the vast number of exhibitors who have patronised the numerous exhibitions held in various parts of the country. The increased and still growing interest taken in the charming songsters that grace our homes, has led to the desire for still greater reform and improvement in the mode of judging their merits. Bird fanciers, especially, have felt the desirability of forming associations for the purpose of watching over all matters tending to advance the Canary cause in particular, by establishing rules, and also proper classes in

which the birds could be entered for show, by the adoption of standard points for the respective breeds to be judged, and the appointing of authorised and acknowledged men of experience to adjudicate thereon. The bird cause thus far has not received the attention it deserves. Having for the past twelve years been called upon to officiate as a judge of birds at many of the most important shows, and having some few years back also published a pamphlet containing, besides other information, the "Points of Excellence of different breeds of the Canary and Mules," I venture to hope the issuing of the present treatise, relating to the treatment, breeding, general management, moulting, the points of excellence, and other valuable information suitable to Canary fanciers, will assist and guide them in their endeavours to further advance the cause I have at heart.

A PLEA FOR THE BIRDS.

THE merciless slaughter of birds which takes place annually, caused in a great measure through poisoned grain and the freaks of "hedgoppers," demands some attention. I will just advert to the obligations we are under to our winged inhabitants in helping us to rid our trees, gardens, and crops, of insects and weeds; for many birds have special fancies for them. The Goldfinch has a liking for the thistle; other birds devour the seeds of plantain, groundsel, chickweed, and shepherd's-purse, with avidity. The Linnet has a great taste for charlock or skally, which, in the north especially, grows thickly. Some idea of the benefits they confer on the husbandman may be gained from the follow-

ing remarks :—" We recollect, one December, observing two large flocks of Grey Linnets, of above 200 each, frequenting for several days some turnip-fields, which were very full of charlock run to seed, and the ripe pods of which were just bursting to cast forth their grain. The Linnets were indefatigably engaged in picking up the seeds of this troublesome weed ; if each bird devoured only 100 seeds daily, then their united force destroyed each day 40,000 charlock seeds."

The myriads of insects devoured by birds is really astounding. A writer in the *Journal of Agriculture*, remarks that :—" The Hedge-Sparrow is a noted foe to insects, and marvellously clears orchards and thickets of caterpillars, rids plants of the aphides which suck their sap ; and, during winter, eats millions of their eggs. The German naturalist Glöger estimates that it must destroy 200,000 in a year. And M. Girardeau, by direct experiment, has proved that in twenty-one days, the period required by the Hedge-Sparrows to rear their young, a brood of these birds consumed 45,000 caterpillars ; and this bird, fortunately for agriculture, breeds thrice a-year."

The pleasure and benefit derived from birds in other respects ought to convince us that by sparing their lives we are providing for our own enjoyment.

GEO. J. BARNESBY.

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SECTION I.

BY CHAMBER BIRDS we understand such as are kept in rooms for pleasure and amusement, usually selected for the charms of their song or the beauty of their plumage, although it is not to be denied that both naturalists and fanciers are likewise induced by other causes to cherish these feathered creatures; their vivacity entertains him, and he delights in the study of their

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peculiar habits. For both purposes it is especially desirable that he should be able to distinguish the sexes, as the male is greatly preferred for his powers of song. I shall, therefore, in sketching this history of chamber birds, note particularly the characteristics which distinguish the male from the female. As all birds are not susceptible of being tamed, and do not harmonise with the attempt, the number of birds which can be enumerated in this work, must necessarily fall far short of the aggregate number of the entire race.

SECTION II.—OF THE VOICE AND SONG OF BIRDS.

Every species of bird has its own peculiar notes, the variations of which conspicuously distinguish them from all other animals; they are thereby capable of communicating to each other, if not indiscriminately throughout the entire race, yet within the compass of their own genera, or, at least, of their own species, the expression of all their emotions and wants.

Any person but slightly familiar with the study of nature is aware that the expression of fear and proximate danger is a cry universally comprehended; for if even uttered by the Wren it is understood by the Turkey, and if proceeding from the latter, the former takes alarm. The bird which first perceives a bird of prey excites, by its own peculiar accent of warning, the attention of all others in its immediate vicinity, cautioning them to be on the alert and to conceal themselves as speedily as possible. As soon as the Titmouse utters its timid *Iss!* (and this it frequently does in mere mockery, as may be observed when in confinement,) that instant the whole wood is suddenly stilled, and every bird is aroused to detect its approaching enemy, or hastens, if this warning indicates distress, to yield its succour. This is an observation which bird-catchers take material advantage of: they construct a hut, and place in front of it an owl, or other

bird of prey, smearing every twig and branch in its vicinity with birdlime, and then imitate the anxious cry of some other bird—for instance, that of the Jay or Pie, these being the most universally distributed—knowing that every bird, both great and small, which hears it, will flock to its assistance, and thus be caught.

Equally comprehensible, if not to all, yet to the majority of birds, are the accents of joy and pleasure whereby they excite in each other sensations of enjoyment. This delight is not only expressed in the ordinary song of the bird, stimulated by which, a whole wood or aviary is sometimes observed to strike up its jubilant notes; it is also excited by means of the solitary and peculiar tones of several species.

In the autumn and the early spring we meet with multitudes of birds, in hedges and bushes, differing considerably in genera and species, which seem to delight each other by their universal chirp. Within a chamber any noise, loud speaking, or instrumental music especially, will excite birds to sing; but in the woods and fields this has a contrary effect, for it then becomes the means of scaring them.

Many different genera appear to have a facility of communicating together. Thus, for instance, Ravens, Crows, Daws, and similar birds have their various calls, and approach each other when necessary,—as during their migrations. A bird-catcher may thus secure, by the call of the Yellow Bunting, either the Foolish Bunting, Ortolan Bunting, Snow Bunting, or Reed Bunting. He may also capture the Mountain Finch by the call of the Chaffinch; as well as the lesser Redpole and the Citril by the call-note of the Siskin.

Lastly, every bird is endowed by nature, if not with an aptitude for song, at least with some distinct notes whereby it can express its desires, not merely to its own, but to the opposite sex also. This is accomplished either by means of single notes, or by one or a succession of several melodies;

the one is named the call-note of the bird, and the other its song. In many the call-note varies according to the varying emotion or want, in others it is uniform. Thus, the Chaffinch in its migrations calls *yack ! yack !* In the expression of joy, a solitary *fink ! fink !* When excited with anger, a rapid *fink ! fink ! fink !* And in sorrow or in tenderness, *treef ! treef !* Whereas the Carrion Crow at all times utters only *grahb ! grahb !* and expresses the difference of its emotions in the slow or rapid succession only of this cry.

The song of birds is always, if not the expression of love, at least that of pleasure. Thus, the Nightingale sings only as long as pairing time or hatching lasts, and is silent as soon as it is compelled to feed its young ; whereas, the Starling, Goldfinch, and Canary sing throughout the year, and only cease when moulting dejects them.

Song appears to be the especial privilege of the male, whereby it either attracts the female or seeks to obtain her love, for there are but few females which produce notes similar to the song of the male, and these are almost exclusively bound to be in a state of widowhood. They listen attentively, in fact, to the greater or lesser perfection or charm of the song of the male, to bestow upon that one their love whom they esteem the most accomplished singer. Thus, the most sprightly hen Canary selects the best singer ; and the Chaffinch, when at liberty, will choose from among a hundred males the one whose song best pleases her.

Chamber birds, as I have before remarked, delight us chiefly by their song, and this is divided into the natural and the acquired. The former usually differs from the latter as much as the birds themselves ; and I cannot recall to mind any native bird which has completely acquired the peculiar song of any other species, excepting the three species of Shrikes described : these birds, in consequence of their very retentive memory, can imitate faithfully the song of all

the birds in their vicinity ; but with these they so peculiarly intermix their own discordant notes, that a connoisseur at once detects whether it is the Skylark itself that is singing, or the Wood Chat imitating it.

The acquired song of chamber birds consists partly of the borrowed song of other birds, which young birds, especially, learn in aviaries ; or of such as are whistled or played to them upon flutes and organs. Almost all singing birds, if not transferred too young from the nest to the chamber, acquire some bars of such melodies when daily played or whistled to them, but only such as are very tractable wholly abandon their native notes, to sing, purely and without any intermixture, those which they are taught. Thus, the young Goldfinch will learn some of the bars whistled to the Bullfinch ; but he is never able to pipe the song so perfectly as the latter. The reason does not lie, as many suppose, in the greater or lesser ductility of the organs, but in their powers of memory. Those which have not a cleft tongue like singing birds, but are furnished with an entire broad fleshy one, by which they are enabled to imitate articulate sounds, are said to speak. Thus, many kinds of Parrots speak ; the Jay, also, and several others utter articulate words.

Bird-catchers and bird-fanciers classify the song of birds thus :—The bird warbles or *quavers*, they say, when it repeats the strophes, or solitary notes of its song, in the same order of succession ; such is the song of the Nightingale and the Chaffinch. Birds *sing* when, without respect to any particular order, they carol out their twittering or chirping notes, intermixed with louder ones ; as is the case with the Siskin and the Redbreast. And lastly, they *pipe* when their song consists of distinct round flute-like tones ; the Linnet pipes, and also the instructed Bullfinch.

Some birds sing the whole day, others only in the morning, and again others only in the evening, or, indeed, during the

night. Some like society whilst singing, others, on the contrary, desire solitude. The Nightingale, for instance, quavers, by preference, during the stillness of the evening or in the night, and is comparatively silent during the day; and it would seem, in fact, that the queen of singing birds, aware of her pre-eminence, does not wish her beautiful song to be drowned in the busy clamour of the day and the mixed carollings and cries of other birds, as if her instinct taught her thus the better to feel and enjoy it. It is remarkable that all birds, which do not sing uninterruptedly the whole year through, as the Redbreast, the Siskin, the Goldfinch, &c., must be taught their songs again after moulting, or if it be merely the song of love and pleasure, upon the renewal of spring. But this, according to my observation, is no distinct learning, but only a softening of the organ so as to render it again efficient for the reproduction of its usual notes. This recording, as it is called, consists properly only of a kind of twittering and chirping, which has no sort of affinity to the ordinary notes of the bird; and whoever observes attentively will find, that by this exercise, the throat is, by degrees, enabled to reproduce the notes which form the distinct song of the species. This, therefore, does not imply any deficiency of memory; but, if we may hazard the expression, a seasonal defect of the *larynx*. The Chaffinch thus chirps for almost two months—sometimes longer—before it is able to reproduce its note perfectly; and the Nightingale modulates indistinctly the bars of his song for a similar period before he warbles forth his exquisite tune.

The reason why one bird sings stronger and better than another is to be deduced from the relative size and strength of the larynx; from the same cause females do not usually sing, their larynx not being so powerfully organized as that of the male. The Nightingale has, of all singing birds, the most muscular larynx. But as the organization of the human

body may be perfected by exercise and practice, so is it also in birds; and birds of the same species may, by means of nutritious food and care, and the clamour in which they are brought up, have the larynx so distended and strengthened by the practice thus continually given it, that their song will be considerably improved. This is daily observed in Chaffinches, Linnets, and Bullfinches which are kept in an aviary.

I must not omit one remark made already by Barrington,* that the wild or natural song of a bird might be improved by more mixing with different species; for instance, if Linnets and Sparrows were reared with such as Nightingales and Canaries, and then set at liberty, their song would partake of some of the excellences of their companions. Birds thus brought up with care and attention have nothing to attend to but their singing, which induces them to exert themselves to obtain a partner. We might also teach such birds as can bear our climate a song different from their own, by enclosing them with wire gauze in an open place, and suspending near them uncoupled Canary birds and Nightingales which sing at all times; but that this can be done in a chamber, as is asserted by Dr. Gainborg,† is opposed to my own experience. For, in the first place, it would be possible only with such birds as winter with us, and dwell in the vicinity of our houses, as Sparrows; but these, usually, are so deficient in capacity as to learn no song thoroughly. Secondly, birds, if intended to acquire the peculiar song of any other species, should be removed as early as possible out of the nest, that they may not have learnt to chirp their native notes, when their sophistication, by the peculiar food and atmosphere of the chamber, would render them unable

* In the *Phil. Trans.*, vol. 63; 1773.

† *How can we improve the Song of Our Wild Birds?* Copenhagen, 1800.

when afterwards enlarged, to support themselves, without at all adverting to their inadequacy to the labour of migration. Thirdly, did we cause such birds to be bred by Canaries, in large and extensive copses, there would, it is true, be no difficulty as regards their food ; but when winter came, being totally unaccustomed to, and ignorant of the call of their parentage, they would not join the flock, and consequently be left behind when these migrated, and destroyed. The surest way to perfect the native wild note of such species, would be to hang out cages filled with accomplished singers, either in a garden, or other place to which Larks, Chaffinches, and their congeners resort and breed. The young which had a good memory would thus acquire, not merely the native song of their parents, but also the improved song of the others. Such an universal improvement, or rather confusion of songs is, however, neither desirable nor practicable. It is, therefore, best to retain birds with an acquired note within the chamber, and there to keep them.

Colonel Montagu, who paid great attention to this subject, was of opinion that the note was innate in each species. "That birds in confinement," he says, "will learn the song of birds they are constantly kept with, there is no doubt ; but then it is constantly blended with that peculiar to the species. In the spring, the very great exertions of the male birds in their vociferous notes are certainly the calls to love, and the peculiar note of each is an unerring mark for each to discover its own species. If a confined bird had learned the song of another, without retaining any part of its natural notes, and was set at liberty, it is probable it would never find a mate of its own species ; and even supposing it did, there is no reason for believing the young of that bird would be destitute of its native notes ; for if nestling birds have no innate notes peculiar to their species, and their song is only learned from the parent bird, how are we to account for the

invariable note each species possesses, when it happens that two different species are bred up in the same bush, or in the contiguous one, or when hatched or fostered by a different species? The males of song birds do not in general search for the female, but, on the contrary, their business in the spring is to perch on some conspicuous spot, breathing out their full and amorous notes, which, by instinct, the female knows, and repairs thither to choose her mate. This is particularly verified with respect to summer birds of passage. The Nightingale, and most of its genus, although timid and shy to a degree, mount aloft, and incessantly pour forth their strains, each seemingly vieing in its lone love-laboured song before the female arrives. No sooner does the female make her appearance than dreadful battles ensue—their notes are changed; their song is sometimes hurried through without the usual grace and elegance; and at other times modulated into a soothing melody. The first we conceive to be a provocation to battle at the appearance of another male; the last, an amorous cadence or courting address. This variety of song only lasts till the female is fixed in her choice, which is in general a few days after her arrival; and if the season is favourable, she soon begins the task allotted to her sex.

“The male no longer exposes himself as before, nor are his songs heard so frequently, or so loud; but while she is searching for a secure place in which to build her nest, he is no less assiduous in attending her with ridiculous gestures, accompanied with peculiarly soft notes. When incubation takes place, the song of the male is again heard, but not so frequently as at first; he never rambles from hearing, and seldom from her sight, and if she leaves the nest, he accompanies her with soft notes of love.

“The continuation of song in caged birds by no means proves it is not occasioned by a stimulus to love; indeed, it is probable that redundancy of animal spirits from plenty of

food and artificial heat may produce the same result, whereas wild birds have it abated by a commerce with the other sex ; —but even in their natural state, birds may be forced to continue their song much longer than usual. A male Redstart made his appearance near my house early in Spring, and soon commenced his love-tuned song. In two days after a female arrived, which for several days the male was continually chasing, emitting soft interrupted notes, accompanied by a chattering noise. This sort of courting lasted for several days. Soon after, the female took possession of a hole in a wall close to my house, where she prepared a nest and deposited six eggs. The male kept at a distance from the nest ; sometimes sung, but not so loud nor so frequently as at first, and never when he approached the nest. When the eggs had been sat on a few days, I caught the female. The male did not miss his mate immediately ; but on the next day he resumed his vociferous calls, and his song became incessant for a week, when I discovered a second female ;—his note immediately changed, and all his actions as before described returned. This experiment has been repeated on the Nightingale with the same result ; and a Golden-crested Wren, who never found another mate, continued his song from the month of May till the latter end of August. On the contrary, another of the same species, who took possession of a fir-tree in my garden, ceased its notes as soon as the young were hatched.”

Mr. Rennie, commenting on this paper, is of opinion that birds sing most frequently from joy and buoyancy of spirits, and not unfrequently in triumphant defiance of rivalry or attack. “I have a Redbreast,” he says, “who will sing out whenever I snap my fingers at him ; and the Sedge-bird sings when a stone is thrown into the bush where he may be.” Syme remarks, “that the notes of soft-billed, birds are finely toned, mellow, and plaintive ; those of the

hard-billed species sprightly, cheerful, and rapid. This difference proceeds from the construction of the larynx: as a large pipe of an organ produces a deeper and more mellow-toned note than a small pipe, so the trachea of the Nightingale, which is wider than that of the Canary, sends forth a deeper and more mellow-toned note. Soft-billed birds also sing more from the lower part of the throat than hard-billed species, which accounts for the soft, round, mellow notes of the Nightingale and other soft-billed birds, as compared with the shrill, sharp, and clear notes of the Canary and other hard-billed birds." Syme proceeds to divide the song of birds into six separate sounds:—*first*, the call-note of the male in spring; *second*, the loud, clear, and fierce notes of defiance; *third*, the soft, tender, full, melodious, love warble; *fourth*, the notes of fear or alarm when danger approaches the nest; *fifth*, the note of alarm, or war-cry, when a bird of prey appears; *sixth*, the note the parent birds utter to their brood, and the chirp or note of the young. The note of the young he also divides into two,—that which they utter while in the nest, and the chirp after they have left it; to which he adds the soft murmuring kind of note emitted by the male while he is feeding the female in the nest, and also by her while receiving the food; all which notes he considers as intelligible only to birds of the same species, although very significant even to a casual observer. "All the notes," he adds, "comprised in the song of birds convey delight to the lover of nature; but the bird-fancier only prizes their love warble and notes of defiance; these notes, and these only, he considers to be their song."

M^rGillivray, who enters largely into the anatomical structure of the organs of tune in birds, describes the trachia as an elastic tube, extremely flexible and contractile, covered with layers of cellular tissue, and accommodating itself to all the motions of the neck. It commences behind the tongue,

extending to opposite the first rib, where at the *syrinx*, as he calls it, or inferior *larynx*, it divides into two *bronchii*. In man and in quadrupeds, the parts are proportionally larger and more complex,—the voice, with all its varieties of tone, being produced by the muscles and cords of the larynx; while in birds it is produced at the lower extremity of the windpipe or *syrinx*, and modulated into notes by the contraction and extension of the *larynx*. In the human larynx the *vocal cords*, which vibrate under the impulse of the air, and thus produce sound, are placed in the *larynx*; but in birds there are no traces of them there, the vibrating membrane being placed in the *syrinx* or lower larynx. Such is the apparatus by which the voice of birds is attuned. The air contained in the lungs and air-cells, passing through the *bronchii*, causes the vocal membranes at their anterior extremity to vibrate, and thus produces sound, which is rendered grave or acute by the relaxation or tension of the parts; and the stream of air thus thrown into vibration is divided, narrowed, or suffered to pass free, by the muscles of the larynx. “The modification of these organs,” he adds, “presented by the different species, are slight, the parts in all I have examined being the same, and with the same number of muscles. The peculiar song of different species must, therefore, depend on circumstances beyond our cognition; for surely no one could imagine the reason that the rook and the hooded crow require as complex an apparatus to produce their unmusical cries as that which the blackbird and nightingale employ in modulating their voices, so as to give rise to those melodies which are so delightful to us; and yet the knife, the needle, and the lens, do not enable us to detect any superior organization in the warbler over the crow.”

SECTION III.—HABITATIONS OF CHAMBER BIRDS.

The space allotted to chamber birds varies according to the object in view, and will also differ according to their nature. All indeed thrive best in an open space, for instance, in a room fitted for the purpose, having small fir trees placed around for their accommodation. These trees should be cut during the winter, or at the latest in March, before the rising of the sap, that they may not cast their leaves. But in so large a place some birds will not sing so well as when their motions are confined within a narrower space, where they have nothing to entertain or occupy them but their song.

Birds which are kept only on account of their beauty, or for their animation and vivacity, are, therefore, kept best in a room where they can run or fly freely about, and where they can resort at night for repose, to a large cage of many compartments, or to one or more fir trees. But larger birds, Thrushes for instance, should have an apartment expressly appropriated to them, as their fæces smell unpleasantly in a dwelling-room, whence also they require constant cleaning. Smaller birds may be allowed to run freely about, having a small tree or a cage hung up for them to roost in. With this degree of liberty, many birds, such as the Hedge-warbler, and the Blue-throated Warbler, sing better than when confined in a cage. But it would be dangerous to enclose a Titmouse or a Shrike with them, for these, although kept constantly supplied with an abundance of food, will frequently take a malicious delight in destroying their companions, for the sake of regaling upon their brain and viscera. Such birds as require to be closely confined that we may thoroughly enjoy the pleasure of their song, also exact care in the choice of their cage, which will materially depend upon the vivacity of their temperament. A Lark must have a larger cage than a Chaffinch, and care must be taken to

observe whether the bird dwells upon the ground, or settles upon a perch. Thus Skylarks require no transverse perch, which is absolutely indispensable to the Nightingale ; but I shall note under the several species the cage best adapted to each.

Cleanliness is in every respect very important in keeping birds, for they are not only thereby preserved for many years, but it keeps them constantly healthy and cheerful ; consequently, it is necessary that the cage should be cleaned at least once a-week, and birds which run about upon the ground, like Wagtails and Skylarks, should have the sand renewed frequently ; the perches also of such as use them should be carefully cleaned. If this be not attended to, the birds will become sickly, and will suffer from lame feet, gout, and other maladies, terminating in the loss of their toes, as all must have experienced who have been accustomed to keep birds, and have neglected cleansing them. In cleaning their feet it is very requisite that the bird should have them dipped in water before the dirt is removed ; for if this be not done, the skin, to which the dirt closely adheres, comes off, with it, which renders the bird not merely lame, but also attracts to the part all the unhealthy humours generated by their unnatural mode of living.

It is in the feet indeed that chamber birds chiefly suffer, and they must be daily examined to see that nothing gets twisted about them, as hair thus twisted will frequently cut very deep, and in the course of a few days that portion of the foot or toe so tied up will dry up and fall off. Very great attention must be paid to this particular circumstance, as scarcely a bird can be preserved for any length of time with all its toes uninjured. It is not to be denied, however, that many birds keep themselves exceedingly clean, whilst others, even of the same genera, are so uncleanly, that they are not only always soiling themselves, but never clean either

their feet, beak, or wings. It is remarkable that to some species of birds cleanliness is habitual, and I have always found the Yellow Bunting, Reed-Bunting, Bullfinch, and Lesser Redpole, and especially the latter, quite models of cleanliness. Many other birds, especially the Larks and warblers, have their feet always covered with dirt, and will rather let their toes rot off than take the trouble to clean them.

Some bird-fanciers take delight in making birds so tame as to be taken upon the hand into the open air, or to be allowed to fly away and come back again upon a call. One of my friends, who has tamed birds as well as otters, adders, foxes, weasels, and martins, so that they would follow him upon a sign given, adopts the following easy and certain method to effect it:—When he wishes to accustom a bird to fly abroad, or to go out with him perched upon his finger or his shoulder, he first teazes it with a soft feather in its cage, which stands open. The bird soon snaps at the feather, and then at his finger, and it will then come out of the cage, and perch upon the extended finger; he immediately strokes it, and lays a few choice morsels before it. These the bird will soon take out of the hand itself. He then commences by familiarising the bird with some peculiar call or whistle, and he carries it, as soon as it permits itself to be grasped in the hand, placed upon his hand or shoulder, from chamber to chamber, taking care to close the doors and windows; he then suffers it to fly, and calls it back again. As soon as it attends to this call without being scared or frightened, he takes it cautiously into the open air, and thus the bird becomes gradually so accustomed to him that he can carry it abroad or into company without its offering to fly away.

Care, however, must be taken not to carry adult birds which have been thus tamed, into the open air, where they can hear their fellows, in the spring or at pairing time, which

are usually the periods when they show indications of resuming their native wildness. Young Linnets, Bullfinches, and Canary birds, may be thus tamed.

The following is a certain method, which I have only very recently become acquainted with, of making all kinds of chamber birds so tame in one or two hours, that they will sit upon the hand, jump from one finger to the other, fly off and come back again, and eat out of the mouth.

A Siskin, Goldfinch, or Chaffinch, is taken (either of which admits of being tamed in half an hour), or a Bullfinch or Nightingale, which it is more difficult and takes longer to do, and in proportion to its wildness, more or less of the inner web of the pinion-feathers is cut away, taking care that the bird shall have sufficient power left to fly from the hand without injury, and the natural shape be not affected. It is then smeared near the nostrils with essence of bergamot (or with any other powerful essential oil), by which it is rendered for a short time so insensible, that it can be subjected to the training, which consists chiefly in accustoming it to sit tranquilly upon the finger, in teaching it to hop from one finger to the other, and in preventing it from flying away. It may, it is true, fly away a few times; but this it will not continue to do, especially if taken into a dark place behind a curtain, and it is thus also secured from the mischance of flying against the walls or window frames, and injuring itself. If it at once sit quiet, the finger of the other hand is held beneath it in front, and it is made to step from one to the other; when, the distance being gradually increased, it will speedily hop to it. This being accomplished, the chief difficulty is over; for if once the bird hop quietly from one finger to the other, it will, on recovering from its insensibility, upon observing that its trainer does it no harm, speedily familiarise itself with all kinds of tricks, such as the firing of pistols, and flying to and fro. If it is wished to

teach it to eat out of the mouth, it must be kept for a time in the cage without food, and then, when sitting upon the finger, its favourite food must be held to it upon the tip of the extended tongue. Hunger soon teaches it to peck. Such tame birds learn also speedily to sing upon the finger. To accomplish this, nothing more is necessary than to induce it by certain tones, motions, and fondling. The Chaffinch will do so, if at its singing time *yack, yack*, is piped to it, and its neck stroked; and the Bullfinch also, if stimulated by friendly looks and a motion to and fro of the upper part of the body. But it is still further requisite to observe in this process of taming, that to be effectual it should be continued for a longer time than is here laid down. May we not presume that the bird will in the course of a few weeks do that freely which has been taught or rather forced upon it in this short space of time?

SECTION IV.—FOOD.

In selecting the food of birds in confinement, it is requisite to do so as far as is practicable, in accordance with the nature of their food in a natural state. This, indeed, is frequently difficult, if not wholly impossible; for who in Europe can furnish us with the seeds which East Indian birds require? Great caution, therefore, must be observed to accustom the birds we keep, or rather their stomachs, by degrees, to the food we are compelled to supply them, although it may not be denied that there are birds also, such as Chaffinches, Yellow Buntings, Thrushes, Wax-Chatterers, &c., which as soon as they are placed in the aviary, eat anything that is given to them. But others are more delicate, and will not eat at all, partly from grief at the loss of their liberty, and partly from not finding the food they have been accustomed to. Great care must, therefore, be taken of

these. If such as are known to be delicate—the majority of singing birds—for instance, commence greedily eating as soon as they are placed in the chamber, it is a bad sign, for they will certainly die, as it implies an unnatural indifference to the loss of their liberty which is almost always deducible from sickness. Those which creep into corners and seem for some hours to pine, it is less necessary to be anxious about; but they must not be disturbed until their ill-humour subsides.

Dr. Meyer, of Offenbach, communicated as follows upon this subject:—"An almost unfailing mode of accustoming birds to their food, which is known to be extremely difficult in many, is thus:—Let the bird be placed in a cage in the room where it is purposed to be kept; give it freely appropriate food and drink in open vessels; leave it thus undisturbed for several hours, then catch it and dip it in fresh water, and again place it in its former cage. It will now sit for some moments thoroughly exhausted, but will soon recover and begin preening itself, and in the course of a few minutes become extremely animated, and then it will certainly eat the food put before it. Doubtless the same cause produces an appetite in birds after bathing as in man."

That I may generalize what it is necessary to observe upon the food of birds, I will class the subject under four heads. CHAMBER BIRDS are,—1. Those which live exclusively upon seeds, as Canary birds, Goldfinches, Siskins, Linnets, Bullfinches, &c. 2. Those which eat both seeds and insects, as Quails, Larks of all species, Yellow Buntings, the various kinds of Wrens (although some of these eat berries). 3. Such as feed upon insects and berries, as Nightingales, Red-breasts, Thrushes, Blackcaps and other of the genus *sylvia*. 4. Such as feed upon insects exclusively, as the Wagtail, the Whitetail, the Blue-throated Warbler, &c. The latter class of birds are the most difficult to rear, and certainly do

not reward us by the melody of their song for the trouble they give; but they may be trained in the following manner:—In the spring flies are collected, which are then found in multitudes in the windows of old buildings; dry these and preserve them in a pot. When no living insects are to be procured, they may be mixed up with the following kind of food, which is to be considered as the general food of delicate birds like the nightingale—ants' eggs, or meal-worms also being occasionally given to them:—A quantity of rolls made of unsalted paste, proportionate to the number of birds, is baked, sufficient to last for three months. These the baker must again rebake, leaving them to grow cold with the oven, when they are easily pounded in a mortar into crumbs, which may be preserved a quarter of a year without acquiring any unpleasant taste. Of these crumbs a large tea-spoonful is taken daily for each bird; about thrice the quantity of warm or cold, but not boiling milk, is poured upon it; this is then mixed and formed into a thick paste, which is chopped fine upon a board. This food can be preserved a long time, even during the hottest weather, without becoming sour; it is never clammy, but remains always dry and crumbly, and is very nutritious. When delicate birds are obtained, dried flies and chopped-up meal-worms are laid over this food, to which the birds speedily accustom themselves, and it is a diet that will preserve them from sickness or premature death.

In tending the First Class of birds, experience has shown that Canary birds feed most freely upon a mixture of Canary seed and crushed hemp and rape seed; the Goldfinch and Siskin, upon poppy seed, occasionally mixed with crushed hemp seed; Linnets and Bullfinches, upon rape seed only, which is prepared by putting as much as will suffice for a day's consumption into a pipkin, covering it over with water in the morning, leaving it to simmer on the hob in winter,

or in the sun in summer ; on the following morning it will be fit for use. All birds require occasionally green food, such as cabbage leaves, salad, or water-cresses, as well as white sand, which it is only necessary to sprinkle on the floor of their cage or other dwelling-place. This is often absolutely indispensable to assist them in their digestion. Of the Second Class, the Wagtails require wheat-meal, and crumbs of roll and bread ; the Larks, barley-meal and chopped cabbage leaves and water-cresses, poppy seed, mixed with bread crumbs, and oats in winter ; the Chaffinches, summer cabbage seed, mixed occasionally in summer with hemp ;* the Yellow Bunting, the food of the Lark, but without the admixture of green food ; the Titmice, hemp, the seed from the cones of pines, bacon oats, meat, bread, roll, the kernels of hazel nuts and walnuts ; and the same may be given to the blue Titmouse, and the Coal-tit. All birds of the first and second class, which feed at large upon seeds, or upon these and insects, can be preserved without difficulty in a chamber, unless they are confined at pairing time ; in that case they will pine and starve through dejection at the loss of their liberty.

Universal specifics always appear to me highly suspicious, nevertheless, I can, with a certainty derived from the experience of my childhood upwards, recommend the use of two kinds of universal food for birds. I call these universal, because all my birds, excepting only those which I keep in cages on account of the excellence of their song, thrive well upon it. This food recommends itself by its cheapness and simplicity, but more particularly by a great saving of time in feeding. The first is thus prepared :—Take a stale and thoroughly-baked roll, dip it in water until completely satu-

* Too much hemp seed is prejudicial to all birds, and must therefore be given them sparingly ; for, when too frequently fed upon it, they become hoarse and blind, and frequently die of consumption.

rated, then press out the milk poured over it, and mix it with more or less, say a proportion of two-thirds of coarse barley-meal, freed entirely from the husk, or in preference coarse wheat-meal. The second kind is this :—Take a Swedish turnip, which can be kept fresh the whole year through, by burying it in sand in the cellar, grate it upon a flat grater, moisten a little roll in water, press the water out again, add to this about two handfuls of the above barley or wheat-meal, and mix altogether with a pestle and mortar.

I have nothing further to observe upon these kinds of food, except that they must be fresh made every day, otherwise they become sour, and the first especially is highly injurious in that state. I use in feeding my birds a long earthenware trough, at which there is room for at least half of the birds of my aviary; and of earthenware, from its being more easily cleansed than wood, and also because wood accelerates the food getting sour. My birds, of which I have always from thirty to forty at large about me, thrive so well upon the first kind of food, that they are not only plump, but also so fully feathered, that their confined mode of living is not observable in them. Almost all birds consume seeds and insects freely, and therefore in my room may be seen Chaffinches, Linnets, Goldfinches, Siskins, Canary birds, Warblers, Red-breasts, Larks of all kinds, Wagtails, Yellow Buntings, Ortolan Buntings, Blue-throated Warblers, Redstarts, &c., eating altogether at the same trough. As an especial treat, hemp, poppy-seeds, and rape-seeds, crumbs of bread and biscuit, as well as ants' eggs, may be given them occasionally. The same food may also be given to birds of the third and fourth classes.

Chamber birds of all kinds should be supplied every morning with fresh water, not only to satisfy their thirst, but, for the majority, to bathe in also. When a great number are confined together in the same apartment, an earthenware

vessel, eight inches long by two inches broad, and as many in depth, formed into several compartments, should be given to them. They cannot get entirely immersed in a vessel of this description, which protects the chamber from dirt and wet. A similar vessel, but without the divisions, may be used, in which to place the general food. In bathing, Larks and Wag-tails alone require a floor of sand.

Those birds which devour everything thrown to them, must be protected against the possibility of having any food given to them that contains pepper, and especially against putrid meat. This is a universal rule of precaution. I will also further observe, that to birds in cages no more must be given than they can eat during the day, otherwise they will accustom themselves to scatter their food out of the vessel, and eat the best first, leaving the worst for subsequent fare; and are consequently to-day well, and drooping to-morrow.

There is but little to be said of the breeding of birds in confinement, as in the majority of cases it is difficult to accomplish, excepting in such as, like Canary birds, can be thoroughly domesticated. It is chiefly requisite to supply birds that are to breed with a still, solitary, and spacious abode; and if possible an entire room in which fir trees are placed that have not lost their leaves. Above all things, it is desirable to make this abode as nearly resemble their natural dwelling-place as possible, that they may be excited to pair. With every care, however, to render their breeding-place like the natural one, it is difficult to supply them with the necessary materials for their nests. This deficiency should be supplied by nests artificially formed of woven cotton, willow, straw, or turned wood, into which they will only have to convey appropriate linings; for this purpose they must be supplied with the hair of animals, and raw silk and cotton wool. Especial care must be taken to furnish them with requisite food, which partly contributes to fit old birds for the

function, and which must be also suited to the varying ages of the reared young.

The precaution requisite to be adopted in the different species of birds, I shall indicate when I treat severally of them.

It is still necessary that I should give here some general directions about the time at which it is desirable to remove young wild birds which it is intended to rear, from the nest. This is when the tail-quills shoot forth, and when all the feathers begin to expand, and before the birds can yet completely open their eyes. If they are removed earlier, their stomachs are too weak to endure the food of the aviary, and if it take place later, it is usually extremely difficult to induce them to open their beaks to receive food with which they are unacquainted. But there are species of birds which can at all times be easily fed and tamed.

SECTION V.—DISEASES OF CAGE BIRDS.

Like all tame animals, birds that are kept in confinement are exposed to more maladies than those which live at large ; * and especially as they are frequently so closely confined in cages that they have scarcely room to move. These maladies are, however, considerably increased by their having all kinds of delicacies, and pastry, sugar, &c., given them, which spoils their stomachs, and usually produces a slow consumption.

The following are the chief maladies which affect birds, and their remedies, the efficiency of which I have proved

* It has been frequently asserted that birds in their natural state are never ill ; but this is unfounded, as I shall have the opportunity of subsequently showing, in many instances. Thus, I have very frequently found the Hedge Warbler thickly covered with *pimples*, especially upon the naked part around the feet and beak.

upon my own. Indeed the variety of birds, as well as the variety of their foods, require also a difference of treatment in their maladies ; and in speaking of each species I shall have occasion to notice how their peculiar diseases may be cured, when the general remedies are not suitable to their nature.

1. **THE PIP.**—This is properly a cold, in which the upper skin of the tongue becomes hardened by fever, and the orifices of the nose are stopped. In large birds, therefore, this skin is separated from the tongue, and in doing this it must be commenced beneath and behind. Thus the pores of the tongue are re-opened and the secretion requisite for digestion can be reproduced, and taste and appetite made to return. A pill, consisting of butter, pepper, and garlic, generally frees them from this complaint. They may also be made to drink pectoral tea made of speedwell. To remove the stoppage of the orifices of the nose, a small feather is drawn through them.

This malady may be detected by the yellow colour at the root of the beak, the ruffled feathers of the head, the frequent opening of the beak, and the dryness of the tongue.

2. **FOR RHEUM,** which is indicated by frequent sneezing and shaking the head, I have found no better remedy, especially when the bird has been valuable to me, and I have not desired nature to work alone, than giving it some drops of pectoral elixir in pectoral tea ; or, when it would not drink of its own accord, to drench it with it. To a sick chicken I have given twenty drops in half a pint of tea.

3. **CONSUMPTION.**—It is usually the result of unnatural food, which interrupts the function of digestion, and it is recognised by the bird inflating and distending itself. The feathers are ruffled, and their flesh dwindles. As yet I know no better remedy than to give to such birds a common spider, which purges them, and to lay in their water a rusted nail, which strengthens the stomach. They must, at the same

time, be fed with the best description of their appropriate food. In birds which will eat vegetables I have always found this, and especially water-cresses, the surest remedy against consumption, or waste. Usually, birds suffering from this malady have a voracious appetite for green food. I fed a Siskin, which had already completely wasted, for three successive days with nothing but water-cresses, and on the fourth it recommenced singing.

4. **CONSTIPATION.**—This malady is detected by observing the birds every moment bending the venter to evacuate, and being unable to do so. If a spider does not cure, the smooth head of a pin must be dipped in linseed oil, and gently thrust into the rectum: such a clyster is usually effective. In birds which eat meal-worms, constipation is removed by squeezing the inside of a meal-worm and filling it with linseed oil and saffron. The bird thus willingly swallows the laxative, and the effect is certain.

5. **DYSENTERY.**—Birds frequently suffer from this before they become accustomed to the food of the aviary, and then generally die. They evacuate at every instant a chalky substance, which usually hangs about the feathers of the vent, and is so acrid that it inflames the rectum and anus. In such cases, occasionally, the internal application of the rust of iron, by placing it in the drinking vessel, and a linseed oil clyster have been serviceable. But I know no positive remedy yet, and have only found that ailing birds may sometimes be saved when food is supplied them which is most appropriate to their nature. Many persons pluck away the feathers of the tail and vent, and rub their hinder parts with fresh butter, and mix the hard-boiled yolk of eggs with their food. But this remedy I have found rarely followed by a successful result.

6. **THE STOPPAGE OF THE FAT-GLANDS, OR THE PIMPLES.**—Every bird has above the rump a gland, which secretes the

oil required by the bird to smear its plumage, to retain them supple, and to prevent moisture passing through. In confinement, birds neglect the frequent pressure of this gland, as they are more rarely exposed to getting wet than when at liberty, and it consequently becomes hardened or inflamed. If the bird is seen sitting and drooping, the tail bending downwards, or if the feathers upon the rump are observed to be ruffled, and that the bird frequently pecks at it, it must be examined to see if the swollen gland be not the cause. This may frequently be softened by the application of very fresh butter, mixed up with a good deal of sugar, the aperture being enlarged by gently distending it with a needle, or a small knife; but a lead salve or rather a salve of litharge of silver, white lead, wax, and olive oil, which must be ordered at an apothecary's, opens it best. The usual remedy is to pierce it with a needle, or to cut off the hardened gland. But this process, whilst it removes the stoppage, it destroys the gland, and birds thus healed usually die at moulting, from wanting the oil requisite to smear the feathers.*

7. EPILEPSY.—A very usual malady of birds. The abundance and goodness of food, and the want of exercise, whereby much and thick blood is produced, are the chief causes of this. I have found no better remedy than to dip birds when thus suffering frequently into ice-cold water, and to pare their nails so closely that some drops of blood start. Also a few drops of olive oil given internally have been serviceable. Large birds may be bled in the veins at the sides of the feet.

* Tscheiner has the following observations upon this malady:—"If this evil have not yet too severely affected the health of the bird, it may be sought to be remedied by puncturing the gland, compressing it frequently, bathing the bird with a syringe, and plucking out some of the feathers of the tail. The accumulated fat is absorbed in the renewal of the feathers, when the gland resumes its natural functions."

But usually birds which suffer from this sickness, die eventually of it.

8. **MOULTING** is also a malady. At this period it is requisite to attend to them very carefully, and to change their diet without giving them delicacies.

9. Birds in confinement also suffer much in their feet. These must be constantly so carefully cleansed, that the skin is not at all ruptured. The large thick scales in front of the legs must also be removed once a-year, but with great precaution.

10. **TYMPANY**.—At one part of the body, or frequently all over it, the skin is puffed up as tense often as a drum. A small puncture must be made with a needle, whereby the air escapes, and the bird usually becomes sound again. I have had Skylarks which suffered from this malady, and in the next quarter of an hour, when freed from the air, resumed singing, although previously they had been sick to death.

11. **TWIRLING**.—This is properly no sickness, but yet a very general evil, and a habit acquired by seed-eating birds in cages, where they turn and twist their head and neck so far back as to overbalance themselves. There is no better mode of breaking them of this evil habit than, as soon as it is detected, to put a cover over the cage, and so prevent their seeing anything above them; as this is the cause of their twirling themselves.

12. **PARASITES**.—If birds are sometimes restless, especially of a night, and if they are observed to be frequently feeling with their beak about the abdomen, back, or wings, they must be examined to see if no small yellow insects (lice or mites) may be discovered upon the body, or between the feathers. If this be the case, they must be sprinkled by means of a small syringe with water, in which quicksilver has been steeped, or with a greatly diluted infusion of tobacco, for several successive days, whereby these vermin are

destroyed, or chased away. Another mode of getting rid of the lice is to bathe the birds frequently, and to give them daily fresh, or dry sand, and to be very particular in keeping them exceedingly clean.

13. If it be found that the birds become unnaturally fat, which is often the case, especially during autumn in some species of warblers, their too nutritious food must be changed and Swedish turnips be mixed in it, and dry ants' eggs put into their drink, which much checks their corpulency.

14. Birds in confinement are subject to another malady, which I may call the amatory fever. It occurs usually in the month of May when the sexual impulse is strongest. Birds that are attacked by it usually cease to sing about this time, droop, raise their feathers, waste away, and die. Birds that are confined in cages are first attacked by this malady. The cause appears to me to be the uniformity and tediousness of confinement as well as their desire for a female. I cured several suffering thus, merely by hanging them frequently at the window. They were almost immediately cheered, and seemed to forget their sorrow, as well as their desire for freedom and pairing, in the general hilarity peculiar to singing birds.

SECTION VI.—AGE.

The age of birds in confinement depends peculiarly upon the care bestowed upon them. Parrots are mentioned as having attained the age of a century, and Nightingales, Chaffinches, and Goldfinches, are known to have lived for twenty-four years in cages. The age of birds in confinement and tamed is rendered the more interesting from its being the only means whereby we may arrive at an approximation to a knowledge of the age of birds in general; and confined birds, consequently, both in this and in other respects, are

of great importance to the naturalist. It is remarkable that birds, while they grow more quickly, also attain a far greater age than the mammalia; in the latter, life lasts six or seven times longer than the period of growth, whereas in the former it extends to fifteen, twenty, and even thirty times longer. The reason given is the structure of the bones, the substance of which is looser and lighter, and consequently remains longer porous and unhardened than in the mammals.

SECTION VII.—MODE OF CAPTURE.

Birds are obtained chiefly by means of bird-dealers and bird-catchers: the former supply us with foreign birds, and the latter with our native wild birds. The latter must not only possess a knowledge of the different modes of capturing birds, but must also be familiar with the various decoying notes whereby they may be attracted, as well as the notes by which the sexes may be allured. It is well known that the call-notes of birds, especially of those which are sought for keeping, differ according to their passions and instincts. This language the bird-catcher must be familiar with if he wish to be sure of his capture.

As almost every species of bird requires to be treated in a different manner, if its capture be made the special object of attention, I can only give in the particular history of each the mode by which it is to be obtained. Here I can speak but generally.

In the first place, it is necessary to know when birds ought to be caught. If migratory birds, which are forced to resort to warmer climates both on account of food and temperature, they are best sought for during their autumnal and spring journeys. Submigratory birds, which not cold but the deficiency of food drives hither and thither, may be found in spring and autumn, as also sometimes in winter. And, lastly,

resident birds, which are not driven from the country by either of these causes, may be caught at all times of the year, but more readily in the winter, when they usually assemble in small flocks.

In autumn they are generally caught in large numbers by fowling nets ; some which are allured by call-birds and bait in nets upon the fowling floors, and others which will not be decoyed, as the species of Lark, are driven into open bird nets. Spring is the time when all cage birds are easily caught, following the call-note of the bird-catcher or of the call-bird concealed in a cage, to seek here a mate with which they can pair. Thus are those northern birds caught which only pass through the country, and which there is no opportunity of capturing in winter, as they winter further to the south. This is also the period when the sexes of cage birds can be best distinguished. For it is confirmed by experience that in migratory and submigratory birds the males arrive some days, indeed sometimes a whole week or more, earlier than the females. Thus bird-catchers take in the first flocks nothing but males, and in the latter ones only females. The peculiar time for these captures is March and April, and from daybreak until about nine of the morning, for after this time the birds are seeking their food and will not listen to the call.

As almost all the seed-eating birds are thus captured, I will more particularly describe a simple mode practised in Thuringia for this purpose.

Some strong branches of oak or beech are taken, such as have the faded leaves still adhering to them, and they are cleared to within a foot or a foot and a half of the summit ; the upper-topped twigs are then slit so that the bird-limed rods may be inserted. These bushes, which are called decoy-bushes, are placed upon some elevated spot which the birds pass in their course : for birds have in their migration so

determinate a road by which they almost invariably pass, that at a distance of from four to five hundred paces from this track they are seldom to be met with. In mountainous countries migratory birds take their course chiefly over valleys; therefore the decoy-bushes must be placed on elevations which adjoin valleys. On the summit of these bushes the limed sticks are stuck in, somewhat obliquely, and under them upon the ground the various call-birds in their cages are placed, being covered with branches of fir that the call-birds may not be seen by those migrating, nor the latter by the former: for, if so, the former would not perch, nor would the latter call them. Such birds are used for call-birds as have been caught adults, in preference to those which are reared from the nest; the latter being so denaturalized as either not to know the call, or not to call so earnestly for a mate as the others, or they may possibly have acquired strange and scaring notes.

One of the best places of capture is the place whither they resort to drink. Birds of all kinds are there caught, and there may be selected precisely any species that is wished. Nothing is more agreeable than to watch, upon sultry summer days, the capture in a dark place where a brook flows. A small clap-net is cast, three, four, five, or six feet long, according to the size of the place, and from three to four feet broad, over a small ditch, into which water is turned by means of a channel. In this ditch, sticks, an inch thick, are placed; parallel with the water, and over it arched pieces are placed, to prevent the fowling-net from getting wet when cast. All neighbouring water is covered with twigs. In a well-selected place the whole day long you are surrounded by a variety of different species in multitudes. Early in the morning, and in the evening after sunset, the best captures are made, and this commences from the 24th of July, and continues until far on in October. When the drinking-

places are so situated as to lie between a large wood and a copse which consists of oak, beech, ash, hazel, &c., and to which other hedges and gardens adjoin, the capture may combine both forest and field birds ; otherwise two drinking resorts must be selected.

Of the other modes of capture the GIN is one of the easiest, and also one of the most interesting : I will, therefore, particularly describe it here, giving at the same time a representation to convey the idea of it the more distinctly.

In woods and bushes many kinds of large and small berry-eating birds, such as Thrushes, Redbreasts, &c., are caught in autumn, especially for about a fortnight before and a fortnight after Michaelmas, in springes of thread, yarn, or horse-hair, which are placed in many ways, in straight or serpentine passages ; and this mode of capture and passage is called a gin.

For this purpose nooses and springes are specially made use of.

1. NOOSES.—It will suffice to indicate here the most desirable nooses, of which there are a great many kinds used in different parts of Germany.

A. *Rind Nooses* (fig. 1, p. 35).—These are made of lime-tree rind, stripped off in July. The noose consists of a three-fold plaited band, five inches long, into which three loops, made of from four to six horse hairs plaited together, are so inserted that the knot of the loop is fastened in the rind band, and the remainder hangs loosely out. At one end of the rind band there is an eye (an open loop), an inch long ; but at the other end there remains, plaited or unplaited, strips of rind for the purpose of fastening. For setting the noose, a little stem is selected of about the thickness of the little finger, from which a small branch grows straight out ; a hole is bored in a thick or thin tree, the noose with the eye is hung to the twig ; the opposite end is then fixed to the tree,

and the three horse-hair nooses which hang attached to the rind band are then opened. The baiting food, consisting of service berries, is hung up in slits cut in the little stick, and placed conspicuously.

B. *Twig Nooses* (fig. 2, p. 35).—For these tough rods of willow are used, and holes or slits are made in the tree, into which the two ends are inserted, at a distance of about four inches apart, and forming a bow or semi-oval, which extends about six inches from the tree. Into the upper side of this are inserted from two to three hanging nooses of horse-hair; and in slits of the lower part service berries are hung.

C. *Hanging Gin* (fig. 3, p. 35).—The best consists of a rod of willow bent into a triangle, which is six inches wide at the bottom, but almost three times as high, and has the service berries fixed at the bottom, and one noose at each side. They are useful to fix to trees, to shrubs, and in hedges, and are hung by the upper acute angle to a twig.

But whoever has used a noose-perch, as such gins are usually called, will have found that the service berries are frequently carried off; this is done sometimes by mice, and sometimes by the birds themselves. The latter, if not urged by extreme hunger, will make every possible endeavour to get at the berries without perching upon the gin. Most of them will snap them away flying: carry off a couple or so, and then perch on the ground to eat them. This the Song-thrush does very expertly. The Redwing Thrush perches frequently at the side, or climbs on the outside of the gin. Others will also often fly upright through, passing over the noose, and sometimes bending downwards, whereby it passes beneath it; and thus the gin is deprived of its berries. To avoid this inconvenience the following gin is useful:—

This may be called the *Entire Twig Gin* (fig. 4, p. 35).—You take a stick of tough willow, of about the thickness of a little finger; cracking it eight inches from the thick end, bend it

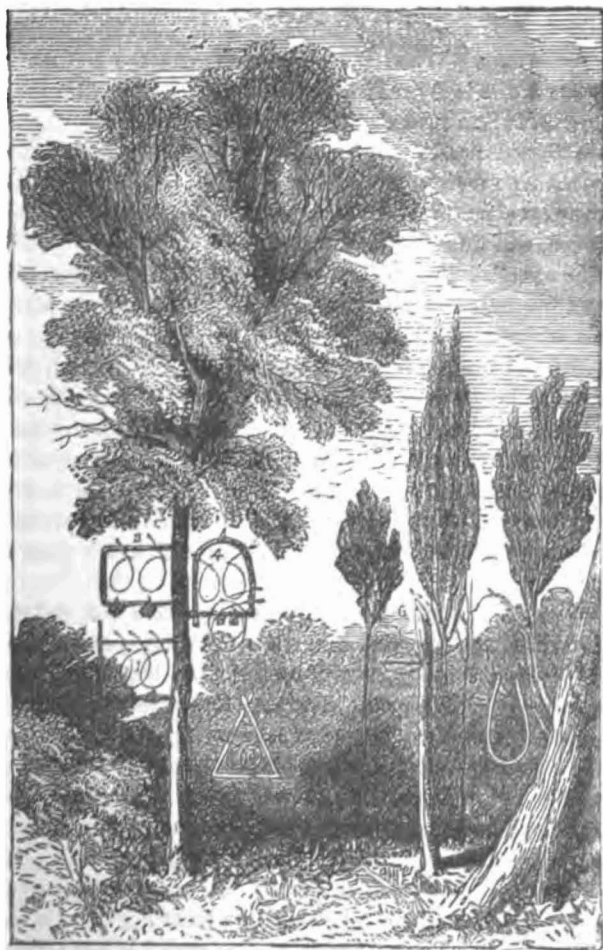
over the knee or in the hands into a long oval ; cut the thin end into a wedge, and at two inches from the thick end make a slit, sticking the opposite end into the slit, so that it passes slightly through it : the bow is thus made oval. The upper bowed part is pierced through with a sharp-pointed knife, and the nooses are passed through these with the berries hanging at the bottom. Beneath, near the berries, towards the side, two other nooses are inserted, and so fixed that the berries lie between them, but rather sideways ; and it will be found that more birds are captured in the lower nooses than in the upper ones. The breadth and height of these gins is similar to the preceding.

In fixing all these kinds of gins particular care must be taken that the hair noose stands straight, which may be effected by dipping them frequently in boiling water whilst making them ; further, that they exactly fit each other, and have no vacant space through which the birds can pass with their heads.

These gins can be used for several years if taken care of after the close of the season, and the nooses folded round in a large circle, or hung up lengthways extended.

2. OF SPRINGES.—With these birds are caught by the leg, and not by the head, as in the noose. There are two kinds which are preferred :—

Genuine Springes (fig. 5, p. 35).—A hazel or willow rod is taken, a half oval notch cut in the thick end, and a hole bored through, and to the thinner end a horse hair or thread is attached, and passed through the hole so that the notch is in front ; a peg of wood of about half an inch, or a bit of felt, is fixed to it that it cannot escape. In setting it the thread or hair is passed through the hole for about eighteen inches, and into the hole is put a peg, which holds a knot tied in the thread, spread it over the nooses, and fix them firmly in a slit on account of the wind. This springe is hung by a little



MOSES AND SPRINGS.

slit in a thick twig, so that it cannot oscillate, and in front of it is placed a sprig with berries, which must be service berries if it is wished to catch large birds, but elder berries if smaller ones. When the bird steps upon the springe it falls down, the legs get into the noose, the springe flies back and holds it firmly fixed.

As thread nooses frequently hang limp, especially after rain, which prevents the bird's leg from getting into the springe; to remedy this, a blade of grass is taken, fixed between, and thus they are kept open.

The so-called *Up-Springe* (fig. 6, p. 35), is made like ordinary springes, excepting that they are not all of one piece. Thus a piece of stick, of the thickness of the thumb, or thicker, and varying in length, is stuck into the ground, or a similar stem growing in the ground is used; you then cut the notch and bore the hole as before directed; the slip-knot is passed through the hole, and fastened to a snapper or spring, which is drawn down from a neighbouring hedge, bush, or tree, and the noose is fixed as before. The springe is usually set in this way in Thuringia and other parts of Germany.

When the season is past the nooses are taken out, and the latter kind can be used again the following year, when a fresh snapper or spring must be selected; but the springe itself cannot be again used, as it soon loses its elasticity.

Not to be troubled with too much baggage, and the better to convey the captured birds, bird-cages are so made that they can be folded together and carried in the pocket. But only such birds can be so treated as are not of a wild character, as Goldfinches, Siskins, Linnets, &c. Others, for instance, the Common Finch, Larks, &c., are very wild when caught, and must be placed either in a linen bag or in a bag of net, into which a cover of felt is inserted. When arrived at home the wilder kinds should be hung up in the dark, and

covered over with branches of leaves, or a cloth, to prevent their injuring themselves or spoiling their plumage. A little observation, however, will show the best practice to adopt, which is not the same in its application to every species.

SECTION VIII.—SYSTEM OF CLASSIFICATION.

In giving the history of cage birds many modes of arrangement might be proposed. I could take them in the order of their size, or according to the object of their being kept. In this view I should necessarily have to speak first of those birds which charm us by their song, and then of those which delight the eye by the beauty of their plumage: following this arrangement, the foreign would precede the natives of Europe, and I should thus have to take first such as may be tamed adult, and then those which must be trained young. But as none of these methods of arrangement present any especial advantage, I prefer adopting an easy and simple classification for their successive description. This has further, I conceive, the advantage of admitting of easier comparison with other ornithological writings and systems. I beg to remark here, that several species of birds, possessing characters in common in the structure of their legs and feet, are united into a genus, and several genera which have collective characters into an order. Thus all the species of Owls belong to one genus, and the Owls and Hawks to one order, which is called Birds of Prey.





SECTION I.—ACCIPIITRES. BIRDS OF PREY.

Birds of prey which live upon the destruction of other animals, or upon flesh, have a curved hook-shaped beak, and strong feet with sharp talons.

These birds are the special objects of falconry and of bird-hunting, for by means of several kinds of Falcons, birds are hunted or caught, and by means of different species of Owls, small birds are attracted to the fowling-floor and huts. Birds of prey do not sing, cannot be taught to speak, produce much filth, and are usually difficult to tame, bird-fanciers require a little inducement to keep them; but three species form an exception, from their beauty, their being easily tamed, or from their agreeable manners, namely, the Kestrel Falcon, the White Owl, and the Little Owl.

1. THE KESTREL FALCON.

FALCO TINNUNCULUS. *Linn. Syst. Nat.—Lath. Ind. Orn.—KESTREL. Mont. Orn. Dict.—FAUCON CRESSERELLE. Temm. Man. d'Orn.—KESTREL. FALCO TINNUNCULUS. Selb. Illustr.—DER THURM-FALKE. Bech.*

DESCRIPTION.—Is about the size of the Turtle-dove, namely, fourteen inches long, six of which comprise the tail; to two-thirds of the length of which the folded wings extend; beak bluish black, ten lines long, with a large curvature or tooth. The irides, as also the feet, and the cere, yellow; tarsi, two inches high.

Males and females are not only conspicuously different in size like almost all birds of prey, the female being about one-third larger than the male, but also in colour. They are, as I have before said, handsome birds. In the former, the vertex and tail are of a beautiful light grey; the end of the latter marked with a broad black bar; the back and coverts of the wings of a brownish red with scattered black spots the under part of the body of a rusty rosy red with black longitudinal spots; legs and rump of the same colour; the tail feathers dark brown spotted white within.

In the female, the back and wings are of a beautiful rust colour interspersed with many transversed black stripes. The head is bright red brown with many transverse stripes, the tail also equally striped, and towards its tip is a black bar similar to that of the male, and the tip itself in both is very pale.

HABITAT.—It is found throughout Europe, especially in mountainous and wooded districts, where rocky precipices and old ruins occur. As a migratory bird, it goes away with the Larks in October, and is then only to be found in pairs, sometimes hovering in the air over a Lark or a mouse. It returns in February and March.

When captured adult, it should be placed in a wire cage. But if reared from the nest it may be allowed to roam about the house, and even sit at the window and be suffered to fly out, for it will not quit the house or wood-stack, to which it is accustomed, especially when it has been habituated to dogs and cats.

FOOD.—This consists chiefly of small birds and mice ; but it will also feed upon beetles and grasshoppers. If supplied with fresh birds and pigeons, and sheep's lights or liver, it soon becomes very familiar, and does not pine for its liberty even when caught adult and tamed.

BREEDING.—Its nest, or, as gamekeepers call it, its *eyry*, is found in the fissures of high towers, castles, rocks, and upon the high stems of old trees. The female lays from four to six yellowish-red eggs sprinkled with red and brown spots. The young are covered only with a white down, and should be fed at first with bits of fresh mutton and birds. They readily perch upon the hand, become speedily acquainted with their feeder, and fly after him when he calls them.

MODE OF CAPTURE.—Adults are caught at the time of feeding their young, by means of thick limed sticks ; and places which they frequent or sport about, can have what is called a hawkbag-net set for them, baited with a Lark or a mouse. This trap stands upon four legs, and somewhat resembles a safe. The four legs are planted at distances equaling the size and width of an ordinary table ; they are fixed to the ground by a plank, and to the four sides by a cord or wire ; above on two sides, a couple of iron rods are placed, to which a cord with rings may run to the roof like a shutter ; in the middle there is a woodfall which is bound to a piece of wood to which a corresponding weight is attached. As soon as the Kestrel observes the bait it dashes into the trap, treads down the spring, the weight falls, dragging the cord over him till he is caught.

COMMENDATORY QUALITIES.—His bell-like ringing voice, “Kli ! kli ! kli !” which he often repeats in rapid succession, as well as his colour and manner, make him agreeable. But it is not advisable to keep several together, otherwise their incessant cry will become tiresome. It may also be trained, like other species of Falcons, to the chase of birds and animals ; and, brought up young and fed in the manner prescribed, it is early accustomed to fly in and out even in the largest cities. But care must be taken in September and October—the period when these birds migrate—not to allow him to roam at large for any length of time, otherwise he may be tempted by his comrades to migrate with them.

This Falcon is very generally distributed throughout Britain, from Devonshire to Cape Wrath and the Outer Hebrides. It is supposed to migrate, as in the autumnal months it is greatly diminished in numbers. The Kestrel builds no nest for itself, generally appropriating the deserted nest of the Crow or Magpie to its own use, laying four or five pale reddish eggs. When pinioned it will climb up a cage-side, like the Parrot, holding on by the bill. They are easily tamed when taken from the nest, and frequently trained to pursue small birds, such as Quails, Snipes, and Larks.

Mr. Waterton is of opinion that a large proportion of those bred in England leave it in the autumn to join the immense flights of Hawks which are seen to pass periodically over the Mediterranean, towards the African coast.



2. THE WHITE OWL.

STRIX FLAMMEA. Linn.—*CHOUETTE EFFRAIRE.* Buff. Ois.—*STRIX FLAMMEA.* Lath. Ind. Ord.—*BARN OWL.* Mont. Orn. Dict.—*CHOUETTE EFFRAIRE.* *STRIX FLAMMEA.* Temm. Man. d'Orn.—*BARN or WHITE OWL.* *STRIX FLAMMEA.* Selb. Illustr.—*DIE WEISSEULE.* Bech.

DESCRIPTION.—This beautiful Owl is of the size of a Rook, fourteen inches long, five of which form the tail. The beak is one inch long, and white; the legs are covered with short feathers; the foot two inches high; the nails blackish, that upon the middle toe internally toothed. Its face is inclosed within a heart-shaped veil of white and chestnut feathers; the irides bright yellow; the upper part of the body reddish ashy grey, as if watered and crossed with beads, having small black and white spots like pearls; the under part of the body of a pale reddish yellow, with blackish spots; the pinion and tail feathers are of a rusty yellow, with blackish grey stripes, sprinkled with ashy grey; the first pinion feather is strongly toothed externally.



HABITAT.—In Germany this Owl dwells in the most populous cities and villages, in old castles, in churches, barns, and other recesses; but, as it will fly at small birds, it must be fettered to a perch or placed in a large cage.

FOOD.—It feeds chiefly upon mice, and when caught must, therefore, be fed with mice and small birds. At first it will not feed freely, and at pairing time they are difficult to rear. At other times only mice and birds need be placed in the cage, which they will certainly devour at night when they are unobserved.

BREEDING.—The nest is found in the fissures of old walls. The young are more easily tamed than the old.

CAPTURE.—They are caught sometimes in barns, especially in winter, by means of a bag-net being placed before the ventilators. They sleep in barns, and resort thither to catch mice.

COMMENDATORY QUALITIES.—They are handsome birds, but utter a plaintive cry, and have the reputation, with the superstitious, of betokening death.

Mr. Waterton, who has domesticated this species, informs us that it carries off rats, and occasionally fish, dropping perpendicularly into the water for that purpose, and rising out of it with a fish in its claws. The nest—usually some obscure nook in an old building, church steeple, or tower—is composed of twigs and straws loosely arranged. "Watching near one of these haunts," says M'Gillivray, "one may dimly see it advance with silent and gliding flight; skimming over fields, shooting along the hedge bank, deviating this way or that, without causing the slightest sound by the flapping of its downy wings. On perceiving an object, it drops to the ground, secures its prey in a moment, and, uttering a shrill cry, flies off with it in its claws." The eggs, from two to five, and several broods, seem to be produced annually by the same pair.

3. THE LITTLE OWL.

STRIX PASSERINA. *Linn.*—CHEVECHE, ou PETITE CHOUETTE. *Euff.*
Cis.—CHOUETTE CHEVECHE. **STRIX PASSERINA.** *Temm.* Man.
 d'Orn.—LITTLE OWL. **NOCTUA NUDIPES.** *Gould.* Birds of Europe.
LITTLE NIGHT-OWL. **STRIX PASSERINA.** *Aud.* Orn. Biog.—
LITTLE NIGHT-OWL. **NOCTUA PASSERINA.** *Selb.* Illustr.—**DIE**
ZWERGEULE. *Bech.*

DESCRIPTION.—It is not much larger than the Rock Thrush, but its thick head and dense plumage make it appear so. It

is about eight inches long, three of which comprise the tail, to almost the end of which the folded wings extend; the beak is nine lines long, brown at the base, and bright yellow at the point; the irides pale yellow, in winter sap green; the tarsi an inch and a half high; the claws blackish; the upper part of the body is light brown, with round white spots, those upon the scapulars and the back being the largest; the under part of the body is white, spotted with dark brown, intermixed with a rusty colour; the pinion feathers are dark brown, with round white spots; the tail light brown, with large round bright rust-coloured spots, which run together almost into bands.

The female is somewhat brighter in colour.

HABITAT.—This Owl, like most of the species, dwells in old buildings, towers, in church walls, and in hollow trees in fields, where the nest is also to be found. In the aviary this bird should never be allowed its liberty, or permitted to fly about where there are other birds, for it will certainly attack them. It is best to hang it out at the window in a large kind of wag-tail cage, so that it may be seen from within.

FOOD.—House and field mice, beetles, and grasshoppers, constitute their food. I have also found in their pellets—the indigested refuse of their food, ejected by birds of prey—multitudes of the stones of the *cornus sanguinea*, which they must consequently also eat. Both young and old may be kept easily for many years upon dried mutton, from which the skin, bones, and fat have been separated, two days before it is used. The mutton should be soaked in water. This kind of food checks the otherwise offensive odour of their faeces. One bird will consume daily an ounce and a half of dried flesh, and occasionally mice or birds; the latter he devours, pinions, feathers, and all. He can eat five mice at a meal, and may be fed from two in the afternoon, after which hour he becomes quite animated

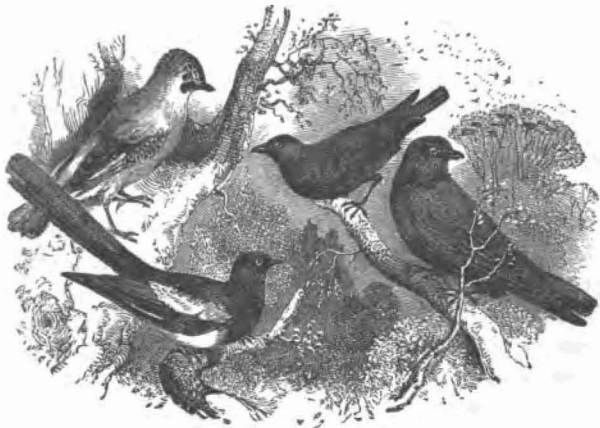
BREEDING.—The nest is formed in the fissures of walls, and also in hollow trees in woods. The female lays, even in confinement, a couple of round white eggs. The young are easily reared upon fresh flesh, especially that of pigeons. Before their first moulting, instead of their light brown prevailing colour, they are reddish grey; woolly on the head, and slightly clouded; the large round white spots upon the back are distinctly indicated, and the reddish white under part of the body has narrow grey longitudinal stripes upon the breast and sides.

MALADIES.—If they are not occasionally supplied with mice and small birds, the hair and feathers of which cleanse the crop, they die of atrophy.

CAPTURE.—If their place of resort be known, it is only necessary to hang a bag-net before it; they are sure to be caught at twilight when they fly abroad.

COMMENDATORY QUALITIES.—This is a very cleanly bird, placing their feces all upon one spot. Their strange grimaces are very amusing, and it is to be regretted that their shriek and their restlessness at pairing time are somewhat annoying.

This Owl is rare in Britain, although instances are mentioned of its occurrence. Like others of the tribe, it haunts old houses and deserted ruins, feeding on mice, small birds, and insects. The female lays two eggs, on which she sits alternately with the male till hatched; and British authors speak of its thriving well in confinement. Its ordinary cry, which it repeats flying, is "Poupou, poupou;" but when it settles down it emits a louder and clearer cry, like "Aïme, hême, êsmi."



SECTION II.—CORRACES. THE CROW TRIBE.

SUCH is the name given to this tribe ; they have a somewhat compressed, more or less curved beak, convex above, usually of the shape of a knife, and of moderate size, but short ; generally strong, widely spread feet, adapted partly for climbing and partly for walking. Their food consists of insects, worms, the flesh and refuse of other animals, and also of seeds and fruits. A few delight us with their song ; the majority by their capability of articulating sounds, and by their beautiful colours. Bechstein includes in this section Ravens, Rooks, and some others, which, though occasionally treated as pet birds, can scarcely be called chamber or cage birds. These are omitted in this edition.

4. THE GREAT CINEREOUS SHRIKE.

MOUNTAIN MAGPIE. MATTIGES. WIREANGLE. MURDERINGPIE.
SHREEK OR SHRIKE.

LANIUS EXCUBITOR. *Linn.*—PIE-GRIECHE GRISK. *Buff.* Ois.—CINEREOUS SHRIKE. *Mont.* Orn. Dict.—GREAT CINEREOUS SHRIKE.
LANIUS EXCUBITOR. *Selb.* Illustr.—DER GEMKINER WURGER. *Bech.*

DESCRIPTION.—As large as the Red-wing Thrush but somewhat longer, being about nine inches long, of which the tail occupies three and three-fourths, and the beak eight lines. The folded wings extend to one-third the length of the tail. The beak, as in all the Shrikes, is straight at the base, slightly curved at the point, and furnished with a small tooth; it is black, and at the base beneath, yellowish-white; the irides are black-brown; the feet black one inch high; the whole of the upper part of the body is of a beautiful bright ashy-grey, the rump, above the eyes, on the forehead, and on the shoulders, merging into whitish; from the nostrils a broad black stripe extends, passing through the eyes beyond the white temples; the under part of the body is white, with evanescent dark brown undulations, which are more distinct in the female than in the male, the large coverts of the wings are black, the smaller ones ashy-grey; the pinion feathers black and white at the base and apex, which thus form upon the wings two white spots; the wedge-shaped tail has the terminal feather white, and the middle one rather black.

HABITAT.—It remains in Germany both summer and winter, and inhabits small coppices and the skirting woods of large forests; it is also found in fields where there are bushes and solitary trees. It sits always upon the summit of the tree. It is very courageous and predatory, therefore cannot be allowed to occupy freely the same apartments with other birds; but is best placed in a large wire cage.

FOOD.—In summer this Shrike generally feeds upon beetles, field and mole crickets, blind worms, lizards, and only devours mice and small birds when it cannot obtain these creatures. But in winter it will seize the Yellow Bunting, the Siskin, moles, &c. In flying down upon its prey it always makes a peculiar curve, to enable it to seize it at the side, but it is often obliged to content itself with a beak full of feathers from not being provided with talons like the other birds of prey. If captured when old it should be supplied with live birds, mice, beetles, and crickets; but will not feed whilst watched. When the first cravings of hunger are satisfied it will eat fresh meat; but it may be accustomed to the general food, particularly that made of roll crumbs. They eat a great deal at one time, in proportion to their size, two ounces of meat at the least. They like a perch with forked branches, or these may be placed transversely. They are also fond of bathing.

BREEDING.—The nest, which is made of heath, blades of grass, wool and hair interwoven, is found on the branches of trees, and the female lays from five to seven eggs, which at the obtuse end are often spotted with olive-green or violet-grey. When the young is removed it should be fed with raw flesh, which indeed is the best mode of taming all the butcher birds. It soon learns to take the food from the hand.

CAPTURE.—This bird is caught on fowling-floors, and in gins, enticed by the call-bird placed beside them; also with birdlime placed on a branch, beneath which a nest of young birds is suspended; when the latter are hungry, and begin crying, the Butcher-bird is speedily at hand. In autumn and winter he will dash at birds hanging in cages about windows. This may be made the means of his capture if the cage be hung in one of the traps, where, by means of the fall, as soon as he pounces upon the door of the cage the trap

closes. A cage of this kind is requisite for those who keep birds which are allowed to fly about.

COMMENDATORY QUALITIES.—His call-notes resemble those of the Lark, "Gihr ! gihr !" Like the Nutcracker, he imitates many sounds, but is not very successful in mocking the song of other birds. His own flute-like note is very beautiful, and very much resembles the piping of the ash-coloured Parrot, whilst he distends his gorge like a green frog. It is to be regretted that he sings only during pairing time, which is from March to May, and also that he frequently intermixes with his beautiful notes some harsh and discordant sounds. Both male and female are vocal.

He might perhaps be taught to speak, for some of his notes resemble the articulation of the human voice.

Whoever wishes to catch Falcons and Hawks should have one of these birds on the spot. Its watchfulness perceives, and its demeanour indicates, the approach of the Hawk when still afar, and when so near as to strike, he creeps suddenly, with a cry, into his cage or house, which must be placed near the trap. As he utters the same cry, when at liberty, as soon as he perceives a bird of prey approaching, he is reputed thus to warn small birds from the presumed selfishness of wishing to reserve all for himself.

Although only an occasional, or rather accidental, visitant in this country, and that chiefly in autumn and winter, it has been found in almost every part of Scotland and England. Its prey—much the same as is described above—it kills by repeated blows of its bill on the head, affixing it to a thorn, or jamming it into the fork of a branch, that it may have a purchase by which to tear it into pieces. What remains after it is satisfied, it hangs on a thorn, and this habit has obtained for it the name of the Butcher-bird. Selecting a station from a twig or decayed branch, it sallies forth in pur-

suit of any insect that may pass ; and it is probably from this habit of remaining perched for so long a time that it has obtained the name of Excubator, or the Sentinel. Its flight is undulating ; and when searching for its prey it hovers occasionally, like a Hawk. Professor Rennie, in a paper published in the "Naturalist," says, "I can testify to the power assigned to it by some naturalists, of varying its notes, or rather imitating those of other birds. Not exactly, indeed, for my first acquaintance with the Butcher-bird was occasioned by hearing notes not entirely familiar to me, though much resembling those of the Stonechat. Following the sound, I soon discovered the utterer, and whilst listening, to my surprise, the original notes were discarded, and others adopted of a softer and more melodious character, never, however, prolonged to anything like a continuous song. Its grave ash-coloured garb, with its peculiar black patch on the cheek, soon convinced me that my unknown friend was the Butcher-bird, that petty tyrant of its neighbourhood, carrying on incessant warfare and wanton waste of life amongst the small fry of the Passerine Order, and whose war-cry was wont to set a host of minor warblers to flight."

M^rGillivray describes it as an occasional or accidental visitant only ; and Yarrell doubts if it ever breeds here. Knapp assures us that it is not uncommon with us, and breeds annually near his dwelling. "It is one of our late birds of passage," he adds, "but its arrival is soon made known to us by its croaking unmusical voice from the summit of some tree. Its nest is large and ill concealed ; and during the season of incubation, the male bird is particularly uneasy at any approach towards his setting mate, though often, by his clamorous anxiety, he betrays it and her to every birds-nesting boy. The female, when the eggs are hatched, unites her vociferations with those of the male, and facilitates the detection of the brood. Both parents are very

assiduous in their attention to their offspring, feeding them long after they have left the nest ; for the young appear to be heavy, inactive birds, and little able to capture the winged insects which constitute their principal food. I could never observe that this bird destroyed others smaller than itself, or even fed upon flesh. I have hung up dead young birds, and even parts of them, near to their nests, but never found that they were touched by the Shrikes. Yet, it appears, that it must be a butcher too, and that the name '*Lanius*,' bestowed on it by Gesner two hundred and fifty years ago, was not lightly given. My neighbour's gamekeeper kills it as a bird of prey, and tells me he has known it draw the weak young pheasants through the bars of the breeding-coops ; and others have assured me that they have killed them when banqueting on the carcase of some little bird they had captured. All small birds have an antipathy to the Shrike, betray anger, and utter the moan of danger when it approaches their nests. I have often heard this signal of distress, and cautiously approaching to learn the cause, have frequently found that this Butcher-bird occasioned it. They will mob, attack, and drive it away, as they do the Owl, as if fully acquainted with its plundering propensities."

5. THE LESSER GREY SHRIKE.

LANIUS MINOR. *Linn.*—PIE-GRIECHE D'ITALIE. *Buff.* Ois.—DER GRAUER WURGER. *Bech.*

DESCRIPTION.—Is about the size of a Skylark, being eight inches long, of which the tail occupies three and a-half ; the folded wings extend to one-third the length of the tail ; the black beak is seven lines long, is straight at the base, and curved at the tip, where it is furnished with a small tooth. It is of a bright shining black ; the irides are of a coffee-brown ; the feet black, with a leaden reflection, and one inch

and a third high ; the forehead black ; a broad black stripe passes through the eyes ; head, neck, back part and sides of the throat, the back and upper coverts of the tail, are ashy-grey, the latter brightest ; the whole of the under part of the body is white, the breast and the belly with a rosy tinge ; the coverts of the wings black, the smallest with a margin of ashy-grey ; the pinion feathers black ; the anterior ones from the base half-way along white, whence a white spot is formed upon the folded wings ; the tail is wedge-shaped, the two external feathers white, with a black shaft,—the third and fourth black, with white base and tip,—and the fifth and sixth entirely black.

The female scarcely differs from the male, with the exception of being a little smaller, with a shorter and somewhat narrower stripe upon its cheeks, and usually she has but one white feather in the tail.

HABITAT.—It is a migratory bird, leaving Germany at the beginning of September, and returning at the commencement of May. A favourite resort is gardens in the vicinity of large woods or forests, those especially which adjoin meadows and cultivated fields ; where he usually sits on the top branch of a tree, more rarely upon solitary shrubs in fields, where he watches insects. It is necessary in confinement to place him in a large wire cage, such as is used for Larks, with three perches : for it is not advisable to give him his liberty in a room with other birds, for even without being hungry he will frequently attack and kill his comrades, either from sanguinary instinct, or malice, or to show his strength.

FOOD.—He feeds chiefly upon May bugs, dung-beetles, the carabidæ, and other beetles ; upon the gad fly, and upon field and mole crickets, and only during a continuance of wet weather will he seize upon young birds.

If captured adult, as soon as he is placed in the cage, birds, cockchafers, dung, and other beetles, should be given to him ;

he will afterwards feed upon raw and cooked meat. It is, indeed, very difficult to rear him, and demands considerable time and trouble; for eight days successively he must have nothing given him but beetles and other insects, especially meal-worms; but when once accustomed to be fed, he soon becomes so tame that he will take it from the hand, and even, when the cage is opened, fly upon the finger, and there eat it. I had one that would eat the first kind of general food described in the introduction; but those captured in the adult state cannot usually be kept longer than a couple of years, as they generally die of atrophy. Those reared from the nest require less attention, and are soon habituated to all kinds of food.

BREEDING.—The nest of this Shrike is usually found in gardens, or upon the margin of woods, in a tree; it is spacious and irregularly constructed of roots, green plants, and wool intermingled, and lined inside with wool and large and small feathers. The female lays from five to six round greyish-white eggs, with violet grey and bright brown spots in the middle; and she hatches them, assisted by the male, in from fifteen to sixteen days. The young grow very fast, and fly so soon that, notwithstanding the late arrival and early departure of this bird, if fair weather prevail it has usually two broods during the summer. The young are fed exclusively upon beetles and grasshoppers. Until the first month, they are destitute of the black band on the temple; the upper portion of the body is of a dark ashy grey, with scarcely distinguishable reddish undulation; the under side of the body is white, with yellowish tinge upon the breast, and with reddish undulation at the sides. If it is wished to rear them, they must be removed from the nest as soon as the feathers begin to shoot, and fed at first with ants' eggs, and then with roll, moistened with milk.

CAPTURE.—They cannot be caught alive, otherwise than by placing limed twigs upon the sprig or bush which they frequent, for the purpose of watching for insects. They are as imprudent as they are capable of instruction, for they unhesitatingly fly upon the twigs limed for them.

COMMENDATORY QUALITIES.—The male is a bird of admirable capacity for instruction; the female, as in the majority of birds, does not sing. This Shrike does not merely imitate, like the other singing Shrikes, the solitary strophes of the songs of other birds, but it mocks their whole song with the most deceptive skill: indeed, it appears not to have received from nature any peculiar song of its own. It will perfectly imitate the entire song of the Skylark, and other birds, and even that of the Nightingale, only somewhat weaker, for it has not the round strong voice of that songster. Thus, confined in the cage, it affords much amusement to the amateur, by these powers of imitation. I have particularly noticed that it imitates with much pleasure to itself the call of the Quail. I possessed one that, zealous as he usually was in his ordinary song, as soon as he heard the Quail, he would entirely cease with his own, and imitate that of the other. The Quail, until it became accustomed to it, would out of jealousy earnestly seek around the room to discover its rival.

6. THE WOODCHAT SHRIKE.

LANIUS ERYTHROCEPHALUS COLLURIO RUFUS ET POMMERANUS. *Linn.*—**PIE-GRIECHE ROUSSE.** *Buff.* Ois.—**LANIUS RUTILUS.** *Lath.* Ind. Orn.—**WOODCHAT.** *Mont.* Orn. Dict.—**WOODSHRIKE.** *Supp.*—**PIE-GRIECHE ROUSSE.** *Buff.*—**LANIUS RUFUS.** *Temm.* Man. d'Orn.—**WOODCHAT.** **LANIUS RUFUS.** *Selb.* Illustr.—**DER BOTHKOPFIGE WURGER.** *Bech.*

DESCRIPTION.—This is somewhat smaller, at least more slender, than the preceding; being seven inches long, the tail

is three and a-half inches, and the folded wings extend one-third of it ; the beak is eight inches long, has a strong tooth, and is blackish blue ; the irides yellowish blue ; the feet are one inch high, and, as well as the toes, of a black blue ; the forehead is black, and there is united with it a black stripe, that passes through the eyes, extending beyond the ears ; the back part of the head and neck are of a beautiful reddish brown, the middle of the back reddish ashy grey, the upper coverts of the tail yellowish white ; some large white feathers on the shoulder form, as in the Magpie, a large white spot on each side of the back ; the prevalent yellowish white colour of the under part of the body commences in two white dots above the nostrils ; the sides are somewhat redder, and indistinctly mixed with grey ; the small coverts of the wings are blackish blue, with a yellowish white margin ; the larger ones, as well as the pinion feathers, are black, playing into brown ; the anterior pinion feathers have a white base, which in the folded wing forms a white spot ; the tail is black, merging into brown, the external feathers are white with a black spot in the middle, the rest are white at the end, and with a gradually decreasing white base ; the two middle ones are entirely black. The female exactly resembles the male, but the colours, especially the reddish brown, are paler.

HABITAT.—This is a migratory bird, arriving towards the latter end of April, and going away again about the middle of September. It lives among the mountains, in woods, or in wooded plains, and resorts in large numbers to spots and pastures, where horses are kept. It must be confined in a wire cage.

FOOD.—It feeds upon beetles, dung-beetles, and also upon grasshoppers, gadflies, and other insects. When impelled by necessity, it will attack young birds and lizards. It requires the same attention as the Lesser Grey Shrike, but it is still more delicate, and therefore it should, if possible, be reared

from the nest. Even when young it should be fed at once upon raw meat.

BREEDING.—Its nest, consisting of the stems of plants, moss, grass, bristles, wool, and hair, is built in the thick branches of lofty trees; the female lays twice a-year six reddish white eggs, which are sprinkled all over, especially at the larger end, with distinct bright red, and indistinct bluish grey spots; in fifteen days the young are hatched. The nest is rarely found in fields, but upon the blackthorn and other bushes. The young, until the first moult, are above dotted with dirty white and dark ashy grey; beneath clouded with dirty white and grey, and the feathers of the wings margined strongly with a rust colour; the tail and pinion feathers are blackish grey.

CAPTURE.—If a person is inhuman enough to capture it upon the nest, this may be easily effected by means of limed twigs, as it is the least timid of all the Shrikes. Like the *Flusher* it is fond of bathing, therefore it can frequently be caught aboutnoon at watering-places when these occur near its haunts. This habit may account for the numbers of these birds that are often found drowned in large pools.

COMMENDATORY QUALITIES.—Although apparently as capable of being taught as the preceding bird, yet its song is not so agreeable, for in the first place it has not the same pleasant voice, and in the next, with all the songs it imitates, it intermingles its own harsh and discordant note. It imitates the *Nightingale*, the various *warblers*, the *Goldfinch*, and the *Redstart*; but its beautiful colours are the sole attraction that renders it so agreeable a pet as the preceding bird.

M^cGillivray says, "only a few instances of the occurrence of this species in England are recorded;" and Yarrell enumerates several specimens, killed, or seen in Kent, Norfolk,

Suffolk, York, and Worcestershire. The latter naturalist also tells us that, "in size, in most of its habits, and in its mode of feeding, the Woodchat resembles the common Red-backed Shrike, and, like that species, is said to imitate the voice of several different small birds."

The Woodchat can only be considered as a visitant in this country, and that a rare one: not more than five or six individuals having been taken or killed. Mr. Hay, a writer in Loudon's Magazine of Natural History, mentions, that it nestles invariably in trees, preferring the oak; fixing its nest in the fork of a projecting branch. The nest is composed outside of sticks and wool, mixed with moss from trees, and lined with fine grass and wool. The eggs, four or five in number, are rather smaller than those of the Flusher, varying considerably in their markings; the ground-colour is pale blue in some, in others a dirty white, with a zone of rust-coloured spots near the larger end; in others, again, the colours and spots are dispersed over the egg.

7. THE RED-BACKED SHRIKE.

RED-BACKED SHRIKE. *Mont. Selb. Yarrel. M'Gillivray.*—*LANIUS COLLURIO. Linn.*—*L'ECORCHEUR. Buff.*—*ROTHBUCKIGER WURGER. Beck.*

DESCRIPTION.—Length more than six inches; beak six lines; tail, three inches and a quarter; folded wings extending one-third its length; feet ten lines high; beak black, stout, slightly curved at the tip only; irides hazel; feet and toes black, inclining to blue.

MALE.—Head, neck, upper coverts of the tail and knees ashy blue, rather brighter above the eyes than on the forehead; a broad black stripe extends from the nostrils across the eyes to the ears; back and wing coverts bright reddish

brown ; pinion feathers blackish, the posterior margined with deep red brown ; under side of the body of a beautiful white, with a rosy tinge upon the breast, sides, and abdomen ; tail slightly conical, the two middle feathers black, the basal half of the rest white, gradually increasing, and with white tips.

The FEMALE differs almost entirely from the male : the upper part of the body being dirty rusty brown ; neck and tail coverts verging towards ashy grey ; back and wing coverts indistinctly undulated with white ; forehead and above the eyes yellowish white ; cheeks brown ; throat, abdomen, and anal plumage dirty white ; neck, breast, and sides, yellowish white, with dark brown transverse undulations ; pinion and tail feathers dark brown, the latter inclining to reddish ; the external primary feather margined with white, the rest, exclusive of the four middle ones, white at the tip.

The YOUNG resembles the female bird, the upper part of the body and breast being greenish grey, with dark brown undulations, and the abdomen dirty white.

HABITAT.—This bird, from its peculiar qualities, appears to form the connecting link between the Crow kind and songsters. It is migratory, and one of the latest which arrives, coming in May, and taking its departure in flocks in August, before the young have moulted. Although found in the valleys of forests where pastures occur, it seems to prefer hedge-rows and bushes in the open country, especially where cattle graze. Its food consists of insects, chiefly beetles, field crickets, and grasshoppers, and it resorts to the vicinity of pastures in pursuit of gadflies, which constitute its favourite repast. During rainy weather, when insects are scarce, it will feed upon anything it can catch, as field mice, lizards, and young birds, and in accordance with its remarkable habit of impaling its prey upon thorns, it transfixes these also ; but the assertion that this is done to allure other insects and birds, is not founded in fact. It holds high rank as a

sedulous and agreeable songster, for, perched upon a bush or the lower slender branches of a tree near its nest, it warbles its song, composed of a mixture of the notes of all the birds which frequent its vicinity, as the Goldfinch, Blackcap, Robin, Wren, Nightingale, Skylark, Titlark, &c., with the occasional introduction of its own harsh tone. If it happen to imitate the call of some bird casually passing, it is done merely in the wantonness of its mimic powers. But the articulate song of the Chaffinch and Yellow Bunting it cannot imitate, probably from the peculiar structure of its larynx. It prefers the hawthorn to construct its nest in, which is large, and formed externally of roots and the coarse stalks of grasses, interwoven with a layer of moss and wool, and lined internally with the delicate fibres of roots; the female lays from five to six eggs of a greenish white, sprinkled with ashy and rusty grey spots, especially at the thick end; she is assisted by the male in incubation, which occupies fourteen days; in favourable seasons they rear two broods.

MODE OF CAPTURE.—They are easily caught by placing limed twigs upon the bush or shrubs they are observed to frequent, and are readily attracted thither by fixing a beetle, grasshopper, or gadfly, attached by a thread or horse hair with sufficient liberty to flutter. When captured, it is necessary to handle them cautiously, for, like all the Shrikes, they bite very severely.

IN CONFINEMENT.—This bird must be placed in a cage by itself, for if allowed its liberty amongst others in a room, it will commit great havoc. A few years since I caught one, which fasted for three days, refusing all the food I offered it, whether dead birds, beetles, or other insects. On the fourth day, thinking I might then accustom him to the food given to the other birds, and that he was too weak to do them injury, I let him loose in the room; but the instant I had done so, he flew at a hedge sparrow, and slaughtered it before

I was able to prevent it. This I allowed him to eat, and then replaced him in the cage, where, as if he had exhausted his spleen, he subsequently ate anything that was given to him. If placed in a room full of flies, he speedily clears it, catching them most readily on the wing, and if then supplied with a twig, having needles passed through it, he impales them in his usual manner, with a very peculiar and grotesque mien. They are easily reared, when taken young from the nest, being fed at first with ants' eggs, then with cooked meat, and at last may be accustomed to eat roll steeped in milk, on which it can always afterwards be fed. The adult bird must be treated like the preceding species; insects may be given, together with the food of Nightingales, for which it soon acquires a taste, and then occasionally a piece of raw or cooked meat. It is difficult to teach these birds to pipe, for although quick in learning, they forget as rapidly, taking up something new: but they speedily acquire the song of the birds placed constantly near them, and have besides the further recommendation of being exceedingly animated, and very beautiful.

This bird is common in Surrey, Kent, and Sussex, about London, and in the Western Counties of Wiltshire, part of Gloucestershire, Shropshire, Staffordshire, Herefordshire, and Worcestershire, but it diminishes towards the North, and has not been traced further than Yorkshire and Cumberland, and it does not occur in Scotland. It is a double-moulting bird, as Mr. Blyth observes. The young are at first closely barred upon the upper parts with a darker colour, each feather exhibiting two transverse bars; this plumage is replaced shortly after leaving the nest by another, closer and more rufous, the upper feathers of which have each one dark bar across—the primaries not being shed till the spring, when the birds assume the adult male and female

dress, the latter much resembling that of the young, but without the barring. In autumn they moult again, at which time both sexes assume the plumage last described, and the following spring both acquire that which has been hitherto considered exclusively characteristic of the adult male, several fertile females having, to Mr. Blyth's knowledge, been killed in this dress, differing in appearance only from the male, in being less bright. These changes have escaped the notice of other naturalists. It arrives in May, and what is peculiar, both sexes at the same time; it leaves again in September, and is very regular in its visits. It frequents open downs and commons where furze abounds, and enclosed moist situations; but it prefers maple and hawthorn hedges, and always sits in a conspicuous position on the topmost or outermost twig or branch, or upon some post or railing, whence it may command a wide range of sight. Its flight is quick and undulating, and it will hover over a spot like a Whin Chat, and then advance a few yards and hover again, and it usually hovers for some time above and around the branch or post where it intends to alight. Whilst flying the tail is kept straight out, its feathers being held very close together, and appearing to consist of but one; on alighting it gives a peculiar jerk with its tail, like the Robin or Magpie. In spring it devours great numbers of the large female wasps, which then abound, and thus checks the increase of these injurious insects. It seizes Chafers by the bill, and then flying to a perch transfers them to the foot, and holding them up, like a parrot, picks them to pieces. It has great power of clutching with its toes, and in holding its prey it rests upon the tarsal joint of the foot, unless when it has fastened it to a thorn, and it then pulls it to pieces in a contrary direction; and this it does when satiated, eating then only the abdomen and softer parts. In autumn, when it feeds a great deal upon grasshoppers, it captures them with a loud snap of the bill,

like the fly-catcher. It has been observed pursuing a Blackbird, and has been frequently caught in the nets of the bird-catcher when endeavouring to seize the brace-birds. It attacks a bird only on the ground, or on a branch beneath it, when, pouncing down, it bears it to the ground, seizing it with both bill and claws, and spreading over it its expanded wings and tail like a Hawk, and despatches it by striking it on the head, and picking a hole in the skull, and it then carries it to the horizontal branch of a tree, where, if undisturbed, it completely devours it. It will eat meat, fur, bones, feathers, &c., and disgorges the refuse in pellets, like the Hawk tribe. It is frequently beset with great clamour by Titmice and other small birds, which thus combine to annoy their common enemy; and although thus universally repudiated by the smaller tribes, and very ferocious itself, it is very social with its own species, young and old frequently assembling together, and betraying themselves by their perpetual clamour, especially when their nest is approached, thus guiding the seeker to their haunt. Their ordinary note is a sort of chirp, not unlike that of a House Sparrow, although they have also a short modulated song, and their power of mimicry is noticed above. The Cuckoo is reputed to deposit occasionally an egg in their nest.

8. THE JACKDAW.

CORVUS MONEDULA. Linn.—JACKDAW. *Mont.* Orn. Dict.—*CHOUCA.*
Buff. Temm. Man. d'Orn. — JACKDAW. *M'Gillivray.* — *DIE*
DOHLE. *Bech.*

DESCRIPTION AND PECULIARITIES.—This bird, from constructing its nest in old buildings, houses, castles, towers, and churches, is half domesticated, and becomes wholly so if

reared from the nest, when it will remain in the court-yard with the domestic poultry. It lays from four to seven green eggs, spotted with dark brown and black. It is kept, not so much for the purpose of being taught to speak (for it learns but few words, and then only with a great deal of trouble), but for the sake of the amusement produced by its tameness, and its flying to and fro. It is often so tame that it will accompany a person, in his promenades, observing everything which transpires in the house, more especially all that concerns eating and drinking. At the sound of the dinner-bell it resorts to the dining-room. Even old ones, caught in the autumn, whose wings have been cut, and plucked out in spring, so that by degrees they again learn to fly, may be taught to return at a certain call, and on the return of winter they will again resort to the court-yard. The Jackdaw is of about the size of a pigeon, thirteen and a half inches long; the back part of the head is light grey, the rest of the body is black, rather lighter beneath.

During the winter they eat wild garlick in the fields, sometimes smelling quite offensively of it, and they retain the odour even for a week after their return to the house.

In form the Jackdaw is more compact, and in action more lively, than any other British bird of the genus. The plumage of the head and neck is soft, elongated, and blended, excepting on the forehead, where it is of ordinary length, and glossy. The rest of the plumage is rather full and soft, the feathers indistinctly defined, their margins loose. The wings are rather long, rounded, very broad at the commencement, but suddenly tapering towards the end.

Of this bird M'Gillivray says, "He is a remarkably active, pert, and loquacious little fellow, ever cheerful, always on the alert, and ready either for business or frolic. If not so respectable as the grave and sagacious Raven, he is at least

the most pleasant of the family, and withal extremely fond of society, for not content with having a flock of his own folk about him, he often thrusts himself into the midst of a gang of Rooks, and in winter sometimes takes up his abode entirely with them. His flight is similar to that of the Rook, somewhat more rapid, generally extremely wavering, the bird frequently shifting its direction, now dashing downwards, then curving up again, shooting obliquely to either side, and performing as many evolutions as if it could not follow a direct line, which, however, it sometimes does when in great haste. It is also extremely clamorous, and its note being loud and clear, resembling the syllable *kaa* or *caw*, variously modulated, the noise emitted by a large flock, although in no degree musical, is far from being unpleasant.

“Jackdaws inhabit deserted buildings, steeples, towers, and high rocks, especially those along the coast. Sallying from thence at early dawn, they betake themselves to the pastures, meadows, or ploughed fields, to search for larvæ, worms, insects, and in general the same sort of food as the Rooks, with which they often associate on their excursions. They walk gracefully, and much more smartly than the Rooks, often running under excitement, and frequently quarrelling together, although without any serious results. They do not despise carrion, and on the shore will occasionally feed on shell-fish, crustacea, and fishes, being nearly as omnivorous as the Hooded Crows, although giving a decided preference to larvæ. They are scarcely less vigilant than the Rooks, at least while in the fields, so that it is not always easy to get within shot of them; but in the breeding season one may readily procure specimens by concealing himself in the midst of their haunts.

“This is one of the few birds that habitually or occasionally reside in the heart of cities, where it selects a steeple, a church tower, or any other high building in which it can

find a sufficient number of secure retreats. In Edinburgh, for example, it frequents Heriot's and Watson's Hospitals, the University, the Infirmary, the Chapel of Holyrood House, and the Castle, although in the latter it is chiefly in the rock that it takes up its abode. In the country, ruinous castles are its favourite places of resort, and it is found, for example, at Dunottar, Rosslyn, and Tantallon Castles, and the buildings on the Bass. It also not only unfrequently finds refuge in high rocks, as at the Cove, near Aberdeen, and in other places along the coast; and in defect of more agreeable lodgings, will sometimes settle in a wood.

“A gentleman residing near Chichester informed White, the naturalist of Selborne, that many of these birds built their nests every year in the rabbit burrows under ground. ‘Another very unlikely spot,’ White adds, ‘is made use of by Daws as a place to breed in, and that is Stonehenge. These birds deposit their nests in the interstices between the upright and the impost stones of that amazing work of antiquity; which circumstance alone speaks the prodigious height of the upright stones, that they should be tall enough to secure those nests from the annoyance of shepherd boys, who are always idling around that place.’”



9. THE JAY.

CORVUS GLANDARIUS. *Linn. Lath.*—*LE GEAL. Buff. Temm. Man. d'Orn.*—*JAY. Mont. Orn. Dict. Selb. Illustr.*—*THE BLUE-WINGED JAY. M'Gillivray.*—*DER HOLZHEHER. Bech.*

DESCRIPTION.—This is a handsome bird, which, in my youth, was frequently kept in cages as a chamber bird, in the forest villages of Thuringia, and taught to speak. It is about the size of a pigeon, and is thirteen and a half inches long. Its beak is like that of a crow, and is black; its legs, however, are brownish, inclining to flesh colour. All its smaller feathers are soft like down, and feel like silk. Its entire body is of a purple ashy grey; the throat whitish; the eyes reddish white; and the vent and rump quite white; the long loose feathers in front of the head, which look black ashy grey and purple red, can be raised like a crest; from the lower mandible a black stripe on each side runs down nearly half the length of the neck; the pinion feathers are blackish; the middle ones edged with white, which form a white spot upon the wings; the coverts of the anterior pinion feathers have externally narrow, glittering, bright blue and blue black transverse stripes, which contribute to render the bird extremely beautiful, and, like the colours of the rainbow, gently blending into each other. The tail feathers are black, grey at the base; marked towards the point with diluted stripes like the above described beautiful coverts of the wings.

The female is not very easily distinguished from the male. In the neck only she is greyish, whereas the male at this part is more inclined to red, which colouring extends to the back.

HABITAT.—It is found in the forests, both of the mountains and plains, and most frequently where fir trees are inter-

mingled with other forest trees. In confinement it must be kept in a large wire cage, formed in the shape of a house, tower, &c.

FOOD.—It subsists chiefly upon acorns and beech-mast, and if these are not to be obtained, on all kinds of insects, worms, and berries. In the cherry season it is one of the most injurious birds to gardens. If kept in a cage, or allowed to run about the room, it is easily accustomed to feed upon bran steeped in milk. It will also eat bread, curds, cooked meat, and almost everything served at table. Acorns and nuts are then delicacies to it. In keeping it, much attention must be paid to its cleanliness, otherwise the plumage becomes soiled and unsightly. It is, however, best to accustom this bird to eat merely wheat, for then it does not soil itself so much, and its excrement is not so fluid and offensive. It can be kept many years upon this diet; but it constantly requires fresh water, not merely for drinking, but also for bathing.

BREEDING.—They build upon beeches, oaks, pines, and firs, both high and low, and lay from five to seven ashy grey eggs, merging into grey, and sprinkled with minute dark brown spots. The young, which are taught to speak, must be removed from the nest when a fortnight old, and fed with curds, biscuit, bread, meat, &c. They are easy to rear and to tame.

The adult birds are not easily tamed. They always try to hide when they see a person, and will often fast for a whole day rather than come out of their hiding place.

CAPTURE.—Whoever finds amusement in adult birds of this kind may most readily catch them in the following manner: in the autumn, from Michaelmas to Martinmas, a place is selected in a fir wood, which these birds are seen to frequent numerously, especially where a single fir or pine tree stands, but it must be at a distance of from three to six paces

from any adjoining tree. From this the superfluous branches should be removed, and only some left in the form of a spiral staircase, each branch about five or six spans in length. These branches must commence at about from ten to thirteen feet from the ground, and extend to within six feet of the summit; they must be covered with limed twigs. Beneath the tree a hut is made, covered with green branches, which should be suited in size to the number of persons it is to contain. Upon this a living or a dead Owl, or one moulded of clay, is placed, or not having such, even a hare-skin will render the same service, only it must be attached to something, so that it may be moved. To attract the Jay, it is necessary to have a pipe made of a bit of wood. The cry of an Owl, the hereditary enemy of the Jay, is then imitated; as soon as it is heard, the Jays flock from all quarters crying and chattering, the bird-catcher shrieking in imitation of them; when they soon perch themselves upon the limed rods, remain attached to them, fall down, and are captured. If the upper roof be covered lightly with pine twigs, the birds will fall through it. A multitude of other birds are attracted by the same deceptive call; they wish to save their friends from a supposed enemy, but are caught themselves, and thus in the course of a few hours a multitude of Jays, Magpies, Woodpeckers, Thrushes, Redbreasts, and Titmice, may be obtained. This mode of catching begins at daybreak; but it may be followed also in the twilight.

They likewise frequent the watering-places, where, in July, young birds with only half-grown tails are captured. These also may be rendered tame, and be taught to speak.

COMMENDATORY QUALITIES.—As I have before said, the tractability of this bird recommends it, for it easily learns to speak, especially if its tongue has been loosened; uttering, however, nothing but solitary words. They learn to imitate also the fanfare of a trumpet, and other melodies of single bars, as

well as little airs, and the notes of many birds. Their colours also are inducement enough to make them desirable chamber birds. They may be accustomed to fly in and out; but this is not so easily effected in towns as it is with Ravens and other kinds of Crows; in the country, near woods and fields, however, it may be accomplished.

The Jay is pretty generally distributed in England and the southern and middle divisions of Scotland, occurring chiefly in parts that are well wooded. Its flight in an open place is somewhat similar to that of the Magpie or Missel Thrush, being direct, and performed by quick beats, with short cessations at intervals. It glides through the woods and thickets with great ease and dexterity, flits along the hedges, and rarely approaches the habitations of man, except in search of food for its young, its affectionate concern for which will induce it to brave dangers from which on ordinary occasions it would shrink.

"Its common notes," Montagu says, "are various but harsh. It will sometimes in the spring utter a sort of song in a soft and pleasing manner, but so low as not to be heard at any distance; and at intervals introduce the bleating of a lamb, mewing of a cat, the note of a Kite or Buzzard, the hooting of an Owl, and even the neighing of a horse. These imitations are so exact, even in a natural wild state, that we have frequently been deceived."

Its nest is commonly built in high coppice wood or hedges, and sometimes against the side of a scrubby tree. It is formed of sticks, lined with fibrous roots, and the bird lays five or six eggs of a light brown colour, not very unlike those of the Partridge, but smaller, and obscurely marked with a darker shade of brown. Mr. Waterton describes the nests as compact and well put together. The nest is never seen near the tops of trees, like those of the Magpie and Crow,

He who feels inclined to study the nidification of this bird must search the lower branches of the oak, or inspect the woodbine mantling round the hazel.

10. THE NUTCRACKER.

CORVUS CARYOCATACTES. Linn.—CASSE-NOIX. Buff. Temm. Man. d'Orn.—NUTCRACKER. Mont. Orn. Dict. Selb. Illustr.—DER TANNEHEHER. Bech.

DESCRIPTION.—In size it resembles the preceding; it is twelve inches long, of which the tail occupies four inches and three-quarters; the folded wings extend to about its middle; the beak is one inch and a half long, straight, compressed laterally, curved in front, and black; the iris is nut brown; the legs black, one inch and three-quarters high. It is variegated like a Starling. The body is blackish brown, above lighter, beneath darker; head, neck, and rump, uniform; a white spot in front of each eye; the cheeks and sides of the neck are sprinkled with a multitude of white small oval spots; on the back some larger ones, or only some scattered stripes; on the breast many large oval white spots, which are less numerous, but larger, and almost triangular, on the belly; the upper coverts of the tail are black, the lower ones white; the coverts of the wings blackish, the small ones having single triangular white tips; the pinion feathers black; the tail feathers are also black, but these have white tips.

The female is more of a rusty brown than of a black brown.

HABITAT.—It dwells in the profoundest forests, especially when they consist of firs and pines, intermixed with other forest trees, and if there are meadows and springs in the vicinity. Although apparently a permanent bird, yet it flocks

in numbers about October to those districts where acorns, beech-mast, and hazel nuts are to be obtained. In winter it is even found in the highways, which it frequents to examine the horse droppings. In confinement it must be treated like the Jay.

FOOD.—The Nutcracker, by means of its strong beak, breaks the fir and pine cones, and cracks with ease acorns, beech-mast, and hazel nuts. It devours, also, all kinds of berries, or indeed anything that it can obtain ; but it chiefly enjoys animal food and insects.

It must be fed like the preceding ; but it is much easier tamed, and more easily accustomed to any kind of food. It will eat wheat, but prefers meat. If a live Jay be put into its cage it will be killed and devoured in a very brief space of time ; also shot squirrels given whole, which other small birds of prey avoid, he devours without hesitation.

BREEDING.—Its nest is formed in hollow trees. It contains from five to six eggs, which, upon a dark olive grey ground, have widely separated dark brown transverse stripes. The young is reared upon meat.

CAPTURE.—It is caught in the noose baited with service berries in autumn ; but a better bait consists of hazel nuts. It also frequents the watering-place.

COMMENDATORY QUALITIES.—In its comportment it is as amusing as the Shrike. It imitates the voice of various animals, and is as great a chatterer as the Jay. From the peculiarity of its voice and the structure of its tongue, it may be taught to speak, but it must be caught young in order to be instructed thoroughly.

The Nutcracker being merely a rare straggler in this country, few opportunities of studying its habits have occurred. Montagu states that “it is rare in England ; two instances only on record : one shot in Flintshire, the other in Kent.”

Mr. Selby adds another, an individual having been seen by Captain Robert Mitford, in Netherwitten Wood, in Northumberland, in the autumn of 1819. There is a specimen in the Museum of the University of Edinburgh, said to have been shot in Scotland; another in that of Mr. Arbuthnot at Peterhead. M. Valmont Bomare informs us that it prefers living in the pine forests of mountainous regions, and feeds chiefly on fir seeds and nuts. Nothing, he says, is more curious than to see it eating one of the latter. Having taken it from its store in the hole of a tree, it fixes it in a fissure, splits it open with a blow of its bill, and then extracts the kernel. Crows, Jays, and some of the Titmice, it may be observed, act in the same manner.

11. THE MAGPIE.

CORVUS PICA. Linn.—*LE PIR.* Buff. Temm. *MAN. d'ORN.*—*MAGPIE* Mont. *ORN. Dict.* *Selb.* *Illustr.*—*DIE ELSTER.* *Bech.*

DESCRIPTION.—This bird is about as robust as a Pigeon, but from the length of its tail is eighteen inches long. It is everywhere sufficiently well known, from its frequenting the vicinity of houses, and is, in fact, a handsome bird, notwithstanding the simplicity of its colouring. It is variegated black and white, but both colours are exceedingly beautiful, and it is still further ornamented by its wedge-shape tail, which shines with a purple reflection at its extremity, merging into steel blue.

FOOD.—At large this bird feeds upon insects, worms, all kinds of roots and fruits; in the bird-cage, or in the chamber or house, it will feed upon bread and cooked meat, and indeed upon anything that comes to table; and if well trained, it will come in at the window at meal times, to receive its food.

If more be given to it than it can eat at once, it will hide what it does not want for another meal. This peculiar instinct exhibits itself also in the young, as soon as they can eat alone.

COMMENDATORY QUALITIES.—This is, perhaps, of all birds, that which is most easily and thoroughly tamed. The nest is built upon trees, in the vicinity of villages, towns, and farm houses, and therein are laid from four to six whitish green eggs, covered with ashy grey and olive brown dots and streaks.

The Magpie imitates all striking sounds, and will learn to speak more readily than any other of the Crow tribe; but to effect this it must be removed early from the nest and trained. Plutarch makes mention of a Magpie, kept by a barber at Rome, which imitated the voices of men and animals, and the sounds of instruments which it heard, at once, and without any instruction, and, in short, spoke and sang so well, that throughout the quarter of the city where the barber dwelt it was the usual topic of conversation. This bird may easily be made as tame as the domestic Pigeon, by accustoming it to fly to and fro about the house. It is so excessively fond of raw meat, bread and other delicacies of the table, that they rarely wander far off at meal time. In order to accustom the bird to this kind of life, it should be taken from the nest when only a fortnight old, fed on bread, soaked in milk or water, and by degrees with chopped meat, and lastly upon anything that is found in the kitchen, even rotten apples and pears. When so far fledged that they can fly to a neighbouring tree, they may be allowed to go, when completely satiated with a full meal; they are then called back to the hand or to the place where it is intended they should remain; this is repeated until they are fully fledged, then the wings are slightly cut, until the winter, a season in which they may be plucked out. They soon become so familiar with their

attendant, and the house where he dwells, that they may be allowed their liberty for half a day at a time. When in addition they are taught to speak, they are still more amusing. Adult birds, which are easily caught in winter by means of limed sticks to which bits of meat are attached, can be thus accustomed to the courtyard—the wings being cut in summer and allowed to grow again in the autumn. They then return without hesitation and associate with the other birds of the courtyard, and will also hatch their young in summer, at a little distance from the house, on the kitchen of which they are constant pensioners. But nothing that is shining should be left in the way of these visitors, for they carry off all metal or glittering things and hide them, as well as all their superfluities of food.

One of my friends writes to me: "I reared a Magpie which became so familiar as to rub itself against me until I stroked it. It learned to fly about by itself, and would follow me for hours, and it was sometimes with the greatest difficulty I could make it keep from me; I was obliged to shut it up if I did not wish to take it abroad. Towards other persons it was wild, but it would observe in my eyes every change of temper or caprice. It would fly off to a distance with its wild comrades, but never attempted to escape with them."

"The Magpie," says M'Gillivray, "is generally distributed in Britain, being more or less common in all the cultivated wooded districts of England and Scotland, both in the interior and along the coast, although nowhere numerous, on account of the hostility of gamekeepers, gardeners, and sportsmen of all degrees. In the Outer Hebrides, the Shetland and Orkney Islands, it is never seen, and in large tracts of the central regions of Scotland is rarely ever met with, because its habits are such

as to induce it to remain at no greater distance from human habitations.

“ There, on the old ash that overshadows the farm yard, you may see a pair, one perched on the topmost twig, the other hopping among the branches, uttering an incessant clatter of short hard notes, scarcely resembling anything else in nature, but withal not unpleasant, at least to the lover of birds. How gracefully she of the top twig swings in the breeze ! Off she starts, and directing her flight towards the fir wood opposite, proceeds with a steady, moderately rapid, but rather heavy flight, performed by quick beats of her apparently short wings, intermitted for a moment at intervals. Chattering by the way, she seems to call her mate after her ; but he, intent on something which he has espied below, hops downward from twig to branch, and descends to the ground. Raising his body as high as possible, and carrying his tail inclined upwards, to avoid contact with the moist grass, he walks a few paces, and spying an earth-worm half protruded from its hole, drags it out by a sudden jerk, breaks it in pieces, and swallows it. Now, under the hedge he has found a snail, which he will presently detach from its shell. But something among the bushes has startled him, and lightly he springs upwards, chattering the while, to regain his favourite tree. It is a cat, which, not less frightened than himself, runs off toward the house. The Magpie again descends, steps slowly over the green, looking from side to side, stops and listens, advances rapidly by a succession of leaps, and encounters a whole brood of chickens, with their mother at their heels. Were they unprotected, how deliciously would the Magpie feast, but alas, it is vain to think of it, for with fury in her eye, bristled plumage, and loud clamour, headlong rushes the hen, overturning two of her younglings, when the enemy suddenly wheels round, avoiding the encounter, and flies off after his mate.

"There again, you perceive them in the meadow, as they walk about with elevated tails, looking for something eatable, although apparently with little success. By the hedge afar off are two boys with a gun, endeavouring to creep up to a flock of Plovers on the other side. But the Magpies have observed them, and presently rising, fly directly over the field, chattering vehemently, on which the whole flock takes wing, and the disappointed sportsmen sheer off in another direction."

Jesse, in his "Gleanings," remarks, that this bird is fond of butterflies. As he was passing a considerable length of wall one day, he noticed five or six Magpies perched upon it, from which they eagerly darted at the butterflies as they came near them, making a short and elegant circle, and alighting on the wall again to feed on their prey. The imitative powers of the Jay and Magpie are well known, and many amusing anecdotes are told of them in our popular books on Natural History.

12. THE GARRULOUS ROLLER.

CORACIAS GARRULA. *Linn. Lath.*—ROLLIER D'EUROPE. *Buff.*—ROLLIER VULGAIRE. *Temm. Man. d'Orn.*—ROLLER. *Mont. Orn. Dict.*—ROLLER. *Selb. Illustr.*—DIE MANDELKRAHE. *Bech.*

DESCRIPTION.—I formerly thought that this bird could not be tamed, but have been convinced of the contrary by Dr. Meyer, of Offenbach, and M. von Clairville, of Winterthur, who have frequently reared its young.

In size and figure it resembles the Jay; it is nearly a foot long, of which the tail occupies four and a half inches and its expansion is two feet. The beak is one inch and a quarter long, very like that of the Magpie, blackish and with naked

nostrils; the iris, grey; the feet rather more than an inch high, and, together with the toes, of a dirty greyish yellow; head, neck, gorge, throat, breast, and vent, and large coverts of the wings, and all the lower coverts, are of a bluish green; the back, shoulders, and the three last pinion feathers, of a liver colour; the coverts of the tail, the smaller coverts of the wings, and the concealed web of the pinion feathers, on the inner margin, are of an indigo blue; the external web of the pinion feathers is black, from the base half way down bluish green; the straight tail is of a dirty blue green at the base, becoming purer and lighter towards the tip, the two central feathers being entirely brownish green, the first black at the tip, and the second to the fifth, having on the inner web a large blue spot, with a brownish tip, and all these colours shine also beneath.

The female is reddish grey, tinged with bluish green on the head, neck, breast, and belly; the back and the posterior pinion feathers are bright greyish brown; the rump green, with a tinge of indigo blue; the tail blackish, tinged with green and blue, in other respects like the male.

HABITAT.—This bird inhabits Europe and Northern Africa, but not throughout the entire width of this latitude. It is found in but few spots in Germany, chiefly in the oak and pine forests of the plains, especially those having a sandy soil, but not in the mountainous districts. In its migrations it is frequently found in other districts. When caught it should be allowed to run about with clipped wings.

FOOD.—This consists of insects and frogs, and, it is said, also of the knotty roots of plants, acorns, grain, and similar things; but in my chamber I have never seen them pick up and eat any vegetable substance, and I therefore doubt if such be the case.

BREEDING.—The nest is built in hollow trees, and is formed with twigs, blades of grass, feathers, and hair. It

contains from four to seven eggs, very obtuse above, and beneath very pointed; they are white, and hatched by the parents conjointly, in from eighteen to twenty days. The young birds do not acquire this beautiful bluish green colour before the second year, but they have the head, neck, and breast, covered with a greyish white.

The following is Dr. Meyer's mode of training the Roller : —“The bird should be taken half fledged from the nest, and fed with chopped bullock's heart, beef, or offal, until they can feed themselves. They are continued to be fed with the same food, or with half-grown living frogs. It is amusing to observe how they kill and devour these, throwing them frequently up, and catching them again in their open beaks as they fall; they will then take them by the hind legs and strike their heads violently against the ground. This round of throwing up, catching again, and beating against the ground, continues until the frog is nearly quieted, and they then devour it. In my opinion, this is done that the frogs, of which they will eat from three to four successively, should not move about in their crop.

“When these birds have been fed for some time in this manner, barley-meal is mixed with their food. Indeed, by degrees, I have induced them to eat bread, roll, vegetables, and barley-meal, the latter somewhat moistened; but bullock's heart continues their favourite food. I have never seen them drink.

“They become familiar with their attendant: upon a call or whistle they will come to him, and will take their food out of his hand, but without allowing themselves to be touched. They are never thoroughly tamed, but snap about. Excepting at meal times, they sit constantly upon the same spot, and if they chance to hop up and down the room, from the shortness of their legs this appears to be done painfully. They must not be left completely to themselves to fly about

in a room, nor are they to be entirely confined in a cage, as they are exceedingly shy birds, and often strike their heads against the bars, soon destroying themselves. It is best to clip their wings and let them run about. They are very quarrelsome together, and bite each other violently ; but comport themselves towards other birds very amicably. For a time I have allowed them to fly about in a large breeding room, in common with different sized birds, and have kept them also, for some time, among those of my pigeons which did not fly out. They remain as healthy and cheerful alone as in society, but I usually allow them to run about the chamber with other birds."

I have since seen two of these birds at M. von Clairville's, and I also possessed one myself. These were all reared upon bullock's heart. As they could feed themselves, they had it cut into small pieces, and placed in a trough with water. Carrion beetles and other ground beetles are, however, their favourite food.

COMMENDATORY QUALITIES.—Beyond their beautiful plumage, there is not much to recommend them ; yet Madame von Clairville had taught one to fly into her lap to receive its food and be fondled ; but no one durst look on. They almost always sit upon one spot, but are restless, especially at night ; and when confined in a cage, will batter their plumage. Those which I saw were not quarrelsome, but sat tranquilly beside each other during the process of digestion. Their voice consists of a disagreeable cry, resembling that of the frog or the Magpie.

13.—THE GOLDEN ORIOLE.

ORIOLE GALBULA. *Linna. Lath.*—LOBROT. *Buff. Temm. Man. d'Orn.*—GOLDEN ORIOLE. *Mont. Orn. Dict. Selb. Illustr.*—*DEB PIROL. Beck.*

DESCRIPTION.—The male of this beautiful species is about the size of a Blackbird, and is nine inches long, of which the tail occupies three inches and a half. The flesh-coloured, brownish beak is an inch long, strong, roundly convex, and curved at the upper end, sharp, and somewhat excised at the point; the nostrils are open; the irides greyish brown; the feet are an inch high, and, as well as the toes, are of a dirty lead colour. Head, neck, back, throat, under side of the neck, breast, belly, sides, and lower coverts of the wings are of a beautiful golden yellow, slightly paler on the throat and belly, and upon the rump verging towards green; between the angle of the beak and the eyes there is a black spot; the eyelids are margined with yellow; the wings black; the coverts of the large pinion feathers fringed with pale yellow, which produces a yellow spot upon the wings. The two central feathers of the straight tail are entirely black; the rest, from the base half-way upwards, also black, becoming then of a golden yellow, yet so arranged that the external ones have more yellow than those within, and are upon the narrowest side entirely black.

The female is not so beautiful: she is somewhat smaller, and the golden yellow colour exhibits itself only at the ends of the olive green tail feathers, and on the lower coverts of the tail and of the wings; the upper portion of the body is of the colour of the Greenfinch, and the under side of a dirty whitish green, intermixed with dark stripes; the wings are blackish grey.

HABITAT.—They inhabit coppices in fields and the skirt-

ing woods of large forests, where thick and high trees are found, giving a preference to those where there is an intermixture of fir and pine trees. It prefers trees of the densest foliage, so that it is rarely to be seen on a naked branch: during the cherry season it also visits gardens. It comes to Germany in May, when the trees are full of leaves, and again quits in August in flocks. If not allowed to run or fly freely about, it should be placed in a large wire cage, made usually like a Nightingale cage or an ordinary birdhouse. At night it is always very restless, even when covered closely with a thick cloth, frequently injuring its plumage by its violence. Like the Roller, it hops obliquely and awkwardly about the room, and is quarrelsome and snappish with all its neighbours.

FOOD.—It feeds upon cherries, berries, and insects. If an adult male is caught by means of the Owl, it should be placed in a large cage in an unoccupied room or chamber; it may sometimes be preserved for a time alive, by giving it, at first, nothing but fresh cherries, mixing these by degrees with roll and dried ants' eggs steeped in milk, or with the ordinary Nightingale food. Dr. Meyer preserved one of these, which he kept in a Titmouse trap for two years and a half. At first he fed it upon the usual Nightingale food, afterwards upon biscuit and milk, and at last it would eat anything that came to table.

BREEDING.—The Golden Oriole breeds but once a year, and exhibits considerable dexterity in building, skilfully hanging its purse-shaped nest in the fork of the bushy branch of a tree or shrub. The nest somewhat resembles a basket with two handles. The female lays from four to five white eggs, which are sprinkled and marked with blackish dots and spots; and the young resembles the mother until the second year. If it be wished to rear them, which requires much labour and attention, they must be taken from the nest half-fledged, and at first fed with fresh ants' eggs and bul-

lock's heart, being by degrees accustomed to the usual Nightingale food, or roll steeped in milk. They may thus be preserved for four years or more. It is to be regretted that they never acquire the beautiful yellow and black colours of the male in confinement, but always retain the plumage of the female.

COMMENDATORY QUALITIES.—I have seen two males reared from the nest, one of which, in addition to its natural song, which sounds like *hidahaya goigaya*, &c., or, as children say in Prussia, "If you have drank, so pay the reckoning," imitated the flourish of a trumpet; and the other piped a minuet. I must confess that the round, full, flute-like tones made the song of this bird exceedingly agreeable. It was to be regretted that it had cast its golden yellow plumage, which always takes place in confinement, especially when the bird is kept in a room where tobacco is smoked, or where the chimney smokes. Its call-note, whereby in June it distinguishes itself so much from all other birds, is *yo*, or *pewhloh*.

The Golden Oriole, the only species of the genus that is ever seen in Europe, is said to arrive in Spain, France, and Italy, about the end of Spring, and it is not uncommon in many parts of Germany, but is rare in the northern countries, and in England is not a regular visitant, a few individuals only having been seen there at long intervals, so that it ranks among the accidental stragglers. The young are difficult to rear, and do not thrive well in captivity, otherwise creatures so beautiful would no doubt be great favourites as cage-birds, although their natural notes are loud and harsh, and their song unpleasant.



14. THE HOOPOE.

UPUPA EPOPS. *Linn. Lath.*—HUPE, or PUPET. *Buff.*—LA HUPPE. *Temm. Man. d'Orn.*—HOOPOE. *Mont. Orn. Dict. Selb. Illustr.*
—THE EUROPEAN HOOPOE. *M'Gillivray.*—DER GEMRINE WIEDERHOPF. *Bech.*

DESCRIPTION.—In size it resembles a Misselthrush, and is a foot long, of which the tail occupies four inches. The beak is black, two inches and a half long, thin and curved; the legs are short and black, and the form of its tarsi and claws would indicate it to be a climbing or creeping bird; the irides black brown. Its crest consists of a double row of

feathers, of which the longest is about two inches ; the tips are black, and the lower portion orange : head, throat, neck, breast, and the ~~coverts of the~~ lower wings, are reddish brown ; the belly white, in young birds marked with dark brown narrow lines which run upwards. The upper part of the back and the small coverts of the wings are reddish grey ; the lower part of the back, the scapulars, and wings, black, banded with yellowish white ; the rump white ; the tail, consisting of ten black feathers, having about the middle a transverse broad white band, externally bent into an obtuse angle.

HABITAT.—During summer it inhabits woods adjacent to cattle pastures and meadows. In August, when the meadows are cut, it migrates in flocks to the plains. It goes away in September, and returns towards the end of April. It frequents the ground more than trees, and should not be placed in a cage, but allowed to run freely about the chamber. It is exceedingly chilly, and therefore likes warmth ; at least it constantly sits near the fireplace, and, from its love of warmth, will rather let its beak be shrivelled up than remove from its position.

FOOD.—They eat all kinds of beetles and insects, for which they may be seen searching among the dung heaps, and they are sometimes placed in granaries to catch the beetles, spiders, and other insects, in which they are very expert. But the assertion that they eat mice is unfounded. They are easily fed upon meat and roll steeped in milk. They must, however, have occasionally a few meal-worms given them.

BREEDING.—They make their nests in high trees, and lay from two to four eggs. The nest is formed of cow-dung and the fibres of roots kneaded into the form of a hemisphere. Although adult birds may sometimes be reared with much trouble, it is rarely successful. In rearing the young from the nest they should be removed and fed with the flesh of

young Pigeons until full grown, as they cannot feed themselves for six weeks. They feed with difficulty at all times, having a heart-shaped tongue, of the size of half a bean, which is too short to turn the food into the throat. They are therefore obliged to throw their food up in the air, open the beak, and catch it in the gullet as it falls.

CAPTURE.—To catch them, it is necessary to observe a place where in August they ran about in the meadows; a piece of wood eight inches long is smeared with birdlime, a thread of the length of a finger is tied to it, and to the end of this some meal-worms are fastened; this piece of wood is loosely stuck into a molehill. As soon as they observe the worms they pull at the thread; the limed stick thus falls upon them, and they remain fixed to it.

COMMENDATORY QUALITIES.—The Hoopoe is pleasing, not only from its beauty, but its grotesque grimaces are also very amusing. It distinguishes itself peculiarly by a constant movement of its head, every time touching the ground with its beak; and at the same time jerking its crest forward and giving a catch with its wings and tail; when thus advancing onwards, it looks as if it were walking by the aid of a stick. I have kept several in my chamber, and amused myself with their strange demeanour. When looked steadily at they immediately begin their pantomime. M. von Schauroth writes to me as follows:—"Two young Hoopoes which I had taken from the summit of a lofty oak I reared with difficulty. They would follow me everywhere, and if they only heard me at a distance they made a twittering cry of joy, and would spring towards me; they did not fly much, but with apparent facility when they did so; if I sat down they climbed up my clothes, especially when I fed them, and would seize the milk-jug, eating with great zest its surface of cream. At other times they climbed higher and higher till they reached my shoulder or head, caressing me

very affectionately, but I had only to say a word to free myself from their importunity ; they then usually retired beneath the stove. They always looked in my eyes to see if I was at leisure, and would suit their conduct accordingly. I fed them with the food given to Nightingales, and at the proper season with beetles, May-bugs and dung-beetles being their favourite food ; earth-worms they would not eat, but they would strike at them with their pointed beaks until they had separated the legs and elytra, and nothing but the soft parts remained ; this they would throw up into the air, and catch it so that it fell longitudinally into the gullet ; if it fell transversely, they would repeat the operation. They do not bathe in water, and only dust themselves in the sand. I took them with me into the neighbouring meadows to let them catch insects, and then observed their instinctive fear of birds of prey. As soon as a Raven or even a Pigeon was seen flying, they would throw themselves down upon the ground, spread out their wings so widely that the outermost pinion and tail-feathers touched each other, and the bird was surrounded, as it were, by a glory of pinion and tail feathers ; turning their head back, and holding the beak upright in the air. In this position they looked like a great clod. As soon as the bird was out of sight they would jump up with cries of joy. They basked and stretched themselves with delight in the sun. When pleased they would cry *wek, wek, wek*, in a floating tone ; in anger they had a shrill voice, and the male, which is the reddest, would cry a couple of times *hup, hup*. The female often carried her food about the room, rolling around it feathers, small threads, or dust. This formed a ball in the stomach, of the size of a hazel nut, and the consequence was that she died of indigestion. The male survived the winter, and sat always upon the warm stove, which caused its beak to shrivel so, that it gaped an inch asunder, and it thus died very miserably."

This bird has been met with in most parts of Britain, and even as far north as the Orkneys, although not on the western coast. It seems to make its appearance irregularly—more frequently in the autumn than in the summer, but rarely breeding. The form of its claws would lead us to suppose it to be a climbing or creeping bird; but although it resides chiefly in the woods, it is said also to betake itself to the fields in their vicinity, and to walk about in search of food, which consists of insects and larvæ. It breeds in hollow trees, forming its nest, according to some, of dry cow-dung and roots, or, as other authors assert, of decayed wood, grass, and feathers. It resembles the Kingfisher in the construction of its bill, and especially in the form of the tongue; but the shortness of the latter organ does not render necessary a diet of fish or frogs, as has been asserted, for other birds with short tongues can pick up small insects and larvæ with ease.

The bird derives its name from the crest of tuft (*huppe*, as the French term it) with which its head is adorned. Some, however, derive its name from its peculiar cry, which is said to resemble the sounds *up, up*, or *pu, pu*. It is said to be shy, although it suffers one to approach within gun-shot.

M. Necker in his *Birds of Geneva*, states, that the Hoopoes fight desperately, and leave the ground covered with feathers; and a correspondent of the *Magazine of Natural History* thus describes a favourite locality for these birds on the Continent:—"On the Bordeaux side of the Garonne, and near the city, are large spaces of marshy ground, intersected by broad ditches and creeks terminating in the river, where, from the advantage derived from the water, many poplars and willows are planted for the sake of the twigs, which are much used for tying vines. These trees being topped at about ten or twelve feet from the ground, so as to induce them to sprout much, become very thick, and in the course

of a few years, gradually decaying at the centre, are attacked by numerous insects, particularly the jet-ant, *Formica fuliginosa*. In these retired places, which are frequented only by a few cowherds and country people, the Hoopoe, which is a very shy bird, may be frequently observed examining the rotten wood, and feeding on the insects with which it abounds. The Hoopoe flies low and seldom, unless when disturbed, its food being so abundant as to require little search. It breeds in a hollow willow about the end of May. The young come out in June; but I could not ascertain the exact time required for hatching."

Instances of the bird's breeding in this country are on record; Jesse, in his *Gleanings*, mentions a pair which built their nest and hatched their young in a tree close to the house at Park End, near Chichester; Dr. Latham had a young bird sent him on the 10th of May; and Montagu speaks of a pair in Hampshire which begun a nest, but left it unfinished.

15.—THE CUCKOO.

CUCULUS CANORUS. *Linn. Lath.*—COUCOU. *Buff.*—COUCOU GRIS. *Temm.* MAN. d'ORN.—COMMON CUCKOO. *Mont. Orn. Dict. Selb.*
 Illustr.—THE GREY CUCKOO. *M'Gillivray.*—DER GEMEINE KUCKUCK. *Bech.*

DESCRIPTION.—It is of the size of a Turtle-dove, is fourteen inches long, of which the tail measures seven. The folded wings extend to three-fourths its length; the beak is an inch long, gradually curving, it is black above, beneath bluish, at its angles saffron yellow, and in the gorge orange red; the forehead and edge of the eyelids are yellow; the nostrils are margined; the legs yellow, and one inch high; two toes in front and two behind form climbing feet. Head, back of the neck, back, rump, and coverts of the wings, dark ashy

grey; the back and the coverts of the wings have an iridescent reflection; the under part of the body, as far as the breast, ashy grey; thence white, with blackish grey undulating lines; the pinion feathers dark brown, with white spots on the inner web: the tail feathers wedge-shaped and black, with an oval white spot in the middle, which, upon the centre one, is scarcely distinguishable.

The female is smaller, above dark grey, with dirty brown diluted spots; beneath the neck ashy and yellowish, mingled with dark brown transverse stripes; the belly is dirty white, striped obliquely with dark brown.

HABITAT.—As a migratory bird, it arrives in Germany about the end of April, and goes away again in September; and it may be either allowed to fly about the chamber, or placed in a large wicker cage.

FOOD.—Many kinds of insects. They collect great quantities of caterpillars from the trees. When caught they must have meat and the general food of biscuit crumbs, &c.

BREEDING, AND OTHER PECULIARITIES.—It is the only bird which does not hatch its own eggs, but deposits one, or at most two, eggs in the nests of insect-eating birds. It must be reared from the nest. This I have never done myself, but several of my acquaintances have. As in every respect it is a remarkable bird, and possibly many amateurs would like to have one or two in their rooms, I shall insert some observations M. von Schauroth has communicated to me about it. “The Cuckoo possesses scarcely any qualities to recommend it as a chamber bird. Adult, it is too perverse and voracious: its general character is obstinacy and ferocity, or else it sits quite still and melancholy. I have reared several, and the last I found in the nest of the Yellow Bunting; it was still blind, and yet attacked me with great fury when I removed it. It had scarcely been with me six days, when it would eat, apparently out of rage, all the food,

chiefly birds' flesh, which I offered to it; it was, however, very long before it learnt to eat out of its trough, and so violent was it, that it upset all the vessels. The tail grew very slowly, and the bird never was thoroughly tame—snapping at my hands and face, and indeed at everything that approached too closely, as well as at other birds that chanced to be in its way. It devoured the first general food, and in great quantities, which made it eject a great deal, and it is in many respects a foul feeding bird. It is extremely awkward with its small climbing feet, cannot absolutely walk, making at most great jumps, but it flies with the greatest facility."

Colonel Montagu had a young Cuckoo brought to him in the month of July, just as it could fly, and by great care, he kept it alive till December. For two months after it was caught it never attempted to feed itself by picking; and even to the last moment seemed to prefer being fed by the hand of its mistress rather than have the trouble of picking up its food, of which it was extremely choice. Of strangers it was very fearful, fluttering in its cage to avoid their attentions; but it would suffer itself to be caressed by a young lady who had been its kind benefactress.

The Cuckoo arrives in the south of England about the 20th of April, in the south of Scotland towards the end of that month, and in the northernmost parts of Britain soon after the beginning of May. The periods of arrival, however, vary considerably according to the character of the season, and as the birds do not always announce their return by emitting their well-known cry, they may sometimes be met with at a time when their presence is not suspected. There seems to be hardly any part of the country which they do not visit: for while some remain in the southern counties, others settle in the remotest islands of the north; and

although they are met with in the most cultivated districts, they also frequent the valleys of the wildest of our hilly and mountainous tracts. Perhaps the most favourite resorts of the species are parks and plantations bordered with field and pasture-grounds, or the woods and thickets of the upland glens: but on the rocky hills of the most treeless regions, and the bleak moors or ferny braes of the interior, it is found often in great numbers, although never in flocks, for if gregarious during its migrations, as some suppose, it manifests no social disposition during its residence. Whether it be more numerous in the south than in the north seems doubtful, for while it is stated "that they abound in the Malvern Hills, making the whole circuit of them resound with their note," they are as plentiful in the wooded valleys of the counties of Ross and Inverness.

"In the maritime Highlands and Hebrides," says M'Gilivray, "every one is on the look-out for the Cuckoo, which is a great favourite with the Celts, with whom, however, it may be the harbinger of evil as well as good, for should the Cuckoo be first heard by one who has not broken his fast, some misfortune may be expected. Indeed, besides the danger, it is considered a reproach to one to have heard the Cuckoo while hungry, and of such a one it continues to be said that the bird has muted on him, 'chac a chuaig air.' But should the Cuckoo be heard when one has prepared himself by replenishing his stomach, all will go well. The lover of nature, however, whether Saxon or Celt, gladly hails the bird of summer,

' Cuckoo ! Cuckoo ! O welcome, welcome notes !
 Fields, woods, and waves rejoice
 In that recover'd voice,
 As on the wind its fluty music floats.
 At that elixir strain,
 My youth resumes its reign,
 And life's first spring comes blossoming again.'

“Early in the sunny mornings of May, and towards the close of day, he who wanders along the wooded valleys will be sure to hear the ever-pleasing cry of the Cuckoo, unvaried though it be, as the bird, perched on a rock, or lichen-clad block, or balancing itself on the branch of some tall tree, cooes aloud to its mate. Let us pause and listen: the bird is not far distant, and we may describe his song, such as it is. You hear nothing but the same *hu-hu*, or if you please so to syllable it, *coo-coo*, repeated at short intervals; but if you attend better you will find that these two loud and mellow notes are preceded by a kind of churring or chuckling sound, which, if you creep up unseen, you will hear to consist of a low and guttural inflection of the voice, during which the throat seems distended.

“The flight of the Cuckoo is swift, gliding, even rapid on occasion, generally sedate, usually at no great height. In the hilly parts it may be seen skimming over the ground, alighting on a stone or crag, balancing itself, throwing up its tail, depressing its wings, and then perhaps emitting its notes. In woody districts it glides among the trees, perches on their boughs, and makes occasional excursions into the thickets around. On the ground I have seldom seen it unless when cooing, and there it can scarcely walk with more ease than a Swallow; but on trees it alights with facility, clings to the twigs with firmness, glides among the foliage, and by the aid of its tenacious grasp and ample tail, throws itself into various and always graceful postures, as it searches for its prey. Its food consists of coleopterous, lepidopterous, and dipterous insects—in procuring which it must visit a variety of places—and very much of hairy caterpillars, which it picks from among the grass and heath, where, however, it cannot search by walking, like a Plover or Curlew, as its feet are too short, and its toes misplaced for such a purpose. Yet it can hobble round

a bush to pick the worms from it, as well as cling to its twigs."

Whether the Cuckoo ever does take a share in the performance of the parental duties, has been, and still is, a disputed question ; ornithologists have generally inclined to the negative side, but from some very positive assertions recently made by J. M'Intosh, in *The Naturalist*, it would appear that they have yet much to learn on this subject. He states, that with a pocket telescope, he distinctly saw the female Cuckoo feeding its young in the nest of a Hedge Accentor, constructed in a holly-bush about two feet from the ground. Mr. Kidd also asserts that such a fact has been witnessed by a friend of his, whose veracity he could not question ; the foster-parent in this case being a Redbreast, which was assisted in the work of procuring food for the young Cuckoo by the real parent. According to Lisle Bowles, this bird, of all the songsters of the woods and fields, is the only really *scientific* performer ; his notes being the fifth and third of the diatonic scale, and therefore strictly in accordance with musical numbers. Wordsworth's beautiful lines on the Cuckoo, and the pleasing ode by Logan, have been too often quoted to need a repetition here.

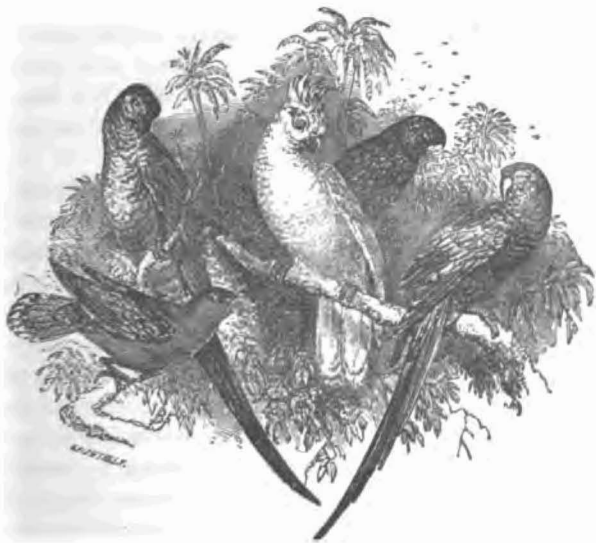


16.—THE LESSER GRAKLE.

GRACCUA RELIGIOSA. *Linn.*—MINO OU MAINATE. *Buff.*—DER MINO ODER PLUNDERER.—*Bech.*

DESCRIPTION.—This bird is about the size of a Blackbird, being ten and a half inches long. Its beak is slightly convex, knife-shaped, naked at the base, one and a half inch long, of an orange colour, and bright yellow at the apex; its legs are orange yellow; the nostrils longitudinal, and placed in the middle of the beak; the iris nut brown; the feathers at the side of the head are short, like shorn velvet, excepting in the middle, towards the back of the head, where they resemble those of other birds; at each side of the head there is naked skin, which commences beneath each eye and extends to the back of the head, where, however, they do not unite; it is of unequal width, broad near the margins of the eyes, and yellow. At certain seasons of the year, however, and in certain humours of the bird, whether angry or pleased, it somewhat changes its colour. The chief colour of the plumage is black, with a purple, violet, and green reflection, varying according to the light; there is a white stripe upon the pinion feathers; the straight tail is three inches long.

PECULIARITIES.—This bird is found in several parts of the East Indies, in the Island of Jamaica, in Java, and in almost every island beyond the Ganges. They feed upon vegetable substances, and those which are brought to Europe are very fond of cherries and grapes. When cherries are shown them, and are withheld for a time, they scream and cry like disappointed children. They become exceedingly tame and confiding, pipe and sing admirably, and chatter better than any Parrot. In China they are frequently kept in cages, being conveyed thither from Java, and sold for about five shillings a-piece. In Central Germany, where too distant from the coast, they are rarely to be met with.



SECTION III.—LEVIROSTRES. LARGE-BILLED BIRDS.

In these birds the bills are large, but generally hollow, and therefore extremely light; convex above, and hooked in front; feet short, robust, and in those I shall here describe, chiefly formed for climbing; the tongue is large and fleshy, resembling that of man, and on this account they easily learn to speak. They are all foreign birds, and must be tamed young if they are to be taught to articulate words.

I shall only mention here the ordinary Parrots which are brought from the East and West Indies, and distributed throughout Europe by the bird dealers. If it should happen

that one is acquired not described here, it may be treated like those to which it has the greatest affinity.

This family of birds is most commonly ranged under six divisions, but for the purposes of the present work, the following three classes are sufficiently distinctive :—The Macaw, including the Cockatoo and Tucan ; the Parrot, including the Parakeet ; and the Lory.

In the gracefulness of their forms and the richness of their colours, the MACAWS are among the most beautiful of these very showy birds. Their principal distinguishing characters are—the cheeks naked of feathers, and the tail very long. Their attitude is graceful, and the colours of their plumage and also of the metallic reflections, are intensely bright. Screeching is their favourite sound, in the exercise of which they occupy a considerable portion of their time ; in other respects they are more sedate, less given to mischief, and do not so habitually tear things to pieces as the Parrots ; while their large size, handsome form, rich colours, and graceful deportment, render them favourites in spite of their noise.

They are all inhabitants of the warmer parts of America ; and, like the rest of the family, seek their food and spend most of their time upon trees, in the holes of which the majority of them nestle. Some are said to excavate decaying trunks like the Woodpeckers, though one species at least is mentioned as burrowing in the elevated banks of rivers and streams. Their food is the seeds of large forest trees, rather than the succulent pericarps of fruit, whether wild or cultivated ; but they attack with great avidity the smaller cultivated fruits, such as coffee. They are not so social as most others of the family ; being found in pairs, or at most two or three pairs together, more in juxta-position than in society.

Of the PARROTS, properly so called, the greater number are natives of tropical America, where the trees furnish them with an ample supply of food. There is one, however, which is a native of Africa, though there are some distinctions between it and the American ones, in the air of the body, the form of the bill and head, a certain portion of the face being naked, the general tint of the plumage, and several other characteristics. These birds are in some respects the most interesting of the whole family. They are by no means the handsomest, either in their forms or in the colours of their plumage. They are, however, the most dexterous climbers, and some of them at least are the most susceptible of being taught to articulate words. The general characters which distinguish them from the rest of the family are but few in number, but they are well marked and easily observed.

The LORIES are all natives of the east; and many of them are birds of great beauty and highly interesting manners. They are, however, more delicate in their nature than the Macaws, Parakeets, and Parrots; and, therefore, though they are abundant in their native countries, there is some difficulty in bringing them alive to Europe; and a good deal of care is necessary in order to keep them alive after they are brought. The name "Lory," by which the whole are popularly designated, is, like the word "Cockatoo," the call-note of some of the species; though neither the one nor the other is the call-note of all the birds of which it has become the name.

When in their native forests these birds are exceedingly noisy; but it does not appear that any of them have much tendency to attack any other bird or animal. Neither do they seem to have any desire to devour eggs or insects, nor are they quarrelsome with each other.

There is little doubt that the manners of Parrots in their

native woods differ greatly from those which they display when kept in a state of captivity by man. Numerous as they are, they belong to wild nature, and their use to man is limited. It is true that the young birds generally, and also the old ones of some of the species, are eaten by the human inhabitants of some of their localities. But there are few human inhabitants in such places ; and it is no very easy matter to come at the Parrots, unless when they flock out upon plantations near the woods ; and upon such occasions their carcasses do not repay the damage they commit.

Many accounts have been given of the loquacity of Parrots ; and some of them are very amusing, as showing the power of imitation and the perfection of execution hereafter to be noticed. We shall content ourselves with little more than a single one, which we give from personal observation. The writer of this article had a friend who received a green Amazonian Parrot from a naval officer, who had just returned from the command of a frigate on the West India station, during the time when the West Indian seas were so much infested by pirates. This Parrot had been taken from a piratical vessel made prize of by the frigate ; and as it was docile, and actually communicated some useful hints in the scraps of Portuguese which it repeated, and sung and whistled in loud and clear strains, it soon became a favourite on board the frigate, and was not long in learning all the pipings and words of command which were most frequently repeated.

On the evening of its arrival, its new master had a dinner-party, and the Parrot, being a stranger, was placed on a pier table at the lower end of the room. From the time of its landing it had continued quite silent ; and, as the giver had not said one word of its powers, it was supposed to be a dumb Parrot. The party sat down to dinner with a good deal of glee and hilarity, and the bird began to show more activity. In a short time it piped the boatswain's whistle,

till all the apartment rung again ; and almost immediately after the pipe, it called in a hoarse, stentorian voice—“Steady ! take in a little there,” which somewhat astonished the party, as they were taking in their dinner and wine. During the afternoon it kept calling, “ One point below ! ” “ Thus.” After a while it treated them with a very tolerable repetition of the Portuguese hymn, and concluded by a violent fit of swearing in the same language. The age of this specimen when it came into the hands of the gentleman alluded to was not known, neither is the writer acquainted with the sequel of its history, but it was a very amusing bird, though quite wayward and untractable.

17.—THE RED AND BLUE MACAW

PRITTACUS MACAO. Linn.—*ARA ROUGE.* Buff.—*DER ROTHE ARAS.*
Bech.

DESCRIPTION.—This, as well as all other Parrots, is kept for the sake of the splendour of its plumage, and its admirable powers of articulation. Some there are, however,—for instance the Ash-coloured Parrot,—which likewise imitate the song of birds, as well as pipe very agreeably. All birds which speak, or at least articulate very distinctly, must, as I have before observed, have a thick, rounded tongue, the band of which is loosened, to give it greater freedom. Hence it is that Parrots, especially the short-tailed ones, are enabled to speak the most distinctly of any birds, the Ravens, Crows Jack-daws, and Jays following next in their capacity for imitating articulate sounds ; while, from the peculiar construction of the throat and larynx, Starlings, Blackbirds, &c. articulate the most distinctly of all.

The Blue Macaw is one of the largest Parrots, being two feet eight inches long, about the size of a moderate fowl.

The beak is so strong as to be capable of cracking the stone of a peach ; the upper mandible, which is much curved, is white, excepting the tip and base, which are black ; the lower mandible is entirely black ; the feet are grey ; the cheeks naked, and covered with a whitish, rough skin ; the irides bright yellow ; head, neck, breast, belly, thighs, the upper part of the back, and the upper coverts of the wings are of a brilliant scarlet ; the lower part of the back and rump bright blue ; the scapular feathers and largest coverts of the wings blue, yellow, and green intermixed ; the pinion feathers have the external web of a beautiful ultramarine and royal blue, the inner web is greyish black ; the tail is conical, and the two middle pinion feathers are scarlet, with bright brown tips, the next on either side half blue half red, yet inter-

mingled ; the four external ones violet, blue above, and beneath pale red.

The female scarcely differs from the male. These colours are not uniform in all, differences sometimes occurring in the wings and tail, yet not sufficiently to prevent the species being recognised.

HABITAT. — It is a native of the Brazils, Guiana, and other parts of South America, and chiefly frequents damp

forests in couples. It is usually allowed to go freely about, and for a perch it should be supplied with a smooth stick, crossed



by a transverse one : like all the Parrots, this is a very dirty bird, and it is best to place their perches in a wire cage. When elegance of appearance is desired, the cage may be in form like the engraving, and must be from two and a half to three feet in diameter and eight feet high, to prevent injury to the beautiful tail feathers, and to give the space necessary for exercise.

FOOD.—In its native forests it feeds chiefly upon the fruit of the palra. With us also it will eat all kinds of fruit ; but it is best to feed it upon roll steeped in milk. Biscuit also is not hurtful, but meat, as well as all kinds of pastry and sweetmeats, render it unhealthy, and even if it survives upon this for several years, it becomes sickly, its plumage gets disordered, it frequently bites out its feathers, especially upon the wings, and even gnaws holes in different parts of the body. It drinks but little, being always supplied with succulent food.

BREEDING.—These Parrots make their nests in the holes of old trees that have been partially cut down, or rotted away ; by means of the beak they will extend the cavity, if not large enough, and line the inside with feathers. The female, like all the American Parrots, lays two eggs twice a-year, which are in size and colour like those of the Partridge. With us also the females will lay, but they are usually unimpregnated ; or if not unfruitful, these birds, like all the Parrots when domesticated, lose the instinct of hatching ; yet instances have occurred wherein this instinct has been so strong that they have even hatched the eggs of pigeons and hens. Those which are brought to Europe are usually such as have been reared from the nest, especially when they can speak ; for adults are not only difficult to tame, but wholly incapable of being taught, and they then utter nothing but the insufferable shriek, whereby they express their emotions.

MALADIES.—They are subject to many maladies, and especially atrophy, or consumption, for which the remedy is warm appropriate food, such as water-cress, and a rusty nail in the water they drink. Like all Parrots, they must be carefully tended whilst moulting, not only that they may be kept healthy, but also that they may obtain a perfect plumage.

COMMENDATORY QUALITIES.—These Parrots are admired chiefly on account of their beautiful colours; they learn to articulate several words very distinctly, know their home, and follow the least sign of their owners. But their clumsy creeping movement, by the help of the beak, and uncleanly habits render them very disagreeable chamber birds. They are malicious, take capricious dislikes to particular persons, and children must not be left in a room alone with them, as they are apt to fly at the face, and injure the eyes. Their excrement, which is very fluid and unpleasant, must be removed daily.

18.—THE BLUE AND YELLOW MACAW.

PSITTACUS ARARAUNA. *Linn.*—*L'ARA BLEU.* *Buff.*—*DER BLAUE ARAS.* *Bech.*

DESCRIPTION.—This Parrot, which is of the size of a Capon, and two feet eight inches long, is, I consider, a handsomer bird than the preceding, although its colours are not so dazzling. The beak is black; the feet dark ashy grey; the cheeks flesh-coloured and naked, striped with a few beautiful black lines of the form of an S, consisting of short feathers; the iris bright yellow; the throat is surrounded by a black band; the forehead, as far as the vertex, the sides of the head, and the small coverts of the wings, are dull green; the rest of the upper part of the body of a beautiful blue; the rump sky blue; the under part of the body saffron; the

thighs orange; the wings, and the very conical tail, of a beautiful blue; of the latter the two central feathers are of



one colour; the others play into violet on the inner margin, and nearer the base are margined with black. It varies but little in colour.

HABITAT.—It is brought from Jamaica, Guiana, the Brazils, and Surinam.

PECULIARITIES.—In habits, and the other interesting qualities desirable in an agreeable chamber bird, it agrees with the Red and Blue Macaw : but it does not so easily learn to speak ; does not utter ~~the word Macaw~~ so distinctly, but the word *Jacob*, ~~the bleating of a sheep~~, the mewling of cats, and the ~~barking of dogs~~, it ~~imitates with~~ facility, and very accurately. Its custom of ~~drinking only in the evening~~ appears remarkable.

19.—THE MILITARY MACAW.

PSITTACUS MILITARIA. Linn.—*DEE GRUNE ARAM*. Beck.

DESCRIPTION.—It is rather smaller than the foregoing, two feet four inches long. Edwards has described and figured it very well. The beak is large and black ; the legs fleshy brown ; cheeks and circle around the eyes pale flesh colour, interspersed with a few black haired streaks of feathers, curved and very delicate. The head, neck, back, coverts of the wings, and under part of the body, are grass green ; in some parts brighter, and in other merging into dark or olive green. On the forehead there is a thick band of bright red feathers, which feel like coarse velvet ; the green anal feathers are intermingled with red ; the pinion feathers are black anteriorly, becoming gradually blue behind, the last only, with the scapulars, inclining more to green ; the rump blue ; the central tail feathers are very long, like those of the preceding birds, and, as well as the rest of the tail feathers, blue, with greenish tips, but bright red at the base.

PECULIARITIES.—This Macaw is brought from South America. It is considered a greater rarity, and is dearer than the preceding ones. It is extremely docile, and speaks with facility. That which I saw repeated everything immediately,

called all the children in the house by their names, was very patient, obedient, and attached, and thus distinguished itself very advantageously from the preceding.

20.—THE ILLINOIS PARROT.

PSITTACUS PERTINAX. Linn.—*PERRUCHE ILLINOIS.* Buff.—*DER ILLINESISCHE SITTICH.* Bech.

DESCRIPTION.—This is one of the most common Parrots to be seen at the bird-dealers'. It is nine and a half inches long. The beak bright ash colour; the eyes surrounded by a bald grey skin; the iris dark orange; the feet dark grey; the prevailing colour green, beneath yellowish grey; the forehead, cheeks, and throat of a beautiful orange; the vertex dark green, behind brighter, intermingled with yellow; the front of the neck ashy green; the abdomen has some orange spots; the pinion feathers bluish green, blackish on the inner web, the five last grass green; the tail conical; the middle feathers of one colour, the others margined partly with ashy grey and partly with bright yellow.

In the female the forehead is dark yellow, and there is no yellow intermixture at the back of the head, or on the abdomen.

HABITAT.—It is a native of the Brazils, Guiana, and Cayenne, where it inhabits the Pampas, and other open places, building in the gangs of the white ants (*termes fatalis*). They are gregarious, and are sometimes found in flocks of several hundreds. They are usually kept in pairs in a large wire cage. They are constantly caressing each other, and one will frequently pine to death at the loss of the other.

FOOD.—Feeding gregariously at large, they plant guards to apprize them of the approach of any enemy, on whose appearance they fly off with loud screams. Their food con-

sists of chestnuts, acorns, peas, pulse, and other grain. In confinement we feed them upon roll steeped in milk, and upon nuts.

COMMENDATORY QUALITIES.—They are pleasing to the bird-fancier, from the beauty of their plumage, their familiarity, and especially from the tenderness and affection which they display towards each other. They speak little, if at all, but utter incessantly very discordant sounds.

21.—THE BLUE-HEADED PARROT.

PSITTACUS CYANOCEPHALUS. Linn.—*PERBUOHE A TETE BLEU.* Buff.—*DER BLANKOFFIGE SITTEL.* Bech.

DESCRIPTION.—This is a common, but beautiful Parrot, about the size of a Turtle-dove. It is eleven and a half inches long, the tail six inches; and the folded wings reach to its middle. The upper mandible is bright yellow, but of a bright ashy grey at the tip; the lower one of a uniform ashy grey; the circle round the eyes bald and yellow; the upper part of the body green, the under part yellowish green; the forehead merging into red; the head is blue; the throat violet, with an ashy grey reflection; the sides of the neck dark yellow; the pinion feathers green, ashy grey on the inner web, and at the tip; the two central tail feathers greenish, passing into blue at the tip; the next the same, but internally bright yellow; the four external ones green on the outer web, dark yellow on the inner, but bright yellow at the tip; the two central feathers almost four inches longer than the rest; the feet bluish; the claws grey.

PECULIARITIES.—It comes from the East Indies. Its beautiful plumage is agreeable, and it is to be regretted that it does not speak. It must be treated like the preceding.

22.—THE ANGOLA YELLOW PARROT.

PSITTACUS SOLSTITIALES. Linn.—PERRUCHÉ JAUNE. Buff.—DER GELBE SITTICH. Beck.

DESCRIPTION.—It is of the size of a Turtle-dove, being eleven and a half inches long; the folded wings extend to one-third of the length of the conical tail. The beak and feet are grey; the throat, circle round the eyes, and the cere, bright ashy; the iris bright yellow; the predominant colour of an orange yellow; the back and coverts of the wings olive green, spotted; the rump yellowish green; the vicinity of the eyes, sides, and thighs, red; the coverts of the wings nearest the body olive green, with an orange yellow margin; the anal feathers blue; the large pinion feathers externally blue, internally yellowish green, and the shorter ones of the latter colour; the six central tail feathers yellowish green; the external ones the same, but blue on the outer margin.

PECULIARITIES.—This Parrot comes from Angola, easily learns to speak well, and is kept like the others.

23.—LONG-TAILED GREEN PARAKEET.

PSITTACUS BUTEBOSTRES. Linn.—LE SINCIALO. Buff.—DER ROTH-SCHABLIGE SITTICH. Beck.

DESCRIPTION.—It is of the size of a Blackbird, and is twelve and a quarter inches long, of which the tail occupies seven inches and a half; the middle feathers are five inches longer than the outer ones; the folded wings extend to one-fourth its length. The upper mandible is blood red, black at the tip, the lower one entirely black; the bald circle round the eyes, the cere, and the feet, are flesh coloured; the iris

orange ; the predominant colour yellowish green ; the margins of the wings brightish yellow.

Many are green, with a variety of shades, and they sometimes have also blue tips to the tail feathers.

PECULIARITIES.—It inhabits various parts of America, the Island of St. Domingo, Guiana, Brazil, &c. It screams and cries incessantly, readily learns to speak, pipe, and imitate the voices of most animals and birds. Confined in a cage where it has but little freedom to move, it constantly squeaks and screams, which frequently makes it almost intolerable. It requires the same treatment as the other Parrots, but does not appear to be quite so delicate.

24.—THE PAVOUANE PARAKEET.

PSITTACUS GULANENSIS. *Linn.*—LA PERRUCHE PAVOUANE DE LA GUIANE. *Buff.*—DER PAVUAN ODER GULANISCHE SITTICH. *Bech.*

DESCRIPTION.—This bird is the size of the Missel Thrush, twelve inches long, the tail six and a quarter inches, and the two middle feathers three inches longer than the external ones. The beak whitish, ash grey at the point ; the cere whitish ; the feet grey ; the claws blackish ; the upper parts are dark green, the lower brighter ; the cheeks spotted with red (in the young not before the fourth year) ; the small lower coverts of the wings scarlet (paler in young birds) ; the larger ones beautiful bright yellow ; the pinion feathers, as well as those of the back, margined on the inner side with yellowish green : blackish towards the tip, internally pale bright yellow, the shaft black.

PECULIARITIES.—It inhabits Guiana, Cayenne, and the Carribee Islands. Of all the long-tailed Parakeets, this most readily learns, and speaks also the most distinctly. It is often

for sale at the bird-dealers', as it admits easily of transport, and is not very delicate. The mode of treating it is the same as that adopted for the larger parrots.

25.—THE RED AND BLUE-HEADED PARAKEET.

PREITACUS CANICULARIS. Linn.—PERBUCHÉ À FRONT ROUGE. Buff.—
DER ROTMESTERNIGE SITTICH. Beck.

DESCRIPTION.—This Parrot, which is frequently brought to Germany, is ten inches long, of which the tail occupies the half, the folded wings extending to one-third of the length of the latter. The upper mandible is bright ashy grey, the lower darker, often black; the cere bright ashy grey; the circle round the eyes dark yellow, orange, or even whitish; the iris orange yellow; the feet bright ashy grey, with a fleshy tinge; the forehead is scarlet; the vertex beautiful bright blue, brightest behind; the upper part of the body grass green, the under side more brilliant; the large pinion feathers blue on the outer margin, sometimes scarlet at the base; the tail above dark green, beneath brownish green, and the two middle feathers are upwards of three and a half inches longer than the rest. The bird which I consider as possibly the female is reddish yellow on the forehead, and bright yellow around the eyes.

PECULIARITIES.—It comes from the southern parts of America. It is handsome, but does not speak well. Like the preceding species, it is easily obtained.

26.—THE CARDINAL PARAKEET.

PSITTACUS ERYTHROCEPHALUS. Linn.—LE PERRUCHE CARDINALE.

Buff.—DER CARDINAL SITTIICH. Bech.

DESCRIPTION.—About the size of the Turtle-dove, being twelve inches long, of which its very conical tail occupies six and three-quarter inches, and the external feathers are four inches shorter than the two narrow central ones. The beak is of a peach-coloured red; the cere ashy grey; the iris yellowish red; the feet grey; the whole head violet, shot with blue and red; a black ring surrounds the neck; the throat black; the upper part of the body dark green; the lower part bright green; the base of the tail bright yellow; the two middle feathers blue with a white point; the rest as well as the under part yellowish green. The female has a yellow beak, dark ashy blue head, without the ring round the neck, in lieu of which there is a yellowish tinge indicating its position.

In young birds the colour of the head is not distinct, but varies from rosy red to green, and the neck-ring is wanting. Three varieties of the Cardinal Parakeet are described:—

1. THE BLOSSOM-HEADED PARAKEET.—*Perruche à tête rouge de Gingi*. Buff.—In this, the head is red, shot with bright blue, especially behind; the black chin narrows into a thin line towards the neck; beneath this there is another narrow bright green line, both forming together a sort of band; the rest of the plumage is green; the under parts have a bright yellow tinge; the tail is green above, with a bright yellow inner margin.

2. THE ROSE-HEADED RING PARAKEET.—*Psittacus Erythrocephalus, Benjalensis*. Linn.—In which the upper mandible is bright yellow; the lower one black; the cere brownish; the apex of the head and cheeks rose colour, the back of

the head blue; the throat and the ring around it like the last, as also the red spot upon the coverts of the wings; the two middle feathers are blue; the others olive green, with blue margins.

3. BORNEAN PARAKEET.—*Psittacus Erythrocephalus*, *Borneus*. Linn.—In which the upper mandible is red, the lower one black; the cere and circle round the eyes ashy coloured; the whole head of a peach blossom red, with a green tinge on the forehead; from one eye to the other, above the cere, there is a black stripe which runs obliquely down to each side of the neck, becoming wider behind; the upper part of the body, as far as the tail, is bright green, but towards the middle of the coverts, passing into bright yellow; the whole of the under part of the body, from the chin, is of a reddish blossom colour, with a chestnut brown tinge; the feathers on the thighs, the vent, and the middle of the abdomen, green, the two middle ones passing into brown; the shafts of all white.

PECULIARITIES.—The East Indian bird is chiefly distinguished by its beautiful plumage. It is lively, shy, and screams a great deal. It will not learn of its own accord, and is taught with much difficulty to articulate words.

27.—PENNANT'S PARAKEET.

PSITTAOUS PENNANTI. *Lath.*—LE PURPURE. *Buff.*—DER PENNANTSCHER SITTICH. *Bech.*

DESCRIPTION.—The male, which is of the size of a hen-sparrow, has red for its predominant colour, and is called by bird-dealers the Purple Bird; the beak is strong and curving, and with a sharp tooth; the under mandible angular at the sides, merely swollen in the middle, and of a horny blue

colour, fading into white at the point; the iris is yellowish red; the cere dark blue, the feet dark flesh colour, or bright brown merging into white, and delicately scaled; head and rump are dark crimson; back and scapulars black enclosed with crimson; all the feathers are black at the base, but on the head and rump the base is concealed, the black thus not being seen. The throat, as well as the anterior small coverts of the wings, and the margin of the middle pinion feathers, are of a bright shining sky blue, with some spots, as if faded, upon the wings; the other coverts, as well as the last pinion feathers, are black, with narrow crimson edges, and beyond this internally enclosed with grass green; the pinion feathers black, the anterior ones, from the base to the middle, enclosed with dark sky blue; the whole of the under part of the body is of a bright crimson, the thighs inclining to bluish; at the rump, many of the feathers are marked, beyond the red end, with a grass green bar, glittering above the black ground colour; the tail is more than half the length of the body very conical, dark blue, the external feathers merging upon the inner web into a sky blue which fades towards the tip into white, the four middle feathers passing into, and tinged with dark green upon the inner web; the folded wings cover the third part of the body; the pinion feathers are angularly notched upon the external web, the apical portion being shorter than the basal.

The predominant colour in the female, which the bird-dealers treat as a different species, and call the Palm Bird, is greenish yellow. It is of about the size of the cock Sparrow. The head, sides of the neck, and half the breast, are of an intense crimson. The throat pearly blue, with a sky blue marginal reflection; the upper part of the neck, the back, the scapular, and posterior pinion feathers, of a velvet black, and all the feathers are enclosed with greenish yellow; on the shoulders and neck the enclosure is almost brimstone;

rump and vent Parrot green ; the long under coverts of the tail crimson, with yellow green margins ; the knee-bands merging into sky blue ; the under part of the body of a beautiful bright yellow, with several irregular red sprinklings and spots upon the feathers, which at once induce the supposition that it belongs to the preceding species ; the base of the tail iridescent, green predominating ; the rest of the tail and the wings as in the male.

PECULIARITIES.—These extremely beautiful Parakeets are unfortunately wild, shy, and very intractable. They have a piping voice, which, however, they do not frequently use. The feathers, as in the Amboina Parrot, are so loose, that by merely handling the bird they fall out. They are brought from Botany Bay, and are very costly. Their mode of treatment is as in the other Parrots, but being more delicate they must be very carefully tended.

28.—THE TWO-SPOTTED PARAKEET.

PRITTACUS BIMACULATUS. *Sparmann, Mus. Cap. Fœd.*—*PERRUCHÉ & MOUSTACHE. DER ZWEIFLEKIGE SITTICH. Beck.*

DESCRIPTION.—The length of this beautiful Parrot is one foot two inches, of which the tail occupies more than a half ; it is therefore of the size of a Turtle-dove, and is very slender. The beak is large, orange, or pale blood-red, with brighter margin and tips, having a deep tooth ; the cere flesh coloured, with a bluish reflection ; the iris bright yellow, as well as the naked eyelids ; the feet ashy grey ; the head is of a beautiful bright ashy grey : the vertex with a greenish tinge ; the narrow band on the forehead is black, the end towards the eyes naked and pale flesh coloured ; the forehead pale yellow ; from the base of the beak, passing over the cheeks, and extending to the throat, there is an almost triangular black

spot; the whole of the upper part of the body is grass green, with black shafts to the feathers; in the middle of the coverts is a yellowish green spot; the pinion feathers are blackish; upon the external web green, with a brimstone margin; the under part of the body dark rose coloured, the under wings yellow green; the thighs, rump, and vent green; the tail green; the two pointed middle feathers, only two inches longer than the rest, bluish above and dark green at the tip. There is a variety with a black beak.

The supposed female is of a pale orange on the forehead, throat, gullet, and sides of the head and neck; from the angle of the mandibles a black oval stripe runs down to the throat; occiput, neck, shoulders, back, rump, and the upper side of the tail, are grass green; breast, belly, and vent, of a beautiful green.

PECULIARITIES.—It is a delightful, talkative, and very docile bird, excessively tame, and of a tender and caressing character. Its cries sound like *gay! gay! gay!*

It comes from the South Sea Islands, and principally from Botany Bay.

29.—THE ROSE-RINGED PARAKEET.

PSITTACUS ALEXANDRI. Linn.—PSITTACUS MANILLENSIS. Bech.—
PERUCHE À COLMIER COLEUR DE ROSE. Buff.—DER ROSENNACKIGE
SITTICH. Bech.

DESCRIPTION.—This beautiful species is about twenty inches in length, but twelve or fourteen of that are occupied by the tail. The general colour of the upper parts is green, varying in different shades so as to show off the individual feathers; the turns of the wings are bright red, which extends as far as the bastard wing, forming a large and beautiful spot in the middle of the green; the throat in front has a deep black collar which narrows towards the nape, and under it there is a collar of brilliant red advancing forward nearly to

the throat on each side, but not meeting; the bill also is red; the under sides of the wing and tail feathers, and the tips of the latter, are yellow, and the under part of the bird generally green, but of a much lighter tint than the upper parts. The shape and action of the bird are very graceful, its manners are gentle, it acquires great docility, and articulates well. It is therefore a favourite bird, and there is perhaps not one more so in the Parrot family; because though some of the short-tailed Parrots perhaps speak better, none of them are so handsome or so gentle in disposition.

At this distance of time, it is not easy to say which of the Indian Parakeets was first introduced into the western world, or whether several species may not have been brought together. It is well ascertained that long before Alexander's invasion, the Egyptians carried on a considerable commerce with India; and as the Indian birds and other animals appear always to have been great favourites in the western world, it is by no means improbable that Parrots were introduced by the way of Egypt even before the invasion of India by Sesostris. Though much nearer in geographical situation, the Parrots of Asia do not appear to have been introduced into Europe till some time after the commencement of the Christian era; and we accordingly do not find any allusions to them in the classical writers, though there are many allusions to the Indian ones. It is worthy of remark, that those handsome and splendid birds have preserved their interest for a period of between two thousand and three thousand years, and that they continue to be sought after with as much avidity as ever.

These tame and delicate birds are natives of the Philippine Islands, especially Manilla. They also occur frequently in Africa. They are beautiful birds, but rarely learn to speak, and when they do, it is only a few words. They are treated like the other delicate Parrots.

30.—THE LUNATED PARAKEET.

PSITTACUS LUNATUS. *Bech.*

DESCRIPTION.—This bird is a little larger than a Turtle-dove; it is eleven and a half inches long, of which the conical tail occupies six inches, and the beak one; the latter is much curved, and has a strong tooth above, and is very obtuse beneath and whitish, with a horny-coloured tip; the circle round the eyes small, bald, and of a greyish flesh colour; the iris bright yellowish red; the feet dark ashy grey; the forehead bright red, as well as a semi-circular stripe at the commencement of the upper breast, where it is widest, and gradually tapering towards the neck; the whole of the upper part of the body is dark, or of a leek green, darkest upon the head, every feather having a black shaft; the pinion feathers dark green, with a bluish green reflection upon the external web; the colour of the upper part of the body merging, upon the tail, and upper coverts of the wings, into Siskin green; the coverts of the wings bright red; the under part of the body bright green, with a reddish tinge upon the breast, and with bright red knees; the wings and the tail, beneath, dirty golden yellow.

PECULIARITIES.—This Parakeet is very lively, screams frequently, and very loudly, *gerr! gerr!* and articulates distinctly and agreeably. It is fed like the other Parrots, and appears to attain a very great age in confinement, as is proved by the individual of which I have here given the description.

The Ring Parakeets are held in high estimation for their symmetry, grace, and elegance, their rich colours, great docility, and powers of imitation. They are also prized for their attachment to those with whom they are domesticated.

31.—THE GREY-BREASTED PARROT.

PSITTAECUS MURINUS. *Linn.*—LA PERRUCHE SOURIS OU À POITRINE GRISE. *Buff.*—DER GRAUBRUSTIGE SITTICH. *Bech.*

DESCRIPTION.—This pretty Parrot, which is distinguished by its grey colour, is of the size of a Turtle-dove. From the feathers of its head, and especially the grey ones of the cheeks, being somewhat puffed up, its beak small, and very obtuse, and the neck always considerably withdrawn, it has greatly the appearance of an owl. It is ten inches long, of which the conical tail occupies the half; the beak three-fourths of an inch long, considerably and unusually curved downwards with four sharp angles on each side of the upper mandible, and the under mandible truncated, and of a bright greyish, or rather a bright fleshy colour; the iris brownish grey; the small hollow circle around the eyes and the feet bright ashy grey; the forehead, half way up to the vertex, cheeks, throat, breast, and half the belly, bright silver grey, clouded with white upon the breast, which at a distance appears transversely striped, and is on the belly tinged with yellow; the upper part of the body is of a beautiful shining Siskin green, somewhat brighter upon the head and shoulders, therefore merging into a yellowish green; the rest of the under part, as well as the rump, of an apple green; the anterior pinion feathers blue; the tail Siskin green, with blue shafts; the apex merging into greenish yellow; the two central covered feathers bluish green.

PECULIARITIES.—This bird is very tame, and likewise speaks, although but little, and appears to be of an exceedingly melancholy temperament. Its call is a high toned, sharply sounding *keirsh*. It is the Parakeet of which Parnetty speaks in the Travels of Bougainville. It was found, he says, at Monte Video, where the sailors bought them for two piastres a-piece. They were very tame and docile, and

readily learned to speak, and were soon so fond of society that they were never easy when away from the men. It is generally thought, that confined in a cage they only live a year; but this assertion is contradicted by the specimen whence this description is taken.

32.—THE CAROLINA PARROT.

PSITTACUS CAROLINENSIS. Linn.—LA PERRUCHE À TÊTE JAUNE.

Buff.—CAROLINISCHE SITTICH. *Bech.*

DESCRIPTION.—It is of the size of a Turtle-dove, and is thirteen inches long. The beak is yellowish, which, as well as the eyes, is surrounded by a bald bright grey skin; the iris is bright yellow; feet and claws mouldy grey; front of the head orange; back of the head, neck and throat, bright yellow; the rest of the neck, the back, the breast, the belly, the sides, and the upper and lower coverts of the tail, are green; the thighs are also green, but orange towards the joint; the margin of the wings orange; the pinion feathers of the wings green above; beneath, the smaller also green, but the larger ones brown; the anterior pinion feathers brown on the inside; on the outside, at the base, bright yellow: thence towards the tip, green, merging into blue; the posterior pinion feathers green above, internally and beneath, brown; the tail very conical, and green.

PECULIARITIES.—This Parrot is a native of Guiana, and in the autumn migrates in flocks to Carolina and Virginia, where it also breeds. When the fruit is ripe in autumn, it is very injurious to those upon the trees, as it eats away the kernel, and leaves the rest. It is frequently brought to Europe, where it is fed upon hemp seed. It screams a great deal, and speaks but little. But the beauty of its plumage, and its docility, make it an agreeable chamber bird.

Wilson, the American Naturalist, relates the following experiment on the education of one. The specimen which he used for his purpose was but slightly wounded in the wing, and readily ate the seeds of cockle-burrs almost as soon as it was taken. In travelling through the woods, he bound it up in a handkerchief, which he carried in his pocket, but loosed and fed it always when he rested. He must, however, be allowed to tell part of his own story:—"In recommitting it to 'durance vile' we generally had a quarrel, during which it frequently paid me in kind for the wound I had inflicted, and for depriving it of liberty, by cutting and almost disabling several of my fingers with its sharp and powerful bill. The path through the wilderness between Nashville and Natchez is often bad beyond description. There are dangerous creeks to swim, miles of morass to struggle through, rendered almost as gloomy as night by a prodigious growth of timber, and an underwood of canes and other evergreens, while the descent into these sluggish streams is often ten or fifteen feet perpendicular into a bed of clay. In some of the worst of these places, where I had, as it were, to fight my way through, the Parakeet frequently escaped from my pocket, obliging me to dismount and pursue it through the worst of the morass before I could regain it. On these occasions I was several times tempted to abandon it, but I persisted in bringing it along. When at night I encamped in the woods, I placed it on the baggage beside me, where it usually sat, with great composure, dozing and gazing at the fire, till morning. In this manner I carried it upwards of a thousand miles exposed all day to the jolting of the horse, but liberated at meal-times and in the evening." On arriving at the house of a friend, Wilson placed it in a cage under the portico, and its call-note speedily attracted a number of its fellows. One of these was wounded, and placed beside it,

and the attachment which they showed to each other was truly wonderful; when the last-caught one died, the other appeared quite disconsolate for some days. We must again refer to Wilson for the catastrophe of this most interesting tale of animal history:—"On reaching New Orleans," says he, "I placed a looking-glass beside the place where she usually sat, and the instant she perceived her image all her former fondness seemed to return, so that she could scarcely absent herself from it for a moment. It was evident that she was completely deceived. Always when evening drew on, and often during the day, she laid her head close to the image in the glass, and began to doze with great composure and satisfaction. In this short space she had learned to know her name—to answer and come when called on—to climb up my clothes—sit on my shoulders—and eat from my mouth. I took her with me to sea, determined to persevere in her education; but, destined to another fate, poor Poll, one morning, about daybreak, wrought her way through the cage while I was asleep, instantly flew overboard, and perished in the Gulf of Mexico."

33.—THE AMBOYNA PARROT.

PSITTACUS AMBOINENSIS. *Linn.*—LE LOBY PERRUCHE TRICOLOR.

Buff.—DER AMBOINISCHE SITTICH LOBY. *Bech.*

DESCRIPTION.—It has some resemblance to the Ceram Lory. The French therefore call it *L'Aurore*. It is sixteen inches long, half of which is occupied by the tail, which is consequently long, but rounded. The beak is three-fourths of an inch long, very much curved, and pointed; the cere is wanting; the nostrils are seated near the forehead; the base of the upper mandible is orange yellow; the middle brighter;

the point and under mandible black ; the iris golden yellow ; the feet ashy grey ; the scales merging into dark brown ; the head, neck, and whole of the under part of the body, dark vermilion red ; the upper part of the neck is surrounded by an indistinct, narrow sky blue band ; the whole of the upper part of the body is of a beautiful green, with a delicate margin of a dark or bluish tinge to the feathers ; rump dark blue ; the tail black, slightly tinged with blue and green stripes upwards, and merging into green at the base ; sometimes the whole of the tail is entirely dark brown ; the anal feathers black, with a bright red margin to each ; the pinion feathers blackish blue, with green edges ; the edge of the wings enclosed with shining light green ; the under wings bluish black.

The female is green on the head ; the throat, gullet, and breast, the same, with a reddish tinge ; the anal feathers dark green, with a red margin ; the tail more tinged with green ; the beak horny brown, having both above and beneath a reddish tinge.

PECULIARITIES.—It comes from Amboyna, is wild, shy, screams *geek*, and pipes shrilly, but it does not speak. It is treated similarly to the other parrots. It is remarkable that its feathers are so loose as to come off when the bird is handled but they speedily grow again.

34.—THE COCKATOOS (PLYCTOLOPHINÆ)

Are natives of the Indian Islands and Australia, where they live in the woods, and feed upon seeds and soft and stony fruits, which their powerful bill enables them to break with ease. In a state of nature they build their nests in the hollow trunks of decayed trees. When taken young they

are easily tamed, become familiar and attached, but their imitative powers are limited, seldom exceeding a few words in addition to their natural call, *cockatoo*.

The White-crested Cockatoo, *P. galeritus*, is called Car'-



away, and also "Curriang" by the natives, and, according to Mr. Caley, is met with in large flocks at the conflux of

Grose and Hawkesbury rivers, and in the long meadow near the Nepean river. It makes its nest in the decayed hollows of trees, forming it of the decayed vegetable mould. It lays two eggs, which are white, without spot. The natives find the nest by the birds making "cotorá,"—that is, bark stripped off the smaller branches of trees in the neighbourhood, and cut into small pieces.

35.—THE GREAT WHITE COCKATOO.

PRITTACUS CRISTATUS. Linn.—KAKATOES à HUPPE BLANCHE. Buff.—
DER GEMEINE KAKATU. Bech.

DESCRIPTION.—It is of the size of a common fowl, being seventeen inches long. The beak is blackish; the cere black; the irides dark brown; the circle around the eyes bald and white. The entire bird is white, with the exception of the large pinion feathers, and the outermost feathers of the tail, of which the basal half on the inner side are brimstone colour; the crest is five inches long, and is raised or depressed at will.

HABITAT AND PECULIARITIES.—It is a native of the Moluccas. We usually keep it, like the rest of large Parrots, in a wire bell-shaped cage, arched above, and furnished within with two transverse



perches, and above these a moveable ring of wire—in this ring they are fond of sitting; or it may be chained to a

perch, as in the engraving, and on a warm sunny day be suffered out in the open air. They require the same treatment as the rest of the Parrots; but this, as well as the following Cockatoo, is very fond of all kinds of nuts, mealy seeds, and pastry.

Buffon gives the following account of its habits, which render it a desirable chamber bird. He says "the Cockatoo Parrots (of which there are about nine species, and all of which are distinguished by the crest) learn with difficulty to speak, but they are easily tamed. Thus, in some parts of India they have become tractable domestic birds, making their nests upon the roofs of the houses. The facility with which they may be reared, appears to result from their docility, in which they surpass almost all the Parrots. They listen more attentively, understand better, and obey at a sign. But they endeavour in vain to repeat that which is said to them; and this defect, it would seem, they strive to compensate by other expressions of feeling, and by tender fondling. Their beauty is much enhanced by their agreeable and gentle demeanour. In May, 1775, there was exhibited at Paris a couple, male and female, which, at the command of their master, raised their crest, saluted with the head, touched objects mentioned with the beak and with the tongue, answered questions in the affirmative or negative, by certain signs, and by a repetition of signs indicated the number of persons in the room, the hour of the day, and the colour of clothing, &c. They exhibited a strong affection for each other. Although Cockatoos, like the rest of the Parrots, make use of their beaks in climbing, yet they have not the same awkward motion; on the contrary, they are quick, bold, alert, and make small and lively jumps."

36.—THE LESSER WHITE COCKATOO.

PRITTACUS SULPHUREUS. *Linn.*—KAKATOES À HUPPE JAUNE. *Buff.*—
DER GELBHAUBIGE KAKATU. *Bech.*

DESCRIPTION.—It is fourteen and a half inches long. The beak, cere, and feet are blackish; the irides reddish; the eyes are placed within a bald white skin; the predominant colour is white, having a brimstone tinge beneath, and upon its head a similarly coloured pointed crest; beneath each eye there is a brimstone spot; the lower half of the external pinion feathers is on the opposite side, similarly coloured, as well as the pinion feathers, two-thirds of their length from the base.

It inhabits the Moluccas, and when tamed is exceedingly agreeable; it plays, fondles, and is fond of being caressed.

There are reputed to be two varieties, differing only in size.

37.—THE GREAT RED-CRESTED COCKATOO.

PRITTACUS MOLUCCENSIS. *Linn.*—KAKATOES À HUPPE ROUGE. *Buff.*—
DER ROTHHAUBIGE KAKATU. *Bech.*

DESCRIPTION.—This is rather larger than the common Cockatoo, being of the size of the Red and Blue Macaw. The beak is bluish black; the cere black; the bald circle around the eyes pearl grey; the irides dull red; the feet lead coloured; the claws black; the predominant colour is white, with a pale rosy red tinge; the crest upon the head very large, some of the feathers being six inches long; its lower part of a beautiful orange; the side feathers of the tail, from the base to the middle of the inner barb, brimstone; the under side of the wings have also a similar tinge.

PECULIARITIES.—It is a bird of handsome and majestic comportment, but without the same caressing character as

the common species, although capable of being as much tamed. It shrieks its own name, *Cockatoo*, like most of the species, and calls very loudly, in a trumpet-like tone, *Derdeny*. It imitates the cries of all animals, especially those of the domestic cock and hen, but it rarely learns to articulate words. When it screams it likewise claps its wings.

It is a native of the Moluccas, and is easily reared, as it is not a delicate bird.

38.—THE RED-VENTED COCKATOO.

PSITTACUS PHILIPPINARUM. Linn.—LE PETIT KAKATOES DE PHILIPPINES. Buff.—DER ROTHBAUCHIGE KAKATU. Bech.

DESCRIPTION.—It is of the size of the Ash-coloured Parrot, and is thirteen inches long. The beak is white, or pale flesh coloured, gray at the base; the circle around the eyes yellowish red; the feet of a mouldy grey; the predominant colour is white; the head is adorned with a crest, in the form of a muscle shell; which is not however observed until it rises; the feathers of this crest are scarcely one inch and a half long; brimstone at the base, white at the tip; some of the under feathers are bright red, but are only visible when the crest is raised; the two central tail feathers are white, the rest, from the base to the middle, on the inner web, brimstone; the under belly and coverts of the tail are red, with white tips.

PECULIARITIES.—It is a native of the Philippines. We must be contented with the beauty of its plumage, for it never learns to speak, but becomes very tame, and appears to be exceedingly envious when it observes other Parrots treated kindly. It shrieks horribly *aga* and *myeh*, and not *Cockatoo*. It must be treated similarly to the other kinds.

39.—THE BANKSIAN COCKATOO.

PSITTACUS BANKSII. *Lath.*—LE KAKATOES NOIR. *Buff.*—DER BANKSCHE KAKATU. *Bech.*

DESCRIPTION.—This is undoubtedly the handsomest of the Cockatoos, but it is also the rarest and the most costly. It is about the size of the Red and Blue Macaw, being from twenty-two to thirty inches long. Its thick beak is yellowish, with a black point; the irides red; the feet black; the predominant colour is black; the feathers of the head are tolerably long, but lie quite flat in repose, as in the Red-vented Cockatoo; upon the tip of each there is a yellow spot; the coverts of the wings have similar spots; the feathers of the upper part of the breast, and on the arms, have yellowish margins; the under part of the breast and the belly are striped with dark and bright yellow; the tail is tolerably long, somewhat rounded at the end; the two middle feathers are black; the rest, upon the base and on the tip, are also black, but the middle, for about one third of their length, are of a beautiful dark crimson, merging into orange, crossed by five or six black bars, which are about one-third of an inch wide, and a little irregular, especially on the external feathers, where they appear abruptly terminated.

There are several varieties of this beautiful species.

a. Has the beak lead coloured; the crest moderate black, but intermingled with yellow feathers; throat and gullet yellow; the sides of the neck black and yellow spotted; the entire body, as well as the wings, black, without any markings beneath the tail, as in the above.

b. Has the beak bluish grey; the predominant colour is olive, or rusty black; the sides of the head have a yellow tinge, but none of the feathers are yellowish at the tip, nor

has the belly any such stripes. The tail long, rounded: the middle feathers black, and dark crimson for a third of their length. Perhaps this is a younger bird.

c. Has the beak of a bluish horn colour; head, neck, and under side of the body, of a dirty dark brown; the feathers of the vertex and the neck margined with olive; the upper part of the body, the wings, and the tail of a shining black; the middle tail feathers of a uniform colour; the rest scarlet in the middle, but without transverse bands. Perhaps this is the female.

PECULIARITIES.—A superb bird; rare in England, and still more rare in Germany. It is found in different parts of New Holland. In its comportment and mode of treatment it resembles the Great White Cockatoo in its movements.

It is generally understood, of all the Cockatoos, that they nestle in holes of trees, and have only two eggs in a hatch, which are white without any markings. They are vegetable feeders, and flock together after the young are hatched, at which time they levy pretty severe contributions upon the crops of the colonists inland from Sydney. They are wary birds, and place sentinels, as appears to be the case with all the ranging members of the Parrot family; but the colonists shoot the young of various species in great numbers, and hold them in considerable estimation as game. The nest of the Crested Cockatoo, *P. galeritus*, is generally found in the black-butted gum tree, into the hollow limbs of which they sometimes enter as far as two yards. So few particulars are known, however, with regard to the general habits of this interesting division of the Parrot family, that there are not materials sufficient for forming even a guess at their use in the economy of nature, or the kinds of localities for which they are peculiarly adapted.

40.—THE ASH-COLOURED PARROT.

PSITTACUS ERITHACUS. *Linn.*—PERBOQUET CENDRÉ OU LE JACO.

Buff.—DER ASCHGRAVE PAPAGEL. *Bech.*

DESCRIPTION.—This and the following are the most common and the most tractable of all the Parrots with which we are acquainted. It is of about the size of a Pigeon, and is nine inches long. The beak is black; the cere and circle round the eyes of a mealy white; the feet ashy grey; the irides yellowish white; the predominant colour ashy grey; the feathers on the head, neck, and under part of the body, margined with white; the rump and under part of the body whitish grey, with ashy grey margins, whence the whole body has a scaly or mealy appearance; the short tail scarlet. The male and female closely resemble each other, and have both the same capacity.

HABITAT.—It is usually brought from Guinea, whither it is conveyed for sale from the interior of Africa. It is found also on the Congo, and on the coast of Angola. When tamed, it is usually kept, when we cannot allow it its liberty in a room, in a handsome large trap wire cage, with a ring in the centre.

FOOD.—In its native land it lives upon almost all kinds of fruits and grain, and it becomes fat upon the seeds of the saffron, which is a heating purgative for man. In confinement it will devour anything eatable. But it is kept best upon roll steeped in milk, and fruit. Meat, which it likes, as do all the Parrots, makes it laxative, and it then pulls out its feathers and becomes bald. If carefully attended to it has been known to live for sixty years.

BREEDING.—In its native land it builds in hollow trees, and is the species of which solitary instances occur, even in Europe, of its having hatched its young in a tame state

According to Buffon, M. la Pigeonierre of Marmande had a pair that for five or six years in succession formed a nest every spring, and hatched their young. Every brood consisted of four eggs, one of which was unfruitful. To induce them to breed, a small barrel with one of its ends out was placed in an apartment appropriated to the purpose, and both on the outside and inside perches were fixed, whereby the male could conveniently climb out and in, and be always with the female. It was necessary to enter the apartment with boots to defend the legs from the bites of the jealous male, who snapped at everything which approached too closely to the female.

Both adults and young birds of this species are easily tamed, but the young, which are fresh from the nest—and these constitute the majority brought to Europe—are the most capable of instruction.

They are liable to almost all the maladies of birds, and more particularly so when they are indulged with all kinds of dainty food. Swollen and gouty feet is one of the common evils with which they are attacked. Specific remedies for its cure are as uncertain as in mankind. But these maladies are best prevented by cleanliness, and a privation from all animal food and delicacies.

COMMENDATORY QUALITIES.—This Parrot and the Lories not only readily learn to speak, and to pipe, but also acquire all kinds of actions, grimaces, and tricks; they are especially distinguished by a pleasing and fondling comportment towards their keeper. These are preferred to the Lories, as they do not utter the unpleasant wild shriek of the former, which, when excited or angry, makes them almost insufferable. It takes considerable delight in imitating the voices of children, and therefore children are its best instructors. The extent of its powers of imitation is shown in the instances mentioned by Buffon, who says, "that one of these

Parrots was instructed by a sailor on the voyage from Guinea, whose hoarse voice and cough it imitated so naturally, that the crew were often deceived, and thought they heard the sailor when it was his mimic. He was afterwards taught by a young man, and although he then heard no other voice, he still did not forget the instruction of his old master, and it was amusing to hear him pass from the soft and agreeable voice of youth to the hoarse accent and rough voice of the old sailor. This bird had not merely great capacity for imitating the human voice, but it even exhibited great desire for the attainment, which could be recognised in the attention and trouble he took to imitate voices; he was incessantly chattering some of the syllables he had heard, and even sought to prevent his memory from being distracted, by crying louder than any of the voices he heard around him, and which might have interrupted him. Even in sleep—and to this I can myself bear testimony—he dreamt aloud, so deep an impression did the lessons make upon him.” If instructed young, the memory of this species is so great that it will learn entire verses, and even axioms. Rhodiginus relates of one of these ash-coloured Parrots that it repeated the Creed without interruption, for which reason a cardinal purchased it at the price of a hundred dollars.

41.—THE CERAM LORY.

PRITTACUS GARRULUS. Linn.—LORY DE CERAM. Buff.—DRE
GESCHWÄTZIGE LORY. Bech.

DESCRIPTION.—This is about the size of a Pigeon, from ten to eleven inches long; and they vary considerably in colour. It has usually the following markings: the beak is orange; the cere and bald circle round the eyes ashy; the

irides dark yellow; the predominant colour is scarlet, excepting the smaller and under coverts of the wings, which are green and bright yellow intermixed; the large pinion feathers are dark green, scarlet on the inner web, and ashy grey at the point; the two middle tail feathers are green above, then dull red, and green at the tip, the next on each side more than half red, then green, and the four external ones scarlet at the base, then violet, and dark green at the tip; the knees green.

PECULIARITIES.—It comes from the Moluccas, is tractable like the preceding, and requires the same treatment.

42.—THE PURPLE-CAPPED LORY.

PSITTACUS DOMICELLA. *Linn.*—LORY à COLLIER. *Buff.*—DER
PURPUR KAPFIGE LORY. *Bech.*

DESCRIPTION.—A magnificent bird, both with respect to its plumage and its comportsment. It is of the size of a Dove, and is ten and a half inches long. The beak is orange; the cere blackish, as well as the circle around the eyes; the irides of a dull reddish brown; the feet dark ashy grey; the claws black; the predominant colour is red, darkest upon the back, and brightest upon the neck; the upper part of the head is purple black or black, merging towards the back into bluish purple; at the gullet there is a more or less distinct crescent-shaped bright yellow mark; the edge of the wings and their small coverts are dark blue, passing into bright sky blue, the remainder of the wings grass green, with a bright yellow reflection; the large pinion feathers of a beautiful blue; the smaller ones yellowish green; the tail rounded, very slightly conical at the tip, of a bluish purple colour, with a reddish brown tinge; the knees blue, slightly tinged with green.

The female is smaller. The ring at the neck is wanting, or is merely indicated; the bluish glittering colouring of the head occupies less space; the edge of the wings blue, intermixed with green, and the rest of the blue upon the wings wanting. Varieties of this species are found, having the lower part of the back, the rump, the under part of the belly, and thighs, white and rosy coloured; the upper and under coverts of the tail red and white; the coverts of the wings green, intermixed with bright yellow; the beak bright yellow; the other parts as usual.

PECULIARITIES.—In its comportment this Lory is like its congeners, but it seems to be the most capable of them. It is talkative, and is the tamest, most pleasing, and most delicate of all the Parrots. It utters *Lory*, speaks incessantly, and as hollow as a ventriloquist, pipes everything, and in clear round tones. But it requires to be incessantly amused and caressed. It learns everything rapidly.

This Parrot, from the difficulty of transport, is one of the rarest and most expensive ones. It requires also to be carefully attended to.

It comes from the Moluccas, but is found likewise in New Guinea.

43.—THE BLACK-CAPPED LORY.

PSITTACUS LORY. *Linn.*—LORY DES PHILIPPINES. *Buff.*—DER SCHWARZ KAPFIGE LORY. *Bech.*

DESCRIPTION.—This Lory is smaller than the preceding, but the difference is scarcely perceptible. It is ten and three quarter inches long. The beak orange; the cere and circle round the eyes dark flesh colour; the irides orange red; the feet blackish; the vertex black, with a blue tinge; neck and body scarlet, excepting a blue spot between the

neck and back, and another at the lower part of the breast, both of which are interspersed with red feathers; the wings green above, the inner web of the pinion feathers yellow, excepting towards the end, where they become dark brown, and the middle pinion feathers towards the margin yellow; the edge of the wings yellowish; the lower part of the thighs, the belly below, and the vent, of a beautiful blue; the upper side of the tail blue, the central feathers dark green, the inner web of all the other feathers yellowish, whence the tail beneath looks yellow.

PECULIARITIES.—These birds inhabit the Philippines. They are less frequently brought to Europe than the preceding, and are consequently dearer. They are reputed to be as capable, tame, and attached.

44.—THE WHITE-FRONTED PARROT.

PSITTACUS LEUCOCEPHALUS. *Linn.*—AMAZONE À TÊTE BLANCHE.

Buff.—DER WEISZKÖPFIGE AMAZONEN PAPAGEI. *Bech.*

DESCRIPTION.—This Parrot is of the size of a Pigeon, and is one of the common and tractable kinds. The beak is found sometimes flesh coloured, sometimes bright yellow and whitish; the irides nut brown; the circle round the eyes white; the feet dark brown; sometimes the head as far as the vertex is white, and sometimes only the forehead; in the male the vertex, and nearly the back of the head, is of a bright blue, but sometimes with red spots, in the female green; the predominant colour of the plumage is green, the feathers margined with dark brown, which is peculiarly observable upon the anterior portions; the cheeks, the throat, and anterior part of the neck of a beautiful scarlet; the belly green, intermixed with red; the large pinion feathers

blue, but black upon the inner web; the posterior ones green; the two middle feathers of the short tail green, the three next, for one-third of their length from the base, red, the terminal points green, the external ones the same, but outwardly bluish; the edge of the wings in the male red.

PECULIARITIES.—This bird comes from Martinique, Jamaica, and Mexico, and is also very tame and talkative, but more trouble is required to instruct it than the preceding, particularly when it is wished to teach him German words after he has acquired Dutch or English. The voices of animals, especially of cats, dogs, and sheep, it imitates immediately. It requires the same treatment as the former.

45.—THE COMMON AMAZON PARROT.

PSITTACUS ÆSTIVUS. Linn.—*PEROQUET AMAZONE.* Buff.—*DER GEMEINE AMAZONEN PAPAGEL.* Bech.

DESCRIPTION.—This bird is so frequently brought to Europe that it is to be seen everywhere in England and in Holland. It is also very cheap, notwithstanding its size, which is that of a large Pigeon.

Many varieties of it are seen. The following is a description of its ordinary appearance: the beak is blackish; the feet ash coloured; the pupil golden yellow; the forehead, and the space between the eyes, bluish; the rest of the head and the throat bright yellow, the feathers with a bluish green margin; the rest of the body light green, merging on the back and belly into bright yellow; the margin of the wings red, the upper coverts of the wings green; the pinion feathers green, black, bright yellow, violet, blue, and red; the tail green, but extended; the feathers appear enclosed with a black, red, and blue margin.

PECULIARITIES.—This bird comes from Guiana, the Brazils, and Mexico, learns to speak with difficulty, but is a very social and confiding bird. It must be treated like the preceding.

46.—THE YELLOW-HEADED AMAZON PARROT.

PSITTAOUS OCHROCEPHALUS. *Linn.*—PSITTAOUS NOBILIS. *Linn.*—
L'AMAZONE À TÊTE JAUNE. *Buff.*—DER GELB KAPPIGE AMAZONEN
PAPAGEL. *Bech.*

DESCRIPTION.—It is of the size of a moderate domestic Pigeon, is one foot two inches long, of which the beak occupies an inch and a half, and the tail five; the beak, which is strong, is at the sides of the upper mandible, and at the base of the lower one, orange, the remainder dark ashy grey, or horny brown; the oval spaces round the eyes are bald, and of a bright ashy grey; the irides golden yellow; the cere black; the strong feet ashy grey, the claws blackish; the forehead, back of the head, neck, back, scapular feathers, coverts of the wings, and hindermost tail feathers, are dark and leek green; the under part of the body, as well as the coverts of the under wings, yellowish green; the upper margin of the wings bright red, intermixed at the anterior joint with bright yellow; the vertex, as well as a narrow band round the knees, bright or golden yellow; the anterior pinion feathers black, externally enclosed with green, with a blue tinge upon the shaft, and towards the interior; the middle pinion feathers likewise black, the anterior half, upon the external web bright red, towards the tip tinged with blue; the posterior pinion feathers green upon the external web, otherwise like the anterior half; the lower pinions bluish green; the tail green, greenish yellow towards the tip, the three external feathers having one half of the inner

web from the base bright red, laterally intermixed with yellow. The following varieties occur:—*a.* The forehead is pale bright yellow, and the colours usually brighter. *b.* Forehead and sides of the head bright yellow. *c.* The yellow of the head intermixed with green.

PECULIARITIES.—It inhabits South America. It would seem to be deficient in capacity, and that we can derive pleasure only from its rarity and beautiful plumage: for the one I have before me utters nothing but a loud skriek, and appears unwilling to learn.

47.—THE BLUE-FACED PARROT.

PSITTACUS AUTUMNALIS. Linn.—LE CRIK À TÊTE BLEUE. Buff.—DER HERBST-KRIEK PAPAGEI. Beck.

DESCRIPTION.—It is of the size of a moderate Pigeon. The beak is horn coloured, having, on each side of the upper mandible, a long orange stripe; the irides orange; the circle round the eyes flesh coloured; the feet are dark flesh colour; the claws black; blue around the front of the head and on the throat; the lower part of the neck as far as the breast red; the rest of the body green, excepting the large pinion feathers, which are blue, but some of them red, with blue tips; the posterior pinion feathers are likewise green, and the tail feathers half green, yellowish green towards the tip; the side feathers, internally towards the base, red.

Three or four varieties of this species occur:—1. Instead of being red and blue, the head is red and whitish. 2. The forehead scarlet; the vertex blue, and beneath each eye an orange spot; the upper margin of the wings bright yellow. 3. The forehead and throat red, behind and beneath the eyes the colour is blue; the vertex yellowish green; the lower margin of the wings red; the tail has merely a pale bright

yellow tip. 4. The entire upper part of the body blackish, merely on the breast the feathers dark brown, edged with red. A very rare variety, which was in the possession of the Duke of Saxe-Meningen.

PECULIARITIES.—These birds are from Guiana. They do not learn much, and scream incessantly *gir, gir*.

48.—THE BLUE-THROATED PARROT.

PSITTACUS MENSTRUUS. *Linn.*—LE PAPAGEI À TÊTE ET GORGE BLEUE
Buff. Ois. Lath. Syn.—DER BLAUHALSIGE PAPAGEI. *Bech.*

DESCRIPTION.—This rare bird is of the size of the Ash-coloured Parrot, and has the same character and manners. The beak is of a dark horn colour, with a red spot on each side of the upper mandible; the red brown eyes lie in a greyish flesh coloured circle; head, neck, and a portion of the breast are of a beautiful indigo blue, with a somewhat purple tinge upon the breast; on each side of the head is a black spot; the back, belly, thighs, and wings, are green, and on the belly the feathers have bluish tips; the coverts of the wings yellowish green, merging into golden colour; the vent scarlet, the tips of the feathers bluish; the tail feathers green, from the first to the third feathers, blue at the tip, the base of the inner web red; the feet robust and grey.

49.—THE RED-HEADED GUINEA PARAKEET.

PSITTACUS PULLARIUS. *Linn.*—PERRUCHE À TÊTE ROUGE OU MOINEAU DE GUINEE. *Buff. Ois.*—DER ROTHKÖFFIGE GUINEISCH PARKIT.
Bech.

DESCRIPTION.—The bird-dealers call this beautiful Parrot, which is not larger than the common Crossbill, the Guinea

Sparrow, and a multitude of them are now met with in Europe, and are much esteemed on account of their beauty, sociality, and affection. The beak is red, with a pale tip; the cere and the bald space around the eyes ashy; the feet grey; the irides bluish; the predominant colour green, brightest on the lower parts; the front of the head and the throat red; the edge of the wings and the lower part of the back blue; the upper coverts of the tail green, beneath this a small black stripe, and the tips green, the two middle feathers entirely green.

The female is nearly similar, but the colours are not so strongly marked; the red colour of the face is much paler and brighter, and the edge of the wings bright yellow.

PECULIARITIES.—These birds inhabit Guinea, Ethiopia, the East Indies, and Java, and appear to be distributed throughout the southern latitudes of the Old World. Formerly they seldom reached Europe, but they are now to be met with at the bird-dealers' in multitudes; perhaps their mode of treatment upon the journey is better understood. They are so social that it is requisite to keep them at least in pairs together, and if one of the pair dies, and it is wished to retain the other alive, it is necessary to hang a looking-glass close to the cage that he may see himself, and be thus deceived into the supposition that he is not alone. The male is excessively tender towards the female, offers her the seeds supplied for their food, and is constantly caressing her in the most gentle and affectionate manner. At large these birds do crops considerable injury. With us they are fed upon Canary seed, and also upon milk and roll. It is to be regretted that they cannot be taught to speak, and that they also make a disagreeable noise. A couple should be placed in a tin bell-cage, a little larger than the cage used for canary birds.

50.—THE LITTLE BLUE AND GREEN PARAKEET.

PSITTACUS PASSERINUS. *Linn.*—ETÉ OU TOUI-ÉTÉ. *Buff. Ois.*—DER
SPERLINGSS PARKIT. *Beck.*

DESCRIPTION.—It is not larger than a common Sparrow, only four inches long. The beak, cere, circle around the eyes, and feet, orange; the predominant colour green; the rump blue; the small coverts of the wings and the tail also green.

PECULIARITIES.—This pretty little bird, which lives as affectionately with its mate as the preceding, is rarely seen. It comes from the Brazils and Guiana. It is to be regretted that it does not speak. It is fed with canary and hemp seed.



SECTION IV.—PICI. THE WOODPECKERS.

IN these birds the beak is usually straight, rarely curved, even slightly, generally angular, not thick, and moderately long; feet short, and adapted to climbing.

51.—THE GREEN WOODPECKER.

PICUS VIRIDIS. Linn.—PIC VERD. Buff.—GREEN WOODPECKER.
Mont. Selb. Yarrel. M'Gillivray.—DER GRUNSPECHT. Bech.

DESCRIPTION.—About the size of a small domestic pigeon, is twelve inches and a half long, of which the tail measures about four and a quarter, and to the middle of which the folded wings extend; the beak is one and a half inch long, three-edged, sharply pointed, and of a dark leaden colour; the iris of a bright lead colour, with a bright brown circle

round the pupil; the tongue, as in all the Woodpeckers, is about five inches long, and furnished with a hard horny tip, for piercing insects; the feet are of a greyish-lead colour; the toes adapted for climbing; the vertex, as far as the neck, is of a brilliant crimson; a black stripe runs down each side of the neck, which in adult birds has a reddish tinge; the body above is of a brilliant olive-green, beneath dirty greenish-white, with indistinct transverse lines upon the abdomen, which become more apparent at the sides.

The female has less red about the head, the colour even approaching to grey when not more than one year old.

HABITAT.—During the summer it frequents the open woods, but in winter, when the snow is heavy and the temperature severe, it resorts to the gardens in the vicinity of houses in the country, flying from one to the other. During the night it conceals itself in the hollows of trees. When these are diseased, it hacks with its strong beak deep round holes in the wood, to reach the insects within, but it never touches a sound tree. It is, therefore, a great mistake for gamekeepers to destroy it as a bird injurious to the timber. The Woodpecker often knocks upon a tree to attract the insects beneath, which have as instinctive a fear of it as the earth-worm has of the mole, and this rapping is repeated so rapidly as to sound like the winding up of a clock. Being exceedingly wild and refractory, it is necessary to curb him by a chain when in confinement.

FOOD.—This consists of larvæ and insects which live beneath the bark in the wood of trees; ants, the larvæ of wasps, and in winter, bees. Besides these, it must be furnished, when in confinement, with nuts, ants' eggs, and meat.

BREEDING.—The female lays from three to four white eggs in a hollow tree. The young must be removed from the nest half fledged to be reared. They are not to be tamed in

the adult state, for, from my own experience, I know that they will not eat when captured.

COMMENDATORY QUALITIES.—Whoever may wish to possess a rare and unusual chamber bird, which, from its fierceness, intractability, and boisterous deportment, must be curbed by a chain, may have this, and the rest of the Woodpeckers, recommended to him. I have never yet seen one which was to be reclaimed. They ever remain wild, and yet it affords a pleasing variety to have a couple of them chained up among the other chamber birds.

This bird is not found in Scotland, or but rarely, in its southern districts, and it is also rare in the north of England, but it occurs throughout Europe, and has been discovered in the Himalayas. White individuals have been occasionally met with. In addition to the food already mentioned, it preys upon ants, and frequents their hillocks for the purpose, where, thrusting its strong beak and long tongue—which, like that of the Wryneck, is furnished with a glutinous substance for withdrawing its prey by adhesion—into their nests, it thus captures them. Another favourite food is the caterpillar of the *Cossus ligniperda*, or large goat-moth, which usually inhabits the interior of the trunks of pollard willows, and occasionally, when having fed frequently upon these, it acquires their extremely offensive odour. It flies in undulations, the last before it alights being the longest. Its mode of ascending the branches or trunks of trees is vertically or spirally, and by the conformation of its short strong legs, and hooked claws, aided by the peculiar structure of the feathers of the tail, it is enabled to do so with facility, the tail being thereby frequently so worn as to have the appearance of being slit, the barbs extending beyond the tip of the shaft. It never, however, descends in the same way, as has been erroneously asserted. Its note resembles a loud shout of

laughter, from which it derives one of its provincial names, and this is never varied excepting by its more clamorous repetition during the spring and early summer months, and by the peculiar cry of *plui, plui, plui*, by which it is reputed to indicate the approach of rain. The male assists the female in preparing the place for the reception of the eggs, which is a hole dug into a decayed stem, and carried obliquely to the depth of a foot or more, made perfectly round at the orifice, which is only sufficiently large to admit the bird, but enlarging below, at the bottom the eggs being deposited upon the bare wood, without the intervention of any lining.



52.—THE GREAT SPOTTED WOODPECKER.

PICUS MAJOR. *Linn*—THE GREATER SPOTTED WOODPECKER. *Mont.*—THE PIED WOODPECKER. *M'Gillivray.*—EPEICHE OU PIC VARIÉ. *Buff.*—DER BUNTSPECHT. *Bech.*

DESCRIPTION.—It is rather larger than the Song-thrush, being about nine inches long, of which the tail occupies three and a half inches; the folded wings extend a little beyond the middle of the latter. The beak is almost one inch long, and has five edges, it is of a darkish horn colour, beneath bluish; the feet are thirteen lines high, and of a bluish olive green; the iris bluish, with a white ring; the forehead yellowish-brown; the vertex black, enclosed behind with a crimson band; the back black; the shoulders white; wings and tail striped with black and white, and having a yellow tinge; the under part of the body reddish dirty white; the vent crimson.

The female has not the red band upon the neck

PECULIARITIES.—This Woodpecker frequents woods and gardens. Insects, hazle-nuts, the mast of the beech, acorns, the seeds of the cones of firs and pines, constitute its food. It fixes its nuts in a crevice to break them.

The female lays from three to six eggs, in the hollow of a tree. The young birds have a red head until they moult, and they must be removed half grown from the nest to be tamed; they require to be fed with ants' eggs, meat, and mice. In other respects they must be treated like the preceding.

THE MIDDLE SPOTTED WOODPECKER.—*Picus Medius*. Linn.
—This is a little smaller than the Greater Spotted Woodpecker, but otherwise greatly resembling it. The beak is smaller, much thinner, and exceedingly pointed; the vertex crimson, and the region of the vent rose-coloured.

It is also less common than the preceding species. The young are not so intractable when reared, although they do not become thoroughly tame; but, like the following species, it may be placed in a cage, attached by a chain.

53.—THE LESSER SPOTTED WOODPECKER.

PICUS MINOR. *Linn.*—PETIT EPEICHE. *Buff.*—THE LESSER SPOTTED WOODPECKER. *Mont.* ORN. Dict. *Yarrel.*—STRIATED WOODPECKER. *M'Gillivray.*—CRANK BIRD. *Rennie.*—DER GRASSPECHT. *Bech.*

DESCRIPTION.—Is about the size of a Lark, being five to six inches long, of which the tail occupies two inches, and the folded wings extend to one-half the length of the tail; the beak is seven lines long, and greenish-black; the feet as long, and of the same colour. The rump is white; the vertex crimson; the occiput black; the back white, with blackish transverse stripes; the under side of the body red, greyish-white, marked on the sides with a few black stripes.

The female has not the vertex red, and has the upper part of the head white.

PECULIARITIES.—It is a rare bird in Germany, and occurs in woods. Its food consists chiefly of insects, which it seeks in the bark and the moss of trees. It also frequently hops among the grass-seeking insects. Reared from the young it should be placed in a cage, attached by a chain.

This species, which is said to be more abundant in the northern parts of Europe than in France and Germany, has not hitherto been met with in Scotland, or even in many parts of England, although it occurs in most of the southern, eastern, and midland counties, extending as far north as Derby, and westward to Shrewsbury and Hereford. It is said by several observers to be not uncommon in some districts. Thus, Mr. Gould, in his beautiful "Illustrations of the Birds of Europe," says, "In England it is far more abundant than is generally supposed; we have seldom sought for it in vain wherever large trees, particularly the elm, grow in sufficient numbers to invite its abode: its security from sight is to be attributed more to its habit of frequenting its topmost branches than to its rarity." The Reverend Mr. Bree states that "it is by no means of rare occurrence in his neighbourhood, where, however, it is more readily heard than seen. Its loud, rapid, vibratory noise—most extraordinarily loud to be produced by so small an animal—can hardly fail to arrest the attention of the most unobserving ear. Though I have watched the bird during the operation, and within the distance of a few yards, I am quite at a loss to account for the manner in which the noise is produced. It resembles that made by the boring of a large augur through the hardest wood; and hence the country people sometimes call the bird the 'pump-borer.'" Mr. Dovaston informs us that it is a very frequent, but uncertain, visitor to

the woods near Shrewsbury, never failing in April to astonish him "with his prodigiously loud churr, which may be heard more than a mile off. It much resembles the snorting of a frightened horse, but louder and longer." He then states that the bird, in performing this sound, "vibrates its beak against the tree; the motion is so quick as to be invisible, and the head appears in two places at once. It is surprising, and to me wondrously pleasing, to observe the many varieties of tone and pitch in their loud churry as they change their place on boughs of different vibration, as though they struck on the several bars of a gigantic staccato. When actually boring they make no noise whatever, but quietly and silently pick out the pieces of decaying wood, which, lying white and scattered beneath on the ground, leads the eye up to their operations. They have several favourite spots, to which they very frequently return. Their note is a very feeble squeak, repeated rapidly six or eight times, ee, ee, ee, ee, ee. They bore numerous and very deep holes in decayed parts, where they retire to sleep early in the evening; and, though frequently aroused, will freely return. Whatever be the purpose of this enormous noise, they certainly do very nimbly watch, and eagerly pick up, the insects they have disturbed by it. They fly in jerks like their congeners, and always alight on the side of a tree." These notices are extracted from the earlier volumes of Mr. Loudon's "Magazine of Natural History," a work replete with information respecting our native birds.

54.—THE WRYNECK.

YUNX TORQUILLA. *Linn.*—TORCAL. *Buff.*—THE COMMON WRYNECK.
Mont. Yarrel. M'Gillivray. Seb.—DER GEMEINER WENDEHALS. *Bech.*

DESCRIPTION.—This bird is about the size of a Skylark, being six and a half inches long, of which the tail occupies

three and a quarter inches. The beak is straight, pointed, and one-third of an inch long—in summer lead coloured, in winter of an olive green; the irides brownish yellow; the feet are short, strong, and lead coloured, with two toes in front and two behind. The head is ash coloured, with fine black and rusty coloured spots, interspersed with solitary white dots; the vertex and half the back is divided, longitudinally, by a broad black stripe, tinged with a rusty colour; the rest of the upper part of the body is striped and mottled with a beautiful grey, black, white, and rusty colour; from the posterior angle of the eye a chestnut brown stripe runs down half the neck; the cheeks, the throat, neck, half the breast, and the vent, are of a reddish yellow, with delicate black undulating lines; behind the angle of the beak an ashy grey stripe extends, and which is transversely and delicately marked with black; the lower part of the breast and the abdomen are yellowish white with scattered blackish brown triangular marks or transverse spots; the coverts of the wings and the posterior pinion feathers are brown, beautifully striped with grey and black, and sprinkled with white and black spots; the remainder of the pinion feathers are black and rusty, with black undulations on the outer web; the tail has ten large and two small auxiliary feathers, is pale grey, sprinkled with black, and having four broad black transverse stripes.

The female is paler beneath, and the general tints somewhat duller.

HABITAT.—This is a bird of passage, which leaves during the first half of September, and returns towards the end of April. It is found in coppices and gardens. In August it descends into the cabbage fields and gardens. It occurs as abundantly in Thuringia in the autumn of some years as Linnets; but it is not a social bird, flying solitary. It cannot be conveniently kept in a small cage, as the action of

its breast and abdomen, in making its strange motions and grimaces, would then destroy its feathers. It must therefore be placed in a large cage, or in a separate compartment of a chamber, or it may be allowed to fly about a room.

FOOD.—Its food consists of insects and their larvæ. It projects its long round tongue, which is hard and pointed at the tip, into the crevices and fissures of trees and of the earth in search of its prey. Ants' eggs are its favourite food. During its autumnal migrations, when there is a paucity of insects, it feeds upon elder-berries.

It is rather delicate and requires to be fed at first on ants' eggs, which are then afterwards intermixed with the general food directed in the introduction, to which it speedily accustoms itself. If it be wished to preserve it any length of time it must be fed upon nightingale food. It is interesting to observe him thrusting his worm-shaped tongue into the crevices of the room searching for insects, and no greater pleasure can be given him than to have ants' eggs placed in such spots. All food that adheres together he takes up by the tongue; and it affords much entertainment to observe him when ants' eggs are placed in a saucer or other vessel in front of his cage; he posts himself directly opposite, and fetches them out with the greatest rapidity by means of his tongue. Soft food only, which does not adhere together, he takes up with his beak. He is also fond of ants themselves.

BREEDING.—Its nest is found in hollow trees, and consists of moss, wool, hair, and blades of grass. The female lays eight or nine shiny white eggs. Adult birds are not easily tamed, but the young are reared very readily upon ants' eggs, and the general food of crumbled roll.

CAPTURE.—They may usually be captured near the nest by means of limed twigs. But they are so bold that in spring, when they creep through the hedges, they may even

be caught by the hand. That which is now running about me in the room, was brought to me by a boy who captured it in this manner.

COMMENDATORY QUALITIES.—The motions which have procured for it its name of Wryneck, recommend it strongly as a chamber bird. Thus it frequently lengthens the neck so much, and twists the head so completely, that the beak appears in the middle of the back. It usually sits upright, makes frequent slow bows, at the same time spreading its tail like a fan, erecting the plumage of his head and neck. When irritated, or when his food vessel is held to him, he bows his body slowly forwards, raises the feathers of his head, lengthens and twists his neck, turns up his eyes, bows, spreads his tail, rolls hollowly in the throat, usually making at the same time the most extraordinary gestures. His general deportment is melancholy. In spring he frequently and loudly utters *gigigigi!* which is the call whereby he attracts his mate. He is also recommended by his colours, which, though not brilliant, are beautifully arranged.

M. von Schauroth informs me that the two Wrynecks he reared became so excessively tame as to cling to his clothes. They utter a chirp whenever they hear their master, or if they see him even at a distance; and once he was so irritated with one which would not cease chirping, that he threw it out of the window. But in the evening, when he called it, it replied, and allowed itself to be caught. When perched upon a high tree, it was only necessary to hold forward its food vessel, and it would fly down.

The Wryneck is abundant in many parts of Surrey. They are sociable in the early part of the season, and assemble at the call-note, *peup, peup*, by imitating which with a sort of mouth-whistle, the London birdcatchers obtain numbers of them; they climb in the same style as Woodpeckers, but not so constantly; they often leap sportively after each other

up the boles of the trees. When a wounded one is taken in the hand, it raises the feathers of the crown, flattens those of the neck, writhes that part slowly like a snake, and occasionally hisses. When captured, they show signs of pugnacity, or perhaps of fear, but their motions are slow and twining. They can be partially tamed, but do not live long in confinement. They usually appear in the southern counties in the first week of April, and retire in October. They are very noisy in the early part of the season, but become silent toward the latter. Yarrell says, that the Wryneck, when quitting the south part of the European continent in autumn, goes to North Africa, and the warm parts of Western Asia.

The additions made by British naturalists to the history of this bird are very few. It reaches this country about the time named by M. Bechstein—April, generally preceding the Cuckoo; and is soon dispersed over the country, as far north as Mid-Lothian and Fifeshire. It is not uncommon in the south-east and midland counties of England, but, according to Montagu, it is rare in the western parts.

Mr. Knapp describes it as “shy, and usually timid, as if all its life were spent in the deepest retirement, away from man; it remains through the day on some ditch-bank, or basks with seeming enjoyment, in any sunny hour, on the ant hills nearest to its retreat; and these it depopulates for food, by means of its long glutinous tongue, which, with the insects, collects much of the soil of the heaps, as we find a much larger portion of grit in its stomach than is usually met with in that of other birds. When disturbed, it escapes by a flight precipitate and awkward, hides itself from our sight, and, were not its haunts and habits known, we should never conjecture that this bustling fugitive was our long-forgotten spring visitant, the Wryneck.”

But although it thus frequents the ground in quest of

food, it also searches the trunks and branches of trees, and has been observed clinging to walls. "I once," says a correspondent in the "Magazine of Natural History," vol. iv., p. 450, "saw it climb the perpendicular face of an old tall wall in the botanic garden at Bury St. Edmunds; it was seeking either insects or grit, and proceeded as if in neither haste nor fear, but uttered its hawk-like note at intervals." This note is a shrill cry, which has been compared to the scream of the Kestrel, and which is more frequently heard in the earlier period of its sojourn with us.

"The Wryneck," says M. Manduyt, "is remarkable for the habit which has given it its name, that of twisting the neck with a slow undulatory movement, like that of a snake, turning its head back, and closing its eyes. When caught, it never ceases this motion, which it also performs when at liberty, and even the young, while yet in the nest, have the same habit. If one should go near a male Wryneck confined in a cage, it immediately ruffles up the feathers of its head, spreads out those of the tail and raises them, advances and retires, striking the bottom of the cage with its bill."

It is said to be generally distributed on the Continent, and to be common among the Himalayan Mountains.

55.—THE KINGFISHER.

ALCEDO ISPIDA. *Linn.*—MARTIN PECHEUR OU ALOYON. *Buff.*—HALCYON KINGFISHER. *M'Gillivray.*—DER EISVOGEL. *Bech.*

DESCRIPTION.—A very handsome bird, but which, when adult, can very rarely be accustomed to the atmosphere and diet of the chamber. It is about seven inches long, of which the tail occupies one and a quarter. Its feet, slightly tinged with red, are four lines high, and adapted for walking, the external toe being united with the middle one as far as the

first joint. The beak is one and a half inches in length, strong, straight, rather compressed, laterally pointed, and of a



horny brown colour, but within of a saffron yellow; the irides dark brown. The vertex and coverts of the wings are of a deep green, the first transversely marked with brilliant ultramarine, and the last with similarly coloured ovate spots; a broad orange red stripe extends from the nostrils beyond the eyes. Behind the ears there is a large white spot; from the lower angle of the mouth, as far as the neck, a broad stripe extends, of the same colour as the vertex; the scapular and back are of a brilliant sky blue; the throat reddish white; the remainder of the under side of the body of a dirty orange red, rather brighter upon the abdomen; the pinion feathers blackish, the narrow web bluish green; the tail, above dark blue, beneath blackish.

In the female the colours are darker, and the ultramarine becomes grass green.

HABITAT.—It is a solitary bird, residing the whole year through in the vicinity of ponds, rivers, and brooks. During winter it sits near holes in the ice, perched upon a twig,

prop, or stone, and there awaits its prey. It neither walks nor jumps, but perches or flies. It must, therefore, either be supplied with a grass tuft in a corner of the room, or branches must be placed about **on which it may perch**; but it is better to confine it in a **large cage**, fitted up with proper perches. It sits constantly **upon one spot**.

FOOD.—Small fish, leeches, and perhaps water insects, constitute its natural food; **it must**, therefore, be supplied with similar things in **confinement**, as also earth-worms, and it may also be **gradually accustomed** to eat meat. If caught adult it **rarely survives**, although I have seen one so captured **which would eat dead fish**. It should be furnished with a vessel of water, and the fish or meat thrown into it; but this must not be a small pan, or he will upset it. It does not descend from its perch to feed, but stretches itself forward to reach its food with its beak. In the chamber it will not feed whilst it is observed.

BREEDING.—The nest is constructed in holes made by water in banks: it is built exclusively of roots, and lined with a few feathers. There are usually eight white eggs. Before the young see, they are enveloped by long unexpanded quills, and look like hedgehogs. When the feathers begin to develop, the young must be removed from the nest and be fed with meat, earth-worms, ants' eggs, and meal-worms, and subsequently they may be accustomed to meat. They will live longer if their food be cast into fresh water, than when made to pick it up from the ground.

CAPTURE.—They may be easily caught if the spot be observed which they frequent, and which is usually where the water makes an eddy. Springes must be placed upon a pole, or lined rods may be set upon a branch or pole, provided it does not hang immediately over the water, as there would be some risk of the bird falling into the water when entangled.

COMMENDATORY QUALITIES.—Its beauty is its chief recommendation. As a chamber bird its rarity enhances the acquisition. They are clumsy birds, and boisterous in all their actions, and much patience, as well as considerable attachment to the pursuit, is necessary to induce any one to take the trouble of habituating them to their domicila.

M'Gillivray thus eloquently describes the habits of this the most beautiful of our indigenous birds :—"The woods," he says, "are resuming their green mantle, and the little birds chanting their summer songs. From afar comes the murmur of the waterfall, swelling and dying away at intervals, as the air becomes still, or the warm breezes sweep along the birchen thickets, and ruffle the bosom of the pebble-paved pool, margined with alders and willows. On the flowery bank of the stream, beside his hole, the water-rat nibbles the tender blades; and on that round white stone in the rapid is perched the Dipper, ever welcome to the sight with his dusky mantle and snowy breast. Slowly along the pale blue sky sail the white fleecy clouds; as the Lark, springing from the field, flutters in ecstasy over his happy mate crouched upon her eggs under the shade of the long grass, assured that no rambling urchin shall invade her sanctuary. But see, perched on the stump of a decayed willow jutting out from the bank, stands a Kingfisher, still and silent and ever watchful. Let us creep a little nearer, that we may observe him to more advantage. Be cautious, for he is shy, and seeks not the admiration which his beauty naturally excites. There he is, grasping the splint with his tiny red feet, his bright blue back glistening in the sunshine, his ruddy breast reflected from the pool beneath, his long dagger-like bill pointed downwards, and his eye intent on the minnows that swarm among the roots of the old tree that project into the water from the crumbling bank. He

stoops, opens his wings a little, shoots downwards, plunges headlong into the water, reappears in a moment, flutters, sweeps off in a curved line, wheels round, and returns to his post. The minnow in his bill he beats against a decayed stump until it is dead, then tossing up his head, swallows it, and resumes his ordinary posture as if nothing had happened. Swarms of insects flutter and gambol around, but he heeds them not. A painted butterfly at length comes up, fluttering in its desultory flight, and as it hovers over the hyacinths, unsuspecting of danger, the Kingfisher springs from his perch, and pursues him, but without success. There, swift as the barbed arrow, darting straight forward, on rapidly moving pinions, gleams his mate, who alights on a stone far up the stream, for she has seen us, and is not desirous of our company. He presently follows, and our watch being ended, we may saunter a while along the grassy slopes, inhaling the fragrance of the primrose, and listening to the joyous notes of the Blackbird, who from the summit of yon tall tree pours forth his soul in music."

It is chiefly by the still pools of rivers and brooks that the Kingfisher is met with, and it is met with in all parts of Britain. Towards the beginning of May the Kingfisher prepares a place for its eggs, and in June the young come abroad. The female makes no nest; the eggs, six or seven in number, perfectly white, and rather round, are deposited in a hole generally in the bank of a stream or fish pond. The Kingfisher will use the same hole year after year, and this even when the nest has been plundered.

56.—THE NUTHATCH.

SITTA EUROPEA. Linn.—SITTELLI OU LE TORCHE-POT. Buff. EUROPEAN NUTHATCH. Mont. Orn. Dict. *M'Gillivray.*—DER GEMEINE KLUBER. *Bech.*

DESCRIPTION.—The Nuthatch is nearly as large as a Skylark, being six and a half inches long, of which the tail measures only one and a half inches; the beak is nine lines long, strong, straight, slightly compressed at the tip; the upper mandible of a steel blue; the lower bluish white; the irides greyish brown; the feet yellowish grey, and furnished with strong claws for clinging; the forehead of the male blue; the rest of the upper part of the body as well as the coverts of the wings bluish grey; cheeks and throat white; a black stripe extends from the base of the beak through the eyes to the back; breast and abdomen of a dark orange, the side, thigh, and anal feathers cinnamon brown, the latter with yellowish white tips; the pinion feathers blackish; the two central of the twelve tail feathers are of the colour of the back; the lateral feathers are black, the two external ones with a white bar, becoming a beautiful bluish green towards the tip.

HABITAT.—They are found throughout the whole year in beech and oak woods, but most abundantly where there is an intermixture of pines and firs. In winter they frequently resort to the villages, or fly into barns and stables. If it be wished to keep them, they must be placed in a cage made entirely of wire, for they chip and hack all wooden ones to pieces.

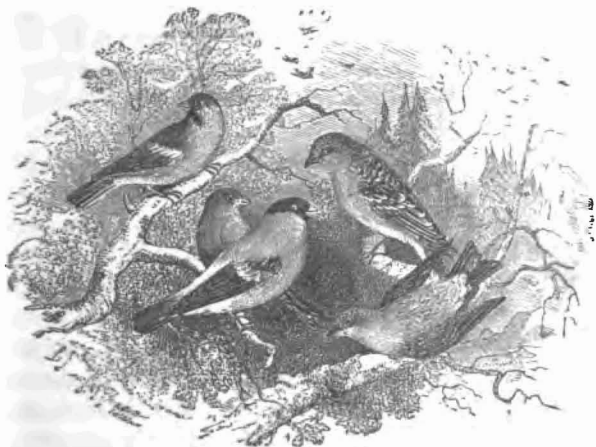
FOOD.—They feed upon all kinds of insects, which they seek in the crevices of trees: for this purpose they climb both upwards and downwards. Nuts and beech mast they fix in a crevice, and thus eat it. In confinement they are easily kept upon hemp seed and barley meal. They will also eat bread and oats. The bird will stop up every cranny with oats, the obtuse end of the grain being placed outwards,

that it may the more readily be split. If allowed its liberty in a room, it conceals the major part of the food with which it is supplied in a manner similar to the Titmice, thus most providently reserving for themselves a subsequent meal. But from its habit of hacking holes in the wood work, it cannot be conveniently kept in a room.

BREEDING.—They breed in old hollow trees. The female lays from six to seven eggs, white, beautifully spotted with red.

CAPTURE.—They visit the Titmice traps for the oats and hemp seed strowed there, and also the fowling floor. Their call is *grew, deck, deck!* uttered so loudly as to be heard at a considerable distance.

COMMENDATORY QUALITIES.—Their cheerfulness, their exceedingly adroit and active habits, the skill with which they conceal their food, and their beautiful plumage, make them interesting as chamber birds. A lady put some hemp seed and cracked nuts on the window-sill, for her favourites, the Blue Tits. Two Nuthatches came one day to have their share in this repast, and became so familiar, that they abandoned their natural food, and ceased to build their nest in the wood, settling themselves in the hollow of an old tree near the house. As soon as their young ones were able to fly, they brought them to the hospitable window for their food, and soon after disappeared entirely. It was amusing to see these two new visitors hang or climb on the walls or blinds, whilst their benefactress put their food on the board. The pretty creatures, as well as the Tits, knew her so well, that when she drove away the Sparrows which came to steal what was not intended for them, they did not fly away, but seemed to know that this was done to protect and defend them. They remained near the house for the whole summer, rarely wandering far, till one fatal day, at the beginning of the sporting season, on hearing the report of a gun they disappeared, and were never seen again.



SECTION V.—PASSERES. THE SPARROW AND FINCH TRIBES.

In these birds the beak is conically pointed, usually strong, both mandibles being moveable, to enable them to peel the seeds. Like the songsters, they have delicate divided feet. Some feed upon insects as well as grain and seed. Those which feed upon seeds alone, feed their young from the crop; but those which also eat insects, feed them by the beak. They generally build very artificial nests, and the females alone hatch, relieved in some instances by the male for short periods.

This and the following order contain the genuine chamber birds, kept for the pleasure afforded by their song. As a general rule, all seed-eating birds may be tamed, both adult and young.

57.—THE CROSSBILL.

LOXIA CURVIROSTRA. Linn.—BECCROISÉ. Buff.—COMMON EUROPEAN CROSSBILL. *M'Gillivray.* Mont. *Yarrel.*—DER KREUZ SCHNABEL. *Bech.*

DESCRIPTION.—This is a remarkable chamber bird. It is about the size of the Bullfinch. Six inches eight lines long, of which the tail measures two and a quarter. The beak is almost a line long, and has this peculiarity, that the upper mandible curves downwards at the tip, and the lower one upwards, thus passing each other and crossing; the upper mandible crosses either to the right or to the left, just as the bird may have accustomed it whilst young, when the parts were pliant and soft; from this peculiarity the bird derives its name. Its general colour is of a horny brown, brighter beneath; the irides nut brown; the feet horny brown; the shin eight lines high. A considerable difference exists in the plumage of this species at different ages, which has led to the erroneous assertion that the changes occur in each bird at least three times a-year. These varieties are as follows:—The young male, which is grey brown, when it first changes its plumage, becomes of a bright red, darker above, brighter beneath, with the exception only of the blackish pinion and tail feathers. This happens usually in April and May, and it is only at the second moult that this colour is changed into its permanent greenish yellow. Red Crossbills, therefore, are only one year old, and the greenish yellow ones the adults.

The female is always either entirely grey, intermixed with some green on the head, breast, and rump, or irregularly checkered with this colour.

The following description of the adult male is taken from one caught in the nest in the forest of Thuringia:—The fore-

head, cheeks, and eyebrows green, spotted with greenish yellow and white; the back Siskin green; ramp golden yellow; the under part of the body greenish yellow; the vent spotted with white and grey; the thighs grey. But wherever the green and yellow prevails, the dark grey ground colour gleams through, making the parts appear mottled, especially the back: for properly the feathers are all grey, being yellow or green only on the tips. The wings are blackish, the small coverts tinged with Siskin green, the two large rows margined at the tip with whitish yellow, as are also the last pinion feathers; all the pinion feathers are, however, very delicately margined with green, as are also the blackish tail feathers.

When, therefore, grey or checkered Crossbills are spoken of, they are young ones; red ones are one-year olds, which have just moulted; crimson red ones are such as are about to moult the second time; red and yellow spotted ones are the two year olds when moulting. All these changes are frequently met with if the birds are not sought for at breeding time; for as they do not all breed at one season, neither do they moult at one period, which leads to their presenting such varieties of plumage: and moulting, it is well known, powerfully influences the colour of the plumage.

Hence, it appears that Crossbills undergo a change of plumage similar to Linnets, and it is their red hue alone, which they wear for a year, which distinguishes them so remarkably from other birds.

It is, however, singular that the young, of which many are reared by bird-fanciers in Thuringia, never acquire this red plumage in captivity, but during the second year either remain grey, or immediately acquire the greenish yellow colour of the male which has twice moulted.

HABITAT.—The Crossbill inhabits Europe, Northern Asia, and America. It resides in pine and fir woods, and is only

found where fir and pine cones occur. It requires to be placed in a wire bell-cage of the form and size of that of a Canary. It may also be allowed to be at large in a room, if supplied with a young fir, to roost or sleep in ; but it must not be placed in a wooden cage, as it indulges in a habit of gnawing away all wood-work.

FOOD.—It consists principally of the seeds of the pine, which it either extracts from the cones, by means of its crooked beak, or picks up from the ground. It eats also the seeds of the fir and the alder tree, and the buds and blossoms of the pine. In a cage it must be supplied with hemp, fir, and rape seed, and also juniper berries ; but at liberty, in a room, it will become habituated to the second kind of general food described in the introduction.

BREEDING.—The time of breeding is perhaps the most remarkable circumstance respecting this bird, for this takes place from December to April. They build in the upper branches of firs and pines, and make their nests of the delicate twigs of those trees ; within the outer wall of this nest is a thick layer of ground-moss, followed inwardly by a lining of very delicate coral moss. But it is not paid over with rosin as has been asserted. The female lays from three to five eggs, which are greyish white, and surrounded at the thick end with a coronal of reddish brown spots, lines, and dots. The heating quality of their food protects, at this season, both young and old from the cold : the young are fed from the crop, like all the kernel-eaters (*Loxia*). They are reared upon roll, steeped in milk, mixed with poppy seeds.

MALADIES.—In confinement all vapours act injuriously upon this bird, and therefore in the society of man they are always sickly, get bad eyes, and swollen and lumpy feet. Countrymen, living among the mountains of Germany, imagine, therefore, that they attract to themselves their pains and maladies. This induces many to keep them in

their cottages. It is also a vulgar superstition that the Crossbill, whose upper mandible passes to the right side of the lower one, attracts to it the flux and other maladies of men: and that those in which that mandible passes to the left has a similar effect upon the maladies of the female sex. In other districts, those whose upper mandible bends down to the left are considered the most available for this purpose. Simple people also drink daily the water left by the bird in its drinking vessel, as a remedy against epilepsy.

These birds are also subject to both apoplexy and epilepsy.

MODE OF CAPTURE.—They are very easily caught in the autumn and spring with the call-birds. It is usually effected by means of the so-called climbing-pole, which is nothing more than a high pole to which large limed sticks are attached. These are placed in an open space in forests frequented by these birds: a call-bird is then placed near, which is sure to attract those which are passing by its frequent *gip, gip, gip, gip!*

In some parts of the forests of Thuringia the summits of the firs (for they perch by preference at the summit) have nooses fixed in them, and a good call-bird is hung in one of the upper branches. As soon as the first bird perches, the rest all follow; they are caught, and fall down: then usually as many Crossbills are caught as there are nooses on the tree, provided they are so placed that the stepping-board only projects upon which they must perch.

COMMENDATORY QUALITIES.—The Crossbill is a simple bird, but in the cage it uses its beak and feet just like the Parrot, to help itself along. When thoroughly well it moves its body to and fro like the Siskin, and then utters harsh shrill notes with but little melody. One bird will try to surpass the other: and those are most esteemed by the fancier which repeat frequently a sound like *reits* or *croits*, and which is called the crowing of the Crossbill. It will

become so tame as to admit of being carried upon the finger into the open air, and may also be accustomed to fly in and out.

In this country the Crossbill makes its appearance at irregular periods. Several years may elapse without their being heard of, when suddenly they arrive in great flocks. "In the autumn of 1821, when walking from Aberdeen to Elgin," says M'Gillivray, "I had the pleasure of observing a flock of several hundreds of these birds, busily engaged in shelling the seeds of the berries which hung in clusters on a clump of rowan trees. So intent were they on satisfying their hunger, that they took not the least heed of me. They clung to the twigs in all sorts of postures, and went through the operation of feeding in a quiet and business-like manner, each attending to its own affairs. It was indeed a pleasant sight to see how the little creatures fluttered among the twigs, all in continued action, like so many bees on a cluster of flowers in sunshine after rain. Their brilliant colours, so much more gaudy than those of our common birds, seem to convert the rude scenery around into that of some far distant land, where the Redbird sports among the mangolia flowers. In that year flocks of these birds were observed in various parts of Scotland; but although I have obtained numerous specimens in a recent state, I have not since had an opportunity of seeing living individuals."

A correspondent of the "Magazine of Natural History," writing in January, 1834, has a minute description of the habits of this bird:—"From October, 1821, to the middle of May, 1822, Crossbills were very numerous in this country, and, I believe, extended their flights into many parts of England. Large flocks frequented some plantations of fir trees in this vicinity, from the beginning of November to the following April. I have seen them, hundreds of times,

when on the larch, cut the cone from the branch with their beak, and, holding it firmly in both claws, as a Hawk would a bird, extract the seeds with the most surprising dexterity and quickness. I do not mean to assert this to be their general habit; but it was very frequently done when feeding on the larch. I have never seen them attempt the like method with cones of the Scotch or other species of pine, which would be too bulky for them to manage. Their method with these, and, of course, most frequently with the larch, was to hold firmly on the cone with their claws; and, while they were busily engaged in this manner, I have captured great numbers; many with a horse-hair noose, fixed to the end of a fishing-rod, which I managed to slip over the head when they were feeding, and by drawing it quickly towards the body, I easily secured them; others I took with a limed twig, fixed in such a manner in the end of the rod, that on touching the bird it became immediately disengaged from it, adhered to the feathers, rendered the wings useless, and caused the poor bird to fall perfectly helpless on the ground. In this manner, in windy weather, I have taken several from the same tree, without causing any suspicion of danger. On warm sunny days, after feeding a considerable time, they would suddenly take wing, and, after flying round for a short time in full chorus, alight on some lofty tree in the neighbourhood of the plantations, warbling to each other in low pleasing strains; they would also fly from the trees occasionally for the purpose of drinking, their food being of so dry a nature.

“In captivity they were quickly reconciled, and soon became very familiar. As, at first, I was not aware what food would suit them, I fixed branches of the larch against the sides of the room in which I had confined them, and threw a quantity of the cones on the floor. I found that they not only closely searched the cones on the branches, but in a few

days, not one was left in the room that had not been pried into. I gave them Canary and hemp seed; but, thinking the cones were both amusement and employment, I continued to furnish them with a plentiful supply. I had about four dozen of them; and frequently, whilst I have been in the room, they would fly down, seize a cone with their beak, carry it to a perch, quickly transfer it to their claws, and in a very short time empty it of its seeds, as I have very many times witnessed, to my surprise and amusement. As the spring advanced, the male birds in the plantations were frequently singing on the tops of the firs, in low but very agreeable notes; yet they continued in flocks, and were seen in some parts of the county until the beginning of June. I had hopes of their breeding in confinement, and I accordingly kept them in different rooms, fixing the tops of young fir trees on the floor, and against the walls, and supplying them with as great a variety of food as possible; but all to no purpose, as neither those I had confined in this manner, nor those in cages, ever showed any inclination to breed. They are amusing birds in confinement, as they have some of the habits of the Parrot tribe; climbing about the cage with both beak and claws."

58.—THE PARROT CROSSBILL

LOXIA PYTIOPSITTACUS. *Bech.*—*LOXIA CURVIBOSTRA MAJOR.* *Lath.*—*BEC-CROISE PERROQUET.* *Buff.*—*PARROT CROSSBILL.* *Selb. Yarrel.*
M'Gillivray.—*DER KIEFERN KREUZSCHNABEL.* *Bech.*

DESCRIPTION.—This Crossbill is usually confounded with the preceding, and considered as the same bird. This I myself was induced to do, until I kept both in the same apartment, and thus had the opportunity of comparing them more closely together. It is of the size of the common Hawfinch or

Waxen Chatterer, being about eight and a quarter inches long, of which the tail comprises two and three quarters; the expanded wings extending to thirteen and a half inches. The beak is one inch long, horny black, and much thicker than in the preceding, crossed at the top, but so that the lower mandible does not reach higher than the ridge of the upper one the tip is also much shorter, and not so slender as in the common Crossbill; the feet are three quarters of an inch high, and the middle toe is one and a quarter inch long. Both head and body, as well as the beak, are more robust than in the preceding. The majority of the males I have seen were either bright or dark vermilion, intermixed with greyish brown, this being the ground colour of the plumage, the neck, breast, and rump only are of a pure red; pinion and tail feathers dark grey, black on the shaft. It would appear that this bird, as well as the preceding, varies with age, for I possessed a Parrot Crossbill of an olive green colour which sang very well, and was, in all probability, an adult male. The female is dark grey, with an olive green tinge upon the back; Siskin green upon the rump; the abdomen and vent whitish.

PECULIARITIES.—Wherever there occurs a succession of connected pine forests in Germany, there this Crossbill may be found. If not detected in summer, it will certainly be found in winter, by the number of cones bitten off by them, which may be observed beneath the pines with the seeds removed. They are not often heard, for they sit very still, eating almost the whole day long; and only when passing from one tree to another they call almost like the common Crossbill, only rougher and stronger, *gep, gep, gep!* They are usually seen in flocks of from twelve to twenty-four. They are not at all shy, for when a flock is fired into the rest rarely fly away, but will allow the shot to be repeated several times. They prefer sitting upon the highest trees,

and are caught like the common Crossbill. In confinement they must be supplied with pine cones ; but they are also fed with hemp seed, rape seed, the second kind of general food, and will eat almost everything that comes to table. But they should not be let at large, for they nibble books, shoes, &c. ; two of these birds once destroyed for me a new pair of shoes in a single day.

The males sing very assiduously, and like the common Crossbill, but deeper and more intermittingly. The bar *grey*, *gep*, *garrye* ! are distinctly audible. They are not only very sociable together, but also with the preceding bird, for they bill and feed each other incessantly, and whither one flies thither follows the other. They are sometimes troublesome from their incessant call, but so tame that they will allow themselves to be handled.

I never found their nest ; but it is said to be built on the summit of the highest pines, and that they hatch in May, and rear from four to five young ones.

This bird can only be considered as a straggling visitor in Britain, only one or two specimens having been described by British authors.

59.—THE PINE GROSBEEK.

LOXIA ENUCLEATOR. *Linn.*—DAREBO OU GROSBEC DE CANADA. *Buff.*—
DER HAKENKREUZSCHNABEL ODER FICHTENKERNBEISSER. *Bech.*

DESCRIPTION.—This bird is allied to the Crossbills in figure and habits of life ; but the lower mandible does not cross, and the upper one has only a large hook which hangs over the under. It is the largest Grosbeak in Germany, of about the size of the Waxen Chatterer, eight and a half inches long, of which the tail comprises three inches. The beak is six lines long, short and thick ; the upper mandible considerably

hooked over the lower one, and dark brown ; the feet are brownish black, one inch high. Head, neck, breast, and rump of a bright carmine, with a bluish tinge. From the nostrils, which are covered with dark brown feathers, a black line extends to the eyes. The back and the small coverts of the wings are black, with reddish margins, and the large coverts have white tips, which thus form two transverse bands across the wings. The pinion feathers are black : in the shorter ones the external edge is white, and the larger ones have grey margins. Abdomen and vent are ashy coloured ; the tail rather forked, and marked like the pinion feathers.

The female is chiefly of a greyish green, with here and there a reddish or yellowish tinge, more particularly upon the vertex.

Whether this bird when at large varies in its plumage, like the common Crossbill, is uncertain, as more yellow than red ones are seen ; but that it does so in confinement is confirmed by experience. They become of a deep reddish yellow, not only after the first moult but even previous to it. This change commences at the beak, passes down the back to the breast, until all that was previously red becomes yellow. This yellow colour is rather darker than lemon ; the plumage in the yellow varieties, as in the red, is ashy grey at the base of the feathers.

PECULIARITIES.—This bird inhabits the northern countries of Europe, Asia, and America, and is therefore often found in Northern Germany, in Mecklenburg, and Pomerania, but rarely farther to the south. It lives in forests of pines and firs, and feeds upon the seeds of those trees. In autumn and winter it roams about seeking berries, and therefore is a bird of passage. The nest is built in lofty trees, and the young have a brown appearance, with a yellowish tinge : even during the first year the males are pale red, subsequently becoming carmine or crimson. In autumn and winter they

are caught with the springe, and upon the fowling-floor, by means of service berries and juniper berries ; they are so simple that in the north a rounded wire is fixed to the end of a long pole, within which are placed some hair nooses, and these are drawn over the heads of the birds. In their native home they are kept by fanciers in cages, for the sake of their song and their great tameness ; they afford much pleasure, especially by their habit of singing at night. In this sort of confinement they sing the whole year through ; whereas, when wild, this only takes place during the summer months.

The Grosbeak is an irregular visitant in the northern parts of the island, appearing here and there in various parts of the country towards the beginning of winter. It is more frequently met with in England than in Scotland. Montagu, who is perhaps more to be depended upon than any other British ornithologist, makes the following statement, as the result of his observation :—

“These birds usually visit England in the autumn, and continue with us till the month of April.’ They appear in small flocks, seldom more than four or five, feeding on the hawthorn berries. The facility with which they break the hard stones of that fruit to get at the kernel is astonishing. It is done apparently with as much ease as other small birds break hemp seed.

“No instance has been recorded of its breeding with us ; but Dr. Latham assures us he had one sent to him in the summer months. What the song of this bird may be in the season of love, authors are silent about ; but it has been heard to sing pleasantly, in low plaintive notes, even in winter, when the weather has been unusually warm. The nest is very beautifully constructed of lichens, liverwort, and vegetable fibres, lined with feathers and other soft materials, placed in the upper branches of a tree. The eggs are from three to five

in number, of a bluish green, spotted with olive brown, with a few irregular black markings."

Mr. Jesse, in his "Gleanings," informs us, however, that it not only stays with us all the year, but breeds in this country, the nests being frequently found amongst the Hornbeam pollards in Epping Forest, where the bird may be seen at all periods of the year. He further states that it has bred for some years past in the grounds of Lord Clifden, at Roehampton, where a nest with four young ones was taken in the summer of 1834. It was built at the extremity of a horse-chestnut, near the lodge, and was composed chiefly of twigs of the privet and birch, and lined with hair and fine grass.

According to Mr. Doubleday, they are permanent residents in Epping Forest, and very abundant, although so extremely shy that it is almost impossible to approach them within gunshot. "Their principal food," he states, "is the seed of the Hornbeam, which is the prevailing species of tree in the forest; but they also feed on the kernels of the haws, plumstones, laurel berries, &c., and in summer make great havoc amongst green peas in gardens. About the middle of April they pair, and in a week or two commence nidification. The situation of the nests are various, but it is most commonly placed in an old scrubby whitethorn bush, often in a very exposed situation. They also frequently build on the horizontal arms of large oaks, the heads of pollard hornbeams, in hollies, and occasionally in fir-trees in plantations, the elevation of the nest varying from five to twenty-five or thirty feet." The nest is said by Latham "to be composed of the dead twigs of oak, honeysuckle, &c., intermixed with pieces of grey lichen. The quantity of this last material varies much in different nests, but it is never absent. In some, it is only very sparingly placed among the twigs; in others, the greater part of the nest is composed of it. The lining consists of

fine roots and a little hair. The whole fabric is very loosely put together, and it requires considerable care to remove it from its situation uninjured. The eggs vary in number from four to six, and are of a pale olive green, spotted with black, and irregularly streaked with dusky colour."

60.—THE GREENFINCH.

LOXIA CHLORIS. *Linn.*—GROSBEQ VERDIER. *Buff.*—GREEN LINNET
M'Gillivray.—GREENFINCH. *Mont.* Otn. Dict. *Yarrel.*—GREEN
 GROSBEAK. *Selb.*—DER GRÜNLING. *Bech.*

DESCRIPTION.—Is rather more robust than the Chaffinch, and about six inches long, of which the tail measures two and a half inches. The beak is five lines long, flesh coloured, darker above, brighter beneath, in winter bright brown; the irides dark brown; the feet bluish flesh colour, eight lines high. The predominant colour is a yellowish green, beneath brighter or Siskin green, brightest on the rump and breast, and merging towards white on the abdomen.

The female is smaller, and differs from the male by having the upper part of the body more of a greenish brown, and the



under part inclining to an ashy grey. The lower coverts of the tail rather tend to white.

Gamekeepers and bird-catchers speak usually of three

kinds :—*a.* The large Greenfinch, which is entirely yellow. *b.* The middle one, which has the abdomen, especially, bright yellow; and *c.* The smaller one, which is said to be more approaching green. But these differences arise from the age of the bird, whence the body is robust or slender, and the plumage more or less beautifully marked. *d.* The bastard Greenfinch is remarkable; it springs from the intermixture of a male Greenfinch reared from the nest, and a female Canary, which produces a bird of a robust frame, green and grey in colour, but which is always a bad singer.

HABITAT.—The Greenfinch is met with all over the Continent of Europe, but it does not frequent high northern latitudes. In Germany it is one of the commonest birds. In summer it is found on the skirts of woods, in coppices, or where gardens and willows occur; but in winter it migrates in flocks of thousands. In March it returns to its old quarters.

In many woody districts it is an ordinary chamber bird, and is kept in a bell-shaped or square cage. Placed in a room, or aviary with other birds, it is only tranquil when supplied with abundance of food; otherwise it snaps and bites, and will allow no other bird to approach the feeding trough, biting them severely, and speedily plucking them bald if they are not removed.

FOOD.—The Greenfinch feeds upon all kinds of seeds, hemp, linseed, dodder grass, rape, the kernel of junipers, spurge laurel (*Mezerum*), unripe barley, the seeds of turnips, thistles, salad, and especially the seed of wolf's milk (*Euphorbia Helioscopia*), which almost all other animals abhor. When allowed to run about it feeds on the second kind of general food, and becomes stout and fat upon it: by way of change, a little hemp and rape seed is occasionally mixed with it. In the cage it has only the seed of summer cabbage; and if it is wished to make him sing sharply after moulting,

this is given him, mixed with hemp seed. To retain him in health it is also necessary to give him occasionally some green food, such as salad, chick-weed, cole-wort, and juniper berries.

BREEDING.—It usually constructs its nest upon the thick branch of a tree close to the trunk, more rarely in a thick hedge, or at the summit of an old willow. The nest is well made, externally of wool, coral moss, and lichens, and lined with the delicate fibres of roots and hair. The female lays, twice a-year, from four to five acute, silvery white eggs, with a few scattered cinnamon or bright velvet dots. The young are at first of a greenish grey; but the males are at once recognised by their yellowish tinge. If taken from the nest and reared, they will learn all the songs of chamber birds, even when they are very difficult; but as they sing the whole year through, it is best to let them learn from a Chaffinch. What they once learn they never forget.

MALADIES.—They are of a more robust nature than the majority of the other chamber birds, and may be preserved for a dozen years with moderate care.

CAPTURE.—They may be caught until December, on the fowling-floor, by means of a call-bird. In spring the call-bird is placed upon the decoy banks. They call, when flying, *yack, yack*, and when perched *shwoinz*. They allow themselves also to be allured by Linnets. They readily accustom themselves to eat, if crushed hemp-seed be thrown upon the floor to them.

COMMENDATORY QUALITIES.—Although their native song is not a pleasing one, yet it is not disagreeable, and some persons prefer it to that of the Linnet, but with this I certainly cannot agree. The great tameness to which, like the Bullfinch, it may be reduced, makes it an exceedingly pleasant chamber companion. It may be accustomed not only to fly in and out of the room, but may even be brought to build in a room where a garden or shrubbery is at hand

To effect this it is requisite to adopt the following course :— The young must be removed from the nest, and placed in a cage in a hole beneath a tree, placing over it a trap-cage or a titmouse-trap. The old ones, wishing to feed the young, step upon the springe and are caught; both old and young are immediately removed into a large store-cage, and fed until the young are nearly fledged. At this stage of training they are allowed to fly in and out of the store-cage, and even out of the window. Hunger immediately constrains them to return; and while the pleasure of trying their wings induces them to a short flight, when first they fly out, the old ones are placed at the window to recall them; if they are accustomed to their trainer at the same time, they will never fly away. If this course is not adopted, they may be kept until the winter, and the windows only opened when it snows; if they then fly out they can be recalled by placing some of their fellows in a cage at the window. To adopt a still more secure course, such arrangements are made at the window that females with clipped wings may be allowed to run in and out. They breed very freely in rooms, in company with canary birds, and as they hatch well, Canaries' eggs are sometimes placed under them.

They may also be accustomed, like Siskins and Goldfinches, to draw up water.

61.—THE GROSBEEK.

LOXIA COCCOTHAUSTES. Linn.—GROSBEC. Buff.—HAWFINCH. Mont.
Orn. Dict.—BLACK-THROATED GROSBEEK. M'Gillivray.—DER
GEMINE KERN BEISSER. Bech.

DESCRIPTION.—None but an ardent bird-fancier would think of keeping this bird. It is seven inches long, of which the tail measures two inches and one-third. In proportion to its body its beak is very thick, round, obtuse, and conical;

in summer dark blue, and in winter blackish at the tip, with that exception flesh-coloured; iris bright grey; the vertex, cheeks, and coverts of the tail are of a bright chestnut brown; the nape and the back of the neck of a beautiful ashy grey; it has a mark like a halter, which forms at the chin a black quadrate elongation; the back dark chestnut brown, the abdomen of a dirty fleshy red, merging into white at the vent; the small coverts of the wings black, the larger ones white in front, brown behind, whence a white spot appears upon the wings; pinion feathers black, steel-blue at the tip, the anterior ones having a large white spot upon the inner web, the posterior ones angularly truncated at the tip, as well as the pinion feathers, terminating abruptly, as if cut off; the tail black, the two central feathers becoming ashy grey at the tip, and all the external ones are white on the inner web of the terminal half and at the tip.



In the female the head, cheeks, and upper coverts of the tail are brown, or reddish-grey; the black colouring of the throat, the wings, and the tail blackish-brown; the white spot upon the wings more of a bright ashy-grey; the under part of the body reddish-grey, passing into white on the abdomen.

HABITAT.—It is found throughout the temperate portion of Europe and Russia. In many parts of Germany it is very common, especially in mountainous forest districts, where the red beech grows. It may be called a bird of passage in preference to a migratory bird, returning in March to its usual place of resort. It should be placed in a bell-shaped cage, where it speedily becomes tame. It may be allowed to run freely about, if it has not too many companions, and is always plentifully supplied with food, otherwise it is excessively snappish.

FOOD.—It is particularly fond of cherries, the stone of which it breaks by means of its powerful beak with the greatest facility for the sake of the kernel. It feeds also upon the seed of the red beech, hornbeam, juniper, ash and maple, service berries, and haws, as well as dodder grass, and the seeds of hemp, cabbage, radish, and salad. It is usually kept upon rape seed and hemp; and running about in the aviary, it will take the second kind of universal food.

BREEDING.—The nest is found in beech woods either upon trees or high bushes, and in gardens and orchards. It is neatly built, externally of small twigs, interwoven occasionally with lichens, and lined inside with the delicate fibres of roots. From three to five eggs are laid twice a-year, of an ashy-grey inclining to green, spotted with brown, and having blackish-blue streaks. The young are greyish-brown, and appear spotted with white, from their feathers being edged with white. In forest districts lads amuse themselves in rearing them, when they become so tame that they follow their feeder everywhere, and defend themselves from dogs and cats with their strong beak. In this state they are easily accustomed to fly about.

CAPTURE.—These birds eagerly follow the call-bird, and they are therefore very easily caught in the autumn upon the fowling-floor, when bated with beech and hemp seed, or with service and juniper berries. In autumn and winter they may be caught in the noose baited with service berries, and they can be caught also near their nest with lined twigs. They will immediately eat if hemp and rapeseed be given them.

COMMENDATORY QUALITIES.—Of these, indeed, they have but few. I, for my part, cannot endure the unpleasant shrill call of *its zip*, which it incessantly utters; but its song, which consists of a light gingle, with some clearer, shrill, and harsh notes like *ivrr*, is agreeable enough to many amateurs. Its remarkable tameness is its most agreeable quality.

62.—THE SERIN.

FRINGILLA SERINUS. *Linna.*—LE SERIN VERT. *Buff.*—DER GIRLITZ.
Beck.

DESCRIPTION.—This pretty little bird is properly a native of the south of Europe and of Germany, and it frequents the north only during the autumnal and spring migrations. In the spring of almost every year I have found it in the gardens of Thuringia, and indeed often in the middle of summer. It breeds yearly in the gardens and on lofty beeches and oaks in the vicinity of Offenbach.

It is intermediate between a Grosbeak and a Chaffinch, for its beak is too thin to connect it with a Grosbeak, and too strong for that of a Chaffinch. It is rather larger than the Aberdevine, being four inches and three-quarters long, of which the tail measures one inch and three-quarters. The beak is very short and stout, brown above, white beneath; the irides dark chestnut-brown; the legs six lines high, and, as well as the toes, flesh-coloured. The plumage of the male is very similar to that variety of the Canary which is called the grey or green. The forehead, circle around the eyes, a stripe above the eyes extending to the neck, breast, and rump, are greenish-yellow; back of the head, cheeks, temples, and small coverts of the wings, are Siskin-green, and reddish-grey, intermixed with blackish longitudinal spots; the two large series of coverts are blackish, and the superior one distinctly margined with yellow, but the lower one with reddish-yellow, hence the wings appear to have two yellow bands; the pinion feathers are black, margined with Siskin-green; and the tail, which is slightly forked, is similarly coloured. The spots with which the plumage is sprinkled are not distinctly separated, but flow into one another in small longitudinal stripes. The

head is delicately dotted, and even the sides and vent have distinct black spots and stripes.

The female can be distinguished from the female Siskin only upon very close examination, and chiefly by the shorter beak, longer tail, and the generally slighter frame; the colours are similar, having only a rusty-grey tinge. From the male it is chiefly distinguished by having its greenish-yellow breast striped with black.

PECULIARITIES.—This bird has been usually confounded with the Citril Finch. The Siskin may be used as a call-bird for it in spring and autumn: it is caught in this manner in Thuringia.

The following observations upon the natural history of this bird have been contributed by my friend, Dr. Meyer, of Offenbach:—"Of all the chamber birds with which I am acquainted, the Serin is one of the most vivacious and indefatigable. Its voice is not strong, but melodious, and, exclusive of the intermixture of some strophes of the song of the Lark, it has a most deceptive resemblance to that of the Canary. At large it sings incessantly, sitting either upon the extreme branches of a tree, or just rising into the air and descending again, or flying from one tree to the other during its song. Its call-note is precisely that of the Canary, which bird it also greatly resembles in all its proceedings."

HABITAT.—It was first observed in the neighbourhood of Offenbach, about twenty years since. Every year it arrives in great multitudes in March, and leaves again towards the end of October; yet a great many remain throughout the winter. In January, 1800, when the temperature was as low as 21° of Reaum., several were caught there as late as the end of February.

FOOD.—It feeds upon small seeds which it finds in the fields, and it is particularly fond of the seeds of the groundsel, plantain, and chickweed. In the cage it is best kept upon

rape seed mixed with poppy seeds, but it may sometimes have hemp seed and shelled oats.

BREEDING.—It generally constructs its nest upon the lower branches of apple and pear trees, or beeches, and occasionally upon oaks, but never upon willows or near water. The nest is made with some degree of skill; externally of the delicate fibres of roots, interwoven with moss and lichens (especially of the *Lobaria farinacea*), and densely lined with feathers, cow hair, together with some horse hair and bristles. The female lays usually from three to four, rarely five, and never six eggs, which in form exactly resemble those of the Canary, being only a little less. They are marked with a coronal of irregular, glittering, reddish-brown spots and dots upon a white ground, particularly at the thicker end. The hatching time lasts from thirteen to fourteen days, during which the male feeds the female upon the nest, and afterwards helps to feed the young from the crop. In the nest, the young closely resemble the grey Linnet, remain grey until their first moult, and only subsequently acquire the plumage of their parents. The young are easily reared upon soaked rape seed, but the best plan is to catch the parent birds also, and put all together in a cage, when the old ones will immediately feed the young. In confinement they never acquire the beautiful plumage which they have at large, and after a few years' confinement the old birds become pale, or even white, on those parts which were yellow. They will breed with Canaries, Siskins, Red-poles, and even Goldfinches.

CAPTURE.—They are readily caught upon the fowling-floor with call-birds and limed rods, and are very easily captured feeding upon plantain. One of these birds which I possessed died of atrophy.

63.—THE WAXBILL.

LOXIA ASTRID. *Linn.*—*SENIGALRAYÉ.* *Buff.*—*DER GEMEINE SENEGALIST.* *Beck.*

DESCRIPTION.—This bird is scarcely so large as a Robin, being about four and three-quarter inches long. The beak is raised at the base, and bright red; a similar bright red stripe extends between the eyes, and the middle of the breast and abdomen are of a beautiful brown. The upper parts of the body are brownish grey, the lower bright ashy grey, covered all over with the most delicate black undulating lines, which gives the plumage a very soft and silk-like appearance: pinion feathers and tail brown, the latter conical, and striped transversely with dark brown lines; the feet also are brown.

This bird, like the Amandavade Finch, changes its colours, and some are found, therefore, which have a uniform brown tail; others are crimson upon the rump, and the rest of the body brown above, white beneath; others, again, are yellow upon the abdomen, and spotted with white above; and others are bluish upon the neck and throat, and the rest of the under part of the body white, mixed with rusty red, and blue on the upper part of the body, &c.

PECULIARITIES.—They inhabit the Canary Islands, Madeira, Senegal, Angola, the Cape of Good Hope, and India, and are often brought to Europe. Their pleasant form and caressing nature, which is shown not merely by the sexes, but likewise towards each other, when a dozen or more are placed together in a cage, make them exceedingly interesting. Their song, however, is of no moment. They are fed upon millet, which they eat also in their native country, and in consequence are frequently injurious to crops of this seed.

64.—THE GRENADIER GROSBEAK.

LOXIA ORIX. Linn.—LE CARDINAL DU CAP DE BONNE ESPERANCE.

Buff.—DER GRENADIER-KERNBEISER. *Bech.*

DESCRIPTION.—It is nearly the size of a Sparrow. The beak is black; the irides chestnut; the feet dark flesh colour; forehead, sides of the head, thin end of the breast, and abdomen velvet black; rump, tail, throat, neck, and upper part of the breast crimson or fiery red and velvety; the back and shoulders more darkly clouded than the neck; at the upper part of the neck the feathers do not lie so close as usual, hence that part appears swollen; the thighs are reddish grey; the wings dark brown or blackish grey with reddish white shafts.

The male takes the same colours in confinement at the second moulting, but the markings are darker; the plumage of the upper part of the body being blackish, with broad reddish grey margins to the feathers, and the stripe above the eyes is pale brimstone. At large, the male, after pairing time, which is after January, loses its red feathers, and then resembles the female, but resumes its beautiful plumage in July, when pairing time recommences. They are very handsome whilst moulting, for then, with their variegated head and body, they have a beautiful red neck and tail.

PECULIARITIES.—These birds are as common in all the colonies of the Cape of Good Hope, and do as much injury to the wheat blossom and ripening ears, as Sparrows with us. Upon their return in the evening, in flocks of thousands, from the cultivated lands, to their resorting place among the reeds, their dissonant chirping may be heard to a considerable distance. Their call is *deeb, deeb*, somewhat like that of Sparrows, and their song is in a low weak voice like a Siskin. They build an artificial nest, composed of small twigs, inter-

woven with wool. It has one entrance, but consists of two compartments, the upper one for the male, and the under one for the female. The colour of the eggs is green.

These birds should be placed in small cages, and fed with Canary seeds. Male and female like to be together; but there is no instance on record of their having bred in Europe.

65.—THE SNOW BUNTING.

EMBERIZA NIVALIS. Linn.—ORTOLAN DE NEIGE. Buff.—SNOW-FOWL.
OAT-FOWL. THE SNOW-LARK BUNTING, OR SNOW FLAKE. *M'Gillivray*.
—DER SCHNEEKAMMER. *Bech*.

DESCRIPTION.—Naturalists describe the summer and winter dress of this bird as differing very remarkably. I will not vouch for the truth of this (but I fancy that the variation arises from differences in age, as is the case in many birds), and shall restrict myself here to a description of its winter dress, and that which it takes in confinement, as we do not observe it at other seasons, for in summer it resorts to the highest latitudes far within the Arctic circle. It is about the size of a Skylark, and is six inches and a-half long. The beak, as in all the Buntings, is conical, with a hard ridge on the palate, yellow, and only black at the tip, but during the singing season it is entirely black; the head, neck, and whole of the under part of the body white; the head sometimes sprinkled with a yellowish brown colour; back and rump black; the feathers of the back margined with white, and those of the shoulder and rump with brownish yellow—in spring darker, in summer paler; the



tail is forked, the first three feathers white, with a black stripe at the tip, the following four are black, margined with reddish.

The female is rather smaller; the head and upper part of the neck white, intermixed with yellowish brown or cinnamon brown, and across the white breast a series of similar spots extend resembling a kind of broken band. The young, caught in winter, are recognisable by their dark brown beak and back, the feathers margined with greyish white, and the young male bird is always sprinkled with yellow brown at the back of the head; but the young female has yellow brown cheeks and a speckled breast.

PECULIARITIES.—In severe winters this bird is found in Germany from December to May, especially in the northern districts, where it even visits villages. If due observation be made in March when snow falls, it may with certainty be found on its passage homewards, congregating with Larks in the fields and highways. It may then be caught upon the droppings of horses placed under a tree or covered with limed twigs; and in the fields also, upon spots cleared from snow and strewed with oats. I had a couple in my aviary for six years; but they may be placed in a large bell-shaped cage. They will feed upon the ordinary food; but in the cage they should have poppy seed, hemp, oats, millet, and dodder grass. They are fond of **bathing**. They are restless birds, which hop and run about during the night. Their call-note is clear and strong, like the loud whistle of a man. Their song is an interrupted twittering, with some high noisy tones gradually lowering, intermixed with a long continuous shrill note and other strong solitary piping tones, and is pleasing enough. To preserve them any length of time they must not be placed in too warm a room, or too near a fire, which they cannot at all endure.

Assembled in large straggling flocks, or scattered in small

detachments, these birds may be seen flying rather low along the shore, somewhat in the manner of Larks, moving in an undulating line by means of repeated flappings and short intervals of cessation, and uttering a soft and rather low cry, consisting of a few mellow notes, not unlike those of the Brown Linnet, but intermixed at times with a sort of stifled scream or chirr. When they have found a fitting place, they wheel suddenly round, and alight rather abruptly, on which occasion the white of the wings and tail becomes very conspicuous. They run with great celerity along the sand, not by hops, like the Sparrows and Finches, but in a manner resembling that of Larks and Pipits; and, when thus occupied, it is not in general difficult to approach them, so that specimens are easily procured.

About the middle of April, or sometimes a week later, these birds disappear, and betake themselves to their summer residence.

The nest and eggs of this species are unknown to me, and indeed have not hitherto been detected in Britain.—
M'Gillivray.

66.—THE TAWNY, OR MOUNTAIN BUNTING.

EMBERIZA MONTANA. *Linn.*—ORTOLAN DE MONTAGNE. *Buff.*—DER BERGAMMER. *Bech.*

DESCRIPTION.—It is rather smaller than the Snow Bunting. The beak is short and strong, yellow, but black at the tip; the head almost flat; the forehead bright chestnut; the back of the head and cheeks brighter; the back of the neck and back ashy, the latter spotted with black, causing it to resemble the Female Yellow Bunting; the gullet white; the breast and eyes rusty red, with a brownish red band across

the former, but which in young birds is indicated only by a cloudy tinge; the coverts of the wings blackish grey, margined with white; the feet black.

The female has the head alternately black, reddish yellow, and white; red mixed with yellowish grey at the back of the neck; on the belly approaching to white.

PECULIARITIES.—This handsome bird is a native of the northern parts of Europe, but it certainly is nowhere common. In Thuringia (as also possibly throughout the rest of Germany) it is found every year in March, especially when there is a continuance of stormy weather and deep snow. It occurs usually in pairs, upon roads and highways, where they search for food amongst the dung of animals. Its call-note is *zirr, zirr!* Its song, which is clear, and not unpleasant, is, like all the other Buntings, broken and abrupt. These birds are easily kept either in a room or in a large cage, and should be fed upon oats, poppy seed, bread, hemp, &c. They are very restless at night, especially at pairing time, uttering their call-note even during the darkest night.

At times, in a flock of these birds, some are found which are reddish grey upon the upper part of the body, yellowish upon the head, and spotted with dark brown upon the back; these are young ones. They are caught in the same way as the Snow Bunting.

67.—THE YELLOW BUNTING.

EMBERIZA CITRINELLA. Linn.—LE BRUANT. Buff.—YELLOW HAMMER.
M^r Gillivray.—DER GOLDAMMER. Beck.

DESCRIPTION.—As well known as this bird is, still its description is necessary, as young males and old females are often confounded with each other. It is six inches and a half long, of which the forked tail occupies three inches; the

beak is five lines long, in summer of a dirty dark blue, and in winter ashy; the irides dark brown; the feet are light brown, and nine lines high; the head in old birds is of a beautiful light yellow, having occasionally some dark olive brown spots upon the cheeks and upon the vertex, and only in very old ones is the head as well as neck of a pure golden yellow; the neck is olive green; the back black and greyish red intermixed; the rump orange red; the throat, the under side of the neck, and the belly, of a beautiful golden or light yellow; the breast, especially at the sides, and the vent, spotted with orange red and yellow; the small coverts olive, the large ones and the last pinion feathers black, intermixed with a rusty colour; the anterior pinion feathers blackish, margined with greenish yellow; the tail feathers blackish; the two external ones with a conical white spot, the rest yellowish, and the central ones margined with rust colour.

The female is rather smaller; on the head, throat, and neck scarcely any yellow markings are seen, the head and cheeks being so much intermixed with brown, and the neck with olive spots; the breast only is spotted with rusty colour, and the coverts of the wings alone are marked with reddish white; it therefore looks more grey than yellow.

Young males in the early spring resemble old females; but yet they have already upon the vertex a yellow spot, as well as a golden yellow stripe above the eyes, and another on the throat; the rusty coloured breast and rump are also more of an orange red and without spots.

White and spotted varieties are also occasionally met with.

HABITAT.—The Yellow Bunting is found throughout Europe and Northern Asia. In summer it inhabits coppices and the margins of woods, and in autumn resorts to the fields; but in winter it frequents the vicinity of barns and stables. Where it occurs abundantly it is not held in much esteem, and is usually allowed to run freely about in the

chamber or aviary ; but in other places, where it is rare, it is kept in large bell-shaped cages.

FOOD.—Its chief food in summer consists of insects, especially caterpillars, with which, like all the Buntings, it feeds its young ; but in autumn and winter it feeds upon all kinds of seeds and corn, which, by means of an inner ridge on the palate, it is enabled to shell skilfully, such as oats, spelt, millet, and Canary seed ; but poppy and rape seed, and other small seeds, it swallows whole. Oats is their favourite food. To preserve them for several years their diet must be varied, and they require to be fed with oats, roll crumbs, bread, meat, poppy seed, bruised hemp, &c. Running about in the aviary, the second general description of food suits them best. It is, perhaps, in order to accelerate digestion, that they frequently eat fresh black mould. This, at least, I have observed in all that I have kept in my aviary. They are fond of bathing.

BREEDING.—As resident birds they hatch twice in the year ; the first time very early, towards the end of March or the beginning of April. The nest is built in hedges or shrubs, or indeed upon the ground in moss, and consists externally of blades of grass, very artificially interwoven, lined internally with cow and horse hair. The female lays from three to five eggs of a dirty white, sprinkled and edged with pale and bright brown. Reared from the nest, the young males will learn the song of the Chaffinch, and also short strophes of the song of other birds.

MALADIES.—They are very subject to consumption ; and their moulting is often accompanied with difficulties, as they always sicken some time afterwards, and frequently die. To prevent this they must have given to them, as well as to all the species of Buntings, fresh ants' eggs, which very much accelerate this periodical change.

CAPTURE.—In winter they may be caught in gardens with

the fowling-net, within which oats are strewn as a bait; they will often get under a sieve or basket supported by a little bit of wood, to which a string is attached, by which the supporting prop is drawn away when they are beneath. They also visit the fowling-floor singly by placing a call-bird there, and in spring the fowling-bushes, when attracted in the same way.

COMMENDATORY QUALITIES.—It is recommended by its beauty, although the golden yellow eventually becomes very pale after it has been kept some time in the house, where it will live for about five or six years; and also by its song, which, although it possess nothing peculiarly distinguishing, is yet agreeable; this consists of from seven to nine clearly ringing notes, *te, te, te, te, te, te, twyee*, all the first being of one sound, but the last constituting a triple note. Though delicate, yet its call-note sounds to a great distance. But this bird comports itself very awkwardly in the chamber and cage, notwithstanding its cheerful and vivacious habits when at large.

Towards the beginning of April the winter associations break up, and they choose their partners without the manifestation of angry feelings, they being less addicted to quarrelling than most small birds. When vegetation has advanced, they repair to bushy places and willowy sides of brooks and streams, and commence the construction of their nests, which are bulky, composed externally of coarse grasses and small twigs, and neatly lined with fine grass, fibrous roots, and hair. The nest is usually placed on the ground, under a bush or among the twigs close to the ground, or sometimes in a clump of thick grass or herbage.

These Buntings evince much anxiety about their charge, and when deprived of their eggs or young continue some

days about the place, chanting at intervals their dolorous ditty, which, though unaltered in its notes, must doubtless be meant as an expression of their grief.—*M'Gillivray*.

68.—THE COMMON OR CORN BUNTING.

EMBERIZA MILIARIA. *Linn.*—*PROYER*. *Buff.*—*CORN BUNTING*.
M'Gillivray.—*DEB. GERTENAMMER*. *Bech.*

DESCRIPTION.—This bird, which is found throughout Europe and in Northern Asia, is even less adapted to inhabit



the chamber than the preceding, being neither distinguished by its song nor by its plumage. It is larger than a Skylark, which it resembles in its plumage. It is seven inches and a half long, of which the tail occupies three. The beak is short and strong, six lines long, and grey brown like the feet. In summer the lower mandible of the former is yellowish; the feet are ten lines high; the whole of the upper

side of a pale reddish grey; and the under side yellowish white, spotted all over, like the Lark's, with blackish brown, rather coarse above, but delicate beneath. The pinion and tail feathers are dark brown.

The female is rather paler.

HABITAT.—In several parts of Germany it is very abundant throughout the whole year. In the more northern countries they only occur during their migrations, being unable to endure the winter in their native home. In March they are found with the Larks in the fields. They prefer plains to wooded districts, and therefore they may be observed in meadows, or on cross roads, perched upon a willow or a rail-post, a landmark, or a clod of earth. They are usually allowed to mix with the other birds in an aviary, or they may be placed in a large Lark's cage.

FOOD.—Their food is similar to that of the Yellow Bunting, and they may be fed upon oats and millet, and the usual bird food. They are more delicate than that bird.

BREEDING.—They usually build among the high grass under overhanging bushes, but do not place their nest upon the ground. It consists of dry blades of grass, and is lined with the hair of animals. The eggs, from four to six in number, are ashy grey, with reddish brown spots, and striped with black.

CAPTURE.—In autumn they are caught upon the fowling-floor by means of the call-bird. In spring they are attracted to the fowling-bush by the call of the Yellow Bunting; and in the winter they may be captured in the vicinity of barns by means of nets and limed rods.

COMMENDATORY QUALITIES.—The song of the male is shorter and rougher than that of the Yellow Bunting, and may be noted by the following syllables—*tye, tye, tye, terity!* The last note rattles, and it is therefore called in some districts the stocking-weaver.

M'Gillivray, who appears to have given close attention to the habits of these birds, says :—" When surprised in a field, or roused from a corn-yard, they fly off with a direct rapid motion ; but often when an individual, which has been resting on a twig or wall-top, starts away, it allows its feet to hang for a short time before it commences its bounden flight. I believe there is no other bird of the order, with us, that has this habit.

" Although somewhat similar to the song of the Yellow Bunting, it is by no means so lugubrious ; but if not sufficiently melodious to call forth exclamations of delight from him whose delicate ear is hurt even by the jingle of the Lark, yet to those who love to study nature in all her variety, it forms a pleasing counterpart or contrast to the sweet notes of the yellow-throated warblers.

" To the ornithologist the scream of the Heron and Eagle, the croak of the Raven, the wail of the Kittiwake, the chatter of the Magpie, and the chirp of the Sparrow, are as interesting as the clear, mellow, and modulated song of the Thrush, filling the lone valley at eventide with its soft echoes.

" The song of the Bunting, such as it is, may be heard occasionally at all seasons, especially in calm weather ; but during the breeding time it is more frequent, and then the male, perched on a wall, a stone, a twig, or a tall herbaceous plant, especially a dock or a bur, continues to utter at short intervals his singular cry, which, although not loud, extends to a great distance."



69.—THE ORTOLAN BUNTING

EMBERIZA HORTULENA. Linn.—L'ORTOLAN. Buff.—GREEN-HEADED BUNTING. Mont.—ORTOLAN. Selb.—F'ER GARTENAMMER ODER ORTOLAN. Bech.

DESCRIPTION.—An accurate description of this bird is rendered the more necessary, because naturalists and bird-dealers call different species of birds by this name, and the latter make no scruple to sell them as Ortolans.

It is about the size of the Yellow Bunting, but is rather more robust in the breast, and has a thicker beak. It is six and a half inches long, of which the tail occupies two and a half. The beak is thick at the base, long, and of a yellowish flesh colour; the irides dark brown; the legs are flesh coloured, and ten lines high; head and neck are ashy grey olive; the throat bright yellow, and a stripe of the same colour extending from the angle of the lower mandible down the neck; the back and shoulders reddish brown, spotted with black; the rump dirty greyish brown; the upper part of the body reddish yellow; the tail feathers blackish, the two external ones with a conical white spot; all the rest edged with reddish yellow.

The female is rather smaller, the head and neck passing into ashy, and marked with small blackish lines; the breast is also less brown in hue, and the whole body paler.

The young male before the first moult has the throat of a light yellow, with an intermixture of grey, and the breast and belly are reddish yellow sprinkled with grey. They are, therefore, not very dissimilar to the young Yellow Bunting; but the connoisseur may distinguish the differences of sex even in the nest. There are also *white*, *yellowish white*, *variegated*, and, occasionally in the chamber, *black* varieties of this bird.

HABITAT.—This bird inhabits the southern and temperate

parts of Europe, and is not rare in some of the provinces of Germany ; but, if due care be taken, it is to be found in every direction during its migrations, even although it should not remain during the summer ; for it stops occasionally in its course, and does not fly over entire districts at once. If the spot be observed where it has been once met with, especially in spring, it will certainly be again found there at the same period, so invariable is their route. They travel in families, rather than in flocks. In Germany they are met with towards the end of April or the beginning of May, and they may be found in gardens or in fields where there are insulated bushy spots or coppices, and, at breeding time, in gardens and skirting woods, especially in the vicinity of millet crops. In August, they visit the fields in families, and quit us after the oat harvest in September. As a celebrated and well known bird, it should be placed in a handsome cage, but it may be allowed to occupy the aviary, as is usually the case where it occurs abundantly.

FOOD.—It eats not merely all kinds of insects, but also millet, oats, buck wheat, hemp, &c. If placed in a cage, it must be fed with millet, poppy, and shelled oats ; at large in the aviary, it feeds upon the usual general food. But it is a delicate chamber bird, and can rarely be preserved for more than four years.

MALADIES.—It is subject to all the ordinary ones, and frequently dies of atrophy and consumption. To cure or prevent this, great care is necessary in affording the bird a supply of animal and vegetable food properly varied.

CAPTURE.—In the spring it is caught upon the fowling-bushes, where a call-bird of its own species, or merely a female Yellow Bunting, is placed to allure it.

In August a small fowling-floor, like that made for Finches, is formed upon some green spot in the vicinity of bushes, and is surrounded with a low hedge, and bunches of

oats are scattered around. In the vicinity of the floor one or several call-birds of its own species are placed, one being tied up—that is to say, its wings are placed within a band, to which a string with a little peg is attached, by means of which the bird can be pinned down to prevent its straying beyond a certain spot. This has also food and drink given to it, that the attracted birds may the more readily resort to the floor, perhaps thinking, “Yonder is one of my fellows enjoying himself!” Birds thus tied up are called *runners*, and they are often more necessary than the call-bird itself.

COMMENDATORY QUALITIES.—Its beautiful form and colour render this bird agreeable, and it is made still more so by its flute-like, mellow, and pure song, which has some resemblance to that of the Yellow Bunting, whose notes, however, are deeper.

This bird has long been a favourite dish with epicures; and to gratify their pampered taste, much care is bestowed in fattening them. For this purpose they are placed in a room lighted by lanterns, that they may not observe the difference between night and day; they are then plentifully fed with oats, millet, and milk rolls, intermixed with spices, speedily becoming so fat that they must be killed at the right time to prevent their being suffocated. Ortolans thus fed become mere lumps of fat of about three ounces in weight.

70.—THE GIRL BUNTING.

EMBERIZA GIRLUS. *Linn.*—BRUANT DE HAYE. *Buff.*—DER ZAUNAMMER. *Bech.*

DESCRIPTION.—This bird is nearly the size of the Yellow Bunting, five and a-half inches long, of which the tail measures two inches. The small and much-compressed beak

is brownish blue above, and beneath bright brown ; the feet are flesh coloured, eight lines high ; the vertex and upper part of the neck olive green, with small black stripes from the upper angle of the beak, and golden yellow stripes extend beneath the eyes to the middle of the neck, and transversely through these a black one crosses, which beyond the under yellow eye-stripe inclines downwards, and unites itself with the black throat ; the back and the small coverts of the wings are cinnamon brown, intermixed with black and greenish yellow ; the rump feathers are olive green, with black stripes ; the large coverts of the wings and the pinion feathers blackish grey, the former as well as the posterior pinion feathers margined with brownish, and the anterior pinion feathers with greenish yellow ; the tail slightly forked, the two external feathers black, with a white conical spot, all with a greenish yellow edge ; a golden yellow spot upon the lower part of the neck ; the breast of a beautiful olive green ; at the sides, and towards the belly, of a bright chestnut brown ; the rest of the under part of the body of a golden yellow.

The female is much duller in colour. The head and upper part of the neck olive green, and more striped with black ; the back is bright brown ; the rump is olive with black streaks ; the tail more of a blackish grey than black ; above and beneath the eyes there is a bright yellow stripe, which crosses a blackish line which is united to the black margin of the cheeks ; the throat is brownish ; at the lower part of the neck a bright yellow spot ; the breast bright olive, with brownish side spots ; the rest of the under part of the body bright yellow.

The young before the first moult are bright brown, spotted on the upper part of the body with black, and beneath bright yellow, striped with black ; the older they become the breast inclines the more to an olive green tinge.

HABITAT.—The southern and temperate parts of Europe are its native dwelling place. It is found in gardens, coppices, and the skirting woods of large forests. They are migratory birds, which withdraw in November, and return in April, and are then often to be found associating with the Chaffinch. They must be treated, as regards food and habitat, like the Ortolan.

FOOD.—During summer they feed principally upon the caterpillar of the cabbage butterfly, and upon the insects upon ripe wheat and barley, and upon oats, millet, and rape-seed.

BREEDING.—They build in hedges and bushes by the roadside, and deposit in their nest, which is made of blades of grass, and lined with the hair of animals, from three to five greyish eggs, which are sprinkled with reddish brown spots. Towards the end of July whole families are met with in the fields, especially in rape fields, where there are willows in the vicinity.

Their **MODE OF CAPTURE** and **MALADIES** are the same as the Ortolan.

COMMENDATORY QUALITIES.—The male is very handsome—more so than the Ortolan; but his song is of no moment. It has some resemblance to that of the Yellow Bunting. These birds are easily tamed, and may be preserved in the cage for five or six years.

Colonel Montagu, an indefatigable naturalist and observer of the habits of British birds, was the first to discover that the Cirl Bunting was a visitant of Britain. In the winter of 1810, he procured several specimens, killed in the neighbourhood of Kingsbridge. Tracing their flight with great perseverance, he was at last rewarded by soon afterwards discovering their nest. Devon and the south-western counties seem their more peculiar residence, and they breed and remain there throughout the year.

71.—THE FOOLISH BUNTING.

EMBERIZA CIA. *Linn.*—LE BRUANT FOU. *Buff.*—DER ZIPAMMER.
Bech.

DESCRIPTION.—It is rather smaller than the Yellow Bunting, six inches long, including the tail, which is two and a half inches. The beak is five lines long, sharply pointed, the upper part dark ashy grey; the irides blackish brown; the feet brownish flesh colour, nine lines high; the head ashy, sprinkled with red, having at the side an indistinct black stripe, and marked in the middle with delicate blackish stripes; the cheeks are bright ashy grey, and there extends from the nostrils and over the eyes a dirty white stripe; a black stripe passes through the eyes, which unites itself with another of the same colour that commences at the angle of the lower mandible and encloses the cheeks; the back is brownish red, spotted with black; the rump bright brown; the throat bright ash colour; the under side of the neck, half way down the breast, ashy; the rest of the under part of the body rusty, brighter on the abdomen; the tail feathers slightly forked, the two first black with a white conical spot upon the inner web, the two central ones tipped and edged with a dark rusty colour.

The female differs but little. The head is ashy grey, with a reddish tinge, sprinkled with black, and has all the stripes of the male, but more indistinct, dirty white, and dark brown; the ashy grey throat is also striped with black, and has a reddish tinge, and the under part of the body paler than in the male.

HABITAT.—These birds are fond of solitude, and commonly inhabit mountainous districts in the south of France, in Italy, and Austria. They do not every year remain throughout the winter in these districts: they also occasionally

migrate in flocks. They occur in mountainous districts, in central Germany, about March and April. They are kept sometimes in cages, and are also occasionally allowed to run freely about. The latter suits them best, especially when they have a large enclosed place where they can sleep and rest.

FOOD.—Like the rest of the Buntings, they feed upon seeds and insects, and require the same treatment as the Ortolan. They may be preserved in perfect health for about six years. I possess two of this species, which I have had for that space of time.

MODE OF CAPTURE.—They are easily attracted to the call-bush and the fowling-floor by the Yellow Bunting; indeed they are so simple that they derive their name from the facility with which they allow themselves to be decoyed into any noose.

COMMENDATORY QUALITIES.—They are handsome, active, and cheerful birds. Even during the winter they are incessantly uttering their shrill call-note, and sing very like the Yellow Bunting, only shorter and purer. Their song continues from spring to autumn. They live very familiarly with their allies, the Yellow Bunting, in the aviary; wherever one goes the other follows, and what one eats the other also picks up.

72.—THE REED BUNTING.

EMBERIZA SCHEENILUS. Linn.—*ORTOLAN DE ROSEAUX.* Buff.—RING BUNTING. *M'Gillivray.*—*DER ROHRHAMMER.* Bech.

DESCRIPTION.—It is of the size of a Tree Sparrow, and is five inches and three-quarters long, of which the tail occupies two inches and a half. The beak is four lines long, above black, beneath whitish; the irides dark brown; the feet

dark flesh colour, nine lines high ; the head is black, here and there sprinkled with reddish ; from the lower mandible a white band extends, running all round the head, and which is broadest beneath the cheeks, and narrowest at the neck, the back of the neck ashy grey ; the back black, spotted with rust colour and white ; the rump alternately grey and yellowish red ; the gullet and throat black, sprinkled with white ; the rest of the under part of the body dirty white on the breast and sides, with solitary brown spots ; the small coverts rust coloured ; the larger ones black, with rust coloured and occasional whitish shafts ; the pinion feathers dark brown, with bright rusty coloured shafts ; the forked tail blackish, the two external feathers with a large conical white spot, and the two central ones with a yellowish brown edge.

In confinement the head of the male, after moulting, never becomes so black as when it is at large, but at each change turns browner, and becomes clouded with reddish white

In the female the head is rusty brown, spotted with black ; the cheeks are brown ; above the eyes a reddish white stripe extends and unites itself with another, which passes from the angle of the lower mandible around the cheek ; on each side of the throat a black brown stripe extends downwards ; the throat and under side of the body are reddish white, thickly striped with dark brown upon the breast ; the colour of the back is paler, and not so bright as in the male.

HABITAT.—It inhabits the whole of Europe as far north as Sweden, and also Northern Asia. In October it migrates in small flocks, but returns in March in very large bodies. The females migrate separately from the males, but it is an erroneous notion, possessed by some, that the males only migrate. In winter they are also occasionally met with, associating with the Yellow Bunting. They frequent marshy places by the side of rivers and ponds, amongst the rushes

and reeds, and climb up and down the stalks of these water plants, but are rarely seen upon trees. I allow them to run freely about in the room; but they may also be kept in a cage.

FOOD.—They feed upon the seeds of aquatic plants and of grasses, as well as upon insects; and they will freely eat the first general food, and poppy seeds, and remain in a healthy condition from four to six years. They usually die of consumption, or, as I have frequently observed, of a scald head.

BREEDING.—It builds its nest among reeds and in bank bushes, and lays from five to six dirty greyish white eggs, with some blackish brown waving lines and spots rather indistinctly marked.

CAPTURE.—In autumn it is caught with the Chaffinch trap, and in spring, during snow, it frequents barns and dung heaps, in company with the Yellow Bunting, and may then be easily captured there, as well as upon open places in fields, and on hedges, with nets and limed twigs.

COMMENDATORY QUALITIES.—Its song is variable, soft, and somewhat hurried. The simple notes *te, te, tu, te*, and the occasional discordant *ruytsh*, distinguishes it from all other singing birds. It sings all through the summer, and even at night. It becomes the tamest of all the Buntings, and is particularly attached to music, and will approach the instrument unhesitatingly, as I have observed in several, exhibiting its delight by opening and shutting its wings and tail feathers like a fan, and so strongly and so frequently that the webs become quite worn off. The female also sings, but not so loudly as the male.

“This bird may be seen perching on willows, reeds, sedges, and other aquatic plants. Although shy, it is easily shot, as it seems to consider itself safe at the distance of thirty yards or so. Its flight is rapid and undulatory, like that

of the Yellow Bunting, and it alights abruptly, like it, expanding its tail to break the descent, when the white of that part becomes conspicuous. Although stationary in England, this species is migratory in most parts of Scotland, departing in October and reappearing about the beginning of April. In winter these Buntings form small loose flocks, which break up towards the end of March, when the different pairs betake themselves to their summer haunts."—*M'Gillivray*.

73.—THE PASSERINE BUNTING.

EMBERIZA PASSERINA. *Linn.*—ORTOLAN PASSERIN. *Buff.*—SPERLING-SAMMER. *Bech.*

DESCRIPTION.—This bird has certainly been confounded with the preceding, otherwise it would be better known in Germany, where it is not rare in the autumn and spring. It is rather smaller and more slender than the Red Bunting, five inches long, of which the tail comprises two inches and a half. The beak is black above, light brown beneath; the irides dark chestnut; the feet of a dirty flesh colour, nine lines high. The general colouring is that of the female Reed Bunting. The male has the upper part of the head rusty red, with an olive grey tinge along the vertex, and spotted all over with black, arising from the black basal colouring of the feathers shining through; from the nostrils there extends, above the eyes, and also somewhat beneath them, a dirty reddish white stripe, which enlarges beyond them; the temples are chestnut brown, with black glittering through, and which becomes a black spot at the sides of the neck; from the lower angle of the beak there runs downwards, on each side of the neck, a yellowish white stripe, and which indistinctly connects itself with the dirty reddish white eye-

stripe behind the temples; the gullet and throat are black, as in the Sparrow, clouded with whitish grey; the rest of the under part of the body is greyish white, spotted at the sides with dark chestnut brown; the vent pure white; the upper part and sides of the neck olive grey, with a reddish tinge; the small coverts of the wings of a beautiful rusty red; the larger ones with broad rusty red margins; the pinion feathers blackish, margined with olive grey, the hinder ones with rusty red margins; the forked tail black, the two outer feathers with a conical white spot, and the central one with a rusty red margin.

The female is much paler in colour. At the vertex no black is seen; above the eyes a reddish white stripe extends, as well as down the sides of the neck, from the chin halfway down the neck; on each side there is a brownish black stripe; the gullet and throat are of a dirty reddish white; the rest of the under part of the body is similarly coloured, but becomes paler towards the vent, but of a beautiful hue upon the breast, and striped at the sides with reddish brown; the occiput and neck are reddish grey; and the back covered with rusty grey and black longitudinal spots.

In confinement, the black head dress of the male disappears, and it resembles that of the female; the under side of the neck also becomes whitish grey, spotted longitudinally with dusky brown.

PECULIARITIES.—Dense bushy woods, in mountainous districts, are the favourite resort of these birds, into the very depth of which they creep. They are birds of passage, and quit us in October and November, returning again in April. In Thuringia they are not rare, especially in spring and autumn, during their migrations. It was formerly supposed that they inhabited Russia only. They eat the seeds of all kinds of grapes, as also insects; and they must be fed like the Reed Bunting. They have a soft and not unpleasant song, which

much resembles that of the Reed Bunting; and in their comportment they also resemble that bird, and are caught in the same manner.

74.—THE PAINTED BUNTING.

EMBERIZA CIRIS. *Linn.*—VERDIER DE LA LOUISIANA. *Buff.*—DER GEMALTE AMMER. *Beck.*

DESCRIPTION.—It is of the size of the Linnet, and is five inches and three-quarters long; the beak greyish brown; the irides nut brown; the feet brown; head and neck violet; circle round the eyes red; the upper portion of the back and the scapular yellow green; the lower part, the rump, and the whole of the under side of the body red; the small wing coverts violet brown, with a red tinge; the larger ones dull greenish; the pinion feathers brown, some with greyish, others with red margins; the tail brown, the two central feathers playing into red, and the rest externally margined with the same colour.

The upper part of the female is a dull green colour, and beneath yellow green; the pinion feathers are brown, bordered with green; the tail also brown and green intermingled.

There are many varieties of this bird, as they do not acquire their perfect plumage before the third year. At first both male and female are of the same colour. The male acquires its blue head in the second year. The rest of its plumage, however, is bluish green; and the wings and tail are brown, with bluish green margins. The colour of the female at this time strongly inclines to blue. They moult twice in the year; it is, therefore, no wonder that scarcely two agree. Some are also found which have the under side

yellowish, with the exception of a red spot on the breast, becoming wholly white beneath during moulting.

PECULIARITIES.—These birds are natives of the warm parts of Canada, and throughout the country lying between Mexico, Brazil, and Guiana. None are seen in Carolina at less than one hundred and thirty miles from the sea. They are only to be seen during summer, and build in orange and other trees. They have been bred in aviaries wherein orange trees were placed. In the cage they are fed with millet, chicory, and Canary seed, poppy seed, &c., upon which they may be preserved for eight years, or longer. They have a soft and pleasing song.

75.—THE CHAFFINCH.

FRINGILLA CŒLEBS. *Linn.*—PINSON. *Buff.*—PINK. BEECHFINCH.
HORSEFINCH. CHAFFY. *M'Gillivray.*—DER GEMEINE ODER BUCH-
FINN. *Bech.*

DESCRIPTION.—From its pleasing and excellent song this bird is a general favourite with all who keep birds for amusement and pleasure, and therefore a precise description here will be superfluous for the bird-catcher. I incorporate it, therefore, chiefly for the guidance of young persons, and for the sake of the completeness and uniformity of this work; moreover, it will permit me to insert some observations, which, from their novelty, may be worthy of attention.

In the forest of Thuringia, the fancy for these birds is so universal, that throughout the entire district scarcely a Chaffinch is heard with a good song, so much are they pursued. No sooner is a good songster heard than a multitude of bird-catchers are instantly on the alert, and do not rest until they have caught it. Hence, from causes easily determined, only bad singing is perpetuated, as the singing which

the young hear in their parents, and by all the other Chaffinches, has nothing that is at all attractive.

This bird is about the size of a Sparrow, and is six and one-third inches long, of which the tail comprises two and three-quarter inches. The beak is conical and pointed, as in the entire genera of Finches (*Fringilla*); in winter white, but in the spring, when pairing time approaches, and when it begins singing, it becomes dark blue, which colour it retains until moulting time. The blueness of the beak, therefore, indicates whether a Chaffinch has already sung or not. The irides are chestnut brown; the feet dark brown, and nine lines high; the claws very sharp and pointed, and require to be cut off every six weeks, otherwise they catch the bird up, and when not speedily relieved, it dies; the forehead is black; the vertex and neck greyish blue (in very old birds dark blue), with a few upright hair feathers; the upper part of the back chestnut brown, tinged with olive green; the lower part of the back and rump Siskin green; the cheeks, throat, breast, and belly, reddish chestnut brown, merging into white towards the vent; the thighs grey; pinion feathers black, externally with a greenish, and internally with a whitish edge, white also at the base; the small coverts white, the large black, with white tips, whence there appear to be two white stripes across the wings; the tail feathers black, the two central with an ashy grey tinge, the two external ones with a large conical white spot, of which the third has usually only a small indication in the form of a small spot; they are all in a slight degree margined with greenish.

After moulting time, at the commencement of winter, almost all these colours are brighter; the forehead only dark brown, the vertex and neck playing into greenish and olive brown, and the reddish brown on the breast brighter. The young birds have these colours also throughout the second year, especially if they are birds of the last brood, and are

called by bird-catchers greyheads. These persons, therefore, know well how to distinguish in spring the young males from the old ones, and prefer the former to the latter, because, if they are caught early, they are still in a condition to learn a good song from a chamber bird, whereas the old ones either never or very rarely adopt any other song, retaining only their original wild notes.

The female can be very readily detected, being smaller; and the head, neck, and upper part of the back grey brown. The whole of the under part of the body dirty white, but reddish grey upon the breast; the beak in spring greyish brown, in winter whitish grey.

There are also varieties: White Ringfinches, with a white ring around the neck; and Spotted Finches. I possess one at present which is dirty white, blackish upon the head, and Siskin green upon the back. The difference between wood and garden Chaffinches consists only in their place of resort.

HABITAT.—The common Chaffinch is found throughout Europe, and is abundant in Germany, and inhabits all kinds of woods, coppices, and gardens. They are migratory birds, although some winter with us. The passage continues in autumn from the commencement of October to the middle of November, and also in the spring throughout the whole of March.



They migrate in large flocks. In the spring the males arrive a fortnight before the females. Our bird-catchers are well aware of this fact, and when the males have passed, they no longer continue their sport.

These birds are kept in separate square cages of different forms, but these must be at least nine inches high. Mine are made of woven wire, arched above, and have two perches, one in the vicinity of the trough, and the other towards the

water glass. The trough is placed on one side, divided into compartments by wires, that the bird may not scatter the seed ; and on the other side the drinking glass is placed. If a larger cage is wished, it should be made with a roof, and with two bows in front for vessels containing food and water, and the sides enclosed with wooden rods, which are useful, as they prevent wild birds from injuring their plumage. It is not advisable to place them in a bell-shaped cage, as they hop forward and not upwards, and easily acquire the habit of twirling. They must also be so hung in a room, that they do not see one another, otherwise they interrupt each other's singing. When allowed to run about the room, for which inferior songsters are selected, they have either a trellice on which they may perch, or small branches to which they may retire at night. They rarely sing so well or so assiduously as when they are confined in a cage, where they may be said to give their whole attention to their song.

FOOD.—This consists of all kinds of insects, with which also it feeds its young. In the woods it picks up the seeds of pines and firs, and in the fields dodder grass, linseed, rape, and oats ; and in gardens it feeds upon salads, cabbage, and mustard seed. Like all birds of the genus, they are expert in peeling or shelling the husk from the grain.

When confined they may be fed constantly upon either dry or soaked rape seed, upon which they continue very healthy. As much as is required for a day's consumption should be soaked for four-and-twenty hours in water, and given to them in the morning. In spring, when it is wished that they should sing loudly, some crushed hemp seed (*Gallinopsis Cinnabina*, Linn.) may be given to them as a delicacy, but this must not be placed in the trough where the rape is placed, otherwise they scatter the latter away to seek for that which is most palatable. You have to supply them with a separate little trough, which may be placed on one side be-

tween the wires of the cage. For the purpose of keeping them in sound health some green food is occasionally requisite, amongst which there must be groundsel and chickweed (*Alsine media*); and in winter a bit of apple is most suitable. Fresh water should be given them daily to drink and to bathe in; and a few meal-worms and ants' eggs will tend to enliven them very much.

Those which range the room feed freely upon the usual food of the aviary, and eat bread and roll crumbs, meat, and all kinds of seeds, rape seed (which does not require to be soaked), millet, oats, and dodder grass.

BREEDING.—The Chaffinch builds on the branches of trees, and constructs a very handsome nest. It is formed like a ball, a little depressed on the upper part, as round as if turned on a lathe, consisting beneath of spiders' webs and hair, woven to the twig, and intermingled very artificially with moss and delicate twigs; well lined with feathers, the down of thistles, and the hair of all kinds of animals, and covered externally with lichens. It is fastened, by means of spiders' webs, as firmly to the branch as if glued to it, and this is done, doubtless, to conceal the nest as much as possible from its enemies; at all events, it is very difficult for the human eye to distinguish it from the rind of the tree upon which it is placed. They breed twice a year, and lay from three to five eggs, which are of a bright bluish grey, and sprinkled with coffee brown spots and stripes. The first brood produced (and this is an observation applicable to all birds) consists almost exclusively of males; but at the second they are almost all females. Fanciers easily distinguish the young males, when selecting them from the nest. These are marked by a reddish tinge upon the sides of the breast, the rings round the eyes are more yellow, the wings blacker, and the bright stripe of the wings whiter, although otherwise they much resemble the mother. To be absolutely certain,

pluck some of the feathers out of the breast of the young bird ; in a fortnight these feathers are replaced, and the presence or absence of the red colouring will then indicate which are males and which are females. When the tail-quills have sprouted, the birds must be removed from the nest, that they may not acquire a bad style of singing, for these birds early commence imitating the song of those in their vicinity, even before the tail and pinion feathers are half grown. They are reared upon soaked rape seed and roll crumbs. Little trouble is wanted to keep them well until moulting time ; at this period they should be given ants' eggs and meal-worms, which greatly recruits such as are languishing. Chaffinches thus reared become exceedingly tame, and sing as soon as they are desired, or as soon as friendly motions are made with the hands or head in front of their cage. If it be wished that they should learn speedily and accurately any song piped to them, they must be kept constantly in a dark part of the room, and not be hung at the windows until May. This is the most certain method of obtaining birds perfect in their tune. If well managed, the full grown Finches reject their old song, and acquire the good one sung to them by the bird of which they learn. The most essential thing requisite is to select a dark and obscure place to hang the cage in when a good singer is desired.

Instances have occurred of Chaffinches pairing with female Canaries, and producing hybrids ; and it is also said with the Yellow Bunting.

It is an erroneous opinion that garden Finches lay whitish eggs, and wood Finches greenish eggs, or that the two birds are distinct species, for alike in nests found in gardens and in woods are whitish eggs seen, and indeed all become whitish after being laid some time.

MALADIES.—They are subject to a stoppage of the fat glands, and also to dysentery. The first is cured in the

ordinary manner, and the last may be remedied by a rusty nail or a little saffron being placed in the drinking vessel.

When the scales upon the legs become too large, the upper ones are gently loosened by means of a pen-knife, otherwise the bird soon becomes lame and gouty; but great care must be taken in doing it. They also easily become blind, especially if fed exclusively upon hemp seed. As blindness approaches gradually, it does not prove prejudicial to their song, nor does it hinder them from finding their food and hopping about the perches. If well attended to, they will live for twenty years.

CAPTURE.—From Michaelmas to Martinmas, and in the spring throughout the whole of March, they will visit the fowling-floor if there are good call-birds. In winter, those which remain behind, or which return too early, may be caught, by means of the large clap-net, in gardens or in large court-yards where oats are strewn about.

In spring they are usually caught by bird-catchers by means of lures and limed twigs. The cry of the call-bird to those passing is like *yack, yack*, and *fink, fink!* when these, expecting to obtain mates, settle upon the limed rods and are caught. This mode of capture continues as long as the birds are migrating, and commences at day-break and lasts until nine o'clock: thus long do these birds of passage fly, after which they descend into the fields to eat, sing, and rest the remainder of the day. In the same manner the Mountain Finch, the Linnet, the Goldfinch, the Siskin, the Lesser Redpole, the Yellow Bunting, the Bullfinch, the Greenfinch, &c., may be caught.

The bird-catcher takes advantage also of the jealousy of the Chaffinch as a means of capturing it, using a peculiar kind of trap. As soon as he hears a Chaffinch which has a good song, he takes another male Chaffinch, which he knows will frequently utter its natural note, *fink, fink!* ties his

wings together, and places upon the tail a very thin forked twig, half a finger long, well smeared with bird-lime; and thus prepared, he lets the bird loose near the place where the bird he wishes to catch has taken its stand, or beneath the very tree upon which it sits. Scarcely has the lure bird hopped many steps beneath the tree and uttered its call, when the other, incited by jealousy, fiercely pounces down, and seizes him, remaining sticking to the bird-lime. Instances have occurred where the decoy bird has been at once struck dead by the pounce of its adversary. But the following is the safest mode of capture:—A male is made use of; it is bound beneath the wings with a soft leather brace, and attached to this a band about a foot long, which is fastened to the ground by means of a small peg, about which the bird can freely run. This bird, which has been taught to run about without fluttering, is called the runner, and it is encircled with limed rods. A trained Chaffinch, within a cage, is placed in a bush close by. As soon as it begins singing,* the other, as swift as an arrow, instantly pounces from the tree upon the runner, which he considers to be the singer, entangles himself in the limed sticks, and is caught. A bird thus caught, before Whitsuntide, will sing the same year in the cage, but after this season it will pine and die, doubtless through yearning for its mate and young ones. Ignorant bird-catchers, who take pleasure only in this singular mode of capture, without regard to the value of the song, will thus in one hour, during breeding time, deprive from ten to twelve females of their mates, and numerous young ones of their guardians.

When the young Chaffinches have commenced flying in summer, bird-catchers note the spots to which they resort

* Care must be taken that this bird has a song which is sung by wild birds, else the birds which it is sought to catch will be shy, from being unacquainted with the song, and will not be readily caught.

at midday to drink, and there they place sticks with lined rods attached. These unwary little birds perch upon them and are caught. They are called James's Finches, being caught about St. James's day. One of these Chaffinches, if it has a good memory, will still learn in confinement a good song, and is more hardy than one reared. For this reason bird-fanciers greatly esteem them, and collect them in considerable numbers, assured that some will succeed in the training.

COMMENDATORY QUALITIES.—In this category we may first allude to its song. The Chaffinch has a great variety of notes, expressive of its wants and desires, very interesting to the fancier. The delicate note by which it seems to indicate a change of temperature is a *treef, treef!* the call-note which it uses chiefly upon its migration, and excited by it falls into the hands of the bird-catcher, is a repeated *yack, yack!* a spontaneous sound appears to be the *fink, fink*, which it reiterates frequently, and from which its German name has originated. Still more remarkable than these notes is its clear and trilling song. For this it is distinguished beyond almost every other bird, approaching more to distinct articulation, and is, therefore, called a quaver. Every bird has one, two, three, and even as many as four different songs, each of which lasts a couple of seconds, and consists of several strophes. The Chaffinch may be enumerated amongst the most agreeable chamber birds. Not only has all its songs been noted, but even all their syllables have been numbered; and endeavours are continually making to improve its natural notes. As I am myself a great admirer of its song, and consequently have always about me in cages a number of birds with the best songs, it would not be difficult for me to fill several sheets with observations upon the music of the Chaffinch. In this place I merely introduce my chief remarks upon the subject.

Every song of the Chaffinch, from closely approximating to the articulate tones of the human voice, is named after the terminal syllable of the last strophe; and in Thuringia the following songs are especially esteemed, and which I arrange in a certain definite order:—

1. THE HARTZ DOUBLE TRILL consists of five long strophes, the last of which terminates with a distended "*Weingeh*," *Hodozeeah*. Whether a Chaffinch ever perfectly sang it at liberty, as it may now be heard at Ruhl, or as two sing it which I myself possess, I very much doubt. It is a song perfected in the chamber. From its difficulty no Chaffinch can learn it unless reared from the nest; and it is rare to hear it so perfect that no portion is left out. A high price must be given to obtain a bird that sings it entire with exactness and vigour; and it has also this disadvantage, that it is soon forgotten. Together with the *Wine song*, it constitutes the favourite best of the Ruhl bird-fancier.*

2. THE REITZUG, OR REITHERZUG.—Of these there are two kinds. *α*. The first is called that of the mining districts, the Eizgerberge, or of Voigtland, and has only recently become known in Thuringia. It may be heard in wild birds upon the eastern side of the forest; but reared birds sing

* Ruhl is a factory village in the forest of Thuringia, the inhabitants of which, chiefly knife smiths, are such great fanciers of Chaffinches, that not only instances are known that they have gone from thence to the Hartz, that is to say, sixteen German miles, to catch a good bird, but also that for a good beater they have given a cow. The proverb, therefore, *this Chaffinch is worth a cow*, is not unfrequently heard in the forest villages. A genuine Ruhl Chaffinch-fancier becomes quite delighted when he hears mention made of a good double beater. I have often heard them say that a genuine double beater is able to talk, so distinctly will it utter every syllable. In Ruhl, therefore, exceedingly excellent Chaffinches are reared. Good Chaffinches are also found in other places in the forest of Thuringia; for instance, in Tambach, Schmalkald, Breitenbach, and Steinbach.

it more slowly, stronger, longer, and in other respects superior. It is a powerful piercing song, consisting of four short strophes, the first of which is very high, and has before the syllable *Reitzug* a pause, which must be a quaver for the beat to be good. The last syllable is distinctly *Reitzug*, with a snap, as the fancier says, or with the note *zap!* *b.* The second is the *Oberland* or *Breitenbach*. It is more full, and sounds more flute-like; but the last syllable sounds *Reitzug*. Both are excellent songs. Whoever has not heard the *Hartz* double beat, is apt to consider this as the most perfect song; but in this, as in everything else, it depends wholly upon taste.

3. THE REIHAHN.—A common chamber song in the Meiningen upper land, especially at Steinbach and Lanscha. It must not be confounded with the *Reitzug*. It consists of a long, high, piercing, and falling, and somewhat hissing strophe, which has at the end *Reti* or *Reethorn*, with the terminal *zap*. It sounds striking, and is very good.

4. THE WEIDMANN, OR SPORTSMAN'S SONG.—There are both the chamber and forest *Veidmann*. The first is common in Voigtland, and is incorrectly called *Rouster*. At a distance it sounds like the *Brautigam*; but the two first strophes have more distinct pauses, strong and sharp, and the chief beat sounds distinctly like *Veidmann zieren*. The wild song is much shorter at the commencement, and not so coarse, and is heard only in Franconia, in the oak and beech forests.

5. THE WINE SONG.—There are five kinds. *a.* The *Good* or *Langfeld*.* This is an exceedingly beautiful song, common only in some of the forest villages of Thuringia, especially Ruhl. It has four short strophes, which, to be genuine, must be sung with a tone similar to that of the Oboe. The last syllable sounds like *Weingeh* or *Weengee*. This also is a

* A village on the Rhön, where this song was first discovered.

song taught in the chamber, and is never heard in wild birds. *b.* The *bad Wine song* is not so disagreeable in itself, but is only called so in comparison with the preceding. It has three strophes, of which the penultimate must sound five times *zap* to be good. *Weingeeh* is also the last syllable. Wild birds sometimes utter these notes; such birds are soon caught. *c.* The exact *Weingeeh* or *Winegay*, a beat composed as it were of the bad and sharp Wine song. The last syllable sounds loudly and piercingly. It is a wild song in Franconia, especially about Meiningen, and not displeasing. *d.* The *sharp Wine song*, called also merely the *sharp*. This never ends in *Weingeh*, but with a positively long drawn *Winegay*. This is also an acquired beat, which is met with in Ruhl and some other Thuringian forest villages. It has three strophes, of which the first must sound and ring high; and upon the penultimate, or both that and the antepenultimate, an accent must lie.

6. THE BRAUTIGAM, or BRIDEGROOM'S SONG are two—*a.* The *good*, which is only to be heard in the chamber. It has two strophes, of which the first is soft and high, and the second increasingly piercing. *b.* The *bad*, which is sung in the forest. It is also a pleasing beat, and consists of three strophes, but which, to the ear of the connoisseur, are not so agreeable as the former.

7. THE DOUBLE TRILL.—This song consists of two long strains, with a distinct pause in the middle, which is called the shake. Of this there is—*a.* the *common*, which may be again subdivided into, *a.* the *coarse*, or Schmalkald, double beat,* which song sounds coarsely and long, but is improved by reared birds; *b.* the *clear*; *c.* the *long*; and *d.*

* In some parts of Franconia—for instance, about Meiningen—it may be met with in the forest, and, indeed, tolerably perfect. It is to be regretted that the majority of Chaffinches which sing it have a bye-beat with it.

the *short*. These songs are heard also wild. Those Chaffinches that sing *a* and *b* are eagerly sought after by bird-catchers. In Thuringia, the double beat is thus expressed: the Tambach double beat is merely a chamber song,* which sounds so deeply and strongly that one would scarcely believe that a Chaffinch could sing so low. It commences piano, increases in strength, and makes of the whirl a strophe of five grating tones, then calls from three to five times *pfaff*, and closes slowly with the syllable *reedidea*. When a Chaffinch sings the double beat, either alone or also with the good Broytegam, as it is reared at Tambach, it is an expensive purchase.

8. THE GOOTYAHN, so called from the sound of the last note. There are—*a*. the *common*, consisting of two strophes, of which the fifth must warble five times before the word *gootyar* comes. It is a common forest song. *b*. the *Hartz*; a chamber song, which has two remarkable and rather pleasing strophes. Chaffinches which sing the Ruhler *sharp Wine song*, and the *Hartz Gootyahr*, are very high priced, and are now rare, and they are only to be met with in Eisenach and Ruhl.

9. THE KIENOCHL OR QUAKEEA, because the last syllable sounds so. There is—*a*. the *double*, and *b*. the *simple*. The first consists of two strophes, the latter of one. The former was much admired, and was heard in the woods and the chamber, but it has been scarcely heard for some years past. With us all that sang it in the forest have been caught; and in the chamber the *good Wine song* has superseded it. I possess a bird of this kind, and do not think another exists.

* An accident produced this double beat about eight years ago. A shoemaker, of the name of Schmidt, in Tambach, had five young Chaffinches hanging near a very coarse double singer, one of which composed this song for itself. This subsequently taught several others; so that now this song has become quite a favourite one in the Thuringian forest villages of that district.

It was formerly required that such Chaffinches should also sing the double beat to be agreeable songsters. Mine also sings both these songs.

10. THE PARAKIKAH.—In no song is the chief word more distinctly uttered than in this. It is heard at large on the western side of the forest of Thuringia and in Franconia. As a chamber song it is most perfect at Wazungen.

11. THE PRETHEA OR TREWETHEA.—An exceedingly pleasant song, which is still heard occasionally in the mountain recesses of the forest of Thuringia; but in the Westphalian mountain villages it is much hunted after. Reared from the nest it is still more perfect. A strophe must ring at the commencement, and then the note *zack* be repeated several times. There were formerly birds which sang it, as well as the common *sharp Wine song*, and which were much esteemed.

12. THE SHWARTZGEBÜHR.—An ordinary Chaffinch song in the Meiningen mountain land, especially Sonnenberg and Steinbach, which is heard wild, but is also reared perfect in the chamber. It consists of three strophes, of which the third sounds peculiarly harsh and undulating. The terminal word is distinctly heard, and it ends with *pink*. This is taught to a bird together with the *Reitzoog*; and a Chaffinch which has perfectly learnt both these songs is much admired.

These are the Chaffinch songs most esteemed in Thuringia, and throughout Saxony and Franconia. Many of them, as I have before observed, are heard wild, but usually not so perfect: that is to say, not so long and with so strong and pure a voice. If a bird sings but one of these songs, it usually sings it slower, with more syllables louder and deeper, and is the more esteemed when at the end of each beat it adds *pink* or *zap*, which bird-catchers call the Amen.

It is remarkable that the song of these birds varies according to the district they inhabit, so that different songs are

sung in the forest of Thuringia to what are sung in the Hartz ; and by this the taste of amateurs is regulated.

The Chaffinch is so tractable, that when reared young it, will not only acquire the song of any other Finch, near which it may be hung, but will even pick up a portion of the song of the Nightingale or Canary. Among them, as well as in other tamed birds, differences of memory are observable, for sometimes one will take half a year to acquire a single song, whereas another will catch it on the first hearing, and sing it well. There are some that cannot give even one song without a fault, while others may be found that will sing it perfectly, and even extend and embellish it.

It is also remarkable that these birds must also, in a peculiar way, re-learn their song every year. This is done in the midst of a rattling and hissing noise, which they make for four weeks and more, into which they gradually introduce, very gently, first some, and then several syllables of their song. This is called recording ; and those may be considered as geniuses among them, which take only a week or a fortnight for this purpose, before breaking out into full song. Other birds, which sing only at certain periods of the year, are heard only softly at first, and intermix with their song also foreign and harsh notes ; but none have such peculiar notes so totally dissimilar to their own song. The least attention will show that this exercise is not so much a re-learning of the song as an effort to bring back the throat, unaccustomed for some time to sing, to its natural pliancy.

Wild Chaffinches commence recording shortly after their arrival in the spring, those in the house still earlier, even at the commencement of February ; but they practise also longer, indeed sometimes for almost two months, before they sing aloud. Usually their singing time lasts only to the end of June ; but some chamber Finches, reared young, will even sing until Michaelmas and Martinmas.

Some fanciers adopt a very barbarous contrivance, to procure themselves the pleasure of hearing these birds sing both day and night, with all fulness. They place the cage in a dark situation, and thereby accustom them to seek their food in obscurity, and then blind them by burning the pupil with a red hot needle, or passing it over the eyelids so as to unite the two margins together.

The Chaffinch possesses other talents besides its skill in singing; for some have been seen which, for instance, could count and put letters and colours together like the Canary. Such an one was in the possession of an Alsatian of the name of Jeantet. It was not, however, so thoroughly skilful as the Canary which he had with him.

“The male Chaffinch,” says Yarrel, “is one of the most handsome of our common small birds, and in his general deportment is as lively as he is handsome. Thus distinguished by bright colours and active habits, and being besides very numerous as a species, and confident in behaviour, allowing the near approach of observers without exhibiting much alarm, the Chaffinch is extremely well known; and as his gay appearance and song, frequently noticed as early as February, points him out as one of the first of our indigenous birds to afford an indication of returning spring, he is for these various reasons a general favourite. With our continental neighbours the Chaffinch is one of their most common cage birds; and in France, from the lively colours and demeanour of this bird, the term ‘gay as a Chaffinch,’ is a proverbial phrase in frequent use.”

“The Finches, generally, are remarkable for the neatness and beauty of the nests they construct, and the Chaffinch is no exception to the rule. The outside of their nest is composed of moss, studded with white or green lichens, as may best accord with the situation in which it is built; the

inside is lined with wool, and this is again covered with hair and some feathers. The eggs are usually four or five in number, of a pale purplish buff, sparingly streaked and spotted with dark reddish brown. The place chosen is variable; sometimes it is fixed in the fork of a bush in a hedge-row, on a branch of a wall-fruit tree, frequently in an apple or pear tree several feet above the ground. A correspondent in the 'Field Naturalist's Magazine,' relates that a pair of Chaffinches built in a shrub so near his sitting-room window as to allow him to be a close observer of their operations. The foundation of their nest was laid on the 12th of April; the female only worked at the nest-making, and, by unwearied diligence, the beautiful structure was finished in three weeks; the first egg was deposited on the 2nd of May, four others were subsequently added, and the whole five were hatched on the 15th. During the time of incubation, neither curiosity nor constant observation from the opened window disturbed the parent bird; she sat most patiently; the male bird often visited his partner, but it was not discovered whether he ever brought her food."

It is said by Linnæus, in his "Fauna of Sweden," that the female Chaffinches migrate from that country in winter, but that the males do not, and the name of *Cœlebs*, the bachelor, was bestowed by him on this species, in reference to this circumstance. Selby and White, as well as other English naturalists, have noticed this separation of the sexes, "which," says Bolton, "it is difficult to account for; perhaps the males, being more hardy and better able to endure the northern winters, are content to remain in the country and pick up such fare as they can find, while the females seek for subsistence in more temperate regions."

76.—THE MOUNTAIN FINCH.

FRINGILLA MONTIFRINGILLA. *Linn.*—PINÇON D'ARDENNES. *Buff.*—
DER BERGFINK. *Bech.*

DESCRIPTION.—It is six inches and a half long, of which the tail occupies two inches and a half; the beak is half an inch long, in winter brown, in summer yellowish, and black at the tip; the feet are dark flesh colour, nine lines high; the head, as far as the neck, as well as the throat, are shining black, with a dark reddish yellow margin to the feathers, which, in young birds, is deeper. Very old ones have a completely black head; the occiput and belly powdered with white; the back black, with a broad dark yellow margin to the feathers; the rump white; the front of the neck and the breast, as well as the small coverts of the wings, orange yellow; the belly white: the large coverts black, with white tips; the pinion feathers dark brown, with yellowish margins; the tail black, slightly forked.

The female is of a more uniform colour, and is brown where the male is black, and yellowish red grey where he is yellow red.

There are varieties with a white head, white back, &c.

HABITAT.—It is distributed throughout Europe, but resides during the summer in the north. During the three other seasons it is found throughout Germany, especially in the forest districts. When beech-mast is plentiful in the Thuringian forest, there have been instances of their wintering in that district to the number of a hundred thousand.

Where it is common it is not considered worth keeping in a cage; but where more rare this is done for the sake of its beauty. With us it is allowed to run freely about.

FOOD.—Its food is similar to that of the Chaffinch, both at large and in confinement.

CAPTURE.—Its call-note is *yack, yack, quack*; and as the

first note resembles the call of the Chaffinch, it can be decoyed by this, and flies also in its society. This, as well as the Chaffinch, most freely visit the fowling-floor, for with one cast several scores are frequently taken. In winter they are caught near barns, in sieves and nets; and in spring they visit the call-bushes, even if there are no birds of their species to allure them, and merely a common Chaffinch calls.

COMMENDATORY QUALITIES.—The song is not agreeable, for it utters nothing more than insulated lisping and twittering tones like those of the common Chaffinch when they are recording, intermixed with which it occasionally utters a loud *raitch!* and yet it will learn some of the notes of the Chaffinch, although imperfectly, if hung near it for some years. This bird, when kept in the house, must not be placed in an apartment with many other birds, as he is very quarrelsome, especially if he has not got an abundance of food. In our district he is kept in cages chiefly as a call-bird for the fowling-floor. It is said that he is more easily taught to fly in and out than the common Chaffinch.

This fine species is a native of the northern parts of Europe, and in the more temperate and southern districts is only known as a winter visitant, arriving in the neighbourhood of London generally about Michaelmas, and departing northward early in the month of March—never having, as yet, been satisfactorily ascertained to breed here. Their numbers vary greatly in different seasons, the direction and extent of their migration being, in all probability, regulated by the state of the weather.

In habit, and in their manners, they closely resemble the common Chaffinch, with which they frequently associate; and in hard weather may sometimes be seen hopping familiarly about the farm-yard, or in the middle of the road, in the manner of that bird.

77.—THE SPARROW.

FRINGILLA DOMESTICA. Linn.—LE MOINEAU FRANÇOIS. Buff.—THE HOUSE SPARROW. M^cGillivray.—DER HANSSPERLING. Bech.

DESCRIPTION.—Although this and the following bird may not be classed among agreeable songsters, I must not pass them over, as they are easily kept, and possess all kinds of pleasing qualities, that other chamber birds distinguished for their beauty and their colour do not possess.

The description of this bird is almost superfluous, being so very common throughout the whole of the old world, and especially in Europe. It is five and three-quarter inches long. The beak is stout and blue black; the feet grey brown; the vertex and cheeks ashy grey, behind the eyes a broad reddish brown stripe; black around the eyes; the back of the neck grey; the back spotted with red, brown, and black; the throat as far as the breast, black, the latter clouded with white; the abdomen greyish white; the small coverts of the wings red brown, the penultimate row of large ones with white shafts, and this margined with red brown; the pinion feathers dark brown, as well as the tail feathers.

The female is very different; red grey upon the upper surface, spotted with black upon the back; the abdomen of a dirty white grey.

The young until the first moult nearly resemble the female.

There are also several varieties; the white, the yellow, the tawny, black blue, entirely ashy grey, and variegated.

HABITAT.—It is sufficiently well known that throughout Europe it has accustomed itself to the habitations of man. He is allowed to run freely about with other birds in the chamber, or he is placed at night in a cage. He will soon acquire the habit of freely entering.

FOOD.—It is but too well known that they are frequently

injurious to ripe wheat and barley crops, to pea fields, cherry trees, &c., where it seeks its food ; but in compensation they are frequently serviceable in gardens and woods, by their consuming whilst breeding an innumerable quantity of May-bugs and fruit caterpillars. They will feed upon oats, and indeed everything that is thrown to them. In a cage they must be supplied with rape, hemp, poppy seed, oats, and other grain and seeds, &c.

BREEDING.—From two to three times a year they will hatch from five to seven young ones, in a very irregular nest, built beneath eaves, in fissures of walls, old swallows' nests, &c.

CAPTURE.—They are cunning, and skill is required to catch them in nets or by means of limed rods. In autumn many may be caught by sticking plenty of lime upon bushes in fields where flocks of them are seen. In cherry trees, and on houses, they are caught with landing nets which are held before them when they have retired to rest.

COMMENDATORY QUALITIES.—Whoever keeps many birds running at large in a chamber, will also admit the House Sparrow into their society. Children also adorn him with a red crown or grenadier's cap. He is most useful in the chamber for the production of hybrids with the hen Tree Sparrow. A wooden hole, or a jug, should be placed in some bye spot, wherein they can build a nest and rear their young.

They may also be easily accustomed to fly in and out, especially if the winter be selected for the purpose, and they are placed for a month at the window in a large cage, and well supplied with millet, meat, and roll steeped in milk. They will then make their nest in such a cage, if a small box be placed in it with a small aperture to admit of their creeping in. An invalid at Paris (*Journal de Paris*, July 18, 1869) had made a young Sparrow so tame, that it would follow him wherever he went. It used to fly about with a little bell round its neck, and would not permit any one to catch

it. When its master became bed-ridden, it would not quit his side. It was once caught and deprived of its bell. In a couple of days it freed itself and returned; but continued dejected, and would not eat until it had a new bell placed round its neck. It lived a long time, and was universally admired.

M'Gillivray remarks that the social propensity is more apparent in the Sparrow than in any other British species of its family; for even during the breeding season it is seen searching for food in small groups, and in autumn and winter it is decidedly gregarious, although irregularly so for the individuals of a flock do not seem to consort with each other exclusively, and betake themselves to the same roosting places. The flocks, on the contrary, are accidentally formed by individuals casually meeting with each other, and are liable to be broken up by slight causes.

Mr. Yarrel observes, that "occasionally the Sparrow builds among the higher branches of apple or pear-trees in a garden, sometimes in other trees, but seldom choosing one that is far from a house; and the nest, when thus placed in a tree, is remarkable for its large size, as compared to the bird; it is formed with a dome, and composed, as in other cases, of a mass of hay, lined within with a profusion of feathers, to which access is gained by a hole in the side. So great is the partiality of the Sparrow for warmth, that abundance of feathers are used even to line a hole on the inner side of the thick thatching of a barn, and they have been seen collecting feathers in winter, and carrying them away to the holes they inhabited. Their young are fed for a time with soft fruits, young vegetables, and insects, particularly caterpillars, and so great is the number of these that are consumed by the parent birds, and their successive broods of young, that it is a question whether the benefit thus performed is not a fair equivalent for the grain and seeds required at other seasons of the year."

This author also quotes an anecdote from vol. i. of the

Zoological Journal, in proof of the Sparrow's attachment to its young: it is there stated, that "a pair of Sparrows, which had built in a thatch roof of a house at Poole, were observed to continue their regular visits to the nest long after the time when the young birds take flight. This unusual circumstance continued throughout the year; and in the winter, a gentleman who had all along observed them, determined on investigating its cause. He therefore mounted a ladder, and found one of the young ones detained a prisoner, by means of a piece of string or worsted, which formed part of the nest, having become accidentally twisted round its leg. Being thus incapacitated for procuring its own sustenance, it had been fed by the continued exertions of its parents. Similar instances are recorded in other works on natural history."

Mr. Kidd states that the Sparrow is a fine songster, when placed under proper tutelage, equalling, if not excelling the Canary.

78.—THE TREE SPARROW.

FRINGILLA MONTANA. Linn.—FRIQUET. Buff.—DER FIELDSPERLING.
Beck.

DESCRIPTION.—It is a handsomer bird than the preceding, and about five inches and a half long; the beak is dark brown; the feet bluish flesh colour; the vertex, as far as the neck, red brown; the cheeks white with a black spot; the neck surrounded by a white ring; the upper part of the back rust colour spotted with black; the lower part of the back and rump brown grey; the throat and gullet black; the breast bright ashy grey; the belly dirty white; the pinion and tail feathers dark brown; the small coverts rust colour, the large ones black, with rust coloured edges, and white tips, which form two white bars.

There are also white and variegated varieties, which are

brown yellow upon the upper part of the body, the wings, and tail; in other respects of the usual colours, and have a black throat and brown head.

HABITAT.—It inhabits northern Asia and America, and most parts of Europe, but it is not so common throughout Germany as the House Sparrow, for there are parts where it is never seen. It is found in gardens and fields where hedges and trees occur. They are seen in large flocks in autumn, plundering the barley and wheat fields.

In confinement it may be allowed freely to range the room. Its mode of standing is, however, disagreeable; for its feet, as in the House Sparrow, are short, and it appears, therefore, to rest upon its belly, even when it hops.

FOOD.—The same as that of the preceding.

BREEDING.—Its nest may be found twice a year, usually in hollow fruit trees, in gardens, and in hollow willows on the banks of water.

MODE OF CAPTURE.—It is caught like the preceding, and being less shy, in winter it may be caught with the sieve near barns.

COMMENDATORY QUALITIES.—It is handsomer than the preceding, chirps also some distinct notes, which constitute its song; but which, although it sounds agreeably, is lost amid the songs of other chamber birds. When living in the country they may also be accustomed to fly in and out, which is to be effected as in the preceding species.

These birds do not live so long in confinement as the former, and usually die of consumption.





SECTION VI.—OSCINES. SONGSTERS.

THESE are characterised by a conical beak, in some more cylindrical, and pointed at the tip, generally slender, and the upper mandible of which is immoveable. Their food consists chiefly of insects, but they also eat berries and worms. One species lives entirely on aquatic insects and mollusca, in search of which it goes into the water, diving to the bottom. Some are almost equally insectivorous and granivorous, as the Larks; others essentially insectivorous, as the Wheatear and Whinchat. Their nest is artificially made, and both male and female participate in hatching.

These birds, considered collectively, are obviously more deserving of the name of songsters than any others, their vocal powers being of the highest order, in general possessing more musical talent than all the other groups together; but several species among them, for example, the Skylark, the Woodlark, the Wood Thrush, the Common Thrush, the Blackbird, the Nightingale, the Black Cap, and the Garden

Warbler, excel all competitors in the variety, melody, and compass of their song.

The twenty-five English vernal immigrants make their appearance in the neighbourhood of London in the following order. The earliest and latest reliable dates of arrival are given in separate columns after the names:—

Order of arrival.	Name of bird.	Earliest date of arrival.	Latest date of arrival.
1.	Chiffchaff	March 11	March 29 (1834)
2.	Wheatear	March 16	April 17
3.	Wryneck	March 25	April 20
4.	Sand Martin	March 27	May 8 (1834)
5.	Blackcap	March 29	April 25
6.	Willow Wren	April 1	April 20
7.	Redstart	April 2	April 20
8.	Swallow	April 5	May 8 (1834)
9.	Whinchat	April 6	April 28
10.	Martin	April 9	May 25 (1834)
11.	Tree-Pipit	April 9	April 21
12.	Nightingale	April 9	April 25
13.	Yellow Wagtail	April 9	April 25
14.	Whitethroat	April 12	April 23
15.	Cuckoo	April 13	May 15
16.	Sedge Warbler	April 15	May 16 (1834)
17.	Lesser Whitethroat	April 16	April 29
18.	Turtle Dove	April 20	May 12
19.	Grasshopper Warbler	April 21	May 22 (1834)
20.	Garden Warbler	April 22	May 12
21.	Wood Wren	April 23	May 21 (1834)
22.	Redbacked Shrike	April 24	May 9
23.	Spotted Flycatcher	April 30	May 15
24.	Goatsucker	May 1	May 27
25.	Swift	May 1	May 29 (1834)

In studying this table of dates, with a view to drawing any definite conclusion as to averages, great caution must be observed; in the first place, it is to be noted that, although the dates in the "earliest" column are simply records of facts, and therefore direct evidence, the dates in the "latest" column partake in great measure of the character of negative evidence, and imply little more than that the observer failed to see or hear the species named, prior to the date he has given. Then, again, in the remarkable year 1834, every bird was at least three weeks after its usual time, a circumstance which greatly increases the difficulty of deducing averages.

79.—THE BULLFINCH.

LOXIA PYRRHULA. Linn.—BOUVREUIL. Buff.—BULLFINCH. Mont.
 Orn. Dict. Yarrel. M^rGillivray.—DER GIMPEL, ODER DOHMP-
 FAFFE. Bech.

DESCRIPTION.—This favourite is short and thick, like most of the species of the genus *Loxia*. Its length is six inches and three quarters, of which the tail measures two inches and three quarters. The beak is half an inch long, black, short, and thick; the irides chestnut; the feet are slender and black, and the chin eight lines high. The vertex, the margin of the base of the bill, and the chin as well as the beginning of the throat are of a shining velvet black; the upper part of the neck, the back, and the scapulars, dark, ashy grey; the rump of a beautiful white; the front of the neck, the robust breast, and the upper part of the abdomen of a beautiful carmine, paler in the young, redder in the adult; the rest of the under part of the body white; the pinion feathers blackish, the darker the nearer they approach the body; the posterior ones of a steel blue on the external margin, the last red upon the external web; the lare covert of the wings of a beautiful glittering black, with reddish grey tips, the middle ones ashy grey, the smallest blackish ashy grey, with reddish edges; the tail somewhat forked, and of a glittering steel blue black.

The female differs materially from the male, having all the red parts reddish grey, the back brownish ashy grey, with the feet paler. She is also smaller.

There are, besides, other varieties found in confinement:—

a. THE WHITE BULLFINCH, of a somewhat ashy grey white, or entirely white, with dark spots upon the back.

b. THE BLACK BULLFINCH.—It is particularly the females which become black, either in youth, when they are

withdrawn entirely from the sun, and hang in a dark place, or in old age, when they are too exclusively fed upon hemp seed. Some resume their original plumage after moulting; others remain always black, but varying considerably—some being of a glittering jet black, others only of a smoky black, rather brighter upon the abdomen. There are also some with a bright black head, and the rest smoky; again, others black, and intermingled with red only on some few of the upper parts of the lower side; others, again, black, with an entirely red abdomen; and, lastly, some few years back I saw one which was from the head to the breast black both upon the upper and under part of the body, the rest rusty, but with white wings and a white tail. This was a very handsome bird, rather larger than a Robin, and was a female.

c. **THE VARIEGATED BULLFINCH.**—The predominant colour is white, or indeed black, spotted with white and ashy grey.

d. **THE BASTARD BULLFINCH.**—This variety springs from a young reared female Bullfinch and a male Canary bird; it partakes of the form and colouring of both parents, and sings very agreeably, although not so loudly as the Canary. It is, however, a very great rarity; for the young of this intermixture are reared with difficulty.

There are other varieties which have indeed been treated as distinct species, namely, a larger kind, of the size of a Redwing Thrush; one of middle size, as large as a common Chaffinch; and a smaller, which is said to be considerably less than a Chaffinch; but they are all accidental varieties, such as occur in all birds. I can the more safely assert this, having had the opportunity of seeing together, yearly, some hundreds, not only of wild ones, but also of tame and instructed ones; and I have seen them occasionally as small as a Robin, and as large as a Grosbeak, taken from the very same nest.

HABITAT.—In Europe it is found as high up as Sweden and throughout Russia. In Germany it is very common in the mountain forests. Male and female associate in pairs almost throughout the year. In winter they roam hither and thither in search of berries. When caught they may be placed in a room or cage with other birds; they soon get reconciled to the change. Birds already instructed should be placed in a large handsome bell-shaped cage, which ought to be hung in a separate room, otherwise the notes of other singing birds would speedily spoil their acquired melodies.

FOOD.—Their food consists of the seeds of the fir and pine, the kernels of almost all kinds of berries—such as the ash, the maple, the hornbeam, and the buds of the red beech, maple, oak, and pear trees; also bruised rape seed, millet, nettle, and grass seeds. Those which are left to run about the room should be fed with the usual general food, mixing it occasionally, by way of variety, with rape seed; while the instructed bird should be fed with hemp seed and rape seed, with now and then some unflavoured biscuit. They live longest upon rape seed steeped in water, without any hemp, the latter being so heating as to produce blindness, or super-inducing atrophy. They require occasionally some green food, such as water-cresses, a bit of apple, berries of the service tree, or salad.

BREEDING.—Bullfinches are exceedingly affectionate birds, both at large and in confinement. The male and female are rarely found separated, calling to each other in a languid voice, and incessantly billing. The female will frequently drop her eggs in the room; and they breed like Canary birds when furnished with a similar cage, or with a box provided with a fir-tree and moss, but they rarely rear their young. At large they hatch twice a-year, building their nests in pines and fir-trees, or in quickset hedges: the latter they prefer light, thick, and situated in old and unfrequented

road-ways. The nest is badly built, and consists externally of delicate twigs, and internally of ground moss. The female lays from two to six obtuse eggs, of a bluish white, having at the thick end a coronal of violet and brownish spots. The young are hatched in fourteen days. If it is wished to instruct them in artificial music, they must be removed from the nest when about twelve to fourteen days old, just as the tail feathers begin to push, feeding them with rape seed, and mixed with roll or buck-wheat grits, steeped in milk. The male is immediately recognised by the breast being tinged with red ; and the connoisseur may select them in the nest if he wish only to rear male birds, for although the female learns to pipe, she never succeeds so readily, nor so well, nor is she so handsome as the male. They never pipe until they can feed themselves ; but as soon as they are brought home their education should commence by piping to them. I would, however, deprecate their being taught by means of an organ. Birds taught in this way have generally the high screeching note of the instrument. A high pure manly whistle is best suited to them. They learn to imitate this in a very full, round, flute-like tone. It must also be observed that, like the Parrot, they are most attentive, and therefore they learn most quickly immediately after feeding. For nearly nine months they must be whistled to before it can be said that they are perfect ; for if the instruction cease at an earlier period they either mutilate their tones, learn false bars, or transpose them, and usually forget them again upon their first moult. It is best to keep them away from all other birds, even when their education is completed ; for, being quick at learning, they easily catch up extraneous notes, and intermix them in their tunes. At times, also, when they stop, they must be assisted, especially at moulting time. When they are silent the tune must be piped to them, otherwise there is a hazard of obtaining false tones,

which is the more unpleasant, as a good Bullfinch is usually an expensive bird.

MALADIES.—Wild birds, that is to say, such as are not acquainted with any artificial tunes, and have been caught adult by means of the snare or noose, will live for eight years, without being sick. Reared ones, however, are exposed to several maladies, partly because their first nourishment consists of unnatural food, and partly also because pet birds have all kinds of delicacies given to them. They, therefore, rarely attain to the age of six years. They remain most healthy and live longest when they have neither sugar nor pastry, nor other delicacies given to them, but are fed constantly upon rape seed, intermixed occasionally, by way of treat, with hemp, and occasionally a little green food, which cleanses their stomachs. They are more healthy also if they have some water and sand placed in the cage, that they may pick up grains, to assist in the process of digestion.

The maladies to which they are exposed are—1. *Constipation*. 2. *Dysentery*. 3. *Epilepsy*. 4. *Melancholy* and *Dejection*, in which state they sit apart without being absolutely sick, but do not sing. Delicacies must then be withheld from them, and they should be fed exclusively upon steeped rape seed. 5. *Moulting*. The remedy for this is a rusty nail placed in the drinking vessel, good food, and ants' eggs, if accustomed to the latter when young.

CAPTURE.—Few birds are more easily attracted by the call than the Bullfinch. They may be caught not only by the ordinary call with the decoy bushes, but also upon the climbing-pole, like the Crossbill, or upon small trees beset with limed sticks, to which they may be attracted by the call-bird. In winter they are frequently caught in the trap, attracted by the bait of bindweed-berries (*Viburnum Opulus*). In spring and autumn they will alight upon the fowling-floor when baited with sorbs and other berries. Then even

a call-bird is not required, a gentle call of *tui, tui*, from the hut being all that is necessary.

COMMENDATORY QUALITIES.—Bullfinches have considerable capacity; and although both sexes have a harsh, creaking, natural tone, which frequently renders them intolerable, yet well bred young birds learn all kinds of songs, airs, and melodies, such as are taught them. In Hesse and the district of Fulda, where they are prepared for the markets not only of Germany, but also of England and Holland, they are taught three distinct pieces, in a soft, pure, round, flute-like note, which becomes the more agreeable if they are taught by means of a flute or of the mouth. They are at the same time extremely tame, pipe when desired, and make a variety of very delicate motions with the body, bending now to the right and now to the left; and doing the same with their tails, which they expand also occasionally like a fan. However, if it be desired that a Bullfinch should sing perfectly, it ought never to be taught more than one melody, in addition to the usual fanfare, which is always added by way of surplus. The Bullfinch will also imitate the songs of other birds, but this is not usually permitted. On the contrary, when it is to be thoroughly trained, it is only taught to pipe songs or other musical pieces. The varying degrees of the capacity of animals is also exhibited here; for one bird learns quickly and readily what others learn with difficulty. It has also been observed that those which have a weak memory do not readily forget that which they have once thoroughly acquired, not even during moulting time.

Adult birds, when first caught, are kept, not only on account of their beauty, but also because they allow themselves to be made so exceedingly tame, that, like the lesser Redpole and Siskin, they will fly upon and eat out of the hand and the mouth, and will even permit themselves to be handled as if they had been reared from the nest. The usual process for

taming Bullfinches so caught is as follows :—When first caught, the bird is placed in a cage, and the usual food is given to him, which he readily eats. A brace is then made, such as bird-catchers put round the body or the wings of the call-bird, to which the newly-caught bird is attached by a line a foot long, and in such a manner that it cannot fall or flutter about. A little empty bag is then taken, to which a little bell is attached, and this is filled with the usual food of the bird and handed to him, the bell being rung, when he is allowed to eat or drink. At first the fettered bird will neither eat nor drink ; but leaving him to himself for a day or two at meal time, he will soon learn to eat out of the bag and to drink out of the drinking cup. After two or three days the trainer may approach while it feeds. In this manner, and in the course of four or five days, the Bullfinch may be trained to fly to the hand, as soon as he hears the little bell ring. To complete his training it is necessary to throw occasional difficulty in the way of his getting the food out of the bag, by leaving it only partly open, or by closing it suddenly, or by giving him rape seed only in his cage, and putting the more agreeable hemp seed in the bag. He will also speedily learn to drink out of the mouth, if water be withheld from him for half a day.

This bird may likewise be easily accustomed to fly in and out of the window, if you do not reside too near a wood. To entice him back again more speedily, his female, with clipped wings, may be put in a cage at the window, or in the room. His affection for his mate will certainly prevent his flying away.

The Bullfinch is very generally distributed throughout the British Islands, frequenting chiefly the wooded districts ; it is a shy bird, its song low and unobtrusive.

“The male bird,” says Mudie, “sings in the breeding season ; but his song is so low, and the bird is so apt to

drop into the bush and be silent on the least alarm, that to scramble through the trees in order to hear his native song, is almost the surest way of being disappointed. Bolton, in his *Harmonia Ruralis*, describes the female as "building her nest in woods, particularly where sloe-bushes and crab-trees abound. For the ground-work she makes use of a number of small sticks, broken of proportionate lengths. These she places crosswise on the divisions of a suitable branch, and upon these the nest is built of woody roots, the largest near the bottom and round the sides, the smaller within. The inside, or lining, is made of very fine fibres of roots, without any other materials. The diameter of the cavity is upwards of two inches and a half, the depth an inch."

This author recommends that "those who would bring up Bullfinches from the nest, with a view to teach them to whistle, or to imitate the song of other birds, should take them about four days old; for if they are left to the age of ten or twelve days (as Bechstein recommends), they acquire some of the harsh notes of the parent, which they will never quit."

A great number of piping Bullfinches are annually sent to this country for sale by the German dealers, who cultivate to the highest degree the imitative powers which these birds possess; the facility with which they acquire the various tunes and tricks included in their course of instruction, is, indeed, astonishing, and the power of memory which enables them to retain and repeat the latter through a course of years equally so. Dr. Stanley gives the following account of the manner in which their training is conducted:—

"No school can be more diligently attended by its master, and no scholars more effectually trained to their own calling, than a seminary of Bullfinches. As a general rule, they are formed into classes of about six in each, and kept in a dark room, where food and music are administered at the same time; so that when the meal is ended, if the birds feel dis-

posed to tune up, they are naturally inclined to copy the sounds which are so familiar to them. As soon as they begin to imitate a few notes, the light is admitted into the room, which still further exhilarates their spirits, and inclines them to sing. In some establishments the starving system is adopted, and the birds are not allowed food or light until they sing. When they have been under this course of instruction in classes for some time, they are committed singly to the care of boys, whose sole business is to go on with their education. Each boy assiduously plays his organ from morning till night, for the instruction of the bird committed to his care, while the class-teacher goes his regular rounds, superintending the progress of his feathered pupils and scolding or rewarding them in a manner which they perfectly understand, and strictly in accordance with the attention or the disregard they have shown to the instructions of the monitor. This round of teaching goes on uninterruptedly for no less a period than nine months, by which time the bird has acquired firmness, and is less likely to forget or spoil the air by leaving out passages, or giving them in the wrong place. At the time of moulting, the best instructed birds are liable to lose the recollection of their tunes, and therefore require to have them frequently repeated at that time, otherwise all the previous labour will have been thrown away. There are celebrated schools for these birds at Hesse and Fulda, from whence all Germany, Holland, and England, receive supplies of the little musicians. In some cases the birds have been taught to whistle three different airs, without spoiling or confusing them; but in general a simple air, with perhaps a little prelude, is as much as they can remember."

The Bullfinch, like the Goldfinch, is an *habitué* of our orchards and gardens, but, unlike the Goldfinch, he is very destructive, for he devours the young buds of fruit-trees, and

thus disappoints the gardener, who revenges himself by shooting at him whenever and wherever he sees him. The Bullfinch generally builds in some bush or shrub, but bestows very little care upon his nest. He is easily tamed, and very affectionate to those who feed him, and will readily learn the songs of other birds, though it is a mistake to infer from this that he has no song of his own. In Hesse and Fulda there are schools for training the Bullfinch, and cultivating his musical taste, and it is said that he is capable of whistling distinctly "three different airs, without spoiling or confusing them in the least."

80.—THE LINNET.

FRINGILLA CANNABINA. *Linn.*—LINOTTE. *Buff.*—WHIN LINNET, LINTIE. GREATER RED POLE. BROWN LINNET. *Mont.*—DER HÄNFLING. *Bech.*

DESCRIPTION.—The length of this well-known chamber bird is above five inches, of which the tail measures two inches and a quarter. The beak is six lines long; in summer



dirty blue, in winter white grey, with brown tip; the irides dark brown; the feet black, and eight lines high. A very striking difference occurs in the colouring of the male Linnet, which is not observable in the female, and which is the result of age and

of the season; and this, which is anything but a specific difference. has led to considerable confusion in works on

natural history. Even bird-catchers are still persuaded that these birds are distinct. I hope to prove in this description, which is founded upon the continued observation and experience of many years, that our common Linnet, (*Fringilla Leneta*, Linn.), the Greater Redpole (*Fringilla Cannabina*, Linn.), and also, according to every probability, the Mountain Linnet (*Fringilla Montana*, Linn.), are one and the same species.

An old male, at least one of three years, is marked as follows, in the spring, and is known by the name of the Redpole. The forehead is blood red, the rest of the head reddish ashy grey, with some black spots on the vertex; on the cheeks, sides of the neck, and around the eyes, reddish white spots; the upper part of the back rusty brown with brighter margins; the lower part of the back white and grey mixed; the upper coverts of the tail black, margined with reddish white with dotted reddish grey spots; the sides of the abdomen bright rusty colour, the rest of it reddish white; the first row of coverts black with a reddish white margin, the rest rusty brown with brighter shafts; the pinion feathers black, with dirty white tips; the primaries on each side, nearly as far as the tip, margined with white; the margin of the narrow web forms a white bar parallel to the pinion feathers; the tail forked and black; the four outward feathers on each side with a broad white margin, the two central ones narrower and reddish white.



After moulting in the autumn the blood-red forehead is no longer seen, the feathers becoming red from the base upwards, and the breast is without the beautiful shining red, for the reddish white border is still too broad; but on the

approach of winter all these colours assume their proper hue.

The males of the first year have no red upon the head, more black spots, the breast bright rusty colour, watered light and dark. The inner part of the breast feathers, which is usually red, is of a reddish grey brown shining colour, more or less distinct, but their margins are always of a reddish white. The rust coloured back has solitary dark brown and reddish white spots. These are what are called Grey Linnets.

After the second moulting, there is observed on the forehead, when the reddish ashy grey feathers are raised, blood-red spots, and the red of the breast is only concealed by the broad yellowish white margins of the feathers. These are the Yellow Linnets, or Rock Linnets, as they are called in Thuringia. But I have myself taken Linnets which, instead of the red upon the breast and upon the brow, were of a bright reddish yellow. These are called by bird-catchers Yellow Linnets. These are degenerated red ones, caused probably by sickness in moulting; also sometimes very old birds. Bird-catchers are not incorrect in attributing to these a very beautiful song.

I have caught several of them at various times, and have always retained them on account of their rarity. They sang beautifully and purely, but could never be tamed, and soon died of sorrow and melancholy, and I concluded from these circumstances that they were very old. Between these three differences of colour in the male Linnet, there are different intervening grades, which are occasioned by great age and the autumnal and spring seasons. The older they are, the redder they become upon the head. I have in my cabinet specimens of the successive gradations. Birds which are brought young into the chamber never acquire the beautiful red colour upon the head and breast, but always remain coloured like the birds of the first year, or the common Grey

Linnæus. Old red ones, however, lose their beautiful colour upon first moulting in confinement, and resume the colours of the birds of the first year.

In the female no changes of colour are observable. It is rather smaller than the male; the whole of the upper part of the body grey, spotted with dusky brown and yellowish white; reddish white on the rump spotted with grey brown, strongest upon the breast; the coverts of the wings dirty rusty brown. It may be distinguished from the male, even in the nest, by the colour of the back being more grey than brown, and by its thickly sprinkled breast, which is very like that of the Lark. Bird-catchers usually remove only the males from the nest, leaving the females behind.

HABITAT.—This bird is met with all over Europe. They are found throughout the summer in the skirting wood of large forests, and indeed wherever coppices, hedges, and bushes abound. In the autumn they resort to the fields in large flocks. They are birds of passage which, during winter, go hither and thither in search of food wherever the earth is free from snow. In March they are again to be found in couples in their native place. They are usually kept either in bell-shaped cages, or in small square Chaffinch cages. In the latter they sing better, and are not so readily subject to giddiness. They are not usually allowed to run freely about, as they are too melancholy, always sitting upon the same spot, and are in danger of being trod upon. But with little branches in the room they may be permitted to range about, for they will then almost constantly remain perched upon them, quitting only to eat and drink, and sing nearly all day long.

FOOD.—In their wild state their food consists of all kinds of seeds, which they peel and soften in the crop before passing into the stomach. They eat the seeds of all kinds of plants, especially rape-seed, cabbage, poppy, dodder grass

seed, berries, and buds of trees. In confinement they require nothing but summer cabbage seed,* which does not require



to be soaked as for Chaffinches, as Linnets being merely seed-eating birds have a powerful crop and stomach, and can therefore better digest it. Hemp they must not have at all. They must not be too well fed in the cage, for, taking little exercise, they would soon die from over-feeding. They like salt, and it is therefore well occasionally to intermix some with their food; and this is an excellent preventive against

various maladies. When Linnets are allowed to run about, they readily feed with other birds on the usual universal paste. Some green food must occasionally be given to them, as also sand and water, as they like to bathe and dust themselves.

BREEDING.—Linnets breed twice a-year, and lay each time from four to six eggs, which are bluish white, and covered all over, especially at the upper end, with flesh coloured and reddish brown spots and stripes. The nest is most frequently found in young fir and pine plantations, also in thick bushes and hedges, particularly of the black and white thorn. It is well built, and formed externally of delicate fibres of roots, blades of grass and moss, and lined with wool and

* Winter cabbage seed, which does not injure them when at liberty, soon kills them in confinement.

hair. The parent birds feed their young from the crop, and still continue to feed them if captured near the nest and placed with it in a bird cage. The young ones, when it is wished to teach them a different song to their own, must be removed from the nest as soon as the quills have sprouted, that they may avoid learning any portion of the song of their parents. The males may be recognised in their earliest stage by the white ring round the neck, and the white on the tail and wings.

MALADIES.—They are peculiarly subject to constipation, consumption, and epilepsy; but they will in general live from twelve to sixteen years in confinement.

CAPTURE.—These birds are shy, restless, and distrustful, and very difficult to catch. Even with a call-bird and runners it is not easy to entice them to the fowling-floor. In the spring, before they pair, they may be caught upon decoy bushes, if you have a good call-bird in the cage. When observed in autumn to resort to the stalks of lettuces, as they frequently do, it is only requisite to hang these with nooses and limed twigs, and several may be taken. Shepherds catch them throughout the summer, making traps of the cribs used for feeding sheep, so placing them that the Linnets coming to gather the grains overturn them, and so are captured. Their favourite call-note is *gecker!*

COMMENDATORY QUALITIES.—The Linnet has a very agreeable, loud, and flute-like song, which consists of many connected strophes, and is the more beautiful the oftener it utters some high-sounding notes, which are called its crowing, from its resemblance to the crowing of a cock.* It sings both summer and winter, excepting moulting time. If

* As in all other birds, one will sing better than another, so, likewise, old ones better than young ones: the preference, therefore, is given to the Yellow Linnet.

removed from the nest and reared upon a mixture of soaked roll, rape-seed, and boiled eggs, it will not only learn the song of all the birds that it hears in the room—for instance, Nightingales, Larks, Chaffinches, &c.—but also imitates, if hung alone, melodies of airs and dances which are piped to it; it will even learn to repeat some words. From its natural flute-like voice, this bird excels all others in its power of imitating melodies beautifully and purely, and for this it is especially esteemed. A young Linnet, taught by a Nightingale, has an exceedingly pleasing song. I have one which has the complete song of the Nightingale, and which delights me the whole year through with this beautiful chaunt, when my Nightingales themselves are silent.

The Linnet is highly prized as a songster not only in London, Leeds, and the mining and pottery districts of Staffordshire, Derbyshire, Lancashire, Yorkshire, but in the more northern counties of England. They are often taught to sing in matches against others of the same kind, one contesting bird singing only at the same time, the requirements of song generally being for variety and number of notes length of rolls or runs on the same notes timed, and length of time without breaks within the time fixed upon, which is decided by appointed judges.

These birds may also be accustomed to fly, go, and come at command. This is to be effected whilst they are young, or during the winter. For this purpose, when sufficiently tamed, they are placed in a large cage, hung near a window which looks upon a garden, and they are then fed with crushed hemp, and the effect of this food is to still their anxiety for freedom, especially at a time when but little food is to be found. But it is necessary, to accomplish this, to proceed cautiously with so timid and shy a bird as the Linnet.

It is well known that hybrids, between the Linnet and

the Canary, may be easily reared, but they are mostly of dark plumage. When otherwise marked and light in feathers they are highly prized. The young thus produced can scarcely be distinguished from other Grey Canaries, and they learn to pipe exceedingly well any kind of melody.

The Common Linnet, variously denominated the Brown, Grey, and Rose Linnets, is generally distributed in Britain, being found at all seasons in most parts of England and Scotland. Towards the end of autumn individuals collect into flocks, which unite as the winter advances, and betake themselves to the lower districts, where, in the neighbourhood of towns and farm-steadings, they search the fields, and in severe weather frequent the corn-yards, to procure seeds of oats, and various plants, on which they subsist entirely from the middle of autumn until the beginning of summer. The flocks glide and wheel, the individuals crossing the direction of each other in a very beautiful manner. On ground it is equally active. Its voice is soft and mellow, and its song varied, and remarkably sweet. It is easily reared from the nest, and feeds when grown on Canary, rape, and hemp seed, with chickweed and groundsel. In this state it pairs with the Canary and Goldfinch.

When the fine weather commences in spring, the flocks break up, and the individuals betake themselves to their summer haunts, in the hilly and mountainous parts of the country, especially where there are thickets of broom, whin, or sloe, or even, in defect of these, where the heather attains an unusual size on the slopes of the craggy braes and glens. There the mate, perched on a twig or stone, pours forth his sweet notes, while his mate is brooding over her precious charge. But the song of the Linnet, pleasant as it may be when heard in a room, has little effect on the hill-side, compared with that of the Mavis or Merle, although to the shepherd swain, reclining on the soft moss, on a sloping bank

overgrown with "the lang yellow broom," or the weary traveller resting awhile by the wayside, it may seem gentle as the melody of the primeval groves of lost paradise, filling the soul with pleasing thoughts.

"I waldna gie the *Lintie's* sang
 Sae merry on the broomy lea,
 For a' the notes that ever rang
 From a' the harps o' minstrelsie.
 Mair dear to me, where buss or breer
 Among the pathless heather grows,
 The *Lintie's* wild sweet note to hear,
 As on the ev'nin' breeze it flows."

Linnets are generally exhibited after losing their redness through moulting. The chief points for judging are—head, bold throughout, the upper part dusky brown; beak, small; breast, full and greyish brown; back, deep rusty brown; wings, primary feathers well margined with white; tail dark, the outer feathers well margined with white; legs and feet perfect; plumage and condition good.

81.—THE LESSER REDPOLE.

FRINGILLA LINARIA. *Linn.*—SIZERIN. *Buff.*—SMALLER REDPOLE
 LINNET. *M^cGillivray.*—DER FLACHSFINK. *Beck.*

DESCRIPTION.—In colour this bird resembles the Linnet, but in figure, size, and mode of life, the Siskin. It is five inches and a quarter long, of which the tail occupies two inches and a quarter. The beak is only four lines long, very pointed and yellow; the feet are black; the shin eight lines high; the vertex brilliant shining crimson; the upper side of the body dark brown, spotted with whitish and rusty yellow; the rump rosy red; the throat black; the under side of the neck and breast bright rosy red, with white

margins to the feathers ; the rest of the under side of the body white ; the coverts of the wings dark brown, the two large rows with reddish white tips, whereby two white transverse bars are formed, the smaller clouded with rusty yellow ; the pinion feathers dark brown, as well as the tail. The female is paler ; the red on the breast is wanting, and only very old ones have a slight indication of red there, and also upon the rump ; the upper side of the body is spotted with white and dark brown, and the breast sprinkled with the same colour. By the latter they are distinguished particularly from the young, and from the males of the first year, which also want the red breast, but which have the rusty yellow and also the darker colouring of the back of the male.

In confinement the male loses the red colour upon the breast at its first moult, and on the second moult usually also the crimson of the pole, which becomes greenish yellow ; and I possess a male which, on moulting the third time, acquired a golden yellow pole, and has preserved it now for six years.

HABITAT.—It is met with throughout Europe ; but it properly resorts in the summer to northern countries—Scotland, Sweden, Lapland, and Greenland. As a bird of passage, it arrives here in flocks during the latter half of October, and quits us again in March and April. During winter it resorts to spots which abound in alders, the seeds of which it is very fond of. Where it is a rare bird, its beauty claims a bell-shaped cage, but it is to be regretted that this beauty is so transitory.

FOOD.—The berries of the ash is their favourite food, but it also eats linseed and rape-seed, the seed of the fir, &c. Being exclusively seed-eating birds, the crop has the power to soften the grains before passing into the stomach. They may be fed upon poppy seed and hemp, particularly relishing

the first. When free in the aviary, their food consists of the first general paste.

BREEDING.—Occasionally a pair that have not migrated breeds with us, but this is rare.

MALADIES.—It is subject usually to the same as the Siskin; but bad feet is more prevalent amongst them, when one toe after the other will fall off. They live for eight years and more.

CAPTURE.—In autumn and spring they visit the fowling-floor in flocks, if furnished with call-birds of their own species, or even with a Siskin; and the call of this bird will also attract them to the call-bush. They are so simple that they perch frequently upon the limed twigs or in the nets, when even a person is standing by and securing their comrades that have been caught; but this is characteristic of birds of the far north, which breed where they rarely or never see a human being; and thus are less watchful in their habits, not being pursued, when young, like birds in densely populous districts. They call *peewit* and *kreck, kreck, hayid!*

COMMENDATORY QUALITIES.—Their personal beauty is greater than their powers of song; for this is but a soft and indifferently connected jingle. They may be accustomed to draw water by a chain, and learn besides many other similar tricks. They will also become exceedingly tame, and will eat the instant after they are captured. When males and females are kept together, they are so fond of each other that they are constantly billing, which they also do with Linnets, Goldfinches, Siskins, and Canaries. It would be easy, therefore, to produce hybrids between these birds.

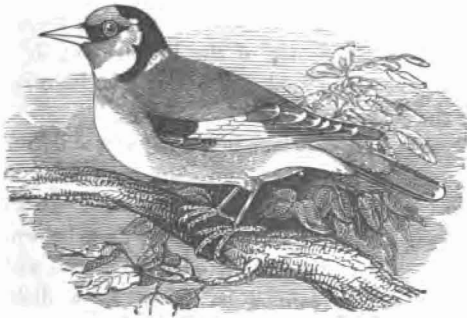
Mr. Selby's account of this bird is as follows: "It builds its nest in a bush, or low tree (such as willow, alder, or hazel), o moss and the stalks of dry grass, intermixed with down from the catkin of the willow, which also forms the lining, and

renders it a particularly soft and warm receptacle for the eggs and young. From this substance being a constant material of the nest, it follows that the young are produced late in the season, and are seldom able to fly before the end of June, or the beginning of July. The eggs are four or five in number; their colour, pale bluish green, spotted with orange brown, principally towards the larger end."

82.—THE GOLDFINCH.

FRINGILLA CARDUELLIS. *Linna.*—CHARDONNERET. *Buff.*—RED-FRONTED THISTLE FINCH. *M^r Gillivray.*—DER STEIGLITZ ODER DISTELFINK. *Bech.*

DESCRIPTION.—Of all chamber birds this is one of the most delightful, alike from the beauty of its plumage and



the excellence of its song, its proved docility, and remarkable cleverness. It is five inches and three-quarters long, of which the tail occupies two inches. The beak is five lines long, sharply pointed, and very slightly bent, compressed at the sides, whitish, with a horny coloured tip; the slender feet are brownish, and six lines high; the front of the head

is of a bright scarlet red; a broad margin of a similar colour surrounds the base of the beak; the chin and reins black; the vertex black, terminating in a stripe, which passes the back of the head, and descends the neck on each side; beyond the black occiput there is a white spot; the cheeks and front of the neck white; the back of the neck and back of a beautiful brown; the rump whitish, with a brownish tinge; the longer feathers are black; both sides of the breast and the flanks of a bright brown; the middle of the breast, the belly, and the vent whitish, many of the feathers having a brownish tinge; the thighs greyish; the pinion feathers velvet black, with whitish tips, which are smallest in old birds, and are sometimes wanting in the two first feathers; the middle of the external web with a golden coloured stripe an inch long, which in conjunction with the golden yellow tips of the hinder large coverts, forms a beautiful spot; the coverts otherwise black; the tail slightly forked and black; the two, and sometimes the three, first pinion feathers having a white spot in the centre of the inner web; the rest with white tips; sometimes also the third is likewise entirely black at the sides.

The female is a little smaller, not so broadly and beautifully red about the beak; the chin brownish; the cheeks intermixed with bright brown; the small coverts of the wings brown, and the back of a deeper dark brown.

The size and even deficiency of some of the white tips of the pinion feathers cannot be taken as a distinguishing characteristic between the sexes, as some bird-catchers assert, and as little may we adopt their opinion that the size and number of these spots constitute different varieties. These distinctions are accidental, and depend on the state and age of the bird. Bird-catchers, however, fancy that the first are distinct species. In Thuringia, consequently, the first—the large ones, which are of about the size of Linnets—are called

by them Pine Goldfinches, and these they say are bred in pine and fir woods; and the smaller ones, which are of about the size of a Redbreast, are called Garden Goldfinches, and are assumed to be bred only in gardens. But these differences are quite imaginary, for large Garden Goldfinches and small Pine Goldfinches are frequently met with. The first birds hatched are usually the largest, as they generally take the food from the more recently hatched ones when the old come to feed them; this is the ordinary cause of the differences of size in the same species of birds.

The characteristics which mark the following varieties are better established:—*a.* The Goldfinch with the yellow breast; *b.* The White-headed Goldfinch; *c.* The Black-headed Goldfinch (of this variety four were taken out of the same nest); *d.* The White Goldfinch; *e.* The Black Goldfinch. These are either entirely black, which is caused by age or being fed upon hemp, or they retain the yellow spot upon the wings. The last will sometimes happen in the cage. Mr. Shelbach, of Cassel, reared a nest of Goldfinches, which he kept entirely from the light of the sun, covering the cage with cloths. These birds were of a jet black, with yellow spots, but they changed colour after moulting. Those Goldfinches which became black before old age, resume the colour after moulting, but then do not usually live much longer.

HABITAT.—In their wild state Goldfinches are found throughout Europe. During summer they resort to gardens, skirting woods and coppices, and especially in those mountainous districts where woods and fields are interspersed; They remain with us permanently, but in autumn collect in flocks numbering from fifteen to twenty, and are numerous in spots where there is an abundance of thistles, and only change their residence when the snow lies thick upon the ground, removing to those places clear from snow, where

food may be procured. When kept in a cage, the ordinary Chaffinch cage is preferable to a bell-shaped one, as they are not fond of hopping upwards. If they run freely about the chamber, they are supplied either with a recess or a dwarf fir to roost. From their habit of perching high, they select the top branch whilst singing as well as sleeping.

FOOD.—They feed upon all kinds of seeds, groundsel, succory, salad, cabbage, rape, Canary, thistle, and alder seed : also linseed, dodder grass, &c. In the cage it must be fed upon poppy seed and hemp seed, the first being given as its usual food. If allowed to run freely about, it will accustom itself to the second description of universal food. I possess one which has been used to take all kinds of green food and vegetables that come to table, and even to eat meat, although when at liberty an insect of any description is disagreeable to it. He may also have given to him all sorts of green things, such as salad, cabbage, lettuce, and water-cresses. They eat voraciously, and therefore, when allowed to run about in the chamber, they perch upon the trough, and chase away, with a threatening gesture, every bird that approaches ; whereas they will feed with other birds that have any kind of resemblance to them, at least with respect to the character of their food, such as Canary birds, Siskins, and particularly the Lesser Redpole, whether male or female.

BREEDING.—Goldfinches prefer building in gardens and in large orchards. In skilfulness and neatness of structure their nest stands next to that of the Chaffinch ; externally it is formed of delicate mosses, lichens, the delicate fibres of roots, neatly interwoven, and inside lined with wool, hair, and thistle down. It is hemispherical. The female lays rarely more than once a-year (consequently these birds never greatly increase), and then from four to six eggs, which upon a pale sea-green ground are marked with pale red spots and dots, and deep red stripes. The young are fed from the crop.

These, before they first moult, are grey upon the head, and are called Grey Heads, or "Grey Pates," by bird-catchers. If males only are wished to be removed from the nest, those must be left behind which have a narrow whitish ring at the base of the beak. They can be reared upon poppy seeds and roll steeped in milk or water. They have greater facility in imitating the song of the Canary than that of any other bird; and with this bird they will produce fertile hybrids. To effect this a male Goldfinch is placed with one or two hen Canaries, and they very readily pair. The birds which spring from this union are not only beautiful in colour and plumage—often yellow, with the head, wings, and tail of the Goldfinch—but they will be found to excel in the sweetness and variety of their song.

MALADIES.—They are very subject to epilepsy. If they happen to have bad and swollen eyes, they should be anointed with fresh butter. Heaviness and greediness, occasioned by feeding too exclusively upon hemp seed, may be removed by giving them in lieu of it soaked salad and thistle seeds. It contributes much to their health if occasionally supplied with the head of the thistle.

In old age they become blind, and they then lose the beautiful red and yellow colours of the head and wings.

Although frequently subject to sickness, there are instances of their having lived to the age of sixteen and even twenty-four years.

CAPTURE.—In spring they are caught by means of a decoy-bird upon call-bushes. They will also visit the fowling-floor if strewed with bundles of thistles; but are very difficult to capture, being extremely cautious of approaching nets and limed rods. In winter several bundles of thistles are tied together, and springes are placed about them, in which they are caught; in autumn and spring limed rods are used. The capture is effected with greater certainty, if a bundle of

thistles be fastened to a tree, and this be covered with limed twigs.

Its call is *ziflit* or *sticklit*; and the latter is also its Bohemian name.

COMMENDATORY QUALITIES.—The Goldfinch is a beautiful and animated bird, whose body is in incessant motion—now moving to the right and now to the left. Its song is shrill, agreeable, and heard during all seasons, excepting only at the period of moulting. It contains, besides, many warbling and twittering notes, on which it dwells more or less, and the oftener the syllable *finke* is repeated the more it is admired. Some utter these notes only once or twice in their song, and others four or five times in succession. They also repeat airs, and the songs of other birds, but with difficulty, for they have not the same capacity as Linnets and Canaries for these acquisitions.

Their tameness is extraordinary, for they will even learn to fire small cannons and imitate death. They may be taught to draw up their food and water in a little bucket. The apparatus consists of two lines of broad soft leather in which there are four holes, through which their feet and wings are passed, and the ends are held together beneath the belly by a ring, to which is attached a delicate chain that supports the buckets containing the food and drink. A bird, thus equipped, will then draw up the chain by its beak, retaining the draw-up links by its feet, and thus succeeds in obtaining what it wishes. Another mode is sometimes adopted, in which he is fastened, by means of a chain, to the perch upon which he sits, and two vessels are made to pass over a pulley, so that as one ascends the other descends, thus obtaining his food and water in turns.

I have also seen Goldfinches and Siskins placed in different cages, a little bell being hung to the trough, against which they struck with their beak when eating. These bells were

arranged harmoniously, and an agreeable kind of music was thus produced. But indeed such trifling soon becomes irksome.

This bird is taught to go and come at command much sooner than the Linnet, though the latter learns quite as soon to build in the cage. To effect this, a Goldfinch must be taken in the winter, and one not too much accustomed to the warmth of the chamber, and, in its cage, placed every day at the window, or on the sill, or upon a board, where it cannot be reached by mice, and near the cage some hemp seed must be strewn, with a little bunch of thistle heads, the seeds of which are to be scattered among the hemp. Soon afterwards other Goldfinches, attracted by the call of the one in the cage, will fly thither to seek this food. When this is the case, it is no longer necessary to hang the decoy-bird in the cage at the window, which also would be eventually injured by the cold; and it is then only hung within, a trap-cage being placed outside, not for the purpose of immediately catching these birds, but to check the visits of the Sparrows, and prevent them eating the seed. The fall of this trap-cage must be connected, by means of a string passed through a hole in the window, with the inside, so that it may be caused to fall at pleasure. The Goldfinches should be allowed to visit it without disturbance until the snow begins to melt, and before flying off to some other locality they are captured, tamed in a bird-cage, and subsequently accustomed to fly about a room. The cage must be so constructed that the door will close when it is required, by means of some spring that the bird can act upon without being scared. A bird thus trained may safely be allowed its liberty at the time it moults in August. It is pretty certain to return again in December, when the snow falls, and will sing far better than if it had been kept in confinement. Its cage ought to be kept constantly at the window, supplied with food, that it may find what it wants when it returns. But

it rarely presents itself before the commencement of winter ; and then, in order to recapture it, the cage must be placed so that it will close when the bird enters. But the most certain method is to attract it by a call-bird. When recaptured, it may be kept shut up till its season of liberty again arrives.

Chaffinches, Greenfinches, and Tits, may be taught to go and return in a similar manner ; and it has been found that birds so trained sing more sweetly than when constantly confined.

Mr. Syme, in his excellent treatise on British Song Birds, gives the following amusing particulars respecting this species :—“The Goldfinch is easily tamed and easily taught, and its capability of learning the notes of other birds is well known ; but the tricks it may be taught to perform are truly astonishing. A few years ago, the Sieur Roman exhibited his birds, which were Goldfinches, Linnets, and Canaries. One appeared dead, and was held up by the tail or claws without exhibiting any signs of life ; a second stood on its head with its claws in the air ; a third imitated a Dutch milkmaid going to market with pails on its shoulders ; a fourth mimicked a Venetian girl looking out at a window ; a fifth appeared as a soldier, and mounted guard as a sentinel ; and the sixth acted as cannoneer, with a cap on its head, a firelock on its shoulder, and a match in its claws, and discharged a small cannon. The same bird also acted as if it had been wounded. It was wheeled in a barrow, to convey it, as it were, to the hospital ; after which it flew away before the company. The seventh turned a kind of windmill ; and the last bird stood in the midst of some fireworks, which were discharged all round it, and this without exhibiting the least symptom of fear.”

The Goldfinch is very generally distributed, occurring in

most of our wooded and cultivated districts. Its song commences about the end of March, and continues till July or August. It may often be found in company with Linnets, whose flight it somewhat resembles.

“Observe,” says M’Gillivray, “how buoyantly they cleave the air, each bird fluttering its little wings, descending in a curved line, mounting again, and speeding along. They wheel round the fields, now descending almost to the ground, now springing up again. Some of them suddenly alight, when, the example thus set, all betake themselves to the tiny thicket of dried and withered leaves, and in settling display to the delighted eye the beautiful tints of their plumage, as with fluttering wings and expanded tail they hover for a moment to select a landing place amid the prickly points, that seem to stand forth as if to prevent aggression.”

“Most of our little songsters,” Mr. Knapp remarks, “when captured as old birds, become in confinement sullen and dispirited; want of exercise, and of particular kinds of food, and their changes, alter the quality of the fluids: they become fattened, and indisposed to action by repletion; fits and ailments ensue, and they mope and die. But I have known our Goldfinch, immediately after its capture, commence feeding on its canary or hemp-seed—food it could never have tasted before—nibble his sugar in the wires like an enjoyment it had been accustomed to, frisk round its cage, and dress its plumage, without manifesting the least apparent regret for the loss of companions or of liberty. Harmless to the labours or the prospects of us lords of the creation as so many of our small birds are, we have none less chargeable with the commission of injury than the Goldfinch; yet its blameless, innocent life does not exempt it from harm. Its beauty, its melody, and its early reconciliation to confinement, rendering it a desirable companion, it is captured to cheer us with its manners and its voice, in airs and regions

very different from its native thistly downs, and apple-blossom bowers."

Broderip says that "the *débonnaires* Goldfinch builds one of the most elegant nests that our English Finches produce : moss, lichens, wool, and grass, artistically intertwined, form the outside of the fabric, which is generally hidden in a quiet orchard or secluded garden, where, in the midst of some evergreen—an arbutus, perchance—it is protected from the prying eye by the compact leafy screen of the well-grown healthy shrub ; the delicate down of willows, or dwarf early-seeding plants, the choicest lamb's wool, and the finest hair, form the warm lining, in which the bluish-white eggs, dotted with a few rich brown spots, are deposited."

The Goldfinch is held in considerable favour in all parts of England. In the Midland counties and other parts it is termed the "proud tailor," or "Red Linnet." Those termed "cheverel," or "chibald," are much sought after for breeding with. Newman says :—"Goldfinches arrive on our south coast about the middle of April. Their arrival is perfectly familiar to all the bird-catchers at Brighton, Worthing, Hastings, and other parts of the Sussex coast. Those which escape the bird-catchers, pass northwards in June, and return in October in tenfold numbers. Mr. Gray, of Worthing, asserts that the bird-catchers net, within a walk of Worthing, four or five hundred dozens of Goldfinches every October. The cocks fetch four, five, or sometimes six shillings a dozen, the hens about two shillings. During one particular year, as many as eight hundred dozens were taken. After reaching this coast the movement is gradual, and invariably from west to east, probably with a view to shorter sea-passage. The Rev. Arthur Hussey has taken particular pains to arrive at accurate statistics of the Worthing trade in Goldfinches. He has ascertained that none are taken in January, February, March, June, and July ; about fourteen dozens of the immi-

grants in April and May, the astounding number of seven hundred and fifty dozens of the emigrants in October, and three hundred dozens in the beginning of November."

In Derbyshire, and other localities, there is a kind termed the "Pear-tree" Finch. The Rev. F. O. Morris says, "the Goldfinch builds in orchards and other trees;" and Yarrell remarks that "the Goldfinch builds a very neat nest, which is sometimes fixed in an apple-tree or pear-tree."

The points for judging Goldfinches are:—Head, bright scarlet red, showing no white speck or mark on the throat, the back part of the head and near the back sides of the neck deep black; beak, large and pointed; breast, the centre white, with the sides of the breast pure brown; back, rich brown; cheeks and sides of neck white; larger coverts well marked with pure yellow; feathers close and in good condition; wings, tail, and feet perfect; general appearance smart throughout.

83.—THE SISKIN.

FRINGILLA SPINUS. *Linn.*—TARIN. *Buff.*—THE ABERDEVINE. BLACK HEADED THISTLEFINCH. *M'Gillivray.*—DER ZEISIG. *Bech.*

DESCRIPTION.—This well-known chamber bird is four inches and three-quarters long, of which the tail measures one inch and three-quarters. The beak is four lines long, very narrow towards its sharp point, brown at the tip, the remainder bright ashy grey, and white in winter; the shin seven lines high, and, like the toes, dark brown; the vertex and throat black; neck, cheeks, and back green, the latter spotted with black; the rump, a stripe through the eyes, the lower part of the neck, and the breast, of a greenish yellow; the belly, vent, and flanks, whitish yellow, the two latter with black spots; the pinion feathers black externally, mar-

gined with yellow green ; the base, half way upwards, is yellow on the external web ; the small coverts of the wings



green, the larger ones with a yellow edge, which form a yellow stripe ; the tail forked ; the basal half yellow, and the terminal half, as well as the two central feathers, black.

The female is paler ; the head and back more grey and spotted with black ; the throat and the sides whitish ; the breast and the neck white, spotted with green and black ; the feet greyish brown.

The male, before the second year, usually wants the black throat ; and as it gets older the more yellow and green it becomes, and consequently the more beautiful.

There are also varieties—black, white, and variegated Siskins. A few years ago, also, I shot one which had an entirely black breast.

HABITAT.—The Siskin is found throughout Europe. In Germany they are very common, and are birds of passage. They remain together during the whole of the winter, and wander in search of food in those parts where there is an abundance of alder. In confinement they may be allowed to run about the room or kept in a cage, which must be smaller than a Chaffinch's and of a bell shape ; it soon becomes very familiar. When roosting at night they generally cling to the wires of the cage instead of sleeping on the perches like the canary.

FOOD.—In summer they eat the seeds of pines and firs ; in autumn hops, thistle, and burdock ; and in winter the seeds of the alder, and also the buds of trees. It may be kept upon poppyseeds, intermixed occasionally with crushed hemp. If allowed to run at large in the chamber, it will eat the first kind of universal food. It is exceedingly voracious, and, though so small, eats more than the Chaffinch ; and therefore, when it occupies the apartment with other birds, it will sit the whole day long upon the trough, snapping and biting at all. It is as great a drinker, and requires fresh water daily. It bathes but little, but dips its beak in the water and sprinkles its feathers ; but it frequently preens itself, and its feathers are always in good order.

BREEDING.—The Siskin chiefly inhabits pine plantations, and builds its nest at the extremity of lofty branches. It is made of spiders' webs, the cocoons of insects, and coral moss, fastened to a tree, and externally these materials are intermingled with little twigs, and lined with very delicate fibres and roots, and very well built. It lays from five to six eggs, of a greyish white, sprinkled with purplish brown dots. They hatch twice a-year, and the young males improve in beauty until their fourth moulting.

Hybrids are produced between Siskins and Canaries, somewhat resembling both parents, and are beautifully spotted

when a yellow Canary is used for the purpose; but the pairing is not so effective as when a green Canary is paired, which naturally much resembles the Siskin.

MALADIES.—Besides the ordinary maladies, it is very subject to epilepsy, of which they frequently die. They may, however, be kept in confinement from eight to ten years.

CAPTURE.—In autumn or winter, by using a call-bird of the same species, they will visit the fowling floors in flocks; in this way they may be caught in scores at a time.

In spring they frequent the call-bushes in multitudes. Siskins are not at all shy, for fanciers who reside near a brook, fringed with alders, need only place a Siskin at the window, surrounded with limed twigs, and they may be caught in great numbers. I have caught some at the window in a cage opened and strewed within with poppy seeds and hemp, a bird which was in the room serving as a decoy, while I was at hand to close the door with a string as soon as they entered.

When the spot where they drink at noon is discovered (especially in alder bushes), many may be easily caught by simply placing limed rods over the water.

COMMENDATORY QUALITIES.—Both appearance and voice recommend the Siskin. In its twittering song there are some very peculiar tones, which greatly resemble the noise produced by the loom of a stocking-weaver: and this bird is, therefore, frequently an especial favourite with those mechanics. He will also imitate the song of other birds, especially of the Tits, Chaffinch, and Lark, but it would be difficult to teach him an air. His song is only interrupted during moulting time, and in the chamber he often excites the other birds to sing by his incessant warbling. He so little cares for the loss of his liberty, that as soon as he is placed in a cage he will eat, and even the next minute exhibit no sign of timidity. He may be accustomed to draw

his water, and other feats, which he will boldly execute. He is very easily taught to fly in and out, if the discipline be commenced in winter, by hanging his cage at the window, with the door open, sprinkling some hemp and poppy seeds around. He generally comes back, bringing with him many companions. But it is not well to let him loose in March, September, and October, for these are the migratory periods, although instances have occurred of such tame birds having returned after being some time away.

The Siskin is a visitor of this country, arriving in flocks from the north in autumn, in company with the Lesser Redpole. It appears to be more plentiful in Scotland, and the northern counties of England, than in the southern parts; and there seems no doubt that many pairs remain and breed annually in the fir woods and plantations of these districts. It is not uncommon from September to April, and is most frequently seen in small flocks, sometimes by themselves, but more frequently in company with Linnets and Redpoles, twittering almost incessantly as they fly, apparently for the purpose of keeping them together, while they search the alder, birch, and larch, for seeds as food; their voice also very much resembles that of the Lesser Redpole.

Siskins are chiefly known as Cage-birds, and as such they are esteemed for their beauty, their docility, their healthiness, their song, and the readiness by which they produce a mixed breed either way, with the Canary Finches. Their song is not unpleasant; it bears some resemblance to that of the Canary, but it is less powerful.

Bolton says, "that in the neighbourhood of London, it is known by the name of the Aberdevine. It often mixes with the smaller Linnets, and is seen picking the seeds of the alder, with its back downwards. It is a singing bird, and being rather scarce, fetches a higher price than the

merit of its song deserves, though that is soft, sweet, and various. It will imitate the notes of other birds, even to the chirping of the sparrow. It is familiar, cheerful, and docile, and begins its song early in the morning. It breeds freely with the Canary, and, like the Goldfinch, may be taught to draw up its little bucket with water and food. The latter consists chiefly of seeds. It drinks frequently, and is fond of throwing water over its feathers."

"I am convinced," observes Neville Wood, "that ornithologists are mistaken in supposing the Siskin Goldwing to be a rare occasional visitant. Even in Derbyshire I should be almost inclined to consider it indigenous, as future investigations will probably find it in many of the fir forests of Scotland." In confirmation of this opinion, we may quote M'Gillivray, who calls this bird the Black-headed Thistlefinch, and says that "it has been found of late years breeding in various parts of Scotland," and opines that most, if not all, of the individuals seen in the winter months are indigenous."

Yarrell observes that "the Siskins appear to be much more plentiful in the north than in the south."

84.—THE RING SPARROW.

FRINGILLA PETRONIA. Linn.—SOULCL. Buff.—DER GRAUFINK. Beck.

DESCRIPTION.—This bird, were its beak not seen, might be thought a female Yellow Bunting, so closely does it resemble that bird both in size and colour. It is five inches and three-quarters long, of which the tail occupies two. The beak is five lines long, thick at the base, grey brown above, white beneath; the feet are ten lines high, and grey brown; the head, as far as the neck, is reddish ashy grey, spotted with

dark brown ; round about the head, commencing at the eyes, there runs a dirty white ring ; the back is brown, with reddish grey margins, whereby it appears spotted with grey ; the rump and sides are grey brown ; the abdomen reddish grey, intermixed with white ; the front of the neck yellow, margined with ashy grey at the sides ; the wings are grey brown ; the large coverts have white tips ; the tail feathers grey brown, with a brighter margin.

The female is more grey upon the upper part of the body, and has a small pale yellow spot in front of the neck.

PECULIARITIES.—This bird is occasionally found in great numbers in the forests of Germany ; only migrating in the colder regions. Its food consists of seeds and insects. It may be fed upon rape and poppy seeds, and also with the first description of chamber food. It feeds, like the House Sparrow, upon seeds and insects, and builds in hollow trees. It is famed more on account of its rarity and beauty than for its song, which is of a very ordinary character.

85.—THE CITRIL FINCH.

FRINGILLA CITRINELLA. *Linn.*—VENTURON DE PROVENCE. *Buff.*—
CITRONENFINK. *Bech.*

DESCRIPTION.—This bird is sometimes confounded with the Serin (*Loxia Serinus*), but the form of the beak is different. In figure and colour, and in its food, it very nearly resembles the Canary, but is smaller, while its notes are not so powerful. It is so closely allied to this bird, that I should consider it as the progenitor, were not these also found at large. It is five inches long, of which the tail occupies two ; the wings spread eight inches. The beak is brownish ; the feet of a pale flesh colour ; in its plumage it

resembles the male Greenfinch, and is generally of a green yellow, marked with ashy grey and dark brown. The forehead, the back, and rump, are yellow green; the back of the head, the sides of the neck, as far as the throat, are ashy grey; the face, throat, breast, and abdomen, are of a beautiful green colour; the vent greenish yellow; the small coverts of the wings yellowish green, the larger ones brown black, with broad yellow green margins; the pinion feathers dark brown; the anterior margined with whitish yellow, and the posterior with yellow green; the slightly forked tail is dark brown, edged with yellow green upon the narrow web, and with whitish green upon the broad one.

The female is not so purely coloured or beautifully marked; the yellow on the head and abdomen is dirtier; the grey colouring of the back of the head and neck extends all round the throat, and has greenish yellow spots.

PECULIARITIES.—This bird inhabits the southern countries of Europe, and is also found in the southern districts of Germany, extending upwards as far as Franconia. Its song is very pleasing, and it is much sought after and prized. They should be treated as directed for Canaries.

Several other Finches, such as the LAPLAND FINCH (*Fringilla Laponica*, LINN.), and the SNOW FINCH (*Fringilla Nivalis*, LINN.), are described by Beckstein, but they are rarely seen in this country. The first greatly resembles the Skylark, and has little to recommend it; it has a shrill whistle, and a rather sweet song, somewhat resembling the Linnet. The Snow Finch is a sprightly, fearless bird, but its song has little harmony.

86.—THE SKYLARK.

ALAUDA ARVENSIS. Linn.—*ALOUETTE.* Buff.—FIELD LARK.
LAVEBOCK. M'Gillivray.—*DEI FELDLERCH.* Bech.

DESCRIPTION.—This well-known bird scarcely requires a description; but I give it here for the sake of those who reside in large towns, and who rarely see it at liberty, that they may be able to distinguish it from the other species of Larks. The Lark is larger than the Yellow Bunting, being seven inches long, of which the tail occupies nearly three; the breadth of the wing is fourteen and a half inches. The beak is slight, straight, and cylindrical, terminating in a point; the mandibles of equal length, and separate beneath; the colour above is of a horny black, beneath whitish; the irides greyish brown; the feet greyish brown, in spring yellow brown, nearly one inch high, and the hinder claw (the spur) longer than the toe itself; forehead and vertex of a rusty yellow, spotted longitudinally with black brown; the head feathers can be raised when excited; above the eyes extends a white grey line, and one rather indistinctly indicated surrounds the grey brown cheeks; back of the head and neck whitish grey, striped with black brown; the back is black brown, with a broad partly pale reddish brown and partly whitish grey enclosure; the lower part of the neck, the breast, and the sides, dirty white, with a rusty tinge, and with delicate black brown stripes; the wing



coverts grey brown, and the large one with a pale reddish brown enclosure; the pinion feathers dark brown, with white on the margins, those next to the body, which are again larger than the middle ones, are whitish grey; the tail feathers black brown, the most central ones on the inner side with a rusty brown, and on the outer side with a whitish grey broad enclosure, the two external ones on the outer and half of the inner side white.

The female is to be recognised by being rather smaller than the male, and also by being marked with more numerous and stronger black spots upon the back and breast, and by the white or brighter colour of the breast, which is not so strongly tinged with rusty colour.

In confinement we also see the following two varieties:—

1. *The White Skylark*. It is either of a pure white or yellowish white. It is also found wild.

2. *The Black Skylark*. Its plumage is of a smoky black, with a rusty colour gleaming through. I do not know if this has been observed in the wild state; but in confinement it is not rare, especially when the Larks are kept in a place where the light of the sun is excluded. But they usually change to their natural colour upon moulting, which the white variety does not.

HABITAT.—The Skylark is found in almost every region of the world. It frequents ploughed fields and meadows, chiefly upon plains. It is a migratory bird, usually arriving early in February, and leaving in October in large flocks. The Skylark is found throughout the whole of the western hemisphere as one of the commonest birds; it has, however, never been seen in America. In cold and protracted winters, Larks leave the more northern counties and migrate southwards. It is the first of the migratory birds that appears. Its principal food is insects; but it will also feed upon seeds of any kind, as well as young sprouts, so that at this early

season, should severe weather occur, it can hardly want food. It may be either allowed to fly about the room, generally preferring a dark corner to roost in at night, or it may be kept in a cage, in which it certainly sings better than when at large. This cage, which is more suitable when possessed of a bow or half-circular front, for the purpose of placing clovery turf, should be fifteen inches long, nine to ten inches from front to back, and fifteen inches high. Upon the floor there should be a moveable board, covered with sand. The cage should hang on the quiet side of the room, well exposed to the light, as these birds like to dust themselves. These birds often have a habit of springing upwards, especially when they are not sufficiently tame, and to prevent them striking and injuring their heads, they should be placed in a cage covered with baize or cloth over the top, instead of wire or wood. The vessels for their food and drink should be of glass, and placed outside the cage, or, what is more preferable, they may have a trough for the food made to push in at the side. When allowed to run freely about the room, great cleanliness is necessary, as they are apt to get their feet entangled in hair or wool that may lie about. If this be not attended to, the hair will speedily cut into their feet, and make them either lame or cause the loss of their toes.



FOOD.—The food of Skylarks consists of insects, and also

of the larvæ and eggs of insects, small seeds, such as poppy seed, and oats, which they peel from the shell by beating against the ground, their beak being too weak to break them. Grass and the leaves of young plants they seem to be fond of. They require sand to assist digestion. The paste made for them should consist of one pound of pea-meal, the whole of two eggs, four ounces of lard, and one ounce of honey, placed in a saucepan over a slow fire, and stirred briskly until it gets brown, taking care it is not burned: tie it in a bladder for use. To one table-spoonful of the paste add a tea-spoonful of hard boiled bullock's liver, grated fine, and one tea-spoonful of crushed hemp seed. The bird may occasionally have a singing diet, consisting of the yolk of one egg, the same weight of boiled sheep's heart, minced, and a little flour, mixed together, tied up in a cloth, and boiled for a quarter of an hour. To a small piece of this, add a little poppy seed, or malt and lettuce seed, and give about the size of a hazel nut, with two or three meal-worms, daily. They may have poppy seeds, crushed hemp, shelled oats, barley meal, and bread crumbs, and occasionally mixed with water-cresses, cabbage, and salad. They are also fond of lean meat and ants' eggs. All these things should be given occasionally to those which run about the room, as it tends to make them lively, and induces them to sing better. If adult birds be introduced into the aviary, in order to reconcile them to the change, it is merely requisite to throw some poppy seeds and oats to them.

January—seeds of wild plants; February—seeds and corn; March—various insects, worms, seeds, and corn; April—insects, beetles, and corn; May—flies, and various insects; June—grasshoppers, worms, and corn; July—crickets and grasshoppers; August—insects, corn, and seeds of weeds; September—seeds, worms, and barley; October—seeds, corn and berries.

BREEDING.—Larks make their nest in some little cavity on the ground, very artificially constructed of dry grass and hair. They prefer fields which are fallow, or have summer crops. They breed usually twice a year. They lay from three to five eggs; these are whitish grey, with dark grey spots and dots. The hatching occupies fourteen days, and even as early as the end of April the young appear: these are fed with insects, and often run from the nest before they are full fledged. The young, previous to the first moult, are spotted all over the upper part of the body with white. For rearing they should be removed from the nest when the tail feathers are about three-quarters of an inch long, and they must be fed with roll and poppy seeds steeped in milk: a few ants' eggs given to them will make them grow strong and healthy. The yellow colour indicates the young male. If it is intended that they should learn a melody or song, it must be whistled to them before they are full fledged; about that time the males commence practising their native song. They require to be kept quite separate from other birds. I have had adult Larks in my room that have acquired the song of the Chaffinch and Nightingale.

Some females, even without pairing, will lay eggs; but these are unfruitful. If placed in gardens, in an open aviary, where they have plenty of room, their hatching is more likely to have a successful result.

MALADIES.—They are subject to all the ordinary maladies of birds, but are most frequently liable to yellow scurf round about the beak. To cure this, I know of no other means than to feed them well, and to give them the second kind of universal food, mixed with green vegetables, ants' eggs, and meal-worms. In confinement they live for eight years and upwards; indeed instances occur of their having attained thirty years of age.

CAPTURE.—There are many ways of catching Larks, to describe which fully would occupy too much room, and is unnecessary, as these birds may be obtained in autumn, in great numbers, by means of the day and night nets, known also as Lark nets.

Whoever wishes to catch a good singing male bird in the spring, should take a Lark and bind its wings together, placing over them a little forked limed twig, and go to the spot where a bird is heard singing. As soon as the Lark, hovering in the air, observes the other upon the ground, excited by jealousy, it descends like lightning upon it, and gets fixed to the bird lime.

COMMENDATORY QUALITIES.—The Skylark is one of our most agreeable songsters. Its song consists of several strains, which are all composed of trilling and warbling notes, variously modulated, occasionally interrupted by a powerful whistling. It is a bird also, as I have before remarked, of singular capacity; and not only do the young learn the notes of any other birds which hang near them, but the adult birds also, although in them, as among men, their memories vary in power. Some also sing better, with a strong and melodious note. In confinement some begin as early as December, and continue until moulting time; others, less able, only begin in March, and finish singing as early as August. When wild, they usually become silent about St. James's day, although exceptions occur; and Larks are sometimes even heard singing at Michaelmas.

“The Skylark is very generally distributed in Britain, and is plentiful even in the most northern parts of the mainland and islands of Scotland. It remains all the year, but in winter the aggregated individuals repair to the lower districts. Although not confined to arable land and green pastures, it is rarely met with on heathy tracts.

“The song of this bird is familiar to most persons, even to those who reside in cities. Sometimes the Lark sings on the ground, perched on a clod, or even crouched among the grass; but generally in commencing its song it starts off, rises perpendicularly or obliquely in the air, with a fluttering motion, and continues it until it has attained its highest elevation, which not unfrequently is such as to render the bird scarcely perceptible. Even then, if the weather be calm, you hear its warble coming faintly on the ear at intervals.”—*M' Gillivray*.

The following beautiful lines on the Skylark are by James Hogg:—

“Bird of the wilderness,
Blithesome and cumberless,
Sweet be thy matin o'er moorland and lea!
Emblem of happiness,
Blest is thy dwelling-place—
O to abide in the desert with thee!
Wild is thy lay, and loud,
Far in the downy cloud,
Love gives it energy, love gave it birth.
Where, on thy dewy wing?
Where art thou journeying?
Thy lay is in heaven, thy love is on earth.

O'er fell and fountain sheen,
O'er moor and mountain green,
O'er the red streamer that heralds the day,
Over the cloudlet dim,
Over the rainbow's rim,
Musical cherub, soar, singing away!
Then, when the gloaming comes,
Low in the heather blooms,
Sweet will thy welcome and bed of love be!
Emblem of happiness,
Blest is thy dwelling-place,—
O to abide in the desert with thee!

Mudie justly remarks of the Skylark:—"The song of the Lark, besides being a most accessible and delightful subject for common observation, is a very curious one for the physiologist. Everyone in the least conversant with the structure of birds, must be aware that with them the organs of intonation and modulation are inward, deriving little assistance from the tongue, and none, or next to none, from the mandibles of the bill. The windpipe is the musical organ, and it is often very curiously formed. Birds require the organ less for breathing than other animals, having a windpipe and lungs, because of the air cells and breathing tubes with which all parts of their bodies, and even the bones, are furnished. But those diffused breathing organs must act with less freedom when the bird is making the greatest efforts in motion—that is, when ascending or descending; and, in proportion as they cease to act the trachea is the more required for the purposes of breathing. The Skylark thus converts the atmosphere into a musical instrument of many stops, and so produces an exceedingly wild and varied song—a song which is, perhaps, not equal in either power or compass in a single stave to that of many of the warblers, but one that is more varied in the whole succession. All birds that sing ascending or descending have similar power, but the Skylark has it in a degree superior to every other."

87.—THE CRESTED LARK.

ALAUDA CRISTATA. Linn.—COCHEVIS, OU GROSSE ALOUETTE HUPPÉE.
Buff.—DIE HAUBENLERCHE. *Bech.*

DESCRIPTION.—It is about the size of the preceding, but more robust, the colour of the plumage also similar, but

rather brighter. It is seven inches long; the beak lead coloured, horny brown at the tip; the irides dark brown; the feet yellowish ashy grey, one inch high; head, cheeks, upper part of the neck, and back, reddish grey, all the feathers black brown in the middle; from the nostrils to the ears there extends a reddish white stripe, which is scarcely observable above the eyes, but beyond them it becomes darker; upon the head there are from eight to ten long pointed blackish feathers, which, rising on the head, form a very handsome crest, nearly upright; nearly the whole of the upper part of the body is of a dirty reddish white; the tail feathers black—the two central ones rather paler, and margined with reddish grey.

The female is smaller and has the crest less prominent, and the breast is marked with numerous round black spots.

HABITAT.—Only in autumn and winter is the Crested Lark found in central Germany in towns and villages, on the high-roads, near stables and barns, among Sparrows and Yellow Buntings. They are found nearly in every part of Europe from Sweden to Italy. In summer it frequents woods skirting arable land, roads through forests, and even high-lying villages. They leave in October. It may be allowed to run about the chamber, or it may be placed in a cage similar to that appropriated to the Skylark. I know no bird whose feathers grow more quickly. If the wings have been clipped, it is requisite to renew the clipping every four weeks, for within this time the feathers are so much grown that they may serve for flight.

FOOD.—It feeds upon insects, small seeds, and oats, and will feed upon the same things as the Skylark, but is more hardy than that bird, does not so easily sicken, and will live about twelve years.

BREEDING.—Their nest is formed upon the ground, beneath dry bushes, or under clods; in gardens beneath

vegetables, or upon mud walls. They will even build upon thatched roofs. They lay from four to five whitish grey eggs, mottled with rusty grey, and spotted with dark brown upon the upper end. The young before the first moult have a mottled white appearance. If intended to be taught airs, or the song of other birds, they require to be removed early from the nest.

CAPTURE.—In winter a place where they are frequently seen running about is cleared from snow, and set with limed twigs, a clap net, or even a sieve; and poppy seeds or oats are scattered about as bait, and in this way they are easily caught.

COMMENDATORY QUALITIES.—Their song is exceedingly agreeable, and very varied, although to my taste not so beautiful as that of the Skylark. It resembles the song of the Skylark and Linnet combined. They also sing at night, and may be heard from February to August; but birds reared from the nest will sing still longer. I have already mentioned that they possess great capacity. It is an agreeable chamber bird, and has not the rolling gait of the Skylark, but runs rapidly across the room, making all kind of playful motions with its crest, raising it perpendicularly upwards. This bird is rarely seen in Britain, but is recorded as found in Cornwall in 1850 and 1851.

88.—THE WOOD LARK.

ALAUDA ARBOREA. Linn.—ALOUETTE DES BOIS OU CUIJELIER. Buff.—
DIE WALDLERCHE. Bech.

DESCRIPTION.—This admirable bird is more than one-third less than the Skylark, being only six inches long; but otherwise similar to it in figure and appearance. The beak

is black above and brown beneath, merging into flesh colour towards its tip: the feet are three-quarters of an inch high, and of a bright brown flesh colour; the vertex is reddish brown, with four black brown stripes; it has a few long straight feathers, which make the head appear broad, and which, when under excitement, it erects as a crest. The head is sur-



rounded from eye to eye by a whitish grey coronal; the temples are brown; the back of the neck and the upper part of the back are reddish brown, with black brown spots; the lower part of the back grey brown; around the cheeks, the throat, neck, and breast, are whitish yellow, with black brown spots; the rest of the under side of the body yellowish white; the coverts of the wings dark brown, with a pale reddish brown margin, but at the joint of the wing, the shoulder, and the four first coverts, there is a white spot; the pinion feathers are dark brown, edged with yellowish white upon the narrow web; the tail feathers broad, black brown, the first and second with a reddish white conical spot, and a white tip: the two middle ones entirely greyish brown, like the long upper coverts, which extend almost to the end of the short tail.

The female is a handsomer bird; the ground colour is of a lighter shade; the markings darker; the breast more spotted; the coronal more distinct; and the enclosure of the cheeks brighter.

HABITAT.—It is a native of the temperate parts of Europe. In summer they are found in pine forests, on plains where there are fields and meadows in the vicinity;

and yet they also frequent mountainous districts, visiting alternately heaths and meadows. After breeding time they migrate in small flocks of ten and twelve. About October they commence their outward passage, returning in March. In the house it is best to allow them to run freely about the room, as, according to my own experience, they sing better than when confined in a cage. Being rather delicate birds, they have sand given them to promote digestion.

FOOD.—This consists in summer of all kinds of insects; in autumn of poppy and rape-seed, dodder grass, millet and oats; and in spring, when there are neither insects nor worms, of green sprouts, water-cresses, and other plants, and even the catkins of the hazel. They may be fed upon the universal paste, but as they are more delicate than the two preceding species, this food must be frequently varied with poppy seed, oats, crushed hemp seed, unsalted curds, dry and fresh ants' eggs, cooked bullock's heart, and meal-worms.

BREEDING.—This Lark builds among heath, under juniper bushes, among thick grass in hedges, also in fields bordering upon woods, or in furrows beneath the turf. Its nest consists of dry blades of grass, interwoven with moss, wool, and hair. It lays from four to five eggs, which are spotted with whitish grey and violet brown. Young birds removed from the nest may be reared upon ants' eggs, and roll steeped in milk. If the old birds can be caught near the nest, they easily rear the young with ants' eggs. They readily learn to imitate the songs of all the birds which they hear in the chamber; but this mixture is not so agreeable as their own natural note.

MALADIES.—They are exposed to most of the maladies mentioned in the introduction, but suffer chiefly from a disorder in their feet, which become much swollen. It is absolutely necessary that their feet be kept clean of threads

and hairs, which cut into them, and even cause the toes to fall off. When their feet become sore they should be cleansed, and then anointed with almond oil. If attacked with consumption, add a few drops of the above oil to their food, and give a few meal-worms and ants' eggs. In old age they seldom live more than four years, and I have not been able to preserve them longer, notwithstanding every precaution—their legs become so brittle that they easily break. Most of the birds of this species which I have possessed, have died from broken legs. This fact is remarkable, and is a circumstance that I have not observed in any other bird.

CAPTURE.—They are caught on the nest with limed sticks, but if you do not wish to separate paired birds, they may be caught in autumn with the bat fowling-net. In spring, when snow falls, they resort to spots cleared from snow; they may be taken with limed sticks, or in nets concealed under ground. With a call-bird they may be decoyed beneath the fowling-net, laid in a field frequented by flocks of these birds. Or as they are easily decoyed by a call-bird, oats are thrown, whilst the snow is still lying around, into the thawed furrows, and these are set with limed twigs. They may also be caught by means of a tame female Wood Lark, which is allowed to run loose, with a forked twig smeared with bird-lime, close to the spot where a wild bird is observed: by this means the fancier is sure of capturing a male.

COMMENDATORY QUALITIES.—Of all the Larks this is the sweetest songster, and, according to my taste, the most delightful of all birds which retain their natural song, excepting only the Nightingale and Chaffinch. Their voice has all the mellowness of a flute, marked at times by a tender and even somewhat melancholy strain. At large it flies from the summit of a tree so high in the air that the

eye can scarcely reach it, hovering there with distended wings for a long time above one spot, and will thus often sing for hours uninterruptedly. It will also sing when perched on a tree. In a retired corner of the chamber it will sit quite still, warbling its melodious song. At liberty it sings from March to July, and in confinement from February to August. The female also sings, as in all the species of Larks, but only a few strophes, and these much interrupted. Some of these birds are so self-willed that they will not sing at all in the chamber, at least when any person is present. These must be hung in a cage at the window. Generally these obstinate birds are the best singers. Their hasty gait and abrupt movements, and their manner of raising the feathers of the neck and head, afford much amusement.

Sylvester's translation of Du Bartas's lines on the Lark says:—

“The pretty lark, climbing the welkin clear,
Chants with a cheer, here peer, I near my dear !
Then stooping thence, seeming her fall to rue,
Adieu, she sayeth, adieu, dear, dear, adieu !”

“Who has not listened to the Lark,” says one author, “and felt that indescribable mixture of pleasure and tranquillity which the mysterious nature of our being receives from impressions on the eye and ear from a lovely prospect—woods and lawns, and living streams, and from exquisite modulations—the morning song of the Lark, the carol of birds, the hum of bees, or the murmur of the rippling streamlet?” There is a life-like touch in Bloomfield's portrait of the Lark:—

“Yet oft beneath a cloud she sweeps along,
Lost for awhile, yet pours her varied song.
He views the spot, and as the cloud moves by,
Again she stretches up the clear blue sky ;

Her form, her motion, undistinguished quite,
Save when she wheels direct from shade to light."

The Lark not only affords delight to many who prefer to hear it out of captivity, but is essentially the poor man's bird, and as such often pleases a whole neighbourhood. As an instance of the value attached by some persons to this fine songster, the following anecdote has been told:—"A poor man had a valuable Lark, which a great bird-fancier wished to purchase, and the latter calling upon him one day, offered him five guineas for the bird. This money was refused; ten guineas were then offered, and refused. At length the bird-fancier exclaimed, 'It is now fair day, and the market full of cattle: go and purchase the best cow there, and I shall pay for her;' but the poor man declined the tempting offer, and kept his bird."

89.—THE SHORE LARK.

ALAUDA ALPESTRIS. *Linn.*—ALOUETTE À HAUSSE-COL NOIR. *Buff.*—
DIE BERGLERCHE. *Bech.*

DESCRIPTION.—This bird is rather stouter than the Sky-lark, being seven inches long. It is of the same colour above, but the throat and the lower part of the neck are of a bright yellow; and above the latter, across the breast, runs a black band, margined in form like a horse shoe. They inhabit properly the north of Europe, but come in winter to Germany. Upon



their return, when heavy snow falls in March, they are often caught in small nets and with limed sticks in the forest of Thuringia; but they are then so wasted that they are not easily fed upon the chamber food. In other respects they can be kept like other Larks.

90.—THE TIT LARK.

ALAUDA TRIVIALIS. Linn.—*ALOUETTE PIFI.* Buff.—TIT LARK. TITLING. MOSS CHEEPER. *M'Gillivray.*—*DER BAUMPIEFER ODER DIE SPITZLERCHE.* Bech.

THIS and the three following birds are usually classed with the Larks; but they only resemble them in colour, and two of them have a long posterior claw. They have an almost cylindrical beak, like the Wagtail; but their body is more slender, and they move their tail like that bird. At large they feed only upon insects, and do not eat seeds. They have two bright bars upon the wings; the throat is pale and not speckled; and they have a bright stripe above the eyes. They do not dust themselves in sand as the Lark, but bathe in water. They have all an anxious piping call-note, and form an appropriate link between the Larks and the Wagtails.

DESCRIPTION.—The Tit Lark is the smallest of all the Larks found in Germany, being only five inches and a half long, of which the tail occupies two inches and a half. The beak is very pointed; the upper mandible dark brown, the under one whitish; the irides dark brown; and the feet, which are ten lines high, with the toes, are of a pale flesh colour; the nail of the hind toe is crooked; the head is rather long, and with the neck, back, rump, and sides, olive brown, spotted with black, slightly so on the

head, but most upon the back ; the under part of the body, as far as the abdomen, of a reddish yellow, or rather of a rusty yellow, with black longitudinal spots, which run down the sides of the throat from the angle of the beak, distending themselves over the breast ; the abdomen and vent white ; the small coverts of the wings olive brown, two rows of the larger ones black, the upper ones with a whitish margin, and the lower with a reddish white one, whence two whitish bars cross the wings ; the pinion feathers dark brown, edged with olive green ; the tail narrow and rather forked, and all the feathers pointed.

The female differs but little from the male. Throat, neck, and breast, are not of so bright a rusty yellow ; the white spot in the second tail feather is smaller, and the two bars upon the wings are whiter. The one year males also are not of so rusty a yellow upon the abdomen.

HABITAT.—It inhabits Europe, excepting only the highest latitude, and very commonly makes its nest in mountainous and woody districts. Its favourite place of resort is woods that abut upon arable land, or have gardens and meadows in the vicinity. In these they usually select cleared spots where the timber has been felled and rooted up. As early as August they visit the fields in small flocks, especially those planted with cabbage and vegetables, and then also are they seen upon the roofs of cottages in villages. In September they resort to the oat fields, where they are caught at the beginning of October, in bat fowling-nets, which are set for Skylarks. They again return at the beginning of March, and in case of cold weather they may be seen amongst the oat crops, and near warm springs. The Tit Lark possesses the peculiar quality of uttering its different notes at other periods than the breeding time. Its call-note, however, which it utters at the time of pairing, and when the young are discovered, is a tender and anxious

tsip, tsip, and is only heard in the vicinity of the nest. It is certain, therefore, when this note is heard coming from a tree, that the nest is at hand; and if it has young it may be observed with its beak full of insects, repeating its note with increasing rapidity and energy as you approach the vicinity of the nest. At that time the piping call *geek* is rarely or never heard. I usually allow my Tit Larks to run about the room in company with the other birds. But when thought worth the trouble to appropriate a cage to them, they live longer and sing better. It is placed in an ordinary Lark cage, but which must have a couple of sticks across, as it is fond of perching.

FOOD.—It feeds upon gnats, grasshoppers, flies, caterpillars, and small butterflies. Being delicate birds they require a frequent change of food. Thus, besides the general paste, they must have occasionally the ordinary Nightingale's food, crushed hemp seed, unflavoured curds, meal-worms, &c.

The most difficult part of their treatment is to accustom them at first to the chamber food; therefore, when they are first brought into the room they must have meal-worms, grasshoppers, and some ants' eggs. As soon as the bird will eat, these must be mingled with the ordinary food, that they may taste it, and become gradually accustomed to the flavour.

They do not dust themselves, like the other Larks, in sand, but usually merely dip the beak in water, and sprinkle themselves.

BREEDING.—They make their nest twice a year upon the ground in cleared places in woods, behind a bush or clod, or in gardens and meadows among the grass. The nest is indifferently built, and consists of dry grass, lined with delicate green and dry grass, horse-hair, and the hair of other animals. It lays from three to five eggs, which are

grey, marbled with brown. The young fly out as soon as they can possibly use their wings, being justly apprehensive of many enemies upon the ground.

They can be reared from the nest upon ants' eggs and roll steeped in milk, with which some poppy seed may be mixed. They are capable of instruction, and will learn some of the notes of other birds, especially of the Canary; but they never acquire the entire melody.

MALADIES.—They are subject to the ordinary maladies of birds, and their feathers occasionally drop out at other times than during the moulting season. If they are not at once supplied with a more nutritious diet, such as meal-worms and ants' eggs, they will waste away and die. They live about six years.

CAPTURE.—They are most easily caught near the nest with limed sticks; but to attain this by destroying a whole family will be repugnant to every person. The male, also, may be caught in Spring by letting another male Tit Lark loose, near the spot he frequents, with clipped wings and a forked twig smeared with bird-lime, for these birds, like the Chaffinch, will not endure a rival; and this mode is the less objectionable from the readiness with which the female consorts with another male. The male may also be caught in the autumn, in the bat fowling-net, if the place be observed amongst oat stubble where they frequent; but it is then rather difficult to distinguish the female from the male. It is also an ordinary drinking bird, and may be caught in September at the drinking place.

COMMENDATORY QUALITIES.—Its song, which, although it consists of merely three long-drawn trilling and lulling strophes, is yet very agreeable. They sing either perched upon the summit of a tree, or they sweep downwards from it for an instant or two, and then flutter upwards again, flying very gently. They almost always return to the same

spot, and call when perching *zeeah, zeeah, zeeah*. They are to be heard from the end of March until July, but in confinement they commence singing as early as February, closing in July. It is not only their song, but their comportment likewise, which makes them agreeable, for they have a slow and stately walk, always bear themselves firmly, and give their tail an incessant but slow motion.

91.—THE FIELD LARK.

ALAUDA CAMPESTRIS. Linn.—*LA SPIFOLETTE*. Buff.—*DER BRACHPIEPER ODER BRACHLERCHE*. Bech.

DESCRIPTION.—This bird is smaller and more slender than the Skylark, being six inches and a half long, resembling the Crested Lark in colour, and the Tit Lark in figure. The beak is robust and long; the upper part of the body dark grey, with scattered blackish spots; above the eyes extends a white streak; upon the yellowish white breast there are scattered blackish grey stripes; the tail is dark brown, the two external feathers with whitish edges; the feet pale flesh colour; the nail of the hind toe stout and crooked.

They are found in summer in woody marshes, and in autumn near the skirts of fields, on roads, and in meadows, and they are caught with the bat fowling-net. They do not sing, but scream incessantly *zeerruh* and *datseedah* whilst making their widely undulating flight. They migrate in September, and return in April. They feed like the Tit Lark, and must be treated in the same way, as they are even more delicate.

92.—THE MEADOW LARK.

ALAUDA PRATENSIS. *Linn.*—ALOUETTE DES PRES OU FARLOUSE.
Buff.—DER WIESENPIEPER ODER DIE WIESENLEBCHER. *Bech.*

DESCRIPTION.—This bird greatly resembles the Tit Lark, but it may be easily distinguished from it, from the long nail of the hind toe being straight instead of being curved as in the former. Its body is shorter, the beak thinner, the feet redder, the head stouter, and the tail shorter; the upper part of the body is olive green, spotted with brown black; the rump reddish grey, watered with green; above the eyes there is a distinct yellow white stripe, a similar one around the cheeks; the under side of the body dirty white, reddish yellow on the breast, and the abdomen having a greenish tinge; the breast densely covered with oval, and the upper part of the abdomen with triangular blackish spots; there are two white bars upon the wings; the pinion feathers are dark brown; the tail feathers blackish, the external feather half white, the following with a conical white spot; the tail thick, and rather forked.



The female is rather paler; and in the male there are besides, upon the breast, three or four blackish spots, which in many cases merge all into one.

HABITAT.—This bird is found on extensive fallows near lakes and rivers, upon marshy meadows, in plains, and in

broad valleys. They may be found in multitudes about September in meadows, in oat stubble, and among sheep. Before taking their flight in October they form themselves into large flocks. They are almost the last of the migratory birds, for in November and December their shrill harsh *bis, bis*, may be heard in marshy meadows and near springs. In March, as soon as fine weather returns, large numbers may be again met with in wet meadows. They are allowed to run about amongst other birds in the room, or they are placed in a Lark cage, which, as in that for the Tit Lark, must be furnished with perches, for, like that bird, they settle upon bushes and trees.

FOOD.—This consists of small insects, especially water insects, as gnats, flies, &c. It is difficult to accustom them to the universal food. They are the most delicate of all the Larks. If pieces of meal-worms and ants' eggs be mingled with steeped roll and crumbs, they will become accustomed to it; but to keep them in perfect health, they require to be supplied with meal-worms and some eggs. It is best, therefore, to place them in a cage, and give them Nightingales' food.

BREEDING AND MALADIES.—They make their nest upon the skirts of fields, and upon green sods in wet meadows. In confinement the majority die of atrophy and dysentery.

CAPTURE.—In autumn they are often caught in the night net, when sweeping for Larks. In spring limed sticks are set about damp meadows, where they are incessantly running about. While snow is still falling, a place is cleared upon a meadow, and when they fly there they are caught by means of limed twigs. To make the capture certain, it is only necessary to attach a meal-worm, by means of a hair, to one of the sticks.

COMMENDATORY QUALITIES.—They are very pretty chamber birds. Their song is melodious, and sounds like a

bell, resembling that of the Tit Lark, only consisting of more strophes, and of a prettier trill, intermingled with notes which greatly resemble those of the Canary.

93.—THE WATER PIPIT.

ALAUDA SPINOLETTA. Linn.—*DER WASSERPIEPER.* *Bech.*

DESCRIPTION.—This is the largest of the Larks, being seven inches long, of which the beak comprises seven lines, and the tail three inches; the expansion of the wings is eleven inches and a half; the forehead is wide, the beak having a sharp ridge above—in summer horny blue, in winter brown, with yellow margins; the feet chesnut brown, large even to awkwardness, and the nail of the hind toe long and strong; the upper surface of the body olive green, watered with olive brown; an indistinct white stripe passes through the eyes; the under part of the body is greyish white, beset on the gullet and breast with triangular dark brown spots; the wings are blackish grey, with two white bars; the tail thick, rather forked, and blackish; the external feathers have a conical white spot, the second with an impure white tip.

The female is, above, of a more dark mouse grey, and beneath, especially at the sides, more strongly spotted.

HABITAT.—I have only seen this bird on its passage at the end of October and beginning of November in Thuringia and Franconia. In those parts it runs near shallow waters, especially where there are springs. In mild winters it will often remain until March. I always allow it to run about among the other birds. It may likewise be placed in a Lark cage, which, however, should have perches. It is easily familiarized and rendered tame.

COMMENDATORY QUALITIES.—It feeds like the Water Wagtail, upon water insects; and of all the Larks it most speedily accustoms itself to the chamber food. I placed a couple of meal-worms amongst the universal food, and it began feeding instantly. It will also soon eat poppy seed and crushed hemp. It bathes itself frequently in water.

I have caught it in the following manner with limed sticks:—Having cleared a space near the water from snow, I place limed sticks upon it, lay some weal-worms down, and drive the birds gently to the place. They are caught immediately.

I am very fond of this bird. It is always still and tranquil, and wags its tail almost as much as the Wagtail. Its song resembles that of the Siskin and the Swallow, sounding like the whetting of a scythe. It calls *hish, hish*, harshly and shrill. Its cleanliness also recommends it.

94.—THE STARLING.

STURNUS VULGARIS. *Linn.*—ETOUBNEAU. *Buff.*—SPOTTED STARLING.
M'Gillivray.—DER GEMEINE STAAR. *Bech.*

DESCRIPTION.—In size and figure this bird resembles the Redwing Thrush, and is eight inches and a half long, of which the tail occupies two inches and a half. The beak is one inch long, of the form of an awl, angularly depressed, and rather obtuse, pale yellow brown at the tip and blue at the ends; in winter it becomes black blue; the irides nut brown; the feet dark flesh colour, and one inch high; the whole body is blackish above half way along the back, and beneath half of the breast merging



into shining purple red, and the rest of the upper and under side of the body into shining green; pinion feathers and tail feathers black, covered, as it were, with an ashy grey dust, and, as well as all the coverts, enclosed with a bright rusty colour; the feathers of the head and neck with reddish white tips, which are rusty coloured in those of the back, and white in those of the under part of the body: the Starling has thus a spotted appearance.

In the female the beak is more dark brown than yellow; the bright spots, especially on the head, neck, and breast, are larger, and the margins of the wing feathers stronger, and, therefore, it has a much brighter and more variegated appearance. Old males have, besides, scarcely any white spots on the forehead, cheeks, throat, and abdomen.

There are several varieties of this bird, as, indeed, is the case with those birds which are caught in large numbers.

a. The White Starling; *b.* The Checkered Starling; *c.* The White-headed Starling; *d.* Such as are white on the body and black only on the head; and *e.* Ashy Grey Starlings.

HABITAT. — Starlings are found throughout the whole of the old world.

Woods are their common resorting place, especially woods



of those mountains and plains which are surrounded by meadows and arable land. But they prefer, above all, small plantations of deciduous trees and copses. In October they migrate to the south in large flocks, and return towards the beginning of March. During their journey they rest at night amongst reeds and rushes, and if a person happen by accident to pass such a spot at the time, they make an indescribable noise. Much amusement might be derived in its tame state from allowing the bird some freedom; but to ensure cleanliness in the room where it is kept, it must be confined to a cage. The cage best suited for it should be either oblong, at least two feet long, and one foot and a half wide, or a tower shape may be obtained by reversing the proportions. This allows it room to indulge its natural restlessness, and preserves its plumage smooth and unsoiled.

FOOD.—January—worms, grubs of cockchafer, and the dung of animals; February—grubs, snails, and slugs; March and April—grubs of cockchafer and snails; May—the same, and grasshoppers, and fruits; June—flies, and grubs of various flies, and fruits; July—grubs, fresh-water shell-fish, and fruits; August—flies, glow-worms, and various beetles, and fruits; September—green locusts, grubs of carrion beetles, and worms; October—worms and beetles; November—snails, slugs, and grubs; December—hips, haws, and buds of trees. It also feeds upon caterpillars, crickets, buck wheat, millet, hemp, &c. In the house it may be fed upon meat, insects, bread, cheese, and the universal paste. He may in general be readily familiarized, if meal-worms and ants' eggs be thrown to him as soon as he is placed in the room. It is fond of frequent bathing.

BREEDING.—Starlings construct their nests in the hollow stems and branches of trees, and even in wooden boxes and earthen vessels which are hung from trees; also, beneath

the eaves of houses, and in dove-cotes, and sometimes under the eaves of stacks. They have been known to lay their eggs in a very odd place—in the nest of a Magpie, and the Magpie hatched them with full maternal care. The Starling does his best to clean cows and sheep of parasites. The nest consists of dry leaves, blades of grass, and feathers, which are put together very inartificially. Like Swallows, they return yearly to the same nest, and cleanse it out on again taking possession. They hatch usually twice a-year, and each time lay seven eggs of an ashy grey green. The young, before the first moult, are more of a smoky colour than black, have no spots, and the beak is dark brown. When the young are removed from the nest they must be reared with roll steeped in milk. If an air be whistled to them they will soon learn to pipe much more purely and forcibly than the Bullfinch and Linnet, and can retain several strophes in succession without transposition.

G. J. Barnesby observes:—"For years past some Starlings have built their nests in Derby, beneath the eaves of a very high house, in close proximity to the one I am engaged in. One day, hearing an unusual noise, my attention was drawn to the birds going through most extraordinary and excited gyrations, sometimes, in a state of excitement, ascending high into the air, then again flutteringly and suddenly descending to near where their nest was built. The alarm of the birds brought together several other Starlings, the whole of which performed in a similar excited manner. For a time I was at a loss to understand the unusual tumult with the birds, but soon saw a large prowling cat endeavouring to reach the nest containing the young birds. One bird, the parent male, had a large grub between its beak which it did not relinquish during the *fracas*. The vain endeavour of pussy, and the noise of the birds, caused her to commence a retreat, during which

the birds, with continued screeches, ascended, and then suddenly descended in an attacking manner to within a few feet of the cat, which ultimately retired disappointed, and staring wildly at the birds, which soon afterwards resumed their usual quietude. This circumstance was sufficient to convince me of the care and anxiety the parent birds have for their young. I know an instance of a fire occurring to a barn close to where a Starling had a nest of young ones. As the flames approached, the maternal anxiety of the poor bird was visible by her uneasy flittings about the nest. The danger became more threatening. At last she was seen to take one of her young and remove it to a remote spot. This she repeated five times, and thus succeeded in saving the five nestlings. Who shall say how near instinct approaches to reason?

MALADIES.—The usual ones which I have cited above. They often live to the age of ten or twelve years in a room.

CAPTURE.—They are chiefly caught in autumn in the rushes, in nets made for the purpose, which bird-catchers, who live in spots where Starling-catching is practised, generally have in their possession. Amongst the sedge, where they resort at evening, birds may be caught singly from July in bow-nets with a bait of cherries.

With us, in Thuringia, they are caught for the chamber in March; and if snow fall after their arrival, they then frequent marshes and moats. If then, in their vicinity, a spot be cleared from snow, and some limed sticks and worms are scattered about, they are easily caught. They can be hunted to such a spot like domestic poultry.

COMMENDATORY QUALITIES.—The Starling becomes exceedingly tame in the chamber, is very tractable and cunning, and in this quality may be compared with the dog. He is always cheerful and lively, speedily catches all the gestures and actions of the persons with whom he dwells, and will

accommodate himself to them, knows when they are angry with him, walks about with a waddling gait, but very cautiously, and, notwithstanding his silly aspect, takes everything at a glance. He will also learn to repeat words, without its being necessary to loosen his tongue, can pipe songs (the female also), and imitates the human voice, the noises of all the animals, and the song of all the birds he hears. What he has learnt, however, he soon forgets, or blends it with new sounds. If it be therefore wished that a Starling should pipe but one melody, or repeat only certain words, he must be placed in a room where he can hear no other sound. Old Starlings are not always able to learn songs and other notes. At the present time I have one which, in the midst of the multitude of birds which I possess, sings only its natural song. They sing almost throughout the year, moulting time only excepted.

95.—THE BOHEMIAN WAXWING.

AMPELIS GARRULUS. *Linn.*—JASEUR DE BOHEME. *Buff.*—DER
GEMEINE SEIDENSCHWANZ. *Bech.*

DESCRIPTION.—It is about the size of the Redwing Thrush, eight inches long; the beak black, short, straight, convex above, and broad at the base, so that the mouth opens widely; the irides red brown; the feet black, and almost one inch high; the plumage is entirely of a delicate and silky nature; the feathers on the vertex are elongated, and form a crest; the head and upper part of the body are of a reddish ash colour, passing into grey at the rump; a black stripe extends from the nostrils over each eye to the occiput; the chin black; the forehead chestnut brown, as well as the vent; breast and abdomen of a bright purple chestnut brown; the small coverts of the wings brown, the

larger ones, most distant from the body, are black, with white tips, and these form a bar; the pinion feathers are black, the third and fourth have externally a white tip, which is yellow on the five following; the shorter are ash coloured, with white tips to the external margin; besides this, from five to nine of these feathers terminate the shaft with a flat, horny, oval appendage of a bright scarlet colour; the female, at most, has but five, but the male has from five to nine on each side; the tail is black, with brimstone yellow tips; and in very old males there are also observed some narrow, horny, scarlet appendages.

The female has the black spot on the throat smaller, and a narrower and fouler bright yellow tip to the tail; and the tips of the wings are only yellowish white, and at most five small narrow appendages to the pinion feathers, and sometimes none at all.

HABITAT.—They do not breed in Germany, but retire within the Arctic Circle for that purpose. With us they only winter, arriving here in November, and retiring again at the beginning of April. If the weather be mild, but few flocks are seen in Thuringia, for then they remain much further north; but in very severe winters they quit us and go south; and in a winter of average temperature they remain with us throughout the year, near the skirts of the Thuringian forests; and they are also then found in several parts of Germany, in Saxony, the Hartz Mountains, and in Bohemia. Even a small degree of heat becomes insupportable to them; and if an apartment becomes in the least warm they immediately droop. This is a proof that a very cold climate must be their summer place of resort. I should advise those to put them in a cage similar to that used for the Thrush, but the floor should be covered with sand, as these birds are very uncleanly.

FOOD.—In spring (for in summer we do not see him), he

feeds like the Thrush, upon various sorts of flies and insects. In autumn and winter it eats all kinds of service berries, misletoe, buckthorn, viburnum, and juniper berries, and, in case of need, the buds of beech, maple, and fruit trees. The universal food proves a delicacy; and it will even content itself with mere wheat bran steeped in water. It swallows everything in large pieces, and eats roll with avidity. He is besides no epicure, and swallows all eatables thrown to him, such as greens, potatoes, even raw salad, and ripe fruit. It is fond of bathing, but only sprinkles itself.

CAPTURE.—These birds are caught during winter in the noose, particularly if service berries be preserved until February. It will also visit the fowling-floor for the bait; appears scarcely to know what danger is, and will therefore fly into the net or noose when his companion has already been caught, and now cries piteously beside him.

COMMENDATORY QUALITIES.—Its beauty only, or where it is rare, its singularity, can recommend it as a chamber bird. It is a dull, stupid bird. In the chamber, where it will live for twelve years upon the most miserable fare, it does nothing but eat and sit still upon its perch. When urged by hunger, he walks across the room in so lame and helpless a manner, that it is disagreeable to look at him. Besides, he has no song, but some lightly hissing and trilling notes, like those of the Redwing, but still more gentle; and whilst uttering them he crouches so closely, that the throat is scarcely observed to move, and at the same time elevates and depresses his crest. But he sings both summer and winter. His comportment, whilst uttering this very unmelodious music, shows that it is no pleasant task to him. When angry, which happens only at the food trough, he snaps loudly with his beak. He can easily be tamed.

96.—THE MISSEL THRUSH.

TURDUS VISCIVORUS. *Linn.*—LE DRAINE. *Buff.*—DIE MISTEL-
DROSSEL. *Bech.*

DESCRIPTION.—It is the largest of all the Thrushes; it is eleven inches long, of which the tail occupies three inches and a-half; the beak is sharp, and one inch long; the upper mandible curved down at the tip, as in all the Thrushes, dark brown; the base of the under mandible and the aperture yellow; the irides brown; the feet dirty pale yellow, and above one inch high; the upper part of the neck, head, and body, greyish brown, tinged with red at the lower part of the back and at the rump; the sides of the body and the throat whitish yellow; all the other parts of the same, as far as the vent, and as far as the breast, marked with triangular and oval blackish spots; the upper coverts of the wings with reddish white tips; the pinion feathers grey brown, with paler margins; the tail the same, but its three last feathers with white tips.

The female is paler throughout the whole of the body.

HABITAT.—It is found in all parts of Europe, chiefly preferring the northern latitudes. It lives in forests, especially of the pine and fir. It is a migratory bird, although not in the strictest sense of the word, for it usually quits us in the middle of December, and is back again during the first cheerful days in February. In the warm valleys of Franconia it may be observed throughout the whole winter. In the chamber it is usually placed within a trellis, or it is put into a large cage of any shape, but at least three feet and a half long, and nearly as high, for, being a large and wild bird, and in constant motion, it easily injures its plumage. It is best that such large birds should have a separate

room appropriated to them, as their copious excrements smell offensively.

FOOD.—Their food consists generally of earth-worms, but in autumn they eat berries of all kinds. Earth-worms constitute their chief sustenance, with which they also feed their young. They are easily fed in confinement, for the above-mentioned universal food is an agreeable delicacy to them. Barley meal, or merely wheat bran, wetted with water, is sufficient to nourish them; and this, as well as all the following large decoy birds, which bird-catchers are obliged to have in multitudes for the fowling-floor, are kept usually the whole year through upon nothing but wheat bran, soaked in water. But to get them into a state fit for song, they must have a more generous diet, such as roll, bread, meat, and many other things which come to table, for they are not dainty.* They are fond of bathing.

BREEDING.—As early as March their nest is found built upon forest trees, sometimes high and sometimes low; the lower layer consists of thin twigs, enveloped in tree moss, the central layer of ground moss and earth, and within it is lined with the delicate fibres of roots, and small blades of grass. They lay and hatch, twice a-year, four greenish-white eggs, which are sprinkled loosely with violet and red-brown dots. The young are grey above, and much sprinkled beneath the margins of the pinion feathers with a broad rusty yellow enclosure. They are not so capable as the Blackbird, but learn, besides their natural song, some solitary notes which they may continually hear. They are reared upon roll steeped in milk. They become so tame, that they will even sing sitting upon the hand.

MALADIES.—The most usual are a stoppage of the feather glands, constipation, and atrophy.

* Occasionally snails may be given them with the shells on, which they will break if supplied with a flat stone placed in the cage.

CAPTURE.—In winter or autumn, if nooses, springes, or the fowling-floor, be baited with service berries, in spots where they frequent, they may be caught in great numbers. From December to February they may be decoyed by runners beneath trees on which the misletoe grows. After sunset, they may be caught in the water traps. Those which are yellowest beneath the body, being males, are selected for the chamber. When first caught they are very wild, and are induced with difficulty to eat, but afterwards they become tame. Many, however, die of hunger.

COMMENDATORY QUALITIES.—As early as February, it will sit perched upon the summit of a tree in a wood, and sing both evening and morning; its loud melancholy song consisting generally of five or six broken strains. In the house this song becomes so shrill, that it can scarcely be endured in the sitting-room. A bird of this description is therefore, during singing time, placed in some bye-room, or hung in a large cage in a hall, or at the window.

97.—THE SONG THRUSH.

Turdus Musicus. Linn.—*Le Grive.* Buff.—*Die Singdrossel.* Beck.

DESCRIPTION.—It might be called the lesser Missel Thrush, so much does it resemble that bird in figure, colour, habits, song, and mode of life. It is eight inches and a half long, of which the tail occupies three inches and a half; the beak is nine lines long, horny brown beneath, from the middle to the base yellow; the irides nut brown; the feet pale lead colour, one inch high; the whole of the upper part of the body olive brown; the throat whitish yellow, with a black stripe extending down its sides; the sides of the neck

and breast pale reddish yellow, with numerous dark brown heart-shaped spots; the abdomen white, with oval dark



brown spots; the inside coverts bright orange yellow; the pinion feathers grey brown; the tail feathers the same.

In the female the two black lines of the throat consist of small stripes, and the breast is pale yellowish white.

HABITAT.—It is known throughout Europe, and selects large woods, especially those in mountainous districts, as its place of resort, generally in the vicinity of large meadows and brooks. In September they collect in large flocks, and migrate to warmer parts. In the middle of March, and indeed later, the Song Thrush returns to its former place of resort, and every adult male perches again upon the very tree from which the preceding year he sung his vernal song. In confinement it must be treated similarly to the Missel Thrush, but this bird merits a large cage more than the other, for its song is more melodious.

FOOD.—Its food is the same as that of the Missel Thrush. Barley meal steeped in milk forms an excellent article of diet; but it should be frequently supplied with fresh water for bathing and drinking.

BREEDING.—The Song Thrush is the earliest breeder of

all British birds, which accounts for its commencing to warble so soon in the year, the song of all birds in a state of nature being called forth by the impulses of courtship, and it is of course neither more nor less than the outpourings of love. The Thrush pairs in February and March, and young birds have been seen in a Thrush's nest before the latter of these two months had expired. Thrushes have two, and sometimes three, broods in the year—usually in March and May, and if a third, then towards the end of June. The place selected for building is a thick evergreen bush in a sheltered situation, the under boughs of fir trees, and especially an old ivied wall in a shrubbery little frequented. The nest is always lined with either clay or cow-dung, and contains five or six pale greenish-blue eggs, spotted with black. The young fly at a month's end from the period of hatching, and the female Thrush, who is a good though timid sitter, often begins to lay a second time before the first brood are sufficiently fledged to leave the nest.

CAPTURE and MALADIES are the same as in the preceding and three following species. This of all the noose birds is the most desired and the most easily captured. In September and October they are frequently caught at the watering-places, before sunrise and after sunset, and often so late that they cannot be seen, and are only heard. They have a very peculiar call-note for bathing; the first which finds the water (or if it already knows it, and purposes flying thither), pipes exceedingly loud *sik, sik, sik, sik, siki, tsak, tsak!* and immediately all in the neighbourhood reply, and come on. They are, however, very cautious, and rarely go into the water until they have observed that a Redbreast, &c., can bathe without danger. When one ventures, all the rest follow, if there be room, otherwise there is a contest. It is well to let a Chaffinch run near the water:

COMMENDATORY QUALITIES.—It is one of the few birds whose clear and beautiful song animates the woods, and makes them pleasing. From the summits of the highest trees it announces, by its varying song, resembling that of the Nightingale, the approach of spring, and sings throughout the whole summer, especially in the morning dawn and evening twilight. For the sake of this song it is kept by fanciers in a cage, whence evening and morning, even as early as February, it will delight a whole street by its loud and pleasing song, when hung outside of the window, or inside, so that the window be a little open. In Thuringia it is reputed to articulate words. Its strophe was heard formerly more frequently than it is now. Only old and excellent birds still sing it. This Thrush will live from six to eight years if its food be varied.



Thrushes, like many other song-pets, enjoy a fair share of patronage and attention not only in the country, but in large towns and cities, where their loud and gushing notes are welcomed. Wordsworth, in alluding to poor "Country-fied Susan," residing in the city of London, says concerningly and a Thrush—

"At the corner of Wood Street, when daylight appears,
Hangs a Thrush that sings loud, it has sung for three years,
Poor Susan has passed by the spot, and has heard
In the silence of morning the song of the bird.
'Tis a note of enchantment, what ails her? She sees
A mountain ascending, a vision of trees,
Bright volume of vapour through Lothbury glide,
And a river flows on through the vale of Cheapside."

Yarrell, in speaking of the Thrush's long continuance of song, and its power, quality of tone, and variety, adds, "In

addition to this great recommendation to favour, the bird is inoffensive in habit, elegant in shape, sprightly in action, and engaging by its confidence."

98.—THE FIELDFARE.

TURDUS PILARIS. Linn.—LITORNE OU TOURDELLE. Buff.—DIE WACHHOLDER DROSSEL. Bech.

DESCRIPTION.—In size this bird is intermediate between the Missel Thrush and Song Thrush. It is ten inches long,



of which the tail comprises four inches; the beak is one inch long, yellow blackish at the tip, rather prominent above; the throat and the tongue yellow; the irides dark brown; the feet dark brown, and one inch and a quarter high. The upper part of the head, upper part of the neck, lower part of the back and rump are ashy grey, sprinkled on the vertex with some black spots; a white stripe extends over the eyes; the cheeks are ashy grey; the back rusty brown; the throat, and half-way down the breast, rusty yellow, with heart-shaped black spots, and towards the

vent with longish blackish spots; the coverts of the wings rusty brown, the largest tinged with ashy grey; the tail feathers blackish.

In the female the upper mandible is more of a grey brown than yellow; the head and rump more fallow grey the throat whitish; the back dirty rust colour.

HABITAT.—This bird is found throughout Europe, and also in Siberia. Its summer residence is in the northern latitudes, building its nest upon the summit of the tallest pines. In the middle of November it visits Germany in flocks, and winters where there is abundance of service berries and juniper berries. In March or April, according as the weather



becomes mild, it seeks its northern home. In confinement it must be kept like the Missel Thrush. There are but few fanciers who would keep it for any other purpose than as a decoy bird for the fowling-floor. It must not be kept in a warm room, for being a northern bird it cannot endure heat.

FOOD.—In summer they feed in their native home upon worms and insects; and in autumn and winter with us upon all kinds of berries, especially service berries and juniper berries. It may be fed like the preceding species, but it is best to give it barley meal, roll, and grated turnip.

MALADIES and CAPTURE as in the two preceding species.

COMMENDATORY QUALITIES.—Its song, if song it can be called, is merely a hoarse and disagreeable twittering. On this account it has no place accorded to it as a chamber bird, but from its call-note it is esteemed by bird-catchers, being used by them as a decoy bird in winter.

99.—THE REDWING THRUSH.

Turdus illaous. Linn.—*MAUVIS.* Buff.—*THE REDWING.* Mont.
Selb.—*DIE ROTHDROSSEL.* Bech.

DESCRIPTION.—It is smaller than the Song Thrush, and greatly resembles the Fieldfare. It is eight inches long, of which the tail occupies three and a quarter; the beak is blackish, only the base of the under mandible and its angles pale yellow; the irides nut brown; the feet one inch high, pale grey; the toes pale yellow; head and back olive brown; a whitish yellow stripe extends from the nostrils beyond the eyes; the cheeks which are grey brown, and covered with delicate yellowish stripes, are surrounded by a similar one; the throat, the neck, and the breast are yellowish white, with black brown spots; the rest of the under part of the body white, spotted at the vent with olive brown; the sides, the under wing coverts, and the pinion feathers, dark brown, edged with reddish brown; the tail grey brown.

The female is paler; the stripe over the eye is nearly white; the spots at the sides of the neck pale yellow; the ground colour of the under part of the body white, playing into a yellowish tinge.

HABITAT.—Their native home is the north of Europe. In Germany they occur only as migratory birds towards the latter end of October. At the end of March or beginning of April they return to their native haunts. They must be treated like the preceding, and they feed in every respect like the Song Thrush.

COMMENDATORY QUALITIES.—The male sings in spring and summer some soft and lisping strains, which are not at all melodious. When sometimes in March and April large

flocks of them settle in our alders, they make indeed a twittering noise, but this cannot be called a song. It is scarcely for the sake of its song that it would be kept, but in other respects they are very tame and pleasing birds, which suit themselves instantly to every circumstance, and are very graceful in all their motions.

They cannot endure much heat, and constantly require fresh water for bathing.

100.—THE BLACKBIRD.

TURDUS MERULA. *Linn.*—MERLE. *Buff.*—OUZEL. GARDEN OUZEL.
MERLE. *M'Gillivray.*—DIE SCHWARZDROSSEL. *Bech.*

DESCRIPTION.—Of all the Thrushes this is the most capable of instruction. It is about the size of the Song Thrush, nine inches and a half long, of which the tail comprises four inches. The beak is one inch long, and of a golden yellow; the irides dark brown; the feet black, and fourteen lines high. The male is entirely of a deep black; the female black brown, rusty coloured on the breast, and with an ash coloured tinge upon the abdomen; the throat spotted with light and dark brown; the beak and the feet black brown, appearing also to be rather larger and heavier, and hence it has sometimes been considered a distinct species.

HABITAT.—The Blackbird is found throughout the whole of the old world, even as high as Sweden in Europe. In Germany it is tolerably common, and the only species of Thrush which does not appear to migrate. It should be kept in a large cage, for it is not prudent to allow it to run about with other birds, as either through caprice or

covetousness it will attack the smaller birds, and even peck them to death.

FOOD.—January and February—seeds, spiders, and chrysalids; March—worms, grubs, and buds of trees; April—insects, worms, and grubs; May—the same, and cockchafers; June—the same, and fruit; July, August, September—all sorts of worms and fruits; October—grubs of butterflies and worms; November and December—seeds and chrysalids. They feed like the other species of Thrush, but in the places where they resort, when this food is not abundant, they satisfy themselves with the tip of the white thorn. At this time they often seek for insects near the vicinity of warm springs. They are satisfied with the first kind of universal food, but will also eat bread, barley meal made into a paste, meat, and all kinds of food that comes to table. More delicate than the other Thrushes, they would not be preserved long if fed upon mere bran soaked in water. They, like the allied species, are fond of frequent bathing.

BREEDING.—As Blackbirds are permanent residents, they pair very early, and young ones are therefore found as early as the end of March. The nest is built in a thick bush, or in a heap of boughs but a little distance from the ground, consists externally of twigs, next of earth and moss, and lined with fine blades of grass and hair. The female lays from four to six eggs twice, and sometimes three times a-year, of a greyish green, with light brown and liver-coloured spots and stripes. The young males are always darker than the young females, and by this bird-catchers are guided when they remove the males for the purpose of rearing. They can be reared upon roll steeped in milk, and they must be taken from the nest when the quills have but just sprung. Thus treated they accustom themselves more readily to the chamber diet, and

they may then be more readily taught the songs of other birds, or short tunes, if this is desired. They do not easily forget what they have once acquired.

MALADIES.—They are particularly subject to a stoppage of the oil gland, which may be cured in the manner described in the introduction. They will live in confinement from twelve to sixteen years, especially if their food be varied.

CAPTURE.—Being very shy birds, they visit the fowling-floor singly; they are most frequently caught in the noose and spring when these are baited in winter with service berries. At this season they will also visit the Titmouse trap, which is also baited with service berries, and may also be caught with limed sticks in spots cleared from snow. They are also fond of frequenting the watering place, and have a watercall like the Song Thrush, only rather differently modulated. They visit the water generally at night. Their call-note is *tsissirr! tack, tack!*

COMMENDATORY QUALITIES.—The song of the male is rich in melody, and contains some deep notes like the Nightingale's, varied, indeed, with some which are disagreeably harsh. At large, it sings from March to July, especially at night;

but in the cage, the whole year through, except at moulting time. A single bird will enliven a whole street, so pure, distinct, and clear is its note. Its memory



is so good that it will learn several airs and melodies without mixing them; and it is even able to imitate words. Whoever, therefore, likes a loud, clear, cheerful song, will derive more pleasure from an instructed Blackbird than from a Bullfinch, whose voice, though softer and more flute-like, is also more melancholy.

Christopher North speaks of the Blackbird thus:—Hark to the loud, clear, mellow, bold song of the Blackbird. There he flits along upon a strong wing, with his yellow bill visible in distance, and disappears in the silent wood. Not long silent. It is a spring-day in our imagination—his clay-wall nest holds his mate at the foot of the Silver-fir, and he is now perched on its pinnacle. That thrilling hymn will go vibrating down the stem till it reaches her brooding breast. The whole vernal air is filled with the murmur and glitter of insects; but the Blackbird's song is over all other symptoms of love and life, and seems to call upon the leaves to unfold into happiness. It is on that one tree-top conspicuous among many thousands on the fine breast of wood—here and there a pine mingling not unmeetly with the prevailing oak—that the forest-minstrel sits in his inspirations. The song of our Blackbird rises like “a steam of rich distilled perfumes,” and our heart comes back to him upon the pinnacle of his own home-tree. The source of song is yet in the happy creature's heart—but the song itself has subsided, like a rivulet that has been rejoicing in a sudden shower among the hills; the bird drops down among the balmy branches, and the other faint songs which that bold anthem had drowned are heard at a distance, and seem to encroach every moment on the silence.

101.—THE RING OUZEL.

TURDUS TORQUATUS. *Linn.*—MERLE à PLASTRON BLANC. *Buff.*—THE RINGED THRUSH. *M'Gillivray.*—DIE RINGDROSSEL. *Bech.*

DESCRIPTION.—It is considerably larger than the Blackbird; ten inches and a half long, of which the tail comprises four inches; the beak is almost an inch long, horny black beneath, whitish yellow at the base; the irides chestnut brown; the feet dark brown, and fourteen lines high; the upper part of the body is black; the under side also black, but the feathers on the abdomen, and the coverts of the wings, are edged with white; the pinion feathers and external tail feathers edged with light grey; across the breast, high up, there is a transverse band which is reddish white, about a finger's breadth; and from this the bird derives its name.

In the female the colour is paler or brown black; the transverse band across the breast is narrower, more indistinct, reddish ashy grey, and clouded with brown.

PECULIARITIES.—The Ring Ouzel inhabits Europe, breeding in the north, reaching Germany in the autumn, during the foggy weather at the end of October and beginning of November, when they are captured in the noose. They come only in small flocks, and resort to places among the mountains where juniper bushes abound. Their food, both at large and in confinement, is similar to that of the Blackbird; also in its comportment it greatly resembles it. Its voice is hoarse, hollow, and weak; its song is, nevertheless, rather melodious. It sings throughout the whole year, except moulting time, and will live upwards of six years.

102.—THE REED THRUSH.

TURDUS ARUNDINACEUS. *Linn.*—ROUSSEROLE. *Buff.*—DIE
ROHRDROSSEL. *Bech.*

DESCRIPTION.—This bird has so great a resemblance to the Whitethroats, that it is uncertain whether it should be associated with them, or retained among the Thrushes; yet by its beak, feet, and general bearing, we are led to place it with the Thrushes. It exceeds the Skylark in size, and is eight inches long, of which the conical and rounded tail measures four inches and a quarter; the beak is ten lines long, robust, flatly depressed at the base, horny brown at the tip, both above and beneath, yellowish at the base, and orange yellow at the ends; the irides dark chesnut brown; the robust feet are one inch high, grey brown playing into flesh colour; and the posterior toe and nail are peculiarly strong, to enable it the better to climb; in colour it so closely resembles the Nightingale that it only wants the red tail to pass for it; the upper part of the head and neck is dark grey, tinged slightly with olive; from the nostrils as far as above the middle of the eyes there is a dirty yellowish white stripe; the cheeks are grey brown; the upper part of the middle of the back and wing coverts are rusty grey, becoming paler towards the rump; the sides, thighs, and vent are white, tinged with a dark rusty colour, whence the whole of the under part of the body obtains a rusty yellowish appearance; the pinion feathers dark brown, delicately margined with rusty yellow; the tail feathers red grey, with a paler margin.

The female differs from the male only in being smaller, darker upon the back, but paler beneath the upper part of the head, with a rusty yellow tinge, and the throat white.

HABITAT.—It is found almost throughout the whole of Europe, with the exception of the higher latitudes. In those parts of Germany where there are no lakes, and the large ponds and rivers do not abound in reeds and rushes, it is rare; its principal resort being the neighbourhood of extensive marshes and morasses. It prefers keeping near the ground, and is rarely observed upon trees. It climbs up reeds like a Woodpecker. From the agreeable quality of its song it well merits a Nightingale's cage.

FOOD.—When wild it feeds upon insects, thus helping to diminish their enormous number. In confinement it requires to be fed with the food of the Nightingale, for if not thus treated it becomes subject to the malady to which many species of warblers are exposed, which is, that by degrees all its feathers fall out, without being renewed, the bird dying at the end of half a year of consumption.

BREEDING.—Its nest is fastened to the shafts of reeds, or to shrubs, by means of wool; externally it has a layer of ground moss and strong blades of grass, and is lined internally with finer blades and hair. The female lays from three to five eggs, which are greyish white, sprinkled with olive and black. The young, before the first moult, look exactly like the Pettychaps, and have a few dark spots upon the breast. When removed from the nest, it should be reared like the Nightingale, with ants' eggs; when, if they be hung near a Nightingale, they will perfectly learn its song, and become incomparable singers, as their tones are more mellow, and not so piercing as those of the Nightingale.

CAPTURE.—They are difficult to obtain, or they would become universal favourites. When their place of resort is known, loosen the earth in its vicinity, place meal-worms about, and distribute limed sticks near the spot.

COMMENDATORY QUALITIES.—The males have an exceed-

ingly loud and beautiful voice. Their call-note is high and loud. Their song is more variable, and more mellow and pleasing than that of the Song Thrush, but certainly not nearly so beautiful as that of the Nightingale, with which, indeed, it has been compared. It has many strophes of the Blackcap's song, although, as in the Thrushes, it is usually more interrupted. It becomes more pleasing when the young bird has been disciplined by the Nightingale. Particularly in the morning and evening does the Reed Thrush utter its beautiful warblings; at the same time they not only give great motion to the throat, but also to the whole body, yet not from exertion, but entirely from pleasurable emotions.

103.—THE ROCK THRUSH.

Turdus saxatilis. Linn.—MERLE DE ROCHER. Temm.—DIE
STREINDROSSEL. Beck.

DESCRIPTION.—These birds are found in central and northern Germany, but are rarely seen in the chamber. In several parts of Germany it is entirely unknown; and when the bird-catcher obtains it he usually mistakes it for a large Redstart, especially the female. It is about the size of a Redwing Thrush, and is seven inches six lines long, of which the tail measures two inches and three-quarters. In appearance and comportment it more resembles a Starling than a Thrush, especially in its grimaces and positions, which are exceedingly variable and comical, although it has all the characteristics of a Thrush. The beak is one inch long, and black, like the powerful feet, which are only yellow in the corners, and one inch and a quarter high; head and neck are greyish blue, palest in old birds; the upper part of the back black br wn, frequently paler clouded; the

middle of the back of a beautiful white; the rump dark brown with whitish margins to the feathers; breast and abdomen dark orange yellow; the vent pale red yellow; the wing coverts dark brown with whitish tips; the pinion feathers very dark brown or blackish; the hinder ones rather paler, whitish at the tips, and with a narrow white margin at the anterior side; the tail dark yellow red, the two central feathers grey brown.

The female is dark brown above, with greyish white margins to the feathers; the rump is rusty coloured with similar margins; the chin white; the throat like the upper parts, but paler; the front of the neck and all the lower parts of a dirty orange colour, with brown and white undulating lines; the tail as in the male, only paler; the feet dark brown.

HABITAT.—This bird inhabits Southern Europe and Germany, for instance, Austria, Tyrol, &c., and rarely comes higher up; but in the Alps and Pyrenees it is common. It selects rocky and stony districts, also old castles, for its abode. During their migrations they visit bare rocky mountains, and, like the Black Redtail, they seek for beetles and insects under stones. They return to their home in March, and withdraw again in September. As a rare bird it is placed in a cage, but which must be rather larger than that of the Nightingale.

FOOD.—At liberty this bird feeds upon insects, but in confinement it requires the same food as Nightingales; but with every care it does not live long.

BREEDING.—The nest is built in the fissure of a rock in some high and almost inaccessible place, and the female lays five eggs. The young are often reared, being very capable of instruction.

CAPTURE.—They are not often caught amongst us. This has been done with limed sticks, with meal-worms attached,

in places where it is most frequently seen. I am not acquainted with the manner in which it is captured in its native abode.

COMMENDATORY QUALITIES.—The male is esteemed as an exceedingly beautiful songster, which sings especially at night when the candles are lighted. They also learn to whistle songs, and to speak like the Starling. They become exceedingly tame.

104.—THE NIGHTINGALE.

MOTACILLA LUSCINIA. *Linn.*—ROSSIGNOL. *Buff.*—THE BRAKE NIGHTINGALE. *M'Gillivray.*—DIE NACHTIGALL. *Bech.*

DESCRIPTION.—Had this bird no other qualification to recommend it than its plumage, it would not take a very distinguished position as a chamber bird. It is about the size of a Sparrow, being five inches long, of which two inches and a quarter comprise the tail; but in confinement, when well fed, it becomes larger, being frequently as large as



a Lark, especially if reared from the nest. The beak, as throughout the genus *Motacilla*, is straight, cylindrical, thin pointed, and seven lines long, and has nearly equal mandibles; the upper

one being slightly emarginate, dark brown above, bright grey beneath, flesh coloured at the base, and yellow within; the irides greyish brown; the feet brown flesh coloured, nine lines high; the upper part of the body is also greyish

brown with a rusty tinge, and in very old birds it is a red ashy grey; the rump brown, inclining to red; the gullet and the abdomen white; the breast and sides white ashy grey; the knees grey; the large coverts of the wings with pale dirty white tips; pinion feathers grey brown, with a rusty yellow margin; the broad straight tail feathers dirty rusty red; and, as in all the genus *Sylvia*, from their delicacy and fragility they are easily broken.

When kept in a chamber they are occasionally either darker or lighter; those which are kept near the window in large light apartments, and where the smoke of oil never occurs, become above dark grey or light grey brown, with a margin of rusty yellow to all the feathers; the under part of the body being white, and whitish grey at the sides of the breast and of the abdomen. Those which are hung in small dark apartments, where the smoke of oil and other offensive vapours occur, become of a dirty rusty yellow above, grey white beneath, and greyish brown at the sides of the breast and of the belly.

The connoisseur alone can distinguish the female from the male by her gait and posture. She has not similar long legs, does not stand so upright, nor has she the same long pointed head—in her it is more rounded; the neck short and contracted; the eyes less bright, and smaller; and the throat not so white. But a person not familiarly acquainted with the bird would require to have both sexes before him to enable him to distinguish them.

The Nightingale greatly resembles the female Redstart, which is often sold for it; the Nightingale, in return, being frequently killed for cooking instead of that bird. To avoid error, it is therefore necessary to point out their distinguishing characteristics. The Redstart is always smaller; its colour darker; its slender feet and beak blackish; the colour of the tail brighter; and its two middle feathers

black or dark brown; it jerks incessantly its tail, which is longer and thinner, whereas the Nightingale gives it only an occasional jerk, and bears its tail always raised above the tips of the wings. The latter also has a prouder deportment, exhibits more staidness in its actions, and has a hopping gait of a very peculiar character; for having made a succession of hops, it stands still, looks around, moves its wings, raises its tail upwards with a certain degree of dignity, and slightly expanded, bowing its head several times, jerking its tail it again hops forward. Objects which attract its attention it looks at, as it were, with but one eye, holding its head on one side. It hops quickly indeed after the insects which constitute its food, yet it does not seize them with the same avidity as other birds, but stands looking at them for an instant, as if reflecting whether it be judicious to devour them. Its whole conduct is considerate and serious; occasionally, however, it is rather incautious, for it rarely avoids a noose set for it. If it has once been caught, however, it becomes more wary. The facility with which it is captured has led it to be considered as of an inquisitive disposition; but my observation has not confirmed this. It is true that if the earth be bared or dug up it will hasten to the spot; but the prompting motive seems to be that it can there find those insects which are its greatest delicacies.

HABITAT.—Nightingales are found throughout Europe, as far north as Sweden, and in the whole of Asia, as high as the temperate portions of Siberia, ranging southward to Africa, where they are found on the banks of the Nile. They select as their favourite place of resort shady places, cool, but not too cold, and where the foliage is dense, whether forests, copses, gardens, or merely the enclosure hedges of fields. They prefer deciduous wood to the fir tribes, as in the former they are better able to find their food. In woody

mountain chains they frequent only the skirts, and avoid the lofty and bleak summits. But they prefer, above all other places, copses in fields and other bushy spots, upon plains which are intermingled with meadows and arable land. They delight in gardens where there are hedges of hornbeam, which, when not too closely clipped, grow broad with foliage close to the ground. They prefer marshy and moist situations, not on account of the water, but because these places are usually overgrown with thick bushes. They also find in such spots an abundance of food when the cold has chased insects from other localities. Another reason for their preferring these haunts is, that birds endeavour to fix their permanent residence on the spot where they were bred. Thus, if hatched near the water, it would resort to that vicinity; if bred in a garden, it seeks a garden; and if its birth-place was a mountain, it would endeavour to fix its residence there; and a Nightingale having once selected a place of residence, like the Chaffinch, and indeed I might say, like every other bird, it seeks it again yearly until captured, or till the spot has lost its attractions. The latter circumstance often occurs in woods where either the underwood has been removed, or it has grown so high as to lose its dense foliage, which has a peculiar charm for this bird. It then seeks the nearest agreeable spot. It is by no means so certain, however, that the bird heard this year at a particular spot is the same which sung there last spring; for it is well authenticated that when an old Nightingale has been captured shortly after its arrival, the very next day, if the place be convenient and well selected, another occupies the spot. But if a bird be captured after the period of migration, this spot will remain untenanted at least during the summer, unless a neighbouring bird, having lost his mate, pair with the mate of a captured one, or, as the weaker bird, drive him away that he may pair with her.

He who is most familiar with the language of birds is in the best condition to decide whether such a change has taken place.

I have before remarked that not only do the young of all birds of passage return to the locality where they were bred, and always take up their own residence in the vicinity of their birth-place, but also that they follow the same identical route in their migrations, and that consequently where they have been once exterminated, the chances are that that situation will never be inhabited by Nightingales again. The permanency of a once-adopted route is rendered the more necessary to these birds from their requiring to be familiar with spots where they may find sufficient food during their slow and interrupted journeys, and this accounts in a great degree for the absence of the Nightingale in many places seemingly well suited for them.

If the latter be an authentic cause, and it is not wished to hazard the mere chance of their return, the locality may be peopled with these agreeable songsters, by rearing several nests of young birds, and then giving them their liberty in the spring, after the winter migration.

The migratory impulse, suppressed by their taming, will conduce, more than the feeling of the time having passed, to retain them in the place where they have been freed, and where they will breed; and if secure from being pursued, they and their families will again resort to the spot the ensuing year. Those birds, however, which it is intended to set at liberty, must not be kept in cages, but as soon as they can feed themselves, they must be allowed to fly freely about in a room which has bushes and dwarf fir trees planted about, so that they may not be rendered too delicate, or their wings disabled by want of exercise, otherwise during the very first days of their liberty they would inevitably be destroyed. They must also be supplied with their

natural food of insects and eggs, that they may retain the habit of seeking for them when at liberty.

Nightingales occur throughout Germany about the middle of April, rarely either earlier or later; but always about the time when the buds of the hawthorn begin to expand. As they travel from spot to spot, and not in one continued flight, they belong to that class of birds of passage which do not suffer from the vicissitudes of temperature. In the middle of August they again retire in families, going very quietly from bush to bush. They can then be caught in nooses, baited with currants or elder berries. At the very latest they are still to be found in central Germany about the middle of September; but they then migrate singly, almost imperceptibly; and it is scarcely possible to say how long the migration lasts. Other birds which travel in large flocks, like the Swallows, do not so easily escape the eyes of the observant naturalist. There is no doubt that sometimes sickness, late breeding, the mistake of a young bird, or the intervention of other circumstances, may be the cause of our occasionally finding a Nightingale late in September, or even in October, but this is certainly an exception to the rule.

Nightingales may also be allowed, like other birds, to run or fly freely about a room, a practice I have sometimes adopted; but they sing neither so well nor so frequently as when placed in a cage, where they are exposed to fewer interruptions, and have nothing but their song to study.

It is therefore best to place them in a cage, especially as they must be better fed than other birds, which run freely about, if it be wished to keep them long. This cage may be constructed in a variety of ways, but it must always be a foot or eighteen inches long, from six to twelve inches broad, and twelve inches high; it must also have a soft covering or roof, that the bird in fluttering and springing,

especially when recently caught, may not hurt its head. I think I possess the kind of cage best suited to this bird,



and which I will briefly describe. It is exactly eighteen inches long, eight inches broad, thirteen inches high at the sides, and fifteen in the middle, where the roof is vaulted, the sides enclosed with wooden bars, which are about three lines thick, as is also the floor; above the latter there is a sliding tray, which I line with blotting paper, that it may be occasionally thoroughly cleansed, which is done by merely insert-

ing a clean sheet of paper. On one side a deep food vessel is inserted with a bar across its orifice, so that the bird may not scatter its food too much. In the centre of the front a singing house is inserted, which reaches from top to bottom, and in this is hung a large drinking vessel. Beneath are placed two perches, and another in the middle opposite the singing house, which has a semi-cylindrical form, and is enclosed with wooden bars; the last perch must terminate in a half rounded form, that the singing house may completely revolve. I cover the perches with green cloth firmly sewed on, that the birds may have a soft perch, and not so soon injure their feet, which is very common in birds that are confined. The arched roof is covered with green cloth, and the cage is painted green throughout. But it is requisite that the paint should be thoroughly dry, and the smell completely evaporated, before

the bird is placed in it, or it will become sickly, and possibly die.

This kind of cage I prefer for the following reasons:— 1st, it takes up less room, as it is narrow; 2nd, because it is darker, the wooden bars occupying more space, and therefore admitting less light; and, 3rdly, because the birds can bathe without wetting or soiling the cage or perches, and their feet are thus kept clean and sound.

These birds should be hung in spots which are the most agreeable to them. Some do not like the window, but prefer an obscure situation; others prefer the sunlight. This is to be discovered only by experimenting upon the birds. If it be wished that they should sing wherever they may be hung, it is necessary to accustom them to a change of place before they commence their song; consequently, immediately after moulting, the position of the cage must be constantly changed. Some prefer singing alone, and others delight most in interchanging their song with a neighbour; but three or more together in a chamber will never all sing equally loud and well. The reason of this appears to be a certain passion for pre-eminence, which calls forth the energies of the more vigorous bird, who asserts and retains the superiority; and the others then either sing but rarely, and very softly when that one is silent, or are so annoyed that they will not sing at all. I have known instances of Nightingales having been silent for years, but on being placed alone in a room, have commenced singing with the greatest energy.

Food.— February—grubs, and worms; March—the same, and chrysalids and beetles; April—flies, meal-worms, beetles, and red worms; May—butterflies, cockchafers, weevils, and grubs; June—spiders, wood-boring beetles, and worms; July—worms, grubs, eggs of locusts, grasshoppers, moths, and flies; August—locusts, glow-worms,

weevils, and grubs; September—locusts, beetles, worms, and dragon flies; October—grubs, worms, and beetles; November—flies and worms. During their autumnal journey they feed also upon currants and red and black elder berries.

When the newly-caught bird is first introduced to the chamber, it must be fed for several days upon fresh ants' eggs and meal-worms; but if fresh ants' eggs are not to be procured, dry ones at least must be at hand. Some persons, however, make a composition of hard boiled eggs, bullock's heart, and roll, and cram them with it if they will not feed freely, placing meal-worms upon this food that they may learn to eat it with them; but this diet is of so artificial a nature, that the majority either die or suffer severely from an eruption on the beak. Whoever, therefore, cannot obtain ants' eggs should not keep Nightingales, as many die before they become accustomed to artificial food. The best summer diet is merely fresh ants' eggs, and daily from two to three meal-worms.* The ants themselves may also be used, being first killed with hot water, but by this means the ant-hills are destroyed. When fresh ants' eggs are no longer to be obtained, dry, or which is better, boiled bullock's heart is given to them, together with Swedish turnips, both being grated together and mixed up with dried ants' eggs. The yellow turnips, which

* In order to have a constant supply of fresh meal-worms, some pots are filled with wheat bran, barley, or oat meal, and sugar paper, and old bits of leather mixed with it. Each of these pots should contain a gallon; and a pint of meal-worms is thrown into it, and are left there undisturbed for a quarter of a year, and only occasionally a woollen wrapper steeped in beer is drawn over it, when many of them undergo their usual metamorphosis, thus becoming beetles, which again lay eggs; and a constant supply of meal-worms is always at hand. They propagate very rapidly.

may be preserved fresh in sand in the cellar, keep the stomach and intestines in order. Sometimes, indeed, they may have lean beef and mutton, chopped fine, given to them. With this, after experimenting upon various kinds of food, I feed my Nightingales, and they thrive very well upon it. The cheapest food, however, is very ripe elder berries, dried like fruit, and mixed with ants' eggs, just as it is customary to mix Swedish turnips and roll together.

Others persons make for winter use a baked cake of pea meal mixed with eggs, and when it is used they grate it, moisten it with water, and mix it with dried ants' eggs. Others, again, who wish to feed their Nightingales as cheaply as possible, take poppy seed, and bruise it in a mortar to free it from the oil, and mix it up with some roll crumbs. They will freely eat this mixture when they have been gradually accustomed to it; but it eventually generates consumption. This has been recently adopted in Thuringia as the ordinary food of Nightingales, but I know from experience that it is prejudicial to those birds which have not a stomach adapted for the digestion of seeds; and I caution the reader against it.

There are other artificial kinds of food used, but which I shall pass over, as the majority of them are injurious. Whoever adopts the plan above recommended for feeding his birds, will find that they continue not only healthy, but from their cheerfulness they will delight him with the frequency and animation of their song.

When kept at large in a room, I have fed them upon the ordinary universal food, but this is too coarse to suit them; for in the course of six months they begin to suffer from atrophy, and die unless the ordinary Nightingale food be resumed.

They require fresh water daily, not only for drink, but also to bathe in.

BREEDING.—Every Nightingale maintains its *locale*, and if at pairing time there are several together, the males engage in the most furious contests, in which the weaker must always give way. These conflicts arise usually between the parent bird and the young, for the latter, being bred in the district, likewise wish to take up their abode there. But their relationship is then forgotten, and they no longer recognise each other; they also forget the paternal and fraternal ties which previously so closely linked them. They build their nests in woods or gardens, in a pile of faggots, in a thorn bush, or upon a low stem thickly enveloped with foliage, or even upon the earth, if the place be surrounded with high grass or thick bushes. It is constructed without much art, consisting externally of dry leaves, and internally of the fibres of roots and blades of grass: it is sometimes still further lined with the hair of animals. The female lays from four to six eggs, with a greenish brown tinge, and hatches them in a fortnight. The young are fed upon small caterpillars and moths, and before they can even fly they hop out of the nest, which, from its low position, exposes them to the pursuit of beasts of prey. With the exception of the red tail, they do not resemble their parents in the least until after the first moult: they are rusty grey above; spotted on the head and coverts of the wings with yellowish white, beneath rusty yellow, sprinkled on the breast with dark brown. After moulting they can scarcely be distinguished from their parents. Therefore if a bird be caught about the autumn, and you wish to ascertain if it is a young or an old bird, it must be carefully examined behind the head, around the eyes, beneath the beak, and about the neck; if but one yellow feather or spot be found, it is assuredly a young bird. There is no other characteristic to distinguish it, and if this be not found, it will be requisite to wait some days, when the young bird will com-

mence warbling. But even this distinctive mark will sometimes fail, for young females also sing, even far into April, but their song is partly softer, and partly more interrupted; and besides, they do not so strongly inflate the throat, a characteristic whereby they are speedily distinguished by the fanciers.

The following observations will not be useless to those who wish to rear young Nightingales. If a Nightingale's nest be known, the brightest or lightest are taken out, as these are the males; the white throat must be carefully examined. The females are always darker, or, more properly, redder or browner. They must be fed upon ants' eggs mixed with crumbled and moistened roll. The males begin to sing even before the tail is thoroughly fledged. If the old ones are caught upon the nest, they will rear the young in the cage.

When you wish to breed Nightingales in confinement, an entire room must be appropriated to a healthy pair, and planted with green dwarf firs, and they should be supplied with good food.

MALADIES.—At moulting time Nightingales are usually sickly; they require then not only good food, but also occasionally a spider, as a purgative. When suffering from a disordered stomach, they puff up their feathers to their eyes, and for hours keep their head under their wings. They are cured by giving them some ants' eggs, or spiders, and by putting a little saffron in their water, sufficient to tinge it with a yellowish red colour.

The maladies which they have in common with other birds, may be cured in the manner stated in the introduction. It is especially necessary to attend to removing, with great care, the large scales from the toes; this requires to be done at least every three months. In confinement they often attain the age of fifteen years, but at large they are

not usually observed to frequent the same spot so long. This, however, is not conclusive that they do not attain a greater age, so many being captured by birds of prey and by bird-catchers. I know an instance, indeed, of a Nightingale being kept in a room for five-and-twenty years. Until the sixth year they sing perfectly well, but they then become enfeebled, and do not sing so frequently, so pleasingly, or so powerfully. It is then best to set them at liberty in May. Cases are known where, with renewed liberty, birds have become so invigorated, that their song has regained all its former strength and beauty.

CAPTURE.—During the early months of spring, and especially at pairing time, it is very easy to capture the Nightingale. If a little trench be dug in a dark soil, and baited with some meal-worms and ants' eggs, they will immediately fly to fetch these delicacies away. If limed twigs be placed over this spot, or a clap-net be planted with a wood spring, they are easily caught. It is sufficient merely to place a bit of wood over such a trench, supported by a little splinter, which falls as soon as they hop upon it. If they do not settle upon the spot where the trap is planted, they may be easily driven to it by using a little precaution. Thus a skilful bird-catcher will, in the course of a few hours, succeed in taking the whole of the birds in an entire district. In many parts of Germany, the capture of Nightingales is prohibited under a heavy penalty; or where this is not the case, the gamekeeper alone has the privilege to capture them under certain restrictions, like other kinds of wild birds, and to sell them to amateurs.

In spring they may be caught in nooses, before which live meal-worms are hung instead of berries. But this mode of capture is not to be recommended; for though the noose be ever so lightly hung, they very easily injure their feet.

COMMENDATORY QUALITIES.—Its fine voice is undoubtedly

the quality by which it surpasses every other bird. It indicates its emotions by the variety and peculiarity of its tones. The most insignificant note appears to be the piping note, *witt*, which he utters when alone. But if the harsh syllable *krr* be added, it forms the call of the male to the female. To express anger or fear the note *witt* is repeated, with great loudness and rapidity, before the termination *krr* is added. When happy and contented, after the enjoyment of a good meal, or in the confiding tenderness of their mate, they utter a deep *tack*.

When roused by anger, or jealousy, or alarm, they utter an unpleasant shrieking tone, which resembles the cry of the Jay or cat. In pairing time, when they sport and chase each other, which they frequently do from the top of a tree to its base, they utter a very soft chirping sound.

These are the notes with which nature has endowed both sexes. But the male is particularly distinguished by the power and brilliancy of his song, and may, therefore, very justly claim the title of King of Songsters. The power of his vocal organ is indeed striking; it has been found that the muscles of his throat are more robust than those of any other singing bird. But it is not merely the strength of voice but the various and agreeable transitions, and the beautiful harmony of its song, which renders the Nightingale so estimable and so much prized. For a moment he warbles a succession of low melancholy notes, commencing softly, but gradually increasing in strength, and at last dying away upon the ear. Then follows a variety of sharp notes, or he gives a variety of hurried and sharp notes intermingled with some detached ascending notes, with which he generally closes his strain. There are at least four-and-twenty different strains in the song of a fine Nightingale, without reference to slighter variations.

These strains, no doubt, express the varying emotions of

this most agreeable of songsters. Nightingales, indeed, sing in similar style throughout the world; but still a difference may be observed in the perfection of their voice and song. But in this, as in other things, where the senses are judges, there will always be a difference of opinion. One warbles its notes slowly and agreeably, another has usually some peculiarity which entirely alters the character of the song, and perhaps a third surpasses all by the silvery sound of its voice. Each sings admirably in its peculiar style, each finds its admirers, and it is difficult to decide which is the best. Indeed there are some birds which seem to monopolize all the perfections of melody and voice. These are generally from the first brood, and, with their natural qualification of voice and memory, happen to be bred in a district where there are many Nightingales, and from these they acquire or borrow their best notes, and thus obtain that perfection of song which we so much admire.* When the males return from their migration, which always happens six or eight days before the arrival of the females, they are heard to sing before and after midnight, that they may, on clear nights, attract their companions. When this is accomplished, they are no longer heard during night, but greet only the approaching morning with their songs. But there are also Nightingales which always sing before and after midnight throughout the year.

It is to be regretted that the singing time of this admirable songster is so short, not continuing more than three months; nor is it continued throughout this short period with the same zeal. When it first arrives, and till the young have appeared, it is both impassioned and beautiful.

* Pliny, in speaking of the Nightingale, aptly remarks—"Is it not remarkable that so loud and clear a voice should come from so little a body!"

The greater part of its time is now occupied in the nurture of its progeny ; and it is therefore more rarely heard. If it subsequently elevates its voice, it wants the energy which animated its song upon its arrival. About Midsummer-day it certainly ceases entirely, and nothing is heard but the warbling of the young, which now commence learning and imitating their father's song.

In confinement they sing longer, sometimes beginning about November and ceasing after Easter. This is the case with those which are captured adult; but those which are reared from the nest sing for seven entire months; they must be kept by themselves, otherwise they are apt to intermix with their song the notes of other birds.

When caught in spring, to induce them to sing they must not only be well fed, but they must be hung in a quiet solitary place ; and as long as their singing time lasts the cage must be covered with a thin green cloth.

It has been said that the female Redbreast will pair with the male Nightingale in a room where they fly at liberty, but this I have never witnessed.

The following passages, from the original and graphic pen of the celebrated Audubon, will no doubt be interesting to the reader :—

“ When I was quite a lad, my father spoke to me of the songs of birds, both of Europe and of other countries, and frequently would endeavour to give me some idea of the affinities of different species. ‘ The Skylark, if not so abundant,’ he said, ‘ would be thought a most charming songster ; the Goldfinch, the Linnet, the Blackbird, the Song Thrush, and many others, are all pleasantly musical ; but the Nightingale is amongst our birds as much superior as the Mocking Bird of your country is to every other songster there ; and although I am fully aware that America possesses many

song birds of considerable powers, nay, perhaps, on the whole, more so than Europe, I have never been able to convince either my countrymen or Englishmen of this truth. Of all this, however, you must judge for yourself. Go early and late to the woods, listen with attention to the songs of the birds; and be assured that while you will find them daily becoming more and more pleasing, you will be enabled to establish the truth of these matters, to which, I am sorry to say, few persons pay much attention.'

"Such lessons, Reader, have never been forgotten by me. With all the anxious enthusiasm of youth I resolved to judge for myself of the powers of song in birds, and to begin by first studying those of the Nightingale, the very bird which had attracted my regard in its plain brown garb, and most modest mien. The part of France in which I then was, proved, as I thought, remarkably well adapted for this purpose. Rambling occasionally between Rheims and the capital, during the genial season at which this distinguished songster appears there in considerable numbers, and, keeping away from the main roads, I would seek all such bye-ways as were deeply cut beneath the surface of the country around, and especially such as were well supplied with tall and well-set hedge-rows, in the neighbourhood of orchards, and almost close to the cottages of the humble tillers of the soil. In solitudes like these I was sure to meet with Philomel. Now perched scarcely ten or fifteen feet from the ground, on some branch of a thicket, I have watched it on its first appearance, in the beginning of April, as for several days the males which I observed exhibited an appearance of lassitude and melancholy almost painful to me. Silent, still, and in a position almost erect, the Nightingale would stand, as if in a state of stupefaction, for more than an hour at a time, or until, pricked by hunger, it would fly to the ground, hop over it in a direct line, and meeting with an

insect, would seize it precisely in the manner of a Thrush. By this, Reader, I would have you understand, that after having spied its prey, the bird stopped for an instant, quickly bent its legs, lowered its head, without changing as it were the general position of its body, then took up the insect, and swallowed it at once, looked around, and flew to the very twig which it had a few moments previously left. On all such occasions, during those few days of lassitude, and indeed at almost all other periods of the stay of this species in France, the least attentive observer will see that on its alighting on a branch to rest, a certain tremulous action of the wings takes place, whether those members droop or are in their ordinary position."

Nightingales favour the south-east and south-west portions of England, although instances are recorded of them having been heard north of the Trent. Occasionally they visit Derbyshire. Yarrell asserts upon authority that the Nightingale has been heard five miles north of the city of York, and on the north-west side of England, Carlisle. It has even been stated that in the early part of the summer of 1826—a remarkably warm season—"that the Nightingales had arrived in Calder Wood, Mid Lothian." A friend of mine, a lover of the Nightingale and Woodlark, and Kingfisher also, has kept many of the two former (one letter to me stating he had then nine Nightingales), caught in Worcestershire, after being reared by the old ones, and they have generally proved sufficiently learned in their song without being tutored further. I would not advise the rearing in the nest young Nightingales. They require much more attention than other birds. Many writers state they require such and such food, very difficult to procure. Nightingales have been well kept on scraped beef mixed with the yolk of egg hard boiled, with a very little water to it. This food is soon prepared, but it must be made fresh

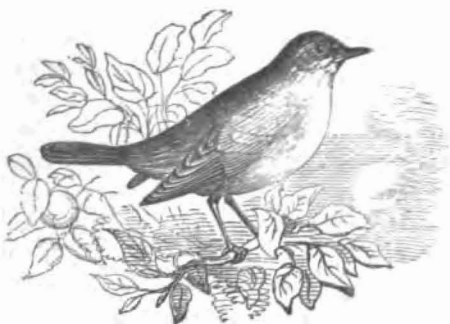
every morning, or it will soon sour. Be very particular also that the pot (earthen the best) in which the food is placed be clean; it should be washed out every day. There are other kinds of food which may be given to Nightingales, if conveniently obtained, viz., ants' eggs, meal-worms, bullocks' liver or heart. I have known them do well on German paste, mixed with hard boiled egg and a little scraped beef now and then. Wasp grubs may also be given. When a cake has been secured, before the grubs are too far changed, kill them in an oven by slightly baking them head downwards; then keep the cake of grubs on a sieve in an airy situation, to prevent them sweating, or they will be useless for the Nightingale's appetite. I would advise keeping the birds from live food as much as possible, for this reason—that it might not be convenient to have a supply of it; and however natural it may be, still it has the effect of drawing them off the prepared food, of which they will sometimes starve rather than partake.—*G. J. Barnesby, Derby.*

A Yellowhammer and a Nightingale were suspended in their cages at the outside of a window. The Nightingale began to warble, and a child was smitten with admiration of his melody. "Which of the birds," says he, "sings so sweetly?" "I will show you them," answered the father, "and you may guess." The boy fixed his eye on the Yellowhammer: "This must be the one; how beautifully painted are his feathers! The other, you may see, is good for nothing." "The vulgar," said the father, "judge precisely after the same manner; they form their opinion of men by the outside, and are generally wrong, as you are now."

105.—THE GREATER NIGHTINGALE.

MOTACILLA LUSCINIA MAJOR. *Linn.*—LE GRAND ROSSIGNOL. *Buff.*—
DER SPROSSER. *Bech.*

DESCRIPTION.—Although this bird is but a variety of the common Nightingale, it has so many striking differences



that it may very justly be considered a distinct species. From the size of its body, which is six inches and a half long, it is commonly called the Large Nightingale. Not only is its body more robust, but its head and beak are thicker, and, moreover, its plumage and song are strikingly different. It is, indeed, true, that it possesses many characteristics in common—namely, its gait, vivacity, &c.; but these we also find in other birds: for instance, in the Black Cap and Pettychap, but which have never been considered varieties.

The upper part of the body is of a dirty greyish brown; the throat white, bordered with black grey; the breast light grey, sprinkled with dark grey; the belly a dull white; the wings dark brown; the pinion feathers margined with

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rusty brown; the tail and rump feathers broad, and of a dirty red brown, darker than in the preceding bird.

PECULIARITIES.—Its most striking peculiarity is its song. Its voice is much stronger, more thrilling, and hollow. It sings in a much slower and more abrupt manner. It has not the variety of modulations of the common Nightingale. It mutilates and divides all its notes; and from this it has been compared with the Missel Thrush; but it is certainly superior in point of softness and purity. Therefore, with respect to delicacy and change, it must leave the precedence to the Nightingale; but in compensation it sings more loudly, and almost the whole of these birds sing at night, whereas, amongst the common Nightingales, the true night bird is a rarity. From the surprising power of its voice, it is scarcely possible to keep it in a room. It is, therefore, hung either at a window, or a passage is made through the window for the cage, so that the cage has externally a small-covered anti-chamber. I have often compared its song with that of the common Nightingale, and the great difference that exists has confirmed me in the belief that it is a distinct species.

It does not occur in Thuringia; but is found solitary in Silesia, Bohemia, Pomerania, near Wittenberg. In Austria, Poland, and Hungary, it is more common, in many districts, than the common Nightingale.

Its place of resort is usually scrubby woods, on hills, plains, and especially near rivers. In cages it is fed upon the food of the common Nightingale, and thrives well upon it. It has more power of endurance, and is, indeed, stronger than that bird, and lives much longer.

The majority are brought to us, and especially to Leipzig, from Vienna; and they have been, therefore, called Vienna Nightingales. Those from Hungary are considered better than the Polish ones.



SECT. VII.—WARBLERS, TITS, AND WAGTAILS.

106.—THE BLACK CAP.

MOTACILLA ATRICAPILLA. Linn.—FAUVETTE À TÊTE NOIR. Buff.—
DER MONCH ODER DIE SCHWARZ KOPFIGE GRASMUCKE. Bech.

DESCRIPTION.—This bird, which is one of our best songsters, has a hood or cap, black in the male, and brown in the female, which covers the top of the head. Many writers, and also bird-catchers, have considered them as two distinct species; but that this opinion is erroneous the observations I have been enabled to make for many years upon this bird, both wild and in confinement, enable me to assert incontestibly that they are but the different sexes of the same species. Its length is five inches ten lines long, of which the tail comprises two and a half inches. The beak is five lines long, and shaped like that

of the Nightingale, of a brownish blue colour; the margin and base of the under mandible, and within the gullet, yellowish white; the irides chesnut brown; the feet dark ashy grey, and ten lines high; the vertex is black; cheeks and neck bright ashy grey; the upper part of the body, and the coverts of the wings, ashy grey, strongly tinged with olive green; the under part of the body light ashy grey, merging into white towards the throat and the abdomen; the sides and thighs like the back; the vent and the under side of the wings spotted with white and grey; the pinion and tail feathers dark brown, margined with the colouring of the back.

The female is rather larger. Her cap is rusty brown; the upper part of the body reddish grey, with an olive green tinge; cheeks and throat bright ashy grey; breast, sides, and thighs pale grey, with an olive green reflection; the abdomen reddish white; the pinion and tail feathers dark brown, margined with the colouring of the back.

The plumage of this bird is so very delicate, that it is rare to find it, in confinement, whether caged or hopping about, in a perfect condition.

HABITAT.—This bird is found throughout the whole of Europe, inhabiting groves in mountainous districts, and in the plains. Like the Nightingale, a favourite place of resort is the copses in fields covered with bushy underwood. It commences its migration about the end of September, returning towards the middle of April, a few days before the Nightingale, to animate our groves with its delightful song.

If allowed to range about the room, it should be provided with a branch to roost upon, and a cage with a number of perches, as it walks with difficulty. It certainly is happier in a cage, which may be of the same form as the Nightingale's. About the migratory season it becomes very much agitated, and in some the desire is so strong that they die.

FOOD.—It seeks small caterpillars, flies, gnats, moths,

and other insects; and it will also eat cherries, elder berries, and currants.

It can be kept upon the ordinary universal food, with some meal-worms and ants' eggs added, and thrives very well upon this diet. When allowed to fly about, it will pick up everything that comes to table—vegetables, meat, &c. It swallows all whole, and is a great eater. If fed upon the universal food of roll crumbs, intermixed occasionally with a little crushed hemp, it will thrive well, even as long as fifteen or sixteen years, especially if a few red and black elder berries are given occasionally. In winter it tends to preserve his health, if he has given to him dried elder berries, soaked in water. He is fond of bathing, and therefore requires fresh water daily. As he is usually caught in the autumn for the cage, he may be speedily accustomed to the ordinary food of the room, by putting into his crib some elder berries and meal-worms.

BREEDING.—It builds usually but once a-year, generally in hedges or bushes, seeming to prefer the hawthorn. The nest is firm, hemispherical, and well built. Externally, it consists of dry stems of grasses and stalks, intertwined with small twigs, the inside lined with delicate grasses and the hair of animals. The female lays from four to six eggs, the ground colour of which is yellowish white, and sprinkled with brown spots. The young are fed with small insects, caterpillars, and moths; and those reared by the hand succeed very well with roll and milk. When well trained, not only will the male sing his own song, but will learn to sing most admirably that of the Nightingale and of the Canary. Before the young moult, both males and females so closely resemble each other, that it requires considerable skill to distinguish the sexes. As soon, however, as they have moulted, the colour of the head of the male immediately commences getting very black, beginning directly

behind the beak, the female retaining the same colour as the head before moulting. To be quite sure, it is best to pull out a few of the brown feathers from the head of the young, when very shortly black ones will take their place.

MALADIES.—They are not only subject to the same maladies as Nightingales, but are peculiarly liable to consumption. As soon as the signs of this disorder are observed, give them frequently meal-worms and ants' eggs, and lay a rusty nail for a month in their drinking vessel. Those that are allowed to fly about the room sometimes lose their feathers. When this is noticed, let them be placed in a cage, and exposed to the warmth of the sun. The feathers then generally recommence sprouting; but if they do not reappear, they should have a lukewarm bath every day. When attacked with epilepsy or paralysis of the joints, I have generally cured them by giving them now and then a drop of olive oil.

CAPTURE.—They are caught for the room in July and August, by nooses baited with currants; but in September the bait must be elder berries. Being very suspicious, it will often sit for half an hour, looking and longing for the bait before touching it.

Their drinking places they visit with great precaution, although always eager for drink and fond of bathing. If they observe anything strange, they perch for hours looking, even though red elder berries, their favourite food, hang before them; they fly backwards and forwards a dozen times before drinking or bathing. Young birds not yet moulted, visit the drinking place with less caution, and therefore many of these are caught. In the spring they may be caught, like the Nightingale, by means of a net and lured rods, by placing meal-worms upon a spot cleared from grass.

COMMENDATORY QUALITIES.—This bird is very much esteemed in our forest villages, even before the Nightingale.

If its song has not the same force and melody, it is much purer, more flute-like, and more various. It also sings for a longer period, both when wild and in the cage. Many birds in the room will sing the whole year through, and almost the entire day. At large, we naturally hear him only during the summer. It will then sing late in the evening like the Nightingale, and resume its song again in the morning before day-break. Even the females sing a little, like the Redbreast; whence it has probably happened that the red-headed individuals have been considered as a distinct species. If it suddenly observes anything unusual, or when threatened with danger, it utters a loud and unpleasant sound, something like that uttered by a cat when hurt.

107.—THE PETTYCHAP, OR FAUVETTE.

MOTACILLA HORTENSIS. Linn.—FAUVETTE. Buff.—DIE GRAUE GRASMUCKE. Bech.

DESCRIPTION.—This bird is five inches long, of which the tail measures two inches and a half. The beak is five lines long, shaped like that of the preceding, horny brown, beneath of a bright lead colour, and whitish within; the irides grey brown; the feet lead coloured, robust, and three-quarters of an inch high. The upper part of the body is reddish grey, almost imperceptibly tinged with olive brown; the cheeks darker; the margins of the eyes whitish; the under part of the body, as far as the breast and at the sides, of a reddish bright grey; the abdomen white, with a reddish grey tinge at the rump; the knees grey; the wings and tail grey brown, edged with the colour of the back and with small whitish tips; the under coverts reddish yellow.

HABITAT.—In Germany this bird is found most com-

monly in copses and bushes that skirt the large mountain forests, as well as in gardens in their vicinity. It arrives a



few days earlier than the Nightingale, and migrates about the end of September.

In confinement it must be treated like the Black Cap, and being rather more delicate, it should be furnished with a cage.

FOOD.—It feeds upon caterpillars and other little insects which are found upon trees and shrubs. When cherries are ripe it resorts to cherry trees, where it eats the pulp from the stone, and has often his beak stained with them. It also feeds upon currants and elder berries.

It is very voracious, for ever sitting at the food trough. It readily feeds upon Nightingale food. Although more easily tamed than the Black Cap, it does not live so long, scarcely surviving more than three years. It appears fond of the first kind of universal food, but it must not be given to him often, as it causes his feathers to fall out.



BREEDING.—It builds its nest in hedges and bushes of whitethorn, about three feet from the ground. I have also found it in the thick heads of pollard lime trees. It is well constructed, consisting externally of coarse blades of grass and fibres of roots, and internally lined with delicate white blades of grass and sometimes with moss. The margin of the orifice is edged with spiders' webs. They commence, like the Swallow, several nests before they determine upon the final spot. The female lays four or five eggs, of a yellowish white, spotted with bright ashy grey and olive brown. The young are hatched in a fortnight, and hop out of the nest as soon as they are fledged, and when the nest is approached.

MALADIES.—They are subject to the same diseases as the Black Cap, but they more readily lose their feathers. They also feed so voraciously upon the first kind of universal food, that they often die from suffocation.

MODE OF CAPTURE.—They may be caught during the summer months, in nooses baited with cherries, currants, and red and black elder berries.

They freely visit the water trap, early in the morning, and in the evening just before sunset.

108.—THE WHITE THROAT.

MOTACILLA CINEREA. Linn.—LA FAUVETTE GRISE OU GRISETTE.

Buf.—DIE GEMEINE GRASMUCKE. *Bech.*

DESCRIPTION.—This bird, like the allied species, frequents the grass and low shrubs. It has a slender and handsome



form, and is five inches and a half long, of which the tail measures two inches and three-quarters; the beak five lines, blackish above, greyish beneath, with the corners and throat yellow; the irides grey brown; the feet dark flesh colour;

the shin ten lines high; the head ashy grey; the cheeks, neck, back, rump, tail coverts, and the small wing coverts, ashy grey, with a brownish tinge, deeper on the back; the throat and belly of a beautiful white; the tail dark brown.

The female is rather smaller, of a pale rusty colour upon the wings, and wants the beautiful white throat.

HABITAT.—This bird is found throughout Europe. In the middle of April it may be seen in thick thorny bushes and copses which adjoin roads and skirt the woods of large mountain forests. About the beginning of October they leave on their annual migration, creeping from bush to bush on their way.

In the house they require the same treatment as the Pettychap, but it is much more delicate. Those who take a fancy to these birds should rear them from the nest, placing them in a Nightingale cage, and treating them like that bird. In this way he may have the pleasure of preserving them for many years.

FOOD.—They feed upon all kinds of insects, continually searching the bushes for grubs and small caterpillars. When

cold weather deprives them of this food, they feed upon cherries, currants, and elder berries. As I have already said, they must be fed on Nightingale's food, occasionally varied with barley meal mixed with roll and milk. In summer they thrive best on red elder berries; and in winter occasionally black elder berries, steeped in water, may be given them.

BREEDING.—Their nest is built in thick bushes close to the ground among roots, near brooks and rivers, and even amongst high grass. It consists of blades of grass and moss lightly plaited together, and lined with horse-hair. It lays from four to six eggs, of a greenish white colour, delicately spotted and sprinkled with olive green. The young in their plumage very much resemble the full-grown birds. The margins of the wings are not so dark, and from this the female also may be known. It is, therefore, easy to detect the different sexes in the nest. I have easily reared them upon ants' eggs. They soon feed alone, and become fond of roll steeped in milk; but to preserve them several years, it is necessary to vary their diet occasionally with Nightingales' food. They are very pretty chamber birds, and when reared from the nest, become so tame that they will even perch and sing upon the hand.

Their **MALADIES** are similar to those of the Black Cap.

CAPTURE.—They are caught in those places where they congregate in the latter part of the summer and in autumn, by means of nooses, which are baited with elder berries or currants. It is true they are more easily caught near the nest by means of limed rods.

COMMENDATORY QUALITIES.—It is an extremely animated and cheerful bird, which, when at liberty, will sing until very late in the evening. Its song consists of numerous agreeable strains, given in rapid succession. It is necessary to be near the bird to hear distinctly all the beau-

ties of its song. The bird rises a little way in the air when it sings, turning round at the conclusion in a small circle, and then perches again upon the bush. If kept in a cage alone, where other birds do not sing louder, its song will be noticed as very melodious.

109.—THE BABILLARD.

MOTACILLA CURBUCA. Linn.—*LA FAUVETTE BABILLARDE.* Buff.—
DIE GESCHWATZIGE GRASMUCKE ODER DAS MULLERCHEN. Bech.

DESCRIPTION.—It resembles the preceding bird in figure and colour, but is smaller, and not so rusty coloured upon the wings. It is five inches long, of which the tail measures more than two inches; the beak is five lines long, very pointed, black, bluish beneath; the irides double ringed, externally whitish yellow, and internally of a golden glittering brown; the feet are dark blue; the legs seven lines high; the head and rump of a reddish dark ashy grey; the rest of the upper part of the body grey, with a reddish tinge; the under part of the body and the throat white; the small wing coverts pale brown; the large ones and the pinion feathers dark brown, all margined with reddish grey; the tail dark brown.

HABITAT.—It is found throughout Europe, excepting extreme northern regions, and is a common hedge bird in Germany. It arrives about the middle of April, and leaves again about the middle of September. It frequents the hedges of gardens in the vicinity of towns and villages, for the red currants, of which it is fond. It is not so commonly found in young plantations, but it may often be seen creeping through low bushes.

In confinement it must be treated in the same way as the

Pettychap, and being a very delicate bird, it is very difficult to preserve when taken adult.



FOOD.—It feeds upon insects, especially small caterpillars, and as it arrives a week earlier than the other warblers, it will also feed upon insect eggs. During cold weather, in summer and autumn, it feeds upon currants and elder berries.

To preserve them in confinement, the Nightingale's food should be mixed with ants' eggs and meal-worms.

BREEDING.—Its nest is usually found in thick gooseberry bushes, and sometimes in young firs. Externally it consists of blades of grass, and internally of the delicate fibres of roots. The hen lays from four to six white eggs, which at the upper end have a circle of ashy grey and yellowish brown spots. The **tenderness** of these birds towards their young is so great, that **when their nest is approached the female will fall almost fainting from it, uttering anxious cries, and slowly fluttering away along the ground.** Scarcely have the feathers made their appearance, when the young birds, if looked at, will shoot like an arrow **from the nest, and endeavour to conceal themselves in the bush.**

COMMENDATORY QUALITIES.—It is a pretty bird, although its plumage is not very gay. It is called the *Little Miller* in Germany, a name which it receives from its song, which has some notes that **sound like the clacking of a mill.** It is usually thought that **this constitutes its whole song, because these notes are uttered loudly, whereas its other notes consist of soft strains, although weak, yet so variable and melodious, that it surpasses all the warblers.** It is therefore a very desirable bird for the chamber.



110.—THE BLACK REDSTART.

MORACILLA TITHYS. Linn.—ROUGE QUEUE. Buff.—BLACK REDTAIL.
M^cGillivray.—DER WISTLING, ODER DAS HAUSROTHSCHWANZCHEN.
Beck.

DESCRIPTION.—It is five inches and a quarter long, of which the tail occupies two inches and a quarter; the beak is five lines long, very pointed and black, with yellow angles and gullet; the irides dark brown; the feet black; the legs ten lines high; the upper part of the body is of a deep bluish grey; the rump red; cheeks, throat, and breast, black; the belly and sides like the back, but with a whitish tinge; the vent reddish yellow; the wing coverts and pinion feathers blackish, margined with white; the tail feathers are yellowish red, the two central ones excepted, which are dark brown.

The female, on the upper part of the body, is dusky ashy grey, with a reddish tinge on the under part.

The colours of this bird vary until at least its eighth year.

Very old birds are black, excepting the wings and tail, and are generally deeper on the under part than the upper. In extreme old age, they become of a deep grey on the breast.

HABITAT.—It is found throughout Europe, and in the temperate parts of Asia. It prefers mountainous districts to wide plains, and may be seen abundantly upon naked chalk hills, and in woods on the sides of mountains. They frequent towns and villages, occupying the loftiest buildings, such as towers, churches, castles, and walls. In the spring and autumn, it seems to like the hedge-rows. As a migratory bird, it returns early, coming back about the middle of March, when it may be heard piping its song—taking its

departure about the middle of October, in small flocks. It possesses the quality, rare amongst the songsters, of singing the whole time he is with us, even during the coldest and severest weather, often perching upon the highest summit of a tower, filling the air with its song.

FOOD.—At liberty it feeds upon the flies that it finds upon houses and stones, drawn forth by the first warm days of spring. It will also feed upon the cabbage caterpillar, and other insects, and in autumn upon elder berries. To preserve them for some years, they require to be fed upon Nightingales' food, with occasionally ants' eggs and meal-worms.

They have been known to live six years in a cage.

BREEDING.—They make their nests in the fissures and crevices of rocks and walls, especially in the high part of old buildings. The nest consists of hair and blades of grass plaited together. The female lays twice a year from five to six eggs, of a pure white colour. The young are reddish grey, and must be removed from the nest as soon as the tail is half fledged. They are reared upon ants' eggs, and roll steeped in milk.

Their MALADIES are the same as those of the Pettychaps.

CAPTURE.—The place which they are observed to frequent is covered with limed twigs, to which meal-worms are attached. In autumn they may also be caught in nooses baited with elder berries.

COMMENDATORY QUALITIES.—The name of Wall Nightingale, which they have received in Germany, may have been given them from their red tail and the call-note *fitza*, both of which they have in common with that bird. Their song can by no means be the cause of its application, for, although remarkable, it has not the least similarity to the melodious and transitional strains of that of the Nightingale; one of its notes has a remarkable crashing sound, and others

consist of several high and clearly piping notes. They sing nearly from morning until night. Their motions are light and quick; when perched, they shake their tail upwards and sideways.

111.—THE REDSTART.

SYLVIA PHENICURUS. Linn.—ROSSIGNOL DE MURAILLE. Buff.—DAS GEMEINER ODER GARTEN ROTHSCHWANZCHEN. Bech.

DESCRIPTION.—Length five inches and a quarter, of which the tail occupies two inches and a quarter. The beak is five lines long, pointed and black, yellow at the corners; the irides black; the feet also black; the shin-bone ten lines high; cheeks and throat are black, the latter sprinkled with white; the upper part of the back and small wing coverts are dark ashy grey, with a reddish tinge; the rump rusty red, and clouded with white; the lower part of the belly like the back; the large wing coverts and pinion feathers are dark brown; the tail rusty red.

The female is dusty ashy grey; the throat whitish; the breast of a rusty colour, speckled with white; the rump reddish yellow.

HABITAT.—They are very common in Germany and England. During the early part of October they migrate to warmer regions, and return about the beginning of April. In autumn and spring they resort to the hedges and low bushes; in the summer they are found in gardens and in the willows skirting rivers, and even dense forests. Those which dwell in gardens also visit towns, where they perch upon roofs, and delight the inhabitants with their morning and evening song. In confinement a bell-shaped cage, with light wire work, is best, as it shows their elegant plumage. They form very agreeable chamber companions.

FOOD.—When wild they feed upon earth-worms, currants, and in autumn upon elder berries. When taken they are usually satisfied with elder berries, but rarely become accustomed to the universal paste. When meal-worms are mixed with it they may be enticed to take it. 'Ants' eggs should be added in spring. Being delicate birds they must have occasionally ants' eggs and meal-worms given them, but earth-worms rarely, for these do not agree with birds in confinement. In a cage they must be given Nightingales' food. They can rarely be preserved longer than three or four years, generally dying of consumption.

BREEDING.—They build their nest in the holes of trees or beneath the eaves of houses. It is composed of blades of grass, feathers, and hair, very loosely plaited. The hen lays twice a year from five to seven eggs, of an apple green colour. Scarcely have the tail feathers sprouted, when the young jump out of their nest, and perch upon a neighbouring branch, and are fed by the old bird till full grown. Their plumage, before they moult, is ashy grey, checkered with white. The young females in the autumn are so like the Nightingale as often to be mistaken for it. The best method of keeping these birds is to feed them upon ants' eggs, and mixed by degrees with roll steeped in milk, and by this means they get accustomed to the chamber food.

MALADIES.—Dysentery and consumption destroy great numbers of them.

CAPTURE.—In spring when they visit hedges they may be gently driven to these parts where limed twigs have been placed. Like Nightingales, they are attracted under nets and towards limed twigs by a bait of meal-worms. In autumn numbers may be caught in gardens and copses by means of a noose baited with elder berries.

COMMENDATORY QUALITIES.—Its beauty itself would commend this bird to the fancier, but this is enhanced by

its vivacity and its song. Its body is in continual motion, bowing and moving its tail from side to side. All its actions are lively and graceful. It sings some very pleasing notes, frequently embellishing its song by parts borrowed from that of other birds. This power of imitation, which it also possesses when at liberty, seems peculiar to this species. It even becomes so tame as to take meal-worms from the hand.

112.—THE HEDGE WARBLER, OR DUNNOCK.

MOTACILLA MODULARIS. Linn.—FAUVETTE D'HIVER. Buff.—HEDGE SPARROW. *M'Gillivray.*—DIE BRAUNELLE. *Bech.*

DESCRIPTION.—This bird, which in gait greatly resembles the Wren, is five inches and a quarter long, of which the tail occupies two inches and a quarter. The beak is five lines long, very pointed, black, whitish at the tip, and a rosy red gullet; the irides are purple red; the feet of a flesh coloured yellow, and ten lines high; the narrow head as well as the neck is of a dark ashy grey, with some solitary deep brown spots; the back is of a bright rust colour, with black brown spots, like the back of the cock Sparrow; the rump fallow; cheeks, throat, and breast, of a dark slate colour, or of a bluish ashy grey; the sides and thighs yellow brown; the wings dark brown edged with rusty colour, and the large coverts have small white tips; the tail dark brown, with paler edges.

The female is lighter on the breast, with more brown spots on the head.

HABITAT.—It is found throughout Europe, frequenting gardens, but preferring woods where thickets abound. With us it is a migratory bird, although some which come from higher latitudes remain with us during the winter, in the

vicinity of houses. They return about the end of March, and remain among the hedges for some time before they resort to the woods.

Being a very lively bird it is allowed to fly about the room, and a fir branch is placed to perch and roost upon, or it may have a large breeding cage with numerous perches.

Food.—The great variety of its food is the cause of its being able to remain the greater portion, or indeed the whole of the year with us. They not only feed upon all kinds of insects and worms, but also upon various kinds of small seeds. In spring they seek under hedges for flies, caterpillars, and worms; in summer they feed chiefly upon caterpillars; in autumn upon the seeds of grapes, poppy, rape seed, and elder berries; and in winter they pick up, when the ground is free from snow, the seeds of plants, and if these are not to be found, they seek for spiders and caterpillars' nests, and insects which lie concealed in cracks or fissures of walls.

They may be fed upon all that comes to table. It seems to relish poppy, hemp, and rape seed, and particularly the universal food. They will begin eating the instant they are placed in the room, and seem at once as familiar as if they had been long accustomed to confinement.

BREEDING.—They build twice a year in thick bushes, especially in young fir plantations. The nest is placed about six feet from the ground, and is composed of delicate mosses, delicate twigs, and the fibres of roots, and lined inside with deer hair, and hair fur. The eggs, five or six in number, are greenish blue. The young are speedily hatched, and differ greatly from their parents.

MALADIES.—If birds at large are never ill, as is generally believed and asserted, this bird would constitute an exception, for the young are frequently attacked with the small-pox within the nest and after they can fly.

Old ones are also frequently shot and caught with swollen and inflamed legs and eyes. During the first three months they have swollen eyes, and bald margins to the eyes; the beak then becomes scaly, thence it proceeds to the feet, and at last all over the body. Notwithstanding all this, they will sometimes survive for eight or ten years.

CAPTURE.—This bird is easily caught at its return in the spring. If it be observed in a hedge, which is very easy from its call-note, *izzri*, a spot near the bird must be sought and freed from grass and moss, so that the mould is laid bare. Plant this with limed twigs, some earth-worms, or meal-worms, as a bait, and cautiously chase the birds to the spot. As soon as they see the naked ground they fly at once to it, and blindly entangle themselves in endeavouring to get the bait.

In autumn it will visit the fowling-floor and the springe, and in winter it will creep into the Titmouse traps.

COMMENDATORY QUALITIES.—However agreeable this bird is in the chamber from its vivacity, cheerfulness, boldness, and agreeable song, yet it scarcely deserves the name of Tree Nightingale which is applied to it, its song having not the most remote resemblance to that of the Nightingale. The bird, when singing, moves continually both wings and tail, and sings throughout the whole year, moulting time excepted. When reared young it will embellish its song with that of the birds that hang around, but never learns to imitate the song of the Nightingale, as has been asserted.

When contending with other birds for a place at the food trough, it sings the whole time like the Crested Lark and White Wagtail.

113.—THE REDBREAST.

MOTACILLA RUBECULA. Linn.—ROUGE GORGE. Buff.—ROBIN RED-BREAST. *M'Gillivray.*—DAS ROTHKEHLCHEN. *Bech.*

DESCRIPTION.—This bird is well known throughout Europe. Its length is five and three-quarters, of which the tail measures two inches and a quarter; the beak is five lines long, horny brown; the base of the under mandible and the irides black brown, as also the shanks, which are eleven lines high; forehead, cheeks, under part of the body, of a deep orange red; the upper part of the wing coverts of a dirty olive green; rump, sides, and vent, paler; the sides of the neck and of the breast of a beautiful bright grey; the pinion feathers and tail feathers dark brown, margined with olive green.

The female is rather smaller; not so orange red upon the forehead; paler on the breast; the feet of a fleshy brown, and usually wanting the yellow spots upon the wing coverts; but very old females have also yellow markings there.

There are also white and variegated varieties. When in confinement, if the wing and tail feathers are successively plucked out at any other time but moulting, these feathers will be replaced by white ones. With these the birds look very pretty; but these feathers being very tender are easily broken.

HABITAT.—During their migration they are found in multitudes in every hedge and bush, but in summer chiefly in large woods. They return from their migration about the middle of March, and then wander about in the hedges for a fortnight or three weeks before they resort to the woods. In October they hunt through all the bushes, and then slowly migrate again; but some remain as late as November, and a few even throughout the winter, but their life is

usually sacrificed by these delays. They draw near barns and houses, and are soon caught either by men or cats. If at this season they are brought into a warm room, they die almost immediately; but if introduced first into a cold room, and by degrees into a warmer one, they live as well as those which were caught in the spring or autumn.

It is very contented if allowed to have the range of a room, and will live from eight to twelve years. He is a very unsociable bird, and will not permit a companion to live with him.

FOOD.—January—insects, worms, and chrysalids; February—insects, worms, and wood-lice; March—chrysalids and worms; April—moths, eggs of insects, and cockchafer; May—grubs and beetles; June, flies, moths, spiders, and worms; July—moths, butterflies, and wood-lice; August and September—the same, and worms; October—eggs of insects and aquatic insects; November—worms and chrysalids; December—chrysalids, grubs, and eggs of moths.

In confinement they feed upon all kinds of insects, earth-worms, and berries, when once familiarised, which is easily effected by an earth-worm or two, or a few meal-worms. They even become satisfied with anything that may be thrown to them, and are particularly fond of fresh cheese.

They daily require fresh water, both for drinking and bathing. In the latter operation they make themselves so wet, that not a particle of colour is to be traced upon them.

BREEDING.—They build twice a year, the nest being placed near the ground, in moss, in the fissures of rocks, under the roots of trees. The nest is badly built, consisting externally of moss, and lined within with blades of grass, the hair of animals, and birds' feathers. Its favourite place is in those spots where its nest can be covered by roots or

moss, and prefers to have its entrance in front. The female lays from four to seven eggs, the ground colour of which is yellowish white, with scattered reddish yellow spots and stripes at one end, appearing like a ring. The young are completely covered with yellowish down, like young chickens, and then change to grey, with each of the small feathers having a dirty yellow margin. It is after the first moult that they obtain the orange red. They are reared upon roll steeped with milk, and are hung close to the Nightingale, of whose song they acquire several notes, which, introduced into their own, forms a very agreeable melody.

MALADIES.—They are subject to dysentery, but a few spiders, ants' eggs, and meal-worms, will usually cure them of consumption.

CAPTURE.—In the spring, when they resort to hedges and bushes, sticks are passed transversely through the hedge, and covered with limed twigs, and then by gently beating the bushes, they are driven to the limed twigs. The Redbreast is accustomed to perch upon every low twig that sticks out of the hedge; hence they can better look around upon the earth for worms. This in Thuringia is called the Redbreast hunt, and in this way are they caught in great numbers. They can also be caught in the same way as the Hedge Warbler, by means of baring a spot of ground, planting it with limed twigs, and using baits of earth-worms and meal-worms. They may also be caught in Nightingale nets and the Titmouse trap; but they are more frequently caught by the springe in autumn, when it is baited with elder berries, their favourite food at this season.

COMMENDATORY QUALITIES.—Their pretty colours, and great tameness, recommend them as chamber birds. They become so familiar that they will perch upon the table, and eat from a plate and the hand. They are besides

exceedingly lively, in constant motion, hopping hither and thither, bowing continually. To the amateur they are rendered attractive by their peculiarly melancholy song. In the cage they sing louder and better than when freely flying about the room; but they also pipe very beautifully, even when they are not confined in a cage. In the spring their song is loudest.

If living in the country, they may be accustomed to fly in and out of the room, not only when reared young, but also when caught adult, and this more easily than any other bird.

114.—THE BLUE THROAT.

MOTACILLA SUECICA. *Linn.*—LE GORGE BLEU. *Buff.*—DAS
BLAUKEHLCHEN. *Bech.*

DESCRIPTION.—This beautiful bird partly resembles the White Wagtail, and partly the Redstart, and therefore constitutes a link between the two. Its length is five inches and a half; the tail is two inches and a quarter long; the beak pointed, blackish, yellowish at the angles; the irides brown; the feet of a fleshy brown; the toes blackish; the shin one inch two lines high; the head, back, and wing coverts ashy brown, with a darker watering; above each eye runs a reddish white line; the cheeks are dark brown, sprinkled with rusty colour; the throat, half-way down the breast, is of a beautiful dark sky blue, with a shining white round spot, about the size of a pea, at the gullet, which, particularly as the bird sings, enlarges and diminishes successively, producing the most beautiful effect; the belly is dirty white; the vent yellowish; and the thighs and sides reddish grey; the pinion feathers dark brown; and

the tail feathers rusty red at the base. Some males have two small silver white spots on the throat.

The female is readily distinguished. In young birds merely a blue tinge is seen at the sides of the throat, but in older ones it forms two long stripes at the sides of the neck; the throat blue; the yellow red band of the breast is wanting; round the gullet there is a yellowish white tinge; at the sides there is a longitudinal black stripe; and the feet are flesh coloured.

HABITAT.—In its wild state this bird exists all over Europe. It is migratory, and found at the commencement of April, when on its journey towards the north. It builds but occasionally with us. When snow and cold weather occurs, it may be found in great flocks near brooks and about the hedges surrounding moist meadows, also on dung heaps near farm-yards. In mountainous districts they search during summer for those spots where water is to be found.

They may be allowed to run freely about the chamber, and afford amusement by their curious actions. Their tameness is so great that they will approach closely and eat anything from the hand. If placed in a cage, they sing very assiduously. A Nightingale cage is the best to select for them, that they may not so easily soil or destroy their beautiful plumage. Nevertheless their delicate tail feathers are soon lost.

FOOD.—They feed chiefly upon water insects, earth-worms, and the cabbage caterpillar, &c. They also eat elder berries.

When first introduced to the room they feed upon ants' eggs and meal-worms. If allowed to run freely about, these are mixed with the general food, and they soon get accustomed to the diet. Occasionally ants' eggs and meal-worms must be given to them. In the cage they are fed upon the Nightingale food, and on that food will live six or eight

years. They are very voracious, eating daily their own weight of the first universal paste, hence they frequently void their excrement. A daily supply of fresh water for drinking and bathing must be given them. Like the Red-breast, they nearly conceal their plumage by their profuse use of water. It is singular that they always bathe in the afternoon, which I have observed in many for several successive years.

MALADIES.—They are subject to dysentery and atrophy, which are cured in the manner described in the introduction.

CAPTURE.—It is said that the Blue Throat is rare, and that in Germany they occur only every five or ten years; but this is certainly erroneous. Even in Thuringia this opinion was entertained, until I informed persons in my vicinity of the time of their return, since which numbers have been caught yearly. In those spots, near brooks and ponds, where the earth is a little loosened, a bait of earth-worms and meal-worms may be placed, and limed twigs planted around. The birds are slowly driven thither, and are easily caught. They also visit the Tit trap and the Nightingale net, when placed near a hedge or a brook where they are observed.

In the autumn, when they are seen in cabbage gardens, it is only necessary to place sticks with limed twigs upon them, with a bait of meal-worms, and they are readily caught. They will also at this period visit, although rarely, the trap at the watering-place.

COMMENDATORY QUALITIES.—Its tameness, its cheerfulness, its beauty, and its song, alike render this bird attractive to the amateur. Hence it has obtained in Thuringia a new name, and is most commonly known as the Italian or even the East Indian Nightingale. It runs very rapidly, jerking its tail upwards, and spreading it like a fan. It is to be

regretted that upon first moulting it loses the brightness of its plumage, the blue on the breast becoming lighter, and ultimately of a whitish grey.

It becomes in a few days so tame that it will eat from the hand, and it may be accustomed to come at a certain call or whistle. Its song is very fine, and sounds as if it uttered two voices at once, a harp-like trilling, as the ground tone between which it pipes its multifarious flute-like strains.

When at liberty in the room, it prefers those spots where the sun shines, and seems to rest upon its belly when it sings. Its song greatly resembles that of the White Wag-tail, but is much embellished by its harp-like tones.

115.—THE ARBOUR BIRD, OR SMALLER PETTYCHAP.

MOTACILLA HIPPOLAIS. Linn.—LE BEC-FIN À POITRINE JAUNE.
Temm.—DIE BASTARD NACHTIGALL. *Bech.*

DESCRIPTION.—This admirable singing bird is met with wherever bushes, groves, and woods abound. It is five inches and a half long, of which the tail occupies two inches and a quarter. The beak is seven lines long, straight, obtuse, broad at the base, grey, inclining to blue above, and beneath yellow, passing into flesh colour, with yellowish angles to the beak; the irides are dark brown; the feet lead coloured; the legs ten lines high; the pointed head, the back, rump, and smaller wing coverts, are olive ash grey; a bright yellow stripe runs from the nostrils to the eyes; the under part of the body is of a beautiful bright yellow; the wings are dark brown.

HABITAT.—It resides in gardens, copses, and the skirts of woods, and more especially prefers those woods which



have occasional fir trees. It arrives towards the end of April, and retires again at the end of August, before moulting time. It is kept in a Nightingale cage; but it must not be moved or disturbed, as it would not survive these changes.

FOOD.—It feeds upon all kinds of insects, smooth caterpillars, flies, gnats, spiders, and beetles, and even berries. In confinement it will scarcely eat anything but insects,

flies, and meal-worms; and affords much amusement. It is difficult to accustom it to the Nightingale food.

BREEDING.—These birds form a very artificial nest, generally built about eight feet from the ground in the fork of a tree. It is built of the white bark of the beech, dried plants, and wool, and the upper edge is formed of separate white feathers, whence, from the whiteness of the materials used, it has the appearance of being made of paper. It is lined with delicate grasses. The female lays five eggs, of a bright red, but after several days hatching they become of a dark flesh colour, sprinkled with dark red spots. These birds breed but once a year, and if they observe a person more than once in the vicinity of their nest, they will desert either eggs or young.

If a person wishes to introduce this agreeable bird into the chamber, as is often done in Hesse, it is best to rear it from the nest, and feed it upon ants' eggs and minced ox heart; but it must be kept in one spot in a warm situation. It will then be observed that this bird moults in December and January; and, therefore, migrates very far to the south in the winter.

MALADIES.—In these it resembles the Nightingale.

CAPTURE.—These birds are difficult to capture, and this is only to be attained by means of lined twigs placed near the nest. It rarely visits the water trap. They are sometimes caught in springs baited with currants, in August.

The safest way, however, is to rear them from the nest, for the taming of adults rarely succeeds.

COMMENDATORY QUALITIES.—These birds are called Bastard Nightingales, for their song is flute-like, variable, continuous, and melodious, mingled with occasional shrill and shrieking tones. While singing they greatly distend the throat. Their call-note is *dack, dack, fidhay, fidhay!*—their plumage is attractive.

116.—THE REED WREN.

MOTACILLA ARUNDINACEA. Linn.—FAUVETTE DES ROSEAUX. Buff.—
DER TEICHSANGER. Beck.

DESCRIPTION.—This bird is often mistaken for others of a similar plumage, and also confounded in description with the Reed Thrush, and, in its mode of life, with the Reed Bunting. It is five inches long, of which the tail occupies two. The beak is seven lines long, brown above, yellowish beneath; the irides chesnut brown; the feet lead coloured, and the legs eight lines high; the hinder toe and nail very stout; the upper part of the body and cheeks are olive brown; the anterior pinion feathers blackish; the posterior ones dark brown, all margined with olive brown; the coverts resemble the back; the tail feathers are like the pinion feathers, but with a broader olive brown margin; the tail is very much rounded and almost conical.



The female is not greatly different. The head is bright brown; a white line extends across the middle of the eyes; the whole of the upper part of the body is reddish grey; the throat white; breast and belly whitish grey, with a yellow tinge; the pinion feathers of a darker brown than the tail feathers, and with olive grey edges.

HABITAT.—It is found throughout Europe, in spots where reeds and rushes abound. It migrates towards the commencement of September, and returns again about the middle of April. It may be noticed actively climbing up the stems of reeds. It is a very delicate bird, and requires to be kept in a Nightingale's cage.

FOOD.—It feeds upon all kinds of water insects, and will,

in cases of necessity, eat berries. In confinement it must be fed upon the Nightingale food, and requires, in the cage, to have all kinds of insects given to it, such as flies, gnats, &c.

BREEDING.—Its nest, which is long, and built among the reeds, to the stems of which it is very artistically plaited, is generally placed near the water side; externally it consists of blades of dried grass, and internally of hair and wool. The eggs, five or six in number, are greenish white, spotted and sprinkled with olive green. The young must be reared upon ants' eggs.

CAPTURE.—They are most commonly caught by removing the turf from a spot, baiting it with meal-worms, and placing limed twigs over it.

COMMENDATORY QUALITIES.—It is rather an agreeable songster, with a melody like the Arbour Bird, but not with the same fulness. What renders it so agreeable is its habit of commencing its varied song in the evening twilight or the morning dawn.

117.—THE WILLOW WREN.

MOTACILLA ACRODULA. Linn.—*LE BEC-FIN PORILLOT.* Temm.—*DER FITIS SANGER.* Bech.

DESCRIPTION.—This bird is four inches two lines long, of which the beak occupies five lines and the tail nearly two inches; the beak is very pointed, the upper mandible brown; the under mandible and the throat yellow; the feet flesh coloured; the legs eight lines high; the upper part of the body is of a deep olive colour; above the eyes there is a whitish yellow stripe, and at the ears there is a reddish grey spot;



the cheeks are yellowish; throat and breast whitish yellow, sprinkled with a deeper yellow; the pinion and tail feathers dark brown.

PECULIARITIES.—This little bird is found where there is much underwood, especially in those parts where willows abound. It is a migratory bird, and arrives in the middle of April, and leaves us at the beginning of October. In August it is observed in multitudes among willows; at that time the whole of the under part of the body of young birds is of a pale brimstone yellow, and is therefore more beautiful than after moulting.

It feeds upon small insects and their eggs, and also eats red and black elder berries. If flies are to be procured it can be familiarised to the chamber even adult; its wings are not then clipped, and it is allowed to fly about the room. It will eat fresh and dried ants' eggs, and will not reject the universal food, or crushed hemp seed. It at once selects a place to perch in the room, either the corner of a cupboard, or a cage, or even prefers a string to which cages which are drawn upwards by means of a roller are attached. From this spot it flies off at least twice every minute, making the circuit of the whole room, catching flies in its course. It conveys these to its perch and eats them. They are lively birds which scarcely soil the furniture, and often utter their long shrill notes. They very speedily clear a room of flies. When flies begin to be scarce, it is merely necessary to throw a few into the food trough, and they will then speedily accustom themselves to the chamber food. Their nest is built beneath a bush, of the form of an oven, and is constructed of moss and leaves, and lined with feathers. They lay from six to seven white eggs, which are sprinkled with violet. The young are very active: the yellow ones are removed and reared upon ants' eggs and roll steeped in milk.

In the autumn these birds are caught in nooses baited

with elder berries. In the spring they may be caught in hedges into which sticks are thrust and covered with limed twigs and baited with small meal-worms. Throughout the summer they frequently visit the watering place, for they are very fond of bathing.

118.—THE RUFOUS WARBLER.

MOTACILLA RUF A. Linn.—FAUVETTE ROUSSE. Buff.—DER WEIDENZEBIG. Bech.

DESCRIPTION.—Next to the Golden Wren this is the smallest of European birds. It is only four inches long, of which the beak comprises four lines, and the tail one inch and three-quarters; the feet are eight lines high, and black brown; the beak is very pointed, and dark brown; the eyes are dark brown.

In colour it approaches nearest to the Willow Wren. The upper part of the body is reddish grey, slightly glittering with olive green; the cheeks are brownish; the under part of the body as far as the breast is of a reddish grey, dirty white on the belly, sprinkled all over, and even beneath the wings, with small rusty yellow spots; the pinion and tail feathers are blackish grey.

The female is rather smaller, and less sprinkled with yellow beneath.

PECULIARITIES.—Although this bird can endure cold better than the other warblers, and is to be met with even as early as March in hedges, gardens, and willow trees, to rear it for the chamber it must be brought up from the nest. In April it repairs to the woods, particularly to copses where its note may frequently be heard. In October it returns in multitudes to gardens and willows, and at the

commencement of November it retires to warmer situations. It is found throughout Europe. It feeds upon small insects and their eggs, and in autumn upon elder berries. In the chamber it will live if flies can be procured, and readily accustoms itself to Nightingales' food.

Its nest is built upon the ground, and consists of a large round lump of grass, wool, and feathers. The female lays from five to seven white eggs, speckled with red. The young are reared upon ants' eggs.

This bird may be allowed to fly freely about the room, or placed in a narrow cage with several perches.

119.—THE WREN.

SYLVIA TROGLODYTES. Linn.—*ROFFELER.* Buff.—*DER ZAUNKÖNIG.*
Bech.

DESCRIPTION.—This is one of the smallest of our chamber birds. It is three inches and a half long, of which the tail occupies one inch and a quarter; the beak is five lines long, slightly curved in front, dark brown above, yellowish white beneath; the irides nut brown; the feet are grey brown, seven lines high; the upper part of the body is a rust brown, indistinctly striped with dark brown; above the eyes there is a reddish white stripe; the wings dark brown, and the tail rust coloured, and both are beautifully striped with black; the under part of the body is reddish grey.

The female is smaller, more reddish brown, marked above and beneath with indistinct transverse stripes, and the feet are yellow.

HABITAT.—It is found throughout Europe, especially in mountainous and woody districts. It does not migrate, generally continuing in the vicinity of dwellings.

It requires a large wooden or wire cage, but the bars must be close together. When let fly freely about, it is impossible to keep it long, as its small size favours its escape.

Food.—When wild it feeds throughout the year upon small insects. In winter it seeks them in barns, stables, cellars, the clefts of walls, &c. In autumn it will also eat elder berries.

As soon as it is captured it is necessary to give it meal-worms, flies, and elder berries, and these must be gradually mixed with Nightingales' food, which will then become its usual fare. I am acquainted with persons who have by this means kept adult birds a long time.

BREEDING.—Any hole or crevice seems to suit the Wren in which to build its nest. It is, therefore, found in fissures of the ground, in hollow trees, between the roots of trees, under the eaves of houses—in short, wherever it can be concealed. It is of an oval form, the outside consisting of moss, and lined within with feathers and hairs; at the side or above is the little aperture where they creep in or out. The female lays from six to eight pretty little white eggs, which are dotted with red. I know instances in which it has built its large nest in an arm chair, and in this situation even laid eggs. The young are of a rusty colour, sprinkled with white and black, and they can be reared with ants' eggs, the ordinary chamber food being by degrees mixed with it.

CAPTURE.—If in winter a White Throat trap is planted in a spot where they are observed to frequent, and baited with meal-worms, they are easily caught.

In the autumn also they can be caught in a noose baited with elder berries, but with every care they frequently break their legs.

COMMENDATORY QUALITIES.—It is an extremely ani-

mated bird, incessantly making all kinds of agreeable motions, bowing almost continually.

Although so small, it sings with great power, and throughout the whole year. Its song is pleasing and varied, introducing occasionally some notes borrowed from the Canary, which are even rendered more agreeable, and consist of distinct loud notes, gradually falling. I have never been able to keep it longer than a year, although some fanciers say they may be kept for two or three years.

120.—THE GOLDEN-CRESTED WREN.

MOTACILLA REGULUS. *Linn.*—ROITELET SOUCI OU POULE. *Buff.*—
DAS GOLDHAHNCHEN. *Bech.*

DESCRIPTION.—This, the smallest of European birds, is three inches and a half long, of which the tail occupies one inch and a quarter; the beak is four lines long, thin, very pointed, and black; the nostrils are covered by a feather split like a comb; the irides dark brown; the feet pale brown; the legs eight lines high; the forehead is brown yellow; from the angles of the beak to the eye a black stripe extends; the cheeks are ashy grey; the sides of the neck greenish yellow; the back shoulders and rump Siskin green; the throat yellowish white; the rest of the under part of the body dirty white; the wing coverts dark grey; the tail blackish grey, edged with green.

HABITAT.—These beautiful little birds inhabit the whole of the old world. Their favourite abode is fir woods; they appear to be migratory in the northern regions, leaving in October, and returning in March—at least they are then observed on their passage in Germany, and in May the hedges are full of them. Our natives are resident birds, for they are seen throughout the year, and in winter they generally

associate in small flocks, and range about with the Tits seeking those parts where food is abundant. The bell-shaped cage is best suited to them: some persons place them in a large breeding cage, which should have a branch of fir or pine. Reared from the nest they may be accustomed to the room if a few branches are strewed about. They are very fond of these, and if many birds are kept they will perch in a row upon the same twig, ranged closely together, and sleep in this manner.

FOOD.—When wild they feed on all kinds of insects and their grubs; as their beaks open widely they will also swallow large flies. By throwing flies into the trough they may be easily accustomed to the general food of the Nightingale, and will also subsequently freely eat crushed hemp seed. But they must not be deprived of insects too suddenly, and even later they will occasionally require a few flies, chopped meal-worms, and dry or fresh ants' eggs; and to keep them in good health for some years their general food must not be too stiff or too moist, and rape seed must be carefully kept from them.

BREEDING.—Their round ball-shaped nest is fixed to the end of a branch, generally of the pine or fir, and is very soft to the touch, from the small particles of moss and tufts of thistle down of which it consists. In this about nine flesh coloured eggs are laid, of about the size of a pea. It is usually found in plantations or meadows, upon the eastern side of fir trees. The young are easily reared upon chopped meal-worms, flies, ants' eggs, and roll steeped in milk; but they must be nearly full fledged before they are removed from the nest. Those, however, are most easily reared which are caught after they have flown from the nest.

CAPTURE.—To catch them it is merely necessary to take a stick with a limed twig attached, and gently approaching

the tree where the bird is perched, touch him with it: they are not at all shy.

They can also be shot with water, although this is rather a dangerous undertaking, and requires some precaution. A fowling piece is loaded with powder, and felt is rammed upon it. The water is carried in a small bottle until the bird is seen, when about two spoonful are thrown into the barrel, another ramming of felt is put in, but very carefully, lest the water should reach the powder. At a distance of twenty feet, this load, discharged at the bird, will wet it so completely, that it may be readily taken by the hand, but if there are hedges in the vicinity, and a rather strong bird is shot, a Chaffinch for instance, it will often escape.

They frequently visit the watering place, and then make their presence known by their frequent call-note, *zitt, zitt!* indicating also that the sun has set, and that the larger birds may be expected.

In the course of a few days they become so tame as even to eat out of the hand. It is, however, very difficult to rear these tender little birds, but if once familiarised they are very hardy.

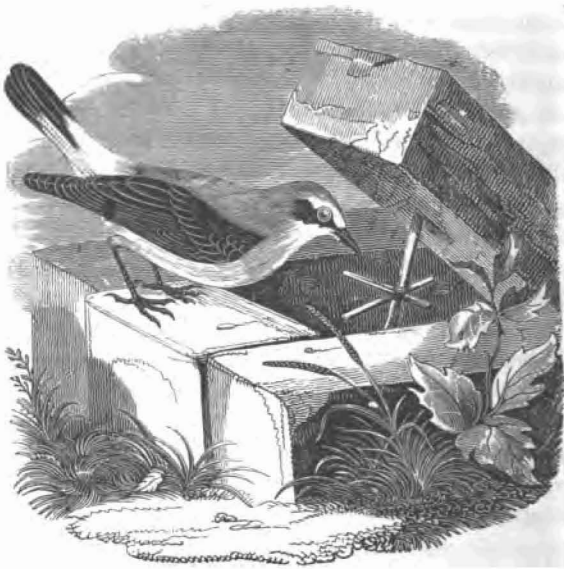
COMMENDATORY QUALITIES.—From their smallness and beauty they are very agreeable chamber birds. Their song, it is true, is very soft, but it is very melodious. It resembles that of the Canary.

121.—THE WHEATEAR.

MOTACILLA ÆNANTHE. *Linn.*—CUL BLANC. *Buff.*—DER
WEISS SCHWANZIGE STEINSCHMATZER. *Bech.*

DESCRIPTION.—A bird well known throughout Europe, as well as in the northern parts of Asia. It has the appearance and the size of the Wagtail, but a shorter tail and a

broader breast. It is five inches and a half long, of which the tail occupies one inch and ten lines; its beak is seven lines long, and black; the irides black, as well as the feet—the latter are one inch high; the forehead is white, and this colour extends on each side in a stripe; over the eyes a black stripe extends from the nostrils across the eyes, and enlarges upon the cheeks; the whole of the upper part of



the body, and the scapulars, are of a bright grey, watered with an indistinct reddish tinge around the base of the lower mandibles; the feathers are reddish white; the neck, throat, and upper part of the breast are of a bright rusty colour; the rest of the under part of the body white, with a rusty yellow tinge at the sides and the vent; the wings are black, the large coverts and the posterior pinion feathers with

reddish tips ; the tail white, its tip black, those of the two central feathers black to the middle.

The young, before they moult, are brown above, with rusty spots and reddish yellow beneath, with black dots after the first moult: both male and female retain for a whole year the reddish grey back of the adult female.

HABITAT.—It is found chiefly in mountainous and stony districts. During its migrations, it will perch in fields upon isolated stumps, boundary stones, and other elevated spots. It is rarely seen in bushes or upon trees. It leaves during the first half of September, and returns during the first half or about the middle of April, when the night frosts have ceased.

It must be placed in a Nightingale cage, or in a large breeding cage. It may also be allowed to run freely about, but not before it has been accustomed to confinement, for if not well fed at first, it usually dies. But it can rarely be tamed.

FOOD.—When wild it feeds upon all kinds of beetles and flies, which it catches as they run along. In captivity it must immediately have a quantity of ants' eggs and meal-worms. It usually dies of dysentery, and, what is most singular, even when it has not tasted the house food. It may subsequently be fed upon Nightingale food, and also occasionally upon roll steeped in milk. It can be preserved thus for a couple of years.

BREEDING.—Its nest, which consists of blades of grass and bird's feathers plaited together, is usually placed in the fissures of stone quarries or in holes on banks of streams, in empty mole-hills, and among heaps of stones. The female lays from five to six greenish white eggs. The young are removed nearly fledged, and are fed upon ants' eggs and roll steeped in milk.

Their **CAPTURE** may be effected by placing limed twigs in those spots where they frequent.

COMMENDATORY QUALITIES.—Very few would take the trouble to tame this bird when full grown. I have one now in my room which was familiarised by my accidentally having given it fresh ants' eggs. Its appearance is handsome, continually bowing and spreading out its tail; and its song is not disagreeable, but it has a harsh note in the middle.

122.—THE WHINCHAT.

MOTACILLA RUBETRA. *Linn.*—LE GRAND TRAQUET OU TARIER.

Buff.—DER BRAUNKEHLIZE STEINSCHMÄTZER. *Beck.*

DESCRIPTION.—This is a delicate chamber bird, and is found among isolated bushes in fields and highways. It is four inches ten lines long; its beak and feet are black, the latter nine lines high; the whole of the upper part of the body is black brown, in very old birds black, all the feathers strongly margined with a bright rusty colour, which causes it to have a black and rusty coloured striped appearance; in the spring a white stripe extends from the nostrils, passing over the eyes, beyond the ears; the cheeks and temples are black; throat and breast yellowish red, the former enclosed at the chin and sides with white—or rather, there is a white stripe around the lower mandible and around the temples and cheeks; the belly, sides, and vent, are reddish white; the pinion feathers are black, edged with red; the posterior ones with a white base; the basal half of the tail is white; and the apical half dark brown.

The female is throughout paler; the stripes of the eyes yellowish white; the upper side of the body dark brown, with rusty spots; the cheeks dark brown; the throat reddish white.

This bird varies until its third year. The young, which may be observed in summer sitting in crowds upon the stalks of cabbages and vegetables, are rust coloured before the first moult. The sexes may be distinguished by the lighter or the darker colours of the back and cheeks.

HABITAT.—These birds are most frequently met with on the edges of forests. It arrives at the commencement of May, and leaves us again about the end of September. In August it may be seen in cabbage fields, perched upon the stump.

It requires to be placed in a Nightingale cage.

FOOD.—When wild, these birds feed upon small ground beetles and other flying insects. When caught it is scarcely possible to induce them to eat. At first it must have nothing but small beetles and flies; after which it will eat meal-worms, and speedily feed upon ants' eggs, and the usual Nightingale food.

BREEDING.—The nest is usually built in the long grass of meadows or gardens. It is constructed of dry grass and moss, and lined with feathers and hair. From five to seven eggs are laid, of a beautiful bright green colour. Young birds reared upon ants' eggs are more easy to keep than old ones, and this is the best way of introducing the bird to the aviary.

CAPTURE.—In the spring, when these birds are observed in fields or meadows, some limed twigs are placed on a spot to which the birds are gently hunted; and as they perch upon almost everything that projects, they are easily caught.

COMMENDATORY QUALITIES.—It is a handsome bird, which, however lively and cheerfully it may comport itself in the fields, is very still and melancholy in confinement. When allowed to run freely about, it only moves to its food, and then resumes its former place, and keeps its head

buried in its breast. Its song is pleasing, and very much resembles that of the Goldfinch. It is the more esteemed from singing not merely during the day, but also in the twilight, often late at night.

123.—THE STONECHAT.

MOTACILLA RUBICOLA. *Linn.*—LE TRAQUET. *Buff.*—DER
SCHWARZEKHEIGE STEINSCHMATZER. *Bech.*

DESCRIPTION.—This bird is rather more rare than the preceding species, being chiefly found in mountains in Germany. It is four inches and a half long, of which the tail measures one inch and a half; the beak is black and four lines long; the feet are nine lines high, and also black; the irides are nut brown; the upper side of the body brownish black, with reddish white margins; the rump white; cheeks and throat black, the latter margined with white; the breast rusty red, merging into white towards the belly; the wings are dark brown, all the feathers margined with rusty red; the tail is blackish, and all the feathers are margined with pale rusty red.

The female is paler; the rump brownish; the throat white, spotted with black; the breast and abdomen paler.

PÆCULIARITIES.—This bird leaves us in September, and returns at the end of May. In habits it resembles the preceding bird. It feeds upon beetles and flies, and, being a very delicate bird, requires to be fed in confinement upon the Nightingale food. Its nest is built beneath a bush, or in the fissures of stones, and contains five greenish white eggs. The young are reared upon ants' eggs. The bird is commonly kept in a cage. They sit very still, and sing like the White Throat. They are rarely to be familiarised when adult.

124.—THE ALPINE WARBLER.

MOTACILLA ALPINUS. Linn.—FAUVETTE DES ALPES. Buff.—DIE
ALPENSÄNGER, or FLUELLERCHE. Bech.

DESCRIPTION.—This bird, from its equivocal markings, has been classed with the Larks, with the Starlings, and with the Warblers. It is about the size of the Skylark. It is six inches and a half long, of which the tail measures nearly three inches; the beak is six lines long, dark brown above, orange yellow beneath, and the mandibles are compressed at the sides; the irides yellow; the feet are light brown, and one inch high; the head, the upper and lower neck, and the back also, are of a bright ashy grey, or rather whitish grey, the former spotted with pale brown, and the latter with dark brown, and the sides of the back, in addition, with rusty spots; the rump is reddish grey; the throat is white, with dark brown muscle-shaped spots, and towards the breast it is enclosed with a dark brown line; the gullet and the breast whitish grey; the sides of the breast, the belly, and beneath the wings, are of a beautiful brown red; the abdomen greenish white, with obsolete dark grey undulating lines; the vent dark brown; the small wing coverts grey, with a greenish reflection; the pinion feathers are brownish grey, with a brighter edge; the tail feathers dark brown, marked with a rusty yellow spot upon the under web.

The female and young birds are variegated with dark brown upon the abdomen and breast; they are also darker upon the back; and the beautiful throat appears as if it were faded.

PECULIARITIES.—This bird is found upon the mountains which skirt the Alps in Switzerland and Southern Germany.

In these pasture lands it is as abundant as the Skylark with us. In winter it visits the valleys, and frequents barns near villages, where it is commonly caught in great numbers. They generally perch upon the ground, where they run as swiftly as the Wagtails, jump upon stones, and but rarely perch upon trees.

They feed upon all kinds of seeds and insects. In confinement they can be fed upon crushed hemp, poppy seed, bread, roll, and ants' eggs. They live several years; and in Switzerland bird-fanciers keep them frequently in cages. Their song is pleasing, but anxious and melancholy. They comport themselves elegantly, and in hopping frequently move the tail and wings.

Their nest is found upon the ground, and occasionally in the fissures of rocks, from which it has received the name of Rock Lark.

125.—THE PIED WAGTAIL.

MOTACILLA ALBA. Linn.—LAVANDIER. Buff.—DIE WEISSE BACHSTELZE. Beck.

DESCRIPTION.—This bird is well known throughout the whole of the old world. It is seven inches long, of which the tail comprises three inches and a half; the beak is five lines long, sharply pointed and black; the irides dark brown; the feet are slender, black, and one inch high; the vertex, as far as the neck, is black; the rest of the upper part of the body, the sides of the breast, and the small wing coverts, are bluish ashy grey; the forehead, the cheeks, and sides



of the neck, are snowy white; the throat and gullet, and half way down the breast, black; the rest of the lower part of the body is white; the wings dark brown; the coverts and posterior pinion feathers widely margined with white, whence upon the wings there is an oblique white line; the tail feathers are black, the external ones almost entirely white, and the second marked more than half way with a conical white spot.

The female wants the white forehead and cheeks; the black vertex is smaller.

The young, until their first moult, have a very different appearance. These, with the young of the Yellow Wagtail, both of which frequent pastures in large flocks, have been considered a distinct species. The whole of the upper part of the body is grey, or ashy grey; the throat and abdomen dirty white; above the breast there is usually a band, either entire or interrupted, of a grey or greyish brown colour; and the wings are margined with white.

These birds being so abundant, exhibit numerous varieties: some are found entirely white, and others again variegated or spotted with white.

HABITAT.—They are not only found in the vicinity of houses, but also in fields and in woods, and, indeed, wherever heaps of stones are seen. In Germany they are migratory, and, like the Swallows, collect in autumn upon roofs, before taking their departure. They leave us in the beginning of October; a few warm days at the end of February or the beginning of March soon entices them back; nor is it endangered by its early appearance, as they readily meet with flies in the vicinity of houses, which are drawn from their winter retreats by the warmth of the sun; and the brooks also supply them with water insects in abundance.

In confinement they may be kept in a cage. If allowed

to run freely about, sand must be strewed plentifully in the room, for they are very dirty birds.

FOOD.—Their food consists of gnats, spiders, and water insects, together with their larvæ, also flies and other insects which fatten upon cattle, for which purpose they are continually flying about them. They also follow the ploughman, and feed on the insects turned up by his plough.

If you wish to tame them, they require to be fed at first upon ants' eggs, meal-worms, flies, and other insects, and they soon familiarise themselves with the ordinary chamber food, and will also eat bread, meat, and roll crumbs. When kept in a cage they must be fed upon Nightingale food.

BREEDING.—They breed two or three times a year. Their nest is very inartificial, formed of the roots of grass, moss, and hay, lined with hair, wool, and bristles, and is found in every kind of hole or fissure, between stones, in hollow trees, beneath tiles, &c. The female lays five or six eggs, of a bluish white colour sprinkled with black.

If the young are removed and reared they become exceedingly tame; so tame indeed, that they will go and return like a pigeon, and will even breed in the room where they live, and fetch their food from the fields.

MALADIES.—They are subject, like the two following species, to dysentery and atrophy, but will live four years or longer in confinement.

CAPTURE.—When snow falls in March they may be caught opposite the window, upon a spot bared from snow, baited with meal-worms, and snared with limed twigs. These may be planted upon stone heaps, piles of wood, &c., where they are observed to resort.

COMMENDATORY QUALITIES.—Its plumage and its vivacity alike recommend this bird to the fancier. It has the habit of constantly and rapidly jerking its long tail. Its song, though not loud, has many admirable variations; and,

what is a still greater advantage, it sings the whole year through, excepting the short moulting time. I have always a Wagtail among my chamber birds, and when the Black Cap, the Blue Throat, the Lark, and the Linnet sing, it seems to form a counter-tenor. They are also useful by catching all the flies which settle in the chamber.

126.—THE GREY WAGTAIL.

MOTACILLA BOARULA. *Linn.*—BERGEBONETTE JAUNE. *Buff.*—DIE GRAUE BACHSTELZE. *Bech.*

DESCRIPTION.—This beautiful Wagtail is as large as the preceding. It is seven inches long, of which the tail occupies nearly four inches. The beak is black; the irides brown; the feet are of a dark flesh colour, and nine lines high; the whole of the upper part of the body, and the small wing coverts, are dark ashy grey, with an olive green tinge on the head; and the rump of a beautiful green yellow; above the eyes there is a white stripe, and another runs from the end of the lower mandible, down the neck; and from that of the upper a black stripe extends to the eye; the throat and gullet are black; the breast, and the rest of the under part of the body are of an extremely beautiful bright yellow; the wings are black; the large coverts white, and the rest edged with ashy grey; the posterior pinion feathers have a white base and edge, whence three white lines are formed upon the wings; the long tail is black, the external feather quite white, and the following only edged with black.

The female, instead of being black upon the throat and gullet, is reddish yellow white, and its general colouring is also paler.

The male, until its second year, is clouded with white upon its black throat.

HABITAT.—When wild this bird is found throughout the whole of Europe. In mountainous and woody districts where there are pebbly brooks, they are found in the greatest numbers. They are birds of passage, which return at the end of February or the beginning of March, but I know instances of some having remained throughout mild winters, and frequenting the neighbourhood of dung-hills and warm springs. When caught they must be confined for a time in a Nightingale cage, and treated in the same manner; for they are delicate birds, which even with this expensive food will not survive longer than two years.

FOOD.—Water insects constitute their chief nutriment; they catch them upon stones and water plants. If caught adult they must in the first place be fed upon ants' eggs and meal-worms, and thus gradually familiarised; but if this succeeds in preserving them, they will feed upon the universal food, if some hard boiled eggs be mixed with it.

BREEDING.—They breed twice a year along the banks of mill-dams, among stone heaps, &c., and the nest is more artificially constructed than that of the Red Wagtail. It consists of blades of grass and moss, and is lined within with hair. As early as March the female lays five or six white eggs, mottled with flesh colour. The young are reared upon ants' eggs and roll steeped in milk.

CAPTURE.—They are easily caught if sticks to which limed rods are attached be bated with meal-worms, and placed by the side or over the watering place which they frequent.

COMMENDATORY QUALITIES.—Their gait resembles that of the Pied Wagtail, but they are more beautiful, and also sing more powerfully. Although their song consists merely of two strains, yet their clear pure voice renders it agreeable.

127.—THE YELLOW WAGTAIL.

MOTACILLA FLAVA. *Linn.*—BERGERONETTE DE PRINTEMPS. *Buff.*—
DIE GELBE BACHSTELZE. *Bech.*

DESCRIPTION.—This closely resembles the female of the preceding, but its short tail makes it appear smaller. It is six inches and a half long, of which the tail measures two inches and a half; the beak is black brown; the irides nut brown; the feet are black, and ten lines high; the upper part of the body is reddish grey, with a deep olive green tinge, which, upon the rump, merges into Siskin green; the head is more grey than green; and above the eyes there is a reddish white streak; the under side of the body is of a beautiful yellow in adults of a brimstone yellow, paler on the throat and breast, but deeper on the abdomen and at the vent; the wings are dark brown, with reddish white margins, the larger coverts most strongly margined, whence two whitish bands appear to run across the wings; the tail is black, the two external feathers white, with the exception of a black stripe.

In the female the back is more grey than green; the belly and vent not so beautiful a yellow; the throat whitish; the gullet and abdomen reddish yellow, with rusty sprinklings.

HABITAT.—This Wagtail is better known than the preceding, as it is found throughout Europe, living chiefly about plains and pastures. It is always coursing about amongst sheep and cattle. In September it repairs to warmer climates in large flocks, and then utters a loud and shrill cry, which sounds like *sipp, sipp*. It returns again at the end of March. It must be treated like the preceding, but it is not so delicate a bird.

FOOD.—It feeds chiefly upon those insects that torment

cattle in the fields. In confinement it requires the same treatment as the Grey Wagtail. With the universal food of barley meal, roll, and milk, it should have some hard boiled eggs intermixed, and it may be preserved for several years like the Redbreast.

BREEDING.—It breeds twice a year on the margins of banks, in deserted mole-hills, also in the midst of grass and corn, like the Skylark. The nest is constructed externally of the blades of grass, and lined within with wool. The eggs are greyish white, spotted all over with reddish grey, as if marbled; and usually there are five or six. The young bird is brighter on the under side of the body than the old one, and is very similar to the female. They can be reared like the former.

CAPTURE.—This has its difficulties, and I have always had much trouble to obtain this bird. They must be usually caught upon the nest with limed rods. When snow still falls in the spring, a spot may be cleared and baited with meal-worms, and set with limed rods, and the birds chased thither. This is the most usual mode of obtaining them.

COMMENDATORY QUALITIES.—Their beautiful appearance as well as their song recommend them as chamber birds. I have always some of them in my room, and I consider them my handsomest birds. They are very skilful in snapping up all the flies, and they do it in a peculiar manner.

128.—THE OX-EYE OR GREATER TIT.

PARUS MAJOR. *Linn.*—GROSSE MÉSANGE OU CHARBONNIÈRE. *Buff.*—
DIE KOHLMEISE. *Beck.*

DESCRIPTION.—This well known bird is about the size of the Black Cap, and is five inches ten lines long, of which

the tail occupies two inches and a half. The beak, as in all the Tits, is blackish, conical, hard, pointed, and without slope; the irides are dark brown; the feet lead coloured; the shin nine lines high; the claws, as in other Tits, are strong, sharp, and adapted for climbing; the head above is shining black, which is joined to the back of the throat by a black band, which surrounds the white of the cheeks and temples; the occiput is greenish yellow, intermixed with some white; the back of a beautiful olive green; the rump bright ashy grey; the breast and the belly yellowish green, divided longitudinally by a broad black stripe, which is broadest at the lower part; the vent black in the middle, white at the sides; the thighs white, spotted with black; the sides of a pale olive green; the wing coverts bright brown, the larger ones with white tips; the pinion feathers blackish; the posterior ones above olive green beneath, with white edges; the tail feathers rather forked and blackish; the two middle ones with a bright blue tinge, the external one white on the outer edge, which extends slightly to the inner, the remainder margined externally with bright blue, the second having besides a white tip.

The female is smaller, the back of the head and the yellow colouring less brilliant, and the black stripe of the belly narrower and shorter, losing itself about the middle of the abdomen, where it is broadest. By means of the latter the young males can be distinguished from the females, which in other respects they very much resemble.

HABITAT.—When wild they inhabit the whole of the old world, and are found very numerous in mountainous districts, where gardens, copses, beech woods, and pine forests alternate. They remain with us, but collect into flocks in October, and then during the autumn and the winter they range from one garden and wood to another. When in autumn a succession of these flocks are seen shortly after

each other, bird-catchers call it their migration, and apply every means to capture them. In March they again separate into pairs, and prepare for breeding. They must either be placed in a wire cage—a bell-shaped cage being preferable—or, if kept with other birds, they must daily have ample food, and that of the best quality, for if this is scanty, they will attack other birds and make a repast of the brains. I know an instance of a Tit attacking a Quail and killing it in this way. It is merely an idle fancy for bird-catchers to say that only those with forked tails are addicted to this habit, but experience teaches us that one bird is more mischievous than another.

FOOD.—They feed upon insects, seeds, and berries. Smooth caterpillars, both large and small, bees, flies, grasshoppers, gnats, and moths are therefore exposed to their attack. They climb up trees like the Woodpecker to search for insects' eggs, wood lice, &c., beneath the bark and moss. In the autumn and the winter they devour all kinds of seeds and grain, especially hemp, fir and pine seed, oats, the kernels of fruits, the mast of the beech nuts, and even carrion. They seize their food with their claws, tear it with their beak, and eat it by means of the tongue.

In confinement they will eat almost everything that comes to table—meat, bread rolls, sweet cheese, vegetables, hazel nuts, walnuts, bacon, and all kinds of fat, also the ordinary chamber food. They are by no means delicate birds, and it entirely depends upon the attention bestowed, to preserve them for many years. The better they are fed the better will they sing, and the less danger is there that they will attack other birds. They drink a great deal, and are fond of bathing.

BREEDING.—They build in hollow trees, both high and low, just as they happen to find a convenient hole, or even in deserted magpies' nests, and in the fissures of walls.

Their nest is very artificial, and consists of layers of moss, wool, and feathers. The female lays from eight to ten whitish eggs, covered with large and small irregularly arranged dark red dots and stripes, especially at the upper end. The young do not fly until they are full grown; they are pale yellow beneath until moulting time, and the black colouring is dull.

MALADIES.—They are very subject to giddiness in the cage, which arises from their being too much fed upon hemp, which is too exciting a diet. To cure them they must be placed in a small square cage, or be allowed to run about freely for a time. They suffer also from atrophy and gout if fed too much upon hemp.

They may be preserved for eight or ten years.

CAPTURE.—These birds, like most of the species of the Tits, are captured by a variety of arts, and Tit catching is considered by bird-catchers as the most amusing of all. I shall here merely mention two of the most certain ways of catching them for the chamber.

In autumn or spring you go with a call-bird, which is kept in a square bird-cage, to such places, especially orchards, where these Tits resort, and place the cage upon the ground, and plant obliquely some sticks to which limed rods are attached. When they hear the decoy-bird, curiosity, or the desire to join a fresh companion, soon brings them down. This is rendered more certain if a pipe be made of the hollow wing bone of a goose, the sound of which, being heard to a greater distance, will bring all the Tits together throughout the neighbourhood.

In winter they may be attracted to the trap in gardens if baited with the kernels of nuts, bacon, and oats. This trap is a small box, a foot long, and eight inches high and broad, the sides of which, if you happen not to have boards painted green, may be made of elder sticks, which are propped by

four round corner pillars, and then it only requires a wooden floor and covering, tied to the corner sticks. In the centre of the floor there is a little peg, across this a transverse stick is placed, upon which on one side the half of a walnut is fixed, and on the other a piece of bacon; upon this rests another stick, which keeps the cover open about three or four inches. When the Tit jumps upon the transverse wood, or pecks at the nut or the bacon, the roof falls, and the bird is caught. The cage is placed upon a tree, with some thrashed oat straw spread beneath it, to which the Tits fly, and which they can observe from a distance.

Like all the Tits they frequently approach the water-trap. They are usually found there from seven till nine in the morning, and from four till five in the evening.

In autumn they can also be caught in the noose, which they visit for the sake of the bait of service or elder berries; but the slip-knot must be made of horse-hair: thread they bite asunder as soon as they feel themselves caught.

COMMENDATORY QUALITIES.—Their beauty, activity, and cheerfulness recommend them as chamber birds, and they have always been in much esteem; but beyond all this, their beautiful varying and extremely melodious song greatly attracts, in which they introduce their two call-notes, the clear *fink, fink*, and the harsh *zizerr*. The articulate notes *si zi dah, si zi dah*, and *stiti stiti*, which they repeat sixteen or twenty times, are extremely agreeable. That they are not wanting in capacity to learn the songs of other birds when reared young, is proved by the old ones adopting many of the notes of other birds, and especially their call-notes.

They are also taught all kinds of tricks—to draw up their food by a bucket, to turn a wheel which two mountaineers appear to move, and to jump at a nut which is hung by a thread.

129.—THE COLE TIT.

PARUS ATER. *Linn.*—PETITE CHARBONNIERE. *Buff.*—DIE
TANNENMEISE. *Bech.*

DESCRIPTION.—It is four inches two lines long; the tail one inch and three-quarters, and the beak three lines; the latter is black, brighter at the tip; the irides black brown; the feet lead coloured, and eight lines high; the upper part of the head and neck is black; from the occiput a broad whitish stripe passes down the neck; the cheeks and the sides of the neck are white, and form, when the bird sits still, a triangular white spot; the back is dark ashy blue; the rump ashy grey green; the throat, as far as the upper part of the breast, is black, the last black feathers having white tips; the breast white; the rest of the under part of the body also white, with an intermixture of reddish; the smaller coverts of the wings like the back; the large ones blackish, with white dots at the end, whereby a double white band is produced; the pinion feathers are brownish ashy grey, margined with white grey; and the tail feathers are of the same colour.



If the two sexes are not seen together, it is scarcely possible to know the female from the male; the former has less black on the breast, and a little less white on the sides of the neck.

HABITAT.—This Tit is found in great multitudes in pine and fir forests; and, except during the autumn, winter, and spring, they are seen in woods, copses, and gardens. In the winter they go in large flocks from one pine wood to

another. They are fond of the society of the Golden-Crested Wren, which is always found in their company; one or two crested Tits are also found with them, and these are apparently their leaders.



In confinement they are usually placed in a cage, but they are more agreeable if allowed to run freely about among other birds.

FOOD.—They feed upon insects, their eggs, grubs, and the seeds of all kinds of cones. As in winter the trees are often covered with hoar frost, and the earth with snow, nature has taught them to store and to preserve their food. They will thus conceal a large quantity of the seed of the fir and pine under the scales of the bark, and fetch it out again when there is a deficiency of food. This instinct they also exhibit in confinement, where they endeavour to hide from the other birds their superfluous and favourite food of the seeds of firs and the kernels of nuts, and are constantly examining if it still remain untouched. The Greater Tit and Blue Tit also act in the same way, but they do not hide with so much accuracy, and do not appear to have such a definite object as the Cole Tit. They are generally fed upon the ordinary food.

BREEDING.—They mostly build their nest in deserted mole-hills, beneath the hollow edges of old roads, more rarely in hollow trees, and the fissures of walls. The nest is merely a layer of small particles of moss, and its lining consists of roe and deer hair, and the fur of hares. They lay from six to eight beautiful white eggs, sprinkled with bright red dots. The young birds at once resemble their parents, their black colouring being paler. They breed twice in the year.

MALADIES.—They suffer chiefly from atrophy: sometimes

this may be prevented by giving them fresh ants' eggs, especially at moulting time. I had a Cole Tit for six years, running about my room. They become blind at last and die of old age.

CAPTURE.—They are caught like the preceding, but rather more easily, as they are less timid. A lined rod tied to a pole, with which you get beneath a tree where they are, and by touching a bird it is easily caught. Their call-note is *ziptone*. Like most of the Tits, these are delicate birds when introduced to the chamber, and even die before they will touch the chamber food.

COMMENDATORY QUALITIES.—It is a very entertaining and cheerful chamber bird, which does not rest an instant, is incessantly in motion, and, like all the Tits, hops obliquely. Its song consists of a multitude of harsh and varying notes, which is embellished by a loud and clearly ringing *zifi, zifi*, like the sound of a bell, which is repeated from twenty to four-and-twenty times in succession. It then usually sits so quietly as if it were going to give something very beautiful.

130.—THE BLUE TIT, OR TOM TIT.

PARUS CERULEUS. Linn.—*MESANGE BLEUE.* Buff.—*DIE BLAUMEISE.* Bech.

DESCRIPTION.—An extremely beautiful bird. It is four inches and a half long, and the tail measures two inches; the beak is three lines long, and blackish white at the edge and tip; the irides dark brown; the feet lead coloured, and eight lines high; forehead and cheeks are white; a white stripe extends from the forehead over the eyes, and surrounds the beautiful sky-blue vertex, and through the eyes passes a black stripe; the black throat merges at the sides into a dark blue band, which surrounds the head; at the

back of the neck there is a white spot; the back is of a bright Siskin Green; the feathers are more silky than in the other Tits; the under part of the body is bright yellow; a longitudinal bright blue stripe extends from the middle of the breast along the belly and between the legs; the wing coverts are bright blue—the largest row has white tips; the tail is sky blue.

The female is smaller; the stripes upon the head are not so distinct; the blue is, as it were, mixed with ashy grey; and the stripe down the under part of the body is scarcely perceptible.

HABITAT.—They are frequently found in oak and beech woods. In autumn and winter they wander from place to



place, and are then to be found in multitudes in gardens. They must be treated like the Ox-eye Tit; but it is better they should run freely about, for thus their beauty is better seen and admired. At night they may be chased into a cage which has a hole wherein they can sleep. They are just as quarrelsome and malicious as the Ox-eye, hang at the tails of other birds, but they are not strong enough to kill them.

FOOD.—They enjoy all kinds of insects and their grubs, and in autumn feed upon berries. They must be treated like the Ox-eye. To familiarize them to confinement speedily, they must have crushed hemp thrown to them for the first few days. They are fond of bathing.

BREEDING.—They build upon trees, near the top, in old hollow branches, and make a layer of moss, hair and feathers. They lay from eight to ten reddish white eggs, finely spotted and mottled with brown. The colours of the young bird are paler, and the blue is not so brilliant.

MALADIES AND CAPTURE.—The majority which are

caught in winter die of giddiness, after being a few days in the room. They are taken like the Ox-eye Tit.

COMMENDATORY QUALITIES.—This Tit is easily tamed, and will live two or three years. They are peculiarly recommended by their beauty and vivacity, and less by their song, which consists of some indistinct and but little melodious strophes, between which some higher notes are uttered.

131.—THE MARSH TIT.

PARUS PALUSTRIS. *Linn.*—*MESANGE DE MARAIS.* *Buff.*—*DIE SUMPFWEISE.* *Beck.*

DESCRIPTION.—It is four inches and a quarter long, of which the tail constitutes two inches; the beak is four lines long, and black; the feet are lead coloured; the shin bone five lines high; the upper part of the head, as far as the neck, is black; cheeks and temples are white; the body above brownish ashy grey, and beneath, excepting the black throat, which at the gullet is sprinkled with black, is of a dirty white; the sides and vent have a reddish tinge; the wings and tail are black grey, margined with reddish white.



The female has less black on the throat.

HABITAT.—They are found in summer and winter in gardens and woods; in winter they collect in small flocks, and fly from place to place, following one after the other in a line. They are allowed to run freely about the room. They are delicate, and require to be treated with care, especially when first introduced.

FOOD.—They feed upon all kinds of seeds, insects, and elder berries. In confinement they are fed like other Tits;

but they require, until familiarized, ants' eggs or elder berries. I have almost immediately domesticated them by means of the seeds of the sun-flower. The latter preserves them longest. They are fond of hemp roots.

BREEDING.—They breed in the hollows of trees, in a nest made of moss and grass, and lined with deer and cow hair and feathers. They lay from ten to twelve eggs, which are of a rusty white, with yellowish red spots.

CAPTURE.—The kernels of nuts and oats will attract them to the Tit-trap in winter. To be certain of your capture, you must place limed sticks upon ripe sun-flowers. In places where these birds do not frequent the garden, the sun-flowers are sunk in a spot where they resort. If they have been caught with nuts, it is easy to familiarize them in the room: in the very same hour afterwards they will pick about.

COMMENDATORY QUALITIES.—Their appearance, and their weak but agreeable sounding voice, recommends them as chamber birds. They occasionally utter a call-note, especially at pairing time, which makes this song extremely harmonious.

I have never been able to preserve them longer than two or three years.

132.—THE CRESTED TIT.

PARUS CRISTATUS. Linn.—MESANGE HUPPÉE. Buff.—DIE HAUBENMEISE. Bech.

DESCRIPTION.—This bird is four inches and a half long, of which the tail occupies one inch and a third; the beak is four lines long, and black; the feet are lead coloured, and seven lines high; the head is decorated with a crest, running upwards to a point, and about an inch high, consisting of

black feathers with white edges; the forehead is checkered with white and black; the cheeks bright ashy grey, bordered beneath and behind with black; a broad reddish white stripe extends from the angle of the mandibles to the neck; and on the neck there is a black spot, which surrounds it like a cravat, and unites in front on the breast to the black front of the neck and throat; the back is reddish grey; the breast and the abdomen whitish; the sides reddish; the wings and the tail grey brown.

The female is distinguishable from the male only by its crest being less elevated, and the throat not so black.

HABITAT.—This Tit is found in pine forests, but it is not so numerous as the other species. They always creep deep into the bushes, and therefore prefer those spots where juniper berry bushes abound. In confinement they must be treated like the Blue Tit; but it is more delicate, and requires more care and attention to familiarize it. Old birds seldom survive.

FOOD.—They feed like the Cole Tit; and in confinement they require at first ants' eggs and meal worms, before they will eat the food of the other Tits.

BREEDING.—They build in hollow trees, between stones, and in deserted large nests. Their nest is like that of the Cole Tit, and the female lays from six to ten snow-white eggs, which are thickly marked above, and more sparingly beneath, with blood-red spots, which usually run into each other. The young are removed and reared upon pieces of meal-worm and ants' eggs. It is best to remove both old and young from the nest, for then the parent bird will easily rear the young upon ants' eggs. They are caught like the Cole Tit.

COMMENDATORY QUALITIES.—Their pleasing form recommends them more than their simple note, which has nothing to distinguish it.

133.—THE BEARDED TIT.

PARUS BIARMICUS. *Linnaeus.*—MESANGE BARBUE OU MOUSTACHE.

Buff.—DIE BARTMEISE. *Bech.*

DESCRIPTION.—This beautiful bird is in shape like the Ox-eye Tit. It is six inches and a half long, and across the extended wings ten inches and a half; the beak is four lines long, slightly curved at the tip, orange yellow, and surrounded with black bristles; the forehead yellow; the feet black; the legs an inch high; the head is of a bright ashy colour; beneath the eyes there is a bunch of black feathers, which terminate in a point, very like a moustache; the back of the neck and the upper part of the back are yellow red; the throat white; the breast flesh coloured; belly, sides, and thighs, like the back, but brighter; the vent black; the tail is three inches and three-quarters long, and conical, it is nearly of the same colour as the beak; the external feather is very short, dark at the base, and almost white towards the end; the third is white at the tip only.

The female differs from the male in wanting the black moustache between the eyes; the vertex is rusty red, with black spots; and the feathers at the vent are not black, but of the same colour as the rest of the under side.

HABITAT.—It is certainly met with in Germany where there are lakes, ponds, morasses, or other marshy places, which contain bushes and reeds. In summer it is rarely seen, as they live in pairs deep among the reeds; but they may be observed easier in winter, when they range hither and thither in small flocks, and then perch upon trees and bushes, their food failing them amongst the reeds. They are either allowed their liberty in a room, or are confined in a large wire cage.

FOOD.—They eat many kinds of insects, especially small

water insects, and the seed of the common reed (*Arundo phragmitis*). They must be fed at first upon poppy seed, ants' eggs, and meal-worms; they will then eat hemp and other ordinary chamber food. They are very difficult to preserve, and it is therefore better to rear them from the nest.

BREEDING.—Of this bird little is known. Their nest is built between reeds that are interwoven, is shaped like a bag, and consists of blades of grass and the wool of plants interwoven. The female lays from four to five pale red variegated eggs. The young are removed from the nest nearly fledged, and are reared upon ants' eggs and bits of meal-worms.

CAPTURE.—It is very difficult to catch them. Fishermen and gamekeepers, who know the spots where they usually creep about, endeavour to plant it about with limed twigs, and to drive them thither.

COMMENDATORY QUALITIES.—Not only the beauty of their plumage, but also their form and vivacity, make them agreeable chamber birds. The males also utter several pleasing strains, which are somewhat similar to the song of the Blue Tit. Certainly it is to be regretted that this bird is so difficult to obtain.



THE CANARY.

FRINGILLA CANARIA. *Linn.*—SERIN DE CANARIE. *Buff.*—DER
CANARIENVOGEL. *Bech.*

DESCRIPTION.—Much has been written concerning the Canary, which is kept and reared throughout England and the whole of Europe, and even in America, Russia, and Siberia. The uninitiated are not aware of the extent to which the Canary is bred and cultivated throughout this country. This bird is stated to be a native of the Canary Islands, where it breeds on the banks of small streams in the plea-

sant valleys of those delightful islands. It has been known in Europe since the commencement of the sixteenth century. The arrival of this bird is thus explained :—A ship, which, in addition to other merchandise, had a multitude of Canaries on board that were consigned to Leghorn, was wrecked on the coast of Italy, and the birds which thereby obtained their liberty, flew to the nearest land. This happened to be Elba, where they found so propitious a climate that they multiplied without the intervention of man, and would probably have naturalised themselves had not the wish to possess them been so great as to occasion their being hunted after till they were entirely extirpated. In Italy, therefore, we find the first tame Canaries, and they are still reared there in great multitudes. At first their rearing was attended with considerable difficulty, partly because the mode of treating these delicate strangers was not sufficiently understood, and partly because the males chiefly, and not the females, were brought to Europe. There is much difference in appearance of plumage compared to that of the birds said to be of the original stock. Darwin's supposed natural law of selection, climate, domestication, and food, may have tended to bring forth specimens now so different in colour to the Canary of past ages. The birds, subsequent to their domestication in Belgium, Germany, and England, it is asserted, threw up small patches of lighter or yellow feathers, and the breeders, by carefully matching those birds that bore the largest number, succeeded in obtaining bright and uniform colour more resembling those of the present date.

Their original colour was that of grey merging into green beneath, almost resembling the colours of the Linnet, which, by the above means and intermixture with other birds (in Italy with the Citril and Serin, in Germany with the Linnet, Greenfinch, and Siskin), has become so multifarious that Canaries may be met with of various colours, individually

seen in every degree of shade or combination, and thus presenting innumerable differences. Those which, like the Linnet, are blackish grey, or greyish brown above and greenish yellow beneath, more like a Greenfinch, are the strongest, and approach the most closely to the original colour of their progenitors. Were it not fully proved that the Canary birds were natives of the Fortunate Islands, we might attribute their origin to the Serin and Siskin, or to the Linnet, Greenfinch, and Citril. Birds of the two first species have been seen bearing exact resemblance to that variety of the Canary called the Green. As to the direct origin of the various specimens of some of our choicest breeds—for instance, the appearance of the Lizard, London Fancy, Cinnamon, and others—nothing positive can be arrived at. That such have been bred before the memory of the “oldest inhabitant” of our present generation, and, further, that the breeds existed in past ages, there are printed records to prove. In a work dated 1709, as many as twenty-eight varieties are mentioned, comprising nearly all those known at the present period. It is thus far satisfactory to know their original colour. How the changes in some have been effected, there can be no possible means of ascertaining more than above stated. There is no doubt that in selecting and matching, much has been achieved in the way of improving the many beautiful varieties I shall presently have to describe.

I will here allude to the Belgian Canary, concerning which less has been known or spoken of until late years. That the breed is a foreign importation is well known, but as to its origin, nothing more can be ascertained than that they have been bred in Germany, France, and Holland, and imported into this country at very high prices. Their cost depends upon the colour and form of the bird. That “selection” has been studied, by pairing and breeding together those of the greatest length, until varieties were at last found

to be possessed of the form peculiar to the "Belgian," is natural to suppose. That there is ground for arriving at this conclusion is founded on the fact that there are fanciers who have educated themselves to at length perceive a beauty in something approaching distortion, and an excellence in deformity. I will illustrate my meaning by quoting a few practical examples. "A certain variety of cow is found to possess a long horn. Every effort is made to increase and propagate this peculiarity, until cows are produced whose horns are so long and unwieldy that they can feed only from specially constructed troughs; or, if these long-growing, artificially produced horns take a curved direction inwards, they grow through the cheeks of the poor creatures whom the caprice of men has invested with such extravagance. Others take an opposite course, and cause them to be born without this graceful appendage, and to go through the world harmless and defenceless. Look, again, at poultry. The Spanish fowl, characterised by a white cheek, is produced until it comes to be formed of a series of tough wrinkles of bleached skin, which encroaches upon the eyelids, and so practically to blind the bird; and this is considered by the 'fancy' as a beauty. The short beak of the Almond Tumbler is made so short that the poor bird is rendered somewhat dependent upon man for its subsistence, the organ provided by nature for the picking up of its food having been shortened until it almost becomes incapable of fulfilling its functions. Again, the small foot of the Chinese, and the flat head of some Indian tribes, are other instances which are considered beauties to those whose tastes have been perverted by early associations; and birds also, which are apparently deformed (for example, the Belgians), and appear ugly and painful to most who look at them at a show, are, notwithstanding, considered 'the pets of the fancy.' The especial excellence

consists in their length, the curvature of the upper portions of the spine, and in their ability to assume a certain height by the straightening of the lower (tarsal) joints of the legs."

The Canary in size resembles that of the Linnet, being about five inches long, excepting the Clear Belgian, Manchester Cobby, Scotch Fancy, and Yorkshire, the three former breeds being much longer. The beaks are generally whitish (except the Lizard's, which is black), stout, and sharply pointed. The legs are mostly flesh-coloured. Here, again, the legs of the Lizard should be black; the legs of variegated birds are sometimes dark. In some instances the females can scarcely be distinguished from the males, but the latter have generally deeper and brighter plumage, being more fierce about the eye, and brighter and smarter in shape throughout the body. The temples and space about the eyes are always of a brighter colour. Males are easily known by breeders of experience, although there are cases when bird-keepers of great practice may be mistaken in deciding the sex of birds.

If you prefer a Canary songster—one to please the eye and ear—either a Norwich or a Yorkshire bred bird will be suitable, if it has been well tutored. The Norwich are not so long as the Yorkshire in shape, but much deeper in colour. Neither of these birds are equal to the German song-birds as regards sweetness, continuity, and change of notes, but have the advantage of being longer lived, and will afford ample harmony for an ordinary taste. Unfortunately the German birds are generally very inferior in plumage, and on an average not one in a dozen will, in this country, live beyond a year. When brought to England they are stimulated and fed high for the purpose of exciting to a freedom of song, and when sold and passed into the hands of others, they are generally kept on the ordinary diet of Canaries, when, if they do not fall off in song, the moulting season affects them, and they often either discon-

tinue singing or die off. Many breeders purchase German songsters for the purpose of learning young birds to partake of their notes. Such birds may be bought at prices ranging from 6s. to 25s. each. To keep song-birds in good condition they should not be pampered with sugar and other sweets, or have a too free supply of hemp-seed, which feeds them fat and gross. Clean water daily, fresh grit sand once a week, and good sound Canary-seed, with an occasional treat of a mixture of hemp, flax, scalded rape-seed, and now and then a few groats and a little maw-seed, and also a sprig of either groundsel, plantain, or water-cress, is conducive to good health, and these, with a little of the German paste, will be sufficient to keep birds in good condition. Of course this diet must not always be given, but changed. If you wish birds to become familiar they should neither be teased nor frightened, but now and then have given to them a little crushed biscuit, or a small portion of egg or light egg-pudding in the way of a treat. It is astonishing what can be effected in the way of training birds, when only one or two are kept, and there is plenty of time and patience to devote.

MOULTING OF CANARIES.

To prove what high feeding and treatment effects, we have evident facts respecting the horse, beasts, sheep, dogs, poultry, and other animals. As an example, see what an improvement is made in the appearance of their coats and plumage by attention. Epictetus says of the sheep—“For as the sheep do not give up again the grass they have eaten to show how well they are fed, but prove the goodness of the pasture and their own case, by concocting their meat well, and bringing a large fleece, so must you approve

the excellence of your doctrines to the world, not by disputes and plausible harangues, but by digesting them into practice." So it is with Nature throughout. All living things were sent for man's use, for him to exercise his skill and knowledge, and to improve upon. In treating and feeding birds during moulting every attention must be paid.

At about the age of nine or ten weeks, young birds commence to moult, and the time occupied in passing through this sickness lasts about eight or nine weeks. Some moult more freely than others. If matters proceed satisfactorily, the period from the chipping of a bird until it is clean moulted or fine, extends to about sixteen or eighteen weeks. The early hatched are generally a week or so longer than others before they begin to moult. The latest hatched moult the quickest; for, being bred at a time when the season of the year is most sultry (July), and reaching the age of eight weeks in September, when an autumnal change affects the birds' system, this causes them to cast more rapidly than earlier hatched birds. When a Norwich bird is seven or eight weeks old, it should be put in the moulting-cage or place assigned for them, and the marigold flowers given for them to peck or eat. Many breeders have the advantage of special moulting-cages or snug corners free from draughts for their young stock, and, as the birds attain the age I have mentioned, keep putting them in, only do not allow them to become too numerous in their respective places if they are not sufficiently spacious or adapted. Perhaps at the commencement they will refuse to eat the flowers and waste many; this cannot be avoided, and does not matter, so that, by keeping them supplied, and being somewhat spare with the seed, you are learning them to eat the marigolds. At this period you have no cover over the cage to darken it, but, having one ready, you begin at first to partly suspend it over the cage-front; for, were

you to place the birds in almost total darkness at the beginning, very possibly they would not be able to find food. As you perceive the birds becoming more fond of the flowers, so increase the covering over of the cage until you place your birds in a state of semi-darkness. During the moult supply no other but Canary-seed, and no green food whatever, or you will counteract the food they will have to partake of—*viz.*, Canary-seed, marigold flowers, and saffron-cake and solution. A piece of suet now and then may be placed betwixt the wires, or a little linseed given (if they will eat it), which will make up for all deficiency in not supplying them with hemp-seed at this time, which is a most injurious food for the stomach of a young tender bird. Too much hemp-seed at any age I have found has a too softening tendency: it does very well at breeding time for the old birds, and has a stimulating effect. Rape-seed should not be given to young birds during the moult; it is too drastic, and a free supply will often affect older Canaries. It should always be scalded before given. As a general rule, I advise these matters. There may be exceptions, and possibly Mr. So-and-so's birds may have done well, but my long experience practically, and the experience of numerous others, who think as I do, is proof that a too heating, oleaginous diet, will cause more young birds to become soft or disorganised in their bowels than when kept on good sound Canary-seed.

Common sense ought to convince one that sound Canary-seed, which supports both bone and muscle and keeps the feathers hard, is better than a free use of hemp, which tends to loosen or relax the system, and encourages a gross fatness. During moulting, when beetroot or carrot is sufficiently grown, you may cut slices, and, after scoring them both ways with a knife, give them to your birds in the raw state. When the birds have become more familiar to the

darkish state of the place or cage, draw the cover entirely over the front, for it is necessary that they be kept in this state during the growing of the feathers, it also keeps the birds more steady, with less liability to damage their new feathers. During this period of feeding in the dark, birds become sufficiently plump and fat. Supply fresh marigold flowers two or three times daily, and do not omit to continue them as often as I have named throughout the moult, and even after they have done moulting; and, as long as marigold flowers can be obtained, persevere to the utmost by feeding with them. At the finish of the moult the flowers are as necessary as at the commencement, for it is often this persevering finishing touch that will decide between two birds when they come before the eyes of a judge. Do not give your birds any of the green leaves of the marigold—nothing but the actual heads or flowers. To have a good supply you should grow successive crops. Sow one bed in March, and another early in June; for the latter sown will supply you when the first flowers are gone, and it is most essential you should have them as late in the season as possible to treat the later hatched young. Be sure your cover is well tied or drawn over the entire front of the moulting-place, for it is necessary to keep draughts of cold air from the birds, and also to prevent the light getting in. Give your birds during moulting strong saffron solution, and a solution of cochineal only to drink, and so supply it that they cannot wash in it. They are both harmless, but necessary in assisting to improve and striking out well the rich orange-tinted feathers so desired and satisfactory to the eyes of a breeder and exhibitor of Norwich birds. Let the cover over your cages be of a close stout texture; a thin open one is bad. Do not use paper, unless you wish to alarm or disturb your birds every time you look at them; the birds make holes in it, and it is ill adapted for

the purpose. Besides the cover over the cages, draw a blind over the window to keep out the power of the sun.

In a cage eighteen inches square, two birds can be moulted together, if they will agree. Some are very pugnacious. Sort out the best shaped, or most likely-looking male birds for moulting for exhibition. If you are possessed with a large fly, or spare room, numerous birds can be moulted together. In that case you must darken as much as possible the window or sky-light. I have moulted as many as fifty and upwards at one time, with much advantage, and without them pecking or damaging one another during the casting of their feathers. If kept dark, they cannot see to peck each other's shoulder-feathers, as they frequently will when together in a light place. If a bird once draws blood from another in the quill or shoulder-feathers, it is better to remove the injured one at once, or others will learn the bad habit, and cause much annoyance. Lizards, Cinnamons, and Crested birds can be moulted together in a fly very well in the dark, and for the sake of keeping the plumage in good order, occasionally supply a bath. The one I use is large, and two and a half inches deep, into which ten or a dozen birds can tumble at once. This I place on a wire stand of about the same height. When the birds have bathed, take away the bath, and let them have only the solutions. The cake with which you must feed the birds during moulting, can be made by beating well in a basin three or four eggs, to which afterwards add three pennyworth of saffron made into a solution with about half a wine glass of soft water; in another basin beat up a quarter of a pound of butter, to which add the same quantity of moist sugar. Put all together in one basin, and add about a quarter of a pound of flour. Before you place it in the baking-dish supply a teaspoonful of the baking-powder, and grease your dish. The cake will keep for many days,

if not where it is too damp. With this also feed your birds during moult. London Fancy birds are generally moulted in box cages, and they too are kept well closed down. The above cake may be supplied to them, or they can be fed on the yolk of egg and savoy cake, without which their appearance is not much improved. The moulting or box-cages have glass slides, and when the birds are first placed in them the slides should be partly opened. A graduated system with them, as with the Norwich, is at first adopted until the slides are entirely closed. To obtain first-class moulted London Fancy birds much attention is required, or the birds are not what are termed clean moulted, and they present many small dark ticks in their body feathers. The greater the attention the more you will meet with success. The Belgian breed of Canary requires very different attention. They can either be moulted in partitions or in cages. With this breed colour is not so much an object as position, although the higher the colour with the position also the better they are. It is not necessary to feed on the marigold flowers, although some of the saffron-cake, mixed with crushed biscuit, to which can be added a few drops of port or sherry wine, forms, in addition to Canary and millet seed, a good diet. Their cages should be covered with a cloth to keep them free from cold air or draught. No green food or hemp-seed should be given, and keep a piece of suet for them betwixt the wires. A bath may occasionally be given, and so fix their perches that they will be able to easily reach them after the bath. A little bread soaked in cold water and afterwards squeezed out, with a few drops of cod liver oil added, and now and then some maw-seed and groats, will assist them much during the moulting sickness. A little of the best pale sherry at times blown over them with the mouth in a dewy cloud tends to get them well up and improve their stand.

It is rarely these birds require handling even when being removed from one cage to another. A few lessons during the age of six or seven weeks, by directing or driving, or, as the fancy term it, "running them out," for the purpose of showing true Belgian form, soon brings them into the habit of leaving one cage for another. This tutoring is effected by the aid of a small wand or thin cane used when the wire show-cage is placed against another, which the birds are required to leave. A slight additional length may be obtained by drawing out their longer flights and tail nestling feathers, but this should not be done within six weeks at least of exhibiting them for show. The most ready way is to hold the bird back downwards in your left hand, and securely pressing the last joint of the wing between the left thumb and finger, with the right you draw the feathers. The most ready way of extracting the tail is, after you have caught the birds, open the cage-door, and showing or holding it on the front of the door place, a slight jerk will cause the birds to fly and "leave their tails behind them" betwixt your right thumb and finger. Aged birds have sometimes great difficulty in casting their outermost flight feathers; in this case it is necessary that they be drawn. Belgian birds in particular lose confidence in their stand by the nails becoming too long or sickle shaped, and which should be carefully cut. Supply your birds well with grit-sand, to which add occasionally some old crushed mortar and chalk, also now and then a small piece of salt. They will not eat more of the latter than will do them good.

BIRD EXHIBITIONS.

DURING the past fourteen or fifteen years, exhibitions of birds on an extensive scale have been held in various parts

of England. Previous to that time they were of somewhat uncommon occurrence, the shows generally being conducted in a close manner, by a few individuals, at public-houses, thus preventing their beauty and song being appreciated by the general public. Birmingham and Nottingham were among the foremost towns where these shows were publicly held, followed in quick succession by exhibitions taking place at the Crystal Palace, Southampton, Derby, Oldham, Gloucester, Norwich, Brighton, Plymouth, and afterwards Hanley, Sunderland, Middlesborough, Newcastle, Ipswich, York, Northampton, Leeds, Stockton, Berwick on Tweed, Lowestoft, Sheffield, Leicester, Burton on Trent, Leek, Macclesfield, Whitehaven, and numerous other towns, until they have extended throughout England. Bird exhibitions have also been held in many parts of Scotland, and also in Ireland. In the year 1857, an All-England show of cage-birds was held at Nottingham, and I was so satisfied with the entire arrangements, that I ventilated the matter in *The Field*, dated March 28:—

“CANARY BREEDING AND POULTRY SOCIETIES.

“SIR.—Being a constant reader of your valuable journal, I have with much pleasure noticed the remarks on Canaries. With respect to those beautiful melodists forming a distinct part in poultry shows, I can only say a more interesting sight was never witnessed than at the Nottingham Exhibition. Were they (the birds) paid more attention to than they are, they would not only tend to make home more cheerful, but would, in my opinion, be a great acquisition to poultry societies. If distinct classes for Canaries were set apart, I feel sure it would assist in supporting societies, as the number of entries at the late Nottingham show will prove. No expense is incurred in providing cages, for the birds are sent to the exhibition by the owners in cages (mostly new for the occasion), which have only to be arranged on stages provided. It was the general remark at the Nottingham Poultry Show that nothing exceeded this (the Canary) department in beauty and interest. The centre of the room was tastefully arranged with evergreens, which were interspersed with crowns and banners, surrounding which ran tiers of

covered shelves for the numerous cages. A good passage for the visitors being left, they were enabled to examine and admire each of the birds, and feast their sight and curiosity on the tiny warblers. To breeders especially it was a "rich and rare" sight to witness so many truly beautiful bred birds. Being myself a Canary breeder, I may, perhaps, take more interest in the subject than others; but it is my firm conviction that, if a separate department was made in Poultry Societies for Canaries, and if breeding them was more generally entered into, societies would flourish better, and it would tend to cultivate the minds of those who take part in this interesting pastime.

"(Signed)

GEO. J. BARNESBY.

"Derby, March 23, 1857."

Since that period the bird cause has flourished much, and numerous exhibitions have taken place. Those most attractive, and on an extensive scale, have been held in the Crystal Palace, Southampton, and Sunderland. With respect to the show held at the former place, nothing which takes place in that palace of grandeur and delight can possibly surpass in interest the great annual bird show, collecting together, as it does, in a structure so admirably adapted for the purpose, the finest specimens of birds from various parts of England. As beautiful and as charming as the Palace is, with its music, fountains, terraces, walks, ponds, statuary, gardens, and galleries, still I think an additional charm is added when the annual bird show is held. No exhibition elsewhere is carried out on so vast a scale; and I may assert, that the excellent arrangements of the manager, Mr. J. Wilkinson, and the able staff of officials, afford to the many exhibitors the fullest confidence that their delicate pets receive every attention possible under their care, and are well packed when returned to their owners. What can be a greater treat than a visit to the Crystal Palace annual exhibition of cage-songsters? A short run by rails from the London stations, through the busy outskirts of the metropolis, and conveying

one through a very pleasant part of Surrey, quickly reaches Sydenham. On entering the Palace, the bird show, which takes place in the tropical part, is soon found, and where hundreds of finely-coloured and plumed British and foreign birds, and Canaries and Mules, are pouring forth their sweet music. It has been truly asserted that—

“When birds of fine feather are gathered together,
Well clothed in their colours so bright,
’Tis a sight worth seeing by each human being,
Not only by day but by night.”

The climax of delight and astonishment is here attained, and you pause and ponder for a time over that you have seen. This may be realised at the annual show, which is visited by so many fanciers and others who interest themselves so much about our song-birds.

To give an adequate idea of the show, I may state that the number of birds entered for exhibition, in the year 1870, reached 1191. In the two first classes of Canaries (clear Norwich), those for competition were 125, no slight task in itself to pick out half a dozen birds for honours. The entire entries of the Canary and Mule classes reached 783, and from this number, to that of 944, were included the British birds, and birds of passage and migratory birds. The remaining classes were confined to the various foreign birds and extra stock, thus reaching the total number of 1191 entries. No one need envy the labours of the judges, Messrs. Barnesby, Moore, and Wilmore (for Canaries and Mules), and Mr. Goodwin (for British and foreign birds). Since that year the show has lost an efficient judge of British and foreign birds, through the death of Mr. Goodwin, whose place, however, for the show of 1871, was ably filled by the appointment of Messrs. J. Jenner Weir, F.L.S.,

and Harrison Weir, F.R.H.S., assisted by Mr. F. W. Wilson, of the Crystal Palace.

Between the months of October and March is the best time to hold a bird show, owing to the fine state of plumage the birds are in, and at a time of the year when they are not required for breeding with. Exhibitions are sometimes held during the summer months, but they cannot possibly receive that support from the fanciers, who have most of their best birds up for breeding. Still, I have witnessed some capital exhibitions; for instance, the one held in connection with the "Grand Yorkshire Gala," which takes place in the month of June. At the show of 1871 there were upwards of three hundred specimens for competition (one hundred more than the show of 1870). There is even one advantage gained in holding a summer show, which is obtained by offering prizes for young birds, or those bearing their nestling feathers. There is much pleasure to be derived from a combination of birds and flowers. Those who love birds can gratify their ears with the gushing peals of melody ever bursting forth, or can fully enjoy the sweet fragrance of the flowers, which are "Nature's jewels, with whose wealth she decks her summer beauty." So vast is the interest taken in cage-birds, that at most of the largest shows exhibitors from distant parts assemble together.

ADVICE TO EXHIBITORS.

EXHIBITORS sometimes attribute blame to those who have the management of bird exhibitions, whereas it may have been caused through themselves not having acted in strict accordance with the rules or regulations issued. In filling up the certificates of entry make them out yourself, and do not trust others unless properly qualified. Always write

your names and addresses distinct ; state the ages, sex, and breeds of the birds to be shown in the various classes, and fix a price for the sale of them. At the time of sending off the entries, forward also, either by cheque or post-office order, the amount of money entitling you to show, and securing for you a prize-list or books of awards. Fill up and return the certificates before the expiration of the time specified, for by neglecting this it is impossible that secretaries can pay due attention. Be sure and send off the birds for show so that they may be received in time to be judged, or they will not be noticed, and you will be put to unnecessary trouble and expense. Many prizes have been lost by the birds arriving too late for competition. Use substantial wrappers in packing, with your name thereon, and send tin vessels for water, which are better than glasses, and cannot easily be broken. When you receive the labels, and before again sending off, see that the proper ones are tied on the cages. Always send a sufficient supply of food, and pack your birds up so that they may be forwarded by fast trains at night, for it is better even your birds lose a little rest than food. Box, or wooden cages, with wire only in the front, are preferable for London Fancies, Norwich, Cinnamon, Mules, Goldfinches, Linnets, and many other small birds, and can be better packed. Belgians, Coppys, and Lizards show much better in suitable wire cages, and can be more advantageously examined by the judges. These will require more care in packing. By paying attention to the above remarks, disappointment will often be prevented.

HINTS TO SECRETARIES AND COMMITTEES.

Those who undertake the management of bird exhibitions should study all attention being paid to exhibitors, for it

is through their aid and support the requisite material obtained in furnishing the stages. In commencing a new show it is unwise to issue too extravagant a schedule prizes at first without reasonable chance of success, or of the show being continued from year to year. It is not solely through motives of gain that many of the best fanciers exhibit. Still, with proper management, an attractive schedule may be issued if assistance is obtained and solicited from ladies and gentlemen, who may countenance the matter with their patronage and purse. This will afford a guarantee for the success of a show, not only to those who bring it out, but will be satisfactory to exhibitors, who will thereby give their aid with a prospect of receiving their prize money. I allude thus, owing to some exhibitions having taken place merely with a speculative view, and if not a success the prize money has not been paid, or only a portion of such. This offers no encouragement for the future. The names and addresses of exhibitors can be obtained from catalogues issued of other shows. The time of holding an exhibition should be well considered, otherwise it might clash with one or others previously fixed. Sufficient publicity should always be given, and printed schedules forwarded by post. From the time of holding the show a period should intervene for the purpose of receiving the entries, issuing labels, and forming or compiling the catalogue. When entries are received, the secretary should acknowledge the receipt of the same, which will not entail much expense, considering the present cheap rate of postage; for if left until the labels are sent off, which, through bad arrangement, has occurred only the day before the birds have been sent to the show, and sometimes have not even been received in time, causes annoyance and inconvenience. Independent of this, when exhibitors send entries and money, it is proper and satis-

factory to know if each have been received. Another very important point is, that prize lists, when sent for, should be forwarded as early as possible, for it has too often happened that they have not been received even until the show has terminated, or the birds have been sent home. This neglect sorely tries the patience of an anxious exhibitor, which ought to be avoided, and could easily be, were an assistant or sub-secretary, or one of the committee appointed for the purpose. I know full well that secretaries have much anxious and harassing duty to discharge, besides at one particular juncture losing their rest in superintending and arranging for the exhibition; but still a prior appointment of a person to attend to the sending off the prize lists, as early as they are printed, will prevent unnecessary correspondence and unpleasant remarks. As most bird shows take place at a time of the year when the atmosphere is cold and chilly, it is necessary that the trains be waited upon for the reception of the birds as they arrive, and not allow them to remain in the cold. They should be taken to the place assigned, immediately unpacked, and fed. Canaries generally are very delicate, and proper care and attention may prevent the loss of valuable birds. When they are unpacked the wrappers should be secured and ticketed, and they will be easily known when again required. Much carelessness exists with respect to sufficient care not being taken of each exhibitor's covers or wrappers, and some who have sent both expensive and serviceable covers have been repaid with others of a valueless kind. They will not only be ready when required for re-packing, but each will get back his own property. A proper person, one used to birds, should be appointed to examine the whole of the birds on the stands or stages to see that they are well supplied with seed and water, for a little neglect in this way prevents many good birds being

in fit condition to be properly judged, besides running the risk of the birds dying, and a loss ensuing to the owners thereby. No bird or birds ought to be allowed to be claimed before the time specified for the opening of the show to the public. One matter reprehensible in its way is that of a secretary competing for prizes. I have known instances where special prizes, in the shape of silver cups or medals, have been offered, and won by the secretary. This is much better avoided; let the competition be between those entirely unconnected with the arrangements. Secretaries and committees should pay all due regard to the funds at their disposal, and discountenance at all times a wasteful or extravagant expenditure. The paying or handing over the prizes gained within a specified or reasonable time after the show has been held has a very good effect for the future. One very annoying matter to exhibitors is having to pay unnecessary railway charges for separate parcels, caused through secretaries of shows or their officials returning the cages in too many parcels, whereas the use of an extra piece of cord for tying several cages together in one package would prevent useless expense to exhibitors. I have frequently experienced this annoyance.

THE APPOINTMENT AND DUTIES OF JUDGES.

IN appointing a judge or judges for a show, men of well-known ability and practice should always be chosen. Where a body of individuals are formed into a committee for the purpose of carrying out or managing an exhibition of birds, no one individual, either directly or indirectly concerned, should be placed in the position of judge, or should exercise in the slightest degree any duty in connec-

tion with the matter more than assisting to carry out the show to the utmost success. "No man can be a judge in his own cause if he is in any way concerned, more than a king can or should be allowed to conduct his own affairs of the state between himself and his people; or that physicians, when sick, should trust to their own skill before the advice of others; or that masters of the gymnastic exercises should be proper judges of their own exhibitions." By the same rule, a person should not be permitted to judge birds if he has any interest in any of the birds to be judged, either direct or indirect. Such has occurred in more than one case I know. But men of high-mindedness, and fully competent, intelligent, impartial, and discriminating, can be found to discharge this very important duty. The position of a judge, in whatever capacity he may be, is not an enviable one. Firmness, discrimination, patience, affability, and possessed of a thorough practical knowledge of his respective duties, are qualifications of vast importance in a judge, without which he cannot expect to find his pathway very smooth. With a clear and certain knowledge, the capacity of forming correct ideas, and having the faculty of uniting or separating those ideas, so as to arrive at a decided knowledge of what should constitute good or inferior specimens, possesses a man with the ability of giving right judgment. Sufficient time should always be set apart for the adjudication of the various specimens, for unless this is studied, and a judge is hampered with too much work, a mere loose or hurried survey is likely to take place, unless assisted by another judge. In shows of great magnitude, and when the time occupied in judging extends over the entire day, some natural exhaustion may be felt towards the close. It is necessary that as much attention be devoted to the latter classes as those earlier judged, and to further this, the mind should be kept clear and not

affected by strong stimulants, such as a too free indulgence of wine or liquor. Man's nature varies, and some are able to indulge more than others. I have ever found tea or coffee most refreshing, and it enables me to perform my duties better, especially towards the close of them. I have known those who have partaken freely of wine, at the same time conscientiously endeavouring to fulfil their task, to succumb through a weakness of the flesh, and thereby carelessly perform their duties. Punctuality should be a matter of study by a judge, and it is better he be in attendance at the time summoned, or even before, than arrive at a later period. Before commencing his duties he should be furnished with a schedule of the classes he has to award prizes to, and also a book and pencil to note down the awards. On examining the birds, which should be correctly classed, possibly he may notice some of the specimens not in their proper classes. Those he will disqualify, as it is no part of a judge's duty to alter the position of any bird. Such interference may cause much trouble to a secretary when the specimens have to be returned to their respective owners. Still he may draw the secretary's attention to the error, who may be able to account for the mistake. Before a judge enters upon his duty the room or place where the show is held should be entirely cleared of all persons, unless the assistance of disinterested individuals should be required, as is the case in shows of great magnitude, for the purposes of moving or carrying cages. The secretary should be in close attendance, if required, to answer any question the judge or judges may ask. The cages containing birds for competition should not bear any labels upon them, but the numbers corresponding with those in the secretary's book. When a judge has completed his duty, he should give in the return to the secretary, but retain the book himself, in which he

had entered the award and made notes, for his own reference, if required. After the awards are given in by the judge or judges, the secretary, with the aid of an appointed official, should proceed to place or attach the prize cards to the respective cages containing the winning birds, according to the returns given in by the judge. This is often performed by a judge himself, but in the best conducted exhibitions a judge is relieved of this additional labour. When a judge has somewhat rested from his arduous duties, and the prize tickets are all affixed, he should examine all the classes and see that the cages containing winning birds bear the proper prize cards. If birds arrive after the time specified in the schedule, and the classes in which they should be entered have been judged and booked, they will be too late to be judged, and the disappointment and neglect must rest with the owners of such for not forwarding them earlier. A person, although acting in the capacity of a judge, should not be allowed the privilege of claiming any of the specimens prior to the time fixed upon for opening the exhibition to the public.

CLEAR NORWICH CANARIES.

THE breeding of these birds is promoted more than any kind of Canary. They are very compact in form and plumage, and are much prized by fanciers for their beautiful colour and blooming appearance, which show to the best advantage after the casting of the nest feathers. Although somewhat small, they are of robust make, free in song, and generally possessed of a bold voice. If well tutored, none, excepting the German songster, can surpass them for harmony. The deep colour is much encouraged by a system of feeding and artificial moulting ; still, without breeding from

high-class stock, the deep colour cannot be satisfactorily attained. I have referred to the feeding and moulting process elsewhere. Foul means of artificial colouring or defacing these beautiful birds are, I regret to say, frequently practised by unprincipled exhibitors, who are often detected, much to their shame and disgrace.

There are six classes of Norwich birds, exclusive of the "Crested" and "Green" kinds. The two first on the list are termed clear yellow and clear buff. The yellow



Norwich.—This represents an entirely clear specimen.

resembles the colour of an orange; the buff is somewhat paler, although having a fine mealy tinge or bloom over the rich colour beneath. The flue of the clear bred birds is white and silky. Sometimes fine clear birds are thrown from marked or variegated birds, when the flue will often be black, especially about the vent. It is advisable, at times, to cross a clear bird with a variegated one, for the purpose of strengthening or upholding the colour, for by continually matching clear birds together, the progeny become too mealy, and lose, in a great measure, the rich buff appearance. This I know from great experience.

They are judged by the following points:—

BEAK—short and clear for choice.

HEAD—moderate size, with fulness throughout.

NECK—the fulness expanding regularly from head to chest.

BACK—straight, wide across, exhibiting power, and well filled over the spine.

WINGS—the outer edging of the flight feathers should be rich in colour ; feathers very compact, even throughout, and not crossing at the tips.

TAIL—inclined to be short, but very compact and thin.

CHEST—broad and full, and gradually expanding from the neck.

BODY—towards the vent should taper off, exhibiting a slight flatness, on the under part especially.

LEGS and Feet—of a light flesh-colour or white, and the nails not twisted.

FEATHERS—of a very compact and rich kind.

COLOURS—in Jonques a very rich orange, carried as much as possible throughout the bird. The Mealys should have a considerable flowery tint, lacing, or edging, on the tips of the feathers.

TICKED OR UNEVEN-MARKED NORWICH CANARIES.

THERE are two classes, yellow and buff. Specimens, whether ticked, blotched, or irregularly marked, are better classed together. Those slightly ticked often appear as though they were clear birds, but it would be unwise to enter them with such, for it would not only be unfair to other exhibitors, but would give rise to disputes. Excepting for the marks upon them they are judged by the properties of the Clear Norwich. Birds, with more or less ticks or marks, can be shown together. A mark on either the head, body, wings, tail, or legs, constitutes a show bird.

EVEN OR BEST MARKED NORWICH CANARIES.

SOME difference of opinion having existed respecting the two classes (yellow and buff) of Norwich, termed "Marked or Variegated," and many exhibitors not being well assured or directed as to how they should be marked for show, I deem it necessary to designate them as above, viz., "Even or Best Marked." This will give not only facility for the classes being patronised, but thoroughly understood.



Norwich (even marked).—This represents a specimen marked dark around each eye ("spectacle-eye marks"), and also the smaller flight feathers dark; the rest of the bird clear, except the lower portion of the legs, which are often dark. Either light or dark legs will do for exhibition.

and the other two marks being on the lesser flight feathers, which should be marked as regular as possible. In these classes birds having six marks, viz., the eye marks or face marks, the marks on the smaller flights, and also having a dark feather on each side of the tail, will be good specimens to compete with. Birds are often bred with the marks on the wings and an oval mark on the crown of the head without any eye marks. This marking is much favoured by many fanciers throughout England, and although the birds

only possess three marks, still there is considerable uniformity about them, and it is a question as to whether they are not equal in beauty to others. I would, therefore, include them in the same classes as those with four or six marks. Such birds should be judged together. The points of perfection will be the same as in the Clear Norwich, so far as shape of head, neck, back, chest, body, and yellow and buff properties are concerned. Sometimes the legs will be dark, but birds with either flesh-coloured or dark legs are eligible. Birds with dusky feathers about the thighs or near the vent, in addition, are allowed to compete.

Very heavily marked or variegated Norwich birds (one of each colour, yellow and buff) paired together will sometimes produce Green Norwich, but of a very different green colour to the Dark Green birds exhibited in the North of England, resembling more in shape the Yorkshire breed. The Green Norwich are much richer in appearance, having a fine bronze-like tinge in the plumage. These are sometimes matched with Clear Norwich to obtain Marked birds. When a bird is bred from such parents, with clear plumage, and well moulted, it will frequently have a deep blooming colour.

CRESTED NORWICH CANARIES.

EXCEPTING the crests, they very much resemble the other Norwich birds in quality and form, both in the yellow and buff kinds. Those most in favour are marked on the smaller flights or wing feathers, and also with a dark green crest falling regularly from the centre of the crown over the beak and eyes. They vary in general formation of crest from the "Coppie" birds, for instead of the crest graduating into smooth feathers at the back of the head, the crest is

continued all round it, showing as little vacancy of feather or baldness as possible. There are two points for consideration in breeding good crested birds. One is, that they should not be bred too large so as to show evidence of half "Cobby" breed, for they are likely to be disqualified at a show; the other is, that when bred too close with small crested stock, the progeny decrease in size, and appear somewhat stunted. Good bold-looking



Crested Norwich.—Marked, as sketch, with dark crest, and smaller flight-feathers dark; other parts clear.

birds should always be chosen for breeding purpose, but two crested birds should not be matched together, for the offspring often turn out bald and deficient in size of crest. Generally there are four classes, which are sufficient, viz., two for the best marked crested yellow and buff, having dark crests, and lesser flight feathers dark and even; and two classes for yellow and buff of any other variety of crested Norwich, which should have dark, grizzled, or clear crests, without the marks on the wings, and also others more heavily variegated. Next to the best marked crested specimens (the head and wings), those with fine green or dark crests, with clear bodies throughout, are esteemed. The points of perfection are the same as in other Norwich birds with the markings, already described.

CLEAR BELGIAN CANARIES.

THE Belgian bird—I mean one of recognised form—is really aristocratic in appearance compared to most other Canaries,



considering its finely chiselled head, containing a pair of full piercing eyes, its raking snake-like neck, jutting out from well-formed shoulders and back, from which should lie faultlessly-shaped wings, not crossing at the tips. It should possess fine feathers and colour, a good chest, be well braced up from the chest to the vent, with a long tail, piped, and good stand to set it off to advantage.

Belgian.—Clear throughout.

Those most highly prized in this country are from Antwerp, Brussels, Ghent, and Dietz. The thinner and more slender specimens are termed French Belgians, the coarser feathered or larger birds being from Holland, are styled Dutch Belgians. Contrast the Belgian with the “perky” little plain Canary, and he looks a high-bred gentleman-bird compared to his little cousin-german; there is indeed as much difference as between the race-horse and cart-colt. After examining the latter bird, you have the impression that he is a hypocrite in his heart, he is so smirking, so soft and deprecating in all his movements, but directly your back is turned he raises his head feathers, and often pours forth a shrill, bold burst of song; turn your head, and he suddenly sub-

sides into silence. The bearing of the Belgian is just the reverse. He is a steady, well-trained, fine-looking fellow, and will return you stare for stare, refusing to retreat an inch. Generally they are not such songsters as other Canaries, being weaker, and more tremulous in voice. They are more subject to disease, especially asthma, and the average of life of shorter duration. They are bred very freely by the Belgian peasants as a pastime. The best breeders promote principally the breeding of clear birds, not thinking so much of the marked or variegated kinds, which have of later date come into fashion, through crossing with dark birds of inferior blood. At one or two of the great shows in Belgium, prizes are given for the best birds irrespective of colour (either yellow or mealy). Such birds are held in estimation, and realize large sums. Very few of these reach the English fanciers, although there are to be found breeders in this country who will at times import them, even at fabulous prices. There are two classes—yellow and buff—and they are judged for the following points of perfection—

BEAK—slender and clear.

HEAD—small and flat.

NECK—long and slender.

BACK—long and good circle.

SHOULDERS—high, and well filled between.

WINGS—long, compact, and thin, lying close to the body, but not crossing each other at the tips.

CHEST—prominent, but tapering towards the vent.

BODY—long and slender.

TAIL—long and thin, with the feathers well wrapped over each other, and inclining in circle with back.

LEGS—for length and erectness of stand.

FEATHERS—closeness, with richness of colour—not coarse

FEET—slender throughout, with nails not twisted on one side.

TICKED OR UNEVEN-MARKED BELGIAN CANARIES.

THESE two classes of birds (yellow and buff) are mostly bred from clear stock, but a slight mark, tick, or heavy blotch on any of the outer or visible feathers either on body, wings, tails, or legs, constitute show birds. They are, apart from this, judged for the best Belgian properties, by the same rules, as near as possible, as the clear Belgians.

EVEN OR BEST MARKED BELGIAN CANARIES.

THE points of excellence of these two classes of Belgian birds should resemble Clear-bred Belgians in general figure, but this is rarely attainable. In addition to the other properties, they should be marked as under :—

BEAK—slender and dark.

EYE-MARKS, or Spectacle-eyed—a narrow mark round each eye, tapering to a fine point on each side of the head, but neither coming to the front of the beak or on to the neck behind ; if only marked on the cap or crown, and not about the eyes, it should be of a perfect oval shape, without the dark feathers reaching to the eyes.

WINGS—the outermost flight-feathers to be white, the inner flight-feathers dark.

TAIL—the tail, if not clear, but regularly marked with one or two dark feathers on each side, to be considered a good show bird ; specimens with entirely dark tails are eligible for show.

THE UNDER PART of the bird from beak to vent to be as clear and free from dark feathers as possible. .

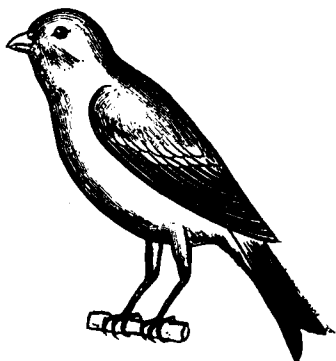
THE UPPER SURFACE from the marking of the crown of the head, to be entirely clear to the tail, the wings excepted. THE LEGS to be dark—the darker the better in each variety.

THE LONDON FANCY CANARIES.

THIS breed is one of the choicest known, and scarcer than any other Canary bred. Nothing can possibly surpass the beauty of these birds when clean moulted. In their

first or nestling feathers, they very much resemble the "Lizard" when young; but, from long experience, I have satisfied myself that the change they undergo in their various stages of moulting is quite sufficient to establish the fact that they are a distinct breed. This opinion is fully borne out by the opinion of several breeders of the "London Fancy" birds of many

years' experience. One of these informs me he had bred and shown birds for the past fifty years, but could not give any account of the breed, otherwise than that they were always understood to be quite distinct from other kinds. Although resembling the "Lizard" in their nestling feathers, if bred with a mark on the cap, when clean moulted, the mark, however large, will disappear, but not so with the "Lizard" bird, which retains it. The breed is somewhat small, and in casting off the nest feathers, they entirely change to a



London Fancy.—Clear throughout, excepting the WHOLE of the FLIGHTS and TAIL feathers which are BLACK.

rich colour, except wings and tail, which remain black until the next moult, when the darkness in wings and tail is partly lost. Below are the correct properties obtained from a member of the "Hand-in-Hand" Society, London.

Like the "Norwich" breed, colour in the "London Fancy" is a great point, both in Jonque and Mealy. The Mealy birds should have their feathers fringed or tipped with white, and appear more bloomy than the yellow, which should be of a very deep orange, with a silky appearance of feather. The black feathers should be as bright as possible, but blackness of feather is only referred to when colour is equal in two birds. The cap is the principal point; next breast, saddle, and back. Cap, saddle, and back will surpass breast, saddle, and back; cap and breast will beat saddle and back; but breast, saddle, and back will beat cap, although that is first point. In a first-class show bird every feather in the flights and tail should be black, in stalk or web, and not have an entire white feather; each flight must contain eighteen flying feathers, and the tail twelve feathers.

First-class birds of this breed often realise very high prices, which is not to be wondered at, taking into consideration the trouble and attention devoted in bringing them out in a manner satisfactory to the breeders of them. They are judged by the following points:—

CAP—for colour, magnitude, and regularity.

COLOUR—for richness of yellow, not only in the cap, but throughout the bird.

WINGS AND TAIL—for black, home to the quill.

SIZE—for largeness and elegance of shape.

PINIONS—for magnitude and regularity.

SWALLOW-THROAT—for largeness.

FAIR BREAST—regular.

LEGS—for blackness.

FLUE—for blackness.

LIZARD CANARIES.

WHAT can be prettier than these little spangled beauties? Whether they be the rich Jonque or Golden Spangled, or the Mealy or Silver Spangled birds, there are many points to admire about each. The deeper the colour of the Golden Spangled the better it is, especially in the cap, fringing or lacing of the spangles, and the breast. The cap should be of good size and oval in shape, extending from the dark beak to that portion of the crown behind, where it should terminate somewhat square and regular. On each side of the head the cap should reach the eye-lids, which should



Lizard.—Clear in cap. Breast, either in the Golden or Silver specimens, slightly streaked from the neck. Spangles slightly increasing in size from the face down the back, until reaching the middle, where they are largely developed. Black wings, fringed with a little lighter shade. Tail black, fringed the same. Lower part of legs and beak black.

be dark. From the neck the spangles gradually increase in size, until reaching the back, where they are fully and regularly developed. The legs, feet, and web and stalks of wings and tail, black. The head when large, wide, and flat, is much preferred. The remarks with respect to the properties likewise refer to Silver Spangled specimens, which bear a mealy or silvery appearance. The breed is much

promoted in many parts of England. Several years ago there was a class of Lizards termed "Blue Spangled," and some pretending to this colour were shown at the Crystal Palace, Sydenham, but not being quite blue enough, the class very properly came to grief. They merely presented a slaty or greyish-blue-black hue beneath the spangles and in the down or flue-feathers, which was caused by matching two mealy Lizards together. Like "London Fancy" birds, the Lizards are "out of feather," and not so eligible for show, after their first year's moulting feathers are cast, when the feathers become tipped with grey or white at the ends of the flights and tails. The better the breed the less will they show the white tips on the feathers. Unfair exhibitors at times resort to the foul doctoring process, to deceive the judges. Sometimes these birds are neither of a confirmed Golden nor Silver appearance. Such are liable to be disqualified, as also are those foul in the wing and tail feathers, or with a broken cap. The most important point is the cap, then spangled feathers, throat and breast, wings and tail, chest and body, head, neck, legs, and beak.

They are judged as follows :—

BEAK—the darker the better, and short.

HEAD—the crown should be flattish and wide, with size throughout.

CAP—should possess purity, rich colour, and magnitude of form, with great regularity, coming to the beak in front, and to the back of the crown behind, and not lower than the eyebrow or lid, which should be dark.

NECK—short and thick, with small, clear spangles beginning at the back of the cap and gradually increasing in size towards the body.

BACK AND SPANGLES—should be wide across, clearly and thickly spangled, the boldest being in the centre, and

the others gradually decreasing towards the sides and upper tail coverts.

WINGS AND TAIL—should be black, the bastard wing feathers particularly so, the others (pinions) black in stalk and web, and fringed with orange, or silvery white, according to class.

THROAT AND BREAST—orange or silvery, according to class, and regular throughout, the richer the orange the better.

CHEST AND BODY—the former wide and the body of good size, the bolder the better.

LEGS AND FEET—throughout, the blackest the best, and nails not twisted.

FEATHERS—very close, and not deficient or pied, with the underneath flue of the golden spangled a bluish-black, and the flue of the silver spangled more of a dark grey. In the yellow portions of the golden spangled the richer the orange the better, and in the silver spangled the colour should be more like newly-cast virgin silver, especially in the cap.

MANCHESTER COPPY CANARIES.

THE "Manchester Cobby" Canary is larger than the "Belgian," and differently shaped, being stronger in body, with a long straight back, which form should be continued to the tail end. There is considerable grace in a good specimen, bearing a noble crest, striking well from the centre of the crown over the beak and eyes, and gradually tapering off to the sides of the head near the back, where the feathers should lie close. The wings must be long, lying close to the well-formed loins, and not crossing at the ends. The crest should be clear in feather, on a head of small size, with neck and

back long. The feathers must be close and silky, with no dark under-fue. The mealy birds are somewhat whiter in



Manchester Cobby.—Entirely clear—no dark feathers anywhere. Clear crest, which falls from the centre of the crown very heavy over the eyes and beak, but gradually tapering into smooth feathers behind and down the back of the head.

appearance than other breeds, but the yellow birds should be possessed of good colour. The crest should not be split in the front over the beak. These birds are very long, some of them being nearly seven inches from head to tail. The best of this breed I have found in Lancashire and the neighbourhood of Macclesfield. The longer the birds, and better the crests, the more they are prized. The following are the most commendable qualifications :—

BEAK—small and clear.

HEAD—flat, and not very large, having a heavy crest, quite clear, converging from the centre of the crown towards the beak and eyes very regularly, over which the feathers should project. From the sides of the skull over the eyes they should gradually taper off, and at the back part of the head become smooth. The feathers of the crest should be close and compact, with no split in the front of the crest over the beak.

NECK—long and straight.

BODY—large and straight, especially the back, which should increase in size from the neck, and taper gradually towards the tail.

CHEST—round and expanding from the neck.

WINGS—very long, lying close on the loins, and not crossing at the ends.

TAIL—long, straight, and very close, being in a line with the upper part of the body.

FEET AND LEGS—long and slender.

FEATHERS—close, clear, and silky in the flue, the colour of the yellow being somewhat rich, the mealy almost white.

SCOTCH FANCY CANARIES.

THIS breed, often styled the "Glasgow Don" or "Scotch Fancy," is held in high estimation in Scotland, and the northernmost portion of England, but is not much known on the south side of Yorkshire. It is looked up to with as much favour by our Scotch brethren as the Norwich bird is by the English fancier. Besides classes for "clear" birds, there are those for "flecked" or "piebald," as they are termed. They have small beaks, and heads beautifully round, are narrow in the shoulders, with tails long and

tapering, forming a perfect curve, like the half moon, and possessed of a peculiar action not existing in any other kind of Canary. They are not often seen at exhibitions in the south of England, although they have been shown at the Crystal Palace, in a class set apart for Canaries of "any other variety." They are judged principally for the following properties :—



Scotch Fancy.—Entirely clear.

BEAK—small.

HEAD—round and small.

NECK—long.

SHOULDERS—close and narrow, not high.

BACK—well filled.

FEATHERS—quality good, not coarse.

COLOUR—for richness.

LENGTH of bird.

STAND—erect.

YORKSHIRE FANCY CANARIES.

IN the northern part of "Merry England," especially, the breed of Canary named "Yorkshire" finds numerous admirers. They are not so deep in colour of plumage as the Norwich, being more of a lemon yellow, although every endeavour has been made to impart a high colour. Some breeders have crossed them with Norwich stock, for the purpose of improving richness of colour, and with the Copy bird to increase their length, but by so doing they depart

from the form peculiar to the "Yorkshire," and they have no possible chance of gaining prizes with such when properly judged.

There are two classes for clear Yorkshire, besides those for even-marked, and uneven-marked or ticked.



Yorkshire.—Entirely clear.

The even-marked birds should be nicely pencilled about the eyes (spectacle-eyed), which markings should gradually taper off towards the sides of the head, having the wings evenly marked on the smaller flight feathers. The birds should be clear in the body feathers, above and underneath, from the beak to the tail.

They are longer than Norwich birds, being straight, or nearly so, in the back, longer in neck, and rather more leggy. The chief points are:—

BEAK—slender.

HEAD—round and moderate size.

NECK—straight and long.

SHOULDERS—rather broad, but not high.

BACK—well filled in and straight.

STAND—firm, and of bold carriage.

WINGS—long, and not crossed at the ends.

LEGS—rather long.

FEET and NAILS—not coarse, or twisted awry.

FEATHERS—close and entire.

TAIL—close and straight.

CINNAMON CANARIES.

CINNAMON coloured birds have long been bred, and have been dubbed with the titles of "Quakers," "Duns," &c. Of late years a great improvement has taken place in their appearance. The chief aim of fanciers in the south of England is to breed them rich in colour, with the form of the much favoured Norwich birds. Those of the north country are generally longer, and partake more of the shape of Yorkshire or half-bred Belgian birds; and they are not so deep in colour. There are several classes for them, one being for Jonque or Yellow Cinnamon, one for Buff or Mealy, and another for Marked Cinnamon, and at some shows even more than these. The Jonque birds should possess a very rich coloured plumage—the richer the more prized; the Buffs are not so high coloured, but are very beautiful when well tinged with mealy bloom. The Marked Cinnamon are much in favour when evenly marked about the eyes and face, and regularly marked on the smaller flights of the wings. Cinnamon birds have different coloured eyes to most other kinds; they are of a pinky reddish hue. When hatched they may be known from other birds, owing to the appearance of the eyelids. The fancy for Cinnamon birds is now very great.

There are several other kinds, such as the German Canary,

the dark brownish green, the black green, the dark green with crests, white with grizzly crests ; also crosses betwixt the London Fancy and the Lizard, the Norwich and Fancy, Lizard and Norwich (in Derby called the "Spot or cross-bred"), the Yorkshire and Norwich, and others, most of which make good cage songsters.

Canaries will readily pair and breed with the Goldfinch, the Brown Linnet, the Greenfinch, and the Siskin and Serin.

The cross between the Canary and the Goldfinch in general produces the handsomest birds, the young partaking much of a very beautiful intermixture of both parents.

The cross between the Canary and the Siskin is much like the female Siskin, if the female bird is a Green Canary. But if this be mealy or yellow, it becomes rather brighter, and mostly retains the colours and figure of the Siskin.

The cross between the Canary and the Serin is distinguished only by its smaller size, and by its short thick beak, from the common Grey or Green Canary, unless when produced by a Mealy or Yellow hen Canary.

The cross between the Canary and the Linnet. When the descendant of a Grey Canary, its only difference is a slightly longer tail ; but it is often variegated or marked with light feathers when the Canary is yellow or mealy.

Other particulars and experience of Mule-breeding will be hereafter noted in a separate chapter.

HABITAT.—Except during the breeding season, the males, for singing purposes, are kept in small bird cages, generally of the shape of a bell, and made of wire, and must be at least one foot high, and eight inches in diameter, and furnished with two transverse perches. Other cages are often used, such as those of waggon-top shape, or slanting tops (as the fancy may incline), with the seed-drawer or fountain at one end, and a vessel for water at the other. Cages of easier

construction, made of wood, all but the front, are snug and suitable. They should be from twelve to fourteen inches



long, ten or eleven inches high, and six inches from front to back, having wire fronts, two perches, and two tins or glasses for seed and water. They can be either stained or painted any colour suitable, will answer two purposes, either for song birds or for exhibiting in ; but they are not so well adapted for suspending in front of a window as the bell-shaped cages, which are more ornamental. When many male birds are kept,

they can be assorted in lots in larger cages. The females can be placed together in breeding cages, or in a fly, according to circumstances. In the bell-shaped cages, wherein it must be understood only one bird should be placed, both the eating and drinking vessels must be fixed on the outside, at the extremities of the lower perch. These should be surmounted with a cap of tin, so that the bird may not scatter its food easily. Cleanliness will often prevent these delicate birds from suffering many disorders, and it is very desirable that the floor of the cage should be made moveable, that it may be more easily cleansed and strewed with coarse sand. Being inhabitants of a warm climate, and rendered delicate by constant residence in rooms, and so in a manner habituated to a temperature similar to that of their own

country, great care in winter is necessary that the same temperature be preserved, avoiding the exposure to cold air, which, however refreshing in summer, cannot be otherwise than prejudicial to them, causing sickness, and even death. To keep them in a healthy and happy frame, it is very important to observe that in summer they must be frequently hung in a cage, in brilliant daylight, and, if possible, placed in the warm sunshine, which, especially when bathing, is very agreeable to them.

FOOD.—This is a most important consideration. The more simple and true to nature the food is, the better does it agree with these birds; whereas, when too artificially compounded, it renders the birds weak and sickly. The best food for them is the summer rape-seed, scalded, which is sown in spring, distinguished from the winter rape-seed, which is sown in autumn: it is larger and blacker than the former, and is not so suitable for the stomach, being very strong. Like the Linnet, they thrive very well on this food, but it should be occasionally intermixed with some crushed hemp seed and Canary seed, for the sake of flavouring it, and this especially in the spring, when they are intended for breeding. As a treat, we may give them a mixture of summer cabbage seed, groats, whole oats, or oatmeal, with millet, flax, and Canary seed. Here, as in everything else, we should strive to imitate nature. With this simple mode of treatment I have reared numerous Canaries, and kept them healthy for many years; whereas others, who have attended theirs with the greatest labour and care, have incessantly complained of all kinds of vexatious and unfortunate casualties. Besides a multitude of short essays upon the mode of treating Canaries, lengthy volumes have also been written upon it. These contain a variety of very artificial modes of treatment, all of which effect no more than what the few simple ones here described will do. The hens likewise are supplied with this food; but

in winter they are contented with roll or merely barley groats, moistened in milk, if given to them fresh every day, to keep it from becoming sour. Besides, both males and females have given them in summer some dandelion, ripe plantain seed, salad, groundsel, and water-cresses, which must be previously washed and cleansed from anything prejudicial, and in winter occasionally fed with pieces of sweet apple.

They require fresh water daily both for drinking and bathing, and at moulting time a rusty nail should be occasionally placed in their drinking vessel, as this tends to strengthen the stomach.

They pick up the little angular grains of sand with which the bottom of the cage may be strewed, and which very much assists their digestion.

These kinds of food are for the full-grown bird ; the young require different treatment, at least as long as they require the care of their parent birds, and are being moulted.

BREEDING.—The rearing of these birds is accompanied with many difficulties, rendered still more so by reason of the innumerable artificial means that are resorted to.

A bird is known to be old by the prominent scales of its legs, and by its strong and long claws. Good breeders are rare and costly. Some males are always dejected, sing but little, are indifferent to their mates, and consequently unfitted for breeding ; others are too choleric, incessantly snap at and hunt the females about, and indeed often kill them and their young ; others, again, are too ardent, persecute the female while she is hatching, tear the nest, throw out the eggs, or continually excite the female to pair, until she quits the eggs or neglects the young.

The females have also their defects. Some merely lay, and immediately quit their eggs as soon as laid ; others feed their young badly, maim them, or pluck out all their feathers ; others lay with much exertion and labour, and when they

should hatch become sickly, or lay each egg after a long interval.

To correct all these defects of character and temperament in both sexes, certain remedies are said to be efficacious ; but they are almost all **deceptive**, and the fancier, notwithstanding his attention to **them**, is often exposed to many disappointments. The **best plan**, however, is to remove the birds having these faults, and substitute others which are without them.

Hens vary much in temperament ; some are very restless, timid, and bad sitters ; others will permit all possible freedom during the period of incubation and bringing up their young. During the early part of the breeding season you become acquainted with the temper of your hens, and know better how to treat them. Some treatises will say do so-and-so, but still the directions may not be of advantage respecting some hens. I say the best guide is **experience** ; for the ground-work, and general knowledge how to proceed, of course they are useful. You may, perhaps, be breeding with one or two to twenty pairs, and upwards, and matters may run smoothly on as regards eggs in nests, hens sitting, others chipped or near chipping, and some of a week or more days' old, or about leaving their nests. I have known many such instances of disappointment and misfortune to occur, and all through a little too much meddling with them before they are safely out of their nests. Even when they are out of their nests, they require all care, for fright and want of caution will at times cause young birds to dart wildly about the cages until either wings or legs are broken.

To obtain birds of a brilliant plumage, it is requisite to pair together such birds as are of similar markings, and whose colours are distinct and regular. This is best effected in separate breeding-cages. Variegated and checkered ones are often produced in aviaries, where the birds pair together

indiscriminately. Birds of a greenish and brownish colour matched with bright yellow ones often produce beautiful dusky



white or other favourite colours. A requisite precaution to be observed is, that a tufted and a smooth-headed bird should be paired, for if two crested birds be placed together they often produce the young with a part of the head bald or otherwise deformed.

Towards the middle of April is the best time to place the birds in the breeding cages or partitions. Breeding places can be constructed in various ways. Some breeders use spacious cages. Supposing you have the advantage of a corner or inlet in a room of between three or four feet in breadth, six, eight, or ten breeding places can be made by putting up shelves against which moveable fronts may be fitted either to button or screw on. Each breeding compartment should be at least 20 inches long and 18 inches high. Between two of such places there should be a wooden

slide, in which, for convenience, make a small aperture, either to be opened or kept closed at times when breeding with two hens and one male, or when you wish to throw the two partitions into one to afford more room and a better fly for several birds after the breeding season is over. Do not think I wish to encourage the breeding of two hens with one male, for I have ever found, as a rule, that more advantage is gained when breeding with birds in pairs.

If you wish to construct your own breeding places, use for the shelves deal wood, three-quarters of an inch thick, which, when well planed, will be sufficiently strong, and will not bend. The fronts of the cages are better made of half-inch pine, which is lighter and easier to work up. It does not require a vast amount of architectural skill to enable one, if so inclined, to make his own cages. I have generally found that where there is a natural taste for bird-breeding, one soon becomes acquainted with the necessary ideas to meet all requirements. In wiring your cages or fronts, use No. 16 or 17 tinned or galvanised wire instead of iron wire (which soon becomes shabby), for the former freshens up when the places are taken down to be washed, which requires to be done when breeding is over, and before placing or keeping your birds in during the following autumn and winter. I always have my breeding places well cleansed, twice each year, with the strong soap-suds from the household washing-tub, to free them from insects and dirty accumulation. Before taking to pieces, give them a dressing of camphor dissolved in spirits of wine, mixing it with turpentine and oil. This immediately destroys the red bug or vermin, and in a great measure prevents them from escaping. The two upright wires, where the sliding partition enters, should be of stronger wire, say No. 11 or 12. The reason I advise pine wood for the fronts is, that it is not so liable to split when boring the holes for wiring. Before making the

holes, gauge off with rule and pencil to a nicety, the space from wire to wire being about five-eighths of an inch. If much narrower a bird may possibly get its head fast, and the loss will be great if a valuable one. They can easily get their heads through a space of five-eighths of an inch without fear of accident. This is also a good distance for show cages.

For wiring purposes you require two brad-awls, two pairs of pliers, the ends or noses of one pair to be round for turning the ends of the wire for door-places, &c. ; also have a pair of wire-cutters. I am not only my own wire-worker and joiner, but perform my own plumbing, staining, and painting. If I require tin vessels made, I purchase sheets of tin. For staining I generally use sienna, pounding it well in a mortar before using. It makes a nice lively colour. Lay it on with a brush or piece of sponge. When dry, give it a dressing of liquid size, and you will save much varnish thereby. Mind and procure good varnish, or it will take long to dry. Some breeders prefer paint. Dark blue looks very nice, but do not let your wood become greasy prior to painting. I prefer soldering the upright wires to the cross-bars of wire rather than wrapping them with fine wire, not only because the work looks neater and is much stronger, but it prevents harbours and crevices for the diminutive vermin which should be kept in check as much as possible ; it also prevents birds getting their claws or feet fast in the wire. I also make my own solder, by melting soft lead and pewter into bars. Use resin or spirits of salt for soldering with, but when using the latter take care to rub off all superfluous spirits, or the wire will become tarnished. When you have done with the spirits of salt, do not put it away with any tools, or they will become very rusty. When you purchase spirits of salt, put a portion of zinc in to kill the spirit, or you will not be able to work it. Before you

can solder you will require a soldering-iron. If your iron does not work easy, and the solder fails to adhere to the face of it, you must heat your iron just sufficient to melt solder, and after slightly filing up the face of the iron, rub it on a piece of sheet tin with a little solder and resin. You will then obtain a face to the iron by the solder adhering to it. It is through making the iron too hot that it loses the face. To the uninitiated this information will be of much service, should they require to build or construct their own cages or breeding-places. My experience has been obtained with much trouble and expense. Others interested in the cause are welcome to it.

If you have not the advantage of a corner in a room for making the partitions or breeding places, use upright boards for the sides of the sets of breeding partitions you may construct elsewhere. You will have no occasion to put a back to them if you have a good wall to place them against. It will not only save wood, but harbour fewer insects. Some prefer breeding in open rooms. I have known great success this way, but it can only be done where one breed of birds is put up. If you have more than one breed no dependence can be relied upon for purity of young stock.

Breeding places must enjoy the warmth and light of the sun, and be supplied with nest boxes, or little wicker baskets (two for each pair). If breeding in a room, there ought to be placed some dwarf pines, which, being cut down in February, will not readily lose their leaves. A wire inclosure should be made, and placed before the window, so that the birds may enjoy the fresh air. It will greatly contribute to make the young ones strong and healthy.

Those birds which are to be paired for the first time should be placed together in a small cage for a week or ten days, to accustom them to each other. If you wish two females to be paired with one male, the females must previously be ac-

customed to each other's society, by being kept in a small cage. As I have previously remarked, the breeding cage should have two compartments, separated by a board, in which a sliding door has been made. In the one compartment a lively male is enclosed with a female. When she has laid her eggs the sliding door is moved, and the male is admitted to the other female, or if they should happen to commence building at the same time turn the male in to each occasionally. When they have both laid, the sliding door may be kept open : the male will then visit both females alternately, and possibly they will not trouble themselves about each other more than an occasional sparring while defending their own nests ; otherwise, without this precaution, jealousy would incite them to destroy each other's nests and throw out the eggs. In a room or aviary a male has sometimes two or even three females placed beside him ; with one of these the male will more especially pair. But when this favourite is about to sit, the others will receive a share of his attention.

If an apartment thus appropriated be supplied with fine ground moss, it is scarcely necessary to furnish them with any other materials for their nests. But they may also have given them cow and deer hair, and hogs' bristles, dry and delicate hay, pieces of cotton not quite a finger's length, and paper shavings. The coarser material they use for the external structure, and the finer for lining the inside. They will sometimes show indications of their instinct by building nests after their own fashion, generally being irregular in figure and not nicely finished, at least externally.

The female, as in the majority of birds, is usually the architect, the male only selecting its place and procuring the materials. When the pairing takes place, the female attracts the male by a continuous piping note, repeated more quickly the nearer she is to laying. An interval of

seven or eight days, sometimes longer, elapses between the pairing and laying the first egg. Every day afterwards, nearly at the same hour, an egg is laid, their number varying from two to six. After laying is ended, the pairing is continued during the time of incubation.

When the hens are good breeders, and do not commence sitting from the laying of the first egg, it is superfluous to attempt to assist nature by artificial means, and it is best to leave the birds entirely to themselves. In other cases it is customary to remove the first egg, and replace it by an ivory or wood one, placing it in a box filled with clean dry sand or bran, and so taking away the eggs till the fourth is laid; all are then returned to the nest to be hatched. They lay three or four times a-year, from April to August, and some are so assiduous in pairing, that even moulting does not interrupt them. The eggs are often sea green, marked at one of the ends with reddish brown or violet spots or streaks. Still some differ from others in colour and shape, and are lighter and bluish, without any spots. The eggs of the Belgian birds may generally be known by their more delicate shape, being not quite so bulky as others. The period of incubation lasts thirteen days. If from the sickness of the male or of the female any of the eggs are unimpregnated, they must be taken out of the nest when the hen has sat for six or eight days, held lightly between the fingers in the sunshine or in a bright light; the good ones will then appear dull and filled with veins, while the bad will either appear quite clear or addled; these latter must be thrown away. The male rarely relieves the female in hatching, nor does she very willingly permit it. Immediately after feeding she returns to the eggs, and if the male should not immediately leave the nest, he will be speedily compelled by pecks and blows. The young are killed in the egg occasionally through loud and near noises, such as thunder, the firing of a

fowling-piece, slamming of doors, and any other loud knocking ; but perhaps the most frequent cause of failure is through a bad sitter, and being troubled with the vermin.

As soon as the young are hatched, the old birds should be supplied with one-fourth of hard-boiled egg, pressed through a wire sieve, with stale plain bun, which is prepared more readily than mincing with a knife if required for several, some using with the egg roll steeped in water, and this pressed out again ; and, in another vessel, some rapeseed which has been boiled, and has been re-washed in fresh water to take away its acidity. It is requisite to take care that this soft food does not become sour, otherwise it will kill the young, and the cause is often not suspected. Some persons give them merely their usual food, intermixing it with some finely-powdered biscuit and hard-boiled egg, but I have always found the diet above prescribed more efficacious, especially until the young are fledged.

It is now that the male takes the chief part in rearing the young, and upon him devolves the duty of feeding them, to allow the female to recover from the exhaustion of incubation.

There are various points to be observed and to contend with during the breeding and incubation of the eggs. By meddling too much with the nests or eggs, or allowing many strangers to examine or pry about your birds during nesting, restless hens will often forsake their nests and young. Some hens neglect their eggs just before chipping should begin ; others sit only the bare thirteen days. Many will, if you permit, sit twice that time ; but it is unwise to allow them, unless circumstances require you to save some particular eggs. Some hens have been proved famous mothers in this respect, but the double sitting produces weakness, especially if they are not well kept up, and there is not free ventilation. A vitiated atmosphere will encourage a fretfulness

and uneasiness in hens, and where this is attended with a want of due care in providing clean nests and vermin harbouring in the stale ones, how can it be wondered at that matters do not run smooth? Of course, when mishaps occur, they are generally attributed to the birds. Such, however, is not always the case. That some birds will be guilty of acts of mischief and barbarity, even with the best of attention and care, is true enough. It is so in all creation. When this does happen, and is clearly traced, it is better they be got rid of. But it does not follow that because a bird, or pair of birds, have not done well over one nest, that they should act similarly over others. I have known several instances of young birds having had their beaks, ends of wings, and feet, pecked and destroyed by the parents a day or two after they have been chipped. Cases of this kind are difficult to treat. I have frequently been called upon for my advice and assistance in the matter. In some, I have found on entering a breeder's room, the air to be so oppressive as to feel an uneasiness even concerning oneself, and further, on examining the nests, have discovered the red-mites infesting them, often in perfect clusters. If a hen becomes weakened with the thirteen days' sitting, and nearly all that time has been annoyed or troubled, especially during the nights, with the vermin-pests, and she burys or disposes of an egg or so, and sometimes uproots one or two to an upmost corner of the nest, how is it to be wondered at if, when the young are just chipped, the hen vents her uneasiness on her offspring by pecking at them? This, once begun, is continued to the total maiming or disfigurement of the young. Sometimes the male birds will commit such acts. There are instances where the male birds are guilty of these diabolical deeds of maiming through an unnatural disposition, for I have seen them lift them out of the nests with their beaks, and drop them to the bottom

of the cage, and there continue to peck at them. I have seen the male parent even attack birds after they have left their nests at the age of eighteen or twenty days old, and completely scalp them. When they are found thus savage to their offspring, they (the males) are better removed from the cage. I have known the parent bird, the hen in particular, bring up the young, even after the early maiming of them, but only when the young have been placed in clean nests free from vermin. This convinces me that the annoyance and worrying by the red-mites has often been the cause of mischief.

When a dirty nest is removed, it should be burnt. In cases of severe maiming, the young are better destroyed, for they will only be cripples. In supplying a clean nest, let it be a *fac simile* of the one the hen had made. A day previous to chipping, especially in June or July, I change the eggs to a clean nest, but before so doing, adopt my usual practice of moistening them, by dipping them in water blood warm. This practice is very essential in the earlier part of the breeding season, for it materially assists in freeing the young from the egg-shell. Clean nests are more necessary in June and July, for the red-mites are then more troublesome. When the young are about ten days old, supply another clean nest. Never mind a little trouble—in fact, you cannot well succeed without it. To prevent, in a great measure, the hen plucking the young birds to line her next nest, supply her with a fresh nest when the young are fourteen days old. Remove the nest containing the young on to another hook or nail, and hang the new nest-box or basket in its place. The cock-bird will readily attend to the young when so removed. Most hens prefer building in the old position. If this is not done, and you place in a cage a fresh box or basket, and supply the hen with building material, they will very

often begin to build on the young birds. This plan will save many young birds from being disfigured. It is so essential that birds, required for moulting for exhibition, should not be plucked by the parents. If so plucked they are not so rich in plumage as when treated in the moulting process.

An observant and systematic bird-breeder—when breeding with several pairs—will keep a book, in which he will state the respective kinds of birds he may put up to breed. He will note and number each pair in the book, mark the cages or partitions with corresponding numbers, write down what dates such and such hens began sitting, when the time of incubation is up, the number of eggs set, and also the number of birds chipped or reared from the nests. This will guide him much in sorting out his birds for moulting, which is of consequence to the breeder who moults for exhibition purposes. Memory is apt to fail one at times.

Male birds are often very mischievous to their young, by plucking or drawing out their tail feathers soon after they have left the nest. When this occurs, place the young birds in a small wire cage apart from the parents, and hang it on to the front of the breeding partition, supplying the old birds, as usual, with food. Place the cage so close that the young, when they fret or cry to be fed, can receive food from the old ones through the wires, which should be opened a little. Gradually tempt and learn the young to feed, by placing bits of soft food on the cage. When they can do this, take them away altogether.

If it is necessary to feed the young by hand, grated roll or pounded dried biscuit is taken, and mixed with pounded rape-seed, and this food is kept in a box. As often as it is necessary to feed them, a little of it is moistened with some yolk of egg and water, and given them from a quill.

This must be done ten or twelve times a-day; about four quills full is the portion necessary for each meal.

Until the twelfth day the young remain almost naked, and require to be covered by the female. It will also sometimes happen, especially in cold dry years, that the birds scarcely get any plumage. An experiment of Mad. . . . proves that a tepid bath accelerates their growth. This lady has also facilitated the disclosure of the young from the shell when too hard for the young to break through themselves, by means of warm water. This beautiful experiment may be profitably applied to the eggs of other birds. It is also well known that in warm moist weather young birds will free themselves from the shells much easier than when a dry atmosphere prevails. When a month old, the young may be removed from the breeding cage. With the usual food of the old birds they must still be fed for some weeks upon the above kinds, for the sudden removal of soft food often occasions death. Gradually get them on to feeding upon Canary seed before you discontinue soft food. It is asserted, and not without reason, that those Canaries which are reared in an arbour, where they have space to fly about within an enclosure of wire, are longer-lived and stronger than those which are reared in a chamber.

A curious and important observation which has frequently been made, namely, when there are two females with one male in a cage, and one dies, the other will hatch the eggs laid by her co-mate, and rear the young as her own, and, during this foster-mother's care, cautiously avoid the caresses of her mate.

Young birds sometimes leave the nests with the hind claw deformed from having been brought towards the front. When this is perceived, loop the hind claw to the shank with a piece of worsted or soft cotton, not too tight, or it

will be contracted. Broken shanks can often be cured by using two splinters up each side, binding it with soft cotton. Small splinters made out of quills are good for the purpose, for being hollow they are more adaptable to the shape of the leg.

It is not unusual for birds kept for singing purposes to be seized with fits when reached down to be cleaned or examined. This generally arises from their being hung high up on the walls, where there is a fire or gas used. Gas, especially, is most injurious and weakening. Birds kept in this way often cast their feathers, and fall off in their song. There is no wonder at this happening. Fancy oneself having to contend with a vitiated or exhausted atmosphere. It is frequently remarked by those who elevate themselves by standing or getting on to a chair how oppressive it is to the breathing organ near the ceiling. In this close and poisonous air the poor birds have to live, and there is no wonder that the system should become affected, and the loss of feathers take place. They should be hung or suspended face high, where the air is purest. They then enjoy better health, become more familiar, and do not suffer so much from the weakness which causes the fits. When thus seized, a plunge in a cold bath will often tend to restore them. Birds are more healthy and stronger in feather when kept apart from artificial heat, where no fire is kept. Fresh water daily, and a free use of it to bathe in, is an advantage to them.

To the fancier or breeder of first-class stock, who is desirous of exhibiting birds for honours, the washing process is most essential. Birds are, independent of breed and other qualifications, expected to be placed before the notice of a judge in all possible beauty and condition of plumage. Many fine birds have been kept in the rear rank owing to the smoky or dirty state they have been in

when exhibited. Whatever bloom they may be possessed of is partly hidden by the dirt and smoke, and were unclean birds encouraged before cleanly-looking specimens, an inducement would be offered to filth, and exhibitions would degenerate. In performing the operation of washing, much care must be exercised. You will require a cage for drying in before the fire, with a soft cloth placed on the bottom inside the cage, a shaving brush (the one I use for the washing operation is made of badger-hair, being soft and easy), a fine soft drying cloth for extracting as much damp as possible out of the feathers before placing them in the drying cage, and two bowls for washing the birds in. When you lay hold of a bird to wash it, handle it firmly, but carefully. Hold the bird in the left hand, with the head towards the wrist, the tail falling over the forefinger. When washing, do not press the thumb tight across its neck, for, by so doing, the neck feathers may possibly become frilled. Then, after rubbing the brush upon the soap, apply it to the back of the bird, washing the back and wings down to the tail. Having freely performed in this manner, turn the bird on its back, and in a similar manner clean the breast and underneath portion. Operate on the head and neck, and when you find the dirt well extracted, rinse in clean warm water, or the feathers will not be in proper condition when the bird is dry. Do not be afraid of soap getting into the eyes or mouth, but, of course, be as careful as possible in this respect. The birds will become somewhat prostrate, and appear to an unpractised person as though they were dying, but it is not often such accidents happen. One advantage is to get through the operation as speedily as possible, keeping the birds warm the whole of the time. Do not have the water beyond blood-heat for fear of injuring them, and, previous to washing, place in each bowl a small piece of soda, which assists

in getting the dirt well out of the feathers. It will occupy about six or eight minutes to wash each bird, and from twenty minutes to half-an-hour drying. Have a good fire to dry with, but be careful not to place the birds too near for fear of burning them. When one is washed, and placed in the drying cage, proceed to operate upon another, and as you find the first washed dry place them in another cage. This will prevent one while drying from soiling the others, and will afford more room in the drying cage for the remainder. One drying-cage will be sufficient for a dozen or upwards to dry in. Birds kept in the country away from the smoke of a town, very rarely require so much cleansing, but keep them how you may in a neighbourhood where there is much smoke, you cannot even, with close covering up, prevent birds becoming soiled and dirty in plumage.

When the tail or wing-feathers are broken, pluck out the stumps. It will take from five to six weeks for the full growth of new feathers. It is necessary that all birds should be exhibited in as perfect a state of plumage as possible. Avoid as much as possible damaging the wings and tail feathers of London Fancy and Lizards, for with them the growth of new feathers become more grey. When the ends of the flight or tail feathers become curled, they can easily be straightened by dipping in hot water and stroked through the thumb and finger.

A great drawback to successful bird-breeding before the early part of April, is the loss of hens that frequently occurs, and the unsatisfactory number of eggs laid, often but one, two, or three, and those most likely unfertile; whereas by delaying until a more genial and propitious season sets in, you have a better chance of success, save the lives of your hens, and have a full complement of eggs. This climate is so variable, that you should not be tempted by

early sunshine, or risk having to contend with frosty nights. Many exceptions to ill-luck may happen where birds have the advantage of artificial heat, and are bred in a room over one where a fire or gas has been kept burning during the day and part of the night. In such instances the birds derive a certain benefit, but I do not advise either a fire to be kept, or gaslight (which is very injurious), to be used in the same room, for the express purpose of forwarding your birds. I know some writers have advocated heat from gas as a means of promoting success. I know many cases of the ill-effects caused through the use of it. The case of one breeder in particular I will mention. He had gas fixed, and burnt it in a stove every night during March and April. The birds were forwarded very much, laid several eggs, and reared a fine young brood, but in early May his breeding birds began to cast feathers and moult, and an end was put to his further success. Several of his birds became very weakly, and died in consequence, at the very time when they ought to have been doing best. I advise matters taking more of their natural course, and would urge breeders not to be too hasty in sending hens to nest, for in early spring, especially, very cold north or north-east winds prevail, and they are very pernicious, not only to man and beasts, but to Canaries also, and there is less chance of the young chipping so well as when a warmer or more humid climate sets in. Very often in the early part of April unfavourable weather for hens laying will prevail, and the distressing complaint of inflammation or egg-bound will occur. When hens are breeding they will mostly, towards the laying of their eggs, appear dull. Some may be more robust than others, and pass through their difficulties easier; not so with some which, especially the day prior to laying, appear much affected, and towards mid-day, or the afternoon, become completely prostrate, and are not

able to reach the perches, or even the nest basket or box to deposit their eggs. It is an old-fashioned custom, I know, for breeders to fix their nesting-places high up in some remote corner. I do not approve of this. They do better when not so high. The hens when somewhat ill and affected make attempts to reach their nests, and would often succeed were they fixed lower in the cage. When a hen has strength to reach its nest do not interfere with it, and no doubt you will find the morning's present, and the hen bearing all the signs of health. If the night be cold and dry, and great prostration ensues, with no chance of her reaching the nest, then you run the risk of losing her, and she would be better taken out, placed in a small cage with some moss at the bottom, and kept in a room where there is warmth, with a little oil applied to the vent, and replaced in the breeding-cage very early the next morning. Again, if prostration should be so great, showing evident signs of approaching death (which is very speedy at times, for I have found various degrees of prostration), then administer one or two drops of castor-oil, and let the hen have a warm bath (be particular the water is not too warm), by holding the underneath part of the bird for five or more minutes in the water. After this anoint the vent with either a little oil or lard, and then lay it on the moss in the cage before the fire. You will afford relief to the hen thereby, and most likely save its life. The cause of this prostration is a want of proper action through the ungenial weather, which causes an excitement or inflammation to the womb or egg receptacle. Young hens are more liable than those of more mature age. When you find a hen you expected to lay in the morning in a corner on the bottom of the cage, to all appearance lifeless, that poor sufferer requires immediate assistance. Apply the oil inwardly and outwardly as directed, and let it have the warm water

or a vapour-bath. Both are good, but I prefer the former, which moistens them more effectually, and keeps up a dewy moisture longer whilst they are in the small cage before the fire; whereas the vapour-bath suffices only for a time, and the skin of the bird sooner becomes dry when before the fire. It is essential that both heat and moisture should be brought into play. After the above treatment, the hen will no doubt soon part with the egg. Do not break an egg inwards, for they can be better delivered whole. I have saved the lives of many hens with the above treatment. Sometimes young hens will rupture themselves by forcing the womb completely out. If you cannot, after the aid of the warm-bath, gently replace it, destroy the hen, which will be more humane than allowing her to continue in agony until death, which assuredly will take place.

Canaries may also be paired with other birds which have a natural affinity to them. The best adapted for this purpose, as we have above seen, are the Linnet, the Lesser Redpole, the Goldfinch, the Siskin, the Serin, and the Citril. But successful experiments have also been made with the Greenfinch and the Bullfinch. It has been stated that Sparrows, Chaffinches, and Yellow Buntings, have been paired with Canaries; but from their marked differences it must be a very difficult matter. Dr. Jassay, of Frankfort-on-the-Maine, has stated that he has reared hybrids between the male Bullfinch and the female Canary, but which were hatched and fed by other Canaries; and that in Bohemia many of these hybrids are reared. "My Bullfinch," he says, "is so social, that as soon as removed from his companion he cries incessantly, and will not agree with any other bird."

Either of these birds are reared for the purpose of being removed very young from the nest, in which case, as regards pairing, the difference of species is of no consideration; a

tamed adult male bird is most frequently associated with a hen Canary. The young combine the plumage of the parents. The hybrids produced from Linnets, Goldfinches, and Siskins, will learn to sing well, but those with the Red-pole very indifferently.

When the young birds can eat alone, the males commence warbling, and the females also, but less connectedly, and from this the sexes may be distinguished. Practised breeders can mostly tell the males from the females before leaving their nests from the bold appearance of them, and the more blooming nature of the maiden plumage. To teach a young bird to pipe, he must now be separated from his comrades, and also from other birds, and placed in a small wire cage, which must, at the commencement, be covered with linen, and subsequently, by degrees, with thicker-woollen cloth, and then a short air or other musical piece must be whistled to him, or a flute or small organ may be used. His lessons should be repeated five or six times a day, especially in the evenings and mornings, and in five or six months he will be able to acquire the air, according to the power of his memory.

Canaries may be accustomed to fly, but the trouble and risk are so great, that it is hardly worth the time and care necessary to teach them. The male is first allowed its liberty in a place where there are trees, and the female is hung at the window, which speedily attracts the male back to the cage. This teaching must be continued for five or six days, but no handling or violent attempts to take it should be used.

But in autumn, previous to the migratory period, they must not be allowed to go free, as they are apt to stray with the Linnets, with which they associate when at liberty.

MALADIES.—These domesticated birds, rarely or never

enjoying the open air, and having little exercise, are subjected to the following maladies :—

1. *Rupture*.—This is a common malady, especially in young birds, and is a kind of indigestion which causes inflammation of the intestines. The symptoms of this malady are a lean, transparent, blown-up body, full of small red veins, and in which all the intestines seem to have fallen to the lower part of the body, and seem black and tangled. Too much nutritious food is the cause of this evil. All remedies seem ineffective against this malady, but assistance is sometimes obtained from a spare and simple diet, with some alum or salt put into the drink, and the aid of the warm bath, and administering one drop of brandy to two drops of water.

2. *The Yellow Gall in the head and eyes* may be cured by refreshing food ; but if there be a tubercle of the size of a hemp seed, it must be cut off, and the wound must be anointed with fresh butter.

3. *Sweating*.—Some females whilst hatching have the sweating sickness, which is injurious to the brood, and may be detected by the feathers of the lower part of the body being quite wet. The body of the bird should be washed with salt and water, and the entire body with fresh spring water to wash off the salt, and be dried rapidly before a gentle heat. This is repeated once or twice a-day. This sickness, however, is not so prejudicial as is usually considered.

4. *Sneezing*, occasioned by a stoppage of the nostrils, may be removed by a very small feather being passed through them.

5. *Loss of Voice*.—If the male, after moulting, lose his voice, he must have diet similar to that given to young birds. Some persons give them a bit of bacon to peck at.

6. *Constipation* is cured by giving them plenty of green food, such as water-cresses, salad, &c.

7. *Epilepsy or Fainting Fits* are commonly brought on by two great a delicacy of treatment, and also by timidity. They ought to be kept free from alarm, either by catching or tormenting them in any way. Feeding and indulging them freely with sweet pampering food and keeping them too warm and in an impure atmosphere, tends very much to weaken the birds, and will often bring on fits. A cold bath is often of great service in restoring them.

8. *Overgrown Claws or Beaks* require to be pared with a sharp pen-knife or scissors. Care must be taken, however, not to cut the claws too close, else the birds may lose too much blood, and become lame. The end of the red ray or vein, both in the beak and claws, when held against the light, shows exactly how far they may be cut. During hatching, also, the nails of the female must be sometimes cut, that they may not be caught by them when in the nest.

9. *Lice* are sometimes a cause of annoyance to them, especially when not kept clean. These lice are in the first stage of growth of a grey colour, but become the colour of a diminutive red bug after sucking the blood of birds. They quickly accumulate in the nests, which should be destroyed and fresh ones given. Frequent bathing, cleanliness in the cage, and dry sand, mixed with bruised aniseed, scattered upon the floor, are remedies against these enemies.

If used in breeding, the age of a Canary scarcely extends longer than from seven to ten years; in other circumstances, when carefully attended to, they may be preserved for eighteen or twenty years.

COMMENDATORY QUALITIES.—These birds have always been agreeable to the fancier from their beautiful plumage, elegant shape, singular capacity, and attractive familiarity, no less than by the charms of their melodious song. Besides, an admirable opportunity is presented of observing the differences of character and temperament which exist in these as

in others of their species. We find some melancholy, others cheerful; some angry, others peaceful; some intelligent, others dull; some industrious, others idle; some greedy, others frugal. But they have chiefly made themselves beloved by their animated, powerful, and varying song, which lasts almost throughout the whole year (with some even during moulting time). Those are highly prized that sing at night, when candles are lighted, but few birds can be taught this habit. Those birds which intermix in their melodies several strophes of the song of the Nightingale are considered the finest singers. They are called Tyrolese Canaries, as it is said they originated in the Tyrol, where many birds of this kind are reared. After these follow the English singers, which imitate the song of the Lark. In Thuringia the best singers are those which can descend through an octave, in a clear silvery tone, occasionally introducing a loud burst, like a trumpet. In breeding time, some of the males sing so incessantly and powerfully, that they rupture the small vessels of the lungs, and suddenly drop down dead in the midst of their song.

In the spring, as soon as the breeding instinct is excited by the eager calls of the male, the female emits some solitary, broken, and inharmonious notes; and old ones, past breeding, often do so throughout the whole year.

These birds are also distinguished by their correctness of ear, the remarkable skill they possess of imitating all tones, and their excellent memory. It is very delightful to hear them when they have learnt the song of the Nightingale. Not only do they imitate the notes of other birds, and by mixing them with their own greatly improve them (hence originates the extraordinary variety of their song), but they will even learn to utter short words with some degree of correctness.

When you wish to possess and retain a good songster, it

would be as well to observe the following rules, which, from experience, I have found to be useful. In order that the bird should acquire a good style of singing, his education and training ought to begin when he leaves the nest, carefully secluding him from all birds but the one whose song it is wished that he should acquire. The same course must be adopted during his first and second moulting; after that time, as he must, as it were, relearn his song, he but too easily intermixes with it anything that he may just have heard, and of which he was entirely ignorant the preceding year. Here also one bird is distinguished beyond another in its capacity. Care also must be taken to observe whether the bird prefers solitude or the society of its comrades. Many birds will continue silent for years unless kept by themselves; others, on the contrary, will only sing loudly when excited by the presence of other birds. It is an important matter to attend to their food, so that each bird may have its simple allowance for the day given to it each morning; they will then enjoy good health, and sing vigorously and cheerfully.

Fatal epidemics in birds will sometimes occur—old and young alike falling victims to the scourge. This fatality may be encouraged by keeping too many birds within a given space, when, what with the disease and that continued tormentor—

“The blood-sucking red-mite,
Ever on the hunt at night—

the birds become weak through loss of blood and rest, being in a poorer condition on account of approaching the moulting period, when the scourge generally takes place. It is necessary that every precaution be taken that the young stock, especially, are well and cleanly cared for, as regards pure water, grit-sand, and good sound seed. One most important matter is that the Canary seed, which should be

sound and bright, be sifted and well picked before it is given to the birds. Free use of soft food, and unripe green food have a tendency to cause swelling. When once my young birds have got on to Canary seed, I discontinue egg. Cold draughts of air will often affect them, and bring on inflammation and swelling. When they become affected very often a drop or two of weak brandy and water will be of great service; also a drop of castor-oil and the bread and milk diet, and a change to a warmer situation will tend to their recovery. When frequent mortality occurs, you may then fear some fatal disease has set in. Have the survivors all washed and removed to another room, and the cages and partitions thoroughly cleansed, the walls lime-washed, and the places disinfected with chloride of lime. As a general diet, at this period, give groats, Canary seed, crushed plain biscuit, and flax-seed, but no hemp or rape-seed. Occasionally soak a little stale bread in cold water, and when well squeezed add a few drops of cod-liver oil, supplying a piece to each the size of a small nut. I have known more than one hundred birds, old and young, swept off in a short time by the Canary epidemic. It causes sad havoc to those who may experience its dire effects; and there is nothing like taking active measures to endeavour to check its progress. Very often seed becoming impregnated with the dirt of mice will bring on much illness, and cause many deaths.

ARTIFICIAL COLOURING.

THE artificial colouring of birds, especially Canaries, is a tricky artifice often practised by some, who, much to their shame and disgrace, resort to the defacing of Nature's works for the sake of gain, and to defeat those who pursue

a just course. I am, therefore, compelled to allude to the matter, having, during my many years' experience as a judge of birds, exposed very glaring instances. For the welfare and success of exhibitions, and for the credit of the fancy in general, every publicity should be given where instances of such gross fraud are found. By means of tests and close scrutiny, deep dyes and weaker colouring matters have been extracted from the high-coloured Canaries. I have known Lizard birds to have been tampered with on their feathers and legs; and Bullfinches, Virginian Nightingales, Cockatoos, and other specimens have been highly dressed with deep solutions and powder, for the sake of beautifying their appearance. The exposures made at some of the leading exhibitions, have no doubt tended much towards checking the evil which at one time was carried on to a great extent. In nine cases out of ten these attempted frauds are detected; but the judges not being aware in what way the impositions are to be palmed upon them, it behoves them to be doubly cautious, and not pass hastily over those specimens exhibited which at first sight seem to be the most likely for winning highest honours. An effectual check is to post up in every show-room the name of the person so offending, and frame a rule in the schedule prohibiting him from again exhibiting. There is a law to punish those who pass counterfeit coin; the man who exhibits birds with counterfeit plumage is no better, and committees and those who have the management of bird-shows have, or should have, their remedy, to a certain extent, against the evil. One case of bird-painting, but not, in this instance, in connection with a show, was that of a man who appeared before the magistrates at Reading for selling coloured birds. The man called at a person's house with two birds in cages, which he offered for sale, saying he was a servant,

and his master would not let him keep them ; and he must, therefore, get rid of them. One of the birds (a very handsome one), the man said, had been sent to him by his brother, who was a sailor, from Spain. It was red about the head, on which it had a black feather gracefully curling towards its beak ; a tinge of blue on the breast, and its wings delicately shaded with yellow and green. The bird was purchased. The man was afterwards seen offering other birds for sale, and as he had got no others but those resembling that particular *one* sent by his sailor-brother, he was suspected of being a cheat. On examining the beautifully plumaged bird it was found that the gay colouring was a work of art and deceit, and that its graceful tuft had been gummed on its head ; in fact, it was only a common hen sparrow.

A FEW HINTS TO BREEDERS AND BIRD KEEPERS.

1. AVOID, as much as possible, the borrowing of birds, for there is a great probability of something occurring during the time the bird is in your possession ; this frequently gives rise to murmuring, which is far better prevented.

2. We all like to have our food clean and apart from impurities. It is necessary that birds, too, should have their food clean and wholesome, for by not supplying their seed free from dust and dirt, disease is often brought on. Every breeder of birds should be provided with a fine sieve, having a mesh sufficient to allow only the dust to pass through. Likewise use a sieve for the purpose of pressing through the egg, and bun or bread, which saves more time than when chopped with a knife. Use also a small hand-net for catching the birds when kept in a room or spacious fly. Supply fresh water daily.

3. Be an enemy to the greatest enemy birds have, *viz.*, the red-bug, or vermin. Although such a pest to birds, they may be kept in check by cleanliness, not allowing stale nests to lie about, and examining well all crevices and ends of perches. When a cage is infested, even when there is but one bird in, remove the bird to another cage, and scald and well clean the other. If you perceive any small grey spots or mouldy-looking appearances about the crevices of the cage, there the vermin is lurking. I have found train oil of much use in applying to the crevices of cages and nest-boxes.

4. On visiting a brother fancier's bird-room to look at his birds, be cautious, and do not suddenly point your finger close to the cage; serious accidents oftentimes occur to choice birds, especially those being prepared for exhibition, through such incautiousness.

5. Avoid all depreciating remarks concerning other fanciers' birds, extolling your own at the same time. Self-praise of your own stock is no recommendation.

6. If you wish to purchase a bird, do so from a respectable breeder or dealer, for it is better you pay a little more for one you may depend upon than buy from itinerant vendors.

7. Healthy birds should possess the following qualifications:—Compact and close feathers, wings not drooping, free from pant and wheezing, nostrils free from discharge, no inclination to keep the head under the wings, not to droop upon the perch, not to accumulate filth about the vent, or have a difficulty in discharging the excrement. The above are signs of ill-health.

8. **BEWARE OF CATS.**—Generally they are not to be trusted, however much you may believe you have checked them from interfering with your birds. They have a very nice taste, and are excellent climbers and bird-catchers. There are ex-

ceptions where cats have been kept for some time without touching birds, but as a rule it is contrary to their nature.

9. BEWARE ALSO OF MICE.—Much injury is often caused by birds becoming poisoned, owing to seed being impregnated with the filth of mice. I would advise them being caught in traps rather than have a cat for the purpose. Pussy might otherwise take a fancy to the birds.

The popular belief that the young birds are assisted by their parents in escaping from their shells receives the following correction in a work published by R. Laisley, entitled, "A Popular History of British Birds' Eggs." It states:—"The operation of leaving the shell is a very beautiful one, and exhibits very markedly the wisdom and contrivance of the Creator. The beak is furnished with a bony point, which afterwards drops off. This is protruded through the shell. By means of its feet as levers, the animal then turns itself a little, till by degrees the whole top of the large end is cut very cleanly off, and a passage is opened for the imprisoned chick to go free."

"Granivorous birds, or such as live upon vegetables, have their intestines constructed differently from those of the rapacious kind. Their gullet dilates just above the breast-bone, and forms itself into a pouch or bag, which is perhaps better known by being called the crop. This crop is replete with glands, the food being softened by the saliva it contains. The food is here prepared in a great measure for the young birds, as you may see both the cock and hen heave it up as it were when feeding their young. When birds take food for themselves, after becoming macerated, it passes from the crop into the belly, where it is ground between two pair of muscles, called the gizzard, covered on the inside with a strong ridgy coating, which rub against one another, and are capable of attenuating the hardest substances.

Their action is equal to teeth in other animals. The sand or gravel found in the gizzard is requisite in preventing the too violent action of the coats of the stomach against each other."

"In the construction of nests, every species of birds has a peculiar architecture of its own—this being adapted to the number of eggs, or the temperature and heat of the body. All small birds make their nests very warm, for having many eggs it is requisite to distribute equal warmth."

Birds kept in rooms or aviaries are more favourably circumstanced than when in small cages, for in the former the full use of their wings is brought into play. The following interesting remarks respecting the formation of a bird's wing are extracted from a paper, by the Duke of Argyll, published in 1865:—"The feathers of a bird's wing have a natural three-fold division, according to the different wing-bones to which they are attached. The quills which form the end of the wing are called the 'primaries,' those which form the middle of the vane are called the 'secondaries,' and those which are next the body of the bird are called the 'tertiaries.' The motion of a bird's wing increases from its minimum at the shoulder-joint to its maximum at the tip. The primary quills, which form the termination of the wing, are those on which the chief burden or flight is cast. Each feather has less and less weight to bear, and less and less force to exert, in proportion as it lies nearer the body of the bird; and there is nothing more beautiful in the structure of a wing than the perfect gradation in strength and stiffness, as well as in modification of form which marks the series from the first of the primary quills to the last and feeblest of the tertiaryes."

MULES, HYBRIDS, AND MULE BREEDING.

If anything in bird breeding tests the patience of a true fancier most, it is Mule breeding, especially when endeavouring to breed high-class birds. Year after year many truly fine specimens have been exhibited at the various exhibitions. Were it not taking the liberty of naming the many veteran fanciers of Mules, I could mention numerous exhibitors who, with much honour and credit, have shown birds of great value. The practised fancier alone estimates the worth of good Mules. The uninitiated in the mysteries of muling often imagine they are possessed of a Mule when it is nought else than a peculiar marked or cross-bred Canary. Even those, I know for a fact, who have bred Canaries for many years, not high-classed birds for exhibition purposes, have laboured under a wrong impression. One striking instance came under my notice at a show held at Derby in 1866, and which I referred to in the *Land and Water* in October of the same year:—"I was standing close to a man who was examining a cage of six Silver-spangled Lizards, and on his being asked by another person what birds they were, he, in my hearing, told him they were Mules, bred from the Brown Linnet and Canary. Now this man had been a breeder of birds, according to his own statement, thirty years, and yet made so extraordinary an assertion. He had evidently bred nothing else but common birds, or at least he could have had no experience beyond a certain point, and he was quite indignant on being told he was mistaken in calling them Mules." Another instance in Derby was that of a breeder informing me he knew or had heard of a man breeding a splendid marked "Mule bird," as he termed it, which information coming to my knowledge, and loving a good Mule, I paid the owner a visit, and having examined his stock, but not seeing the

choice object of my special visit, I asked to be allowed to see his Mule, when he pointed to a cage just above my head, which, to my great surprise, contained nought else than a cross-bred bird betwixt a Lizard and common Canary! Now, I will only suppose this person breeding with this particular so-called "Mule," and a Canary, the following season with success, and as regards young stock, I firmly believe (for I could not make him think it was other than a Mule), he would feel fully convinced he was the possessor of hybrids.

I also paid a visit to Leicester in 1868, to see an old fancier who asserted he had a "clear Linnet and Canary Mule," for which he asked the sum of £4. To my great astonishment, although I doubted him having such a bird, I found it was a common bred hen Canary! I was once returning from a show at Middleton, near Manchester, where I had been judging, and on arriving at Buxton, a boy entered the railway carriage, carrying with him a covered cage. I asked the boy what he had got in the cage, when he replied, "A green Linnet Mule, his father said it was, and he (his father) had refused 10s. for it. It's a Derbyshire bred bird, sir." I could not help smiling at the boy's innocence and readiness, and also his statement of its being a Derbyshire bred bird, as though it were better than one bred elsewhere. On asking him to let me look at the bird, I found it to be a slightly marked common Green Canary, and not a "Green Linnet Mule." It has frequently been said that Mules will breed with Canaries, and that the first year, if it be a Mule hen, that the eggs from such will only be the size of a pea. This matter I have tested. I have had Mule hens go to nest and lay eggs the full size, but they have always been unfertile. I have devoted all possible attention in endeavouring to succeed in various ways, but always without any success, more than

experience. I have found that Goldfinch cock Mules will often become uncommon fussy with hen Canaries, and will pay as much attention as a Canary cock, and apparently perform all the functions necessary for producing young, as Mr. Hugh Hanly so truly observed. I have had cock Mules help to bring up young birds hatched from eggs from Canaries, and have often been pleased to notice a cock Male throw up the food and feed the young as well as a Canary.

GOLDFINCH AND CANARY MULES.—The Mules bred from the Goldfinch and Canary are more beautiful than those of any other breed, especially the Jonques. I have never yet seen an entirely clear good specimen, equal in clearness and appearance to the Mealys, although many hundreds of the best birds in England have come under my inspection. On the other hand, many fine clear Mealy Mules have been shown. There are six or eight classes set apart for these birds, *viz.*, two for Clear Mules, or as nearly approaching clear birds (clear for choice) as possible; two for Variegated or Even-Marked, which include birds marked about each eye, or each wing, or with a dark feather on each side of the tail; two (in some shows, not general) for Uneven-Marked birds; and two for dark Mules. In former years the dark Mules were not considered of much value, but by a wise alteration they were admitted into the schedules, and the consequence has been that many very fine birds have often been exhibited. The Mules in general favour are those even-marked about the eyes and wings.

Of late years they have been exhibited in such faultless plumage as to gain the attention of numerous admirers. I have been possessed of numerous fine specimens in my time, and am proud to say that at the Southampton show, in 1868, I succeeded in carrying off the silver cup and two silver medals with Mules alone. The famous

Jonque Mule gained for me a dozen first and second prizes at various exhibitions in England and Glasgow, for which honours he had travelled thousands of miles. Three years in succession I exhibited it at Glasgow, on the last occasion in company with a fine even-marked Mealy Mule, each of which won for me a first prize, and a couple of well executed gilt morocco trophies in the year 1864. The bird, with another specimen, somewhat inferior, soon afterwards passed from my hands to those of a gentleman residing near Manchester, for the sum of £10. But although my Jonque Mule was so excellent in every respect, I have since seen others shown equally as good from Prestwich (near Manchester), Sunderland, and Durham. The two best Jonque Goldfinch Mules I ever witnessed were exhibited by a Plymouth fancier, and won highest honours at the Crystal Palace Bird Show in 1870. Without exception, they were admitted to be the finest specimens ever seen in England in the memory of those who saw them. There have, during the past few years, been many beautiful Mealy Goldfinch Mules shown. One in particular deserves notice. This bird was bred by a member of the London Fancy "Hand-in-Hand" Society, who resided at Walworth, Surrey. The bird, after being exhibited at the Palace show and at Southampton, became the property of noted exhibitors living in Bristol, and near Leicester-square, London, but it soon passed into the hands of a Derby fancier, from whom it was purchased by a famous Mule exhibitor at Prestwich. The bird was eventually claimed by a gentleman at Durham. It was shown on many occasions, but was never defeated.

BROWN LINNET AND CANARY MULES.—Good Mules of this breed are scarce. It is not a common or everyday occurrence to breed Goldfinch Mules possessed of light or pied feathers, but it is more difficult to breed Brown Linnet Mules of much better appearance of plumage than a Sparrow.

Even the very best of them are much inferior in plumage to a Goldfinch and Canary Mule. The difficulty in breeding Linnets Mules light is great, but when they are so bred, the value of such is high, and the nearer they resemble the colour of a clear Canary the more they are enhanced in worth. They are rarely bred with uniformity of marking and in this respect they somewhat vary from Goldfinch Mules. Those regularly marked on the wings, and about the heads, with clear bodies, and in condition and plumage, are most prized. I have had several choice specimens which have won for me first honours. Linnets Mules, when well tutored under a good songster, make the best of song-birds, their harmony generally being so very melodious. Linnets are not so mischievous with the nests and eggs as Goldfinches, and if paired to a Canary hen will pay all attention to her and the young. When they take well to young birds they are excellent feeders, and will bring them up strong. I have known them sometimes to be unkind, approach a nest, and, without much ceremony, lay hold of the birds just hatched and throw them to the bottom of the cage, and mutilate them. They may be treated nearly the same as Goldfinches, but occasionally a little rapeseed (scalded) should be given. The seed known by the name of "kedlock," a kind of wild rape, is a good diet as a change. The Mules may be treated the same as Canaries, only a little more hemp and flax may be supplied occasionally.

SISKIN AND CANARY MULES.—The Siskin (which generally prefers to cling to the wires of a cage instead of roosting on the perch) will freely breed with the Canary, and some of the offspring take after the Siskin in plumage, being of a greenish or greyish-green appearance, and bearing the Siskin marks or lines on each side of the head over the eyes. I have bred several well marked with light or pied

feathers in the wings and tails. In size the Mules are a little larger than the Siskin, and are of close plumage. If brought up under a free song-bird they will sing very sweetly and free. I have had them almost equal to Canaries in song. They are very active, and somewhat pugnacious.

GREENFINCH AND CANARY MULES.—Mules of this breed are more bulky in form, showing much of the Greenfinch in plumage and beak; they are dull and moderate in appearance and colour, although good in feather. They are scarce worth the time and expense bestowed in breeding, and are much inferior in song.

BULLFINCH AND CANARY MULES.—I have certainly seen *two* specimens in my lifetime stated to be "Bullfinch and Canary Mules," and those have been exhibited at the Crystal Palace shows, and have come under my hands for adjudication. With respect to these so-called Mules much doubt has existed. The first was exhibited at the show of 1870. In length and shape it partook much of the "Yorkshire" bred bird, and the only portion of the bird that at all resembled the Bullfinch was the peculiar shape of the upper mandible. The form of the beak exactly resembled that of a Lizard Canary I once had with a similar curvature. I have seen many peculiarities in the beaks of birds, so that I could not place much reliance on that point, and the bird being a clear specimen was a very unlikely colour for a cross betwixt a Bullfinch and Canary. Many other judges had doubts concerning the so-called Bullfinch and Canary Mule. Moreover, one of the best naturalists of the present day expressed his belief that the bird was only a Canary with a malformed beak. At the following show another specimen of a "Bullfinch and Canary" mule was shown, but this, although appearing a more likely one of the kind, was considered by those fully competent to form an opinion to be a cross between the Bullfinch and Chaffinch—indeed there

is generally considerable mystification about the matter. Still I do not wish to discourage any breeder from trying, and am not going to assert that such has not been the case.

HYBRIDS.—Specimens bred from the Bullfinch and Goldfinch, and Greenfinch and Goldfinch, are well worthy of notice. For several years many exceedingly fine birds, bearing distinct evidence of each breed, have been seen at the best shows.

When breeding with Goldfinches, Linnets, and Siskins, supply each with a piece of the following food:—Soak a piece of stale bread the size of a ball in cold water for an hour, afterwards squeeze out the water, and rub in half a thimbleful of cod liver oil, and give to each a bit the size of a nut, with some maw-seed. This will tend to keep them bright and close in plumage. Now and then give a little crushed biscuit, a few groats, some flax seed, no rape, unless scalded (and that to the Linnets), and not too much hemp. Dandelion, as early in spring as convenient, is very necessary.

MULE BREEDING.—As the Goldfinch breeds more freely with the Canary than any other British bird, I will confine my remarks more particularly to it, and give my own experience and observations. In the “merry month of May” I commence Mule breeding, having previously prepared my Goldfinches by extra feeding. I have many instances noted down of Mules having been bred prior to the time I have named—even as early as February, but in that particular instance the Goldfinch and hen Canary had been kept in a room during winter, where there was fire and gas. Birds so kept will breed earlier; but they begin to moult at the time they ought to be doing best. Fire or gas heat I do not recommend, preferring to wait until genial weather should set in.

Goldfinches give signs of good condition when in full and continuous song, by freely “slamming,” and frequently

repeating the "lippet-slam-sir-widdy" notes, which are considered the most choice. A Mule breeder may judge whether his Finch is "well-up" by the utterance of the "chee-ter-wee-er" notes, and the amusing rudder-like swaggering of its tail immediately upwards. I never attempt to breed with a yearling Goldfinch, preferring an old bird—a white-legged one, as it is termed by many, the colour undergoing a change from black to white, through being kept and moulted in the house. Many breeders prefer a dark-legged bird—a one-year-old, fresh caught. To test whether they can breed from yearling Finches let them be taken when they are "grey-pates," and tried the following spring. Possibly here and there an odd Finch may be forward enough for breeding; but, as a rule, they will not breed in the house when only one year old. Some persons advise a "three-by-six," others a "cheverel." The former is known by having the three outer tail feathers "mooned" with the white mark in the end of each, and the six feathers in the centre being black. All Goldfinches are not so marked, most of them having but two of the outer tail feathers on each side with the white mark upon them. A "chevérel," or "chibald," is known by the mark on the throat, dividing the red around the beak, but sometimes only a small speck of white appears. This latter kind is in most demand, and some fanciers believe they cannot breed a good Mule unless they possess a "cheverel" Finch. This is a complete delusion. I have had varied success from all kinds. One of the best Goldfinches I ever had was a small bird, very indifferent in colour. This bird, soon after coming from Plymouth, lost an eye, but it did not prevent it breeding freely with a mealy-crested—almost a white hen—with which I had good success. With this pair I bred some very handsome Mules, some almost clear—one, in particular, after taking a first prize, finding a home at

Calke Abbey, near Derby. The mother of this Mule never bred a nest of young without some of them being very light and well marked; but the Goldfinch having died, I parted with the hen, and the following year the gentleman to whom I sold her bred from her a nest of Mules "as dark as mice." My one-eyed Finch was neither a "three-by-six" nor a "cheverel"—nothing but a common-looking bird. On the other hand, I have bred good Mules from fine looking Finches possessed of plenty of showy colour, and have proved to my entire satisfaction that good Mules can be bred without selecting a "cheverel" Finch.

For several years I obtained young Goldfinches (nestlings) from a pear-tree, in an orchard at a place called Barrowash, near Derby. I kept them until they were two years old, and bred from them—some of the breeding-hens being good marked birds, others indifferent and dark. In connection with Goldfinches, those I reared yearly from the nests did not exhibit the wildness and fluttering habits of other Finches. They became so quiet and free that they would feed from my mouth or pull at my whiskers when placing myself close to the cage. Mule breeding, as I have before remarked, requires much attention and patience, and many fanciers are disappointed, season after season, with the appearance of the young brood, although the hens have been of a good strain; a clear bird, which it often takes years to obtain, which is evenly pencilled about the eyes, with a pair of faultless wings, bearing a rich yellow throughout the bars of the same, and with a fine bronze tinge on the face, is invaluable. These points in a fine specimen, added to bloomy appearance throughout, and prime condition, accompanied with fair size and form, and a pair of bright, full eyes, peering through a clean cut and snake-like head, gives quite an aristocratic appearance to the Mule. Unlike Norwich, London Fancy and Lizards, they do not deteriorate

in appearance after moulting. I have known first-class birds to realise as much as £10 each. To attain success, every attention must be paid to the Finches, not only at the breeding time, but during the winter previous, respecting their diet. I vary the diet with flax, millet, groats, mawseed, coarse Scotch meal, a little egg, and stale bun, and thistle-seed. When thistles are ripening, I generally secure a supply of heads, but cut off the down previous to placing them with the Goldfinches. Now and then a small piece of the soaked bread, with cod-liver oil rubbed into it, has a tendency to prevent asthma. Breeding in cages I prefer for muleing—the birds are more under control, especially the Goldfinch. I have tried each way. On one occasion I had placed half a dozen hens with a couple of Finches in my room, supplying them with the requisite building materials, and all went well for a time; but one day, on entering my room, I saw portions of egg-shells here and there. On examining the nests one day, not an egg or bird was to be found. The Goldfinches had been at work. Upon the floor, here and there, I found eggs containing birds near upon chipping, and also young birds on the floor, destroyed and mutilated about the wings and feet. I set my hens to work without a mate, and with the first that commences to build I place the Goldfinch. When another hen begins nesting, I place the Goldfinch with her for a time, changing him from one to the other. One Goldfinch is sufficient for three or four hens. I prefer using the Goldfinches with several hens, but never allow them to remain with the hens up to the time of laying, for fear of the eggs being broken. Hens not paired with the Goldfinches will sit well upon their eggs, so that there is some difference from Canary breeding. When two birds are paired together, of course it would be unwise to take away the male, for possibly the hen would fret, and leave her eggs.

In other respects hens for Muleing may be treated as in Canary breeding. They are liable to the same accidents, but are not so subject to be egg-bound, owing to the time of the year (May) when they are put up for Mule breeding. Previous to breeding with the Goldfinch, if the hen is of a strain known to throw the young with broken or pied plumage, I contrive to have a nest for her with a Canary. According to the colour of the hen, so I place with her a male Canary of the same colour. I generally breed my Mules from hens termed common hens, of a lemon or brimstone appearance. I have also bred several excellent Mules from the Yorkshire hen; they are more sleek and somewhat longer than when the Mules are bred from a short thick-set hen. I have frequently bred from Norwich hens, but with less success. Still, when light-coloured Mules are bred from Norwich hens, they are more bloomy. I have known really first-class Mules to have been bred from Norwich hens. It does not follow that Mule-breeding hens should always be clear or free from dark feathers. I have bred from a heavily marked strain, and had nice marked Mules, and have known others to be equally fortunate in this respect. But I prefer breeding from a strain from which good marked or light-coloured Mules have been bred. When I can contrive to obtain a nest of young, and afterwards breed them in-and-in as regards relationship and colour, I prefer it. Such birds I have proved to be most reliable for marked Mules. I know many who make a yearly practice of breeding Mules, who would not waste their time by Canary breeding.

Most Mule breeders will agree with me that there is much chance work in Mule breeding; but on this point I am satisfied, that if a breeder were to try a dozen hens bred from known Muleing strains, against the like number of chance or hap-hazard hens, that the advantage would be considerably in favour of the former. Light-coloured Mules may be

known as soon as they are chipped, owing to their light or flesh-coloured appearance. If they appear dark in the skin when they are chipped, make up your mind for dark Mules. There is much prying and quizzing in this respect, and it has often amused me to hear some breeders assert that they have a "clear Mule in the nest," when by chance or accident it may have happened that the male Canary has had access to the hen whilst breeding with the Goldfinch.

The following are the points by which Canary Mules are judged:—

BRAKS—rather larger and more pointed than the Canary's.

HEAD—not so round and full as the Canary's.

NECK—somewhat slender.

EYES—fierce, spectacle-marked, with dark feathers around.

FACE—of a bronze red hue, the stronger the colour the better, and as free as possible from slaty-coloured feathers about the cheeks.

BODY—smart throughout and clear, having no dark or slate-coloured feathers about the loins or uppermost part of the tail.

WINGS—smaller flight feathers dark, the larger flight feathers barred with a yellow bloomy tinge from the shoulders.

FEATHERS—throughout close and in good condition. The yellow or jonque specimens should possess strong colour. The mealy specimens almost white, with bloomy yellow tinge strong on the large flight feathers, and slightly showing on the breast.

TAIL—clear preferred, but if having a dark feather on each side, which is frequently the case in good specimens, to be considered a good show bird.

LEGS AND FEET—not coarse, twisted awry, or nails deficient.

Clear Goldfinch and Canary Mules should have similar properties to the above, excepting the spectacle eye-marks and smaller flight feathers. Such birds are rarely bred, but they are of great value. Like the above, there are two kinds, the jonque and mealy.

In shape and form the dark Goldfinch and Canary Mules are the same as the foregoing, but should be dark on the wings and tails. There are jonque and mealy specimens. The former should possess as much golden bronze appearance as possible throughout. The face around the beak should be very bright, presenting a rich bronze scarlet. The breast feathers should not be light, but of a rich golden tinge. The mealy specimens are a little stronger in build, and should have as much colour as possible, but presenting a fine mealy tinge.

The Brown Linnet and Canary Mules resemble the Canary in the light feathers throughout; but size, condition, plumage, and regularity of marks, make them more showy and valuable. There is but one class for these birds, although they vary in appearance. Some are nearly white, others of a yellowish or buff colour. First-class specimens are rare, the difficulty in breeding such being very great.

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