

might in time be raised to the dignity, which it scarcely at present occupies, of a science. Vast as is the number of facts which we are in possession of regarding the subject, the time scarcely seems to have arrived when these may be formulated, and a theory of birds' eggs be established. The interesting researches of Mr Sorby into the nature and composition of the colouring matter of birds' eggs belong rather to the sciences of chemistry and spectroscopy than to those of oology or animal physiology. What has been done towards an elucidation of the subject may form matter for future consideration. If this appeal should induce one lover of birds to take any steps to form a permanent and accessible record of their habits of nidification, it will have more than served its object.

---

## NOTES ON THE BIRDS OF THE BASIN OF THE TAY AND ITS TRIBUTARIES.

BY COLONEL H. M. DRUMMOND HAY, C.M.Z.S., B.O.U., &c.

### I. AQUILA CHRYSÆTOS, Briss. (Golden Eagle.)

Notwithstanding the almost total extermination of most of our birds of prey, the Golden Eagle, we are happy to say, may still be seen soaring over the shoulders of Ben Aldar on Loch Ericht, as well as some of the higher peaks in Athole and Breadalbane; and were the good examples of some noble proprietors, who allow it to breed unmolested in their deer-forests, a little more followed by others, this fine species might still long be preserved to be an ornament to our mountain sides, and to enhance the interest of our Highland scenery.

### 2. HALIAËTUS ALBICILLA, Cuvier. (Earne or Sea Eagle.)

Though more generally an inhabitant of our sea coasts, this species has for long been known as a resident in the neighbourhood of the larger lochs in the district; but I fear, with the exception of a straggler or two from the Continent, and those in the immature plumage, the bird is now scarcely ever seen. Mr James Stewart, who has had long experience as head-keeper on the Earl of Mansfield's grouse-shootings, informs me that some years ago, when in charge of his lordship's shootings in Rannoch, a pair of Sea Eagles, called by the people there the Water Eagle, had their nest for several years in an old fir-tree in a corner

of the Black Wood by the loch side, and that an old keeper of Struan's told him that he had often seen these water eagles dart down from a great height, and catch the trout in the loch. From the minute description Mr Stewart gives me, I am well satisfied that these birds were no other than the true Sea Eagle, and not the Osprey. He further tells me that one year there was a pair of what he describes as "light blue eagles, just as near the colour of the Wood Pigeon as can be," which had a nest in an old poplar-tree on an island in Loch Lydon, and that when the eaglets were nearly fledged, they were taken and pegged down in a solitary part of Rannoch Moor, where they were fed by the parents. The old birds were afterwards trapped, but most unfortunately were not preserved. When the young eagles were ready for an eagle-house they were both sent to Scone Palace. One of these birds, which lived for many years there, and was afterwards accidentally poisoned, I had frequent opportunities of examining; this was doubtless a true *Haliaëtus albicilla*, but the whole plumage was of a whitish colour, and it was evidently an albino. Many birds, from certain constitutional causes, attain a bluish, whitish, or even pure white plumage; but I am not aware that there is any record of this in the Sea Eagle. What may be considered singular in this instance, is not that the young birds were each of a light colour, but that the parent birds should have been exactly of the same bluish ash or dove-coloured plumage. The Common Buzzard is the only one of our raptorial species in which, as far as I am aware, there are any great variations of colour in the plumage other than that of the regular changes according to age, and which thus exhibit variations subject to no fixed law.

### 3. PANDION HALIAËTUS, Cuv. (Osprey.)

The Osprey, once, no doubt, a denizen of all our larger lochs and streams, may now, from its wanton destruction, be looked upon as only an occasional visitant. It is said to have bred regularly in former times on Loch Rannoch, and probably had its eyrie also on Loch Lydon. Mr Malloch, bird-stuffer, Perth, tells me that a fine specimen of this species has been killed lately on Loch Tay.

### 4. BUTEO VULGARIS, Bechst. (Common Buzzard.)

This bird, formerly so abundant in many of our Highland districts, is now, like most of our beautiful raptores, thanks to strychnine and pole-traps, become so rare, that were it not for the

few which find their way over from the Continent every year on their way south, it might almost be looked upon as nearly extinct. Up to the years 1832-33 they were numerous in many parts; and at that time, within the Dunkeld grounds, where they bred regularly, I have noticed them sitting for hours on some exposed branch of a tree.

5. ARCHIBUTEO LAGOPUS, Gray. (Rough-legged Buzzard.)

Though not nearly so abundant a bird in former times as the above, the Rough-legged Buzzard was always a regular visitant in the Highlands, frequenting for the most part the open moors; and not further back than the year 1856, numerous individuals were trapped every spring on the Ballyouchan shootings near Pitlochry; but of late years, I understand, both there and elsewhere, they have all but disappeared.

6. PERNIS APIVORUS, Cuv. (Honey-Buzzard.)

Several instances occur of the Honey-Buzzard having been captured from time to time in various parts of the district, chiefly birds in the chocolate-coloured plumage of the first year, but no notice has come across me of its nesting with us, though it does so frequently in many parts of England. These birds, therefore, may possibly be only passing stragglers from the Continent.

7. ACCIPITER NISUS, Pall. (Sparrow-Hawk.)

Notwithstanding the great persecution the Sparrow-Hawk undergoes (for should he escape trap or poison, he is ruthlessly shot at whenever a chance occurs), he has, with all this, held his own in the district, perhaps better (with the exception of the Kestrel) than any of his congeners. Many of these, however, may be foreigners, or birds from a distance not bred in the district.

8. FALCO PEREGRINUS, Gmel. (Peregrine Falcon.)

The Peregrine Falcon was once well represented throughout the whole district, for there was not a rock or cliff suitable for the purpose of nesting or rearing its young where a pair of Falcons did not take up their quarters, and would still do so were they allowed. Thus, Craig-y-barns at Dunkeld, Kinhoull and Moncreiffe cliffs, and many other places, each had their occupants; but though these are all now tenantless, it is satisfactory to know that there are still in some of the remoter and less frequented parts of the district a few breeding places yet re-

maining, otherwise this noble bird would be lost to us, like many others, from the mania of over game-preserving and over-stocking.

9. *FALCO ÆSALON*, Gmel. (Merlin.)

Not uncommon throughout the district, but more frequently seen in the autumn months, and then chiefly in the plumage of the first year.

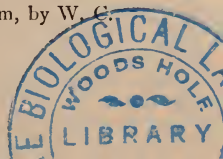
10. *TINNUNCULUS ALAUDARIUS*, Viell. (Kestrel.)

Like the Sparrow-Hawk, the Kestrel has held its own perhaps better than most of the tribe, but no thanks to gamekeepers, who, failing the deadly pole-trap (that most iniquitous of all inventions, as no perching bird of sufficient weight is safe from it), shoot down every Kestrel they see. Had keepers a little more knowledge of ornithology and a little more observation, they might more likely be able to distinguish friend from foe. The Kestrel is almost exclusively a mouse-feeder,<sup>1</sup> but to impress such a fact on most keepers would be a difficult matter, for were he told that not only do some hawks feed on mice, but some on frogs, some on beetles, and some even on the larvæ of bees and wasps, he would simply look upon you as fairly demented, and possibly make the same reply as that which has more than once been made to the writer, "All I ken is, a hääk's a hääk, an' äü hääks are vërmin, an' äü vërmin must be killed!" And this, I fear, is the fate of all our owls as well as hawks; for though the former are mostly mouse, rat, and weasel catchers, they come under the same category in the eyes of the keeper, without a moment's thought or observation. Even the White or Barn Owl, I am quite aware, has the character of taking young rabbits; but this bird being essentially a night-feeder, if young rabbits choose to be out after hours, along with rats and mice, they must just take the consequences, and no blame to the owl.

11. *MILVUS REGALIS*, Kaup. (Kite.)

The Salmon-tailed Glead, as this beautiful bird was familiarly called when once common in all our glens and hill-sides, but which is now all but exterminated, has still, I am glad to say, a few breeding spots in some of the remoter parts of the Highlands

<sup>1</sup> See note on the Nesting of the Kestrel at Murthly Asylum, by W. G. M'Intosh, M.D., 'Scot. Nat.,' April 1877, p. 56.



where they can rear their young undisturbed ; otherwise it, like the falcon, would ere this have been entirely lost to us.

12. *CIRCUS ÆRUGINOSUS*, Sav. (Marsh Harrier.)

An occasional visitant in the district, and, before the extensive drainage throughout the country, was probably not unfrequent. It may still possibly be found in some of the wilder parts of Rannoch Moor, the very home for such a bird, but even there the inevitable pole-trap would make short work of it. A very fine specimen, in full adult plumage, which was shot recently in the district, was shown to me in the flesh by Mr Malloch, bird-stuffer, Perth.

13. *CIRCUS CYANEUS*, Boie. (Hen Harrier.)

In the days before keepers vied with each other in making the largest collections of hääks, hoolets, and huddie cräws, and nailing them to their kennel doors, the Hen Harrier was far from being an uncommon bird, either on the hill-side or the low grounds ; and I have often in the Carse of Gowrie sat down and watched a pair hunting a field, and a most beautiful sight it was to see them working and quartering their ground like a brace of thoroughbred pointers. But since about the year 1832 or 1833 they have got scarcer and scarcer till they have almost totally disappeared, at least in the Lowlands. The female and young were known as the Ring-tailed Hawk, and to the uninitiated passed for a different species.

14. *STRIX FLAMMEA* Linn. (White or Barn Owl.)

This beautiful and intelligent bird, so useful in the destruction of mice, insects, and reptiles, more than counterbalances, as Mr Gould very aptly remarks, any slight damage it may do by the good it effects in the destruction of obnoxious animals. Though strictly a nocturnal species, it has in common with many others one great enemy, "the keepers' pole-trap," by which means, within the last very few years, it has been, "shame to say," all but exterminated. As a mouser, the wonderful quickness and dexterity it displays cannot be excelled even by the cat, to which I can well testify, as many years ago, when quartered on the island of Vido, in the Ionian Islands, a young white owl was brought to me from the nest. It was fed daily on mice, and was never kept in confinement ; and when fully fledged, used to take up its position on the back of a chair, or on the top bar at the

back of the bedstead, where it sat motionless all day, occasionally giving vent to its curious snoring note. In the course of a few weeks it became perfectly tame and familiar, and readily responded to call, and every evening at feeding-time was all life and excitement. On liberating a live mouse from the trap, let it attempt to escape ever so nimbly, either under chair or table, even at the further end of the room, "owl" was after him in a moment, and never failed silently but surely to seize his prey, and in a few seconds to return to his favourite stance, when mousey was at once devoured. It may be that his supply of food was not considered sufficient, for shortly he took to hunting for himself, generally disappearing from the room immediately after dusk, and never failing to return about ten o'clock, or after an absence of three or four hours, when a slight tap would be heard at the window, which, on being opened, in would fly owl, and go straight to his perch, give two or three loud snores, and then remain quiet for the night. A small silver plate, with name and regiment engraved on it, was attached by a ring to the leg above the tarsal joint: this never seemed to incommode him. Many months passed, when, having to leave the islands, owl was consigned to the care of a friend who remained behind. Whether not approving of the change of masters, or that he betook to the rearing of a family of his own, is not recorded; but the fact remains that, becoming more irregular and longer in his returns, he eventually stayed away altogether, and the last that was heard of poor owl was that, some three years afterwards, he was shot by a sergeant of artillery in mistake for a wild one, the silver plate being still attached. I will now only ask, Can nothing be done to obviate the wholesale slaughter of all our most interesting birds? If the hawks must go, at least save our owls.

15. SYRNIUM ALUCO, Cuv. (Tawny or Brown Owl.)

Of all our Owls, perhaps the Brown is the most common, and its lively hoot may be heard more or less in all our woods. He bears, however, and I fear with some justice, rather a bad character, as it must be admitted that he has frequently been found guilty of treating his young brood now and then not only to young rabbits, but to young partridges and pheasants, and, strange to say, has even been detected occasionally capturing a trout or two from some neighbouring stream. But the damage he may inflict by his poaching habits is much more than compensated by the number of brown rats and weasels he will

destroy in a season, which, had they been permitted to live, would have been far more destructive to the young game than the owl. Therefore let the sportsman save his shot, and desist from firing at some poor owl which, half-asleep and stupid, is suddenly driven out of some thick tree during cover-shooting, affording an easy and unfailing shot even to the tyro,—a practice which I fear is far too common.

16. *BUBO MAXIMUS*, Sibb. (Eagle Owl.)

One shot near Pitlochry was a bird escaped from confinement. See 'Scottish Naturalist,' ii. 58, and iii. 359.

17. *OTUS VULGARIS*, Flem. (Long-Eared Owl.)

The Long-Eared Owl, though found at most seasons in our woods, is far more abundant in the autumn months, when large accessions to its numbers reach us from the Continent; and a very striking instance of this was mentioned to me by Admiral Maitland Dougal, who, when shooting some covers near Scots Craig on the borders of the lower part of the Tay, in the month of October two or three years ago, in company with some other guns, fell in with a large flock of birds, numbering, as far as he could judge, about seventy, which suddenly rose off the trees some little distance before them. Some shots were fired at them by the party, supposing them to be woodcock. Several of them fell, which, on being picked up, proved to their great surprise to be Long-Eared Owls. This occurring close to the coast, they had no doubt but recently arrived, and had not had sufficient time to disperse.

18. *BRACHYOTUS PALUSTRIS*, Bechst. (Short-Eared Owl.)

The Short-Eared Owl, which is more diurnal in its habits, frequents the more open ground on moors and marshy places, and never in woods, like the Long-Eared. It is rather a scarce bird in the district, but every now and again it is met with, though, as far as I can learn, only in the autumn, when on its passage. It is not at all unlikely, however, that it breeds on some of the more retired parts of the moors, as it is known to do in several places, both in England and Scotland.

(*To be continued.*)

of the German Ocean became dry land, and afforded a passage for the great mass of our plants and animals. That they did not cross all at once we may be sure. In the first place, it would be a long time before the soil of that wide plain would be in a fit condition to support plant-life. Probably the great floods that would frequently inundate it—for a large river flowed through it—deposited mud and gravel on which, as it became drier, plants could grow.

*(To be continued.)*

---

### NOTES ON THE BIRDS OF THE BASIN OF THE TAY AND ITS TRIBUTARIES.

BY COLONEL H. M. DRUMMOND HAY, C.M.Z.S., B.O.U., &c.

*(Continued from page 62.)*

#### 19. CAPRIMULGUS EUROPÆUS, Linn. (Night Jar or Goatsucker.)

In the lower parts of the district the Night-Jar is now much less abundant than in former years. In the Highland quarter, however, it is still to be found fairly represented; but from its decidedly nocturnal habits, few opportunities occur of its being observed in broad daylight. Occasionally, however, and especially in autumn, solitary individuals are not unfrequently to be met along the moor-side or other exposed spots, squatted lengthwise on some dyke or rail, or perhaps seated on the ground motionless—resembling, in this peculiar position and colour of plumage, so much some natural excrescence, as not to be easily detected from surrounding objects—till, suddenly rising on the wing, the passer-by is startled by its unexpected appearance from almost under his feet. Having always observed these autumn birds to be those of the season, I have been led to believe that the parent birds, though late in their arrival (about the end of May), are among some of the first of our summer visitants to take their departure, leaving their young to follow as best they may. Though never fortunate enough in this district to have come across the two eggs, which the female invariably deposits on the bare ground, without any form of nest, or to have obtained any information as to their breeding in any of the upper parts, yet, I think, from the fact of the young being found in autumn, and the peculiar churring note of the old birds being constantly



heard during all the early summer months, there can be little doubt but that they breed here regularly.

20. *CYPSELUS APUS*, Jenyns. (Swift.)

Of all our Hirundines,<sup>1</sup> the Swift—the last to arrive and the first to depart—is perhaps the most constant, and generally diffused in the district; for wherever suitable accommodation is to be had for nesting purposes—be it steeple, railway bridge, or old ruin—there he is sure to be found, screeching, and wheeling round in a labyrinth of rapid succession of circles, from morning to night.

21. *HIRUNDO RUSTICA*, Linn. (House or Chimney Swallow.)

22. *CHELIDON URBICA*, Boie. (House-Martin.)

23. *COTYLE RIPARIA*, Boie. (Sand-Martin.)

Of late years—from what cause it is difficult to explain—the above three species have greatly diminished, at least in the lower part of the district, especially the two former; and it is to be feared that this is pretty general throughout. Mr Brooke of Cardney informs me that about Dunkeld they have become decidedly scarcer, and the House-Martin rarely to be seen. See remarks on Migration, and nesting of the House-Martin on Ben-y-Gloe, 'Scot. Nat.,' July 1878, p. 285. In this present season (1879), with the exception of the Swift, the whole tribe seem to be especially scarce.

24. *ALCEDO ISPIDA*, Linn. (Kingfisher.)

Thirty or forty years ago the Kingfisher was a constant resident on the river Almond, and was not unfrequently seen in many other localities, after which it became excessively scarce, and for long disappeared altogether from many of its former haunts. I am glad to say, however, that it seems now to be gradually on the increase. In the 'Scottish Naturalist' for October 1874, I made mention of several examples having been noticed that year, after a long interval, in the Carse of Gowrie. Since then, and especially last season, several others have been observed frequenting

<sup>1</sup> Some ornithologists think that the Swift has no other relationship to the Hirundines beyond resemblance in form and similarity in habits. They consider, and apparently with good reason, that its true affinities are with some groups of the Humming-birds.—ED. 'Scot. Nat.'

their old places of resort; and Mr Malloch informs me that on the Almond he found it to be again breeding there. It is to be hoped, therefore, that this, the most beautiful of all our native birds, may long be allowed to remain unmolested; and that the morbid desire of seeing it in a glass case, or covered with dust on some cottage chimney-piece, rather than on its native river-side, may become less and less every year.

CORACIAS GARRULA, Linn. (Roller.)

UPUPA EPOPS, Linn. (Hoopoe.)

The visits of both the above species to the district must be looked upon as purely accidental, no other instance that I am aware of having occurred during a lapse of many years than those already recorded. See 'Scot. Nat.,' July 1878, p. 289.

25. LANIUS EXCUBITOR, Linn. (Great Grey Shrike.)

Of late years many instances have occurred of this bird having been shot in the district. Perched for hours, perhaps, on the extremity of a decayed branch, on the watch for some passing beetle, the Grey Shrike, with his breast shining full in the sun, becomes so conspicuous an object that, were it not for his extreme wariness, he would stand little chance of escaping from the gun, which, I regret to say, is ever ready to be pointed at him when occasion offers.

26. BUTALIS GRISOLA, Boie. (Spotted Flycatcher.)

The Spotted Flycatcher, the latest of all our summer birds to arrive, seems to be more frequent in the lowland part of the district than the upper. Mr Brooke informs me that about Dunkeld it is very sparingly distributed, but there are always one or two pairs about every summer. Higher up the country I have never noticed it. Its congener, the Pied Flycatcher (*Muscicapa atricapilla*, Linn.), I have never observed; but Sir Thomas Moncreiffe some time ago informed me that a bird, which he believed to be this species, was obtained near Moncreiffe, but, unfortunately, was not preserved. From the notice of it in the adjoining county of Stirling, it may possibly be found to occur in the more western parts of the district, but, from its very local habits, I consider this to be somewhat doubtful.

AMPELIS GARRULUS, Linn. (Waxwing or Chatterer.)

There is no record, that I am aware, of this species ever having been noticed, but as it has frequently been observed in the counties adjoining the district, it may possibly turn out to be an occasional visitant.

27. PARUS MAJOR, Linn. (Great Tit.)

Resident, and common throughout the district all the year.

28. PARUS CÆRULEUS, Linn. (Blue Tit.)

This is also common, and resident in most parts of the district. During autumn it resorts in large numbers to the extensive reed-brakes on the lower parts of the Tay, where all day long it may be seen in small companies actively ascending and descending the reed stalks, peering and prying into every leaf-joint in search of insect food, and often clinging to the pendent seed-tufts, the grain of which they possibly extract, though I have never actually detected the fact.

29. PARUS ATER, Linn. (Coal Tit.)

Another resident species, common at all seasons, and which possibly may, on more occasions than one, have been mistaken for the Crested Tit (*Parus cristatus*, Linn.), which Mr Yarrell quotes, on the authority of F. W. Bigge, Esq., of Hampton Court, as frequenting the Pass of Killiecrankie. Be this as it may, it is a spot which I am well acquainted with, and one most unlikely to find it in. The locality most suited for it in the district is the Black Wood of Rannoch, where I have made repeated search for it, but have never found it there, nor in any other part of the district. The nearest point to the Pass of Killiecrankie in which I have observed it, was many miles across the boundary march on the watershed of the Spey, in the old fir forest of Rothiemurchus, near Aviemore.

30. MECISTURA CAUDATA, Gould. (Long-tailed Tit.)

Though breeding and resident throughout the year, it is not so much observed in the summer months, when busily engaged in nesting employments, as it is in the autumn, winter, and early spring, when at that time they wander through the country in small trips, and in families, flitting across from one spot to another, where, meeting with some oak or other tree of their choice, they cling and hang among its branches in every attitude,

till summoned by the call-note of the leader, when off go the whole troop in search of further discovery.

31. *TURDUS MUSICUS*, Linn. (Song Thrush.)

The Song Thrush, which abounds during all the summer months throughout the district, from long observation I fully believe to be migratory, and, though not leaving our islands, that it generally retires during the winter months to warmer spots; and the same fact has been commented on by Professor Newton, as noticed by him in Norfolk.<sup>1</sup> It is curious, therefore, that this should be one of the birds recorded by Mr Geo. Sim as suffering from the effects of cold during the past winter in Aberdeenshire,<sup>2</sup> proving the Thrushes of the valleys of the Tay and the Earn to be more provident than those of the Don or the Dee, the former having wisely left for Torquay and other more genial parts of the country early in November before the cold weather set in, and not returning this year until a month later than usual—viz., the 6th of March, on which day they were noted to arrive in considerable numbers both on the banks of the Earn and the Tay. Last year (1878) the day of arrival was the 7th of February, and the year before that the first of that month, being the earliest date I have known them to appear.

32. *TURDUS VISCIVORUS*, Linn. (Missel-Thrush.)

The Missel-Thrush, now so numerous, and one of our greatest pests, robbing us of all our berries, even the very *Pyracanthus* at the window-side not being safe from his depredations, every berry being cleaned off long before Christmas, was within my own recollection unknown to the district, where now it abounds, or rather did so till this spring,—for though the strongest-looking and most robust of all our Thrushes, it seems to be one of the most delicate, as this last severe winter has doubtless proved, for in the space of several miles round I have as yet only observed one pair. This, however, may not generally be the case in all parts of the district. With regard to this seeming delicacy in the Missel-Thrush, Mr Gould remarks “that he has known Rooks, Starlings, Blackbirds, Thrushes, Fieldfares, and Redwings to suffer severely in a hard winter, but knows no species to succumb to the rigours of the season so completely as the Missel-Thrushes.”<sup>3</sup> And yet these birds usually remain with us all

<sup>1</sup> ‘Ibis,’ 1860, p. 84.

<sup>2</sup> ‘Scot. Nat.,’ April 1879, p. 84.

<sup>3</sup> Gould, ‘Birds of Great Britain,’ vol. ii.

winter, whereas the Thrush, as stated above, is partially migratory.

33. *TURDUS ILIACUS*, Linn. (Redwing.)

34. *TURDUS PILARUS*, Linn. (Fieldfare.)

Both the above species reach us from their summer quarters in the north about the end of October, the Redwings seeming to prefer woody places and shrubberies about dwellings, while the Fieldfare, a much shy bird, keeps to the fields and more open ground during the daytime. The Redwing, which seems to be rather a sociable bird, may frequently be heard from some tree or bush near the dwelling previous to its departure in spring, where, assembled in large numbers, they hold a perfect concert of voices, warbling out their songs in the sweetest of tones, much in the way that our Brown Linnets do. Whether either of these birds ever breed in the district, or any other part of the mainland of Scotland, I believe has not yet actually been determined, but possibly both species may do so at times. The Redwing I have noticed in the low woods above Pitlochrie as late as the month of June, the very time it is known to be nesting in Norway and Iceland; it is therefore not unlikely that it occasionally does so here, especially as the late Dr Saxby discovered the nest in Wales early in May.

35. *MERULA VULGARIS*, Ray. (Blackbird.)

The Blackbird is perhaps of the whole family the most abundant and generally diffused throughout the district during the whole year, and though often a sufferer like the rest in very severe winters, seems to come out of it better than most; and in this exceptional year of severity, though greatly thinned, it is not nearly so reduced in numbers as many of the others. The Fieldfare and the Redwing, which left us to a bird, I have not noticed to return at all this spring, and consequently, I fear, large numbers of them must have perished.

36. *MERULA TORQUATA*, Boie. (Ring-Ouzel.)

The Ring Ouzel, which I have never noticed in any part of the lower section of the district, even during its migration in autumn or spring, seems to confine itself entirely to the upper part among the hills, arriving in April, when it immediately commences breeding; and up in Athole and other parts of the High-

lands, where it abounds, in the autumn months, previous to their departure, they descend in large numbers to the gardens, attacking the cherry and geane trees with such pertinacity that the gun has frequently to be brought into play, and even after being repeatedly fired at they will return to the same spot the moment a person's back is turned. These I have found to be all young birds, the parents probably having taken their departure.

37. *CINCLUS AQUATICUS*, Bechst. (Water-Ouzel or Dipper.)

Frequent on most of our streams and rivers, and would possibly be more so were it not for the bad name he has obtained. Being constantly noticed on the salmon spawning-beds, where he may be seen plunging into the rapid stream, he has got the credit of destroying the spawn, and consequently most unjustly becomes a prey to the gun, for on examination it has been proved that, instead of devouring the spawn, it is the very creatures which feed upon it (the larvæ of numerous water beetles and other insects, with which the gizzard will invariably be found to be crammed) that he has been in search of, showing that the Water-Crow, as he is more familiarly called, should be treated rather as a friend than as a foe.

38. *SAXICOLA ŒNANTHE*, Bechst. (Wheatear.)

About our earliest bird to arrive, the Wheatear has a wide range,—from the mouth of the Tay, where in the months of May and June it is to be found breeding abundantly in the old rabbit burrows about the sand-hills, to the very furthest end of the district, becoming however more scattered, and confining itself to the hills and rocky places, from whence it descends in the autumn, and is then occasionally to be seen in the lower grounds, on the dykes about road-sides, &c., on its way to the coast. The old birds have then assumed a more dingy dress, similar to that of the young, in exchange for the bright costume in which they came. It is singular how little the general public know of the Wheatear, for many a time I not only have heard it described, but had it brought to me in one of its different stages of plumage, as some wonderful and curious bird.

39. *PRATINCOLA RUBETRA*, Koch. (Whin-Chat.)

40. *PRATINCOLA RUBICOLA*, Koch. (Stone-Chat.)

Both of the above species are not uncommon, and about equally spread throughout the district, frequenting for the most part



the same sort of ground among whins and brush on the hill-sides. The Whin-Chat, however, is perhaps the more frequently seen of the two, as he often descends to the lower grounds, where he nests. This applies, however, only to the interior, for on the low-lying districts at the mouth of the Tay, wherever suitable ground occurs, both species may be found the whole summer through. In the autumn both species frequent the fields, especially among peas and beans; but these I have generally noticed to be young birds. The Whin-Chat is strictly migratory, while the Stone-Chat occasionally remains the winter, moving further south should the weather be severe: in England it is quite sedentary.

41. *ERYTHRACUS RUBECULA*, MacGill. (Robin.)

The Robin, which is spread over the whole district, is in some seasons much more abundant than in others, probably from accessions it receives from the Continent, where it is migratory.

42. *RUTICILLA PHENICURA*, Bonap. (Redstart.)

Though nowhere very common, it is to be found in many parts of the district: in the Highlands, however, I have not noticed it much further north than Pitlochrie. It seems to be rather local in its habits, preferring certain spots to others, in which it is always to be found more or less every year.

43. *ACCENTOR MODULARIS*, Bechst. (Hedge-Sparrow.)

Common throughout the district, and, like the Robin and the Wren, braving our severest winters.

44. *SYLVIA CINEREA*, Lath. (Whitethroat.)

This, with the exception of the Willow-Wren, is of all our warblers the most abundant, at least in the lower part of the district, and Mr Brooke assures me that about Dunkeld it is very common, but I have no record of how much higher it extends: I have not noticed it myself in the higher parts of the district. Its congener, the Lesser Whitethroat (*Sylvia curruca*, Lath.), I have never seen in the district, but Sir Thomas Moncreiffe informs me that last year he noticed a pair of birds building at Moncreiffe, which, unfortunately, deserted their nest when nearly completed. These, from their general appearance and the form of the nest, he fully believed to be of this species, but could not be certain. These birds having occasionally been observed in Scotland, tends much in favour of their being found at Mon-

creiffe, a spot so adapted in all respects for the harbouring and breeding of all our rarer birds.

45. *CURRUCA ATRICAPILLA*, Briss. (Blackcap.)

46. *CURRUCA HORTENSIS*, Flem. (Garden Warbler.)

Both the Blackcap and the Garden Warbler are to be found in several parts of the district, but of the two the Blackcap would seem to be the more frequent and less local. Probably it may be that, from its not being so shy and stealthy in its habits, it is more frequently noticed than the latter, which if in the slightest degree alarmed immediately places himself on the wrong side of some bush, through which he creeps, defying (especially from the similarity of song) all further identification. Mr Brooke tells me that both species are not uncommon about Dunkeld. The Blackcap I have not seen higher up, but the Garden Warbler I have more than once noticed beyond Faskally, and very possibly both species may extend throughout Strathtay and Strathearn.

47. *TROGLODYTES EUROPÆUS*, Cuv. (Wren.)

48. *CERTHIA FAMILIARIS*, Linn. (Tree Creeper.)

Both these are resident and common to the whole district, the latter confining itself to the woods and trees along road-sides, &c. ; the little Wren everywhere, from the cottage-garden to the hill-tops.

49. *PHYLLOPNEUSTE TROCHILUS*, Gould. (Willow-Wren.)

By far the most abundant, and seemingly the hardiest and most generally diffused, of all our summer visitants. This present season, 1879, when others have been conspicuous for their scarcity, the Willow-Wren, though some weeks later than usual, has been fully as abundant as ever. It is said that they do not make their appearance till the apple buds begin to break, and as these have been a month behind time, it may account for their tardiness. Supposing them to be endued with this instinctive knowledge, the question arises, How do they manage to time themselves? Do they purposely loiter on the road, inundating with their numbers the spots in which they rest on their journey, or do they delay their departure for a whole month, so as to arrive at the proper moment? These are among some of the mysteries of migration difficult to be solved. Its congener, the



little Chiff-Chaff (*P. rufa*, Bonap.), has never been noticed, that I am aware of, in any part of the district. Though bearing the strongest family likeness to the above, its striking difference of note, were it present, would at once distinguish it.<sup>1</sup>

50. PHYLLOPNEUSTE SIBILATRIX, Bonap. (Wood-Wren.)

Though far more sparingly distributed than the Willow-Wren, the Wood-Wren may be considered to be more local than uncommon, confining itself to certain woods and copses of its choice. Without being familiar with its peculiar note or song, which assumes two distinct forms, with a ventriloquising effect, quite sufficient to mislead the uninitiated, and make him suppose that it proceeded from two different birds on two different trees, it would not be easy of detection, and it may thus often escape observation. It is very frequent at Moncreiffe, and some other places in the lower section of the district. In the woods about Dunkeld Mr Brooke tells me it is common, and I have observed it more than once in Faskally. There is no notice of it further up, but it may possibly extend still higher, and also be found to occupy many other parts both in Strathearn and Strathtay.

51. REGULUS CRISTATUS, Ray. (Gold-Crest.)

Resident and common throughout the whole district, frequenting in the autumn and winter months Spruce and Fir plantations, broomy knowes, &c., in company with the whole fraternity of Tits and Creepers. It is then often largely augmented by birds from the Continent: these, however, return in spring; at which season, and during the summer, so quiet and unobtrusive is the little Gold-Crest, that were it not for the beautiful pensile nest attached to the extremity of some slender branch of the old Yew next the house, which attracts our attention, we might

<sup>1</sup> Since writing the above, Mr William Horn, who has devoted some time to the birds of the northern and western part of the district, has drawn my attention to the occurrence of the Chiff-Chaff in Rannoch, as mentioned in the 'Zoologist,' 1871, p. 2656. I can scarcely, however, look upon its being found in Rannoch as anything more than merely accidental, for having traversed nearly every part of it both before and since the date mentioned, it has never come under my notice. Moreover, were it otherwise, it would be a singular fact that a tender bird like the Chiff-Chaff should pass over the warm sheltered woods and shrubberies of Moncreiffe, a very paradise for birds such as the present, as also the extensive orchards of the Carse of Gowrie and other tempting spots, where, to my knowledge, it has never yet been found, to the colder and more remote parts in Rannoch.—H. M. D. H.

have supposed the whole of them long ago to have taken their departure, when all the time there have been several pairs close at hand, which we would never otherwise have observed. The Fire-Crest (*R. ignicapillus*, Cuv.) I have often searched for, and though well acquainted with it, have never found it in any part of the district; but for all that, it may possibly be an occasional visitant.

#### 52. CALAMODYTA PHRAGMITIS, Gray. (Sedge-Warbler.)

Frequent among the reeds on the lower parts of the Tay and the Earn, and on some of our loch sides, where in low, damp, bushy places, the passer-by cannot fail to hear its perpetual babbling, scolding notes, which go on all day long, and even sometimes through the whole summer night. Another bird inhabiting much the same sort of locality, only one specimen of which has ever been noticed or obtained in the district (near Methven), is the Grasshopper Warbler (*Locustella avicula*, Ray), mentioned in the 'Scot. Nat.' of July 1878; but as no other instance has occurred, I do not include it in this list.

(To be continued.)

**Lepidoptera in the Spring of 1879.**—Owing to the severity of the weather, I had no opportunity of making my usual entomological observations in January and February. When the first apparently genuine break in the storm came with the first week of March, some of the early insects began to put in an appearance. I noticed *Phigalia pilosaria* on March 2d, and for ten days subsequent to that date it was freely distributed in this locality. Of *Hybernia leucophearia* I saw one specimen on March 3d, and have only noticed about three specimens between that date and April 1st; on April 24th, however, I took a female off a birch trunk. It is usually abundant here. Owing to illness, I made no observations in the spring of 1878 until May: but in 1877 I have a record of these two insects on February 4th and 8th respectively. *P. pilosaria* appeared on February 2 in 1876, and in 1879 on January 31st, and *leucophearia* on February 15th. Judging from the above dates, they are both affected by the weather in their time of appearance; but the former does not appear to be diminished in number by the intense cold of this winter. I have observed no difference in depth of colour, or otherwise, from the ordinary type here. The cold has, however, evidently retarded their appearance in the imago stage.

The hibernated insects, as far as I have seen, have not suffered; as on the evening of March 7th, which was especially mild, I noticed a number of *Depressaria* and of *Gelechia humeralis* swarming about a favourite Cupressus in my garden, as also a few specimens of *Cerostoma radiatella*. On March 31st I took a specimen of *Cymatophora flavicornis* at the back of Moncreiffe Hill, where the snow still lay in places, and where, a fortnight before, it was from



## ZOOLOGY.

### NOTES ON THE BIRDS OF THE BASIN OF THE TAY AND ITS TRIBUTARIES.

BY COLONEL H. M. DRUMMOND HAY, C.M.Z.S., B.O.U., &c.

*(Continued from p. 115.)*

#### 53. MOTACILLA YARRELLI, Gould. (Pied Wagtail.)

COMMON throughout the whole district. Some years, however, it is much more abundant than others. The partial migration of these birds seems a puzzle: many remain all winter, except in very severe weather, notwithstanding that a very extensive migration takes place every autumn, when large bodies leave this country and cross over to the Continent, with a corresponding return in the spring, as is well authenticated. On our own shores, at the mouth of the Tay, at the end of August or beginning of September, large numbers may be seen all day long steadily moving along the coast southwards, in small trips and companies, along with the Wheatear. It is difficult, therefore, to explain why some should remain behind. Even in the unusual, severe winter of 1878-79, when the Tay was frozen over, and the feeding-grounds on its banks one mass of ice, the Wagtails were seen as late as the 10th of December, and so starved that they greedily devoured bread when offered (a most unnatural food). Could these birds have been caught, as it were, by the sudden arrival of winter, and become so enervated and weakened as to be unable to proceed further south? It would be difficult otherwise to account for their late stay. Mr Cordeaux remarks, in his 'Birds of the Humber District,' "that the gradual increased area placed under turnip cultivation of late years, has supplied for these birds, and kindred species, a source of winter food previously unattainable, and offers inducements to them to brave even the severest winters;" and further adds, "that owing to the almost

complete failure of the turnip crop in North Lincolnshire in 1868, not a Wagtail remained." This, however, seems not to apply so much to this district, as the Wagtail almost exclusively confines itself in winter to the margin of the river, and I have scarcely ever noticed them at that season in the turnip-fields, and not even during the severe weather above mentioned, when frozen out elsewhere.

54. *CALOBATES SULPHUREA*, Kaup. (Grey Wagtail.)

The Grey Wagtail is well represented throughout, and is generally resident with us during the whole year, excepting in very severe seasons; and on all our rivers and burns they may be continually seen coursing along the shingles, or balancing themselves with their long graceful tails on some boulder in mid-stream, the companion of the Water-Ousel. They are much attached to the same locality, and I have known them keep to the same spot for many years. They seem to be early breeders, as I have noticed the young birds flying by the middle of May. In England, during the summer months, it is comparatively a rare bird, being there chiefly a winter visitant, arriving in large numbers in September, and leaving in March. In this district—especially in the lower part of it—large accessions arrive every autumn, chiefly young birds, which, after a short stay, move further south. Before concluding with the Wagtails, I may mention that the true Yellow Wagtail (*Budytes Rayi*, Bonap.), so common in England and some other parts of Scotland, has never been noticed by me as yet in this district, though constantly searched for; nor have I been able to ascertain that it has been observed anywhere in Perthshire.

55. *ANTHUS PRATENSIS*, Bechst. (Meadow-Pipit.)

Abundant throughout the whole district, generally remaining in winter, excepting in very severe weather, when it retires to the coast.

56. *ANTHUS ARBOREUS*, Bechst. (Tree-Pipit.)

The Tree-Pipit I first noticed some years ago in the Faskally woods, and since then I have frequently met with it in the lower part of the district, and believe it will be found to breed regularly at Moncreiffe, Methven, and elsewhere. It may, however, be considered as rare, and rather local in its habits.

## 57. ALAUDA ARVENSIS, Linn. (Sky-Lark.)

The Sky-Lark confines itself more to the arable part of the district, and is consequently more abundant in the lower than the higher parts; but nowhere are they so numerous as formerly. Many have the idea that this is owing to the great abundance in late years of Starlings, which destroy their eggs. This I have never proved to be the case; and it may, I think, be attributed much more probably to other causes, especially as for the last year or two they seem to be again on the increase, while the Starlings certainly have not diminished.

## 58. EMBERIZA CITRINELLA, Linn. (Yellowhammer.)

Of all our native birds, with the exception of the Chaffinch, the Yellowhammer is perhaps the most abundant, braving our very severest winters. In spring he graces our hedges and roadsides in his bright yellow livery, and during the whole summer through may be heard his rather monotonous song of *ching, ching, chee-e*, from many a roadside tree, where he sits perched on some prominent twig, with his full yellow breast glistening brightly in the sun.

## 59. CRITHOPHAGA MILIARIA, Gould. (Corn-Bunting.)

The next on our list, the Corn-Bunting, is as sombre in its plumage as the above is brilliant, but nevertheless makes itself, like its congener, conspicuous by sitting solitary on some exposed branch, or telegraph-wire (of which latter they seem peculiarly fond), emitting from time to time its few short notes, and then, suddenly darting off, settles in the middle of some neighbouring field. Formerly this was a very common bird in all arable parts, but has now become rare, and in many places entirely disappeared, for which the Starling, as with the Lark, gets the credit. The reason is much more likely to be found in the extensive drainage, and the filling up of all the old ditches, which formed its special nesting-places. These have all disappeared, and along with them the Buntings, except in a few localities in some of the broader parts of the Carse of Gowrie, and the neighbourhood of some of the extensive flats at the mouth of the Tay, such as Barry and Tent's Muir. Though a solitary bird for the most part of the year, in winter they are gregarious, associating themselves with Greenfinches, Sparrows, and Chaffinches, frequenting barn-yards and such places. Many of these, however,

may be accessions from the Continent, from whence they are known to visit many parts of this country every season.

60. *SCHÆNICOLA ARUNDINACEA*, Bonap. (Reed-Bunting.)

The Reed-Bunting—or, as it is more commonly known in the district, the Coal-Head or Coaly—is resident with us throughout the year, but chiefly confines itself to the lower parts, especially about the Carse of Gowrie and lower Strathearn, where it was once much more numerous than it is at present; for, like the Corn-Bunting, it has suffered greatly from drainage, and the filling in of the ditches in the fields and roadsides, where formerly the male bird in spring might continually be seen, conspicuous in his jet-black cap and snow-white collar. Though now, however, much reduced, it is still to be found in considerable numbers among the great reed-brakes in the tidal parts of the river, where the passer-by, attracted by its somewhat feeble and monotonous chirp, may frequently notice a small group of them among the tall reeds, clinging to the pensile tufts with which they are surmounted, and busily extracting the seeds, and so occupied in the employment as to allow of his close approach, until, becoming alarmed, they fly off and take up a position a little further on.

61. *PLECTROPHANES NIVALIS*, Meyer. (Snow-Bunting.)

As far as my observations have gone, over a long extent of years, the Snow-Bunting I have invariably considered to be a winter visitant only, and not a resident, found more or less throughout the district according to the state of the weather, being in severe winters more frequent. On the coast-line, at the mouth of the Tay, in the months of October and November, I have seen these birds, in certain winds, arriving flock after flock. None of these, however, remain there, but, after settling for a short while, move on further inland. Quoting Mr Horn, in a paper of his on the birds of the north-west of Perthshire, published in the ‘Proceedings of the Natural Society of Glasgow,’ “The Snow-Bunting breeds on most of the high mountains in this district, especially Ben Lawers and Schiehallion.” I am sorry to say I have never had the good fortune of seeing the Snow-Bunting in the breeding-dress on either of these, or any other mountain in Perthshire, though both these mountains and many others have been frequently traversed and thoroughly investigated by me, in the search for botanical specimens during

the season they might be expected to be found ; and I think, had the bird been on the mountain at the time, I should more than likely have fallen in with it. The only spot I have ever myself noticed the Snow-Bunting in the breeding-dress, was near the top of Ben Muic-Dhu, in Aberdeenshire, on the 21st of June, when I saw a pair at the edge of the snow at an altitude of 3900 feet, in full summer plumage, but no nest was found. I have also had a notice from Mr J. T. Carrington, an observing naturalist, who for some time resided in Rannoch, and who had traversed most of the hills in that vicinity, as well as in other parts adjoining, and he tells me that on the high mountains on Loch Laggan-side, in Inverness-shire, they were to be found in the breeding dress, but that the nests had not been discovered, and the bird had not been noticed by him elsewhere.

62. PASSER DOMESTICUS, Ray. (House-Sparrow.)

The House-Sparrow, everywhere common, has much increased of late years in many places, especially in the upper parts of Athole, where the Sparrow, which now abounds, I can recollect, was considered to be rather a scarce bird than otherwise.

63. FRINGILLA CŒLEBS, Linn. (Chaffinch.)

Of all our birds, this is the most abundant : nothing seems to thin their ranks. In winter assembling in large flocks, the sexes generally separate (hence the name *cœlebs*), and when driven from the fields by stress of weather, by visiting stack-yards and out-houses, they generally manage to pull through. Hardy by nature, even through the long-protracted winter of 1878-79, their ranks were not perceptibly diminished, being apparently as numerous next spring as ever, though many other species suffered severely.

64. FRINGILLA MONTIFRINGILLA, Linn. (Bramble-Finch.)

During the winter months the Brambling is pretty generally diffused, though rather local in its habits, preferring, for the sake of beech-mast, their natural food, those places in which there is a preponderance of beech-trees. In the lower part of the district they are especially common about Moncreiffe, Methven, Dupplin, &c. When the mast fails, they resort to the barn-yard, in company with chaffinches, from which, in their winter plumage, at a little distance, they are not easily to be distinguished. Mr Horn mentions that Mr E. T. Booth has taken a nest of the

Brambling in Glen Lyon. This is highly interesting, being the first notice I have had of its breeding in the district, and especially as their nesting in this country is not common.

65. *CARDUELIS ELEGANS*, Steph. (Goldfinch.)

I am glad to see that Mr Horn has found lately the Goldfinch to be tolerably numerous, in the summer months, about Aberfeldy. This is highly gratifying, as fears were entertained that this beautiful little bird was gradually becoming extinct in the district. With the exception of a pair seen by me at Moncreiffe two or three years ago, I had not noticed it for very many years. When a boy, the Goldspink, or Goldie, by which name it was generally known, was quite a common bird in the Carse of Gowrie, where it is now entirely extinct: it bred regularly every year at Megginch, and other places in the neighbourhood. It has of late, I am glad to say, been frequently observed by Mr Malloch, Perth, about Methven; and it is to be hoped it may now be on the increase, and that wherever met with, it will be spared. Fortunately, the trade of bird-catching is not now so prevalent as it used to be, at least in this district, so that the Goldfinch has the more chance in its favour.

66. *CHRYSOMITRIS SPINUS*, Boie. (Siskin.)

During the winter months this beautiful little bird, which is frequently confounded by the people with the Goldfinch, and called by them the Goldie, abounds in many parts of the district, especially when the catkins of the alder are ripe and it is a good season for them. Last year, there being few or no catkins on the alders in this immediate neighbourhood, the Siskin never made its appearance, though in ordinary years, during the winter, they may be seen day after day, on the river-banks, busily extracting the seeds; and so occupied are they, as to admit of a stranger walking up to the very foot of the tree without being alarmed: if fired at they will go to a neighbouring tree, and perhaps shortly return. They have been known to breed about Pitlochrie, Rannoch,<sup>1</sup> Strathtay opposite Dalguise,<sup>2</sup> and no doubt do so in many other of the more Highland parts of the district; for owing to the extreme cunning of the bird, it may easily be overlooked.

<sup>1</sup> Zoologist, 1877, p. 2656.

<sup>2</sup> Horn, Proceedings Nat. Hist. of Glasgow, Feb. 1879, p. 59.



67. *LIGURINUS CHLORIS*, Koch. (Greenfinch.)

This is another of our hardy birds, braving the severest winters; and it is numerous throughout the whole district, more especially in places where shrubberies and evergreens abound, to which they are very partial for roosting purposes, where they may be seen trooping in from every part of the neighbourhood shortly before sunset. Resting first on some bare tree-top, they suddenly dart down into the dense bushes, coming night after night to the same spot.

*COCCOTHRAUSTES VULGARIS*, Flem. (Hawfinch.)

Two of these birds were shot near Murray's Asylum, Perth, in the severe winter of 1860-61, and came into the possession of Dr M'Intosh, who kindly presented one of them to the Perthshire Society of Natural Science. I have not been able to ascertain whether the Hawfinch has ever been, before or since, noticed in the district, or in any part of Perthshire or adjoining counties, comprising the basin of the Tay. Being more a denizen of the south of England than of Scotland, these birds may possibly have been foreigners driven over by the severity of that winter.

68. *PYRRHULA VULGARIS*, Temminck. (Bullfinch.)

The Bullfinch, though formerly pretty generally distributed throughout, has of late years become much scarcer in the lower parts than formerly. In the Carse of Gowrie and on the Braes, it used to be pretty numerous: few now are ever seen, and in this particular neighbourhood (the west end of the Carse), where they used to be common, breeding every year, they are now nearly extinct, partly owing to the Perth bird-catchers, and partly owing to the raids made against them in every direction by gardeners and others, supposing them to do much injury to the fruit-buds. Against this theory I may repeat what I stated to Mr Horn, and which he has transcribed in the paper before mentioned: "In its defence, however, I may say that I have known an apple-tree, in the neighbourhood of Pitlochrie, under which the whole ground was positively strewed with buds; and yet, when the autumn came round, this very tree, which in spring had all the appearance of having been destroyed by Bullfinches, bore a heavier and finer crop than any other tree in the garden. This may have been from the fact of being partially disbudded, or the buds that were

destroyed having been affected with caterpillars, and so prevented their spreading, leaving the buds that remained to perfect their fruit in security." In corroboration of this, I quote the following from a correspondent in the 'Journal of Horticulture,' vol. iii. p. 15: "In the spring of 1857, living in a part of the country where Bullfinches abounded, on looking over some dwarf standard apple-trees on a certain Monday morning, I found the ground strewn with their buds, the Bullies having taken advantage of the previous Sunday, when all was quiet, to commit their work of havoc; one tree in particular was so divested of its buds, that I considered it ruined for the season. Business called me away for some time, and I did not return till the autumn of the same year, when, on examining my little trees, to my amazement I discovered that those which had been attacked by the Bullfinches were loaded with fruit, especially the one which was apparently stripped of all its buds,—so much so, that the branches had to be propped, and nearly three dozen fine fruit were gathered off it." Another article of the same nature appears in the 'Cottage Gardener Magazine' for January 21, 1860, p. 277, by Mr P. B. Brent; but the trees operated upon on this occasion by the Bullfinches, and disbudded, were plums, cherries, and gooseberries, which appeared completely destroyed by them, to the great despair of the owner; but in the following summer they bore large crops of fruit. I have thought it right to bring these instances prominently forward, there being in the present day so inveterate a prejudice in many parts against these beautiful birds, that if the war of extermination goes on much longer, they will be shortly lost to us altogether. In some of the upper parts of the district, in the larch forests about Dunkeld, I am glad to say the Bullfinch still holds its own; and long may it do so.

PINICOLA ENUCLEATOR, Gould. (Pine-Grosbeak.)

I should not have mentioned this bird here had not Mr Horn, in his paper referred to, given me as an authority for its appearance at Dunkeld, and my mentioning it at all was by way of throwing out a mere suspicion that certain birds I had seen were possibly the Pine-Grosbeak. Not having been able to obtain a specimen, the mere fact of seeing what appeared to me to be the bird would be of no value. However, having since become well acquainted with it, or the closely allied species, in Nova Scotia, I have little doubt but that the birds in question were

really Pine-Grosbeaks. It is now a great many years ago, some time in early winter, that I observed at Butterstone Loch, near Dunkeld, not far from the road, several birds (about five or six in number), most of them of a bright red colour, feeding on some young larch-trees. They were so very much larger than either the Bullfinch or the Crossbill, that my attention was at once attracted to them; but as there is no record of their having been observed, either before or since, even if right in my conjectures, their appearance must be held to be purely accidental.

69. LOXIA CURVIROSTRA, Linn. (Crossbill.)

The Crossbill, I believe, is to be found more or less every year somewhere in the district. Some years it has been known to visit us in countless numbers—a remarkable instance of which occurred in my own recollection in the year 1838, which was a wonderful year for the superabundance of cones on the spruce-trees: “We were visited in the Carse of Gowrie by hundreds of Crossbills, and many were seen in the following year, but not in such numbers. I have never seen them in the same locality since, or have I ever again noticed the cones to be anything like in the same quantity as they were that year.”<sup>1</sup> As mentioned by Mr Horn, I have frequently noticed these birds in the Dum-fallinday fir-woods, near Pitlochrie, in the months of February and March, at which time, being an early breeder, they were no doubt nesting.

LOXIA LEUCOPTERA, Gmel. (American White-winged Crossbill.)

Some few years ago, what I took to be the American White-winged Crossbill was seen by me in the Kinfauns woods, near Perth, in a small party of six or seven; but I was unable to obtain a specimen. Knowing the bird well in Nova Scotia, I hardly think I could be mistaken.

70. LINOTA CANNABINA, Bonap. (Linnet.)

This bird is particularly abundant throughout the district at all seasons. Not only do we see them in pairs on our roadsides and moorlands in the summer months, but also are they common in winter, congregated in large flocks in many of our fields, industriously searching for their food, small seeds, of which they find a bountiful supply in that of the Sheep's Sorrel (*Rumex*

<sup>1</sup> Scottish Naturalist, vol. iv. p. 97.



*acetosella*), Creeping Persicaria (*Polygonum aviculare*), and other vegetable pests of the farmer. On fine winter evenings, when not so employed, they may be seen densely crowded on the top of some solitary tree, twittering out their songs in a full chorus of voices. This same sociable habit of singing in chorus is also peculiar to the Redwing (see Scot. Nat., v. p. 110).

71. LINOTA MONTIUM, Bonap. (Mountain-Linnet.)

During the autumn and winter months, these birds assemble in small flocks on the braes of the Carse and other high grounds, but are mostly composed of young birds. I have no notice of their breeding in the district, and suspect that their nesting-places are much farther north, as I have found them abundant in Orkney in the summer months. Mr Horn does not mention having seen the Mountain-Linnet in Strath-tay. Though much resembling the Common Linnet, it is easily to be distinguished by its yellow bill, its difference of note, and being rather more lengthy, as it were, in appearance.

ÆGIOTHUS LINARIA, Baird. (The Mealy Redpole.)

Though alluded to by Mr Horn as mentioned in the new 'Statistical Account of Scotland,' I do not think there is sufficient evidence to warrant its insertion here as a bird of the district. I have obtained it in Shetland, but have never heard of it in Perthshire, or had any notice of its being found in any part of the adjoining counties which may be considered as falling within the limits of the basin of the Tay.

72. ÆGIOTHUS RUFESCENS, Gould. (Lesser Redpole.)

This is not a common bird in this district. They are occasionally seen in winter, either singly or in small parties of three or four individuals, feeding on the ground. The only notice I have of them in summer is from Mr Malloch, Perth, who has observed them breeding about Methven nearly every season.

73. STURNUS VULGARIS, Linn. (Starling.)

The Starling, like the Missel-Thrush, everywhere so numerous, was, within my own recollection, unknown to the district; and Sir John Ogilvy of Baldovan has mentioned to me having noticed the same fact in Forfarshire. Now, in the present day, on some fine autumn evening, should you be enjoying a pull upon the river, many thousands of Starlings may be seen, united in one

gigantic body, wheeling about over the great reed-brakes on Mugdrum Island, and other tidal parts of the Tay (their great roosting-places), into which, after performing a series of most eccentric evolutions, they suddenly, as it were, at a given signal, precipitate themselves, in one vast mass—buried out of sight, but joining in one universal chatter and confusion of voices, which, after a while, subsiding, they settle down for the night; and at early dawn, separating into small parties, they wing their way to their several haunts. And it is most amusing to hear them, on their return, perched on some high tree-top, giving out to each other the lessons they have evidently learned during their sojourn in the abode of the Curlew and the Sandpiper,—representing the several cries of these birds, and a host of others, such as Golden-Plover, Peewits, Redshanks, &c.—imitated so perfectly that it would take a nice ear to detect the deception; and many a time have I been quite startled on hearing the loud, trilling notes of the Curlew proceeding from the tree straight above me.

PASTOR ROSEUS, Temm. (Rose-coloured Pastor.)

Though there are several instances, but not of late years, of the Rose-coloured Pastor being noticed in the district, it can only be considered as an accidental visitant. Mr Horn makes mention of one obtained at Dunkeld on the 29th of September 1831; and a very fine specimen, in the full rose-coloured plumage, was shot, in August of 1832, sitting on some pea-stakes in the garden at Megginch; and another specimen, also in full plumage, was obtained, just ten years afterwards, in 1842, at the same time, and at the same spot, and exactly under similar circumstances. Another was obtained at the same place a year or two afterwards; and early in September, seven or eight years ago, I observed a strange bird, which flew close past me, from out of the reeds on Mugdrum Island, which I feel confident to have been a Pastor, in the young plumage,—in which state it was well known to me in the Mediterranean. Besides these authenticated specimens, there may have been possibly other instances in the district not recorded.

74. CORVUS CORAX, Linn. (Raven.)

Common in many of the deer-forests and higher grounds in the upper part of the district, where they are still to be found in considerable numbers.

75. CORVUS CORONE, Linn. (Carrion-Crow.)

76. CORVUS CORNIX, Linn. (Hooded-Crow.)

After the very elaborate and carefully-worked-out argument for the Carrion and the Hooded Crow being of one and the same species, by Professor Newton, in his new edition of Yarrell, I feel scarcely justified in placing them under separate heads as distinct species, but, for convenience' sake, do so in the present instance. In olden days, the *Huddies*—as both the Carrion and Hooded Crow are indiscriminately denominated in this part of the country, the name more especially, however, pertaining to the former, as being the more common of the two, in distinction to the Rook, which is invariably known, in these parts, as the *Crow*—were more numerous than they are at present, and I have distinct recollection of frequently getting them, as it were, in an intermediate state; and in those days we always considered the ones with the greyish back to indicate age, and, though of this greyish colour, to be perfectly distinct from what I may call the real Hooded-Crow, which was a much scarcer bird, and generally only an autumn visitor, confining itself to the open moors and tidal banks of the river. The Carrion-Crow is, of the two, by far the more generally spread throughout the district, and the one, I believe, that more regularly breeds with us. The pure hooded variety I still occasionally see in the autumn months, on the mud-banks on the lower parts of the Tay; and I have a fine specimen, in full plumage, that was trapped at Dunkeld on the 17th December 1872.

77. CORVUS FRUGILEGUS, Linn. (Rook.)

Abundant throughout the whole district, which contains many large and populous rookeries, many of them in some parts not being much above a mile or two distant from each other. Though farmers may complain of a few potatoes destroyed, or of some young wheat grubbed up, still the enormous amount of good that is effected by these birds, in the wholesale destruction of grubs, wireworm, and other pests highly injurious to the crops, can hardly be estimated. The wonderful instinct by which the Rook will detect even a particular part of a field infected by wireworm, and cluster round the spot in hundreds till every one is eradicated, is something quite extraordinary, and well compensates the farmer for the slight mischief he may do.

## 78. CORVUS MONEDULA, Linn. (Jackdaw.)

Abounds throughout the whole district. The Jackdaw has a bad name, both as a pilferer of fruit and a purloiner of eggs; but what is worse, it has a strong propensity for young chickens and pheasants, which he will boldly carry off, in defiance of an enraged mother, with drooping wings and ruffled plumage.

## 79. PICA CAUDATA, Linn. (Magpie.)

The Magpie, once most common, is now so reduced in the district, that, with the exception of a few outlying places, it is scarcely ever seen.

## 80. GARRULUS GLANDARIUS, Linn. (Jay.)

This beautiful bird, like the Magpie, is also greatly reduced in numbers, both in the upper and lower parts, but especially in the latter. I am glad to find, however, that Mr Horn reports its rapid increase in Strathtay.

## 81. CUCULUS CANORUS, Linn. (Cuckoo.)

The Cuckoo is still common in Strathtay, and many other localities in the upper part of the district. I regret to say, however, that the bird is not nearly so abundant as formerly in the Carse of Gowrie and the lower part of Strathearn; and this, I fear, is greatly owing to that abominable invention the pole-trap, already alluded to. I have been told that an admission has been made of *one hundred* Cuckoos having been taken in a single season, in one neighbourhood alone, by this means,—not to say that the traps were set intentionally for the destruction of the Cuckoo, for I have no doubt the parties who did it were sorry for it; but of course, if any bird sufficiently heavy to fly the spring perches on a pole set up on some tempting spot, it must be caught—and not only birds, but other bipeds too. An amusing story was once told me, happening not half a century ago, and certainly not fifty miles from Perth, of how two English tourists, bent on seeing the country, made an early start one morning, and the better to view the surrounding district, ascended a wooded hill in the vicinity. On approaching the summit, they beheld in an open space what they believed to be a bear-pole, with cross steps leading up, suggestive of the “Zoo.” What else could it be? “Oh,” says No. 1, “it must be the better to view the country over the tree-tops; I will go up

and see,"—and nimbly ascending, and placing his hand on the top to get a firmer hold, an ominous click is heard, accompanied by a violent scream. Up jumps No. 2, to discover that his friend is firmly fixed in a trap, which, try ever so hard, obstinately refuses to open, being double-sprunged. There is nothing for it but to wait patiently and holloa for assistance. To be heard, however, at some hundreds of feet above civilisation, is no easy matter. The head-keeper, a good couple of miles distant, starts on his morning rounds. Suddenly his attention is arrested by a distant scream. Gazing upwards from whence the sound proceeds, a large object is seen upon the pole, and he at once jumps to the conclusion he has caught a gigantic eagle, and rushing homewards for the glass, attentively scans the rock, and soon discovers how matters stand. A good half-hour's climb at last enables him to reach the spot and liberate his quarry. This, it is to be hoped, will be a caution to all tourists as well as Cuckoos.

82. PICUS MAJOR, Linn. (Great Spotted-Woodpecker.)

So many instances have occurred of this bird having been noticed in different parts of the district, that it seems quite entitled to be included in this list. I have no notice of its breeding,<sup>1</sup> and these may only be foreigners which have reached us from the Continent. The late Dr Saxby makes mention of several large flights frequently reaching Shetland in the autumn months, and many of these may strike different parts of the coast, and so diffuse themselves through the country where best suited to them.

GECCINUS VIRIDIS, Boie. (Green Woodpecker.)

Mr Thomas Marshall, Stanley, in a recent letter to me, informs me that he saw two of these birds in the woods opposite Stanley some few years ago, and that they allowed him to approach quite near, so that he could not mistake the species, and that he watched their movements for some time with great interest. They

<sup>1</sup> Since writing the above, Mr Harvie-Brown has kindly sent me a notice of his in the 'Zoologist' for March 1880, with regard to the decrease of the Greater Spotted-Woodpecker in Scotland, in which he states "that there are many accounts to be found of its former occurrence as a nesting species in Scotland—more especially in the ancient forest of Rothiemurchus." This being so adjacent to the Tay district (should the Grampian range not have been an insuperable bar), might not possibly the black wood of Rannoch (of similar character to that of Rothiemurchus) have been also a nesting-place in former days?



flew from tree to tree, generally alighting near the ground, and rapidly making their way to the top, sometimes in cork-screw fashion, and other times in a zigzag manner. This is highly interesting, as being the first notice I have ever had of these birds being found in Perthshire. There having been no further occurrence of their visits, however, to the district, they can only be considered as purely accidental.

83. YUNX TORQUILLA, Linn. (Wryneck.)

For observations on this bird, see 'Scot. Nat.,' Oct. 1878, p. 332.

(To be continued).

NOTES ON BIRDS THAT HAVE OCCURRED NEAR  
STANLEY, IN PERTHSHIRE.

By THOMAS MARSHALL.

**I**N drawing up the present list of birds, I have not confined myself strictly to Stanley, but have included those found within three or four miles of the village. I may also state that a few, although rare in the district, are by no means uncommon on the sea-coast, and come inland at rare intervals.

Business keeps me pretty much indoors, so that I have not the opportunity of devoting so much time to the study of ornithology as I should like; but I have no doubt that, with more observers, a good many birds, rarely seen, or entirely unknown, in the neighbourhood, might be observed and recorded.

1. GREAT GREY SHRIKE (*Lanius excubitor*, L.)—This bird is not common anywhere in this country. It has been observed in all the English counties—in some of them several times; it is also reported from a good many of the Scottish counties; and it has occurred, in a few instances, in Ireland. With us it is a winter visitor, but in no well-authenticated instance is it known to have bred in Britain.

The Great Grey Shrike feeds on small birds, mice, frogs, and insects. After killing its prey, it has a curious habit of hanging up the body in a forked branch, or impaling it on a sharp thorn: it is named the Butcher-bird from this strange habit of hanging up its food. In January 1877 a male was shot in Colon wood; and a month later, a female was got near the Stormontfield ponds.

## NOTES ON THE BIRDS OF THE BASIN OF THE TAY AND ITS TRIBUTARIES.

BY COLONEL H. M. DRUMMOND HAY, C.M.Z.S., B.O.U., &c.

(Continued from p. 255.)

### 84. PALUMBUS TORQUATUS, Gould. (Wood-Pigeon.)

THE Wood-Pigeon abounds more or less throughout the whole district, often doing, in the more agricultural parts, much damage to the farmer, which, however, is in some measure compensated by the good effected in a vast consumption of seeds of the most noxious weeds. Though large quantities of these birds are annually destroyed, there seems to be no perceptible decrease in their numbers, owing to accessions from the Continent, from whence they are known to reach our shores in large bodies every year. During the harvest months great numbers are shot on the tidal banks of the Tay between Newburgh and Perth, where, among the coarse herbage commonly known as salt-grass,<sup>1</sup> certain spots are cleared in the probable line of flight of the birds to the corn-fields, and on these are set up two or three stale-birds. The gunner,<sup>2</sup> concealed behind a screen of reeds and *débris*, is thus enabled, should the day be favourable and the birds flying well, to keep up a pretty constant fusilade, until driven from his post by the rising tide. As nearly every bird crossing the river, or following its course, naturally pitches to the stale-birds, it is immediately shot, then, propped up between two sticks, becomes in its turn a decoy to the next passer-by. In this way a sack-load is often secured in a single tide.

### 85. COLUMBA ŒNAS, Linn. (Stock-Dove.)

The Stock-Dove, though exceedingly rare, may perhaps now be justly included among the birds of the district, it having been found breeding in the vicinity of Dunkeld, by Mr Brooke. This bird has also been seen by myself, in the Carse of Gowrie; and from the vicinity and time of year in which a pair were noted,

<sup>1</sup> Chiefly composed of reed meadow-grass (*Glyceria aquatica*) and reed canary-grass (*Digraphis arundinacea*), interspersed with sea club-rush (*Scirpus maritimus*).

<sup>2</sup> Some one of the professionals, generally Newburgh men, who gain their livelihood on the river by shooting wild-fowl in winter, and varying their occupation in summer by getting Wood-Pigeons and catching Eels for the Dundee and London markets.

they were probably nesting on the Glencarse or Balthayock rocks,—a most fitting locality for the purpose. This, together with the recording of two examples, obtained lately in the southern part of Perthshire (*Ibis*, July 1878), leads me to hope that this bird will eventually prove to be more frequent than is generally supposed. The Turtle-Dove (*Turtur auritus*, Ray), on the other hand, though on more than one occasion noticed by myself, besides the capture of two examples in the district, within the last ten years, is, I think, of too irregular occurrence to warrant its being considered anything more than merely accidental; but as many birds of late years—probably from the gradually-increasing extent under agriculture—seem to be extending their area of distribution, and coming further north, the Turtle-Dove may in time increase in number.

86. TETRAO UROGALLUS, Linn. (Capercaillie.)

Since the reintroduction of the Capercaillie, in 1837, by the late Marquis of Breadalbane, after a lapse of nearly three-quarters of a century, it has again become abundant; but for particulars of its increase and distribution, I must refer the reader to Mr Harvie-Brown's most carefully drawn up account of its extension in this country, as shown in his late very interesting publication on the subject—'The Capercaillie in Scotland.'

87. TETRAO TETRIX, Linn. (Blackcock.)

In former years the Blackcock was much more numerous and widely spread in the district than it is at present. This is believed by many to have been caused by the presence and great increase of Capercaillie, on the first glance—perhaps naturally so—as the corresponding decrease in the black game dates from about the time of the reintroduction of the former. I, however, quite agree with Mr Harvie-Brown in believing that there are other causes at work, and that the principal of these are, extensive drainage and improvement of land. This is strongly shown to be the case on many spots on the Sidlaws and elsewhere, now highly drained, where, I recollect, black game were once numerous, but which have now totally disappeared,—and this in places where Capercaillie are not frequently seen.

88. LAGOPUS SCOTICUS, Leach. (Red Grouse.)

Grouse abound in all the more highland parts of the district. On the lower hills, however, such as the Sidlaws and the eastern

parts of the Ochil range, they have of late years, with the exception of a few brace here and there, nearly disappeared, owing to extensive drainage, and the almost total annihilation of heather, by wholesale burning, for sheep-wintering. I have seen, however, up to two or three years ago, pretty large packs after the close of the shooting season; but these are no doubt birds that have been driven across Strathmore from the higher hills, and which return again, performing a kind of local migration. It is satisfactory to learn that, within the last few years, the Grouse has been successfully reintroduced<sup>1</sup> by Admiral Maitland Dougal of Scotsraig, on the heathy flats at the mouth of the Tay, on Tent's Muir, where they have since become resident.

89. LAGOPUS MUTUS. Leach. (Ptarmigan.)

Frequent on all the higher tops in Athole, Rannoch, and Breadalbane, the Ptarmigan, as is well known to those familiar with it at different seasons of the year, "in its native haunts," is well deserving of its name "Mutus," from its almost perpetual change of plumage,—from the pure white, which it attains in winter, varying into every shade of grey and brown in summer, and even for a short time in the breeding season, to almost black,—at these times approaching so nearly in colour and appearance to surrounding objects among the weather-beaten and lichen-cruste stones which it frequents, as to be almost undistinguishable, unless by chance the eye of the bird be caught. Guided by instinct in cases of sudden alarm, this similarity in colour is often taken advantage of with great effect, especially should there be young birds, when the whole covey, scattered among the loose stones, will squat motionless, for any length of time, till the danger be past. A curious instance of this was once observed by myself when botanising on Shiehallion. While crossing one of the numerous steep stony patches that clothe the north side of the mountain near its summit, my attention was drawn to a small, dark object, some few yards off, appearing and disappearing in a most unaccountable manner, and always in the same spot. Stealthily creeping up to within a short distance, I discovered the object of my attraction to be a large polecat, popping its head and shoulders in and out between the stones, and dancing up and down in a most extraordinary state of excitement, as if

<sup>1</sup> The term "reintroduced" is made use of, as doubtless, when the heath extended from mountain to sea, of which there is abundant proof, the muir-fowl then occupied every portion of the district.

under some spell. After watching its antics for a time, without being observed, a well-directed stone made him speedily disappear. Remaining perfectly still for several minutes longer, in the hopes of his again showing himself, I was suddenly startled by a bird springing up and taking wing from almost under my feet, then another and another, followed by several more all around me. I then discovered, to my surprise, that I had been sitting in the very middle of a covey of Ptarmigan. There was now no difficulty in accounting for the eccentricities of the polecat.

90. *PERDIX CINEREA*, Linn. (Partridge.)

Owing to the much greater extent of cultivation in the Highlands than formerly, the Partridge has become, within the last fifty years, very much more abundant in all the upper valleys and higher grounds, extending even to the very edge of the moors, where I have seen them associating with Grouse, and even mixed in the same covey. This mixed covey was frequently seen, during the greater part of the season, on one of the hills opposite to Pitlochrie, and was supposed to have been hatched in the same nest,—a hen Grouse having probably usurped that of a Partridge, or *vice versa*. In low-lying districts in the Carse of Gowrie, from drainage and the filling in of the ditches causing a scarcity of water, the Partridge is much scarcer than it was wont to be, and has, in consequence, now betaken itself a good deal more to the braes and hillsides.

*COTURNIX COMMUNIS*, Gould. (Common Quail.)

From what cause it is difficult to explain, unless it be from drainage, but the Quail, which some forty or fifty years ago was a regular visitant, and by no means an uncommon bird, breeding in the Carse of Gowrie and Lower Strathearn, has now, with the exception of an occasional straggler, almost entirely disappeared from the district. In those times, upwards of three couple have been shot in a single day. The last nest known to me in the Carse of Gowrie was in the summer of 1832, and since then the bird has scarcely ever been seen: I have therefore thought it better not to retain it on the list, but treat it as a mere casual.

91. *ARDEA CINEREA*, Linn. (Heron.)

The Heron seems to be widely spread, though sparingly, throughout the whole district, being a good deal kept under by gamekeepers, on account of its great destruction of trout

and other fish. It breeds in Strathearn, Rannoch, and Athole. In the latter place, the trees they used to occupy—a line of old beeches on the Hill of Tulloch, opposite Blair—were a few years ago cut down: they then took possession of some old Scots firs within the castle grounds, which they still occupy, but not in such numbers as formerly. In the autumn months they congregate a good deal on the lower parts of the Tay; and when the tide is out, twenty or thirty at a time may be counted (chiefly birds of the season), scattered over the mud-banks, intent on their fishing. As the tide rises they betake themselves to the old dykes which jut out into the river, where, if not disturbed, they patiently wait till it is time to resume operations.

BOTAURUS STELLARIS, Steph. (Bittern.)

I think there can be no doubt but that the Carse of Gowrie, no further back than the middle or the latter part of the last century,—when for the greater part covered with reeds, swamps, and marshes, “the land of fever and ague” (as it is known to have been),—was the home of the Bittern; but, as has been the case in many parts of England and elsewhere, the Bittern, where once common, has now, with the exception of an occasional straggler from the Continent, nearly disappeared: these, however, if left unmolested in some of the very few spots congenial to their habits still existing in the district, would doubtless remain and breed. A very fine and well-preserved specimen now at Carpow, Mr Cuthbert, the present tenant, kindly informs me, in a letter, dated March 1879, was shot in the neighbourhood, on the Gutter-hole fishing on the banks of the Tay, immediately below old Mugdrum House, in the spring, fifteen years before. This would give the date of the spring of 1864, it being probably one of a large flight mentioned by Mr Gould as reaching our shores in the winter of 1863-64, when, as he states, “examples were killed in every part of the country, from the extreme west of Cornwall to the northernmost part of Scotland, and adds that years may elapse before such numbers may appear again, for the slaughter of so many individuals must tend to diminish the race.” Another fine example, killed in the neighbourhood of Blairgowrie, is now in the collection of the Perthshire Society of Natural Science. I have not the date or particulars of its capture, but as it was presented some few years ago, it may very possibly have also been one out of the same flight.

## 92. VANELLUS CRISTATUS, Temm. (Lapwing.)

Though widely dispersed throughout the whole district, the Lapwing, or Green Plover, is nowhere so abundant as formerly, especially in the lower parts, where thirty or forty years ago, in the autumn and the early winter months, it was to be seen in the fields in large flocks of many hundreds. In the destruction of slugs, especially on the strong clay lands in the Carse of Gowrie and Lower Strathearn, their presence was most beneficial,—so much so, that since their great diminution, I have known, in the late wet seasons, whole fields of autumn-wheat (especially after a crop of beans) so utterly destroyed by the slug, that they have had to be resown with some other grain in the following spring; and this I attribute entirely to the absence of the Peesweep, or Toughet—the common name given to it by the Carse natives, and only to be pronounced by one well versed in the old vernacular. The steady decrease of these birds can be traced, I think, chiefly to three causes: the presence of punt-gunners on the Tay of late years, who shoot them down in large numbers on the mud-banks at low water, to supply the various markets during the open season; while, in the close time, their eggs are collected with impunity, and if got into the London market sufficiently early, are sure to secure a large price; besides which, in these days of game-rearing, many a Plover's egg goes up to the London dealers in exchange for those of Partridges and Pheasants. No wonder, then, that the poor Lapwing gets every year scarcer and scarcer. In addition to this, owing to drainage and improvement in farming, especially in stiff lands, the ploughed fields are able to be worked much earlier in the season than formerly, and many a sitting of eggs, if not otherwise discovered and robbed, are either harrowed up and broken, or ruthlessly crushed by the roller passing over them; whereas in olden times these would have been safe, and the young birds hatched and able to take care of themselves by the time farming operations commenced; also, in these days of high farming, there is now little or no fallow land to be seen in the country, once the great haunt of the Pewit in the breeding season.

## 93. CHARADRIUS PLUVIALIS, Linn. (Golden Plover.)

A great deal that has been said in regard to the causes of the scarcity of the Lapwing may be repeated in the case of the

Golden Plover, which, in comparison with the immense numbers assembling in our fields every autumn, even only a few years back, there may be said to be not one now for every hundred that there were then. A few, however, are still to be found here and there, in the breeding season, scattered over most of the heathy tracts of the district, from the sources of the Tay to its mouth, at which latter place, on Tent's Muir—one of the great breeding-grounds of our Gallatores—this bird, along with many others, has greatly suffered from the constant depredation of their eggs by gatherers of them, from St Andrews and other places. For the prevention of this there is no law, rendering the Wild-Fowl Protection Act, without some clause in favour of eggs, of little or no avail in the saving of our birds (in the course of no very distant time) from total annihilation; and, just as in the case of the Great Auk, our Peewits and Golden Plovers, if some steps be not speedily taken, will soon be things of the past, and when “the steed is stolen, there will be no use locking the stable-door.” I have heard the question asked, “Can it be truly said that, since the passing of the Wild-Fowl Protection Act in 1872, there has been the slightest increase in any single bird mentioned in it?” Certainly, as far as my experience goes, it seems to have been all the other way. Doubtless there are certain influences, over which we have no control, bearing against it, as far as the migratory portion of our birds are concerned, as, when they have left us and are no longer under our protecting care, they may be shot with impunity in the country to which they go, and even be sent back from thence to supply our markets. But to go no further than the Golden Plover and the Lapwing, which may be considered resident, “have they increased?” I fear the answer is “No,” and always will be till egg-gathering is either abolished or in some measure greatly restricted.

94. *ÆGIALITIS HIATICULA*, Boie. (Ringed-Plover.)

The Ringed-Plover, or Ring-Dotterel, as it is commonly called, is frequent on many parts of the Tay and Earn, but seemingly rather local, breeding on the shingly banks of both these rivers, as well as the Tummel, where I have frequently found their nests in company with the Oyster-Catcher; but Mr Horn considers it rare in Strathtay. They also breed at the mouth of the Tay on Tent's Muir, and are frequently to be seen, at most seasons, on the sands in that locality.



95. *EUDROMIAS MORINELLUS*, Boie. (Dotterel.)

The Dotterel, which is strictly a migrant, reaches its breeding-grounds on our higher hills towards the middle of May, there being, I am happy to say, a few of these birds still to be seen in some of the upper parts of the district, but, like most others of the tribe, it has sadly diminished of late years, and in many parts where once not uncommon, it has entirely disappeared. This is especially the case on that part of the Sidlaws above the Carse braes, where the Dotterel was in former days frequently to be met with, but now is altogether unknown.

96. *HÆMATOPUS OSTRALEGUS*, Linn. (Oyster-Catcher.)

This beautiful bird, not being much in quest either by the sportsman or the professional gunner as an article either of sport or food, is still, I am glad to say, pretty abundant, though were it not for the continual robbing of its eggs as a delicacy, it would be greatly more so; but, fortunately, it requires a well-practised eye to find them, the eggs being so exactly the colour of the stones among which they are laid, and one of which is generally placed in the nest along with them, that they are pretty safe from detection, at least by a novice, who may easily pass within a foot without observing them. But the cleverest hunter for them I ever saw was a very large Newfoundland dog, who not only scented out the nests, but brought the eggs one by one to his master, returning each time to the nest for a fresh one, and so gently mouthing them that there never was an instance of a breakage. The Sea Plover, by which name this bird is more commonly known, is one of the most regular of our local migrants, frequenting the upper portions of the district in summer, and retiring to the sea-shore in winter. Almost to a day, about the 15th of March, on all the straths and haughs of Earn, Tay, and Tummel, may be heard the shrill piping cry, announcing their arrival on the breeding-grounds, situated on the broad shingly banks and islands, where they judiciously make use of such spots for the deposit of their eggs as to be out of reach of all ordinary spates; occupying during feeding-time the neighbouring fields and pastures, where they may often be seen following the plough, like the Rook, in search of worms and grubs, or associating themselves on the lower grounds along with the cattle. The Oyster-Catcher has been scheduled, and, I think, somewhat erroneously, in the Sea-Bird Act; whereas it seems to me that it

would have been more appropriately placed, like the Curlew and Plover, in that of the "Wild-Fowl," as I am not aware that it is ever found (at least with us), during the close season, on any part of the sea-shore, having long before that time—the 2d of April—retired inland and commenced breeding.

97. NUMENIUS ARQUATA, Lath. (Curlew.)

The Curlew, or Whaup, is well represented during the breeding season on all the high grounds throughout the district, where its loud trilling cry may be constantly heard. In the autumn they retire to the mud-banks on the lower parts of the Tay and adjoining sea-shores, where they congregate in considerable numbers, changing their quarters regularly, according to the state of the tide. When driven off the banks, they proceed inland for some distance, returning again on the first appearance of the ebb. Being wild, wary birds, they have been able to take care of themselves, and consequently their numbers have not greatly diminished.

NUMENIUS PHÆOPUS, Lath. (Whimbrel.)

I have only once observed the Whimbrel on Tent's Muir, and that in a small flock in autumn, of six or seven birds; but not having any notice of their breeding there, or having been found in other parts of the district, I take it that they were only on their passage from their breeding-grounds in the North.

98. LIMOSA RUFA, Temm. (Bar-tailed Godwit.)

The Godwit is not unfrequent during the autumn and winter months in the estuary on the mud-banks and shores about Tent's Muir, but I have never seen them higher up the river. These birds would be much more common were they not continually shot at and disturbed by punt-gunners.

99. GLOTTIS CANESCENS, Strickld. (Greenshank.)

The Greenshank is much rarer than formerly, though never a very common bird. During the autumn months they were not unfrequent on the mud-banks on the lower parts of the Tay, but it is only occasionally that they now appear. They are known to breed in Rannoch; and I have been informed by Mr Carrington that he had frequently seen the old birds, and he showed me one of their eggs which he had got on the moor.

100. TOTANUS CALIDRIS, Bechst. (Redshank.)

This was once an abundant bird, frequenting the mud-banks

on the lower part of the Tay both in the spring and autumn, retiring to the higher grounds to breed, where they might be seen in considerable numbers on most of our hills in spring; but of late years they have greatly diminished.

101. *ACTITIS HYPOLEUCOS*, Gould. (Sandpiper.)

The Sandpiper, or Summer Snipe, as it is sometimes called, gladdens us with its cheery piping note on its arrival early in May, dispersing itself over all our rivers and streams throughout the district, and at once commences its nesting duties, concealing its eggs carefully under some projecting tuft on the adjoining bank: these I have frequently found by the middle or third week in May.

*STREPSILAS INTERPRES*, Gould. (Turnstone.)

*CALIDRIS ARENARIA*, Leach. (Sanderling.)

Both these birds have been noticed at the mouth of the Tay, but from their being so casual in appearance, especially the Sanderling, they can scarcely be included in the list of regular visitants.

102. *TRINGA CANUTUS*, Linn. (Knot.)

The Knot was many years ago abundant on all the mud-banks on the lower Tay, but, like the Godwit, Redshank, and many others, has been of late years greatly diminished, principally owing to the demand for these birds in the Edinburgh and other markets, especially at the time when game is scarce, and consequently they get no rest from the various gunners always in search of them.

*ANCYLOCHEILUS SUBARQUATA*, Kaup. (Curlew Sandpiper.)

Mr Horn records an example of the Curlew Sandpiper having been shot by Mr Dewar on Loch Tay, but no mention is made of the date of capture. I have never observed it on the lower part of the Tay or the sea-shore near the mouth, and therefore consider its appearance on Loch Tay merely accidental.

103. *PELIDNA CINCLUS*, Bonap. (Dunlin.)

The Dunlin does not seem to make its appearance so high up the tideway in the Tay as it formerly did—frequenting all the banks and projecting points, in autumn and spring, nearly as high up as Perth. It is, however, yet to be seen in considerable

flocks on the banks a good deal lower down, and is to be found breeding on Tent's Muir pretty plentifully. It is somewhat curious that there is no notice of their doing so higher up in the district, where they might be expected, nor of their having ever been met with in the Highlands, or anywhere further up the river than that mentioned by Mr Marshall, of Stanley, who records one shot near the Stormontfield ponds,<sup>1</sup> four or five miles above Perth.

104. SCOLOPAX RUSTICOLA, Linn. (Woodcock.)

There seems to be a belief among sportsmen in some quarters that the Woodcock has of late years greatly changed its habits, breeding and remaining all summer, and leaving this country in autumn, instead of coming to us only at that season and in the numbers it formerly did. This latter may be quite true of many parts of the country, but it must be recollected, as before stated, that none of our Gallatores are as abundant as in years past; besides which, much depends on the state of wind and weather as to whether birds on their passage from the Continent remain or proceed further on,—wild weather at that time, especially if accompanied with fog and adverse winds, throws them on our east coast. Should the contrary take place, few or none will be seen there, as they will then all have passed on to the west. That any change has taken place in their habits will be found, I think, to be a mistake. It is perhaps not generally known, excepting to those who have paid attention to the subject, that the Woodcock breeding in this country is no new thing; it has done so for years in every quarter of the country, from the south of England to the north of Scotland, but of course in very much fewer numbers than they do at present—and the reason is very simple: they were not protected then; they are now. Twenty years ago, and less, the Woodcock was shot sometimes in large numbers in March and April, and I have known a party of several guns turn out for the purpose as late as the 13th of April. Consequently all the breeding birds were destroyed. On this very subject Mr Gould, writing in his work on 'British Birds' some years ago, says: "Are we not killing the goose that lays the golden egg, when every scamp who can borrow a gun is permitted to shoot these birds in their evening flights or roadings during the months of March and April? I sincerely trust that, if this bird be not hereafter reckoned among the species desig-

<sup>1</sup> 'Scot. Nat.,' v. p. 257.

nated 'game,' it may be deemed advisable to pass a law inflicting a heavy penalty for every Woodcock killed between the 1st of February and the 12th of August. Were ordinary protection afforded to the bird, I see no reason why it should not become vastly more numerous. Every sportsman is aware that during the last fortnight in January the Woodcocks are found in pairs—mated, in fact, for the coming task of reproduction." Since the time that this was written, the Woodcock has been protected by law, and Mr Gould's prediction verified, as is shown by its great increase during the breeding season; but, unfortunately, it was not placed, as he suggested, in the Game Act, but inserted in the Wild-Fowl Act, the close time commencing on the 15th of February, which can now, on the decision of the local justices in any district, be extended to the 15th of March,<sup>1</sup> which, as far as the Woodcock is concerned, is a great deal too late. The 15th of January would have been better, for it seems to be quite overlooked that they are not only paired in January, but nest in the end of February and beginning of March, even laying their eggs with snow on the ground, thus giving time to rear three broods in the year. Consequently the shooting of a brace of Woodcock in early spring is tantamount to the destruction of fourteen birds. In proof of this, on the 16th of March of this present year, 1880, young Woodcock were seen on the wing in the Scone woods near Perth; and Mr Butter of Faskally has informed me that in the spring, in the woods about Faskally, where the Woodcock is plentiful in the breeding season, the young birds of the first brood are often seen in company with the old hen while she is hatching a second. It is a common belief that all our home-bred birds leave this country entirely; and the question has been asked, If so, what is the good of protecting them? why not shoot them down when we can get them? I leave that to be answered by those who see no harm in shooting a Partridge or any other bird off its nest. But do they all leave us? I think there is proof to show that they do not; at least, that a certain proportion remain, and that, though perhaps shifting their ground, they do not leave the country altogether. The late Sir Thomas Moncreiffe, well known to be a most accurate observer, was of strong opinion that the Woodcocks bred on Moncreiffe Hill never left it; and he fully believed, as he once

<sup>1</sup> This has already been taken advantage of in many districts, and is now in consideration by the Perthshire justices for the Tay and Forth.

himself assured me, that there was no season of the year in which native birds were not to be found in the woods there.

105. *GALLINAGO SCOLOPACINA*, Gould. (Common Snipe.)

The Snipe breeds pretty generally throughout the district. In September and October they are augmented by accessions from the Continent, but owing to drainage and other causes—chiefly the destruction of their eggs by egg-collectors on their breeding-grounds, not only in this country but in the north of Europe, to supply the Paris and London egg-dealers—they have become greatly reduced in numbers; so great a trade, indeed, is there, that I had once shown to me, when travelling in Shetland, a box containing no less than two hundred Snipes' eggs, all blown in the most approved manner, and ready to be sent off to a dealer in London, in execution of an order; and besides these there were a host of others of various species, such as Golden Plover, Redshanks, Dunlins, and many others. On the tidal banks of the Tay, where some years ago the Snipe were pretty plentiful, they have now almost entirely disappeared; and the few that do come are so continually fired at by shooters from the neighbouring towns, that they never get a moment's rest.

106. *LIMNOCRYPTES GALLINULA*, Kaup. (Jack-Snipe.)

This is entirely a winter visitant, and though nowhere very numerous, is generally spread throughout the district. On the banks of the Tay they used to be pretty abundant, but owing to the gradual rise of the ooze, and consequent hardening of the surface, these birds requiring much softer ground than the common Snipe, they now seldom come. Their arrival, at least in the lower part of the district, as far as my observation goes, is very regular, taking place almost to a day, generally about the 5th of October; and on one occasion only have I met with it as early as the 29th of September. Mr Horn, however, states that he has shot them on the 12th of August in Strathtay. This very early date would lead one almost to suppose that these birds which he saw must have been bred in the district—a fact in this country, I believe, never yet positively ascertained.

*PHALAROPUS FULICARIUS*, Bonap. (Grey Phalarope.)

A single specimen of this bird is mentioned by Mr Horn as having been obtained in Glen Lyon by Mr E. T. Booth. There

is no notice that I am aware of as to any other instance of this species having been found elsewhere in the district.

107. *LOBIPES HYPERBOREUS*, Cuv. (Red-necked Phalarope.)

The Red-necked Phalarope I found breeding some years ago in Athole, but not having visited the spot lately, I cannot say whether it is still to be found there. It is not unlikely, I think, that it frequents other parts of the district suitable to it, but from its unobtrusive habits it may easily have been overlooked.

108. *FULICA ATRA*, Linn. (Coot.)

Common in many parts, abounding on all the back-waters of the Earn, Methven Loch, and other places congenial to its habits.

109. *GALLINULA CHLOROPUS*, Lath. (Moor-Hen).

Previous to the severe winter of 1878-79, the Water-Hen, as it is more generally called with us, was abundant, especially about the great reed-brakes of the Tay, but that year they perished everywhere, and were found dead in every direction, and it will probably take some years before there is any great increase in their numbers. Innocent as the Water-Hen is in appearance, it is a bird certainly not to be encouraged about a poultry-yard, which they will frequently enter, perhaps from the neighbouring duck-pond, picking up any stray morsel along with the fowls, and when not observed, will kill, on the sly, any young chick or duckling that may cross their path. Often have these depredations been put down to the rats, the shy and retiring little Water-Hen never having been suspected by the henwife to have been all the time the culprit.

110. *RALLUS AQUATICUS*, Linn. (Water-Rail.)

Some years the Water-Rails are more abundant than in others, and may be considered only as an autumn and winter visitant with us, arriving about the beginning of October, and in open seasons remaining; but should very severe weather set in, they move further south. On the banks of the Tay they are not uncommon, on their first arrival, among the reed-brakes, both there and on the Earn. Though breeding in many parts of this country, I have never met them, or had any notice of their having been seen, during the summer months in any part of the Tay district.

## III. CREX PRATENSIS, Bechst. (Land-Rail or Corn-Crake.)

In the Carse of Gowrie and lower parts of the district the Land-Rail was very much more common than it is now, probably owing to drainage. Mr Horn considers it a scarce bird in Strathtay; while in Athole I am told it has become more abundant of late years. Being a shy bird, unless brought under observation by their craking on their first arrival, they may, as the season advances, very easily escape notice—the more especially as the call-note is then never heard; and they quietly slip away on their southern migration, merely leaving a young bird or two to be seen in the clover-fields when Partridge-shooting commences, and are consequently often supposed to be much scarcer than they really are.

## I 12. PORZANA MARUETTA, Viell. (Spotted Crake.)

This is by no means a common bird, though it has been got in various parts of the district, and on the lower parts of the Tay I have not unfrequently met with it, but only in autumn I have no notice of its breeding with us; but being a shy retiring bird, and most difficult to flush, darting through the long coarse grass more like a rat than a bird, it may hitherto have escaped observation.

*(To be continued.)*

---

**THE MIGRATION OF BIRDS.**

**I**N a former volume of this magazine there is a remark—written, it is true, of one special group of natural objects, but which is applicable to all—that to the naturalist the most attractive object should be the one of which the least is known. Notwithstanding the amount that has been written regarding the migration of birds, how little is really known, after all, about this most interesting phenomenon. But that such is the case is not really much to be wondered at, when we consider the difficulties that stand in the way of the observer. However enthusiastic he may be, he cannot always be in the right place at the right moment, and hence most recorded observations on migration have hitherto been of a more or less sporadic nature. To the true naturalist the difficulties in the way of acquiring such an amount of full, continuous, and trustworthy records as will in time serve as material for elucidating the laws of migration, have only served to make the subject more attractive, and all will, we are sure, wel-





## ZOOLOGY.

### NOTES ON THE BIRDS OF THE BASIN OF THE TAY AND ITS TRIBUTARIES.

BY COLONEL H. M. DRUMMOND HAY, C.M.Z.S., B.O.U., &c.

(Continued from p. 309.)

113. ANSER FERUS, Steph. (Grey Lag Goose.)  
114. ANSER SEGETUM, Meyer. (Bean-Goose.)  
115. ANSER BRACHYRHYNCHUS, Baill. (Pink-footed Goose.)  
116. ANSER ALBIFRONS, Bechst. (White-fronted Goose.)

The Carse of Gowrie, once the great stronghold of Wild Geese (consisting of the above four species), where from time immemorial they assembled in countless hordes, is still their principal place of resort, though in greatly reduced numbers,—the construction of a railway through the very heart of the ground they used to frequent, and the increased number of buildings which have sprung up in consequence within the last thirty years, having combined, together with steam-mills, &c., to drive them off the ground in a great measure—the Bean-Goose and White-fronted Goose having almost entirely disappeared, especially the former. The Grey and Pink-footed Geese are still, however, to be seen in pretty considerable flocks in the lower Carse from the first week of October till about the third week of April, when they take their departure for their breeding-grounds in the north. Of these the Pink-footed are by far the most abundant. It is singular that it should only be comparatively a very few years ago since this bird was known to naturalists, it having always been confounded with the Bean-Goose—the credit of their separation being due to M. Baillon of Abbeville, who was the first to point out the specific distinctions between the two only as far back as 1833. Long before this it was well known to every Wild-Goose

shooter in the Carse under the name of the Little Black-necked, the Bean-Goose (by far the less common of the two) being designated the Big Black-necked, both having the nail of the beak black, whereas in the two other species it is white,—the pink feet of the one, and the yellow legs of the other, being quite sufficient at all times to distinguish them. At certain states of the tide the Geese quit the river, and settling in large flocks on the fields, often do much damage both to the clover and young wheat; and especially in the spring-time, when, just previous to their departure in the month of April, they visit the newly-sown bean-fields, at which season the farmer is, by the Wild Birds Protection Act, interdicted from shooting them.

117. *BERNICLA BRENTA*, Gould. (Brent Goose.)

The Brent Goose, confined more to the mud-flats on our coast, is not often seen in the upper parts of the district. It has, however, been shot on Methven Loch, and one or two other places. Mr John Nelson of Dundee kindly informs me in a recent letter that, though not numerous, a few are to be seen every winter at the mouth of the Tay—the largest flocks noticed by him consisting of not more than twenty birds. I have been unable to ascertain any instance of the true Bernicle (*Bernicla leucopsis*, Boie) occurring with us, it seeming to be more of a western species.

*BERNICLA CANADENSIS*, Gould. (Canada Goose.)

This bird is so often kept as an ornament on artificial pieces of water, that its occasional appearance on our lochs and rivers is not to be wondered at, but at the same time renders it difficult to determine whether they are really found in a wild state in this country or not. Mr Brooke makes mention in the 'Zoologist' of having noticed four of these birds on Butterstone Loch, near Dunkeld, in the end of April, three or four years ago, which were restless and easily disturbed on the slightest sign of danger. These may possibly have been wild birds; for I can see no reason to doubt their occasional appearance, abounding as they do on the Atlantic shores of America. The Egyptian Goose (*Anser ægyptiacus*), on the other hand, which is also occasionally seen on our waters, I think more likely to be from domestic sources. A pair visited the Earn, near Moncreiffe, the winter before last (1878-79), and it has been occasionally seen on the Tay. A fine specimen

is in my own collection, shot on the Tay opposite Newburgh in the winter of 1829.

CYGNUS OLOR, Boie. (Mute Swan.)

The Mute Swan is now and then to be seen on the Tay and Earn, as also on our lochs, during severe winters, and several examples have from time to time been shot. Though known to be wild in Denmark and north-eastern Europe, they are not usually considered to be found wild in this country, but, like the Canada and Egyptian Geese, to be merely frozen-out domesticated birds. I have, however, seen them more than once flying up the Tay in small parties of three to seven birds, with all the strength of wing of any wild ones, and I see no reason to doubt why they should not occasionally be so.

CYGNUS FERUS, Leech. (Wild Swan or Whooper.)

Though many instances occur in severe winters of the Whooper being obtained in the district, their visits are too irregular to admit of their being considered more than occasional. Sixteen in a flock have been counted at one time passing up the Tay a year or two ago.

118. TADORNA VULPANSER, Flem. (Sheildrake.)

This I have found pretty abundant in the lower part of the Tay, breeding in the rabbit-burrows on Tents Muir; and Mr Nelson mentions their also breeding on the sands of Barry. In autumn and winter the Sheildrake assembles in pretty large flocks, coming up and returning with the tide, but seldom ascending much farther than the head of Mugdrum Island, and is easily distinguished from other ducks, though in the dark, by the peculiar croak.

119. MARECA PENELOPE, Selb. (Widgeon.)

The Widgeon is pretty frequent every winter and autumn, sometimes appearing in considerable numbers on many of our lochs and rivers, as also on the lower parts of the Tay, where they have considerably decreased of late years.

SPATULA CLYPEATA, Boie. (Shoveller.)

There are a few instances of the Shoveller being shot in the Tay at long intervals. Mr Thomas Marshall of Stanley makes mention of a male and female being noticed at Balathie in the

spring of 1879, the former of which was shot.<sup>1</sup> Had these birds been left unmolested, they might probably have remained and bred. It has also been lately got in the lower part of the Tay, below Broughty Ferry.

120. *ANAS BOSCHAS*, Linn. (Wild Duck.)

121. *QUERQUEDULA CRECCA*, Steph. (Teal.)

Both the Wild Duck and Teal breed abundantly in many parts of the district. The nest of the former I have observed in a tree ten or twelve feet high overhanging the banks of a stream on the Ochils. Both these species used to visit the tidal part of the river in considerable numbers every winter, but now they are greatly reduced, from being so continually fired at.

*DAFILA ACUTA*, Eyton. (Pin-tailed Duck.)

This beautiful duck seems to be rather local in its habits, being common on some parts of the British coasts and fens, and rare in other places. With us it can only be looked upon as a mere casual.

122. *NYROCA FERINA*, Flem. (Pochard.)

123. *FULIGULA CRISTATA*, Steph. (Tufted Duck.)

Both the Pochard and Tufted Duck, though not very common with us, seem to be pretty generally dispersed. Though more frequently found in winter, there are several instances of their breeding in the district. Both these birds seem to be greatly more abundant on the western than the eastern coast, as I have found them in great numbers on the Clyde, more especially the Tufted Duck. This may also apply to the next species.

124. *FULIGULA MARILA*, Steph. (Scaup Duck.)

The Scaup is not unfrequent on the tidal parts of the Tay, coming up and returning with the tide, but in nothing like the quantities to be found in the Clyde. A female Scaup, probably a wounded bird, made its appearance this spring (1880) during the open weather on the curling-pond at Seggieden, remaining for two or three weeks; and being unmolested, it became quite familiar. It fed principally upon a species of water-snail (*Limnæa limosa*) with which the pond abounded. Whether some

<sup>1</sup> Scot. Nat., vol. v. p. 260.

ill fate afterwards attended it, or that the snails being finished it went in search of other food, is not known, but it finally disappeared.

125. *SOMATERIA MOLLISSIMA*, Boie. (Eider Duck.)

During the winter months the Eider Duck is abundant at the mouth of the Tay, and Mr Nelson informs me that a few pairs nest on Tents Muir and the sands of Barry every summer. Mr Horn mentions the Eider Duck on Loch Tay: probably these birds may have reached the loch from the west coast, as I have no knowledge of their ever ascending the Tay from the east; indeed I have never found them doing so at any time, but have always seen them in the salt water.

*SOMATERIA SPECTABILIS*, Boie. (King Duck.)

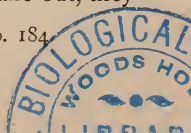
The King Duck is said to have been seen occasionally off the mouth of the Tay during the winter months, and Mr Harvie-Brown states that Mr J. Anderson, in a letter to him, mentions that King Ducks were plentiful in the beginning of January (1879) about Dundee; and Mr Nelson tells me he killed a female of this species there some years ago.

126. *OIDEMIA NIGRA*, Flem. (Common Scoter.)

127. *OIDEMIA FUSCA*, Flem. (Velvet Scoter.)

Both these species are common in the salt water at the mouth of the river every winter, the latter being perhaps the more abundant of the two. Mr Harvie-Brown states his having noticed a large flock of Scoters frequenting St Andrews Bay all summer (Scot. Nat., vol. iii. p. 348),<sup>1</sup> and questions the cause of their appearing so late. That they do so, and I believe pretty regularly, there can, I think, be no doubt, as I have on several occasions, in different years, noticed them in the Bay of St Andrews in large flocks both in the months of June and July: these, through the aid of a powerful glass, I took to be mostly Velvet Scoters. I have also noticed large numbers very late in the season in the Forth; and the habit of their assembling themselves together in this way during the breeding season does not seem to be confined to this country, for I have observed the same fact in the Gulf of St Lawrence, where I saw the Scoters in large flocks all summer; and, as far as I could make out, they

<sup>1</sup> Proceedings of Nat. Soc. of Glasgow, Sept. 1879, p. 184.



all appeared to be male birds, and I naturally concluded the females were all on shore breeding. The birds that remain with us have also appeared to me to be composed of males only, probably young birds of the previous season. As the Scoter does not breed with us, their appearance at such a season is difficult to account for, unless they be young males excluded from the breeding-grounds, which remain together during the summer—a habit not uncommon in some of the Gulls.

128. *CLANGULA GLAUCION*, Brehm. (Golden-Eye.)

The Golden-Eye is frequent in the higher part of the estuary during the winter months, and goes some way up the Tay. When not disturbed, I have seen them congregated in considerable numbers after the close season about Kinfauns; and this year, on the 7th of April, I observed large numbers swimming and diving quite unsuspectingly close up to the salmon-fishers while at work; and had not next day been the Fast Day at Perth, when the river was covered with amateur shooters from early morning until sunset, driving every bird off the water six weeks after close-time, they probably would have remained some weeks longer. As it was, not another bird was afterwards to be seen. Mr Harvie-Brown mentions three Golden-Eyes being seen off the coast of Berwickshire as late as the 3d of May, and that Golden-Eyes were reported to have bred in a hollow tree at a locality in the south of Perthshire last summer (1879).<sup>1</sup>

129. *HARELDA GLACIALIS*, Steph. (Long-tailed Duck.)

The Long-tailed Duck, though not very numerous, is a regular winter visitant on the lower part of the estuary in the salt water. It is seldom, however, they make their appearance higher up.

130. *MERGUS CASTOR*, Linn. (Goosander.)

Of all the *Mergus* tribe the Goosander may be considered our most regular visitant, though rather local in its habits, frequenting many of the upper parts of the river in preference to the mouth, where, however, Mr Nelson observed them in large numbers a few winters ago. They are every winter to be seen on the Earn and Almond, and are common at Taymount and other parts of the Tay. An occasional pair have been known to breed in the upper part of the district.

<sup>1</sup> Proceedings of Nat. Soc. of Glasgow, Sept. 1879, p. 184.

131. *MERGUS SERRATOR*, Linn. (Red-breasted Merganser.)

Though a regular visitant, the Red-breasted Merganser does not seem to be so common as the above, and I have never had the good fortune to see it in this district in its full dress, as by the time of their assuming it they have all left for their breeding-grounds in the north. In the Isle of Sanday, in Orkney, I have found them in great numbers in the month of June in full dress. The Goosander, on the contrary, is with us frequently to be met with in the finest of plumage. It may be as well here to mention that Mr Nelson writes to me that three winters ago he saw an adult male Merganser on the water near Broughty Ferry, which from its appearance he took to be the Hooded Merganser (*Mergus cucullatus*, Linn.), but could not be certain. It is not improbable that what he saw was the bird in question, as there are several instances of this American species visiting our shores; and the white hood is so very marked that it could scarcely be any other bird, and would even at a distance distinguish it from the Red-breasted Merganser.

*MERGUS ALBELLUS*, Linn. (Smew.)

There are occasional instances of this bird being shot in the district in very severe winters, but never in the full plumage. It can therefore only be looked upon as a mere casual. A few years ago, however, one was obtained in the full dress in the neighbourhood of Tents Muir, and is now in the College Museum at St Andrews.

*PODICEPS CRISTATUS*, Lath. (Great Crested Grebe.)

A good many years ago I recollect seeing a pair of these birds in full plumage, which were obtained in the vicinity of Dunkeld, and which I believe to have been shot on Loch Ordie; but there is no notice of their having been seen there of late years. Mr Nelson has obtained it at Broughty Ferry, and Dr M'Intosh mentions it from St Andrews Bay; but these were all in immature plumage.

*PODICEPS AURITUS*, Gould. (Horned or Slavonian Grebe.)

Though several instances are recorded of this bird having been got on the Tay and the vicinity of Tents Muir, its visits, like that of the above, being uncertain, it can only be looked upon as an occasional visitant.

132. *PODICEPS MINOR*, Penn. (Little Grebe or Dabchick.)

Not uncommon in the district, but rather local in its distribution. I have observed it to frequent during the winter months some of the deep still pools on the Tay near Logierait, and some other parts. It, however, retires in the month of April to the lochs and backwaters, selecting some weedy spots to breed in: it is then very shy of observation and not easily discovered.

133. *COLYMBUS GLACIALIS*, Linn. (Great Northern Diver.)

Though now a rare bird in the district, I have reason to believe that at one time it was not uncommon both on our lochs and on the Tay. I have known it obtained in full plumage on Loch Ordie, near Dunkeld, some years ago, where a pair were captured in a net set for pike. It has also been known to frequent Loch Oisinnach Mhor and other places. Mr Nelson states that a few individuals are seen about Broughty Ferry every winter, and that this present spring (1880) he saw a fine example in full summer plumage.

134. *COLYMBUS ARCTICUS*, Linn. (Black-throated Diver.)

This is a rare bird in the district, but would no doubt be more frequent were it left unmolested on our lochs during the breeding season. A few years ago I saw a noble specimen at the late Mr Anderson's, fly-dresser, Dunkeld, in full summer plumage, which was shot on Loch Broom, a locality which used to be visited regularly by a pair of these birds. Mr Nelson considers this species rare on the lower Tay, and records only two examples obtained by him, and these in winter plumage: one obtained last winter (1879) is now in the collection of the Dundee Naturalists' Society. I have notice also of its occurrence opposite Tents Muir.

135. *COLYMBUS SEPTENTRIONALIS*, Linn. (Red-throated Diver.)

I have no notice of this bird breeding in the district, or having been got in the summer plumage. It is not unlikely, however, that it may prove to breed on Loch Lydon and some other retired spots where unmolested; but until further information can be obtained as to its whereabouts in the district in summer, it can only be considered as a winter visitant, at which season it confines itself chiefly to the lower parts of the Tay, where in some seasons, according to Mr Nelson, they are pretty numerous. In-



stances also occur of its having been got higher up in the Tay, as also in the Earn, but nowhere very common.

136. *ALCA TORDA*, Linn. (Razorbill.)

137. *URIA TROILE*, Lath. (Guillemot.)

Both these birds are still to be seen pretty regularly at the mouth of the Tay, especially in the autumn and spring, the Razorbill being the more abundant of the two; but neither of them are to be seen in the numbers they used to be in former years. In the summer months, though a few are always about, they are chiefly then in the neighbourhood of their breeding-grounds at the Bass and St Abb's Head. Mr Nelson mentions an example of the Bridled Guillemot having been obtained below Broughty Ferry two winters ago, which is now in the collection of the Dundee Naturalists' Society. This variety of the common Guillemot appears to be much less known in the south than farther north. Some years ago, when visiting Pappa Westray in Orkney, I found the bridled variety in great abundance, breeding in company with the common bird. I may here take the opportunity of recording an example of an Albino Razorbill shot by me a little above the Island of May in the Firth of Forth, on the 13th of May 1836. It is a beautiful specimen, with pure yellowish-white bill and legs, the whole plumage of the purest white, and is still in good preservation in my collection at Megginch.

*URIA GRYLLE*, Lath. (Black Guillemot.)

Though I have seen the Black Guillemot farther north, off the coast of Kincardine and Aberdeen, I have not observed it to be common about the Tay. It is, however, occasionally to be got both there and in St Andrews Bay.

*MERGULLUS ALLE*, Vieill. (Little Auk.)

A wonderful irruption of these birds took place in the very severe winter, just before Christmas, of 1879, spreading themselves from the mouth of the Tay upwards, even going far inland—and many captures were recorded from all parts. At other times it has only been known as a very rare winter visitant.

*FRATERCULA ARCTICA*, Flem. (Puffin.)

Though more frequent than the above, making its appearance

at the mouth of the Tay and in the Bay sometimes in spring and autumn, its visits can only be looked upon as merely occasional ; and in the same way as the above, it affords instances of having been got in several places far up the river, as well as inland, but all in immature plumage. Examples have been shot above the North Inch of Perth.

138. PHALACROCORAX CARBO, Gould. (Cormorant.)

Though never very numerous in the Tay, I have frequently noticed one or two near the mouth at all seasons, and occasionally a solitary individual may be seen with outstretched neck and rapid flight ascending the river, which they do even as far as Loch Tay. During the salmon close-time, when the river is quiet, they often come up with the tide, and may then be seen fishing and diving in many places not far below Perth : these, however, are always in immature plumage. Its congener, the Green or Crested Cormorant (*Phalacrocorax graculus*, Leach), which seems more confined to the western coast and the Orkneys, where it is abundant, I have never been able to ascertain any authentic instance of having occurred on the Tay or its vicinity, though in the places above mentioned it is generally the commoner of the two.

(To be continued.)

---

**Chærocampa nerii at Crieff.**—In a small collection of British insects made by Mr W. Grant of Strathearn, Crieff, I find among other things chiefly common, a very fair specimen of *Chærocampa nerii*. It was found in 1873 by Mr Grant's gardener among some grass which he was cutting, probably about July. The owner of the specimen was aware that it was an Oleander Hawk, but was quite ignorant of its rarity.—G. H. RAYNOR, Schoolhouse, Crieff, 14th June 1880.

**Boldness of the Common Tern.**—While I was walking through a grass field near the house here, on the 10th of this month, I heard the familiar cry of the Common Tern, which is a bird so bold and fearless that if a person approaches near one of the young birds that may be concealed in the grass, the parent bird will dart down again and again so close as *almost* to touch his hand or ear. This I have frequently experienced before ; but on this occasion the bird repeatedly descended with great rapidity and struck me on the top of the head at least five or six times, apparently with its beak, so sharply that if I had not been wearing a cloth cap the smart raps would have been decidedly painful. Now, if it is at all a matter of doubt whether the Tern ever strikes or only threatens to do so, this note may perhaps be worthy of a place in your columns.—WM. TRAILL, N. Ronaldshay, 28th July 1880.