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NORTHERN OBSERVATIONS OF
INLAND BIRDS



Photo by

[The Author

COMMON SANDPIPER

Photographed on Loch Ken, Kirkcudbrightshire

Inland Birds

Northern Observations by a Sportsman

By *H. Mortimer Batten, F.Z.S.*

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Introduction by

The Right Hon. Sir Herbert Maxwell, Bart., F.R.S.

WITH 34 ILLUSTRATIONS

LONDON: HUTCHINSON & CO.
PATERNOSTER ROW E.C.

1923

DEDICATED TO
A VERY YOUTHFUL NATURALIST,
WHO LOVES THE WIND IN HER FACE,
AND THE LAUGHTER OF THE BURN,
AND WHOSE HERITAGE IS IN THE HILLS.

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INTRODUCTION

BIRDS being the most conspicuous and mobile of our native fauna and far outnumbering all other vertebrate animals in variety of species, it is natural that the literature devoted to that phylum should exceed in volume that which deals with any other. Ornithology, in common with every other province of zoology, tends more and more to specialization, and little addition to our knowledge of birds can be attained save through research and observation by experts. But there are two classes of experts—those who, conducting research in the museum and laboratory, deal with the structure, biology, and classification of birds, and those who, as trained observers, work in the open air and record the habits and actions of birds. These two classes of students are auxiliary to each other; each would make uncertain progress if debarred from knowledge of results achieved by the other.

Mr. Mortimer Batten takes rank as a field-naturalist of experience. Perusal of his manuscript has shown me how much patient energy he has devoted to observing birds in their natural environment, enabling him to contribute valuable notes on their behaviour. As an instance of his keen sight I may refer to his description of a moorhen diving (p. 116). Not every lover of country life may have observed that when this bird dives, as it sometimes does when alarmed, it propels itself under water by its wings, whereas regular divers, like the pochard and the tufted duck, use only their legs and feet, keeping the wings closed.

Every intelligent agriculturist will endorse Mr. Batten's advocacy of stricter protection for the lapwing. It is

the only wild bird whereof both the carcass and the eggs are habitually offered for sale in this country. In 1893 the late Mr. Howard Sanders and myself were appointed by the Government as British Delegates to the International Congress assembled in Paris to consider and devise means for the preservation throughout Europe of birds useful to agriculture. I think every European State except Turkey and some of the Balkan Provinces was represented at the Congress, and our protocol contained a unanimous recommendation that the killing of the lapwing should be prohibited at all seasons. Unfortunately that wise project has not been carried into international effect, and although some County Councils in Great Britain have enacted prohibition within their respective districts, thousands of lapwings are annually offered for sale in London and other towns. No doubt they are frequently served up as golden plover at restaurants, the feet having been previously cut off. But for this precaution, the imposture might easily be exposed, forasmuch as the lapwing has four toes on each foot and the golden plover but three.

A practice which prevailed until quite recently in the Scottish Lowlands has now fallen into disuse, owing to the ready market for plover's eggs. Hill shepherds used to set a destroying foot upon every peewit's nest they came across, a cruel observance derived from the "Killing Time," when the Covenanters were hunted down and driven to seek refuge on the moors. The lapwings, wheeling and screaming over their hiding place, betrayed the fugitives to the dragoons in search of them, wherefore vengeance continued to be wreaked on these innocent birds for two hundred years after the persecution of Westland Whigs had ceased.

Mr. Mortimer Batten remarks (p. 65) that "at one time it was believed that the goat-sucker was guilty of the act

this name implies." This absurd belief is certainly not so widely held as once it was, but it is far from being extinct in all parts of Europe. Never was there a clearer illustration of the adage—"Give a lie half an hour's start, and it will take an age to catch it." The lie is as old as Aristotle and Ælian, and is perpetuated in the name given to this harmless bird in the language of Greece, Rome, France, Spain, Italy, Germany, and other countries. Nay, has not science endorsed the slander by fixing upon the nightjar the opprobrious title of *Caprimulgus*—the goat-milker?

From the angler's point of view, the heron's life is one long career of crime, yet I, although a hardened angler, can bear testimony to a redeeming trait in that fine bird which seems to have escaped the author's observation. A few years ago the meadows beside the tower course of the Annan were infested by swarms of the short-eared vole. Day after day during the summer months, herons might be seen stalking about the pasture, gobbling voles as fast as they could catch them.

I note that Mr. Mortimer Batten endeavours to render in print the cry of some of his favourite birds. The buzzard utters "kew-kew," and so forth. I venture to think that the true voice of any bird can never be represented by any combination of vowels and consonants. Vowels alone, perhaps, but not in combination with consonants, for the simple reason that consonants require teeth and lips to be brought into play, and birds have neither. This question, however, can only be determined by the use of a gramophone, and it might prove difficult to induce a curlew or a whooper to play up to that instrument.

But I must not take advantage of the author's courtesy in giving me a seat on his coach by airing my own views on matters about which he is so competent a judge. I

Introduction

shall merely add an expression of hope that his book will pass into the hands of many readers, and of confidence that they will find much in its pages to stimulate their interest in our native wild birds.

HERBERT MAXWELL.

Monreith, *October*, 1921.

AUTHOR'S AFTERTHOUGHT

This book does not aim at being a Reference Book.

Scores of men and women and boys and girls who are keenly interested in the wild birds they see and hear do not crave technical facts so much as actual observations which will serve to make them better acquainted with their bird friends. Therefore, I have written these observations feeling that what has interested me will interest others.

In the study of Wild Nature one fingerpost points to Arcady and the other to Science. I can only hope that my notes will be of some little value to those who have followed the latter on account of the fact that they are the result of first hand and careful observation.

At all events, if I have produced a book which any lover of outdoor life can read without an irksome sense of self-improvement, that is something.

And those who do not like the letterpress will, I hope, appreciate the illustrations.

I wish to express my most sincere thanks to the Right Honourable Sir Herbert Maxwell, Bart., for his kindly and helpful interest. So long as we have sportsmen of such standing and ideals our wild birds are at least sure of the consideration which good influence can give them.

East Lothian, *July*, 1922.

CHILDREN OF THE SUN

CHAPTER I
CHILDREN OF THE SUN
(GOLDEN EAGLE AND BUZZARD)

JUST as there are many who would dispute the right of the lion to the proud place he holds among wild beasts, so there are not a few who doubt the eagle's right of heritage to the kingship of the air. Certain it is that if this bird were shorn of certain plebeian traits of character its kingliness would fire the imagination to a higher point of respect than those who know it can ever feel for it, and in many ways—indeed in most—the peregrine is a more kingly bird.

But, apart from the fact that the eagle is far and away the most formidable of our wild birds, dreaded by almost every creature of our woods and hills, the soaring majesty of its flight has doubtless a great deal to do with the "lofty" position that it holds. One can recognize an eagle miles away, when it is the merest speck in the heavens, by its marvellous soaring and gliding powers, which far surpass even those of the buzzard and the great black-backed gull. But, whereas the *pukka* blue-blooded falcons eat only what they kill, eagles will eat almost anything. In the Rocky Mountains I once saw bald-headed eagles descending in droves to feed on the ridges of dead salmon washed up on a promontory; we were miles away when first we noticed them, but the collection of "royal" birds so much roused our interest that we journeyed over the lake in order to discover what had attracted such a number.

The great birds were so intent on their feast that eventually we considered it unwise to disturb them, and many we noticed were so gorged as to be unable to fly. A keeper of my acquaintance caught two young eagles in Ross-shire owing to their having fed on carrion till their wings were incapable of raising their weight, and the parent birds were compelled to abandon the young to their fate. Having thus made reference to the eagle's vulture-like habits, we may seek a more refreshing atmosphere among the altitudes of its better known characteristics.

In spite of prevalent opinion to the contrary, my observations of the eagle incline me to accept the view that it is a bird of definite home range. Its range may be great, on account of its powers of flight; it may, at times, travel immense distances over land and water, but the eagles of our Highlands are for the most part resident birds, and if one watches them closely one learns that they visit certain places at regular periods. Around their home centre they appear to have a number of chosen beats, which they hunt more or less systematically. In the heights between Loch Tay and Loch Earn, for instance, I several times one winter saw an eagle hunting in a northerly direction down a certain corrie. I never saw him flying southwards down this corrie, and so far as I could make out he visited the place once every three or four days. Again, in the wilds between Glen Lochay and Glen Lyon I repeatedly saw an eagle hunting northwards through a small glen, and so far as I could make out, he visited this portion of his beat every third day.* He was eventually taken in a vermin trap, and his photograph forms the frontispiece of this book. After the taking of the photograph he was given his freedom.

* During these observations the prevailing wind was from the north.

It is a curious fact that birds and beasts that have never before seen an eagle instantly recognize this bird as a fierce and terrible foe, and seeing the king of birds overhead they flee in the utmost fear for the nearest shelter. A golden eagle passed over a Norfolk covert some years ago, only to be shot down by a keeper, and this man described how his attention was drawn to the presence of the great bird of prey by the behaviour of other birds. He first saw a pair of magpies make for a dense thorn bush, from the secure thickets of which they churred and chattered with the utmost resentment. The pheasants, he said, were flying in all directions, crowing loudly, while there was a great disturbance among the small song birds. Approaching to investigate he saw the eagle as it glided over a pine fringe, and shot it dead.

The birds of Norfolk, among which the pheasants were at any rate resident—having been hatched and reared on the premises, and probably the same applied to the magpies and the majority of the song birds—had certainly never seen an eagle before, nor had their fathers or their grandfathers, yet harking back from their remote ancestry came the inherited fear of the king of birds, whom they recognized far off and at once fled for their lives.

It is not surprising that the birds and beasts of our Scottish hills fear the eagle even more than they fear man himself. The eagle is a far older foe than man—indeed it is only recently that man has counted as an enemy of any consequence, whereas since time began the monarch in the heavens has stood for most wild creatures as the death's-head of fear. Moor game are far more afraid of eagles than they are of peregrines, which is rather curious, as the peregrine is certainly the more deadly in pursuit. The fact that the eagle is so much feared would seem to suggest that he is Nature's chosen monarch among birds, and his less kingly characteristics may be

merely the result of his having degenerated with his great antiquity. For the eagle is as ancient as the owl.

Recently I was out on the Perthshire hills in the hope of obtaining one or two brace of birds and as many white hares as I could comfortably carry, when, mounting a ridge, I noticed a golden eagle systematically quartering a small glen a mile or so to the west. A very strong wind was blowing at this point, and it was bitterly cold, and the bird, flying at an altitude of from seventy to one hundred feet, was hanging idly on the wind, wheeling first up the mountain face, then back into the gloom of the glen, and in this way he very soon passed from sight.

Up to this point the hares had been completely unapproachable, rising ninety yards distant and running clean away without even their customary backward glance, but no sooner had the eagle passed out of sight than I noticed a hare squatting closely under a boulder about fifty yards distant. I made a detour so as to approach him downhill, but arriving at the boulder discovered that he had mysteriously vanished. Investigation revealed a short burrow or seat running into the peat on one side of the boulder, and thrusting in my hand I at once touched the hare's hind legs, at which he drew further in. I then discovered that the seat had an outlet about four feet away, and thrusting my hand in at that end I again touched him, and again he moved out of reach. I was in the hope of forcing him to bolt, but nothing would induce him to do so.

Within eighty yards of the same place I noticed a hare's seat under a peat bank, and on either side of it the lip of the bank had subsided, forming a tunnel of the kind to which mountain hares are very partial, the animals generally seeking these shelters in the afternoon during wild weather—hence one reason for the sudden and mysterious disappearance of hares from the ground



Photo by]

[Hubert Horwood, Killin.

GOLDEN EAGLE.

This bird was taken in a vermin trap in Glen Lochay, Killin. It was liberated after the taking of the photograph. See p. 16.



Photo by

[The Author]

THE NEST OF COMMON BUZZARD

Situated in crags among woodland surroundings. See p. 29.

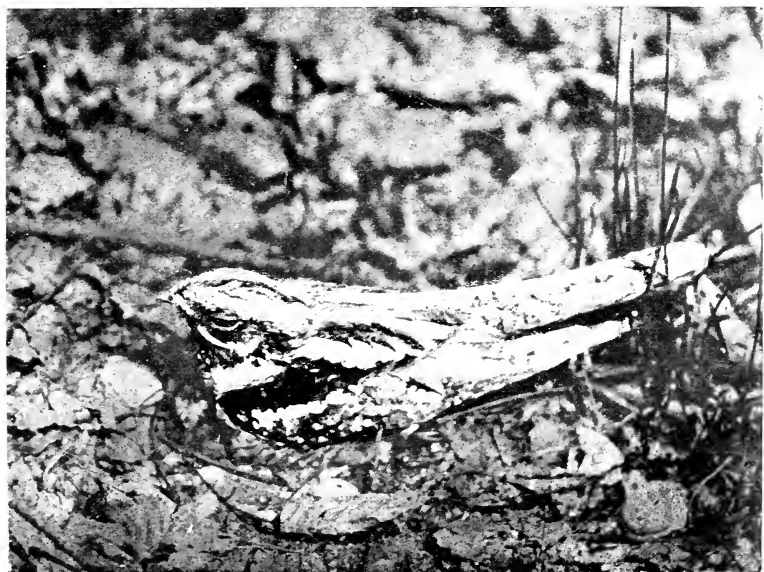


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[by William Farren]

NIGHTJAR CROUCHING ON THE GROUND.

Note protective marking. See p. 69.

on which, an hour or so previously, they were abundant. Instinct or something akin to it led me to explore this doubtful stronghold, and, removing the peat overhanging, what was my surprise on finding two hares huddled together like rabbits in a waterlogged drain! This is the first time within my experience that I have known two Alpine hares to make use of the same seat, for though they are more sociable than brown hares, in that one and all follow the same runways, and consequently congregate much at certain favourite points, they are, in disposition, pathetically solitary, and never so far as I know live together as rabbits do. There can be no question but that the incidents related were due to the great fear of the animals on having just seen the eagle, and had I continued to search I should probably have caught more hares skulking in the same manner. As it was I did not see another specimen till I had walked two or three miles—evidently they were all hiding.

It may be added that where eagles and peregrines are rare, it is very unusual for mountain hares to resort to underground shelters of any kind. They are as daylight and above board in their habits as are brown hares, and in these parts it is considered worthy of note if one of the animals is seen to enter a hole—unless it is wounded. In other localities, however, where eagles and large birds of prey are constantly quartering the ground, the hares have numerous underground seats, and in deep snow I have known them to bolt underground like rabbits on the approach of man. This observation is particularly interesting on account of the fact that the hare is among the least adaptable of all wild creatures.

On another occasion we were working slowly along a corrie, resorting constantly to the glasses, when we noticed a mysterious movement on the part of the grouse. First odd birds, then in twos and threes they came flying

down the corrie towards us, making, apparently, for the lower levels, and, as we watched, the move became a general one, the birds passing at intervals in packs for a matter of eight or nine minutes. The atmosphere was quite clear, and there was not a living thing to be seen which might account for their curious behaviour, but about five minutes after the last bird had passed we saw an eagle, flying low, coming towards us from the direction of a distant glen.

Doubtless the eagle was the cause of the behaviour of the grouse, but we were much mystified as to how they knew that the King of Birds was coming so long before he actually appeared above the skyline. If we conclude that the grouse had preconceived the coming of the bird of prey, the incident is no more remarkable than many other examples of preconception that we regularly come across on the part of birds and beasts.

It may indeed be that just as deer and hares move their quarters to suit the wind an hour or so before the wind actually changes its quarter, so grouse have some guarding instinct against one of the foremost of their inherited foes—the eagle!

Some time ago I shot a white hare at long range, and saw it fall, but on looking up from reloading I saw the animal speeding up the mountain face as nimbly as any hare alive. Passing over a ridge in the direction he had taken an hour or so later I found a dead hare, presumably my hare, lying on a boulder and partly eaten. I thought it was the work of a fox, for the hare had been dragged roughly through the heather for a matter of forty paces, but an eagle's feather and other indications proved sufficiently convincing.

The eagle knows as well as we do that Alpine hare is not such good eating as grouse and young rabbit, yet on certain bleak hills I have visited the number of white

jackets strewn about the lofty pinnacles seemed to indicate that mountain hares figure very conspicuously on the eagle's menu. An eagle is more likely to fall foul of a trap baited with a young rabbit than to any other set I know, and in the spring of the year these birds persistently hunt the wilder valleys in search of young rabbits. A well-known Scottish naturalist describes how he saw a pair of them viciously attacking a fox, which was doing its best to defend itself, keeping up a running fight towards cover, and the observer states that he has little doubt that the fate of the fox was sealed. One is inclined fully to endorse his views, for eagles have been known to descend upon dogs accompanying sportsmen and working just ahead of the guns.*

In Canada a half-breed who was accompanying me one day drew my attention to the remains of a fox freshly killed by an eagle. The poor fellow was much disappointed, as the pelt of the fox, now worthless, was a rare silver specimen. Had we been a few minutes earlier the find would have been worth many dollars to the guide. In the same locality I one day fired frivolously with a rifle at an eagle which was circling over our heads, and no one was more surprised than myself when we saw the

* In the winter of 1922 an eagle was known to attack deer and sheep in the Strathglass Beaully district. It was thought that the same bird was in each case the aggressor. The deer were attacked in the forest of Benula, in Glencannich. The keepers were out after hinds, and were watching the herd when an eagle swooped down and attacked one of the animals. The deer attacked was a knobber suffering from an old wound. The bird alighted on its back, and seemed to be trying to reach the eyes. Every time this happened the deer galloped downhill, and the jolting was too much for the eagle, whereupon it became enraged, and leaving the wounded animal it tried to overpower two different hinds with similar results.

A week after this incident one of the keepers who had been present was helping to gather sheep in Cozac forest when a big eagle swooped down on to the back of a young sheep. The man and his dog were only thirty yards distant, and the bird appeared to be trying to force its talons through the wool of its intended victim. Three times it attacked the sheep, and each time it failed to do damage. Eventually it flew away unconcernedly.

The incidents occurred in December, during mild weather, when there was very little snow even on the tops. Rabbits were abundant, and there seemed little reason for the unusual ferocity of the bird.—H.M.B.

great bird come tumbling earthwards. It was completely disembowelled by the bullet!

Stewart, the stalker on Achmore Estate, Perthshire, informs me that one day he watched a mountain hare defending itself against the attacks of an eagle. The eagle kept swooping down upon it, at which the hare would stand up on its hind legs and box vigorously with its forepaws. This in all probability was a case of a mother hare defending her young. Very few animals make any attempt at self defence when an eagle descends upon them.

It is, I suppose, a big step from the eagle to the common buzzard, yet the two have many points in common, and to watch a buzzard in the air is almost equivalent to beholding a small eagle. Periodically the question crops up as to whether the buzzard is really harmful on grouse moors, and I would like to present my views without in any sense anticipating their general acceptance. That buzzards have once or twice been shot in the act of feeding on adult grouse I am well aware, but so far as I know there has never been an observed instance of a buzzard actually striking down a grouse. Indeed, on the few occasions of which I have heard when these birds have been seen to rise from a grouse meal, there was not the least evidence to show that the grouse had not (1) died from more or less natural causes, or (2) been killed and left by weasel or peregrine. Both the last named kill a good deal of game which they leave practically or entirely untouched, and it is only natural that a buzzard would feed on dead grouse or even wounded grouse just as readily as it would feed on anything else found about the moor.

Has anyone ever seen a buzzard strike down an able-bodied grouse? If so, it would be very interesting to know how the bird of prey achieved the feat. Anyone who has watched buzzards hunting, as I have watched

them, knows very well that their methods of descent and of taking their prey are entirely unequal to the destruction of birds so well able to take care of themselves as moor game. It may be argued that the grouse becomes powerless to rise in flight on perceiving the buzzard hovering over it, but my experience, given later, entirely disproves this. I believe that grouse become perfectly well acquainted with the buzzard in the skies, and recognize him for what he is ; and though the flight of the buzzard *might* prove sufficiently swift for him to overhaul a grouse in the air, this method of hunting is entirely contrary to the bird's nature, and is not the procedure for which he is designed. The argument is, therefore, that the buzzard would readily feed on any bird that it found dead or disabled, but that an adult grouse would be up and away before the buzzard was upon it, and that it is not within the nature of the last named to pursue so fleet-winged a fugitive. Finally I very much doubt whether this bird of prey could catch a grouse even if it tried, for its powers of flight are centred around its wonderful soaring and circling abilities as it watches from aloft. Its wings are not designed for speed, as are those of the golden plover, the peregrine, and many others, but are huge rounded fans which enable it to glide at prodigious speeds when the forces of the gale are at its bidding ; but when flying straight in a comparatively stationary atmosphere its flight is heavy and laboured—indeed, it is little more active than the heron.

So far as adult game birds are concerned, therefore, my observations all go to disprove that the buzzard is ever guilty of their destruction. It is, of course, foolish to resort definitely to positives or negatives concerning the ways and habits of any wild bird or beast, but I would go so far as to say that if a buzzard has ever been known to strike down or seize a fit adult grouse, then it was

either a very exceptional grouse (possibly sick or injured) or a very exceptional buzzard.

A great many keepers destroy buzzards and their nests whenever an opportunity occurs, there being a deep-rooted idea that the birds are harmful in many ways, particularly to grouse chicks. There is no special reason why buzzards should *not* take grouse chicks, while there is every reason to suppose that such fare would be as welcome to them as mice and other small things. However, the fact that there are observant keepers who have no quarrel of any kind with the buzzard, would seem to prove that the harm done in this way is so occasional as to escape the notice of many. Of the various buzzards' nests I have examined none have contained the remains of grouse, either young or old, but this may prove little, as very young chicks would, like the schoolboy's apple, disappear entirely—skin, pips, and core.

Let us take it as accepted, then, that buzzards are in no way opposed to lifting young grouse ; the next question that arises is—how much harm do they do in this way ? Common sense would seem to answer “ very little indeed.” In the first place I have watched buzzards hunting for hours on end during the nesting season, and have never observed anything which seemed to suggest that they were hunting for grouse chicks. On the contrary, I have repeatedly noticed at a time when the moor was alive with “ peepers,” that buzzards have done quite the major portion of their hunting over the lower slopes, where grouse were comparatively scarce, but where small rodents, including rabbits, were plentiful. For we need to remember that for ten months in the year the buzzards are mainly dependent upon these rodents, and that, at the time when the grouse chick harvest takes place, the rodent harvest is also taking place. The number of

grouse chicks on the moor is never remotely equivalent to the mouse millions on the slopes below, and therefore the slopes below afford the *best* hunting for the buzzard. So there is no reason why this bird should suddenly change its habits for the brief period of the grouse chick season.

I am not putting up a case for the preservation of the buzzard. I am merely stating my own observations and conclusions, which are those of one not uninterested in game preservation, and by which we arrive at the decision that the young grouse lifted by buzzards are picked up by chance rather than as a result of systematic searching. Thus the number destroyed in this way is infinitesimal compared with the number that meet their fates in other ways. Moreover they are the very young, ten or fifty or eighty per cent. (dependent on the season) might meet death otherwise had not the buzzard taken them. The taking of the very young is not the severe blow to a species that is the taking of the half-grown, and each day in the existence of a grouse chick enormously enhances its value from the point of view of the sporting possibilities of the moor. And—this is an important point—the grouse chicks are “very young” only for a few days of their existence. They can fly when little larger than larks, and by the time this stage is reached the buzzard ceases to figure among their foes. A buzzard may pluck a newly hatched chick from the heather, just the same as it would take up a mouse, but as soon as the young grouse can “breast the slope” they have little or nothing to fear from this bird of prey.

Because, then, the buzzard does not specialize in chick hunting, because it takes only the very young, a large number of which would die otherwise had not the bird of prey stepped in, and lastly because grouse chicks learn to take care of themselves so early in their existence, it

would seem that the damage the buzzard does on a grouse moor must be slight indeed.

But the counsel for the prosecution has another point of evidence, one which at first sight may seem indisputable—namely that the hovering, eagle-like flight of the buzzard is disturbing to the grouse, and may lead to their migration. A good deal has been made of this point, and many excellent authorities hold that it is the only excuse whereby the destruction of the buzzard is justified; but for reasons which seem to me entirely convincing, I hold that the belief is based on supposition which has very occasional support in actual fact. In contradiction to this keepers have informed me that they have repeatedly found game absent from a certain portion of the moor immediately succeeding the presence of buzzards there, and that in this way they have known buzzards entirely to spoil sport for the party. I, too, have repeatedly found an entire absence of game on a certain portion of the moor over which no buzzards had been seen for months, and because there was no one to blame, the absence of sport did not rouse much comment. Anyone who has studied the grouse must admit that this bird becomes well acquainted with the various conditions of its surroundings, and, as already inferred, grouse know well enough what is to be feared and what is not to be feared.

To quote from my own observations. Living on the shores of Loch Ken, I had at one time unique opportunities of studying the abundant bird life that frequents the north end of the loch, and almost daily two, three, or even four buzzards were to be observed systematically working along the Bennan slopes at the loch side, circling and hovering over the water in their flight. Immediately the buzzards appeared there was a distinct sensation among the wild fowl, but it passed immediately. A few of the more timorous would begin to swim at a leisurely

speed towards the rushes, but the majority, having had one good look at the birds of prey, would proceed indifferently with their daily affairs. The grey hens in the birch grove would crane their necks as the buzzards first arrived, then continue their feeding, while the heron in the reeds would glance skywards a time or two, shifting from one leg to the other, then go on with his fishing. And all the time the buzzards were circling and hovering overhead.

One day, however, a peregrine flew over the loch. He did not circle or hover, but shot straight by at an altitude of four or five hundred feet, his heart, apparently, in the Highlands. But never in my life have I seen such a mad stampede among the wild fowl. Hundreds of birds rose awing, flying pellmell for the rushes, while scores sought immediate refuge by diving. This fact convinced me, as it would have convinced anyone, that wild birds are as well able to discriminate between the various birds of prey as are we ourselves.

Again, in the same locality, one early spring morning, I was watching a whole flight of buzzards—six or seven of them—circling and gliding over some crags, while their thin-edged “kew-kew” came wafting down to me, when directly beneath them I noticed a cock grouse, scraping and challenging, and accompanied by his hen bird, both of them entirely indifferent to the presence of the birds of prey. I said to my companion: “That seems to disprove the theory that grouse are so terrified of buzzards that they may leave the moor.” He answered: “I have observed the same thing repeatedly.”

It may be argued that if game birds are so afraid of a kite flown over them by shooters that they will not rise till almost under the feet of the sportsman, it must follow that they are equally afraid of, or at any rate, disturbed by, an object in the heavens which much more closely

resembles their dreaded foe, the eagle. Not at all. The kite is strange to them, and in wild nature the unrecognized always results in fear and distrust. The kite has the hovering flight of the bird of prey, yet they do not recognize it. They know that it is not a buzzard—they do not know what it is, and therefore nature takes her usual course of safety first. In my own home country hundreds of grouse were observed to leave the moor and fly in packs across the valley the first time an aeroplane passed over the heights, yet no one would say that they mistook the aeroplane for an eagle. To-day planes pass over the same moors fairly frequently, and the grouse have ceased to heed them. They know “what they are” just as grouse in Scotland know what buzzards are, and though the flight of the buzzard might prove disturbing to the grouse on an English moor, where the bird is practically unknown, this is not generally so in Scotland. And the more plentiful buzzards become, the better do the moor game become acquainted with them, and the less do they fear them.*

If, then, the bad repute in which the buzzard stands is undeserved, as I believe it is, it is a thousand pities that the bird should be so ruthlessly shot down. Not long ago I was motoring through the Cumberland hills when I saw two buzzards tied to a gate with wings outspread as tokens of some hunter’s prowess—a sorrowful spectacle for any bird lover! I have had many nests under observation during recent years, and by far the majority have been destroyed. There is no way of preventing this destruction except by removing the bad repute in which

* Since writing this I have observed the behaviour of grouse on a Yorkshire moor at the approach of a buzzard. One evening, on the moors immediately north of Hutton-le-Hole, I was watching a buzzard soaring when presently it slowly descended to the heather. As it did so grouse rose in all directions, just as I have seen them rise in the Highlands from an eagle. They flew low, swerving to avoid the butts, and so intently watching the bird of prey that one of them almost flew into my face. This was the only buzzard I saw during six months spent in the vicinity of Kirbymoorside.—H.M.B.

the bird stands. Legislation may preserve a few, but very few. The matter rests with land proprietors and tenants—not with the gamekeeping fraternity. Game-keepers are always ready to respect their employer's demands, whatever their own sentiments may be, and from my experience of the class, the man who has been told that a certain bird of prey is to be preserved, will guard it as zealously as he will guard his game birds.

By nature the buzzard is anything but a shy bird, and its methods of hunting render it comparatively easy to study. I have often seen seven or eight of them soaring together, and it is a fine sight to follow their manœuvres. The buzzard is at its best in a gale, all the mighty forces of which are at its bidding. It will soar without movement of its wings, now the merest speck in the clouds, then, with a turning glide it comes earthwards, larger, larger, and again hangs motionless. Slowly, almost imperceptibly, it is descending, then suddenly it elevates its planes and comes straight down, still hanging over the same point of the landscape. It seems merely to tap the ling tips, then as it wheels upwind, across the pine ridge, one at last obtains an impression of the prodigious speed of that turning glide, which in mid-heavens seems so slow and majestic.

Not long ago (early spring) I watched three buzzards soaring together near Killin, and I shall never forget the spectacle, for it was a scene well worth remembering. It was sunset. The higher peaks were white with snow—or rather they were crimson, shimmering, rampant crimson, flooded at points with liquid gold, which seemed to be gushing over their summits in living cascades. Lower the slopes were pink, blue, purple, the shades deepening towards the valley, while Loch Tay below us with its pine-girt headlands was merely a cloud-like shimmer of indefinite shades. Those who have seen a

frosty sunset in the Highlands know well the futility of attempting description, but this was a sunset among sunsets—almost a flashing impression, for the colours faded immediately.

I have seen a few such sunsets, but one's memories of them have a way of amalgamating, devoid of outstanding incident, but the recollection of this particular sunset was rendered permanent by the presence of three buzzards circling directly over our heads and at no great height. Their romantic, plaintive call notes of "kew kew" came distinctly down to us on the evening stillness, and as they swerved across the light their backs and under parts flashed alternatively gold and vermillion. Their flight, though majestic, was, however, laboured compared with the flight of the same bird in a high wind.

Recently I had a unique opportunity of closely observing the flight of the buzzard. Out on the heights of the Achmore Estate late in the season, I had reached the summit of the crags overlooking Glen Ogle when, pausing for a rest, I noticed three buzzards soaring in the wind at approximately the same level as myself. I took up a better view point, and for a very considerable time watched the flight of the birds. Now and then they came within easy stone throw of me, and repeatedly they returned, now above me, now below, wheeling and hovering so near that I could see almost every feather of their bodies. Up till then I had imagined that the buzzard, when soaring, is perfectly steady, but I now observed that the bird is constantly rocking and tipping, like a small boat on a troubled sea. Each feather of their wings and tails seemed to be under individual and independent control, and it was marvellous to watch not only how each wing worked independently of the other, but how a movement was affected or a tip corrected by an adjustment of a portion of one wing, by an instantaneous correction of

the position of the tail or a part of the tail. For example, a bird was perhaps stationary in the air, then by slightly elevating one wing, or by an adjustment of the position of a few wing feathers, it would suddenly turn, pivoted, so it seemed, on the other wing, or, by slightly altering the angle of both wings, it would rise vertically skywards at giddy speed. The enormously important part played by the tail in these soaring manœuvres was at once evident. When a buzzard is flying straight its tail is folded like a lady's fan, but when circling and gliding its tail is enormously fanned out, and is tilted at all angles in the control of the bird's flight.

There was no working out the control system of these birds on mathematical lines. They gave one the impression of being poised in the midst of a multitude of opposed blasts, playing on them from every conceivable direction, and to each of which they were sensitive and keenly alert. I noticed specially that very often an arc was achieved simply by the elevating of one wing till it was almost vertical, the other wing remaining more or less parallel with the earth, while the tail was used to correct the constant rocking and tipping of the body. These birds, it is only fair to add, were flying under very difficult conditions—that is, they were flying low over a broken landscape where the wind may be found to be blowing in half a dozen different directions within a hundred yards—nay, at one point, and within the space of a few seconds! Having watched the buzzards I came to the decision that the study of bird flight can help us little in our own mastery of the air. A bird, at any rate a bird of the soaring variety, is instantly sensitive to every varying current of air, and corrects itself in a different way each time to meet the immediate conditions. There is no rule of thumb about it. Of course its wing spread is comparatively small, but nevertheless no machine

could be made so sensitive, and upon this sensitiveness the whole flight of the bird, also the whole principle involved, is hinged. Therefore it would seem that we would do well to leave bird flight out of our reckonings and to work out our air problems on our own lines and to meet our few available methods.

So far as I can ascertain the buzzard feeds chiefly on burrowing rodents, large insects, and small reptiles. They are not so much addicted to carrion eating as eagles, but still they are more given to the habit than most observers think. I have known one to rear its young within half a mile of the carcass of a sheep, conspicuous on the skyline, but never to touch the carcass ; yet I have seen buzzard's feathers, together with those of crows or ravens, clinging to the heather surrounding a carcass. In many parts of the New World the buzzards live almost entirely on carrion, and there is no special reason why our buzzards should differ from those of other lands in this respect. Most of its food the buzzard plucks from the ground and swallows while flying. Its descent is usually slow, and I have often wondered why its prey, particularly in deep heather, does not get out of the way. One day a buzzard rose from a narrow gully along the brow of which I was walking, and alighted in a whitethorn near. It had a very young rabbit in its talons, and heedless of my proximity began to feed on it. Usually the bird builds among broken crags, often in woodlands, and as a rule its eggs, unlike those of the peregrine, are visible from above and easy to reach. The eyrie shown in the photograph was situated in the wooded slopes of the Bennan overlooking Loch Ken.

PARTIAL MIGRANTS

CHAPTER II

PARTIAL MIGRANTS

(LAPWING AND CURLEW)

THE lapwing is a general favourite—particularly among the people of the hills, to whom its first arrival is the earliest sign of spring. I remember how, when a boy, we used in my locality to herald with glee the arrival of the lapwing flocks, and how, early in March, their cheery “kee-witt” along the river margin, the sight of their black and white forms tumbling merrily in the air, meant to us that the long and not over cheerful winter was nearing its close. It was the first outward and visible sign of spring. Blizzard might follow, and for weeks yet the river might roar angrily with “Snaw Brew” from the heights, but nevertheless “the ice was broken”—the lapwings had come! From that day on the valley was brimming with migrants, almost every hour brought new arrivals from the coast, all following the ancient highway of the river. The curlews were already here. Generally they appear in the hills about February eleventh, the lapwings about February twenty-third (everything, of course, depends on the distance from the sea). It is a curious fact that though the curlews are the first to arrive inland, the lapwings are the first to nest.

The redshanks are among the early arrivals, flying, alighting, calling, calling, and at night time one hears the soft, romantic piping of these feathered voyagers as they

fly through the darkness, coming, passing, fading into the distance, till their notes become a part of one's slumbers. Now and then a honeymoon brace of oyster catchers, the handsomest of our partial migrants, are seen drifting by with the daylight throng, gorgeous with their orange bills and striking plumage, while their sharp, penetrating note is recognizable from afar. They are already mated, and while the curlew packs wheel and manœuvre up and down the valley flats, while the golden plover bands bank at prodigious speed hither and thither, and the lapwings dot the barren fields, the oyster catchers alone seem to be swayed by a sense of settle motive—they are either going straight there or coming straight back, heedless of the whimsicalities of the remaining rabble.

Yet not all the oyster catchers are finally mated when they arrive at their spring time haunts, as I have repeatedly witnessed them fighting valiantly for possession of their fair ladies. There were three participants in one of these struggles, and after a lengthy fray, the proved victor strutted confidently up to her, while the other two hung about in the offing, piping dolefully. The hen, who had watched the contest with interest and approval, now turned upon the hero of it, jumped on him, and struck him with her bill, then finally she flew away with one of the ignominious vanquished! Of such are the spoils of war—an incident which seemed, indeed, to argue true monogamy!

The date at which the first lapwing eggs are collected is dependent entirely upon the immediate weather conditions. Whether the preceding winter has been mild or severe does not enter into the lapwing's reckonings. These are my notes on the subject made at New Galloway, 1919:

Feb. 23rd Saw first flock of lapwings.



Photo by H. N. Bonnat

LAPWING AND NEST.

See p. 35.

{Copyright, H. Montmore Batten.



Photo copyright]

[by Oxley Grabham.

COMMON CURLEW OR WHAUP.

A bird of great distances, as indicated by its loud, siren-like notes.

See p. 43.

March 15th Found numerous lapwing scrapings in fallow fields by Loch Ken. They will be nesting in full swing ten days hence.

March 24th Strong northerly winds with snow and rain day after day. All signs of lapwings nesting have vanished. They, and most other birds, are in packs again. But for these unusual weather conditions there would doubtless be many eggs by now.

April 6th Weather improved. Fresh lapwing scrapings. Indications of nesting season exactly where they were on March 15th.

April 8th Collected nine lapwing eggs—the first of the season.

April 12th Lapwings nesting in full swing.

Anyone who writes up their bird observations will probably have similar entries.

Many lovers of bird life shrink from the thought of egg collecting of any kind, but taking a common sense view of the collecting of plover eggs, which many appreciate as one of the greatest delicacies of the year, my studies of the habits and character of the bird involved lead me to conclude that so long as the dates of the old close season enforced in England before the new Act be observed, the species does not suffer by the activities of the collector. When a lapwing has been robbed she lays again immediately. If her second clutch be taken she again wastes no time, but at once produces a third. This process is repeated till, in certain deplorable cases, I have heard of the hen bird becoming so weak that she could hardly rise from the ground. Such persecution is obviously brutal, but, with the proviso already set forth, it is impossible for this stage or anything approaching it to be reached. In fact, in a normal season, the first nest

of a bird having been spoiled, her second treasures were under the protection of the law by the time she had produced them. She lost her first clutch, which merely set back her nesting for a few days, and in the days before there was any close season I have known individual lapwings to be nesting till well on into the summer, owing to the repeated loss of their early eggs.

Now let us consider what the taking of the first clutch means. As has already been shown it does not entail a direct loss to the species, for the bird at once lays again. The result is that the young birds, when they appear, have the advantage of being several days later than they would have been, and consequently they are less likely to be killed by storms. The loss of young birds is a direct loss to the species; it means a month wasted, and, therefore, the bird which would have reared two broods, now rears only one.

But there is a more important point than this. Hundreds—nay thousands—of the first eggs laid are destroyed by snow and frost. The old bird does not know that they are addled, and continues to incubate them till well on into the season. By the time she realizes that there is “nothing doing,” the season is so far advanced that it is even doubtful whether she lays again. Thus the bird which would—had she been robbed of her first frost-addled eggs—have produced two broods of chicks, now produces none at all, or at the best only one brood. These notes are based on very close observation, and I am convinced that, always with the proviso that the dates of the old close season be observed, the collecting of lapwing eggs is beneficial to the species. It is the taking of eggs at a later date which does the harm, and which is in every way to be discouraged, particularly since half the eggs collected after April tenth are unfit for food. By wholly prohibiting egg collecting we merely encourage secret collecting the season through.

When searching for lapwing eggs it is a very good plan to carry with one a folding cup and a flask of water. The eggs, as collected, are immersed in the water. If they show any tendency to stand on end they should be returned to the nest. Do not shake the eggs in order to ascertain whether they have been sat upon, for, if so, the developing chick within will die.

The lapwing has many foes, among which inland gulls take a prominent place. I have repeatedly seen gulls alight in a field immediately after a flock of lapwings has alighted there. Thereafter there is no peace for the lapwings. The gulls sit idly watching while the weaker birds search industriously for food, and immediately one of them discovers a dainty morsel two or more gulls are upon him to take it from him. The gulls tease and disturb the lapwings to such an extent that in some parts the poor birds are really hard put to it to obtain sufficient food. Also the gulls steal their eggs and swallow their newly-hatched chicks, and since so many gulls, particularly the blackheaded species, have taken during recent years to breeding inland, the lapwings in some parts have appreciably decreased in numbers.

Flood waters are a far greater enemy to the lapwing than is man, or—during certain seasons—than any other mortal foe. The birds are specially partial for nesting purposes to low-lying and rough pasture lands, where bulrushes and swampy patches abound, and during a wet spring thousands of acres of their favourite haunts may be inundated by flood waters. Here is an example.

Early in the spring of 1921 I walked for many miles over the low-lying pasture lands in the vicinity of Callander and also in the Dochart Valley in search of plover eggs, but, as I could find none, I concluded that it was too early in the season. On the day following very heavy rain fell, and throughout the Highlands vast areas

of level bottomland were covered by unbroken sheets of water. Fine weather followed, and shortly after the floods I found a good number of newly-laid eggs on the ground where the floods had been. The high water mark was clearly defined by the usual wreckage and scum of dry grass and rushes, which forms ideal substance for the birds to nest upon, and following the line of flotsam I was surprised to find a great number of stranded eggs washed up by the floods! For weeks after more eggs and still more were found lying addled among the wreckage, so when, before the flood, I concluded that the birds had not begun to lay, I was evidently much mistaken. Certainly laying was not in full swing, yet numberless eggs had been destroyed, and one can imagine what damage would have occurred had the floods come a week later. For, unlike the human collector, who walks over many more eggs than he takes, the floods take all—newly-laid and otherwise, even chicks. In a wet season, therefore, flood water ranks foremost among the lapwings' foes.

I have seen a tawny owl systematically hunting the breeding haunts of lapwings during the season that the newly-hatched birds are about, and, of course, the carrion and hooded crows make inroads into their numbers. The preservation of game is much in the lapwing's favour, for its delicate flesh is prized by all predatory birds and beasts, yet this bird may generally be described as a flourishing species. Of course there are many localities where a melancholy shrinkage is evident, but to offset this it is practically undisturbed in many of its vast breeding haunts in the Highlands, while the Netherlands are a source of almost inexhaustible supply. It is distressing to see strings of lapwings set up for sale in our cities, for it has been proved repeatedly that the bird cannot stand this direct drainage on its numbers. It

has so many natural foes that, although it may flourish with man's protection, it can only just hold its own where man is indifferent to its welfare, and when we purposely set out to destroy the adult birds an immediate decline in their number results. The bird is in every sense beneficial to the land, a friend to the farmer, and an enemy to none; its cheery call notes are a joy to hear, so fragrantly reminiscent of the open hills, and it must be borne in mind that in its numbers lies its only strength. It is so with all ground breeding birds of gregarious habits. When once their numbers begin to diminish they seem to lose all power of resistance, and to decrease more and more rapidly.

Another foe of the lapwing, of which mention might be made, is neither man, bird, nor beast. In my diary under date August 23rd, 1913, I find the following entry:—"Rabbit shooting at Kelnsey. I saw a lapwing running along under a wall. Gave chase, and caught it immediately. It was in a starved and wretched condition, owing to its feet having become enmeshed in a wisp of sheep's wool. Two of the toes were missing from one foot, and one from the other. The stumps were quite healed, so its feet must have been entangled for some weeks."

Some years previously I caught a lapwing in an exactly similar plight, and on both occasions, when rounding up the unlucky bird, I noticed a curious antic in its behaviour. Every few paces the bird would stop, and strike its beak into the ground with repeated rapid strokes—sometimes with such force as to have difficulty in withdrawing it. Why is this? It looked exactly as though the bird were feeding.

Examining dead lapwings displayed for sale, I have noticed that quite a large percentage of them are minus a certain number of toes, sometimes the whole foot being crippled. In this respect—the absences of minor members

—the species is almost as remarkable as the sourdough toughs of the Upper Yukon river !

I remember a very mystifying experience with regard to a young lapwing. Among the first feathers that the chick grows, before it is able to fly, are some of a certain shade which are much treasured by the anglers of my particular locality for the dressing of a certain fly. Finding a young lapwing in a field one evening I placed him in my fishing basket, which was of rather an unusual kind, in that the hole through which the fish were dropped was provided with a hinged lid. Having captured the young lapwing I carefully closed this only way of exit, intending to take him home and remove the treasured feathers with a pair of scissors, after which he would be returned to his native field. Arriving home I opened the basket but—no lapwing ! The hinged lid was securely fastened down, and though the minutest examination was made, the means by which he had escaped could not be discovered. Nor, to this day, have I been able to arrive at any possible solution to the mystery.

So the coming of the lapwings is to the people of the hills what the coming of the swallows is to the people of the flat country. With the curlews and the redshanks and the golden plovers they are our first migrants, and thereafter the long silence of winter is dispelled by many cheery voices. For, strange to relate, spring comes to the bleak heights so far as bird life is concerned long before it dawns in the more sheltered regions. The birds of our hills—the grouse, the ravens, the plovers, the curlews, are the first to breed, and by the time the birds of the valleys are just beginning their family affairs, those of the heathered slopes are well advanced.

Visit the moors very early in the morning in the month of March, while winter still reigns supreme, and you will find that here on the hills the mating season of the bird

life is in full swing. The challenges of the red grouse ring across the slopes, faintly answered by the strange, vibrating notes of the hen birds. High over the rushes a snipe is wheeling in mid-heaven, uttering his "chipp-churr" love note as he flies, and now and then the elusive, musical sound of his drumming is wafted down as he pitches giddily earthwards. A redshank hangs on quivering wings above the moorland pool, his restless, tentative flight as well as the low, persistent notes he utters— utters for hours on end, till the melancholy of it nearly drives one mad—are peculiar to this season. The curlews are flying, alighting, calling, calling, vastly conspicuous as they fly, but vanishing like vapour as they alight, so closely does nature guard her kindred by their colouring; and the curlews too utter many strange notes peculiar to this season. As the days pass by, these birds become more and more restless, till it is indeed a sight to watch their powers of flight. They are the most anxious and restless of all our hill birds, and their solicitude seems to embrace all the other wild kindred of the range. Longer in the leg than the rest, their eyes set high up in the head, they are the first to give the warning, and should it be unheeded by any other bird or beast they seem to go half mad with anxiety, dashing hither and thither around the heedless one with cries of the utmost desperation.

The manœuvres of the male curlew while he watches over his wife sitting her eggs are fascinating to watch, for this bird has many unique gifts in the way of flight. Rising vertically on lashing wings, he hovers in mid-heaven like a gigantic humming bird, wheels at prodigious speed, then comes wafting vertically earthwards with wings erect, night-jar or buzzard fashion. The bird's hawk-like flight at this season has given rise in many localities to the belief that it is an egg stealer, and this belief dies hard. Certainly the flight of the curlew during

nesting time would seem to suggest that it is scouring the moors in search of something, but I have not the least doubt that it is never guilty of taking the eggs of other birds. What may happen is this—an egg thief comes along, the curlews catch him in the act, and with characteristic concern they hover above and even alight on the earth near by. The keeper watches them, and going up finds the devastated nest. The circumstantial evidence against the poor curlews is very strong, but all the accusations I have heard against this bird as an egg thief might be explained away as above. We might argue that it would be impossible to eat boiled rice by means of chop sticks but that we know that it is very frequently done, but, given the same latitude, it is hard to believe that the curlew, considering the curious design of his bill, can ever have acquired the habit of draining eggs. Eating soup with a fork would be a simple task compared with such a feat.

The anxious solicitude of parent curlews for their young is pathetic to watch. The shepherd's dog crossing the moor a mile away is watched with the utmost vigilance, and should he draw nearer, one of the birds swoops towards him, almost lashing him with its wings, and resorting to every endeavour it knows to turn the direction of the trespasser, while the other parent herds and hustles the chicks to a place of greater safety, finally inducing them to lie concealed in different hiding places. But curlew chicks seem to be among the most wayward of earth's simple children. For a time they lie obediently hidden, but very soon they tire of it. One pokes up its head, then another, answering in soft, feeble notes the wild, strong call of their parents flying and alighting near by. Then one gets up and begins to stumble among the tussocks on clumsy chicken legs, another gets up and stumbles in the opposite direction, while in the interim

the parents go clean mad in their efforts to divert the approaching source of danger. Often they betray the whereabouts of their young on the same principle as that employed in "Hunt the Thimble"—hot, cold, warm, freezing, but the little curlews have a friend higher and wiser than their poor devoted parents, and in their protective colouring lies their safety.

It has often occurred to me that it would not be hard to learn curlew language if one could devote the time to becoming sufficiently familiar with it. When I was a boy I made some steps in this direction, but have forgotten what little I learnt. The curlew possesses a far more extensive vocabulary than most wild birds, and anyone who has studied them will agree that their different notes serve as a method of intercourse. There is the ordinary familiar call note of "coy-coy," which would seem to be equivalent to "coming-coming!" There is the wild S.O.S. alarm, there is the "danger in the distance" warning, there is "danger draws nearer," there is "danger turned aside," in addition to the usual bubbling notes of greeting and joy, and the low sad note of loss and sorrow, one of the most pathetic sounds in all the wilderness. I have heard a curlew that has been robbed of her eggs utter this note, when for days after she haunted the scene of her sorrowful memories.

From the foregoing it will be seen that, in spite of the evil superstitions that still exist in some parts of Scotland regarding the "wharp," which for long was classified among witches, warlocks, and the like, there is much that is lovable in the character of these wild birds of the hills. To many a lonely shepherd their shrill, cackling alarms are the songs of spring, the springtime of boyhood, renewed each year with boyish memories by the coming of these cannonballs of the upper air.

The callnote of the golden plover is among the most

plaintive of moorland sounds, yet among the most joyous, and it is strange how the notes of these hill birds, like the garments they wear, are so exactly in harmony with the wind-swept desolation of their surroundings. I have heard plovers passing over London at night time, and their musical piping, high in the heavens, was so incongruous as to seem almost discordant.

It is difficult to decide what are the factors that govern the feeding hours of these moorland birds. They are both diurnal and nocturnal. On certain nights a death-like stillness reigns upon their haunts, while other nights the very air vibrates with the callnotes of feeding birds. They are everywhere astir, and weather conditions do not seem specially to influence their movements. I have been on the hills at midnight when every tuft of heather seemed to find a voice, and the following night, perhaps, at the same hour, given the same weather conditions, not a bird was to be heard. Sometimes they are astir all through the night, sometimes they settle to roost with the dusk and are silent till daybreak, and this seems to apply to all birds which winter along the sea shore. If the nights of special activity immediately succeeded rain it would be easily understood, for their food would then be most plentiful, but this is not so.

I have often wondered whether the feeding hours of these birds living inland is influenced by the tide of their maritime haunts—that is, whether the periods of activity inland coincide with the periods of activity along the coast. When the birds are living by the sea, their feeding times are decided entirely by the tide. They are active when the tide is out, whether it be day or night, and idle during the hours of flood tide. Such strange and distant conditions often govern movements of birds that the theory advanced is not so wild as it may at first seem. When these birds are living by the sea they often

retire miles inland during the flood tide, but just before low tide is reached they flock back to the sea, arriving at exactly the right moment as though acquainted with the movement of the tide to within a minute.

All the wading birds seem to undergo considerable fluctuation from season to season as regards equality of numbers of each sex. I remember that one year thousands of male unmated redshanks thronged inland, and were to be seen flying about in droves along the shores of hill lochs throughout the spring and summer. These merry bachelors had clearly not a care in the world, and seemed to be enjoying themselves immensely. Another year hardly a redshank will be seen unaccompanied by a mate.

I have observed the same thing regarding curlews, sandpipers, and golden plovers. Some years great flocks of unmated curlews frequent the sea shore throughout the spring, but another year the shore will be almost destitute of curlew life during the nesting season.

Two or three miles off the coast of Devonshire my brother and I one day saw a curlew alight on the surface of the sea, and remain there several seconds, eventually rising without difficulty and pursuing its way. I have seen a sandpiper lose its footing while wading, and coolly proceed to float downstream, carried by the current several yards ere it was able to touch bottom. The incident seemed to occasion not the least dismay.



Photo by T. M. Blackman]

[Preston.

OYSTER-CATCHER.

One of the most handsomely attired of longshore birds.



Photo by J. T. Newman

Beckhamsted.

BARN OWLS.

By no means so drowsy as they appear when twilight settles. See p. 53.

THE DUSK AND THE STARLIGHT

CHAPTER III

THE DUSK AND THE STARLIGHT

(BROWN OWL, BARN OWL, LONG-EARED OWL, SHORT-EARED OWL, LITTLE OWL, FERN OWL)

“St. Agnes’ Eve ! ah ! bitter chill it was :
The owl, for all his feathers, was acold ;
The hare limp’d trembling through the frozen grass,
And silent was the flock in woolly fold.”

OUR poets seem to have been sadly lacking in a proper knowledge of the ways of owls, but at all events Keats was evidently aware that owls, in spite of all their feathers, are no better able to resist the terrors of cold than are other birds which may not be so warmly clad. During an extreme cold snap a few years ago I came across a barn owl so weak that it could only just manage to flap from one willow to the next along the river margin, and on another occasion I found a long-eared owl lying dead with head upheld on a gravel bank after a severe frost. This bird was not starved, and had, apparently, succumbed solely to the cold. From these facts I am perhaps justified in concluding that, with the exception of the short-eared owl, these birds are rather delicate and unusually sensitive to cold.

A good deal has been written about the feathers of the owl, which enable him to fly with such muffled flight that he can surprise his quarry lurking in the grass. It has often occurred to me, however, that the silence of the owl’s flight is to enable the bird itself to hear, rather than to prevent others from hearing it. In his hunting

the owl is dependent upon the minutest sounds for guidance, and anyone who has ever flown (or even "free-wheeled" down a hill) will realize that it would be impossible to hear anything at all in the air unless flight were as noiseless as it is possible for it to be. Most people who have watched owls hunting have seen them turn in their flight, swing round some obstacle which must have obstructed their vision, then suddenly pounce—guided, apparently, by some sound so slight that human ears could not have detected it. Such keen hearing—peculiar to rodent-hunting beasts and birds—would be useless in the case of a bird unless supplemented by noiseless flight.

In 1913 I decided to put this theory to a very simple test. Behind my house was a barn which at that time was infested with rats, so throwing some chicken meal into the centre of the yard, I hid behind a wall at dusk, armed with the lid of a cardboard box. It was not very long before several rats, young and old, were feeding, at which I waved the cardboard vigorously in the air behind me, creating exactly the sound of wafting wings. The rats took not the least notice! I repeated the experiment several times, but no matter how loud the delusion they did not heed it. This seemed to me definite proof that silent flight is not essential from the owl's point of view so far as approaching his quarry is concerned, and, therefore, it must exist for the benefit of his own hearing.

Our four British owls are: the barn owl or screech owl, the brown or tawny owl, which is the gentleman who hoots; the long-eared owl, and the short-eared owl. The little owl has been introduced, and is, unfortunately, increasing.

While the barn owl generally screeches, it also occasionally hoots, and while the tawny owl generally hoots it also is capable of uttering the most unearthly screech.

Generally speaking, however, the barn owl is the screaming owl, and the tawny owl the hooting owl. Incidentally the "ears" by which the long-eared and the short-eared varieties are named, are not ears at all, but merely personal adornments like the tassels on the ears of the lynx and the squirrel. Such adornments, as a rule, answer some useful purpose, and in this case they are unusual, and the unusual in Nature is terrifying. Therefore it may be that the tassels of the lynx, the squirrel, and the owls are to terrify—defensive in the case of the squirrel, offensive (paralyzing) in the case of the other three.

The barn owl is probably the commonest of our four British species, and incidentally its distribution is over almost the whole of the earth's surface. This is very strange since the barn owl is essentially a stay-at-home bird. It is probable that the majority of barn owls in this country live and die within two miles of some central landmark, and that, unless exceedingly hard winters beset them, they never wander outside that limited area. It is not difficult in the case of the peregrine and the snipe to understand their universal range; they are strong flying and restless birds, and the young peregrine seen over the Perthshire hills at the time of writing may conceivably be hunting the foothills of the Himalayas ere these notes go to press. The case of the barn owl among birds is, however, almost analogous to the case of the porcupine among animals. An individual porcupine may spend the whole of his life in one poplar grove. When forest fires come, every porcupine within the fire belt perishes, and it takes years for them to creep back into the burnt area. Thus we often find localities named after the porcupine where these creatures do not exist, such as the mining camp of Porcupine, N. Ontario; but on questioning the Indians we learn that, just as porcupines are still abundant in the valleys to north and

south, they were at one time plentiful in the valley so named, *but that fire exterminated them*. It takes the porcupine population years to creep back over a few miles of country in which they have been destroyed, and similarly in bird life the distribution of a species is usually decided by habits. The wanderer may be world wide; the stay-at-home is generally limited to one region, or, if it appears in many regions, it differs widely in each as the result of long residence. The barn owl is an exception in that it is universally distributed with very little variation—the why and the wherefore of which we can only attribute to its extreme antiquity.

This is a lovable bird, and probably the least destructive of the four. It lives chiefly on rodents, except where they are unobtainable, when naturally it turns its attention in other directions. An individual may learn that young pheasants outside the coops are easily caught at day-break and dusk, and are good eating. Thus occasional specimens may acquire bad habits, and some gamekeepers are ready enough to seize upon such exceptions as representatives of the race; but the game killing barn owl *is* the exception rather than the rule. Tawny owls are astir earlier in the evening and later after day-break than barn owls, and, therefore, they are more likely to acquire the habit of visiting rearing pens, and to learn the ease and luxury by which a living may thus be earned. The barn owl is more strictly nocturnal than the tawny owl; I have known the last named to hunt in broad daylight when they have young to feed, but, except during periods of extreme frost, I have never seen a barn owl astir at day-time unless flushed. Even then he seems much embarrassed, and will settle almost immediately, clearly as much out of his element as is the blackbird disturbed from its roosting place by the poacher's bull's-eye lantern, and heard to settle with faltering flight among the twigs of a bush near by, far too slender to support its weight.

Unlike the tawny owl the barn owl is exceedingly difficult to rear. When I was a boy I three times made the experiment unsuccessfully. Repeatedly, however, we reared tawny owls. They will eat almost anything they are given—one of my pets, indeed, was found dead, owing to a younger brother having fed it on a tram ticket!

As its name implies, the barn owl is very partial to buildings of human construction for nesting purposes. A pair built year after year in a barn near my home, and at day-time we used regularly to visit the old bird as she sat under a skylight among the cobwebs, looking very unnatural and unbirdlike on her meagre nest.

One pair I knew built in an old stone wall in the centre of the extensive coniferous forests of the Bolton Abbey Estate. On every side of her were dense forests and open moorlands, though only two miles away the abbey ruins were at her disposal, and nearer still, the ruins of Barden Priory. This, probably, was a very unusual choice.

I have seen it stated in ornithological works that the tawny owl is given to fishing, and of course this may be so, but though, within my own experience, I have come across several examples of the barn owl taking trout I have never known a tawny owl to do so. On the River Wharfe there were, perhaps, fourteen nights in the season when the big trout took to frequenting the very shallow water in pursuit of an insect, the hatchings of which were of brief duration, and during these nights there was little chance of sport for the angler, owing to the abundance of natural feed, and, therefore, I was able to devote many idle minutes to the observation of other wild life. The big trout could be seen moving about on the shallow gravel beds—indeed, for the fun of the thing, I have at such times changed my tackle and foul-hooked fish with a Stewart tackle cast as one casts a fly—and always, on

these occasions, I have noticed barn owls winnowing up and down the river edge, undoubtedly in search of fish. I have never seen one strike a fish, but I have heard disturbances which seemed to suggest it.

Again, near to my home was a small spawning brook into which thousands of adult trout passed at the back end of the season, and I observed that, immediately the trout began to run, barn owls and village cats took to frequenting the banks of the burn. Of course, I do not infer that the tawny owl does *not* fish; I merely state that according to my own observations, barn owls are more given to the habit, though, but for personal observance, I would have suspected it to be characteristic of the tawny.

A good deal has been written on the harmlessness of the tawny owl, its service to man, and so on, but though I rejoice to hear its melancholy note, though I am as loath as any other lover of outdoor things to encourage the destruction of any one of our wild kindred, I must say that during my studies in the North of England and in Scotland of the tawny owl I have not come across any outstanding example of its usefulness beyond the killing of rats, whereas I have personally witnessed numberless cases of its destructiveness among song birds, and heard much concerning its destructiveness to young game birds. The demands of its young are very great, and I believe that a pair of tawny owls will clear up a whole brood of domestic chickens or of pheasant chicks in a single afternoon. Gilbert White states that barn owls return with food for their young every five minutes; at this rate it would not take the equally ravenous tawny owl very long to exterminate a brood of chicks, so easily located and caught. So far as I can make out, and this statement is backed by such practical sportsmen as Mr. Aikman Smith of Edinburgh and Mr. Shepley Shepley of New

Galloway, the tawny owl feeds chiefly on song birds, though rats, squirrels, young rabbits, and leverets go to supplement its normal fare. It does not do much harm to game birds breeding naturally, but one very much begrudges it its toll on our song birds, whose music adds so much to life, feeling that the owl takes an unfair and unsporting advantage of them when they are perched serenely at their roosting places, and when the owl itself can see, though they, whose lives are at stake, are helpless. How different such a mode of hunting from that of the peregrine, yet there are many who begrudge this noble bird its fare!

Tawny owls are essentially woodland birds. Often they nest in ruins, but seldom in barns and outhouses. In the ruins of Kenilworth, as in Bolton Abbey, I had opportunities of studying them, and often saw them take their prey. So far as the value of silent flight is concerned for the approaching of their quarry, I repeatedly noticed that the tawny owl often "shouts" immediately on launching forth from its look-out post to descend upon its prey—evidently to inspire fear; so noise of descent would seem to be in the bird's favour rather than otherwise. On clutching his quarry the tawny owl "shouts" again, then returning to his perch he sits motionless for a time, "moans" solemnly, then proceeds to gulp his victim. In the gloom it is usually impossible to decide whether the victim is bird or mammal.

The long-eared owl is a lover of our dense larch forests. It does not generally exist except where such evergreen forests clothe the hillsides. It utters a plaintive mewing cry which, in the general bedlam of the night, requires some concentration of mind to assign it to its rightful creator. The long-eared owls that have come under my observation have fed chiefly on the young of the ring dove—which generally chooses the same environment—

and upon squirrels and rats. I have never found it guilty of acts that are detrimental to the interests of sportsmen, nor have any of the keepers in the localities where I have lived. It usually nests in the old nest of a ring dove or in a squirrel's dray, though one pair I knew in upper Wharfedale nested among the fibrous roots that overhung a deep washout running down the centre of a hardwood forest.

Young owls have many curious notes. One of these notes is made by opening the bill, when a deep cracking ensues, as though the jaw were temporarily dislocated. I have tried hard to discover how this sound is made, but without success. Young ring doves utter the same note of warning.

I was visiting some friends in Nidderdale when one day it was decided to "spring clean" an outhouse adjacent to the back door, where a terrier was nursing her puppies which had been given a nest in a soap box. The puppies were perhaps five days old. The box was placed in the yard during the cleaning process, and for a brief period, while the servants were busy, the terrier left her charges. Just at that minute my friend and I were walking across from the stables. It was the close of dusk. Nearing the yard we saw the terrier run back to her puppies, and at the same moment we saw a long-eared owl, doubtless one of the pair that were nesting in the grounds, fly over our heads carrying something strange in its claws. My friend said: "I do believe that is one of Nell's puppies!"

We hurried up to investigate. There were only three puppies left—previously there had been four! Of course it was the best that was missing!

Therefore in the case of the long-eared owl, as in the case of all predatory birds and beasts, one can make no hard and fast rules. They will lift anything they can carry which is easy to catch and good to eat. The question



Photo by

LONG-EARED OWL.

(Hubert Howe Woodl. Killip.)

Photographed amidst its native woodland surroundings. The bird resents the proximity of the photographer. See p. 57.



Photo by H. N. Bonar

LITTLE OWL.

See p. 61.

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rather evolves itself into one of discretion—are we to persecute a useful species on account of the occasional sins of that species, or are we to let Nature find her own balance? I believe always in punishing the offender caught in the act, but there is so much individuality in birds and bests, they are so much ruled by the conditions that immediately surround them, that it is manifestly unfair to arrive at hard and fast rules.

Before dismissing these three birds, mention might be made of the increasingly active part they are playing as a national asset in the rat war.

The country rat, that is the big, old reprobate which forsakes the barns and pigsties for the months of warmth and plenty, to take up seasonable quarters in the banks of some stream or in a rabbit-infested hedgerow, is a matter of history, but until quite recently it was customary for these rodents in thinly-peopled country districts to rear their young in outlying barns or buildings of some kind which afforded food and shelter. In other words, though outlying adult rats have always been plentiful, it was rare, until quite recently, for one to find female rats rearing their young amidst surroundings usually associated with brer rabbit and the longtails. At the time of writing, however, I know of several coverts, some four or five miles distant from any farm building, which are literally over-run by rats, both young and old, and the rodents can be seen daily crossing and recrossing the roads in apparent indifference to occasional motorists and pedestrians.

We have not, of course, very far to look for the reason for this. Owing to the rat restrictions, barns, etc., are no longer the blissful paradise that they used to be for *mus rattus*; rat-proof buildings and rat-proof ricks have forced a changed order upon the unwelcome aliens' mode of life, and though the farmer has gone a long way

towards ridding himself of this pest, he has, nevertheless, precipitated it upon the gamekeeper. Personally I would prefer to see a game preserve overrun by stoats than subjected to a rat invasion, for, besides being active egg thieves, these creatures will tackle anything they can hold, and being less nomadic than stoats they are there for the year, once they have dug themselves in. They will, moreover, when established in this way, completely drive out all the game which exists.

The wonderful adaptability of the house rat, and that he will at once change his mode of living in order to keep abreast of the times, has many times been shown. In certain parts of America where the rat war has been most fiercely waged by the very effective means of enclosing all rat foods, the rodents have left the cities in thousands and established themselves in the swamps, where to-day they are living in giant colonies much after the manner of musk rats. The same thing is happening in England and Scotland, and the more fiercely the rat war is waged the greater the number of rats we shall find permanently residing in the country. The brown rat will not starve so long as there are fields and coverts, where he is very well able to look after his own interests, and he bids fair to cause the gamekeeping fraternity quite a considerable amount of trouble in the near future.

To show how adaptable and enterprising rats are—some time ago I was motoring just before sundown in East Lothian when we passed at the roadside a huge dump of city refuse, evidently conveyed from the environs of Edinburgh by motor lorry. The district was thinly peopled, no buildings of any kind near, but as we passed I observed a large rat to run across the heap. I then stopped the car, and, one's eyes becoming adjusted, the startling fact was revealed that the heap was literally creeping with rodents. Further examination showed that

the pile of refuse was honeycombed by their burrows, so evidently they had taken up permanent residence there.

I have, in the Gifford locality, several woods under observation which this summer are subjected to the rat plague, and I have been astounded at the vast number of decapitated youngsters lying about—generally on their backs, and all killed in the same way. In some cases I have counted as many as twenty half-grown specimens scattered over fifty yards of open riding, the work being very obviously that of owls, as indicated by the manner in which the rodents were left, and further by the abundance of owl feathers lying about. The brown or tawny owl and the long-eared species are most active in my own locality—particularly the long-eared, which seems to be acquiring the habit of rat hunting to a more and more marked degree. Hitherto it has been customary for keepers to kill these birds on account of their occasional sins in the way of lifting pheasant chicks just before dusk. Undoubtedly a few chicks are taken in this way by tawny owls, though the long-eared member of the family is a very timid bird, and normally eschews the haunts of man; but we may take it that the rat invasion of our woods constitutes a far greater menace than the owl, which is the most assiduous rat killer that we have.

Therefore, I would urge upon all interested in game preservation that every step be taken to protect our three commoner species of owls. The little owl is an alien, like the rat himself, and so far as I can judge he is more partial to a feathered meal than to a furred one, while, except on the east coast of England, the short-eared owl is not well known.

I believe it was practically unknown among Scottish naturalists who had no book knowledge before the Border vole plague of 1891-92. This bird is a migrant,

its movements coinciding more or less with those of the woodcock—not that it follows the woodcock, but that, probably, the same conditions of wind and weather apply in both cases. Being a migrant, it is more gregarious than our other owls, if not more sociable.

The barn owl and the tawny owl are distinctly solitary birds, but I believe the long-eared owl is given to social meetings. Walking along the road between Burnsall village and Barden Priory very early one morning, I heard an immense hubbub of small birds in a larch at the edge of the dense evergreen forest at the roadside. I said to a stonebreaker seated at his work near by: “I believe there is an owl in that tree.” He replied: “There generally is this time of day.”

We adjourned to the spot, and what was our surprise on beholding not one owl, nor even two, but a whole flock of long-eared owls seated in the branches without any attempt at concealment! It looked like a meeting of two or three families, indeed a gathering of the clans, and as we watched they flew away in ones and twos, choosing various directions.

One never sees a similar gathering of short-eared owls for the very excellent reason that they are not tree birds. They are birds of the swamplands and level marshes rather than of the broken hill country. In my fourteenth year or thereabouts I was walking with a school friend along the banks of a stream near Oakham town when we put up numbers of birds in the space of a hundred yards or so bordering a woodland. They rose for the most part at our feet from the grass and bramble, and I took them to be a new species of woodcock! On being disturbed, however, they proceeded to fly up and down five feet or so from the water, and I saw then that they were owls. My studies were much hindered by my friend, who, having no interest in bird life, amused himself during the

whole of the time by throwing clods of earth at the birds and *at me!* Here, then, was an example of the gregarious habits of the short-eared owl, if not of its sociability.

In July, 1919, near the sea in Kirkcudbrightshire, I was surprised to see one of these birds circling like a buzzard in broad daylight at a height of about two hundred feet from the ground.

The short-eared owl would undoubtedly be very destructive to game preservation but that its great numbers are absent from these shores at the time of the year when young birds are about. It is a very prolific owl, and lays normally about seven eggs. During spells of periodic increase, however, mention of which is made later, it may produce as many as ten or twelve eggs, the size of the clutch seeming to be entirely governed by the abundance or otherwise of food. This condition of things applies in the case of most wild birds and beasts—and a wise condition, too, on Dame Nature's part, for the abundance or otherwise of food decides the number of young the parents are able to maintain.

One cannot make reference to this bird, the short-eared owl, without mention of its mysterious migrations to localities where food is most abundant. During the Border vole plague, already referred to, short-eared owls coming evidently from overseas, flocked in hundreds to feed on the voles. What guides these birds on such occasions is, of course, one of those mysteries of nature we cannot solve, but it is during such times of plenty that the periodic increase takes place, the owls in the vicinity producing enormous clutches, and so, themselves, similarly increasing—rising, as it were, to the occasion. It is thus that Nature strives to regain her balance from the abnormal.

The vole plague of the Border country and the subsequent influx of owls was by no means unprecedented.

Similar plagues have occurred all over the world where voles exist; nor are they limited to voles. I have seen thousands of prairie hares scattered all over the landscape in a dead or dying condition after a period of increase which flooded the country with them, to be followed by Nature's inevitable remedy for reducing the stock to normal numbers—disease. In this case not only owls (great horned), but foxes, weasels, lynxes, and birds of prey of many varieties thronged in millions to feed on the hares. Thus, when disease comes along, a time of general hardship follows. The lynxes and foxes pack, seeking some far-off hunting range, the weasels simply disappear, and those who have wings to fly, flee to some distant land.

On the Alaska boundary my companion and I, travelling in unsurveyed territory, came across a small lake one evening, the opposite shore (leeward) of which we noticed to be lined with a ridge of scintillating white substance, which we took to be horsefroth. But on crossing the lake we saw that the whole surface was covered with a species of fish midway between the carp and the grayling—probably an unclassified species. The fish were moving sluggishly in circles, or lying belly upwards on the surface, apparently dead, though immediately one was touched with a paddle it would shoot off or sink. Others were dead, and on going to the leeward side we saw that the white ridge consisted of thousands of dead fish of all sizes, while the stench was unbearable. Bears and various other animals were visiting the shore in droves in order to feed on the mass of carrion.

Here, then, among the finny denizens, was a case exactly analogous to the hare plagues of the prairies and to the mouse plague of the Borders, and in every case the news spreads far and wide to call in the hunters.

I am not well acquainted with the little owl, which was introduced not long ago by well-meaning persons whose good intentions have unfortunately miscarried. It is far and away the most destructive of the owl tribe, as it hunts during all hours of the day, when its shrill, squealing note can be heard from the tree tops. This bird should be destroyed whenever possible.

The great horned owl is the fiercest of northern birds. It will attack and kill any bird or beast its own size. I mention it in order to illustrate the curious fact that even in countries where it does not exist, other birds have an instinctive dread of it, and a very excellent method of destroying vermin birds of all kinds is to procure a stuffed horned owl so mounted that, by pulling a string, it can be made to move its wings. The stuffed bird is then placed out in the open, and the gunner, string in hand, takes up a hiding near by.

I have never tried this method, but am informed by a French gentleman, who is a keen sportsman, that on his estate (where the great horned owl is not indigenous) he practises it annually as a means of keeping down vermin. He assures me that magpies, crows, and even hawks at once throng to the spot, and become so intent upon mobbing the owl that they return repeatedly, even in the face of gunfire.

The fern owl or nightjar or churn owl is not, of course, an owl at all, but is one of those unfortunate creatures that possess a multitude of names, almost every one of which is in this case misleading—for example, night-hawk, goat-sucker, and so on. It is merely a glorified night swallow, and is an entirely harmless and a very interesting bird.

At one time it was believed that the "goat-sucker" was guilty of the act this name implies, and that the teat of the goat that had been sucked nevermore gave milk.

To cap the pathetic story, and to lend the necessary touch of drama, it was believed that the goat then went stone blind and died ! In many parts of the country it is still thought by simple people that these birds are guilty of imposing upon the hospitality of cattle, just as the hedgehog is credited with the same act. In both cases the explanation is somewhat similar. The hedgehog is an insect feeder, and insects are attracted or disturbed by cattle. Also the hedgehog is a great lover of warmth, and may actually have been found reclining against a drowsing cow. The nightjar is fond of hawking for insects in the neighbourhood of browsing cattle, and its repeated appearance there has given rise to false impressions in the ignorant mind. Moreover, the curiously formed mouth of the nightjar had probably done a good deal to strengthen the belief.

I have many times watched these birds hawking for insects in the dusk of evening, and certainly they are a joy to behold. Their flight is strangely erratic, though swift and in a sense powerful. Each nightjar has its favourite perch, to which it returns at intervals like a flycatcher, and resting there, lengthwise with the bough, it utters its strange churning song, from which doubtless it has obtained its name of churn owl. Like the buzzard, this bird has a curious, hovering method of descent, coming to earth with both wings extended vertically above its back.

As in the case of the drumming of the snipe, we have in the flight of the nightjar an example of " sound communication " which is not vocal. In bird and animal life a means of sound communication over and above the ordinary cries of alarm, of joy, of despair, and so on, are more or less rare. We have them in the thumping of the rabbit, which conveys the warning to those underground as well as to those feeding on the greensward ;



Photo by H. N. Bourer]

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SHORT-EARED OWL ON NEST.

See p. 63.



Photo by F. Fearl

HEN CHIAFFINCH FEEDING HER YOUNG.

See p. 76.

York.

we have it again in the smack system of the beaver and musquash, which, by striking the water with their tails, spread the news of danger far and wide, and those working under water are prevented from rising haphazard. But, in the case of the nightjar, the signal is not an alarm signal, for fear seems to be unknown to this child of the twilight. It simply conveys the intelligence and the enquiry: "Here am I. Where are you?"

My observations of the nightjar have repeatedly gone to support this belief. True, I have often heard these birds flapping their wings above their backs without answer, but again, especially immediately succeeding their arrival here—that is when the mating instinct is at its height—I have heard them unquestionably call and answer each other by this flapping means of telegraphy.

One particular instance sticks in my mind. It was on the River Wharfe, and after midnight, when, from sheer fatigue, I left the trout still rising freely and made my way across the meadows towards the white-walled home-stead standing under its chestnut trees. On the way I heard two nighthawks flapping to each other, now fifty yards, now three hundred, now four meadows apart. One would flap twice, and immediately two flaps would come in answer. There would be a pause, then four rapid flaps, surprisingly near my head, and faint and far from the distance the answer would come. Generally, but not always, the signal was answered in the same number of strokes as it was given; in the higher numbers six might answer four, or five might answer three, but it was clear to anyone listening that the birds were carrying on a primitive form of Morse telegraphy. And this is but one incident out of many I have observed when the flapping of the nightjar, casually remarked upon by so many naturalists, has struck me as being used by a courting couple as a means of keeping in touch with one another.

The nightjar family is a very large one, and in the bush localities of the New World I have been impressed by the powers of flight of a bird which I do not doubt belongs to the nightjar tribe. It has white-slashed wings, and its flight is characteristic of the family. Its mastery of the air, however, passes all belief. Compared with it the swift is a slow mover, and even the peregrine a sluggard. For days none of these birds are seen; then, just preceding a thunderstorm, thousands of them swarm as though by magic across the sky. Whence they come no man can say. The sky is veritably dark with them. Fifty, a thousand, two thousand feet up they can be seen, while the air veritably shakes with their shrill cries and the vibrations of their pinions. I have lain on my back watching them, absorbed with wonder, heedless of the coming storm. There is one on the skyline, he is overhead, he is falling earthwards with a veritable roar of pinions. He almost brushes the tree tops; then, in a moment, he is careering heavenwards again in crazy bounds, he is a mere speck in the gathering sky, he is away in the distance among a thousand, thousand of his kind!

One feels a thunder spot on one's face, and wakens to the realization that the canoe is on the storm side. It takes but a few seconds to beach it, but looking up—where are the thunder birds? Gone! Vanished like vapour into the ether of the infinite! Not one remains, not one is to be seen or heard, and now the rain begins to fall thick and fast, and other things claim one's immediate thoughts. So, swifter than the storms are the thunder birds, and, like the storm-petrel, they live in mystery when the skies are clear.

I would like to relate three incidents within my experience concerning the nightjar ere closing this chapter. A keeper who for many years served my father possessed

a retriever which one day brought a living nightjar in its jaws to him. He took it, uninjured, from the dog's mouth, and placed it on the gravel path. The bird crouched a moment, then immediately returned to its nest, which was at the foot of the garden not forty yards away, and from which the dog had no doubt lifted it. I might have been inclined to disbelieve this story but that the old fellow, who could neither read nor write, and whose memory lives in my mind among the kindest of recollections, was too unsophisticated to lie, and knew too much about wild life for such futility to appeal to him as worth while. Years later I read St. John's story of a retriever lifting a partridge from her nest—a strangely parallel case.

Again in my early boyhood my brother and I were climbing a tree which I believe was an acacia, though evidently a thornless one. Looking down I saw something which held my attention for some seconds. I said to my brother: "I believe that is a nightjar resting on the branch below us."

He answered: "No, it is a mushroom" (meaning, I suppose, a fungus).

Just then the bird looked up at us, and all doubt was settled. We had climbed past it, stepping on the branch within a yard of it, yet it had not taken fright during our noisy rambles all about its resting place!

In France, during the war, I one day saw a nightjar seated on the hot railway metals within a mile of our own artillery. I said to my friend: "That bird will be killed next time thetacco comes along."

We walked up to it. Its eyes were shut, but it opened them as I reached down to clutch it. My hand was within a few inches of it when it fluttered off and tried to settle on the edge of a sheet of upturned corrugated iron. Failing in this it fluttered feebly to earth, and there we left it—so

exactly matching its muddy, trampled surroundings as to be almost invisible immediately it met the ground. We wondered whether it had been near an explosion of some kind, or whether it was merely dazzled by the light.

GROVE AND GARDEN

CHAPTER IV

GROVE AND GARDEN

(MISSEL THRUSH, CHAFFINCH, ROBIN, ROOK, STARLING)

JUST as shore feeding birds, following the plough several miles inland, know exactly the hour of low tide, and return in flocks to the sea promptly to the minute, so it is specially noticeable that the wild birds of our gardens are often a good deal more punctual than the households to which they become attached. Birds and animals have a very keen sense of the passage of time, and if fed at regular hours they soon acquire the habit of turning up promptly.

During the winter months a great many kind-hearted people make a rule of feeding the birds, but very few realize that their good intentions may culminate in disaster unless intelligently conducted. Blackbirds, thrushes, tits, robins and the like are all creatures of very limited home range. One thing and one thing only decides the extent of their individual habitat—the abundance or otherwise of food. If, for example, a blackbird finds food enough for his needs in one garden, he wanders no further than that garden. Every inch of it is familiar to him, and on this familiarity he relies for his living. If he flies into the next garden to snatch up a morsel of food, he does so knowing that he is a thief and trespasser, and that he will be immediately attacked by the birds that are resident there, just as he would attack *them* should they trespass on his preserves. Several other birds there may be who share his domain, but these he regards as part

of the furnishings, home birds like himself. It is the blackbird from over the wall to whose intrusion he objects.

Thus, by feeding the birds liberally and regularly, we gather about us a large number which come to be dependent upon us for their subsistence. Each of these birds is a stranger in a strange land outside its own limited territory. A keen frost comes, and perhaps just at that time, for some reason, the birds are forgotten by the family—possibly it is Christmas and the house is empty.

This is the reason why, on returning to a house which has been temporarily closed during keen weather, one often finds dead birds on the snowdrifts near the door. Sometimes a bird will be discovered huddled close against the door, just as he settled himself when so sorely in need of the food and warmth that failed. They do not actually die of hunger, but because they are unable to resist the cold when underfed. Few birds in this country die actually of either cold or of hunger ; it is the combination of the two that kills them. If they are well fed the keenest winter has no terrors for them.

Man is not consistent in his generosity. The feeding of the birds is but one minute detail in his crowded life—one of those details that do not count for much. It is a habit easily acquired and maintained for a little while with all the zeal of a sense of true virtue ; it is dropped in a day and without thought of the results. Therefore the birds that depend upon man lead the most precarious lives of all during times of natural hardship. The few that depend upon no one but themselves are then the glorious few. Numbers of small birds die about our villages and in the suburbs of our towns during every keen cold snap, for at such times the call on man's hospitality is greater than ever, for flocks of birds come in from the hills and the hedgerows to share what little there is—hungry rooks and jackdaws, flocks of rose-

breasted linnets, finches, and fieldfares, all on the look out for any morsel thrown away, to say nothing of the hordes of starlings whose industry and alertness render them so well able to look after themselves. It is then that the resident birds of our gardens fare badly unless special care be taken of them.

I have said that numbers of small birds die during cold snaps, yet it is comparatively seldom that we find their dead bodies. This is because there comes to all wild creatures a desire to creep away and hide when the lassitude of death falls upon them. Thus, if one searches, one may often discover their remains in all manner of out of the way places, such as they would never have entered during their wake-a-day wanderings. Many seek the dense ivy, and, huddled against the trunk with the strong stems of the evergreen winding their sinuous arms about them, they simply pass out of existence in the quietest and best way possible. Others creep into hollow trees, and on examining fallen trees, perhaps split asunder by their fall, I have often found the remains of small birds hidden away among the nooks. In crevices, in rockeries, among ruins, under old wooden bridges, all these are welcome resting places, and I have seen the bodies of small birds clinging by one toe to a twig in some dense bush, or even still seated on their perches, just as they were when the last chill twilight closed about them.

An eminent naturalist has said that the life of a wild creature is merely a matter of how long it can hold out against its foes, which is true of many, but certainly not of the birds of our groves and gardens. They for the most part live hedged in and sheltered lives, and as a rule death comes to them very quietly and naturally. Of one that meets a violent fate, a thousand go their way in the most enviable manner—sleeping in some secure place, with no knowledge of, and therefore with no

dread of, the thing that is about to befall them. So far as they are concerned, Nature's closing chapter is the most peaceful of all, and the sort of sorrowful ending we often picture for them belongs, in the main, to a world with which we are far more familiar.

We have six British thrushes. Of these the blackbird and the missel thrush remain with us through the year, as also do a fair proportion of our song thrushes, though a large number of the latter migrate. The ring-ousel is a summer visitor, while the redwing and the fieldfare are with us for the winter only, arriving first on the mountain tops, where they may be seen fluttering in straggling packs from hollow to hollow late in the autumn.

The missel thrush is the largest of his family, and is worthy of special note by reason of the fact that he is among the cheeriest of our winter songsters. He does not wait for a gleam of sunshine, but there, as dusk falls wild and cheerless, while the groves are full of the cold drip of rain and the angry roar of the January gale, the missel thrush sits alone and aloft, and pours forth his strange, piercing, cheerful song. His repertoire is not great ; it seems always that there, alone with tired Nature and with his God, he is asking a cheerful question, and receiving no response from the lips that are mute, he proceeds, after a brief pause, cheerfully to answer it himself. Hence his proud and honourable name, storm-cock, and blessed indeed are those who sing through the storms of life !

To me the chaffinch is one of the most lovable birds of our gardens. The male bird in his bright plumage helps to enliven our favourite surroundings, and his song, though short and not remarkable for originality of composure, is at any rate as bright and fresh as apple blossom, and a good deal more lasting. The hen bird is a neat and trusting little customer, and together with the hedge

sparrow she has a quiet, taking little way with her, while the nests of these two are among the choicest works in wild nature's gallery of art.

The ways of the robin are so well known that, though we may not omit mention of him here, little needs to be said. He is unquestionably one of those creatures sent to beautify God's earth, for both his colouring and his sweet though cheerfully melancholy little song are things for which we need to be glad. Robins sing the whole year round, but in spring and summer their voices are drowned in the general chorus of feathered songsters. The robin, like the nightingale, is best loved for the song that he sings when otherwise the woods are silent—as precious as winter violets, though fortunately less rare.

The little wren, as he noses about the dingy thickets, is always the first to discover the owl lurking in its roosting place, and to gather about him an indignant and excited throng of which he is the boldest, knowing full well that he is too small and nippy to be caught. Wrens are sociable little birds, and seven or eight of them are often to be found roosting together in a cranny no larger than the inside of an orange.

Insect-feeding birds depend enormously upon their hearing for locating their food, and I believe that some birds, such as the tree-creeper, find insects in the bark by listening for them at their work. I have watched a tree-creeper (and the same applies to the blue tit) listening intently and adjusting his position round a certain point till at length he came to a definite decision, and forthwith began to tear away the outer covering of the tree, duly to drag out a grub or some other atom of insect life.

Blackbirds and thrushes can be seen at any time hunting worms by listening for them. The bird hops a few paces, then places his head on one side in an attitude of intent listening. After a pause he hops forward another foot

or two, and instantly stabs his beak into the ground, producing a fat worm which he either swallows or mangles so that it cannot escape. Other sounds in the vicinity, such as the passing of heavy traffic or of labourers at work, do not seem to detract from the bird's power of concentrating his senses on the one minute sound of the worm in the earth, and though it may be argued that the bird is watching, not listening, I do not believe that this is the case, for often he makes his pounce upon an insect which, from his low point of observation, could not possibly have been visible.

Rooks are among the most interesting and cunning of our garden birds, and consequently many tall stories have been told about them, which has had the unfortunate result of making one somewhat sceptical as regards rook stories. The following anecdote, however, was sent me by an old lady residing in Edinburgh, whose veracity is unquestionable. A rook, which possessed a deformed beak, appeared in her garden, and on account of its deformity it had, in all probability, been driven out of its colony. It was fed and cared for, and so attached itself to the grounds, and became very tame. Spring came, and one day the bird appeared with a mate—evidently a hen bird—which event met with the disapproval of the colonists, for a few mornings later a large number of rooks were seen in the garden accompanying the two outsiders. They seemed in a great state of agitation, and were quite clearly endeavouring to induce the hen bird to return to the rookery. She, however, refused to go, and at the time I received the anecdote she was still sticking faithfully to her husband in spite of the strong disapproval of her own people.

Within my own experience I have had ample proof that rooks recognize Sunday as a day when shot guns are laid aside. Above my home in Yorkshire a farmer

kept several fowls in a pasture high on the hillside, and the rooks became so troublesome in stealing the food thrown down for the hens that eventually the man who fed them took to keeping an old shot gun hidden conveniently near. The result was that on weekdays no rooks ever went near till he was well out of range, but on Sundays, when the use of shot guns is prohibited by law, the cunning birds would swoop down almost at his feet.

It may be that the rooks took the hint from the early morning ringing of the church bells, or again they may have recognized the Sunday attire of the farm man. This latter is by no means improbable, as young trout in the hatcheries are timid of their keeper and will not show themselves should he visit their ponds in the dark garb of Sunday attire, instead of in his usual tweeds. Rooks are at least as observant as trout.

These birds, like the other members of the family to which they belong, are much given to the habit of storing food, and very often they exhibit the very highest intelligence in the selection of their storerooms. Nuts and such like they are known to bury in manure, which possesses certain preservative properties, or it may be that manure is chosen because it will not freeze, which would render the store inaccessible at a time when likely to be most urgently needed.

Jackdaws are in every sense as clever as rooks—at least one is inclined to think that their attachment to the rook colonies is a great deal more profitable to themselves than to the rooks. I remember one fine autumn day lying at the edge of some high rocks and watching a few jackdaws at work on the crags opposite. One of them was busily engaged in collecting something from a wood edge near by, returning loaded every four or five minutes, and forthwith disappearing into a crevice, to reappear presently having deposited his treasure.

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He, however, was not profiting by his industry, for another jackdaw, an idler, was watching him closely. Every time he flew away this second individual darted into the cranny he had just left, appeared a second later with something in his beak, and promptly disappeared into another cranny several yards away, there to remain hidden till his industrious neighbour was again out of sight. Evidently the rightful owner had his suspicions that things were not quite as they should be, for as time passed he became more and more ruffled and agitated when he reappeared from his den, having observed that his store was not growing!

For many years my grandfather did everything reasonably possible to establish a rookery in the elm grove of his grounds—even to the length of hiring sharp-witted crooks, who boasted the possession of secret knowledge whereby rook colonies could be established. The placing of one or two old nests in the trees, and the suspension of rook shooting in surrounding rookeries, are the only measures of which I know likely to produce results.

Rooks, however, cannot be induced to nest in trees which are old and beginning to rot. They evidently know that such trees are unsafe, and will forsake a tree in which they have nested for years as it begins to show signs of decay. It is very probable that the rooks are guided as follows. The branches in which they nest must be supple and yield to the wind, otherwise there is a great danger of the branches snapping off in a heavy storm, or of the nest being torn out from its rigid settings. As a tree becomes old its branches grow stiff, especially the topmost branches which the rooks favour, owing to the flow of sap becoming more and more restricted by the dying of the trunk.

Of late years rooks have become very destructive to the nests of game birds, which is regrettable, as it has



Photo by F. W. Westcott

PARENT REDBREASTS FEEDING THEIR YOUNG

The Redbreast is a twilight hunter, hence its large eyes. See p. 122



Photo by S. Crook]

[Preston.

ROOK AWING.

Note the curious spread of the flight feathers. See p. 78.

been proved beyond all question that their presence is in every sense beneficial to farm lands.

The starling is another bird which nests in the vicinity of human dwellings, and is as familiar to the city lover of bird life as it is to those whose lot is cast amidst wilder surroundings. I believe that the starling is overwhelmingly the most abundant of all our wild birds—more abundant even than the sparrow. Sparrows throng about human habitation, but where human dwellings are few and far between these birds are comparatively scarce, whereas the starling is everywhere. In our cities he thrives and multiplies—indeed, he is to be found everywhere that the sparrow exists, and over vast areas where the last-named bird is seldom seen. I have seen starlings in flocks of thousands in the heart of the loneliest moors, sharing the habitat of the curlew and the golden plover; I have seen them in thousands amidst lonely swamp and fen country, settling upon the rushes like reed buntings, while in the remotest and loftiest Highland crags they are to be found vying with the rock-ousels for nesting sites. Again they are to be seen in packs along the sea shore, scavenging for maritime insects among the stranded weed, or alighting on the rigging of fishing smacks to glean the refuse which smears the decks on the return of the boats to harbour. The starling is the most industrious and adaptable of all wild birds; it is the first astir at daybreak and the last to retire to roost; it can find food anywhere that food exists, and flourish where others might starve—hence its abundance.

One May evening some years ago I was motoring over the heights between Pateley Bridge and Hebden village when I was surprised to see pack after pack of starlings flying straight towards the west. It was so dark that I had some difficulty in identifying them, and fell to wondering what it was that was attracting them

out into the heart of that lonely moorland country so late in the day. Their numbers were almost incredible, and another mystery presented itself—why were these birds still in packs and apparently unmated at that time of the year when all respectable starlings, having sought out the chinks and crannies in the barn roofs down in the valley, were busy with their nesting affairs? It was surely too early in the season for them to be young birds of that year, and moreover the strength of their flight did not suggest it. Are we to conclude, then, that they were all unmated birds who, through plainness of looks or faintness of heart, had failed to attain their matrimonial ambitions?

Subsequently I learnt that these birds were heading for the ruins of a vast and long abandoned lead mine* three or four miles away in the heart of that no-man's-land, and that, the whole year round, thousands of starlings retire to roost among the ruins. Many of them arrive so late that the moor is already dark, though the afterglow of the sunset still lingers in the west, and for a few minutes every crumbling pillar and buttress is black with them, while their shrieks, warblings, and cat-calls break the unearthly stillness with strangely incongruous music. Silence falls like the closing of a door, and night comes.

One strange thing I have noticed about these packs of birds that retire so late to roost is that invariably they come from the east, flying towards the sunset. Why is this? The natural conclusion is that their favourite feeding grounds lie in that direction, but this is not so, for fertile country is on every side, and starlings exist everywhere. The decision I arrived at, though I do not ask the reader to accept it as final, was that the birds that were feeding in the country to the east side of their

* Described on pages 113 to 115 of "Habits and Characters of British Wild Animals,"

roosting quarters remained at their feeding grounds later than those in other directions, knowing that, having the afterglow of the sunset in their favour, their landmarks would stand out clearly to guide them home.

Birds are arriving to roost among the ruins practically all evening, but the huge packs that appear after sunset invariably come from the east—never from the north, west, or south, albeit that to the east lies a vast stretch of bleak moorland country offering few attractions for bird life other than that which belongs essentially to the hills.

Another reason for the success of the wild starlings lies in the fact that they are a systematic and well-organized community. They have as many foes as any other bird in the land—in fact far more than most, for their nesting sites, so noisily advertised by old birds and young, are often such that they are at the mercy of stable cats, stoats, and the like. Great numbers are destroyed for food, and I remember once, walking across the sand flats near Southport, I came across a gigantic cage containing hundreds of starlings. Their noisy endeavours to escape were attracting other birds of their species to the vicinity, and scores were searching for a way of entrance—which, when found, automatically closed behind them, shutting off all way of escape. Doubtless the same thing goes on all over the country, yet in spite of their natural foes, in spite of the fact that untold numbers are destroyed and sent to our cities, the starlings manage, by their industry and adaptability, very ably to hold their own.

In winter starlings live a life of the strictest routine, and the skilful manœuvring of the packs is unrivalled for simultaneous action by the best drilled company of soldiers. They bank and wheel and rise and alight like so many pivotted puppets controlled by one string,

which the leader of the flock pulls. The flocks, however, vary greatly, and are evidently the result of careful weeding out and selection. The bird that cannot manœuvre with the rest is turned out, and duly forms one of a scratch pack made up of stragglers like himself—probably the majority of them young birds of that season. All, however, resort to the excellent practice of mounting pickets and outposts—another reason for their powers of survival. When the pack is feeding in the stubble or among the corn ricks or on the seashore, somewhere, perched aloft, no great distance away, the sentry keeps an alert vigilance. One note of warning from him and simultaneously every bird of the pack crouches, ready to rise. Should the warning be followed by the alarm, away they go, banking and swerving upwind together; but should the warning be followed by the “all’s well” sign, they are in an instant industriously searching for food again. Thus the stable cat that would stalk a pack of starlings, the gunner who would surprise them, or the hawk that would descend upon them, must indeed approach warily if he is to evade the detection of that alert and wary sentry.

One point more regarding this interesting bird—the adaptability of the starling is very amply illustrated by the manner in which it adopts the call-notes of other birds. How often I have looked round for the heron or the curlew in the sky, presently to be undeceived by the sight of Mr. Starling perched serenely on the chimney pot! His vocabulary is larger than that of any bird, for the reason that he borrows from all, but over and above such idle talk there are the recognized starling call-notes and signals, which alone serve a useful purpose in the marshalling and directing of the clans.

Starlings can be taught to utter certain notes by those who have time to teach them. Across the field opposite

the home of my boyhood there stood an ancient barn, in the tiles and rafters of which several starling families were reared annually, and after the nesting season, while food was still abundant though the busiest period was past, the old birds, for once idle, would perch on the roof in the evening and practise their various call-notes. My brother and I used to whistle to them, and many a time obtained an exact echo, though we never realized our ambitions of teaching one of them to whistle a hymn tune.

No doubt at this season the starling idles with a sense of relaxation well deserved. He has reared his young and industriously and truly fulfilled those obligations which are all wild Nature asks of her children, and seated there, surrounded by friends and by plenty, he watches the sunset and now and then darts after an insect, while across the balmy quietude float the sounds which make this twilight hour so dear to all of us, and perhaps to him also.

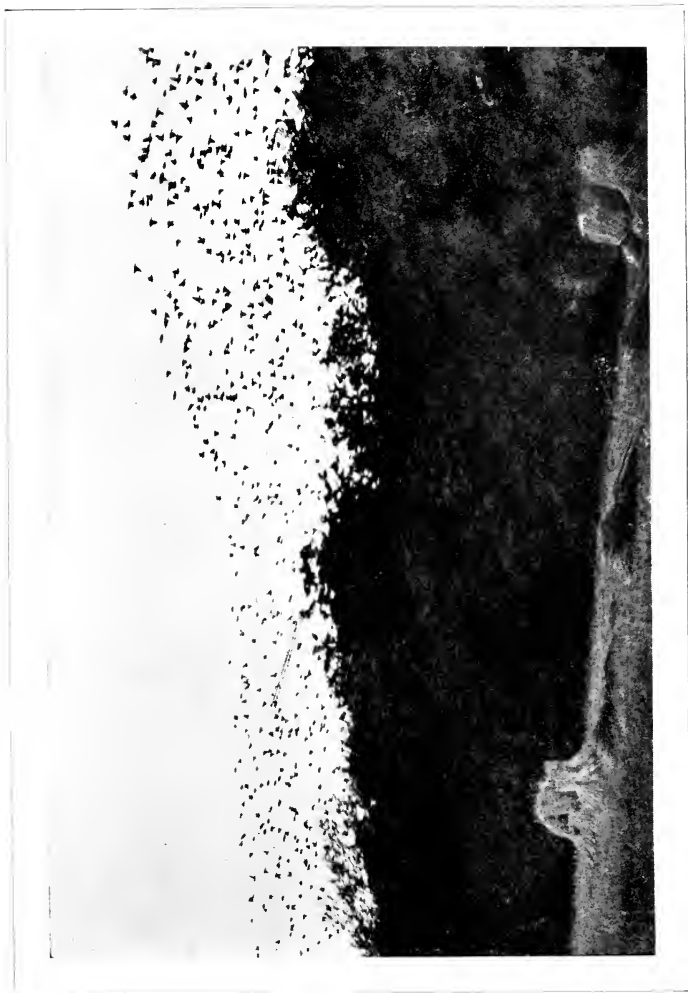


Photo copyright

[by J. T. Newman.

A FLIGHT OF STARLINGS.

See p. 81.



Perisoreus, Falco

PEREGRINE FALCON.

See p. 89.

[Wishaw, N.B.]

KINGS OF THE INFINITE

CHAPTER V

KINGS OF THE INFINITE

(THE PEREGRINE)

TO most people the peregrine falcon is little more than a name on the list of our British wild birds, but a name, nevertheless, which conjures up in the mind visions of aloof and solitary grandeur, where the noise of hurrying wheels is a thing unknown, and where the mighty roar of the sea and the wild screaming of sea birds are the only sounds to disturb the rugged solitude. The peregrine is a world-wide wanderer to whom distance is of little consequence—hence his name—yet he is essentially a bird of the rocky fastnesses, and from the grim grandeur of his surroundings he partakes in character. There is, indeed, something specially attractive in the character of this falcon. He is a falcon among falcons. His ways are as open as the day, and his reckless dash is unsurpassed in the bird world. No twilight robber this. No sundowner. He bursts like a bolt from the blue, and what he wants to do he does, heedless of all onlookers. He meets his quarry on their own ground, and beats them at their own splendid game, and among all the members of his tribe the peregrine is probably the least fearful of man.

The eagle learns wisdom, and becomes wilder than the wildest hare, and so, indeed, may a few peregrines, but not many. When in pursuit of its quarry one of these falcons will follow it into man's very midst, either not seeing him, so intent does it become upon its business,

or not caring if it does see him. More than once I have been astounded at the boldness of this bird, for one or two I have come across seemed actually not to recognize man as a creature to be feared. The incidents I am about to describe will illustrate this point.

Some years ago when I was living in the Pennines a pair of falcons took up their abode in some crags about eight miles from the village, but we were very soon to learn that this distance did not count for much.

The peregrine was so rare a visitor that no one suspected its presence, but very early in the spring I was out on the hills quite near the crags to which later the falcons became attached, when I saw two peregrines flying from the north. Reaching the tarn, which eventually became a happy hunting ground for them, they separated, both of them uttering loud, cackling calls which seemed to bear a note of discovery. One of them made a wide detour of the country, flying low over the heather, but at intervals rocketting skywards, while the other pitched among some crags where later they nested. I said to myself: "Those birds have just arrived, and I believe they are going to nest here"—a speculation which proved correct, but since I did not wish the falcons to be disturbed I kept the information to myself.

Whence the two falcons had come there was, of course, no way of telling, but subsequent events seemed to show that they had journeyed from a region where man was an unknown quantity. I was, unfortunately, absent from the locality for some weeks immediately succeeding, but in the meantime the peregrines earned a name for themselves. A neighbouring rector possessed a number of fantail pigeons, and early in the spring it was noticed that their numbers were rapidly decreasing. Rats and cats were suspected till one day, with the very first streak of daylight, a servant of rare virtue happened to

be astir and saw a "large hawk" swoop down at the pigeons, carrying one of them away. Several weeks later, when a lumber room was being cleared, five dead fantails were found in the chimney, which had been kept closed. Undoubtedly the poor birds had fallen backwards into the gloomy orifice from sheer terror on the falcon's various descents, and having no way of escape on meeting the trap door below they had perished miserably.

One of these peregrines (presumably) struck a kitten at the threshold of a cottage where a woman was doing her washing, while her child was playing beside her. The kitten, in fact, had just left the child's arms when the falcon swooped down upon it, striking with such force that kitten and falcon together were borne headlong into the house, meeting the foot of the staircase with a thud.

The falcon was at once attacked by the mother of the kitten, while the woman also ran to the rescue, but in an instant the bird was up and away, evading both of them, and bearing its prize with it.

This stands out in my memory as the most unique case I have come across illustrating the daring of the peregrine, and detailing the incident to a keen and well-informed ornithologist, an interesting discussion followed as to what would have happened had no human interference occurred—that is, had the peregrine and the mother of the kitten been left to fight it out. We were agreed that the falcon would have retaliated, and, having been assailed, would duly have become the assailant, but we could not agree as to what the outcome of the contest would have been. It is, of course, impossible to arrive at any conclusion, but the respective points of view may prove of interest. My friend held that no peregrine on earth would stand a fair chance against so formidable an adversary as a cat—that is, a cat fighting for one of

her offspring. He pointed out that a bear has been put to ignominious flight by a mother cat, and that though in an open field the falcon might have triumphed it would, amidst such closed surroundings, probably have been destroyed.

Personally I hold that, unless the cat obtained a death grip on the falcon in the early stages of the fight—which is wildly improbable—it would almost immediately have lost its nerve, and the peregrine, fighting from above, would have obtained a hold on it, and dragged it out into the open. This may sound a tall order to all save those who know the deadly ferocity and intentness of purpose of these larger birds of prey when once a combat is opened—bearing in mind also that their presence seems to have a mesmeric effect upon their intended quarry, as in the case of the rabbit and the stoat. For example, a dog working before guns has been attacked by an eagle, and though the dog was uninjured it was observed by the sportsman that it simply fell limp immediately the eagle's talons closed upon it. The peregrine in question might have been partially blinded, he might have been mortally wounded, but from what I know of the character of the wild peregrine I believe that he would have returned to the attack time and again till the cat, becoming less and less of a mother and more and more of an abject fugitive, would eventually have been beaten senseless by the blows from the peregrine's beak and by the assault of its claws.

Diverting still further—a plainsman with whom I was acquainted had the good fortune to witness a contest on the foothills of the Rockies which has an interesting bearing on the incident under discussion. He was watching a jackal pursuing a prairie hare in broad daylight when a falcon—probably a peregrine—descended from the heavens and caught and pinned the hare. The

jackal, in hot pursuit, snapped at the falcon, which shot skywards in time to evade the steel-like click of jaws, then immediately descending and with vicious screams it attacked the jackal! A second peregrine appeared almost immediately, and, the hare forgotten, the two of them set about the prairie wolf with a persistency and ferocity which clearly indicated their intentions. They appeared to be hanging over the animal's head, striking its face with their wings and talons, while, in the meantime, the jackal, defending himself as best he could, was working with all possible speed towards the nearest cover. How the contest finished the onlooker was unable to tell, for unfortunately the combatants passed out of his range of vision.

My brother was one day fishing in the Kootenays, B.C., when without provocation a peregrine struck him in the face, while in the same locality, to my own knowledge, two gyr falcons—and the gyr might be described as a peregrine of the snows—attacked and killed a wolverine which attempted to destroy their eyrie, and the wolverine is the hardest fighting animal for its size (20-40 lbs.) in the world. In this case the falcons drove their foe over a ledge to his fate.

So much, then, to illustrate the fighting capabilities of these birds of prey. A cat may be formidable when you pin him on his back, a peregrine is formidable even when dead for so long as muscular action remains. An animal on the ground does not stand a fair chance against these fighting machines of the air. It is called upon to fight vertically, which is against its nature, and almost immediately it becomes bewildered and incapable of formidable effort.

But to return to the two peregrines in the Pennines. Shortly after the kitten incident I returned to the district to learn from the keeper that he was constantly picking

up dead grouse on the moor—invariably hen birds, and as a rule the victim lay at the end of a long train of its own feathers clinging to the ling tips. He had not seen nor heard of the falcons, and one day I accompanied him to the moor. We were seated under a wall eating our lunch when there was a “zipp” over our heads, and a hen grouse pitched almost at our feet. A moment later there was a second “zipp,” and there was the hen falcon in hot pursuit of the grouse. The keeper snatched up his gun and gave the bird a charge of No. 4 shot at about forty yards. The falcon turned in the air, obviously badly hit, but at this juncture it caught sight of the grouse running along under the wall, and though seriously—probably mortally—wounded, the savage bird again went straight for its quarry. The second barrel, however, sealed its fate, and falling into the heather the beautiful creature looked at us almost reproachfully.

The tercel, I regret to say, met a more ignominious fate, for he was taken in a pole trap near to his home crags. The falcons have never returned to that locality, though had the two been spared they or their offspring would probably have become resident there—that is, would have returned year after year to breed.

Visiting the same neighbourhood immediately succeeding the war, I was gratified on seeing three peregrines during my short visit to the upper portion of the valley. Motoring one day along the high road in the direction of Kettlewell village, I was passing under the shadow of Kilnsey Crag when I noticed an amusing incident. About half way down the face of the crag, clinging to a shelf with somewhat precarious hold, a stunted ash tree grew, and in its topmost branches, apparently admiring the beauty of the sunset and idly chipping his friends as they passed, sat a jackdaw. Suddenly a peregrine swooped over the brow above, and dropped like a stone

towards the jackdaw, though I do not think for a moment that the falcon was intent on catching the bird.

It was, however, a good deal wiser for Mr. Jack to get out of the way, and this he did as speedily as possible. The way in which he did it was, however, unique and amusing. He simply fell head over heels from the top of the tree to the bottom, following the trend of the trunk, which he struck several times during his descent. At the foot of the tree were some dense brambles which afforded very welcome shelter, and into which he completely disappeared, while the falcon, skimming low, speedily vanished from view.

Where food is abundant, peregrines are not so much given to harrying the country in this way as are sparrowhawks and most other birds of prey. It is true of most animals that they travel no further than their food requirements demand, and among birds this is particularly true of the peregrine. On fine spring days these birds sometimes indulge in love flights, which are a marvel to behold, but as a rule a peregrine flies no longer and no further than his food necessitates. He will sit, perfectly motionless, for hours on end, watching for some bird to pass within striking distance, when he shoots out like a meteor, and swift must be the one that is to evade him. A pair of peregrines had their stronghold in some crags overlooking a small loch in the heart of the hills between New Galloway and Newton Stewart, and here they would sit for hours waiting for the wild duck which used to fly round their promontory on the way to and from their feeding grounds. One day a friend and I were fishing the loch when we heard the familiar scream behind us, and looking round we saw one of the peregrines strike the water with such furious force that the spray rose a matter of twelve feet or more. Evidently he had swooped at a diving duck, which had adopted the very wise course of hastily pursuing its profession.

On account of this habit of lying in ambush the peregrine is comparatively seldom seen even in the localities where it exists. In my own country* three or four pairs breed annually within a radius of a few miles, though even if one be on the hill almost daily one does not see on an average more than one falcon in a month. Not very long ago I saw a snipe pitch in some rushes, and scarcely had he landed when a peregrine shot from its look-out station about a quarter of a mile from the place, and went straight for the spot at which the snipe had pitched. Here he hung about, screaming, and actually beating the rushes with his wings, after the manner of a harrier, but as the snipe managed to keep its head through the fiery ordeal and remained hidden, the savage bird presently returned to its crag. I have no doubt, however, that the falcon would watch the place till sundown, and that if the snipe showed itself its fate would assuredly be sealed.

Many of my readers will recall that during the war, when pigeons were so much used as message bearers between England and France, there was a great outcry against the peregrine pirates which, becoming more numerous, had carefully marked down the chosen routes of the little message carriers, and were making terrible inroads into their numbers. Repeatedly the examination of peregrine eyries along the coast has proved that the birds live chiefly upon puffins and valuable messenger pigeons, the nests containing numbers of the dated rings which enable identification of the domestic birds.

The force with which the peregrine strikes down its quarry is such that one wonders why the bird does not dash itself into eternity in addition to its victim. Not very long ago we were walking up grouse in the Perthshire Highlands when my friend and I called a halt in order to allow the keeper, who had been chastising his

* Written in Perthshire



Photo by]

[*The Author.*

OYSTER-CATCHER

Endeavouring to shoulder a large chunk of pumice, which, having been removed by the gale, is threatening to crush her eggs.



Photo by S. Crook]

[*Preston.*

WATER-HEN

Searching for food during the lean months.



Photo copyright]

[by W. F. Piggott.

WATER-RAIL.

By no means an uncommon bird, but of such secretive habits that it is seldom seen. See p. 122.

dog, to catch up with us. While we stood talking we heard a loud clap behind us, and looking round we saw a bird, which we took to be a wild duck, but which may have been a grey hen, spinning to earth amidst a cloud of feathers, while the peregrine that had struck it down had recovered and was rocketting vertically skywards in order to exhaust the impulse of his death-dealing descent. The impact must have taken place at least two hundred yards distant from us, yet the report of it was startlingly loud, much resembling the sound that would be caused by striking a wet peat bank with a heavy stick. On another occasion we were walking the same hillside when a hen pheasant got up well out of range, and headed straight for the woods below and about a mile away, flying at a considerable altitude. I did not witness the incident, though the keeper, who was about a hundred yards distant from me, described it later. Ere the pheasant gained the wood it was struck down by a peregrine, and fell a matter of perhaps three hundred feet. The peregrine did not descend for it, but flew straight on, and going up the keeper found the game bird to be a mere pulp of broken and crumpled feathers. Its head was missing and it was completely disembowelled!

The peregrine has often been known to fly through a pack of young grouse, killing and maiming them impartially, and not even troubling to pick up those it had so wantonly destroyed. Such activities on the part of this noble bird are much to be regretted, but there is no harm in recording them since the men who are to decide the peregrine's fate, namely our moorland keepers, know the bird's disposition too well to gain or lose anything by what might be written here. I say without hesitation that the peregrine, the hooded crow, and the carrion crow are far and away the most destructive of our birds of prey, but the peregrine has its beauty and its rarity

to plead its preservation. Its numbers must be kept down, which in all conscience is very effectively done, but the destruction of breeding birds—above all, the destruction of their eyries—is an act of vandalism which every proprietor and tenant should regard with the utmost disapproval.

Why preserve the peregrine? Why preserve the lions and leopards in our zoological collections which are infinitely more costly to keep? You can go to see them any day, but if you see a wild peregrine in its native setting you have seen something infinitely more beautiful, and you go your way feeling that you have attained something very much worth while. Some of us are more familiar with this noble bird than many a nature lover whose work chains him to pen and desk is with the little kestrel, yet see him ever so often your gaze follows his flight with a pleasure and fascination that never lose their strength. I remember, early in my childhood, seeing or rather recognizing my first peregrine as he glided through immeasurable space among the clouds, and never in all my life can I recall having witnessed anything in wild Nature which left an impression so indelible and so full of romance as that small black cross against the sky!

When progressing in the ordinary way, the flight of the peregrine does not always convey a great impression of its powers, save at intervals its marvellous powers of acceleration are betrayed by a seemingly idle stroke of the wings, which sends the little voyager shooting ahead with a suddenness of impulse which seems almost to suggest an outside aid. It is not much like the common hawks; its tail is comparatively shorter and it is much more sturdy in build. The tercel is distinctly blue when seen close to, and in general appearances, as in flight, he is not unlike the ring dove when awing—yet how

different from the "gentle dove" in character. At one time all birds were classed as "doves," and one wonders whether, after all, it may have been a peregrine that journeyed from the ark and returned with its token of glad tidings! At all events, Noah must have known the birds too well to dispatch a comparatively feeble turtle dove, as usually shown in pictures, when he had so wide a range of choice.

In the old days of falconry, tame hawks were seldom flown at curlews, as this bird's marvellous climbing powers usually resulted in losing the hawk, both birds disappearing from view in the uppermost heavens. The falcon that succeeded in striking down a curlew thereby made its name and its fame, enormously enhancing its own value. It was a generally accepted fact, however, that the best of falcons bred in captivity was never equal to a wild one, and I know for a fact that wild falcons regularly strike down curlews within the ordinary course of travel. It is another curious fact that a tame falcon would readily attack a wild one, and generally strike it down almost immediately, but this was doubtless due to the fact that the wild bird did not realize the other's savage intentions, and therefore made no effort to retaliate or to get away.

To settle a wager a tame falcon belonging to a Colonel Fisher was flown at a curlew during a hawking expedition in Argyllshire, west of Loch Awe, and after a flight of twenty minutes or so both disappeared from view in the cloudless sky. Two days later the peregrine was shot in the north of Ireland.

Anent the well-known devotion of peregrines for their young, one or two striking instances have come my way. A Perthshire keeper with whom I was well acquainted was some years ago seriously troubled by a pair of these birds, which did so much damage that eventually he decided to destroy them. As he cautiously approached

their eyrie, the hen bird took flight easily within range, and he fired both barrels at her. She fell almost to the ground, but managed to recover herself and to make her escape, though it was evident that she was very hard hit. The keeper was about to climb to the nest when he saw the wounded bird coming back, and it was clear that she intended to return to her eggs immediately he permitted it. The man therefore took his departure, intending to return later and to make sure of her.

Three days later he again visited the place, at which the falcon flew out from the shelf above. He fired, and the bird fell dead at his feet, though he was much surprised to find that it was the tercel. He waited till dusk for the hen bird, but as she did not appear he climbed to the nest in order to obtain the eggs.

Here a greater surprise awaited him, for he found the hen bird seated serenely on her eggs in a lifelike attitude, but stone dead! She had been dead for a considerable length of time—in fact, everything pointed to the fact that she had returned to her nest to die immediately after he had fired at her three days ago.

The remarkable part about this incident was not so much in the wounded bird returning to her eggs as it was in the fidelity of the tercel remaining at his mate's side for so long after life had left her. One cannot doubt that these birds understand death, so it must have been the highest of motives that held him there.

In the same country a keeper of my acquaintance one day climbed to a peregrine's eyrie in order to examine its contents, and found that it contained one chick just old enough to have left the nest and to squat on a shelf near by. Both parent birds were wheeling and screaming overhead in a state of great agitation. The man left the chick undisturbed, but on the following day the shooting tenant expressed a desire to see the chick, so

was taken by the keeper to have his wish gratified. One can imagine the surprise of both of them when, on arriving at the place, they discovered that not only the chick but both parent birds had completely vanished, nor were they ever seen again in those parts!

No strangers could have disturbed the nest without their presence having been noticed by the shepherds or someone, for the crag was at the end of a long and strictly preserved glen, and there was really no way over the heights. The keeper could cast no light upon the mystery, and it was not reasonable to conclude that the chick had been taken and both birds destroyed—the only explanation for their complete absence. The keeper was very strongly of the opinion that the parent birds, disturbed by his first visit, had taken a page from the book of the mountain fox and carried their young away, and having due regard for all the facts and conditions, too numerous to detail here, one felt compelled to accept his belief.

I believe that peregrines hunt very largely by their hearing as well as by their sight, for in some parts of the world they are known to accompany the night flights of migrating birds. Here is another example. Recently I was out with the keepers in pursuit of mountain foxes, and passing under a high crag the stalker who was present pointed upwards to a shelf which, he told me, was a peregrine's watch tower. It was not sufficiently clear for us to see the bird, and just at that moment a blinding snowstorm came down. We therefore seated ourselves under a boulder to rest the terriers and to eat our sandwiches ere we made the final climb.

While there we heard the rattle-like croak of a ptarmigan coming down the corrie, and the bird flew directly over our heads, lost in an instant through the blinding storm. It was travelling at great speed down wind, and we just

obtained a fleeting impression of its blotched and camouflaged springtime dress. No sooner had it vanished than we heard a dead thud—so near and loud as to startle the dogs, and I said to the stalker: "I think your peregrine has got the ptarmigan all right!"

Nor was there any doubt about this, for when the atmosphere had cleared a few minutes later there was the tell-tale line of ptarmigan feathers within forty yards of where we sat!

That peregrine had descended from its perch at least three hundred feet above, and it was impossible for it to have seen the ptarmigan as the whole mountain face was enveloped. At the time we were much mystified, as the only sane conclusion was that the falcon had heard the ptarmigan descending the glen, and dived blindly into the storm, judging its whereabouts to within a few feet.

McGregor, the head keeper in Glen Lochay, informs me that one day he was digging peats when he was startled by a terrific swish of wings just overhead, and looking up he saw a peregrine stoop diagonally towards a point about fifty yards from him. The bird alighted in the heather, and stood there some seconds turning its head from side to side, as it searched the ground all round. It then quietly began to walk about, searching the while, till suddenly it made a pounce, striking deeply into the twisted stems. It then flew off, having extracted a grouse from its hiding!

It was evident that the falcon, watching from the crags near, had seen the grouse feeding at that point, and had at once stooped. The grouse on seeing it hid themselves deep down in the ling, so that the peregrine had to search for them. The incident is unique in that very few men have ever seen a peregrine searching on foot for its quarry!

At no great distance from the town of Peebles there is a crag from which the Kings of Scotland used at one time to obtain their peregrines. The birds still breed there, and I have heard that the old law reserving them for the King's Falconer has never been rescinded.

Though this falcon obtains most of its food by descending headlong from its look-out tower, the birds nevertheless indulge in long flights, covering an enormous distance in a surprisingly short space of time. When travelling thus they proceed in a switchback course, now skimming the heather, then mounting rapidly to an altitude of three or four hundred feet, then down again. In this way they encircle the range, passing so swiftly that they may escape the eye of even the keenest observer, or be mistaken in the distance for passing ring dove or curlew. A peregrine seen travelling in this way over a North Riding moor may conceivably be resident in Cumberland, and though he may strike at game which rises temptingly, he very rarely descends to feed upon it when taking a jaunt of this kind. He, indeed, is the peregrine which flies through a pack of grouse, wounding several of them and never looking round—the peregrine exploring the home range of another!

THE POND AND THE LOCH

CHAPTER VI

THE POND AND THE LOCH

(MOORHEN, COOT, WATER-RAIL)

THERE is a peculiar similarity in the sounds uttered by creatures which inhabit watery surroundings. For example, the ordinary call-note of the water-rail is identical with the croak of a frog, and in the spring of the year, when the frog chorus reaches its zenith about the habitat of this bird, it is difficult to tell whether a given sound is that of a frog near at hand or of a water-rail in the distance. Many birds of swampy surroundings are marvellous ventriloquists, and I have more than once located them, as I thought, to within a small patch of rushes, only to find, on exploring the place, that they were not there—were, in fact, a considerable distance away. The sound now seems to be at one's feet, then to left or right—so soft and elusive that it is impossible to judge its distance correctly.

I am of the opinion that the coot and the dab-chick also “mimic” the croaking of frogs, but have never been able definitely to prove this, while as a further example, the common “kerk” call of the moorhen is identical to a certain note uttered by the otter, or vice versa. It would seem, indeed, that the language of wild birds is very considerably influenced by the more familiar sounds of their environment, the corncrake being a marvellous illustration, though this curious and interesting state of affairs is much more noticeable in tropical and semi-tropical swamps than it is in our own country.

It may be that certain notes of communication are specially adapted to certain surroundings, for in the language of the air we find something which almost suggests a definite principle. Thus birds of the great distances, such as the waders, have shrill, penetrating voices, which enable each bird to communicate with its fellows over vast stretches of moorland or seashore; the birds which travel little, living the major portion of their lives in dense rushes, etc., have reed-like, frog-like call-notes; the birds of the night, or at any rate many of them, have deep, hollow voices, like the owl and the bittern.

The coot and the moorhen are by far the most familiar of our aquatic birds, and they are of special value in that both of them have many interesting ways, which can easily be observed by the bird lover who has few opportunities of studying rarer fowl. The coot is a much larger bird than the moorhen or waterhen, and is distinct therefrom by the naked patch above its beak—hence the familiar saying “bald as a coot.” It is more essentially aquatic than the moorhen; indeed, while the last named obtains most of its food on land adjacent to its home pond, the coot feeds almost entirely while swimming about, and is comparatively rarely seen obtaining a meal on dry land. I have, at times, seen large numbers of coots feeding like blackgame at the water’s edge, but whereas it is customary to see the moorhen feeding thus, and the exception to see it feeding on the water, it is customary to see the coot feeding on the water and almost the exception to observe it on dry land. While, therefore, the coot can be described as essentially a water bird, the moorhen is really a land bird which loves to have water at hand.

This essential difference naturally influences their respective choices of environment, for whereas moorhens are to be found everywhere that coots exist, it does not

at all follow that the reverse applies. Moorhens will make their homes by the tiniest ponds and streams, totally inadequate for the supplying of their needs were they solely dependent upon the water for food, but the larger bird is seldom found remote from wide expanses of water. The coot does not attach itself to little springs and small homestead ponds, but is essentially a bird of our lochs and tarns, with the result that it is less under observation.

Having thus described the chief difference in the characters of the two, a few observations and anecdotes may serve to make the reader better acquainted with them.

The moorhen, as its environment suggests, falls midway between the land birds and the water birds. Its feet are not webbed, but they are large for its size, enabling it to run with ease over the softest mud, or even over the scum of decaying vegetation which often covers the water on the leeward side of its home. It is, in many ways, among the most foolish of our wild birds, as it shares the propensity of the ostrich and the proverbial dodo. Not long ago I was following a small stream when in a dip of the landscape I surprised a moorhen. I was so close to it when it caught sight of me that the bird immediately became panic-stricken, and darting a foot or so it jammed its head into a mouse hole and crouched there, perfectly still, its entire body conspicuously outlined against the red clay bank. I went quietly up to it and took it in my hands, and on other occasions I have often caught moorhens as they cowered in the rushes. Some people consider them good to eat, but the peculiar "pondy" smell of the bird does not seem to suggest that it would prove very palatable.

It is, moreover, noticeable that even where moorhens are very abundant, foxes seldom trouble to hunt them.

I have tracked a fox which had worked the reed beds in search of wild duck, but though moorhens have existed in great numbers, while wild duck were rare, Reynard has gone on for a considerable distance hunting fruitlessly for duck, even though a moorhen could have been pounced upon without much difficulty. In hard times, however, I have known a fox to make his way to a tiny pond where he knew a brace of moorhen were living, and to catch and eat one of them—evidently a last resource. It might be added, however, in justice to the moorhen, that this bird may be a good deal more difficult to catch by night than by day, for I have known a slow-footed spaniel, which was no great guns at hunting, to catch numerous moorhens while laboriously working the rushes, bringing the live birds one after another to my feet; and it is almost inconceivable that this bird could hold out against its wild foes, most of which are night hunters, if it were not more alert and cautious after sundown.

A solitary moorhen, evidently a male bird, attached itself to a small round pond adjacent to my home, and was to be seen every morning running about the greensward under the windows. It took to feeding with the poultry, having no difficulty in squeezing through the large-mesh wire netting which enclosed their run, and was every bit as tame as the fowls themselves. Very early in the spring it appeared one morning with a mate, and it was amusing to watch the male bird coaxing and encouraging her—trying to convince her that she really had nothing to fear from the members of the household. She very soon overcame her shyness, and a little while later the two built a nest in the fork of a dead tree which lay partly submerged across their home pond. The nest was lined with red and yellow laurel and rhododendron leaves, and it really seemed that these had been chosen

with an eye to their beauty—a sense of house pride on the part of the birds, for other less ornamental materials were everywhere at hand. Where they found the leaves I could never make out, but at all events they made a most artistic lining, and the nest, with its complete clutch of eggs, presented a very taking picture. A little while later the nest was torn to bits and its contents destroyed, the muddy pawmarks on the decaying log clearly indicating that house rats were the culprits—evidently several of them. Some shells remained, but most of the eggs had been carried away, while the two old birds had also disappeared. Thus we could only conclude that they, too, had fallen foul of the spoilers.

In Norfolk I noticed the nest of a moorhen lodged in a fork between the stout timbers of a railway bridge spanning a sluggish river. This choice was characteristic of the bird. On every side were miles and miles of undisturbed fen country, yet the bird selected the man-made structure over which several trains per day thundered and rattled. It may be, however, that in the seeming folly of the choice there lay a wisdom of selection of the highest order. Did the bird know that the trains were harmless, even though they were feared by the creatures she had good cause to fear?

Many tales have been told about the cunning of the moorhen in selecting its nesting sites. It is even said that the bird often builds two nests, one close to the water, another well above it, and that, should the water rise and threaten the lower nest in which the eggs are laid, the bird transfers them to the one at a safer level. That the moorhen often builds two nests is certainly a fact, but it would seem to me that as often as not they are on the same level—that is, both well below high-water mark, and consequently in simultaneous danger of being flooded at any time, or both high above the highest

water level that history has ever recorded ! Therefore, I would prefer to leave the theory of the bird transferring its eggs from one nest to another to more experienced observers.

I have, however, specially noticed that whereas in ponds which never vary in level it is customary for the waterhens to build their nests almost level with the surface, so that the young birds can step straight out into the water ; this certainly is not the rule when the nest is built by a loch or stream which is subject to sudden spate. Most of our Scottish lochs, for example, may rise a foot or more at any time, and by far the majority of the moorhens breeding by them locate their nests several feet above the normal water line. This is more noticeable some seasons than others, and is particularly the case succeeding a winter of constant spates. I believe, also, that the elderly birds are wiser than the newly married couples.

The tails of birds and animals play a very important part in their daily lives, and though some may appear to be more or less useless appendages, existing only for ornamental purposes, this is seldom or never the case. I failed to understand the value of the exaggerated tail of the peacock till one day I saw one of these birds standing against tropical vegetation with its tail spread, when the huge screen rendered the bird almost unrecognizable amidst its richly coloured surroundings, no matter in which direction one looked upon it. Facing the bird it bore the resemblance of a bush, while from behind the stick-like feather stems harmonized exactly with the dead canes and other stalk-like vegetation near to the ground, and one need not go much further than Hyde Park in the early summer in order to realize that even in this dingily-clothed land the vivid colouring of the peacock may be highly protective. The long tail of the pheasant

exists to deceive the eye of the pouncing fox, and Reynard's own coveted brush is his travelling cloak and foot-warmer. The bushy tail of the squirrel is his parachute, and the white bunch of fluff which Brer Rabbit carries astern is his semaphore signal, by which he unwittingly telegraphs the approach of danger to his fellow colonists. The moorhen is equipped with conspicuous white feathers in its tail, which answer a very useful purpose.

It has often been said that the tail of the rabbit and that of the moorhen exist for one and the same purpose, which is true so far as it goes, but no further. The rabbit's tail, as already said, is chiefly a danger signal. It may sometimes be useful as a beacon in the darkness which shows, or rather leads the way, but not often. It certainly is not for the young to follow, as young rabbits seldom follow their parents, for by the time they are old enough to venture far from the home burrow their mother, in all probability, is busy with another family, and the young have entirely lost sight of her. Moreover, adult rabbits have seldom need of a leader, for each is well acquainted with its home range and has learnt to look after itself.

The white tail of the moorhen, on the other hand, is primarily a mark of location. So far as one can judge it is of little value as a means of telegraphing the news of danger, as is the white rump of the antelope. When danger threatens, indeed, and the bird runs rapidly away or rises in flight, the white tail feathers are not seen; it is when the bird is proceeding quietly about the affairs of its daily life that they are so much in evidence. I have, indeed, many times located a moorhen by the bobbing white tail as it swam secretively in and out among the dense entanglement overshadowing its home pond, for the bird has a curious habit of perpetually jerking this member as it swims. It is to be noticed that this

restless motion of the tail is most persistent during the mating and nesting season, as excitement, anxiety, or sudden emotion of any kind is at once shown by a quickening of the strokes.

It would seem, then, that the real value of the conspicuous marking is this. It enables the sexes to find each other amidst the dingy surroundings they favour, and is, therefore, of the same value to the species as are the musk glands of various animals. Secondly, it is there as a guiding beacon—it is a conspicuous mark for the young to follow, assisted by its restless motions, which reach their zenith in the case of an anxious mother.

In "Habits and Characters of British Wild Animals" I devoted some space to a theory my belief in which becomes more and more strongly established—namely, that certain birds and beasts and fishes exist mainly as a natural food for others. Most of these unfortunate creatures have some distinguishing feature—perhaps not directly in their apparel, but possibly in their habits, which are such that they are specially at the mercy of their foes. The majority of them are polygamous, all are good food, all possess great powers of survival. They are essentially creatures of the chase. Among these in the animal world we have the rabbit with his white tail. True that this distinguishing mark is valuable to the species in helping them to evade their foes, for unless Nature were to some extent generous in this way she would defeat her own aims by bringing about the extermination of the species. We have the deer, the quarry of noble hunters, and in this case Nature betrays the species by their white rumps and by the towering antlers of the males. The white rumps are of value in that they enable deer to follow deer, fawn to follow hind, through the dark thickets, but, alas! they catch also the eye of the hungry hunter! The antlers of the stag are

of no special value to the stag that wears them ; their annual growth saps his strength, and he would be better able to vanquish his foes without them. But these same antlers, be it noted, are of great value to the species because they betray the stag afar, and he thereafter becomes the object of the chase, while the hinds, on whom the race depends, escape to safety. And well the stag knows that he is marked out in no mean measure, for he will run with his head held low under the flanks of the hinds, driving them before him, and slashing at them mercilessly when danger is at hand.

Among fishes we have the herring and the mackerel as examples of the type which exist chiefly as a natural prey for others, and it is specially to be noticed that the flesh of such fish is very rich and sustaining as food, and in order to obtain the maximum benefit from it it must be eaten slowly. Nature has seen to this by providing them with a truly bewildering bony structure, which serves to retard the digestion of the birds and other fishes which swallow them whole, while obtaining the same result in forcing the more dainty feeder to devour them slowly and with due respect.

It might be safe to class the moorhen under the heading of natural prey—hence the double meaning of the white tail. Like the white tail of the rabbit, like the white rump of the deer, like the black ear-tips of the Alpine hare, and the black feathers of the ptarmigan and snow bunting, like the flashing flanks of the dainty mirror fish of Indian streams, the feature is destructive as well as being protective. The moorhen, however, was never intended for wholesale massacre. It exists more as a safe stand-by for times of great scarcity. It lives in one place ; every creature knows that it is there, yet its flesh is not sufficiently dainty to be really tempting except when hunger presses. Finally the bird is easily caught.

I have already described how a fox will pass moorhens by for so long as there is a hope of catching more appetizing game, but sooner or later the day comes when he returns for the bird which he has passed by indifferently so many times, while it in all probability has become more or less indifferent towards him; and now assuredly that bird dies. It is in this way that the moorhen figures in Nature's economy—not as a wholesale victim at all times but as a creature which, when needed at all, is badly needed. Among animals the porcupine—which may spend half its life in one tree, which is best left alone in normal times but which, in seasons of life or death, can be returned for and caught—figures in the same capacity. All this may appear contrary to Darwin's lines of reasoning, but a little thought will show that it is merely a case of viewing the matter from a different standpoint.

Though so much of a land bird, the newly-hatched young of the moorhen are even more at home in the water than are ducklings and other young birds which depend upon their swimming and diving to a far greater extent. Old moorhens can dive well, but they seldom do so, and obtain very little food in this way. They are essentially land and surface feeders. On Loch Ken, however, I have repeatedly seen newly-hatched moorhen chicks striving to escape observation by diving into the shallow water among the new rushes. They submerge with surprising alacrity, and swimming below the surface, using their feet and wings, they hunt round for a suitable place of hiding on the bed, and crouch there perfectly still for a considerable time, the air in their down giving them a bright silvery appearance. Presently one will be seen to rise to the surface, and lying under a prostrate reed or lily leaf it pokes up its beak and refills its lungs, remaining thus, almost totally submerged, till a fresh movement on the part of the trespasser causes it again

to dive. I remember watching a whole brood of them thus employed, and while they were at it two were gobbled up by the pike basking in the shallow water among the rushes—by far the most deadly peril with which the chicks had to contend, yet against which they seemed to possess no guarding instincts.

In another way moorhen chicks are strangely helpless little creatures. I remember catching one early in my boyhood, and having examined the pretty little creature I launched it out into deep water, intent on giving it a good start towards its mother. But unhappily these good intentions resulted in capsizing the chick, and I had the mortification of seeing it kick its helpless little life away, its legs in the air, just out of reach over the deep water. It is rather surprising that young birds that are so much at home below the surface should be unable to right themselves should they fall into the unhappy position of being back downwards.

The moorhen is comparatively feeble when on the wing. I have seen one collide with the branches and fall heavily to earth when startled in a woodland retreat. Yet partial migrations sometimes take place during severe winters, the birds covering great distances. During the abnormal winter of 1887 thousands essayed to cross the channel, and vast numbers of them fell exhausted on the shores of France, to be picked up by the peasants.

Moorhens seem to possess no unanimity of decision. The young remain with the parents even after all are fully fledged, the adult chicks helping to guard and feed the succeeding brood, yet if an adult family be disturbed they never rise *en masse*, as does a family of partridges, but instead they get up one at a time and straggle off in different directions, each bird seeming reluctant to take flight till finally it is compelled to do so. The moorhen is, indeed, the most irresolute of all wild birds.

Though the coot is closely allied in many ways, in character it is a very different bird from the moorhen. That it is more essentially a water bird is proved by the nature of its feet, for while, like the moorhen, it is possessed of immensely long toes, these toes are further equipped with lobes or fins which serve to grip the water, and are yet another step in the direction of web-footedness. Complete webs would, of course, be a sore trial to any bird given to running about in woodlands—or, rather, any bird possessing complete webs would not run about in woodlands.

I have said that while being a larger bird, the coot seldom frequents small areas of water, but prefers the wider sheets, where great numbers can often be seen floating and diving far out from the shore (the moorhen seldom ventures far from the reeds). It is one of the most pugnacious of birds, and though to a certain extent gregarious, there seems to be no harmony of opinion in the coot population of a given area. Early in the spring they agree to disagree, and forthwith proceed to do so till the severity of the next winter gives them something else to think about. They may be observed day after day chasing each other hither and thither across the surface, flying, alighting, scolding, cursing, working themselves and each other into a state of bristling fury, and, so far as the dull human eye can perceive, all about nothing at all!

Coots are well able to look after themselves. Over two centuries ago Sir Thomas Brown was accused of being an exponent of fiction when he described that these birds, on being attacked by a hawk or an eagle, at once gather into large companies, whereupon their enemy, descending upon them, is baffled and driven back by a maelstrom of water lashed into the air by the wings of the threatened birds. Certainly this reads like

a fable from the mind of the nature faker, but we have it as fact of much more recent date from Lord Lilford, who on several occasions saw white-tailed eagles repelled in this way by bands of coots. They gathered into close formation immediately the bird of prey appeared, and effectively baffled the eagle's stoop by casting a sheet of water into the air to meet it. I have several times on Loch Ken seen the companies of coots unite forces on perceiving the approach of a bird of prey.

Fishing one broiling hot day from a boat in a reservoir in Northamptonshire, my companion and I noticed some dark dancing object on the shore a considerable distance from us. We were unable to make out in the quivering atmosphere what it was, and presently it ceased to hold our interest. Drifting in that direction, however, we obtained a closer view, and saw to our surprise that the mystifying object was a coot desperately engaged in combat with a huge grey rat. They must by that time have been fighting for over twenty minutes, yet the coot was still going at the rat hammer and tongs, and, so far as we could tell, was depending chiefly upon its claws—striking with both feet as a young sparrowhawk strikes at food thrown to it. The bird was also using its wings—possibly only to retain its balance.

We were anxious to see the finish of the fight, and I rather regret that we did not do so, for it certainly seemed that the rat was entirely on the defensive. However, a very wholesome and praiseworthy desire to kill the rat prevailed, so landing quietly we approached from different quarters. Neither of the combatants saw us till we were within a few feet of them, whereupon the coot flew away in an apparently uninjured state. The whole area was littered with feathers, yet no sooner had we left the place than we saw the coot fly back, apparently intent on finishing the fight. Whether this was an exceptional

example of ferocity on the part of this bird, or whether coots regularly indulge in such encounters, I do not know, but I have little doubt that the rat had been caught in the act of hunting the chicks of the bird involved, or that at any rate he was there for no good purpose.

I have heard many strange stories about the ferocity of moorhens, their destructiveness among other birds, particularly ducklings, and their cultivation of depraved tastes in the way of egg stealing, but since I have no personal observations of this I prefer to leave the unpleasant characteristic alone. If indeed the moorhen is anything of a pugilist, beside being quarrelsome, the coot certainly shares the same trait of character and is undoubtedly a more formidable fighter, though he may not so often come before notice.

I once watched a party of coots endeavouring to swallow a chub, which must have weighed at least a quarter of a pound. First one would endeavour to get it down, then another, quarrelling the whole of the time, and the chub, which was still alive and kicking, was certainly experiencing a very embarrassing time of it.

The nesting habits of these waterfowl are very interesting. Each pair appropriates a small bay, which it considers its own private property, and from which it drives any other bird that endeavours to trespass. The nest consists of a huge rafe of sedges. It is generally placed in shallow water, resting on the bottom, but should the water level rise it floats in perfect safety, though the birds then take the precaution of anchoring it to the rushes so that it cannot float away. In this manner they show considerable intelligence. Sometimes, but not always, the nest is anchored when it is built, this being done in such a way that it can rise and fall with the water.

I remember one spring brought a spell of extremely rainy and windy weather. One coot's nest which I had

under observation on Loch Tay was built on the bottom in very shallow water, and going out in a boat after the loch had risen I discovered that it had drifted away. After a long hunt I found it about two hundred yards distant from its original situation. It had drifted into a bed of reeds, and here the old birds had anchored it by cleverly working two or three growing reeds into the structure of the nest. So thoroughly was the work done, indeed, that one could not have released it without breaking the reeds or tearing the nest.

Another nest I had under observation was on the windward side of the loch, and this one, with its cargo of eggs, was carried out over deep water. Quite a "heavy sea" was running, and it was surprising that so frail a craft could weather such a buffeting. The old birds calmly proceeded with the task of incubation, apparently in no way disturbed by the unforeseen removal of their household, and for several days this nest travelled about, each evening finding it a considerable distance from the point at which it started at dawn. Eventually I lost sight of it, and ultimately fine weather returned. Then one dark and cloudy evening, just before nightfall, I was out on the loch when I noticed a coot's nest, probably the same one, floating in the centre of a quiet bay.

As I rowed up to it the old birds began to call, but looking into the nest I found it to be empty. I put my hand into it, and what was my surprise when three young coots wriggled from under the covering of chopped-up sedges which filled the nest, and swam off with all speed towards their parents! It certainly was not the first time they had left the nest, and I concluded that their parents, sensing the approach of the heavy thunderstorm which broke a few minutes later, had covered the chicks in the nest in order to shield them.

In the same locality I knew one male coot who built several nests for his own amusement while his mate was sitting her eggs. Exactly what his idea was it is hard to say; evidently the building fever had taken a firm hold of him, and having made a start he could not stop. However, I fancy his wife would have turned up her bald nose at most of the nests he built, for they were anything but remarkable for neatness. Certainly they required the finishing touches of the feminine hand. This curious habit of building for the sake of the thing is not uncommon in bird life.

Coots migrate during severe winters, but few of them travel overseas unless the conditions are exceptionally violent. One winter thousands of them took up their abode during a cold snap in the salt water marshes of the Norfolk coast, and it is to be noticed that quite the majority of them leave our Highland lochs as winter comes. Many remain on the more sheltered lochs of the Lowlands—indeed during a mild winter great numbers migrate from the north to these quarters and to the more sheltered lakes of Westmorland and Cumberland, though a long cold snap will cause them to forsake even these retreats and to seek the coast.

We can hardly conclude this chapter without mention of one other bird, the water-rail. It is a very beautiful little bird, but it is so secretive in its ways that few people are acquainted with it. The name water-rail is usually taken as another name for the moorhen, but the two are entirely different.

The water-rail is more often heard than seen. Like Wordsworth's cuckoo, it is little more than a wandering voice—far more so than the cuckoo. In disposition it has much in common with the landrail, except that it does not migrate except in the same sense as the word applies to the coot. I have heard them flying in the skies

at night-time, but though I have spent months on end in localities where they are numerous, and heard them calling all day and every day, I doubt whether I have seen more than half a dozen in my life.

The first I saw was picked up in the backyard of my own home one day-break. It was found lying in the middle of the yard with a broken leg, though there was nothing at all to explain how the accident had befallen it. The water-rail might faithfully be described as among the most timid and cautious of wild birds, but, strange to relate, this unfortunate specimen seemed not to have the least fear of the household. We doctored it as best we could, and it readily took food put down before it in the presence of human beings. Finally it flew away with its leg still in splints, though up till that moment it made not the least attempt to escape. So far as I can recall it was with us two or three days.

I have often wondered why such birds as the water-rail remain comparatively rare. They have extraordinarily few enemies—or rather they are extraordinarily well able to guard against such enemies as they have. Man makes practically no inroads into their numbers, for their habitat is such that he seldom comes across them. Their powers of multiplication would seem to be at least equal to those of other waterfowl which live far more exposed lives and are in no way so well able to take care of themselves—yet the water-rail remains rare while others increase and multiply. Why?

PINE AND HEATHER

CHAPTER VII

PINE AND HEATHER

(CAPERCAILLIE, BLACKGAME, GROUSE)

THE capercaillie is so named from the Gaelic *capull-coille*, or “horse of the woods,” which somewhat incongruous distinction Yarrel considers to be in connection with its size, as in “horse mackerel, horse-ant, horse-fly, and horse-radish.” It is by far the largest of our game birds, and an adult male will weigh as much as ten pounds. There is, however, a peculiar difference between the size of the males and that of the females, the hen birds weighing as a rule less than half the cocks—say four to five pounds. I believe that the Scandinavian capers attain almost twice the weights of the Scottish samples.

Nature seems to have run riot in the production of the cock capercaillie. One cannot imagine two birds of the same order more completely dissimilar than the cock capercaillie and the cock pheasant. They have hardly a point in common, yet the hen birds of the two species retain a very strong family resemblance. The cock caper is, indeed, more like some gigantic offshoot of the race to which the hen birds belong rather than the father of it. My observations of this bird have occurred principally in the Perthshire Highlands, particularly the Loch Tay and the Dochart country, where numbers of capercaillie are to be found if one knows the glens they frequent. On the south-east shore of Loch Tay they favour the birch forests, though in other parts

of Scotland they seem to belong exclusively to the pine woods. The Loch Tay woods, however, contain here and there a solitary group of pines, and almost every pine tree, if carefully searched, will be found on certain days to contain one or more capercaillie. Other days, noticeably damp and foggy days, not a bird is to be found in the pines, the total capercaillie population feeding on the ground, generally in the dense birch and hazel thickets. They look enormously large when seen feeding thus, as when suspicious of danger they have a curious habit of standing straight upright, their necks fully extended. Seen thus in the shadows of the forest they resemble very closely grey domestic geese, the attitude of alertness being very grouse-like.

The capers sit closely when in the pine trees, and if threatened by danger they are extremely clever in the manner in which they stand close up against a fork or limb so that it effectively breaks the outline of their bodies, and searching for them from below the observer has no way of ascertaining that "that dark clump of foliage is a capercaillie." They remain perfectly motionless so long as danger is about, and I remember some little time ago looking up into a fringe of pines for several minutes, trying to locate a caper which I knew to be there. There was nothing doing, however, and eventually abandoning the search I made my way up the hill, where, from a rocky ridge above, I looked down on the tops of the pines I had just searched. What, then, was my surprise to see not merely one caper but twenty or thirty hen birds distributed about the branches into which I had been peering!

I cannot speak from personal experience of capercaillie shooting, as I have shot them only when in pursuit of pheasants and woodcock. On such occasions they often afford some very fine wing shots as they descend from

the pines at speed, heading straight across the glen. As already stated, however, a large number of birds refuse to be flushed, and one passes them by unaware of their presence.

When boys we used to shoot the cock capercaillie with air rifles or .22 cartridge rifles, and in this way we obtained very excellent sport. The method was to creep on all fours through the thickets and stalk the birds on the ground much as one stalks a deer. It is a curious fact that the capercaillie does not seem able to recognize a human being as such so long as the said human remains on all fours, but immediately one stands upright the bird is up and away in a moment. I have stalked to within quite a few feet of a watchful caper, a juvenile companion at my heels, both of us convulsed with laughter as we fired shot after shot from our air-rifles at the much-mystified monster.

An air-rifle is a very deadly weapon where these birds are concerned, and in one part of Scotland it was a regular evening amusement among the party I was visiting to go off in a boat at sundown and row quietly under the pines that overhung the loch. The capers, feeding in the branches above, seemed quite incapable of realizing that there was any possibility of danger from the direction of the open water, and would continue to feed till we were within range. Even then the report of the air-rifle did not always alarm them, and I have more than once picked off two birds or more from the same tree. They were in that locality exceedingly abundant, and there was a great preponderance of cocks.

There are many keepers who at any season never refrain from shooting a cock caper or a cock blackgame, for as a rule there are far too many male birds for the hen population, and being so extremely polygamous they are a great hindrance to the hens during the nesting season,

assaulting them even when on their nests, and constantly bullying and harassing them. The birds thrive much better if all possible steps be taken for keeping down the number of cocks, though on most estates this desirable end is not very easy to achieve, the cocks being too cunning. I have, however, killed scores of blackcock by building shelters under the birch and alder trees I knew them to frequent, then waiting for them with an air-rifle. One may get as many as four or five without moving from one shelter, as the noise of the gun is not sufficient to alarm them. As for the falling birds—blackgame are at all times so clumsy in the trees that repeatedly one will be seen to fall several feet, flapping wildly as it descends, so that the descent of the “hit” birds does not unduly alarm the others. In most localities the packs of blackcocks are so wary that there is no other way I know of getting near to them—except, of course, by organized driving. Three or four shelters should be built, consisting simply of piles of untrimmed spruce, and left in position some time before being used. The more shelters one has the less frequently need one return to the same places, and it may be added that it is fatal to leave the shelter within view of the birds. If this be done they will never return to that place except when there is no one in the shelter, seeming to possess an uncanny sixth sense in this respect. Both for blackgame and capercaillie the large size B.S.A. air-rifle should be used, as the smaller slugs are very apt to cripple while not killing. It is best to aim at the bird between the legs.

While it is true almost everywhere of blackgame that there are too many male birds, this is not universally true of the caper, as I have come across certain forests, sometimes of great area, in which numbers of hen birds were to be seen, but no cocks. This state of affairs arises from the periodical partial migrations of the species.

For reasons which are not always easy to ascertain the capercaillie population in due course drifts out of a given area (owing, possibly, to the age of the forests) till the birds become so rare as no longer to figure in the sportsman's bag. In due course, however, the forests improve, possibly by the maturing of new timber, and so the capers come back—always, however, with a great majority of hens. The cocks do not arrive in any numbers till the hen birds are well established, and it follows that the hens are the first to begin to drift out of old forests, leaving the cocks in possession.

The same thing occurs but to a less marked degree among blackgame. For example, the blackgame have entirely left the New Forest; nor, in this case, are they likely to return, as there are no forests near from which the forsaken area will naturally become re-stocked. In Scotland the same shifting and sorting takes place, but in this case birds return from neighbouring ranges as the time suits them.

Blackgame and capercaillie have many characteristics in common, though, of course, they are widely different in habits and their general choice of habitat, the caper being essentially a pine grouse, while blackgame have no marked liking for pine woods. The black grouse love best the well-wooded ranges, broken by patches of bracken, gorse, birch groves and alder fringes along the burns, rather than the gloomy coniferous retreats and pine-capped ridges so favoured by the capercaillie. But their mating habits are almost identical, so we will proceed to discuss those of the black grouse as typical.

In regions where these birds exist, the "chauteling" call of the cock birds is to be heard throughout the spring and summer—chiefly in the early morning, but on and off throughout the day. It is a curious sound, not unmusical, and though so soft that it may escape the ear,

it nevertheless has the property of carrying an astounding distance. I have heard it across the width of both Loch Tay and Loch Ken—seeming quite as loud as when one is within one hundred yards of the vocalist.

While the cock bird utters this note, he spreads his forked tail and scrapes his wings, puffed out to enormous size like a turkey cock, his eyebrows flaming brick red—truly a terrifying and inspiring monster to behold! In the meantime the grey hens may be seen creeping demurely about in the undergrowth with an obviously assumed air of indifference, but at the same time taking good care to show themselves at intervals.

The courtship of grouse of all kinds takes place chiefly in the very early morning, before there is sufficient light for objects to be seen clearly, and the polygamous members of the species, exemplified in Great Britain by black-game and capercaillie, have recognized places to which they return day after day and year after year for their day break meetings. In a way it is a distinct ceremony, and has its exact counterpart in some of the ceremonies and orgies of uncivilized man and in wild animals of the higher order, such as the gregarious apes. It is, as it were, significant of the dawning of social custom, and we have further examples afforded by the meeting of the jackal clans and by the noisy social gatherings of the rook colonies at certain seasons.

The polygamous grouse, however, meet with a fixed object in view—the cock birds to swagger and fight it out among each other in the most approved Stone Age style. The selected place might, indeed, be termed the tournament ground, for here the knight errants tilt at each other till the proved victor has established sufficient authority to enable him to march off in possession of the ladies. It cannot, of course, be said that the contests are conducted under the eye of a referee on Marquis of

Queensberry rules, the chief aim of each combatant being, apparently, to take one and another of his rivals at a disadvantage—preferably from behind, while the other is repelling a frontal assault, so that as often as not the tournament becomes a mere *mêlée*, as impartially delivered as it is blindly received. Feathers strew the ground, which as the season advances—the birds returning morning after morning—becomes trodden black by the stamping feet of the pugilists.

On one occasion I was so fortunate as to witness a desperate fight for possession of a bunch of hens between two blackcocks. The contest was so hot and evenly matched that I felt sure one of the birds would be killed or mortally wounded, but nothing of the kind happened. After an extremely painful rough and tumble, the less fortunate cock got up and flew straight away, whereupon the victor, blown out to bursting point, turned to take possession of the admiring bevy of beauty. The amusing part about the whole business was that the hen birds had taken fright on my arrival three or four minutes previously, so that the two angry cocks had possessed the field in solitary splendour!

One of these tournament grounds which came under my observation was an old putting green standing in the grounds of an historic castle in Kirkcudbrightshire. The green was seldom used by the tenants, though it was always kept in order, and occupied a little hidden-away corner of the estate, deeply overshadowed by larch trees. Another tournament ground in the Loch Tay country was a patch of open forest caused by the presence of an old lumber road. The blackgame met at a point at which a dead ash tree, covered with ferns and fungi, lay across the way, and from the look of things it was evident that the swaggering cocks were accustomed to mounting this point of eminence in order to be more conspicuously

before the eye of their lady friends. Presumably the cock who could knock all the other cocks off the tree won the pool!

Capercaillie are said to indulge in the same queer antics and similarly to have their allotted tournament grounds. The mating call of the male bird, which is also his challenge, is, however, very different, consisting of two syllables uttered over and over again. It is most generally heard just after sunset, and when one is living amidst woods where capercaillie are abundant it becomes somewhat tiresome by its iteration and persistency.

The capercaillie of this country have a peculiar history. At one time the species was comparatively abundant, but early in the sixteenth century it began to suffer from a phenomenal period of decrease, which resulted in its complete disappearance about one hundred years later. In 1837-8 it was re-introduced from Sweden, and since then has firmly established itself over the greater portion of North Britain, where, if anything, it is still increasing.

One constantly hears it stated that both blackgame and capercaillie show a melancholy shrinkage of numbers throughout Scotland, which assumption is probably due to the periodical migrations already referred to. It requires a long memory to cast any helpful light on the facts, but certainly there is nothing made evident by the study of either species which indicates that they are on the downward grade. On the whole, both seem to be flourishing. Capercaillie are certainly extending their range, and though this may not be said with equal truth of blackgame, in that their range shows a slight shrinkage of recent years, they are at any rate flourishing and increasing where they exist, and their redistribution is probably only a matter of cycle. When a species is under a period of decrease certain signs at once become evident to the careful observer, and these signs are

entirely lacking so far as the species under discussion are concerned. We need to bear in mind that in such countries as Canada the grouse (particularly Franklin's Grouse) are known at certain periods entirely to forsake sections of country which may at least be as large as Scotland. They simply go—where and why there is no ascertaining, and for a number of years the Indians of the forsaken area see none of them. In due course, however, the birds return—very often in a wave of inundation, so that their coming and going cannot be set down to increase and decrease, but merely to a general shuffling and sorting. This state of affairs, which is such a source of anxiety to the sportsman of our own country, where the migration theory is not so easy to follow, is peculiar to birds of the grouse family the world over.

Blackgame are probably the most gregarious of our gallinaceous birds, living in packs the whole year round. In spring the large packs split up into small packs, generally numbering from five to eleven birds, and it is not very often that one sees the gigantic packs fifty or sixty strong which so delight the eye during the winter months. The cocks and hens do not associate except for mating purposes, and even during the mating season they show a tendency towards living their lives apart except at tournament hours. Thus, while the heat of the day lasts, one may see half a dozen cock birds resting serenely together, though a few hours ago they were at each other's throats, and a few hours hence will again find them at it. One need search no further than our own politicians in order to find a similar order prevailing!

It is a fine sight to see the packs of blackcock breasting the thinly timbered slopes during the winter months, their black and violet hues, with their distinct white markings, flashing impressively in the pale sunshine. I have seen the birds swarm into a small berry-bearing

bush in such numbers that they literally crowded each other out—perching on the branches shoulder to shoulder, each beautiful bird craning its neck to gather the berries. The packs of cock birds appear to be much less systematic and more happy-go-lucky in their coming and going than do the packs of grey hens, which, throughout the winter, live a life of the strictest routine, visiting their various feeding grounds to the hour, almost to the minute, day after day.

When the country is dry and frost-bound the black-game live chiefly on the catkins of silver birch and alder, and an examination of the contents of their crops leads one to wonder what nourishment they obtain from such uninteresting and bone-dry fare. They seem, however, to be well able to fend for themselves while other birds are starving, as they will generally be found in quite good condition at the end of a severe cold snap.

It is generally thought that the capercaillie feed chiefly on pine shoots, but the crops I have examined have contained quite a small proportion of, if any, pine, but have been stuffed with the green leaves of swamp plants, such as one finds about the roots of the trees in silver birch swamps, also scraps of fern frond, bits of wild raspberry leaf, and indeed any green tips which have come the bird's way. As already stated, there are days when the capercaillie forsake the pines and live entirely on the ground—chiefly among the dense and swampy thickets.

ROYAL BLUE

CHAPTER VIII

ROYAL BLUE

(MERLIN)

I HAVE always regarded the merlin as the most perfectly proportioned of all our wild birds, and the tercel in full spring-time uniform is certainly among the most handsomely coloured. The plumage is not, of course, so dazzlingly resplendent as that of some of the duck family—the kingfisher, the woodpecker, the pheasant, and other gaily attired gentry one might name, but it is in wonderfully good taste, and clearly that of a royal bird. To see this little falcon in full plumage is, indeed, to recognize him at a glance as one of pukka, blue-blooded strain, and though nothing like so fierce and destructive a bird as his big cousin the peregrine, he certainly lives up to his uniform.

Though the merlin has often been described as nothing more or less than a pocket edition of *falco peregrinus*, the similarity is apt to be drawn too far, for the two have very few points in common as regards their general habits and habitat. As described in the chapter devoted to that bird, the peregrine is essentially a highwayman, given to waylaying and ambushing his quarry. Where food is plentiful, as for example, about sea cliffs, the peregrine does not hunt at all in the true sense, but is to be seen repeatedly dashing out and causing endless havoc among its neighbours, purely for the sport of the thing. One was noticed to kill over twenty puffins in an hour, not even troubling to pick up the birds from the surf below,

but so far as my own observations go, merlins are not given to this sort of thing.

I have more than once watched them seize their prey, but I have never known one to abandon anything that it killed. A peregrine will dart forth and kill for the sake of killing, whereas the merlin, when satisfied, will sit motionless for a long period, and small birds and game may perch quite near to it without the least danger of attack. When hungry again the little hawk skims off, flying low, in search of fresh fare, and I have noticed that it generally flies some little distance ere it stoops, though larks may be everywhere numerous. It would seem, indeed, that the birds living next door to the merlin are quite safe from attack, for in West Yorkshire I have known ring-ousels and starlings to nest and safely to rear their young on a low crag where a merlin was nesting. When the young hawks were hatched the parents could be seen constantly flying back and forth feeding the brood, while the other birds of the cliff, heedless of their presence, were doing the same thing. These two birds doubtless killed a large number of ring-ousels and starlings, yet their immediate neighbours, even the young birds perched on the shelves below, they evidently regarded as part of the furnishings—or at any rate in a neighbourly spirit.

The stoop of the peregrine, described elsewhere, is characteristic in its violence and immeasurable speed, but I have never seen a merlin stoop from any great height, neither have I met anyone who has. As a rule it does not stoop at all, but clutches its quarry as it flies. Its method is hotly to pursue its victim, following every twist and turn, finally overhauling and clutching it in the air instead of striking it to earth.

In dealing with larger and heavier birds the merlin certainly adopts peregrine tactics, but on a very different



Photo by

[The Author.]

HEN CHAFFINCH

Hunting for insects on ant-infested stump. *See p. 76.*



WOODCOCK AND NEST.

scale. It may stoop repeatedly from a height of ten or twelve feet, even up to thirty feet, but this cannot be regarded as the bird's characteristic method. Its usual mode of procedure is curious and interesting. It is given to skimming along just above the heather, following every inequality of the landscape, rising here to surmount a peat bank, dropping again at the other side—always at the same height from the heather, which it so closely resembles in shade as to be almost invisible till seen against the sky. I have seen one approach a stone wall at such speed that I thought it was going to dash itself into it, but at the last instant it rose, skimmed the obstacle, and dipped over the other side to its previous level.

This skimming method of travel characterizes throughout the merlin's methods of hunting, and curiously enough it seems fond of following some clearly defined line of travel, such as a sheep track or a human pathway. At one time I used regularly to see a merlin tercel by a moorland footpath along which I had occasion to travel daily. This beautiful little creature had lost his mate late in the spring, and seemed reluctant to leave the place of his sad memories. Almost daily I saw him seated on a boulder beside the pathway, and always his tactics were the same. When I was within thirty or forty yards he would rise and fly off, just above the trodden path, following it exactly for a matter of two hundred yards, when suddenly he would alight on another boulder. As I came up to him he would again fly off, still following the path, and so on and on till the farm buildings barred his line of travel, when he would swerve abruptly to the left and vanish from view, skimming low down under a wall and so close to it that his right flight feathers almost brushed the stones.

It would seem that the merlin knows how closely his colour when in flight resembles the blue hills that he

loves, for when disturbed the bird will often fly along close under a wall as just described.

By this method of hunting the merlin *surprises* its quarry, snatching it up immediately it rises, or even plucking it from the ground. I have seen the titlarks rise like chaff from the bent, every lark screaming murder, as a merlin appeared like a flash over the wall top.

This little hawk is not of the soaring and hovering variety. One seldom sees it at any considerable height. In the mating season the peregrine mounts to the uppermost heavens, performing the most marvellous evolutions in the air, and finally descending like a thunderbolt as though he would pound himself into a pulp among the crags below, but I have never seen a merlin do this sort of thing. I have, however, watched their courtship. While the hen bird is perched somewhere, the tercel flies round and round generally at an altitude of about one hundred feet, his wings quivering in a manner of flight peculiar to the season, and uttering constantly as he flies his thin-edged "kee-kee-kee." So rapidly are the notes uttered, indeed, that one might think that his wings and his vocal chords were interconnected! Also I have seen male and female flying together in the very early spring so high as to be almost out of sight, though the male was visibly smaller. They flew and circled much like swifts, working steadily out of sight and travelling at enormous speed.

Reverting to this bird following in its flight some distinct feature of the landscape. Some time ago, in a corrie of the Galloway Highlands, I put up a merlin from a briar growing at the edge of the abandoned cart track I was following. The little hawk rose almost at my feet, carrying a squirrel, and flew rapidly ahead of me, following every twist and turn of the wheel rut, till finally it alighted about eighty yards ahead, diving again into

the brambles. Again I put it up, again it followed the same tactics, and so on time after time till in the end it reluctantly abandoned its quarry in the depths of a thorn thicket, from which I had great difficulty in extricating it, while the hawk sat on a neighbouring rock and watched.

On another occasion I was one day driving a semi-racing car over a straight moorland road in West Yorkshire when a merlin rose from the ditch at the roadside, and proceeded to fly along ahead of the car, skimming a foot or so above the ditch. It was flying without effort, and glancing at the speedometer I noticed that it registered just over thirty miles per hour. It occurred to me to test the speed of the little hawk, so keeping one foot on the accelerator pedal I watched the dial and the bird alternatively. Forty—forty-five—fifty—still the hawk was flying in the same effortless manner, save that the slashings of its wings were more rapid, and still it kept exactly the same distance from the car, adapting its speed to that of the pursuer, like a hunted hare. We pushed on till the speedometer reading was up to sixty-seven miles per hour, at which the car became somewhat unmanageable. As we decelerated the hawk sped on and left us, finally dipping over the wall and vanishing from view. It had easily maintained the aforementioned speed, be it noted, in spite of the fact that it was scrupulously following the peculiarities of the ditch, swerving or rising to avoid the stone-breaker's heaps of granite or other obstacles and inequalities met *en route*. It was on the same road, namely, between Pateley Bridge and Hebden Village, that I timed a snipe as described in the chapter devoted to that bird.

Gamekeepers have often told me that the speed of the merlin's flight is very deceptive. They say that one must be a quick and excellent shot to bag a merlin as it rises from its nest, for though the bird's flight conveys

no great impression of speed it is out of range almost immediately, and if missed with the first barrel it is seldom bagged with the second. Personally I have no experience in the art of shooting merlins, and do not specially anticipate acquiring it. The merlin is becoming a very rare bird, and it has repeatedly been proved that it is seldom destructive to the interests of game preservation. Much as one would prefer the sorry task to fall upon others, there are unquestionably times when it is necessary to stay the ravages of the peregrine, but according to my own life-long observations nothing is to be gained by making further inroads into the merlin's numbers. I have, however, known a merlin to attack and kill an adult mountain hare in snow time, and know that they *often* do so, returning time after time to the attack with a persistency and devilish intentness of purpose parallel to that of the peregrine. Yet I would set the merlin down as even less destructive than the rook and the jackdaw, but though the latter two may nest uninterruptedly about the keeper's very doorway I know few who spare the merlin.

It is time that the lovers of bird life realized that this beautiful little falcon is in real danger of extermination. Even within my own comparatively brief period of observation I have been much impressed by its ever-increasing rarity. The merlin does not seem to possess great powers of recovery—why, it is hard to say. Possibly it is a more delicate bird than our commoner hawks, and its habitat being more exposed the natural death-rate is higher. Even if none were destroyed by man, I very much doubt whether the merlin would become a common bird. It did not recover during the war as did most other birds of prey. Immediately succeeding the war an enormous increase in buzzards, owls, even peregrines, was noticeable, while kestrels were to be seen flying about

in small packs. It was, however, impossible to perceive any increase in the number of merlins, and since then I have noticed a melancholy shrinkage of their numbers. On most moors to-day this bird is, indeed, regarded as a rare hawk, and assuredly it is following the hobby in the sense of becoming nothing more than a name to the lover of wild bird life. This is specially to be regretted, since much of what may be said in favour of the preservation of the kestrel is equally true of the merlin.

Some time ago I was asked to obtain a live specimen of this little falcon for a zoological collection, to which I was only too happy to become a contributor. I obtained two young birds, male and female, in the down, reared them till almost fully fledged, then handed them over to the able keeping of the park authorities. Returning a year or two later, I visited the collection in order to see "my merlins." It was the spring of the year, and they had to themselves an ample aviary. Both were in very beautiful plumage—miniatures, indeed, of the kingly peregrine that occupied the next cage, and a very striking contrast to the pair of ravens, which, on the other side, rejoiced in recommending the public to a distinctly warmer climate.

On looking at the two little captives I must, however, confess to sentimental feelings which, like those of an erstwhile poet laureate, were beyond human utterance. The little tercel crouched on his perch, his pointed wings outstretched and quivering, while looking into the distance he uttered the familiar springtime note of which mention has already been made. The sound brought back a vision of brighter scenes, of the moors on a May morning where often I had heard that call-note.

Yet we must not be too sentimental as concerns captive birds of prey, for we need to bear in mind that even in a wild state few of them wander further than is necessary

for their food. If a wild hawk were never hungry it is probable that, except during mating season, it would seldom desert its favourite perch. Give them food and shelter enough and their captivity troubles them little ; while the majority of them are far better off in captivity than in a wild state. It is only when the mating instinct is at its height that at times they seem to rebel against their bondage.

Among birds and beasts, however, there are exceptional individuals, just as there are among human beings, and there are always some which never settle down to captive life, beating themselves against the bars and trying unceasingly to escape. Of two wolves, cubs of the same litter, one may settle happily to cage life, and become docile and affectionate, while the other gives only distrust and asks no more. One is idle and content, the other for ever pacing and glowering with sullen distrust towards its human captors. I have noticed the same thing about fox cubs taken from the same cairn and reared in captivity, and indeed, among birds of the same brood.

A striking example of the merlin's unexpected powers of flight came before my observation some years ago. The keeper on a Yorkshire moor, where they were then comparatively common, told me that in a certain marsh he repeatedly saw merlins strike down snipe, and one day in early spring I was so fortunate as actually to see the chase. It was, without exception, the most marvellous exhibition in the way of "stunt" flying that I have ever beheld in bird life.

I first noticed a merlin flying low over the swamp where numbers of snipe had their nests, and almost immediately a snipe appeared and began to buffet the little falcon. That snipe very soon learnt, however, that he had made the mistake of his life. No plebeian kestrel this, no parasitic cuckoo, and with a scream the

bird of prey turned, and pursuer became pursued. Instantly the snipe began to mount, and almost before I had time to realize what was happening the second merlin appeared from nowhere in particular and dashed into the fray. The snipe narrowly dodged between them, and it was then that I beheld a very heroic thing, for the hard-pressed snipe was joined by its mate, who voluntarily came to the assistance, possibly rising from the nest.

Then the stunt flying began in real earnest, the merlins adopting peregrine tactics, and swooping repeatedly, though repeatedly one of them was to be seen following hotly just behind a snipe. They would appear to shoot apart, then the hawk would strike. The noise of beating pinions was almost unbelievable, and again and again I saw one of the hawks completely loop the loop, but as no aeronaut normally does it, for descending head foremost he would miss his quarry by the fraction of an inch, thereafter beginning the loop with his blue back towards earth; then mounting vertically with a terrific burr of wings he would strike again, quick as a rattlesnake fighting fire. It seemed indeed, that both snipe and falcons were as often upside down in the air as they were right side up, and it was marvellous to observe how both the pursuing couple and the pursued backed each other up and assisted, always in the right place. I had often wondered how the little merlin manages to overhaul so swift a bird as the snipe, just as I used once to wonder how the short-legged stoat ever succeeds in outdistancing the hare, but having in both cases witnessed the chase, I now no longer wonder. On the contrary, it is a matter of surprise that any bird ever succeeds in escaping this persistent little freebooter when the issue is to be decided in the air, for the tactics of the merlin are so bewildering and rapid that speed alone cannot save the fugitive.

I did not witness the actual finish of this chase, for in the end the combatants fled like rockets towards a distant swamp, where, I believe, both snipe pitched, foiling the hawks by seeking the shelter of the deep rushes. If so, they certainly won the day, for they had succeeded in their initial quest of inducing the birds of prey to move elsewhere.

Subsequent observations have led me to the conclusion that in the spring and summer merlins feed very considerably on snipe, sandpipers, and redshanks—three birds which are extraordinarily well able to take care of themselves in the air. In winter starlings, titlarks, and rodents figure largely on the merlin's bill of fare. One merlin was to be seen at dusk almost every evening flying along under a wall quite near to a steading, situated between the moor and a hardwood forest, and I discovered subsequently that just before darkness the rats of the out-buildings were in the habit of wandering out into the wood. The place was accordingly visited by many birds of prey.

The essential difference between the hunting methods of the merlin and those of the peregrine have, I think, been made clear. The merlin, flying low, frequents the same scenes day after day, hunting for its food, and I am of the opinion that it is more limited in home range than any other of our hawks. And while the peregrine is essentially a bird of the crags, the merlin loves best the open, sweeping moorlands where from skyline to skyline the view consists of wild stretches of heather. Crags and broken rocky country have no special call for it, as such surroundings have for the peregrine.

Fishing on the River Wharfe one August evening I saw a merlin give way to a typical peregrine trick, which rather surprised me. He was seated serenely on the topmost branches of a plane, while numbers of starlings

were chattering and screaming in a dead ash tree near. Suddenly the starlings flew off in a pack after the manner of their kind, at which the merlin stooped right into the middle of them. I am perfectly sure that he could have killed or wounded half a dozen of the bunch, but clearly he was merely playing with them, and did no more than to give the talkative birds a very bad fright. The starlings were flying above the river, and it was amusing to note how they dropped to within a few inches of the water, and went sneaking off as fast as their wings could carry them. Mr. Richard Clapham tells me that he has seen a flight of pigeons pursue the same tactics when frightened by a peregrine, dropping like stones to within a foot or two of the heather, and never venturing to rise till well out of the danger zone. This is a marvellous example of the protective instinct of birds to whom the hawk in the skies is an inherited foe, for the peregrine cannot stoop unless there is a sufficient depth of open air beneath his quarry.

Authentic reports have reached me of (1) a merlin which struck down and left a cuckoo ; (2) a merlin which was shot carrying a swift in its talons ; (3) a brace of merlins which were watched in pursuit of a curlew, which they struck repeatedly, knocking clouds of fluff out of it, but which eventually they abandoned as " too big to sink." Probably the curlew had annoyed them in some way—possibly by making more noise than they thought seemly.

Merlins are very devoted to their young and to each other. When the hen bird is killed the tercel has been known to shoulder from that day on all family responsibilities, caring for the young to the best of his ability, even incubating the eggs and safely bringing off the brood.

Before the young merlins can fly they leave the nest and scramble about the shelves, often travelling a sur-

prising distance, and so, dotted about on the ledges, their parents, on bringing food, locate them by their cries, and feed each chick individually. In my boyhood a keeper and I found a chick, so young as to have no fear of us, perched in the heather at least eighty yards from its home, though how it got there was a mystery, for it seemed quite incapable of flight.

STUBBLE AND ROOT FIELD

CHAPTER IX
STUBBLE AND ROOT FIELD
(THE PARTRIDGE)

NO bird has so many human friends as the partridge —no bird so many human foes. There is something in the character of the partridge, and indeed of the grouse, which specially endears these two birds to the hearts of sportsmen, and we need not search very far for the reason. It is, I suppose, because in the home lives of both of them there is much that appeals to the human interest, and one cannot study their ways without acquiring a sense of kindred sympathy for them.

Both the partridge and the grouse are strictly monogamous ; this also applies to the ptarmigan, whose ways are less familiar to the sportsman. The pheasant, black-game, and the capercaillies, on the other hand, are flagrantly polygamous. There is nothing in their characters or in their mode of living which specially appeals to the human sympathies, and consequently we find less interest in the study of their life habits.

But, over and above all this, the partridge is essentially a bird of our homesteads, and it is distinct among our game birds in that the advance of agriculture and the redeeming of wild waste lands are in its favour. As an example, there was at one time far more land under the plough in the glens and corries of the Highlands than there is to-day, but the exodus of our young men to the Colonies and the cities led to a general shrinkage in the extent of cultivation outside the wide valleys. Conse-

quently the partridge, once almost as plentiful in the lower levels as the grouse was on the heights above, slowly migrated towards the low country, till almost throughout the Highlands it became a rare bird. Recent years have seen a compulsory increase in the amount of cultivated land in the hills, and it is already very noticeable in many parts of the Highlands that the partridges are returning. During the last two or three years, indeed, I have located breeding couples in small glens where, before the war, their presence was almost or entirely unknown.

Like most sociable ground birds, partridges are essentially birds of routine habits, and where they are not disturbed by sportsmen, they are found day after day visiting the same places at regular hours—prompt in their coming and going almost to the minute. I used daily to see a covey alight on a patch of waste land near my house shortly after four o'clock, and having remained there twenty minutes or so they would follow their leader through a certain gap in the wall, and make their way towards their roosting place. This covey, as is generally the case, roosted night after night in the centre of the same field—a habit to which the poacher is much alive. It is a comparatively easy matter to net roosting partridges on having marked them down, and where they are preserved it is customary for keepers to stick black-thorn branches into the ground about the fields the birds frequent, as these foul the nets and thus hinder the work of the poacher.

Partridges, however, exercise considerable discretion as regards their roosting habits. As a rule they gather well towards the centre of the field, and the larger the field the better they like it. Thus the danger of surprise attack is very much reduced, but to reduce it still further the birds do not roost all in a bunch, as some authorities



Photo by C. Reiff

COMMON PARTRIDGE APPROACHING HER EGGS.

See p. 153.

Wisconsin, U.S.

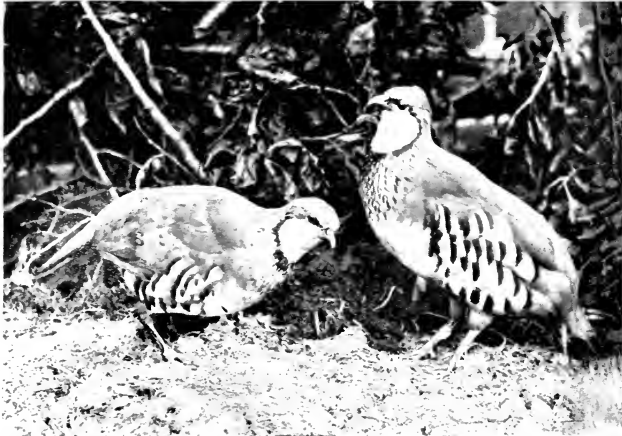


Photo copyright

by B. Hanley.

FRENCH PARTRIDGE.

Though in habits similar to the common Partridge in many respects, this bird favours waste lands rather than the fertile wold country to which its congener is partial. See p. 163.



Photo copyright by Charles Reid

[Wishaw, N. B.]

SPARROW HAWKS.

See p. 211.

state, so that an enemy springing into their midst could kill or wound several of them, but they arrange themselves in a wide circle, each bird several feet from its fellows, so that, at the worst, not more than one of them would fall to a surprise attack, the others hearing and taking flight ere the raider could make a second pounce. Their manner, if disturbed after dark, is interesting. They rise and scatter in all directions, so that for a moment or so one seems to be literally surrounded by a wild burring of wings, but above the general hubbub one hears the commanding "creek-creek" of the leader, and listening intently one hears the general burr of wings converging in the direction he has taken.

As regards partridges roosting in a bunch, it may be added that this habit is peculiar to cold, snowy snaps, when a covey comprising fourteen or fifteen birds might sometimes be covered with a kitchen tray, huddling closely together for warmth.

Partridges feed in the early morning and in the afternoon, and when in pursuit of them it is a great advantage to possess some knowledge of the country, and of the habits of the birds. Their choice of surroundings during the various hours of the day depends a good deal on the nature of the country and upon the immediate weather conditions. At midday, during hot weather, I have known all the birds to be in the roots and potato fields, which afforded them shelter from the sun. Also at such times I have shot them at woodland edges, or even deep in the woods, where one most expected to find woodcock. It is a good plan on discovering a place at which the birds sun and dust themselves to make a mental note of it, for, if it can be secretly approached, one is very likely to find the birds there during the heat of the day. The most usually adopted plan, however, is to walk up the stubble and other feeding ground during the early

morning, then follow the birds into the roots as the day advances.

Partridges are most wild and restless during the evening, particularly if the coveys have been split up during the day. This applies specially in the shooting season, when, perhaps, as evening settles, the leader of the covey finds that two or three of his fold are missing, whereupon the birds are to be seen flying restlessly from field to field, calling and listening. On such occasions I have observed a covey to split in two, one parent going in one direction, followed by some of the chicks, and the other going in the opposite direction, all the birds in a much agitated state. Should they find the stray, they foregather almost immediately at their roosting place, but if darkness finds the family still incomplete, the birds are to be heard flying and calling till long after dark.

Theoretically a covey consists of the two parent birds and their chicks of that year, but the partridges of a given area all seem to be on good terms with one another, and very often two or three families will temporarily or permanently unite. A covey which becomes reduced in numbers, or which is small to begin with, will thus unite with another covey, the two families living together, and, so far as one can judge, in perfect harmony. This, of course, explains the exceptionally large coveys one sometimes comes across, a family of five or six having joined forces with one already numbering twelve or more.

Invariably one of the adult male birds is elected leader of the covey. His duties are separate and distinct from those of the mother or mothers of the clan, and it is a curious fact that while among birds the leader is invariably a male, the reverse applies in wild animal life. It is an old she rabbit that heads the movements of the colony, and whom the rest follows, and the same condition rules

among sheep and deer. A stag may lead the herd when great boldness is needed, but an old hind sets the routine of the day. Similarly among wild sheep, an old ewe is invariably at the head of the clan; it is she who leads them from range to range, and at a certain season, when her followers fall sick and know not which way to turn, the old ewe, with years of experience behind her, leads them into some distant range—perhaps to the seashore, where the salt they so sorely need can be had for the taking.

Anyone who has watched partridges feeding will have observed the parts played by the hen birds and the cocks respectively. The hen bird is in the midst of her brood, helping them to find food and calling them about her on the discovery of it, much like a domestic hen with her chicks, while the old cock of the covey hangs about in the offing. He is not difficult to locate, for the reason that every few seconds up goes his head, as he keeps an alert look-out for danger. His vigilance never relaxes. When danger is seen he remains upright, whereupon the hen bird will be observed to crouch slightly, the chicks following her example. Should the danger draw nearer the male bird begins to move off a little distance, while the hen and her chicks (possibly full grown by now) simply fade into the brown level of the landscape. Eventually the cock may rise into the air some little distance from the covey, which remains squatting, and fly straight away unaccompanied, the idea being, evidently, to attract attention to himself, to invite pursuit, while the hen and her chicks make off in the opposite direction.

When the covey is surprised the male bird is the first to rise, calling to the others, and thus, as a rule, he is the first to fall.

Anent the statement already made that a covey will sometimes split up in order to search for its missing

members, this may be accounted for by there being two families present, each with its own interests at heart.

From the foregoing the question arises : can partridges count ? It is very certain that they know immediately one of their number is missing, searching and calling until it is found or until hope dies, but it may be that they arrive at the knowledge not so much by counting those present as by noticing the absence of the one or more who have failed to put in an appearance.

Most sportsmen have had opportunities of observing the devotion of the parent birds early in the shooting season. I have seen a covey rise and fly off, leaving one or two of its members lying in the stubble for the dogs to retrieve. Two or three hundred yards away one of the parent birds has seemed suddenly to realize what has happened, and detaching itself from the covey I have seen it come straight back, as though wounded, towards the line of waiting guns, and turn again on seeing the dead birds, as though now satisfied that they could not follow.

At all times of the year partridges are much given to calling at sundown, covey answering covey in a spirit of " here I am, where are you ? " The habit is almost analogous to that of the coyote with his twilight song, coyote answering coyote from range to range throughout the jackal universe, till the whole coyote nation, as it were, is drawn together by one vast fabric of wireless intercourse. It is one of nature's methods of taking the census, by which each creature or each clan is kept advised as to the whereabouts of its neighbours. Other creatures have other ways ; the hares have their scent glands, united with a marvellously keen sense of smell ; the wolves have their calling posts, the bears and the badgers their scratching logs, the beavers their castor signs, the weasels their musking places. Indeed it is probable that all wild creatures have their special and adequate methods

of keeping in touch with their neighbours, though we know of comparatively few.

The courtship of the partridge is considered ideal among wild birds, and can be witnessed by any observer amidst suitable conditions in the month of February. The newly-mated birds may be seen sitting close together, often so close that their shoulders are touching, and at intervals one will rub its head caressingly against the other. The cock bird feeds the hen and pets her, and very often she assumes a pettish, indifferent air which is very amusing to watch.

It is, of course, well known that the hen bird hides her eggs with grass or leaves when she leaves the nest until the surrounding herbage is sufficiently grown to render this precaution no longer necessary, and, therefore, when searching for a suspected nest one needs to exercise much caution as to where one puts one's feet, as the nest with its contents exactly resembles the surrounding ground. It is a good plan, indeed, to keep right away from the place at which birds are thought to be nesting, as calamity of some kind invariably follows human interference.

The cock bird assists in incubating the eggs, as I have recognized him by his distinct "horse-shoe," but he does not sit so closely as the hen bird. Charles St. John gives an illustration of the fidelity of the partridge mother: One day his retriever lifted a hen bird from her eggs and carried her gently to its master's feet. It is a generous provision of nature, however, that the brooding mothers of the wild, those at any rate that nest on the ground, give very little scent during this vital period of their lives.

The parent partridges are both devoted to their young, and considering the many enemies that these birds have, it is rather remarkable that they hold their own so well. The eggs are much sought after by ground hunting

animals and by predatory birds; often the nests are swamped, while again a good many eggs are addled owing to the tunnelling of mice and moles under the nest. The eggs then fall through, becoming partially or entirely buried, and, of course, such eggs never come to anything.

The chicks, when finally they arrive, are subject to many ailments, besides having numerous bird and animal foes. The parents will fight gallantly for them should they be attacked by stoat or weasel, and a farm labourer with whom I am acquainted witnessed such a combat, which he described as lasting some minutes. Interfering eventually the weasel bounded off, and he found the ground covered with feathers and two or three dead chicks lying among the mêlée. So absorbed were the two birds in the deadly combat that he "almost caught them in his hands."

I remember one terrific hailstorm in Norfolk which killed not only hundreds of chicks but scores of parent birds crouching in the open with their chicks sheltered beneath them.

In localities where the ground is of clay formation the partridge chicks have yet another foe, and a very deadly one during a rainy season. The clay, forming into pellets, sticks to their toes and feathers, and accumulates till they are weighed down by it and unable to follow their parents. A good many partridges, old and young, are killed by flying into telegraph wires, and a railway man told me that he obtained many a Sunday's dinner by picking up birds that had thus fallen—together with an occasional hare, or part of a hare, that had tried to race a train. For this reason it has often been set forth that the partridge is either deficient in intellect or possessed of poor eyesight, neither of which theories strike one as very convincing. The partridge is certainly

not lacking in intellect—or if so, our remaining game birds are still more lacking. In wild nature the highest kind of intelligence is indicated by the observance of the rules of matrimonial decency and the affection of the male parent for the young, as regards which the partridge stands well up on the scale of intellect. The most moral of wild animals, that is the most monogamous, are invariably the cleverest, as witness the wolf, the fox, and the roe deer ; whereas polygamy indicates low morality, which is low intellectuality—the rabbit, the hare, and the red and the fallow deer, which latter, compared with the roe, are fools. No one who has studied the partridge can faithfully describe it as a foolish bird, and we need to remember that when first telegraph wires came into use the partridges were killed in such numbers that it was feared the species would eventually die out. They have since become wise—that is, they have kept abreast of the times, and the explanation doubtless is that the flight of the partridge and the altitude it normally chooses are such that the telegraph wires constitute a much greater danger to it than to most other fast flying birds.

When I was living by Loch Ken, a roadman assured me that one dead still day he saw a covey of partridges alight on the surface of the loch, at least two hundred yards from the shore, evidently mistaking the water for a green field. Only one of the birds saw the mistake in time, but the observer could not make out, owing to the glare on the water, whether the birds that alighted managed to rise. I think that in all probability they would succeed in doing so, as during a forest fire in Canada I, on one occasion, saw numbers of “ partridges ” dive into the river, much as ptarmigan dive into a snow drift.

It is a pity that the partridge season opens so early, as during the first week or two, especially if the season be late, there is a large number of birds still so weak on

the wing that they fall to the most indifferent shot, and some men seem quite incapable of discriminating between old birds and young.

Like the pheasant, the red-legged or French or Guernsey partridge is a naturalized bird of comparatively recent date. An effort was first made to establish it during the reign of Charles II, but so far as one can ascertain this first endeavour met with little success, and it was not until about one hundred and fifty years ago that the French partridge really took root.

In character, colour, and choice of environment it is an entirely different bird from the brown partridge. It is less vociferous, but its call-note is more musical. As a sporting bird it is not equal to the common partridge, nor is it considered such a good table bird.

The term "run like a Frenchman" is very commonly heard, but the sportsman might be forgiven for questioning whether it has anything to do with Waterloo. Is it purely a sporting term, for which the French partridge is responsible? These birds, on perceiving the approach of danger, are not given to crouching, as is the common partridge, but if possible they will run for cover and remain there. I have even seen them running ahead of the sportsman within easy range, and when one is wounded it often requires quite a speedy dog to overtake it. Should a wounded bird get away and hide, it is sometimes exceedingly difficult to find, causing considerable delay, and I remember on such an occasion, while all were searching for the wounded bird, one old retriever eventually came to the set, his nose against a chink in a low stone bridge across a stream in the centre of the meadow!

"The old fool has found a rabbit," observed one of the party, at which the dog, still rigidly pointing, became the centre of amusement; but its owner, in the interim,

began diligently to pull the bridge to bits, and eventually he unearthed—the Frenchman! The laugh was then on the side of the dog's owner, and I give the anecdote as illustrating one essential difference between the character of the French partridge and that of the brown. A wounded French partridge will run like a hare, and eventually hide itself so securely that it may be impossible to recover it.

The chief recommendation of the French partridge is its very beautiful colouring. It is not so much a bird of the homesteads and the fallow fields as is its congener, but loves high, dry country, where crops are few and where such cover as dense gorse is abundant. In disposition it is a wild bird, preferring wilder surroundings than those among which the brown partridge is found at its best.

While the capercaillie is the largest, the quail is the smallest of gallinaceous birds, and it has repeatedly been stated that the quail is the only one of our game birds which finds a place in the Bible. This, however, is incorrect, as the partridge is mentioned in the first Book of Samuel, chap. 26, verse 20, and in Jeremiah, chap. 17, verse 11. I have never shot quail, but from what I have heard from those who have, the birds afford very indifferent sport, being given to running and to short flights. Indeed, like most northerners, I have never seen a live wild quail, though when touring in Wales I have heard the birds calling, day and night, shortly after their arrival at these shores.

The quail is, of course, a migrant, and it strikes one unacquainted with it as very strange that a bird which belongs so essentially to the earth should take upon itself such gigantic trans-continental journeys as to be distributed equally over Europe, Asia, and Africa, a process which has entailed the crossing of great waters

and vast wastes of desert. During these migrations, which are led by the male birds, tens of thousands are killed in various parts of the world, for in some regions they arrive like swarms of locusts. The bird is less monogamous than the partridge.

BIRDS OF THE GRAVEL MARGINS

CHAPTER X

BIRDS OF THE GRAVEL MARGINS

(DIPPER AND SANDPIPER)

THE dipper is a favourite among all those who are familiar with its habitat and its habits. Best known to the angler, beloved of all who find relaxation by the water's edge, the dipper arrests the attention by its rapid flight and shrill, metallic note as it darts from one end to the other of its home reach. It is characteristic of this bird that it seldom leaves the water and flies overland unless attacked by another dipper. Each bird or pair of birds has its own stretch of water, and any other dipper, passing over that stretch, is at once attacked by the rightful owners. To avoid actual conflict the assailed generally swerves upwards in its flight, and thereby manages to dodge its aggressor, but should the latter prove equal to the ruse the assailed mounts still higher and makes for the bank. Immediately it is over the land, it is evidently on common property, and is allowed to pursue its way unmolested. Like the water voles that share their habitat, dippers are very conservative and very much of a stay-at-home disposition. It is, of course, hard to identify individuals, but the following are my impressions as regards the home life of this bird.

A pair take up their quarters and build their nest. They breed early, and for a matter of fifty yards or so above and below their nest they regard the stream strictly as their own, savagely pursuing any other dipper that trespasses thereon. If a neighbour insists on tres-

passing, this pursuit is backed with the utmost energy. They may follow the trespasser a hundred yards or more, both screaming shrilly, and performing flashing banks and manœuvres, till, at a given point, the pursuer turns leisurely homewards—often to be attacked by another neighbour, possibly the first offender's wife. Thus, during the early part of the nesting season, when the male birds are on sentry go, their pursuits of one another backed by their shrill notes are familiar scenes and sounds to all who know the stream and its inhabitants.

Though unknown on many English rivers, it cannot be said that the dipper population is unevenly distributed. In Scotland and the North of England it is one of the best known of waterside birds, and anywhere that clear running water exists, it seems to be entirely at home. I have found them living at great altitudes the year through—managing to wring a living from some tiny stream, very often fouled with moss-water owing to its great height, and so high up, indeed, that the rattle-like croak of the ptarmigan is practically the only familiar sound amidst their mist-ridden surroundings. Yet here, as elsewhere, the dipper is the same merry little soul that we know by the sunnier waters where beech and oak vie with one another along the slopes.

It was only comparatively recently that man realized anything at all of what Nature has practiced for countless ages in the art of camouflage. The nature books tell us that the dipper is best known "by his conspicuous white front." Conspicuous? No. Could anything be less conspicuous? A dipper, seated amidst his natural surroundings, is almost or completely invisible owing to that white front of his. If one sees the front at all, one sees nothing but the front. The rest of the bird is invisible against the dark background. If he is against a white background, one sees only his dark markings, and the



[Kocherham,

THE DIPPER.
Among the most cheerful of the angler's friends. See p. 167.

Photo by R. Chislett]



Photo by S. Crook]

[*Preston.*

COMMON SANDPIPER

Going on to nest. *See p. 173.*

white front is invisible, and whether it be only his white front or only his "black" back that one sees, neither by itself bears any resemblance to a bird. So his colouring breaks his outline, and his invisibility lies in his "conspicuous" markings.

A blackbird amidst the surroundings of a dipper is highly conspicuous, yet this little bird of the waterways, seated among his native pebbles, is invisible till he bobs. The habit of bobbing is very curious, and almost peculiar to birds of the water's edge—the sandpiper, the wag-tails, and the dipper affording the three most striking examples. Why do they bob and waggle as they do? It strikes me as being an infectious habit, that possibly they have caught from one another, but there must be some very good reason for it. Is it that thereby they disturb and render visible the insect life on which they feed so largely? I hardly think so, as the dipper at any rate depends chiefly on aquatic larvæ. It may be that they are so well camouflaged that this waggling is necessary in order to enable them to find each other as they pass hither and thither in their rapid flight. At all events I have repeatedly noticed that the appearance of a second dipper or of a second sandpiper immediately has the effect of making the one seated at the water's edge begin to bob or waggle, as though to attract notice.

The dipper rejoices in a vast variety of chosen haunts, but clear and shallow water is best beloved by it. Numbers of them bred in a deep gully near to the home of my boyhood. The mountain stream was scarcely eighteen feet in width, and for a matter of two miles it wound its course through a deep gully which cut the range clean in two. The depth of the cutting varied from eighty feet to two hundred—a vault-like, dripping corridor, cool as a cellar even in midsummer, fragrant with the spray of

many waterfalls, and with the prolific growths of hearts-tongue ferns and rock plants that festooned every shelf. If one did not mind climbing and getting wet, one could traverse the entire length of the cutting, and many a happy day have I spent in its gloomy depths, studying the habits of the wild birds and the otters for which it formed a natural sanctuary. The nests of the dippers were, I say, very numerous, though usually they were placed just out of reach. I remember how eerily the shrill call-notes of the old birds used to echo along the passageway.

Many young birds require little training from their parents. They take naturally to the habits on which they depend in later life, but the parent dippers may often be seen teaching their children how to find their food, flying with them from rock to rock, encouraging and calling; and these little family gatherings are very pretty to watch. The young birds leave the nest early, full of all the joy of life, and young and old together seem so much to rejoice in each other's company, and to have so much to do, that there is no time left in their happy lives for fear and care.

Truly the dipper is an inspiration, for like the true jester it finds mirth in its own merriment when all the world is dull. Not long ago, one dripping autumn evening, I paused at a small stream in order to look down from the bridge and see whether the salmon had returned to their favourite resting places. But it was so dark and dim that I could not see below the surface. The very trees were drooping, and the cold drip-drip-drip from their branches seemed the utterance of their misery. Cat ice hung about the rocks, and there was no sound in all the land save the metallic murmur of the stream.

But presently I heard a song—a rollicking, heedless little song, like that of a tipsy skylark, and there, seated on a boulder below me, I saw him. He was warbling

just for the fun of being alive, when even the chickadees in the pine grove had sought the sheltered nooks, and as I watched him he tumbled head over heels from the boulder and into the stream, to reappear two yards away, mount another rock, and there sing again. Sunshine or storm, snow, hail, or gale, who has ever seen a dipper otherwise than falling over itself for the joy of being alive? Other birds may droop their wings and fall silent, but the dipper sings on, as though hunger were unknown to him, and mortal foes played no part in his existence.

Yet the dipper has as many foes as any other bird, though owing to its aquatic habits it is well able to evade them. I once saw a peregrine stoop at a blackcock near to the River Lyon. A dipper happened to be passing at the moment, and as the peregrine stooped, the dipper, though really in no danger, dropped like a stone into the water, nor did I see him again. I have no doubt that he rose eventually under the willows that overhung the stream at one side near to that point.

Herein, possibly, lies the reason why dippers, travelling from point to point, always fly directly over the water, following every turn of the stream. They are essentially water birds, and the stream affords them the shelter that other birds find in the nooks and the thickets. I have seen old dippers, accompanying their heedless chicks, work themselves into a great state of agitation on the passing of a bird of prey, and one could not help thinking that the show was necessary for the sake of teaching the chicks the meaning of fear, rather than because they were in danger. Young dippers, just able to fly are very fearless. When fishing I have had them come quite near to me, pursuing their affairs in the most unembarrassed manner a yard or two away, and one could not help regretting that such goodwill towards

man, even among the most lovable of our wild kindred, is necessarily peculiar to their unsophisticated youth!

But it cannot be otherwise. Not long ago I fell foul of a fishing competition, and I saw one of the competitors strike at a dipper with his rod as it flew past him. I asked him what good it would have done him if he had killed the bird, and he replied that he would have "had it stuffed." But for a well-founded realization that in the unity of labour lies its strength, I might have tried the experiment of consigning this gentleman, who evidently preferred a mummy to a living thing, to the element from which he and his companions were hoisting salmon par and infant trout for the glory of winning the "sporting honours" of the day!

Those who are familiar with the environment of the dipper know the sandpiper equally well. Both of them are generally beloved companions of the followers of the Gentle Art. One must live for a while in a birdless land in order to understand how much birds add to their given surroundings. In such a land one is at first merely subtly aware that something is missing—sadly missing. Then after a while, comes the realization—"There are no birds!"—and thereafter, even though one may not consider oneself a bird lover, there is a sense of a very real longing for their call-notes and the sight of their bright forms.

I have lived in birdless lands. I know what the snow buntings are to the North, which has its bitter pinch even though they are present in their thousands. Once within my experience a great white owl settled on the trail ahead of our dogs, and even *its* sinister presence was welcome, since for weeks we had seen no birds, though the Indians who accompanied us declared the appearance of the great bird of prey to be a bad omen.

For myself I know that the dippers, the sandpipers,

and the wagtails have no little to do with the charm of the rivers and burns whose margins they frequent. The sandpiper does not hold an honoured place among the best beloved birds of mankind for the reason that so few are in intimate touch with it, but in character and disposition it is one of the most lovable of wild birds. Though in a sense wild as the March wind, it has no great distrust of man, and very soon a pair of these birds will come to know certain individuals when their guileless trust cannot help but win one's affections. Two of them nested one year in a strawberry bed at the bottom of my garden, and so tame did they become that the hen bird almost permitted me to stroke her while she was on her nest. So long as she thought me occupied, she would quietly sit her eggs while I worked within a yard or two, looking about her with her bright eyes, and occasionally pecking at an insect that settled near. Clearly she knew that I and my household would do her no harm, and if compelled to leave her nest, as she often was, she would merely run a few yards, and stand there waiting. Perhaps her mate would call to her, and together they would fly far out across the loch on trembling wings, apparently just for the joy of being together, but when the hen bird thought it time to return she would come back to her eggs and quietly take her place, even though she knew human beings were watching. Season after season I have watched the nesting of the sandpipers, and always I have been impressed by their devotion, as by their trusting and gentle ways. So far as I can judge the parent birds share equally the task of incubation. While one sits the other watches, ever ready with an alarm. On the approach of danger the watching bird works itself into a state of frenzied agitation ere the other deems it time to leave the eggs. In photographing the birds, one very soon learns that the male is much more timid than

the female. He leaves the eggs immediately the shutter clicks, whereas the female, on hearing it, merely looks about her, then seems at once to forget.

In bird and animal photography it is particularly noticeable that it is the strange that frightens. If one can tune one's shutter so that its release merely resembles the cracking of a twig, the wild subject is not much alarmed, but the click of steel, or the sound of a blind winding on a drum—sounds entirely unknown in the wilderness—cause instantaneous alarm, which is not at once forgotten. My experience is that it is not so much a matter of having a *silent* shutter as it is of having a shutter which makes such noise as it has to make after the exposure, and providing it is the right kind of noise the actual volume of sound does not matter much.

The sandpipers are the elected sentries of their environment, just as are the curlews and the redshanks in their different sphere, and I have specially noticed that these birds are abnormally restless on still, thundery nights. Whether it is that the weather has a direct effect upon the birds themselves, or whether it is that on such quiet nights they are more conscious of ominous sounds in their surroundings, it is hard to say. On certain still nights in June, however, the sandpipers are never still. Flying, alighting, calling, calling, their shrill notes haunt one's ears, and one knows that their chicks are just hatched, and that both parents are wild with anxiety lest some harm befall them.

SABLE PIRATES

CHAPTER XI

SABLE PIRATES

(RAVEN, CARRION CROW, HOODED CROW)

THE *Family Corvidea*, with *Corvus Corax* at the head of it, is perhaps most remarkable for an almost uncanny cunning and for a cruelty and independence of character which, coupled with darkness of plumage and a death-like sepulchral note, have resulted in many evil superstitions being associated with them. Following these superstitions came an era of enlightenment when the exponent of fiction stepped into the field, and at any rate attained something by establishing a more sympathetic feeling in the minds of the public. The crow family is a large one, but in the following I intend to deal only with the raven and his two immediate followers, the carrion and the hooded crows.

To anyone who has studied these birds, they stand out as symbols of alert and very much alive watchfulness, rather than, as popular superstition once had it, of death; though why harshness of sound and darkness of shade should so often be taken as the appropriate signs of death, it is hard to understand. Surely whiteness and light would be more in line with the age in which we live. Thus we might see our funerals going their way led by little maids with rosebuds in their hair, signifying the dawning of the new rather than a sombre ending, and how such a sight would relieve those whose morbid dreads are so often centred on that last procession!

But to proceed—as described in the chapter dealing

with the golden eagle, not very long ago I was shooting in the Perthshire Highlands when I noticed a constant stream of grouse flying down a corrie and distributing themselves over the mountain face below. This general move was somewhat mystifying till a little while later an eagle appeared, working leisurely down the glen. Here, then, was the cause of the disturbance. The grouse simply forsook the vicinity, the mountain hares crept under the peat banks, and silence fell upon the moor save for the persistent croaking of a raven somewhere near. Presently I saw the bird, strutting heedlessly about a flat-topped boulder some distance from me, and entirely indifferent to the passing of the king of the upper air.

On another occasion an eagle swooped round a shoulder of the mountain quite near to myself and the stalker, scattering the grouse like chaff, and a raven, seated by a pool of water, found himself between us and the eagle. He crouched, in the act of rising, but seemed to think better of it, waiting until the eagle had passed before he took flight. On both these occasions, be it noted, the raven did not actually rise into the air while the eagle was there, so there may be a tacit understanding that this simple token of respect is all that is demanded from *corvus corax*.

The formidable bill of the raven is doubtless responsible for the cool fearlessness of character which distinguishes this black-coated ruffian as one so much apart, and unless one has witnessed the enormous hammering powers of that sable bill it is hard to conceive that so light a weapon could attain such astounding results. Some years ago I noticed by a small creek in British Columbia a number of freshwater mussel shells lying in the shallow water. I took one out and tried to break into it with the point of my knife, but the shell was so hard that, in consideration for the knife, I abandoned the attack. Even when



Photo by R. B. Lodge

RAVEN,

[Enfield.

Head of the crow family, and though by far the most powerful, by no means the most destructive. See p. 177.



Photo by B. Hanley

[Selby.]

TURTLE-DOVE.

See p. 200.

hammered with a heavy stone the shell refused to yield until considerable force had been applied, and I concluded that the mussels must have been many years older than I was—indeed, they looked it!

Determined to identify the assailant, I visited the creek several times, and drawing near one day I heard a sound reminiscent of the wayside stone-breaker back in the Old Country. As I peered over the shelf a raven immediately rose from the rocks, and I found, on climbing down to the point from which he had flown, a large mussel, the shell of which was already ruptured.

An adage among stone-breakers is to the effect that it is not so much the weight of the blow as the skill with which it is applied that splits the rock, and indeed a feeble and consumptive old man may break more stones in a day than the burliest navy that ever lived—a condition of things which doubtless applies in the case of the raven.

One of the few measures we have whereby the intelligence of our wild creatures can be gauged is the extent to which they profit by previous experience. Take for example the storage habit. This exists to a greater or less degree in all our most intelligent birds and beasts. They have learnt by hard experience that periods of scarcity are inevitable, and the reasoning powers whereby they have arrived at the fact that suffering during such times can be alleviated by laying aside during a time of plenty, is of no mean order. The act of storing food is premeditated; it may have become an inherited habit, but if such reasoning powers were possessed by the species ages ago, we may argue that the present members of the race at least possess equal powers. Probably they have improved as the conditions of life have become more and more difficult.

To what extent wild ravens resort to storing food I cannot say. I have come across numerous examples of

the storage habit in wild rooks and jackdaws, and from my studies of tame ravens I should say that they share the habit to the same or a greater degree. A friend of mine possessed a tame raven, which was regularly given free run of the grounds. One day we were making a trivial adjustment to a motor-car with the garage door open when the raven, its presence hitherto unnoticed, took three ungainly hops and snatched up a little plated spanner from almost under my hand. The chase that followed through the shrubberies was hot and long, several stable boys lending very able and hearty assistance, but the bird refused to drop the key, and succeeded in evading us.

A considerable time later I received the key back by post, together with a very interesting note. The raven had died, and with the removal of its old cage a vast assortment of articles had been found under the board floor, including the plated key, a cycle oilcan, a motor-car valve, etc., etc. The bird had dropped them through a crack in the floor, doubtless responding to the instincts of the storage habit, yet so thinly formed were the ideas of the poor captive creature that it had cached its treasures in such a way that they were lost to itself and everyone else! I recall a fable or a fact of a raven which deliberately dropped a gold ring into a well.

Such acts on the part of captive ravens, jackdaws, magpies, and the like are generally consigned to the category of deliberate mischief, but it is far more reasonable to suppose that they are the evidence of a habit which, in a wild state, plays some important part in the welfare of the species. The terms "mischief" and "theft" are very loosely used when applied to the ways of wild nature, and the storage habit in birds and beasts often shows itself in the most peculiar ways, so far removed from the actual storing of food as to seem to have little

bearing upon it. Mischievousness is an entirely useless characteristic, almost peculiar to man himself. The wild creature that springs and soils a trap obtains from that act something which may prove of direct advantage to his race ; he does not do it prompted by a useless, indeed harmful, desire to annoy.

Some years ago I was once much mystified by the behaviour of a spaniel a few hours before the birth of her puppies. She kept scratching vigorously at the floor of her kennel, and seemed restless and ill at ease. At length I liberated her, at which she at once produced a large bone from her bed and promptly buried it close to her kennel. This struck me as a remarkable example of the storage habit—or rather of inherited habit in the case of an animal in the conditions of whose life the storing of food no longer played a useful part—the instinctive laying aside of a store against a time of possible sickness and scarcity. And the scratching of the board floor was at least as obscure in the way of evidence as was the act of the captive raven who hid the treasured articles under the floor of his cage.

The intelligence of the crow family is further indicated by their adaptability. Some birds depend upon fishing, some upon scavenging, some upon hunting, and some upon the vegetable produce of the land. But the crows, so far as I know, are the only ones that can “turn their hands to any one of these trades,” and which regularly do so, rivalling the skilled specialist in whatever line they take up. The case of the raven feeding upon mussels is an adequate illustration. Possibly this individual raven had been educated by the sea, as distinct from the raven thousands which scavenge the prairies. In our own country every raven has the coast at its bidding, and one which I shot in Norfolk twelve or thirteen miles inland had an undigested starfish almost the size of my hand,

inside its stomach. Another I found fishing for crayfish in central Yorkshire. Mr. Tom Speedy, the well-known Scottish naturalist, states that he one day saw a pair of ravens, accompanied by their family, successfully fishing for trout which had become land-locked in a small pool. Each trout, as caught, was carried into the field, where it was torn to pieces and served out piecemeal to the young. In Canada I have known the ravens to visit the homesteads in winter and steal food from the chickens, while of their scavenging and hunting propensities a good deal has already been written. The same, of course, applies to crows. A keeper and I one day observed a raven feeding on the carcass of a dead horse. As we drew near he "vanished into the interior," and remained there till we had passed. Next day he resorted to the same trick, but trying to stalk him I at once learnt that though he himself took good care to remain unseen, he did not share the delusions of the ostrich.

Of the three, the raven, the hooded crow, and the carrion crow, I would set down the last named as the least sociable. It is seldom that more than two carrion crows are seen flying together. As a rule the two are a field or so apart, flying low, and closely watching the ground beneath them. Except during the early spring of the year, hooded crows are generally given to hunting singly. They do not scour the country to the same extent as does the carrion variety, but are more addicted to haunting a frequented range—particularly to scavenging for food along loch margins. Early in March, 1921, I watched a pair of them, in all the early enthusiasm of their courtship, strutting together about the shores of the small loch by the main road on the east side of Crianlarich, and so taking a picture did they present that it was difficult to believe that these were the least desirable of our Scottish wild birds. Their hoods were of the palest grey,

which made a very handsome contrast with the glossy black of their flight feathers and upper and lower extremities. I thought them almost as handsome as oyster catchers, which are surely the most strikingly attired of our lochside birds, while their antics of courtship—far from being ungainly and grotesque, like those of the rook—added a good deal to the general attractiveness of the picture.

Some years ago I was living in a part of the Pennines in which, that season, hooded crows were comparatively rare, and it therefore gave me much surprise when on returning from the moor one evening I found a large colony of them preparing to roost in a sheltered and hidden away little valley in the heart of the hills. There must have been close upon a hundred hoodies in the small cluster of trees, and subsequently I learnt that it was customary for the hooded crow population of the country-side to foregather at this place as darkness fell.

At the time it occurred to me as very curious that these birds, solitary at all other times, should band thus at night time—indicating as it did that each one of them belonged to a clan, in just the same way as do rooks, but some years later I discovered that ravens resort to the same practice.

Immediately the young ravens are awing, the whole family, led and guided by the parent birds, hunt together till into the next winter. Thus a small flock of ravens may be seen, representing a family, but it is seldom that two families unite unless drawn together by some common attraction. Therefore in my early days I regarded the raven as not truly sociable in disposition.

In September, 1920, I was deer stalking in the Perthshire Highlands when very heavy rains caused the flooding of several burns I should have to cross on the way home, and since it turned out a fine, mild evening I decided to

sleep for the night in a boat-house situated by one of the hill lochs. A comfortable bed of bracken was at hand, but though in every sense ready for sleep, it was rendered impossible by the sepulchral croaking of what sounded to me like thousands of ravens somewhere among the stupendous heights above. Their cries, interspersed occasionally by the savage roaring of a stag, caused one furiously to realize why, in the bygone superstitious days when the raven was far more plentiful than it is to-day, it figured in the lay mind as the bird of Death.

Next morning I mounted to the roosting place of the colony, where the signs of their frequency on the shelves indicated that great numbers of them had roosted there for some time past.

Mentioning this matter to the stalker, he informed me that since his boyhood ravens have roosted in that particular washout. Evidently the colony mounts its pickets to watch over their slumbers, for though several attempts had been made at night-time to surprise them, the raven host invariably forsook their stronghold with loud clamour of alarm ere the guns were near.

A certain venerable authority on the wild fauna of Scotland declares that the raven is as destructive as its carrion and hooded relatives, and he would gladly see it share the fate to which he so lightly recommends practically every bird of prey we have, excepting the barn owl. Unquestionably the raven does little to pay its way, and it is to-day a great deal too plentiful on many of our moors, and though it may be too rare for the bird lover in other parts, which depend upon Scotland for their raven population, yet my own experience is certainly that this bird is nothing like so destructive as carrion and hooded crows, and apparently a great many gamekeepers and shooting tenants are of the same opinion, for in these days the raven is sometimes preserved, while the other two blacklegs are universally persecuted.

The raven is not given to egg stealing to the same extent as the other two ; it depends almost entirely upon scavenging, and egg stealing being the foremost crime of the crow family, the omission is a very important one from the raven's crime sheet. At the same time it cannot be denied that these daring and powerful birds are an unholy terror to any creature that has encountered misfortune, be it sheep, deer, or game bird. A wounded deer can sometimes be located by watching the movements of the ravens, and I have seen them systematically quartering the moor for wounded grouse after a drive.

In the valley of the Dibb in Yorkshire, I came across the egg larder of a carrion crow. At this point water was continually oozing over the stream bank, so that when one walked the moisture squelched up in pools, which filled one's footprints, and the turf for several yards around was strewn with egg shells. Most of the eggs were those of the cushat, which nested abundantly in the vicinity, though there were also the eggs of golden plover, lapwing, and the common sandpiper. It is said that crows impale the egg and drain its contents while flying, a habit which the rook also shares. Fishing on the Wharfe one day I noticed something floating to earth, though there was nothing in the sky to account for it. Going up I was surprised to find that the object was the empty shell of a cushat egg, and as I was in the direct pathway of a colony of rooks, which were just then sauntering homewards, I concluded that the shell had been dropped by one of these birds. Carrion and hooded crows generally take stolen eggs to the bank of a loch or stream to devour them, it being, evidently, desirable to swill down the sticky contents of the egg with liberal doses of water.

Immediately a brood of young ravens are awing the whole family may sometimes be seen acrobating in the

heavens during fine bright days. All the *corvidea* family are given to some extent to this habit, but in the case of the ravens such manœuvres seem to be part of the education of the young. The old birds can be distinguished by their anxious and encouraging manner, the young flapping erratically in pursuit of them on rather uncertain wings, while a loud conversation is kept up the whole of the time. I have seen a raven, flying thus, come tumbling earthwards in pursuit of one of its own flight feathers, shed while manœuvring, but as the young attain their full mastery of the air, the habit is resorted to less and less. Rooks, on the other hand, like gulls, rejoice in these love flights at all seasons, and on bright frosty days in midwinter the whole colony may be seen soaring and wheeling at great altitudes.

I have no doubt that, as regards young gamebirds, ravens are every bit as destructive as crows, but the amount of harm crows do in this way is small compared with their destructiveness as egg thieves. Grouse can fly very early in their existence, and the crow peril ceases to exist for them immediately they can evade destruction by flight. The newly-hatched chick may be swallowed whole, but they immediately outgrow this stage, so that only for a few days of their existence are the black-coated scavengers a peril to be reckoned with. The harm that crows and ravens do on the grouse moors at this season is, moreover, very much reduced by reason of the fact that an abundance of other foods come into season at the same time. It is now lambing time, while eggs of all kinds are abundant, with the result that crows and ravens are to be seen frequenting the low-lying country to a much greater extent than early in the grouse nesting season.

Of the three, the hooded crow is doubtless the most destructive, the carrion crow runs him a very hot second,

and the raven, it is generally admitted, comes a long way behind the magpie, the jay, and in many localities even the rook.

All these birds mate for life, and each spring brings a glorious reunion. They may have suffered the hardships of winter together, between them the loyalty of lifelong partnership, uninfluenced by sexual interest, but, as in the case of the partridge, they meet as it were as new acquaintances in March, and with a passion as burning as that of those who live together only for the brief period of the Love Moon. It is said that the raven lives to a great age.

That the love of the mated couples for one another does not die even during those seasons when it is devoid of all mating interest, seems to be proved by the fact that when one is in difficulties the other will return in the face of danger time and again to feed it. This, a sense of affection outside the breeding season, is the loftiest proof of brute intelligence that we have, and among birds it realizes its zenith in the crow family.

The above applies to the raven and the carrion crow, but I am not sure of the hooded variety. He is a sly dog, and I have an inkling that he is a gay dog also. As a rule he is solitary, except at roosting times. Flocks of grey crows may be seen where they are abundant, but such gatherings are rare in the parts of England and Scotland with which I am most familiar. A large number of our grey crows are chance migrants, and this fact, together with their solitude of disposition, renders it very difficult to arrive at any definite conclusion as regards their mating habits.

FIR WOOD AND FARM LAND

CHAPTER XII

FIR WOOD AND FARM LAND

(RING DOVE, STOCK DOVE, ROCK DOVE, TURTLE DOVE)

AMONG the largest of our familiar wild birds, the cushat or woodpigeon is familiar to most people by the note of its courtship, which so delights the ear of the listener in our woodland groves, while to the farmer it is best known on account of its amazing appetite.

To anyone who studies bird life it is very clear that the most prosperous birds are those which are most energetic and adaptable as regards their food supplies. In the wild, to live well is to prosper. Not that those species which have difficulty in finding their food actually die of starvation in any numbers, for I believe that few birds in this country meet their fate in that way, but the birds which can turn from one food to another in accordance with the seasons, retiring to roost each night well fed and in plump condition, are far more prolific than those which are often hungry. Starlings and our wild pigeons stand out as a marked example.

In wild animal life this is even more marked than in bird life. Hares, rabbits, rats and the like prosper or fail in exact accordance with their food supplies. Food is obviously nature's governor. If food is plentiful and there is an abundance for all, the number of young per family and the number of families per year may increase by a hundred per cent. Let us presume that a certain animal normally gives birth to four young per litter and breeds twice per year. There comes a season of food

abundance, and in immediate response a period of increase in that species at once takes place. Instead of four young per litter, eight or even nine are born, and instead of producing only two litters during the season, there are three or even four. In bird life, reference has already been made to the increased fecundity of certain species of owls during the vole plagues which now and then take place.

At all seasons the cushat is very well able to take care of itself as regards food supplies, and to this fact it no doubt owes its great prosperity all over the kingdom. Game preserving, timber planting and the general increase in agriculture are all circumstances in its favour, while its great prosperity would, of course, have been impossible but for its wariness and never-relaxing vigilance. In addition to which it is a strong-flying bird.

When I was a boy at school at Oakham I remember one autumn term there occurred some sort of a pestilence among the ring doves in Rutlandshire. We were at first of the opinion that the farmers or someone had been putting down poison for the birds, but later it became evident that the effects were too widespread to arise from individual effort. Repeatedly we found woodpigeons sitting out in the open, their feathers puffed out, the birds apparently sleeping, for they could quite easily be approached and caught. On touching one of these birds, its feathers came out in handfull, though as far as I can recollect there was no outward and visible sign of the malady. This is the only case of more or less wholesale epidemic I have come across in the ring dove, though possibly maladies of the kind are frequent.

The ring dove is, of course, a very excellent table bird providing it is killed fairly young. Old birds are apt to be tough and bitter, and are fit only for making broth. I have tried many times to rear woodpigeons in

captivity in the hope of eventually establishing a breed of table bird midway between the wild ring dove and the domestic pigeons, but such efforts have not yet met with success. The young birds are quite easy to rear, but they never lose their wild distrust of man, and on gaining their liberty when adult at once return to a wild state. Moreover I have been unable to induce a ring dove to mate with a domestic bird. The methods of courtship of the two are so entirely different that both birds seem to prefer to remain single rather than mate with such an idiotic companion. This is rather curious since in a wild state ring doves are anything but unsociable where domestic pigeons are concerned, and may often be seen feeding with them. If the young ring doves are liberated in a loft containing adult domestic pigeons, the male birds of the latter order are very likely to kill them. I have no doubt that the experiment carried out with the wild stock dove would prove entirely satisfactory, but since superiority of size in the wild bird is the chief feature which recommends the experiment, it is hardly worth while except in the case of the ring dove.

A very heartless method of obtaining a pigeon pie gratis is not uncommonly practised by labourers in country districts. When the young are half grown they are secured by the feet to the nest, and so are left as prisoners for the old birds to feed till they are of sufficient size, and, of course, properly fattened for the pot. I have had as many as a dozen nests under observation at the same time, but could never bring myself to attempt this unsporting method. I should have thought it would have been as effective to clip one wing of the young birds—that is, if the nest were so located that the birds, though unable to fly, could not escape by passing from tree to tree. If one wants pigeons for food, however, there is usually no difficulty in obtaining permission from the

farmers to shoot them, and cushat shooting is very excellent sport, for it exercises one's quickness of observation and one's skill in the art of woodcraft as much as any other shooting I know.

To stalk woodpigeons feeding in the fields is generally impossible, for like starlings they post "look-outs" to keep watch. One has to adopt methods in accordance with the immediate conditions, and as a rule there is plenty of scope for exercising one's ingenuity. If one can find out where they go to roost, a few birds may be obtained by hiding in waiting for them, but they soon become very wary, and it does not take more than one or two scares to cause them permanently to forsake a favourite roosting place. When waiting for birds, it will be observed that immediately on alighting they look about them, keeping quite still, for a minute or so. If the sportsman so much as moves a hand while the bird is exercising this initial scrutiny, it is up and away ere he can possibly raise gun to shoulder. After the bird has alighted, therefore, it should be given fully a minute to settle down, and the gun should not be raised till it has lowered its head and is prepared to roost.

These hints are given because woodpigeons are a good deal too abundant in many localities, and though they do a certain amount of good late in the season by destroying harmful weeds, they are often very destructive in gardens and to crops of all kinds earlier on.

At harvest time I have often tried to shoot ring doves by hiding under a sheaf of corn in a field they habitually frequented, but never with more than moderate results. When making an ambush of this kind, the best plan is to get two companions to accompany one to the place, and having assisted in making the ambush, these two walk away. Few wild birds are able to count above two, and so long as two leave the place, they are satisfied that the

coast is clear. If only two approach, and one of the two remains, they retain a lively impression that someone is hidden, and will not venture anywhere near.

Bought decoys are often effective, but they are too expensive to purchase for occasional chance sport. The best decoy is made by making use of a bird already shot. Place it in the most life-like position possible, its head propped up with a forked stick, and the dead bird must be head on to the wind, otherwise its feathers will become ruffled, and no living bird will go near it. It will merely serve, indeed, to scare them away. One should always be prepared for a snap shot. Evening and early morning are the best times for pigeon shooting.

Twelve years or so ago we used to kill a good many of these birds by placing the dead decoy with wings outspread on the ground, preferably at a wood corner and near to a high hedge. This method afforded nothing but sporting wing shots, as the other birds, unable to understand the strange attitude of the bird on the ground, would fly high over it, and gaining a point almost directly above they would dip in their flight, descending almost to earth, then rise again almost vertically. Thus one obtained fine descending or rocketing shots, but I imagine that the pigeons of to-day would prove too sophisticated for such a method in most parts of England. It is advisable always to use fairly large shot for woodpigeons, as they are capable of carrying an astounding quantity of lead—or rather, their strong, stiff feathers are likely to prevent small shot from having a deadly effect.

An examination of the contents of the crops of wood-pigeons shot late in the evening often produces surprising results. Like all wild doves, the bird appears to be entirely vegetarian. I have watched one looking most curiously at an insect which, one would have thought, would have been accepted as a dainty morsel, but instead the pigeon

sidled away with a ludicrous air of suspicion. I have found these birds gorged with acorns the size of the end of a man's thumb—so large, indeed, that an ordinary domestic fowl could not have swallowed them, and on another occasion my brother and I shot several pigeons which were gorged to the limits of repletion on elderberries. On picking up the dead birds they disgorged such an alarming quantity of the purple pulp that we left them in disgust.

Woodpigeons are pleasant birds to have under close observation, as their home life is almost as ideal as that of the partridge. It is very strange that these birds, so shy and suspicious by nature when amid rural surroundings should have attached themselves to the parks of London as they have, living their lives amidst the rumble of traffic and the tread of human feet, and pursuing their daily affairs much as do the thousands of domestic pigeons of our Metropolis. Their soft note of courtship is a very welcome sound, so fragrantly reminiscent of the country, when, during a busy day in town, one's steps lead for an interval from the hot and crowded pavements into the welcome shade of green surroundings.

In winter, thousands of ring doves migrate from the Continent to this country, and one sometimes sees the most amazing packs of them flying across country or alighting together. Travelling through Dorsetshire by road a few years ago I was amazed to see flock after flock of such size that one marvelled as to how they all obtained food. Evidently they had recently arrived from overseas, and one presumes that the great packs duly split up into smaller packs. I have seen great numbers flying together in the Lowlands, but nothing to compare with the Dorsetshire packs. In the Highlands these birds are comparatively few and far between. From my own observations, I should say they are more numerous

in Kirkcudbrightshire and Wigtownshire than elsewhere in Scotland.

The flight of the woodpigeon is powerful and swift, and I have more than once mistaken a peregrine for one of these birds. Shooting recently in Perthshire I was waiting at a wood end when a peregrine flew over my head within easy range. Mistaking the bird for a ring dove, I threw up my gun, but realizing the mistake at once lowered the barrels. The keeper, standing near, asked me when he came up a few minutes later: "Why didn't you shoot, sir?" On my replying: "I mistook him for a woodpigeon," the glance I received clearly indicated that it might have been a good deal more discreet, though less truthful, to have said: "I mistook him for a peregrine!" Either statement would have been quite plausible under the circumstances.

Even wild birds are apt to mistake the swoop of the ring dove, when the bird appears suddenly and unexpectedly, for that of the peregrine, and will scatter in all directions, though they immediately realize their mistake. The speed of the ring dove, especially when the bird is travelling down wind, is very deceptive, and even an experienced shot is more than apt to clip off no more than a few tail feathers, but let it be understood that the speed of the peregrine under the same conditions is infinitely greater. I remember one evening seeing one of these falcons fly down the mountain side and across the loch with a gale behind him, and the effect was absolutely meteoric. The bird did it apparently in frivolous mood in order to scare the large flocks of wild fowl out on the lake, and certainly he succeeded. He had covered the distance of a mile in a few seconds, and was right in their midst before they could even rise, yet he did not strike—possibly too close to the water. In another few seconds, ere the lubbardly wild fowl could fairly grasp

what was happening, he was across the loch and out of sight among the crags beyond. No pigeon that ever flew could attain results of this sort, and the peregrine undoubtedly holds the mastery of the air among British birds.

Any kind of well-wooded country satisfies this adaptable dove, though its favourite breeding haunts are perhaps the dense spruce plantings which cover the hillsides in many parts, and are the chosen haunts of the long-eared owl. Exploring such woods—it is helpful to carry a compass—I have learnt more about the ways and the enemies of the woodpigeon than elsewhere, and among such surroundings its chief enemies are, undoubtedly, long-eared owls, squirrels, and stoats. Stoats hunt in the timber more than most people think, and are specially given to searching for birds' nests in ivy-covered trees, which ring doves often frequent. The squirrels are undoubtedly more destructive in some localities than in others, and long-eared owls feed chiefly on the young of ring doves during spring and summer.

It is interesting and curious to observe how in some birds the protective instinct in nesting is very highly developed, while in others, excellent parents in most ways, it is hardly developed at all. Most ground breeding birds sneak secretly off their nests at the very first approach of danger, not only taking good care not to show them, but further resorting to all manner of tricks in order to lead the intruder away. Others rely on their protective colouring, and will not stir till almost stepped upon. The partridge covers its eggs on leaving its nest till the verdure is sufficiently grown to render the precaution unnecessary, while many waterfowl cover their eggs at all times when leaving them. The pigeon, on the other hand, lays her two conspicuous eggs on a platform so flimsy that they can generally be seen through the bottom

of it, and often the nest is most conspicuously situated near a public place, and so low down that one can almost lay one's hand on the eggs. Also the parent bird, on being disturbed, rushes off with a tremendous flutter of wings, which often betrays her ill-kept secret from many yards around. Again, other birds are judicious in their selection of building sites, and in the architecture of their nests. The rook selects branches with a view to security in high wind, and she builds a *deep* nest, so that nothing short of a gale of exceptional strength is likely to disturb her domestic felicity, while the wren, the hedge-sparrow, the chaffinch, the magpie, and scores of others we might name, so arrange their homes that the young are given every comfort and shelter they are likely to need. The pigeon, on the other hand, places its draughty structure so that a high gale is as likely as not to tear the whole concern to bits, or alternatively to tip eggs or young into empty space, yet this bird prospers exceedingly ! Two or three broods are reared according to the season, and if the eggs are taken the bird will go on laying an almost indefinite number.

Another peculiarity about pigeons is that they drink in gulps like mammals instead of in sips like other birds. This peculiarity no doubt arises from the manner in which the young birds are fed, their food then being gulped in liquid form—indeed it is difficult to think of any other satisfactory way in which the young of vegetarian birds, dependent on their parents during infancy, could be catered for.

Dealing briefly with other members of the family, the stock dove is in habits not far separated from the ring dove. It is, of course, smaller, being about the same size as a homer, and it is identified by the general impression of uniform blue. It loves ancient hardwood forests, and is seldom found in any abundance in localities where most of the trees are of the coniferous order.

The stock dove's selection of breeding haunts is entirely different from those of the ring dove, and since its breeding arrangements are better, since further, the factors which have so favoured one are equally in favour of the other, it is hard to understand why the ring dove has proved so much the more successful of the two.

The stock dove generally nests in a hollow tree, being especially partial to ash, though sometimes it builds down a rabbit hole, or even in the open, under a dense bush, like the fern owl. In sheltered valleys I have known it to nest very frequently in a crevice or small cave among rocks, the same situation being used year after year. It is, I consider, a better table bird than the ring dove.

Only once have I met with the rock dove inland. In my boyhood they used to breed in a closed in little valley which was a veritable bird sanctuary, the crags rising from the burn edge being very treacherous, and practically inaccessible. The burn is a tributary of the River Wharfe. The rock dove is essentially a bird of the sea crags, and though it feeds inland, it hardly comes within the scope of this book.

The turtle dove is the smallest of our British representatives, but I have had scanty opportunity of observing its ways. Visiting Sussex recently I saw a great number there, and in the evenings they made an attractive picture manœuvring in their courtships. The male birds were very amorous, and could be heard in the grounds throughout the day. They have the same vertical rise and downward dip as the ring dove, and I noticed a very strange sound which occurred when the bird was in flight—a loud sighing note, which is evidently created in some way by the wings and tail, like the drumming of the snipe. It occurs only in courtship. The little birds are much given to perching on the topmost pinnacle of fir and silver birch trees, and when one alights thus the other invariably

comes along a minute or two later, driving the first comer away and itself taking up the prominent post. They seem to beguile themselves for hours with such light-hearted scuffles, following each other from paddock to planting, from grove to garden.

The turtle dove is a migrant, arriving in England from Africa late in April. It is rare in the northern counties, and I have never seen it in Scotland.

FAMILIAR HAWKS

CHAPTER XIII

FAMILIAR HAWKS

(KESTREL, SPARROW HAWK)

IN the chapter dealing with the buzzard, I have endeavoured to show that wild birds know well the various birds of prey, and recognize at a glance which of them they need to fear. If anyone doubts this, it is only necessary to observe how very little respect small birds have for the kestrel. One seldom sees a titlark taking any liberties with a merlin, and one never sees small birds endeavouring to mob a peregrine, whereas it is the rule, rather than the exception, to see a kestrel or even a sparrow hawk accompanied by its noisy train of small fry. If, moreover, each and every one of our birds of prey were not accurately weighed up for what it is worth among its feathered kindred, how is it that small birds are so well able to recognize the cuckoo for what he is, mobbing him without fear?—for the cuckoo so closely resembles a hawk that comparatively few country people recognize them apart. It may be added that one very noticeable difference is this: a cuckoo holds its head up when it flies, looking in front of it, whereas a hawk habitually holds its head down, searching the earth below.

Not very long ago, motoring over Glenogle, I noticed an amusing incident—a kestrel seated on the telegraph wires, while on either side of him and quite close up, sat two tiny birds, no larger, indeed, than a man's thumbs. The hawk looked enormous between them, and both of

them were looking at him in the most impudent manner. As the car drew near the hawk flew off, at which the two little birds fell in mechanically behind him, as though to see him off the premises. A little further on the hawk again settled on the wires, and again the two officious atoms settled on respective sides. This was repeated three or four times, till eventually the hawk flew out of the home range of the two small birds, for we saw them returning in the direction from which they had come.

The kestrel is the little brown hawk which not uncommonly flies and alights ahead of roadfarers, making great use of the telegraph wires, or occasionally alighting, by way of variety, on a boulder of rock or on the top of a fence. When flying he is almost invisible against the fallow he so often frequents. These hawks are very partial to open roadways or to railroads and consequently are more often seen than any other birds of prey. I believe they frequent these open places because beetles are easily caught there, and because the mice, on which they mainly depend, are more visible. True that we seldom see mice on the road during the day, but the fact that *we* do not see them does not prove that they are not there. I have at times sat very quietly at the roadside and seen mice come out and run across the macadam, but they are so small, and their movements so quick, that they are almost invisible even from a few yards away. One sees the movement, rather than any suggestion of a mouse. At night time, carrying a powerful light, I have repeatedly seen mice hop across the open way—in certain localities almost as abundant as autumn leaves. Let anyone who doubts this go out with an acetylene lantern, and keep his eyes keenly fixed on the white ray ahead.

As has been pointed out in every bird book written for some years, the kestrel is a good friend to mankind, deserving all the protection that can be given to it, but un-



Photo by O. J. Wilkinson

KESTREL AND YOUNG.

See p. 205.



Photo by

COMMON HERON

In characteristic attitude of repose. See p. 215.

Blackie Park.

fortunately keepers and those interested in agriculture do not see eye to eye in these matters. The kestrel is, of course, among the farmer's best friends, but the keeper does not stand to profit by its existence, whereas he may lose. Therefore he takes no risks, and treats the kestrel just as he treats any other formidably armed bird or beast of prey.

Admitted that the kestrel does more good than any other hawk we have, admitted, moreover, that it does not commonly share the sparrow hawk's propensity for visiting rearing pens, I would, from the point of view of a game preserver, prefer to see merlins abundant than kestrels. I believe that the latter, being more essentially ground hunters (that is, mouse hunters) are much more likely to lift newly-hatched chicks than is the merlin—a belief which is to some extent backed by observation, though the latter are so scanty that I feel it hardly fair to the kestrel to give it. At all events it should be added that what little harm is done by occasional kestrels during one month in the year, is very generously offset by the enormous amount of good done by the whole race the season through.

The behaviour of birds and animals during keen frost is no criterion as to their general habits. One must make allowances at such times. Otters, dependent upon rapidly flowing trout streams, have been known to raid village hen houses during severe cold snaps, while during severe winters merlins are known to feed on mountain hares, though how on earth they manage to kill or disable the hares before the strong animals sixteen or seventeen times their weight gain shelter is a matter of mystery. I repeat, the behaviour of carnivorous birds and beasts during times of great stress is apt to become exceptional, and should not be used as evidence against them.

Some years ago I was duck shooting one severe winter's

morning in Northamptonshire when our curiosity was roused by a loud and pitiful squealing in a hedge near. We approached quietly, and what was our surprise when a kestrel shot from one side of the hedge and a large hare from the other. Evidently the bird of prey had attacked the hare in the open and subsequently followed it into the hedge, for a brown hare seldom takes to thick cover of this kind unless hard pressed.

Fishing from a boat at Teaton Reservoir, Northamptonshire, a friend and I were one day much interested in watching two young kestrels wildly and impartially hunting the swifts that flew in hundreds just above the surface of the water. It was a thundery day, and the air was full of the shrieking of swifts, but otherwise the birds seemed to be little disturbed by the presence of the two foolish young hawks, which, all the same, once or twice came very near to catching their intended quarry.

At my home in the same county we had, surrounding the tennis lawn, a long screen of herring netting, into which, on summer nights, the cockchafers used to fly, the collision with the netting occasioning them so much surprise that they used often to cling to the meshes for some minutes, pondering the situation. I have, on certain evenings, seen the net quite heavily hung with cockchafers, while here and there were knots in the cord, which very closely resembled a clinging insect.

One evening a kestrel flew into the netting and became securely entangled. Unquestionably he was hunting the cockchafers, which that night were about in thousands. We found the poor bird hanging head downwards, and at the point at which its talons were entangled, curious to relate, was one of the knots above alluded to! It flew off immediately on being liberated.

A tame kestrel which I had as a pet when a boy, had a most interesting career. It had, while young, free run

of the outhouses, and was on very good terms with every one—except a huge black stable cat. The hawk never failed to attack that cat with the utmost fury immediately on seeing it, at which the feline would retreat to the depths of the stick heap, from the security of which to growl deepest thunder. An old spaniel, on the other hand, was regarded in the most friendly light.

All went well with the hawk till it took to murdering my brother's fantail pigeons, which were tame to the border of stupidity, and at the same time the little bird developed a strong dislike for a half-witted garden boy we then had, and one day clawed him down the nose, narrowly missing his eyes. It became evident that Northamptonshire was not quite large enough for my pet, and as I was visiting Scotland shortly after it was decided by the household that a change of air would be good for the hawk. So to Scotland it went, and in due course passed into the hands of an old Highland carter, a notorious character. For months it accompanied him on his journeys, perching on the horse's harness, on the man's shoulder, or on the cart as they travelled. The carter was, I believe, very devoted to it, but growing older the hawk developed yet another aversion—this time towards domestic fowls, and became somewhat of a responsibility on this account. It was, in the end, killed by a game cockerel. I never obtained the full facts as to just how this final encounter came about, but I recollect that the brief details had a decidedly alcoholic taint.

A sparrow hawk which we had as a pet was a perfect demon. It never became really tame, and was not so congenial a pet as the kestrel.

In most districts the sparrow hawk is now much rarer than its smaller congener, for it has very little to recommend it to man's mercy. Apart from the fact that it is a larger and more formidable hawk than the kestrel, it

is almost entirely a bird eater, whereas the food of the kestrel appears to consist chiefly of mice, beetles, snakes, lizards, and the like. Also the sparrow hawk's methods of hunting are more likely to result in its proving mischievous, for it is almost entirely a woodland hunter. As already pointed out, the kestrel frequents the open very considerably. It may be seen hovering over open commons and moors, obtaining much of its food therefrom, but the sparrow hawk is seldom seen amidst such surroundings except when flying direct from cover to cover. Indeed, even where quite abundant, it is far less likely to come before our notice than the kestrel.

This latter peculiarity is owing to the sparrow hawk's method of seeking its prey. It is given to appearing suddenly round woodland corners, flying as a rule, below the level of the tree tops, or darting suddenly across open glades and round farm buildings, thereby taking its quarry by surprise. Often it carries out these manœuvres at great speed, much to the alarm of small birds, and all one sees of the sparrow hawk is a phantom slashing of wings at surprisingly short range, but ere one has time to look round the hawk is gone!

Sparrow hawks meet with no mercy from keepers and farmers owing to their habit of visiting chicken and pheasant coops. Once having formed this habit a hawk or a brace of them will raid the same pens day after day, showing the utmost persistency and cunning. They are here and gone like a flash, and the number of chicks they will lift is astounding. A poultry farmer in the Lowlands told me a curious story about a hawk, which for days troubled him, visiting his pens almost hourly, and taking more chicks than he could keep count of. A man armed with a gun was kept employed to wait for it, but the bird developed the cunning habit of alighting unobtrusively in the trees near, and watching closely

ere it raided the pens. Consequently its raids were invariably at the opposite end of the farm from that at which the gunner was posted.

In due course this hawk disappeared, and the conclusion was that it had been shot by a keeper. Some weeks later, however, the remains of a sparrow hawk were found in a large open tank at the back of the farm. Whether the hawk had struck at its own reflection, or in what manner it found its last resting place amidst such incongruous surroundings, it is, of course, impossible to say.

There is no doubt that the sparrow hawk is a fierce and formidable bird, and though in many respects an arrant coward, it often exhibits the utmost pluck and persistency when once it has set out in quest of a certain victim. A keeper at Killin one day noticed a cock pheasant behaving in rather a curious way in a strip of woodland. The bird was scratching in the leaves in a most excited and agitated manner, protesting angrily and at intervals glancing towards the tree tops. The cause of its annoyance was not far to seek for suddenly a sparrow hawk descended from among the branches, and swooped savagely towards the long tail. Instantly the pheasant leapt up to meet the assault, striking violently with spurs and claws. The feathers flew, the hawk returned to its perch, and the pheasant went on scratching as before. In a few seconds the hawk again attacked, and once again was repelled as before, and once more they took up their former positions. How long this curious performance had gone on, or how long it would have gone on had not the hawk caught sight of the keeper and flown off, there is no telling. When recounting the incident the keeper expressed the opinion that the pheasant would eventually have been killed by the hawk.

An old cock pheasant is, of course, a very tough customer and such a bird has been known to take possession by

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violence of a run of domestic fowls, having first slain the rightful lord of the roost. It is a fact that wild cock pheasants have been known to cultivate a taste for slaying domestic male birds.

Some years ago I accompanied a village youth to rob the nest of a sparrow hawk. While he was climbing the tree in which the nest was placed, one or other of the birds stooped repeatedly within a few inches of his head. The nest contained young, hatched some days previously.

THE HERON

CHAPTER XIV

THE HERON

FIXED routine and regularity of habit are generally regarded as features peculiar to a certain section of humanity, and it is customary to look upon our wild birds and beasts as unfettered by any regulations of time and place, boundlessly free, and wandering haphazard without social or personally-inflicted obligation. Chiefly on these grounds captive birds and beasts come in for a good deal of misplaced pity, for our sensitive imaginations picture them in a state of mental rebellion against the stereotyped sameness of the lives that are then their lot. Few people know, or at any rate realize, that by far the majority of wild creatures wander no further than they are compelled for food. Freedom and captivity—omitting that part of it into which the fear of man enters—have absolutely no meaning to them. Food and warmth, and the satisfying of their natural desires, are all the major portion of them ask of God or man, and when it is possible for a bird or beast in a wild state to set itself a regular routine, travelling as short a distance as possible between its sleeping and its feeding quarters and at regular intervals, it is only too happy to do so. In other words the home range of a bird or beast is no larger than necessity demands, and if, within a given half acre, it were able to find all it needed, it would never wander beyond that half acre. In the mating season a period of extreme restlessness naturally assails our captive birds and animals, and their frantic endeavours to escape,

coupled often with their plaintive calls, are very apt to be misunderstood by sympathetic people. This is inevitably so, as it is very often impossible to find for the captive a suitable mate, because many birds and beasts marry only for love; but it will be seen at once that these instinctive yearnings are quite distinct from any desire to wander—a rather useless ambition, peculiar to ourselves. There are, of course, a few exceptions, but generally speaking a wild captive properly fed and cared for lives a happy life, and it is curious that those which travel furthest in a wild state, namely the eagles, vultures, and falcons, are, when well looked after in captivity, the most restful and content—happy to sit for hours on end in one position, often without movement.

Our friend the heron—I had almost said angler's friend, but I fear the title might not be acceptable to all—is, in a wild state, one of the most regular birds I know. He loves to set himself a daily routine, and to stick to it as nearly as possible by Greenwich time. As to whether he may safely be termed the angler's friend is largely a matter of personal taste. True that he shares the spoils of the stream, but nevertheless he is a part of its atmosphere of romance and freedom which to many of the keenest devotees of the sport is as important as the actual taking of fish. Many of us are known to fish at times when we realize that there is precious little chance of material results. We fish because we love the stream or the river or the loch as the case may be—because its associations make failure worth while. Even the drip-drip of the rain among the alders, when the mist wraiths hide the hills from view, is a sound not entirely devoid of music, for it is part of the wild charm which appeals to the primeval man within us—to be alone with the things God made, satisfying a native desire to find food for ourselves, to wring a living from the wild. This

desire is at the root of all field sports ; we may not really want the " food " that we obtain by our fishing or our hunting, but it satisfies our virile instincts to take and to kill. So it is that the greatest of relaxations for careworn and civilized men to-day are found by satisfying the desire to return, if only in half measure, to the status of the wild.

As to whether or not, then, the heron may be described as the angler's friend, depends upon the extent to which we value the wild associations of the stream.

Personally I am very happy for the heron to take his share of the spoils in return for his presence, for his harsh but drowsy note, heard in the distance above the soft rush of water, intermingled with the call of the cowboy and the yapping of his dog, or the sight of the big grey bird itself rising ghost-like from the foot of the shallows in the gathering dusk, are a part of very cherished associations and remembrances. With *lutra*, the otter, the heron is a brother angler—an inseparable part of the romance of his settings. Day or night, sunshine or rain, we find them there, and see their tracks on every sandy bar, the bird and the beast to whom our waters are a natural heritage, and whose presence cannot help but add to the feeling of peaceful solitude.

Angling clubs and individual anglers might take many a good tip from the heron community, which conducts itself in a way which is beneficial both to the individual and the community. Their rules are based on the principle of good fishing for all. One might, indeed, be pardoned for imagining that there exists among the herons something in the way of a club or a gigantic association, having its defined rules and rulers. Certain it is that an entire absence of government, enforced or instinctive, among so many fishermen, each possibly with a hungry family for which to provide, would lead to a state of chaos and

unending petty grievance, whereas these birds seldom disagree, and the distribution of available fishing seems to be organized with a view to all sharing alike. Each individual has its favourite stance, to which it resorts punctually at certain times of the day or night. One heron used to pass over my house regularly just as the sun dipped behind the range, and evening after evening one might see this bird take up his position at the head of a rapid stretch always within a few feet of the same point. For an hour or so he would remain there, then one would hear his note as he rose, passing down the river for some other favourite station. Another heron I knew to alight punctually every morning at a shady corner of a sand-bottomed pond, and at about midday this same bird would perch on the topmost pinnacle of a high fir tree growing near—looking immensely tall and ungainly as he stood out against the sky, his neck and body almost vertical. Having thus surveyed the world awhile he would fly off, and leaving the main river proceed up a small burn, at a certain rocky corner of which he would take up his second position.

Again, when visiting some friends at Kew, I noticed a heron take up his stance near the bridge every morning punctual to the minute.

The herons seem to respect each other's rights, for it is to be noticed that the same individuals are to be seen day after day at the same places. Other herons do not generally trespass there during the absence of the rightful owner. The birds vary considerably in size and colour, and coming to know them one learns to recognize individuals. I have often noticed that minnows and the like are fond of congregating round any conspicuous object in the water, such as the broken fragment of some coloured vessel, or a white stick standing up from the bed, and no doubt the legs of the waiting heron attract them in

the same way. Long ago this gave rise to the belief that the scent of the bird's legs was attractive to fish, and anglers used to flavour their baits with the skins of the bird's shins! I venture to think, however, that if the human angler stood bare-legged and motionless in the water for a long enough space of time, he would find little fishes darting at and nibbling his own unprotected members, so that it might have saved the erstwhile angler some trouble if he had flavoured his bait by contact with his own shins.

I believe herons travel great distances for their food. Outside the nesting season, when they have no home ties, it is probable that they live more or less like otters—that is, each bird has an extensive range with many angling points, and over this it travels with some regularity. Wandering thus, they frequent certain woods for roosting purposes, and very often are to be found in companies of eight or nine shortly after dusk. They fish by night, however, as well as by day, this being true of most waterfowl, and like many predatory animals they take their sleep when in the mood—that is when filled—be it night or day. Where and when food is abundant they seem to prefer to fish during the day and to rest at night-time. The herons used to visit my locality in Yorkshire in as great numbers during the spring, when they were congregated at their heronries, as at other seasons when the population was more or less scattered. Yet the nearest heronry was thirty miles away as the crow flies, and it was believed by the villagers that all our herons came from that point. The heronry lay to the north, and certainly it was noticeable that the birds were generally flying direct north or direct south, coming or going, though the fact that the valley ran north and south may have influenced this. One bird, which was flying north towards the heronry was shot during the nesting season, and on

falling it disgorged a quantity of fish, which evidently it was taking home for its young. We may fairly safely presume, then, that thirty miles is within the bird's radius of travel while feeding a brood, and when we consider the great amount of food that young herons—all fish-eating birds are ravenous—require, it will at once be seen that unless the parent birds distributed themselves over a large area, local supplies would soon fail unless very plentiful.

I have said that the birds respect each other's fishing rights, and that disagreements seldom occur, but that they do sometimes take place, and have to be settled by force of bill, the following observations seem to show.

Reference has been made to a sandy-bottomed pond, to one corner of which a certain heron was very partial. This order of things has existed to my knowledge for the last twenty years. The pond is about one mile below Burnsall Village on the River Wharfe, fed by an overflow arm of the river, and invariably dusk finds one or more herons in its immediate vicinity. When a boy I one day heard, on approaching the pond through the wood that adjoins it, a terrific croaking and barking of heron voices, and advancing silently I saw two adult herons hopping grotesquely in pursuit of each other, and striking at one another with their formidable bills. Unfortunately they saw me immediately and flew off, still croaking angrily.

The following day or it may have been the same evening, on approaching the same point, I again heard a great hubbub of heron voices, and on my drawing nearer no less than seven herons got up and flew away. I remember that my youthful conclusion was that the two individuals, having been unable to settle their dispute, had called a committee meeting at which the question of ownership was to be finally settled.

As becomes good anglers, herons are possessed of unusual quick-sightedness. Stalk him never so carefully, it is very difficult to surprise a heron, for usually he arranges his standpoint so that his head would become visible long before his body hove in view—that is, so that he can see long before he is seen. When in Canada I was particularly impressed by the alertness of these birds, for immediately one enters a lake the heron sees the canoe long before he himself is seen, and flaps idly off while still at a great distance. Generally speaking, the sight of birds and animals is inferior to our own—or rather, they do not seem to possess the gift of looking into the distance.

Hérons are very united in purpose—that is, their sense of fellow citizenship is highly developed, in that they will readily unite to achieve an end which is beneficial to the community as well as to the individual. I have never had an opportunity of closely observing a heronry, but a Canadian with whom I travelled a good deal gave me no little interesting information about one which he had under observation one spring and summer. There were a number of nests, some in the pine trees and some in the crags which the pines overhung. One day he noticed a great disturbance among the parent birds, which kept swooping and striking, one after another, at something in the branches. Presently he made out the object of their anger to be a large animal, ascending towards one of the nests, which the whole heron clan was protecting, and as he watched the creature was hurled from the branches by a well-directed blow from one of the adult birds. Thereupon the whole flight descended, croaking and flapping through the branches, evidently intent on dispatching their already wounded foe. Going up to the place some time later, he found the raider was no less formidable a beast than a

fisher.* The animal lay dead and considerably mutilated almost at the point at which it had fallen.

Raiding a heronry must indeed be a very dangerous undertaking for any creature of the wild, as the adult birds can strike accurately and hard, aiming generally at the eye. Even the young in the nest are quite well able to defend themselves in this way, and it goes without saying that it is very unwise to allow a dog to approach a wounded bird. A wounded heron sits back on its tail, facing the foe, and his strike is as quick as the strike of a rattlesnake.

It has been said that outside the nesting season the birds congregate at certain favourite woods to roost, and generally in small numbers. Beech and fir woods are their favourites, and preferably placed on the mountain side or the crest of a hill, so that the birds, going to roost, can perch themselves on the topmost branches, and survey the whole panorama to make sure no foe is about. Herons seem always to fear attack from the air, and this habit of alighting high up in the timber and surveying the surrounding country is very characteristic of them. Indeed they appear to have personal look-out posts, just as they have personal fishing stations, but to proceed with my story, the birds frequent the same forests for roosting purposes during autumn and winter year after year, just as they frequent the same "heronries." One forest I know is called in the Gaelic tongue the "Place of Evil Beings," and doubtless this name, like the forest itself, is of considerable antiquity. It is a curious fact that, though to the best of my knowledge herons have never nested there, they roost in the centre of the wood in varying numbers the whole year round. The birds have an immense and surprising range of

* One of the largest members of the weasel family—midway between the marten and the wolverine.

notes, for in addition to the familiar "quask" note, they bark and gurgle and hiss and yap, while the young rasp and squeal, so that a number of herons banded together are capable of creating the most blood-curdling and ghastly bedlam imaginable. Having heard the birds at the fall of dusk or later assemble to roost in the "Place of Evil Beings," I have wondered whether their presence had anything to do with the naming of the forest, for one can well imagine the superstitious and ignorant mind attributing their eerie and sinister notes to supernatural causes.

In spite of the heron's seemingly conspicuous colouring, it affords us a marvellous example of nature's ingenuity in the art of camouflage. Watch a heron as it alights. While it is in the air it is very conspicuous, but immediately it settles at the water's edge and folds its wings it vanishes as though by magic. Its coat exactly resembles the shimmer on the water, so that amidst a watery setting it is as invisible as a ptarmigan against snow, and even when perched among the rushes it is so much of a neutral hue as to escape the eye of any but the most observant.

I have many times watched herons fishing. When actually on the look-out for fish they do not stand with their necks artistically curved, as usually portrayed in picture books. Generally the neck is dead straight and rigidly vertical, but sometimes it is inclined in a forward direction at an angle of about forty-five degrees from the water, and in what appears to be a most strained and unnatural position. It seems, however, to cause the bird no inconvenience, as it will stand in this position, perfectly motionless, for twenty minutes on end. Then suddenly it will be seen to be upright again, the movement having been so quick as to escape the eye—which, of course, it is intended to do. Only when in complete repose does

a heron stand with its neck curved, and the bird is seldom seen in repose.

Like all carnivorous birds and beasts, this bird lives amidst fluctuations of scarcity and plenty. Owing to its scraggy build, it is usually regarded as a much starved creature, but considering the number of ancient recipes for medicines and the like in which "the fat of the heron" figures, one might be pardoned for concluding that fat herons were not by any means a rare commodity. The heron is a bird of cold and draughty occupations, and such fat as it is so fortunate as to possess is doubtless provided by nature as a supplementary means of resisting the cold.

In times of scarcity herons will readily gobble up anything they can swallow, and considering the elasticity of their gullets, their menu is a fairly extensive one—water voles, snakes, ducklings, frogs, mice, in addition to fish. Mrs. Stewart, the stalker's wife on the Auchmore Estate, Killin, Perthshire, was one day walking at the river side when a frightful squealing at the water's edge attracted her notice, and looking down she saw a heron doing its best to swallow a stoat, which was very whole-heartedly resisting. It is more than likely that the stoat was the aggressor in the first case, but certainly it would be foolish to endeavour to lay down fixed rules as concerns the diet of a bird which will attempt to devour one of these evil-smelling musk bearers.

Like rooks, one or two herons will sometimes nest in solitude, endeavouring evidently to start a heronry of their own, but the few attempts of this kind that have come before my notice have proved unsuccessful, and after a year or two the birds have abandoned the new site. I suppose there are less than thirty heronries in the whole of England, which would seem to support a previous conclusion that the birds travel great distances

for their food, each heronry distributing its members over an area at least sixty miles across. The young birds are hatched quite early in the spring, but those I have watched have not left their native trees, and have been entirely dependent on their parents, till well on in August. This slow maturity would seem to indicate long life. The young take to the branches when a few weeks old, and every old bird that approaches is greeted with an immense uproar of screechings and raspings, while the parent birds also utter many strange notes at this season. As the chicks become almost fully fledged the male birds at any rate distribute their hospitality quite impartially, the first chick at hand receiving the food, quite regardless of its parentage. It would seem that only a small proportion of the birds frequenting the heronry have nests there.

When pursued by a hawk the heron is said to rise almost vertically, and it was owing to the fine flights they generally put up that herons were in the days of falconry considered as sacred as the pheasant is considered to-day. Now it stands as a somewhat forlorn and solitary figure, in some localities half-heartedly preserved, in others heedlessly persecuted, claiming no special interest or attention save in so far as its great size commands passing notice or comment. The heron has, indeed, fallen from a place of high eminence among our sporting birds to the lowly position of questionable vermin. I have never seen one in flight before a hawk, but in the Kells Hills one day I saw one very much scared by a pair of buzzards, which of course had no thought of attacking it. Far from seeking the uppermost heavens, however, the heron at once descended almost to the surface of the water, flying so low that the draught from its vans left a long trail of ripples behind it.

As already stated, the heron seems to live in great

dread of attack from the sky, and when standing at its fishing station or perched in the tree tops the bird will be seen constantly to look upwards and about, taking stock of every voyager of the upper air. A friend of mine who watched one for over an hour on the River Wharfe told me that it took stock of its surroundings, especially overhead, on an average of once in every twenty-four seconds—a characteristic which it shares with the grouse. Certainly the heron must have lived a very harassed life in the days when falconry was popular, and apparently the dread remembrance of those times still lives.

MEADOW, STREAM AND PASTURE

CHAPTER XV

MEADOW, STREAM AND PASTURE

(PIED, GREY, AND YELLOW WAGTAILS, AND KINGFISHER)

AMONG the most familiar, because it is the most universally recognized of our smaller wild birds, the pied wagtail has much to commend it to our interest outside its bright and conspicuous colouring. These, indeed, mark it out as one apart and unmistakable, never failing to catch the eye of even the most casual observer, though far commoner birds may appear as strangers when they are noticed, but besides being cheerful in appearance, the impression is very amply borne out by the wagtail's ways and manners. A nymph of fragrant country gardens, where it appears as an almost inseparable part of the green braes and grass plots, to nest season after season in the crumbling boundary wall or among the rockery plants, we come somehow to associate its presence with the scent of the moist turf after an April shower ; and as the young grow up and accompany their parents, running hither and thither about the grass, they seem so essentially to be part of the property that they hold a place no other bird can hold. The rooks in the elm grove are one, the robin at the window is another, but none of them is so inseparably the spirit of its environment as the water wagtail standing amidst the green mosses at the fountain edge. And perhaps the fact that the wagtails are with us for the most part only during the brightest months, has something to do with these associations, just as the song and the

flash of the swallows are essentially summer's *materiel de secteur*.

The grounds of ancient abbeys and such like pleasant places are a very favourite habitat of the pied wagtail, and when a schoolboy I used regularly to watch one seated on the topmost pinnacle of a ruined building on the way to the games field—occasionally dashing off in short erratic flights from its elevated perch in pursuit of flying insects. Returning to the same scenes a year or so ago, there was a wagtail seated in just the same place and conducting itself in precisely the same way!

No doubt this bird was a descendant of the one I so often watched close upon twenty years ago, for wagtails, like swallows and redstarts and many others, return year after year to their most favoured haunts, and year after year are drawn to the same lofty perches when these are of a kind that last. So our children and our children's children may know this bright little bird amidst the scenes and setting familiar to us to-day, and it is refreshing to realize that this creature of our gardens is less transient than the trees and the flowers which beautify them.

Not all our water wagtails migrate, though most of them leave our homes with the first wild winds of autumn and do not return till March at the earliest. Undoubtedly the majority go abroad, but a fair smattering still remains in this country, frequenting river heads and other running water which does not freeze. It may be taken that wherever there is running water insects exist at all times, though during the coldest weather the wagtails are to be seen obtaining their food after the manner of the dipper, that is, by hunting among the pebbles along the shallows for such insect life as is always there. They are nothing like so expert as the dipper, which hunts in this way the season through, and prefers always to take its meal from below the surface; the wagtail cannot swim, and does



Photo by F. Jefferson]

[York.

PIED WAGTAIL

Carrying a bunch of insects for her young. *See p. 229.*



Photo by T. M. Blackburn

HERON PREPARING TO DESCEND OVER HERONRY.

See p. 215.

[Preston,

not wet its feet until the absence of winged insect life in the air necessitates the chilly procedure.

Among the wagtails which migrate, the old males appear first, generally in March, along the south coast of England. A few days later the females come, together with the males of last season. This being so, and since the same birds return year after year to the same places, the question arises as to whether the mated couples live together while overseas, or whether they live apart at such times, reuniting when the spring calls them back to their breeding haunts here. Such problems are very difficult to solve, and what about the birds which breed here *and* overseas, yet which are known to separate for the journey? Do they reunite after such tremendous flights, meeting at some appointed place in the midst of a land so vast that only its most startling features serve as landmarks? It seems hardly possible, and yet, if not, what delicate situations must arise, and how embarrassing might be a slip of the tongue during the most harmless, even caressing, conversation—whispering the same sweet nothings to Annie among the hollyhocks, as he whispered to Jane among the pyramids! And what if some perverse wind bear Jane and Annie to the point at which Percy is awaiting one, but anything but both? Fortunately such misfortunes are borne light-heartedly in the wild, where, with few exceptions, the young are so much and the mate so little.

Wagtails are often to be seen running about the lush pasture grass among the cattle, drawn there by the insects disturbed by the animals as they move, and when in hot weather the cattle crowd into the shallow water at the river margin or into some stagnant pool in a corner of the field, a wagtail is generally to be seen darting about in close attendance.

No wild bird gives one so strong an impression of a

creature devoid of anything in the way of fixed decision as regards destination or purpose as the water wagtail. Now for a moment it sits still and mopes with feathers puffed out, quite a melancholy little figure. Then suddenly it darts a yard, sits and waggles a second or two, then darts off in another direction, seeming to attain nothing by these mad spirits beyond the satisfying of a spasmodic, brainless whim. All at once it rises with a cheery double note, sets off due south, changes its mind and heads for a favourite perch. In the act of alighting it turns again, and as likely as not comes back to within a yard of the point from which it originally rose! A daddy-long-legs in a gale is not less uncertain than the wagtail. He, at any rate, is borne to one point, and, if he can, he sticks.

This erratic manner is, however, to be noticed in many insect feeders, for the very obvious reason that their directions of travel being influenced by things which are here, there, and everywhere, are subject to alteration every yard or two. Thus the hedgehog seems to have no more idea of direction than a clockwork mouse, wandering in an aimless, zig-zag course about the verdure, but when a hedgehog picks himself up and runs, as he sometimes will if he thinks he can get there unseen, he runs as straight as any other beast. Insect feeding birds are, of course, notorious for their zig-zag flight, as, for example, the swallows, the flycatchers, and the wagtails under discussion.

The wagtail is not among our singing birds, and few people know its voice other than the double cheery, pebbly note uttered as it rises and when flying. Yet the wagtail does sing and even warble, at that time when every man, during some period of his life, becomes a poet—though, mercifully, he may be too proud to own it. And similarly we have one thing for which to thank

the wagtail's song—it is sung in such a minor key that one may pass in the stillness of evening within twelve feet of the singer and never hear it. That, perhaps, is the best part of the song, he sings it to himself and to her, and he and she, no doubt, understand it. No one else can, which does not matter much, because no one in particular hears. It is like the famous novelist's first story—its distinguishing merits lie in its shortness, and in the fact that the world never knows it. Perhaps we need not say more about the wagtail's song. It is a poetry of its own, no doubt, but a poetry beyond our dull appreciation. And perhaps we may love him a little more for the harmony he so wisely chooses to whisper.

In some localities the pied wagtail is called the dishwasher, though it is difficult to see just how the supposed simile applies. Doubtless the habit of bobbing at the water's edge has something to do with it.

It is pleasant to watch one of these birds running about the lily pads, and alighting with the utmost confidence on floating matter so slight that one wonders how it bears his weight. He seems to know exactly just how far he can go, and like the bear and the monkey moving from branch to branch, he never ventures an insecure foothold.

Of our three wagtails, the pied, the grey, and the yellow, the appellation water wagtail should rightly belong to the grey, rather than to the member of the family with which we have just dealt. For the pied wagtail belongs to the water only when it is drawn there by food requirements, whereas the grey wagtail is a water bird at all times. Mountain streams, beloved of the dipper, are its true habitat, and for this reason it may be regarded as the angler's bird. It is not so well known as the pied, but among those who know it, it is regarded with even greater affection. For, while possessing all

the attractive features of its congener, barring the habit of attaching itself to our gardens, its plumage is more beautiful, its figure even more nymph-like and graceful, its manners more spritely and vivacious than the bird which holds our gaze during our afternoon strawberries and cream.

Elusive sprite of mountain rivulets! It is in such poetical terms that ornithologists, from decade to decade, have alluded to this little bird of our mountain streams. Few of them, who have possessed the gift of poetry, have been able to resist the temptation of bursting into verse when it comes to the grey wagtail, so fragrant and happy are the scenes it recalls, when, over the winter log, we have time to contemplate these minor friends of summer.

The grey wagtail does not catch the eye as does the pied, and this by reason of the fact that its bright colours merge so perfectly into the shades of its natural surroundings—the yellow stones, the grey waters, the mosses of deeper hue. Thus we may pass it by within a few feet, a trustful and fearless little bird, without noticing it, far less paying attention to its beautiful plumage. Yet the grey wagtail is among the most daintily and tastefully attired of all our wild birds, especially in the early spring of the year, when the light canary yellow, the soft grey and the darker shades of its plumage blend into a wonderful harmony of bright yet unassuming brilliance. The bird itself is exquisitely graceful, and as it flies from stone to stone, uttering the familiar wagtail call, it sometimes catches the eye in a brilliant flash of yellow, which vanishes instantaneously among the trees and waters.

The grey wagtail has a clear, sweet song, lively as running waters which as often as not engulf it in their world-old melody. It will sit motionless for long periods in the shallow water of a woodland pool, seemingly wrapped

in peaceful admiration of its surroundings, and merging so perfectly into the soft blends of sand and shadow that it escapes even the keen eye of the angler till he all but steps upon it. But the bird is perhaps seen at its best when hunting for insects among the mosses, darting rapidly from stone to stone and pecking the minute morsels from the fronds, diverting at intervals to catch in its flight a gauzy-winged spinner, or perhaps to wade knee-deep in order to snatch some minute atom from the surface. On account of its very liveliness when most generally seen, that is during feeding hours, the wagtail strikes one as an almost melancholy little figure as he sits motionless over his own reflection between such times.

I believe that the first wild bird's nest I ever found was that of a grey wagtail. It was located under the overhang of a grassy hillock, one of those circular mounds so often found among the boulders and pebbles on the flood margins of mountain streams. On that river—the River Wharfe—the grey wagtails specially favour these mounds for nesting purposes, albeit that while these places are well above the summer level of the stream, even a moderate spate may see them inundated. So, what the partiality costs the grey wagtails year after year, no man can say. Spring after spring they return there to breed, spring after spring, like the rabbit families in the sandy banks, their nests are washed out, and their hopes swept away. Yet, like the rabbits, they become no wiser as time passes, and as the first nest I found was destroyed by the floodwaters, so year after year until to-day the wagtails nest in those same tussocks along that rapid stretch, and pay the sad penalty. Indeed I have known a pair, having just lost one nest by a spate, cheerfully to set to work to build another in a neighbouring tussock, not ten feet from the first and at the same level. So, if the measure of intellect lies in the power

of profiting by experience, we must reluctantly set the wagtail down among other pretty things as deplorably lacking.

So much so, the seed of wisdom may lie in the art of being glad, and in this light the wagtail is passing wise.

The grey wagtail is a solitary bird. It does not appreciate the company of its own kind, and when two wagtails meet it is either as mates or as deadly foes. Like the neighbouring dippers, each pair has and does its best to hold a certain length of stream, and any other wagtail passing by does so at the price of being chased.

Some time ago, fishing on the Tweed, I was watching a wagtail fly across the surface when it paused in its flight about midstream in order to hover after an insect. At the same instant a big trout lunged to the surface, all but striking the bird to the water, whereupon the latter flew right away with shrill cries of alarm. It looked exactly as though the fish had risen at the bird, but I concluded at the time that both had gone for the same insect, and so almost met in the air.

Last summer, however, I saw a similar occurrence, which caused me to wonder whether big cannibal trout will, indeed, rise at small birds, just as lesser fish rise at a mayfly or drifting thistle seed. On this occasion I was fishing a deep pool on the Tay, when I noticed a wren bobbing and churring, on a briar branch just above the surface, much disturbed at my presence on its preserves, evidently. All at once a large trout dashed at it, casting high the spray and actually disturbing the branch on which the wren had sat. Needless to say, that holy bird had departed into a mouse hole a fraction of a second sooner, from the mouth of which it was now churring abuse at the trout. But, had the wren been less nimble, it would doubtless have gone momentarily to satisfy the trout's desire to kill something.

Like the pied wagtail, the grey returns year after year to the same favourite haunts. A pair have lived each summer so long as I can remember in the vicinity of an old barn adjacent to a mountain stream. They may be seen any evening at the proper season perched on the apex of the barn roof, or fluttering along it in pursuit of insects. It is thus that the grey wagtail most often catches the eye of the wayfarer, perched on the top of some old building, and the older it is the better he likes it. For winged insects of many kinds find welcome harbourage and become established among the mosses, rafters, and tiles of ancient buildings, and the wagtails love nothing better than some point at which they can look out upon the bright world, amply surrounded by foods of the kind they need.

The grey wagtail leaves us in September and does not reappear till mid-February at the earliest. In Scotland it is among our first migrants, and so its first appearance is doubly welcome.

The yellow wagtail is the least plentiful of the three. It is a summer visitor, arriving in April in the Lowlands. North of Callander I have very rarely seen it, though it appears occasionally in the valley of the Tay and the Dochart. In Scotland it is probably most plentiful in Kirkcudbrightshire, especially about the valley of Loch Ken.

This bird retains all the characteristics and lively habits of the other two, though it does not haunt our gardens like the pied, nor our streams like the yellow. During the spring and early summer it keeps to the high, rolling, whin country, where it may be seen running about over the short grass. It has a habit of following footpaths when disturbed by a pedestrian, and so, flying and alighting, it may pass ahead for a considerable distance, settling ever on or beside the path, and becoming

more and more agitated, till, at length, driven far from its home and young, it rises in desperation and flies straight back to the place at which originally disturbed. Owing to its love for these places, where the only grass which rises above the common level is the seed grass, the yellow wagtail is commonly known as the Seed Lady, a becoming and appropriate appellation for so dainty a creature, save that it is apt to mislead as regards the food of the bird.

As the season advances and insects become less plentiful about its favourite haunts, as is particularly the case if the summer be a dry one, the yellow wagtail leaves the high country and frequents the haunts of the grey, but this is not because it loves the water, but because insects are more plentiful there than elsewhere. It is by far the wildest of the three, and very rarely becomes attached to the haunts of man. At the same time I have often watched them in a village garden hawking at twilight for insects about the apple trees—strangers no doubt, attracted there by the passing abundance of insect life.

So, of our three wagtails, the pied, the grey, and the yellow, the pied is most essentially the bird of our gardens, the grey, the angler's friend, the bird of our streams, and the yellow a passing sprite known to few save those who love the gorse hills in the spring. Of the three graces, the grey is perhaps the most graceful. It is the most vividly coloured, the most elegant, and the most vivacious in its manners. But those who love old English gardens must regard the pied as they regard no other bird, for it holds a place no other can.

While dealing with the bright birds of our streams and meadows, mention must be made of the brightest of them all, the most brilliantly plumaged of British wild birds, the kingfisher. It seems to be an inexorable law of the bird world that what pleases the eye disappoints

the ear, and alas!—how often we find a counterpart to the things of wild nature in the world of men and women. Amidst the dazzle of the footlights, when for an hour my soul was young, amidst all the painted glory of a transient world, I loved her till she sang, and then—then, perhaps, the limelight glamour faded, and one bethought oneself of old material George, who will take one's hat and umbrella no matter what the hour, and no matter what the weather will remark: "It's a fine night, sir." It is left to the drab little sisters of life to sing life's sweetest songs, and they perhaps need no reflected glory in their garb.

Yet whether to the eye or the ear the earth is beautified, each does its part which we have no right to undervalue, and to see a kingfisher is to record its passing to one's friends. One may not hear the sweetest song unless, like that of the nightingale, it be sung when others are silent, or like that of the skylight, it flood the heavens, solitary and alone; but one cannot miss the kingfisher as he passes like a ray of light across one's field of vision. In a moment he is gone, but the startling record is traced across one's mind—the most brilliantly attired of all our wild birds has passed!

Were the song of the kingfisher as bright and pleasing as his looks, he would probably have suffered less by the activities of those who prefer a mummy to a living thing, but since the bird has little but its bright plumage to recommend it, and that, to a degree, can be preserved in a glass case, the most beautiful of our wild birds not uncommonly ends his days there. The plumage fades immediately life is extinct, but even in its faded shades it is nevertheless very pleasing to behold, shot with radiant shades of blue or green in accordance with the angle of the light. It is, nevertheless, a morbid sense which can see beauty in a stuffed thing, and the sight of a stuffed

kingfisher jars strongly upon anyone who really loves the beauty of wild things.

As is the case with most birds and beasts which attract the eye—strange things are said of the kingfisher. I remember a gardener's son warning me when I was a youngster never to thrust my hand into the hole wherein a kingfisher had its nest, because the bird fixes fishbones, thousands of them, slanting inwards along the walls like the teeth of a crocodile, so that, though it is an easy matter to thrust one's arm into the hole, it is impossible to withdraw it! This belief no doubt had its origin in the curious construction of the kingfisher's nest, which is composed of unique material. For the kingfisher, like the owls and the cuckoo, is able to cast up undigested portions of its food in the form of pellets. These dry out, and form, in the case of the kingfisher, a dry dust of bone fragments, on which, at the end of the hole, its eggs are laid.

I remember when a boy making up what I thought to be an exceedingly attractive trout fly in which kingfisher feathers figured prominently. But a water bailiff blasted my hopes by saying that no fish will take a fly composed of kingfisher feathers, for the adult trout remembers well the foe of his infancy!

Like the wagtails and the dippers and the herons, each kingfisher has his chosen beat, and objects strongly to the intrusion of others upon it. Many an Oxford man, watching from Magdalen Bridge, has seen examples of their pugnacity along that favourite stretch of water, the combatants banking and turning at such dizzy speed that the sight of them fairly dazzles and bewilders the eye. They are specially fond of rivers having high, sandy banks and abundantly overhung by timber, retiring to roost the season through in the sandy burrows, made by themselves or by the martins. They have a great

love for certain places. In the country of my boyhood kingfishers were as rare as anywhere in the land, but there was one gravel-bedded pool, overshadowed by the trees and having high, sandy banks, inaccessible on account of the depths below, where they could be found at any season. It would seem that the birds mate for life, as at no time do they really forsake their nesting haunts.

The young birds of the previous season, becoming mated, evidently decide upon their nesting haunts very early in the new year, and thereafter they busy themselves about the place, and may daily be seen there, even though several months may elapse ere the first eggs are laid. The nest is rarely within arm's reach, and very often it is located twelve feet or more from the hole mouth, the birds using an old water-rat tunnel, or possibly a martin shaft which season by season has been extended. Not uncommonly the earth above an old hole becomes so thin that calamity befalls the family by cattle treading above and sinking through, to the complete annihilation of all below. I knew this to happen on the River Wharfe.

The kingfisher seizes its prey after the manner of the sea-swallow—that is, plunges head foremost and at lightning speed in pursuit of it. It feeds chiefly on small fish, such as sticklebacks and minnows, and rarely misses its mark. With the fish crosswise in its bill, it returns to its perch above, beats its quarry against the branch to kill it, then either swallows it head foremost or flies off to feed its young. One would think that the nest of a kingfisher which had been swallowing sticklebacks would hardly form an ideal couch on which to spend so many weary days of incubation!

Kingfishers, like flycatchers and wagtails, have certain favourite perches dotted up and down, which they frequent at regular intervals. From one to the next

of these they fly during fishing hours, and having found the time and the place one may see the same bird day after day. I remember one used to frequent a protruding branch rising from the bed of the River Ken, far out from either shore. I saw him there almost daily throughout one spring and summer, but that fall a spate bore the tree away, and one wonders whether the kingfisher met the fate of Bret Harte's gentleman whose front door step was treacherously removed.

The eggs of the kingfisher are colourless, as are those of most birds which lay in the dark, and in manner and in voice the bird has much in common with the dipper. Compared with the latter, however, it is a melancholy little soul, and though it possesses a strange, rather harsh warble uttered the season through, the song does not possess the heedless, discordant gaiety of that of the dipper. We must love the kingfisher for its bright plumage, but in truth it plays but a very passing part in our lives.

When at one time of my life I interested myself in the rearing of young trout, this bird was certainly the worst of our foes. They knew exactly at what hour the keeper came to feed his charges, and chose their own time accordingly. When we took to coming at all hours, they took to visiting the hatchery with the very first light of morning, before the skylark was fairly astir, and we found it impossible to keep them away. In this connection the harmless and peace-loving water vole proved a great nuisance, for no matter what pains were taken in enclosing the rearing ponds with wire-netting, the voles made a way in, and the kingfishers followed them. In the end, and much against our own inclinations, we were reduced to trapping and shooting the birds, but having killed eight we gave it up as too inhumane, for still more came. I had no idea how plentiful kingfishers are till I came to rear young trout.

Normally, however, the bird does little harm, for the fish which are most plentiful and most exposed to its activities are not of the kind man wishes to preserve. The minnow is a very useful little fish, a wholesome food for the trout, so saving them from each other, a source of abundance for fish-eating birds and shrews, which otherwise would feed upon the fry of more valuable fishes. So, wheels within wheels, Nature works out her problem of preservation, but when we ourselves step in with our artificial aids we are only too likely to upset the general balance.

THE SWAMP

CHAPTER XVI

THE SWAMP

(THE COMMON SNIPE AND THE JACK SNIPE)

AMONG our wild birds the snipe and the peregrine are distinct for their marvellous powers of flight, both of them depending upon their wings, in widely different ways, for their means of livelihood. The snipe, beloved of eastern sportsmen, is a bird of immense home range, and probably no other wild bird travels such great distances during the course of the season from one feeding range to another. Thus the bird is still further distinct for its distribution over almost the whole of the earth's surface, from the fever-ridden swamps of the Gold Coast and the heights of the Himalayas, to the sloughs of Alaska (Wilson's Snipe) and the radiant slopes of our own brimming island. Yet, though the snipe is so powerful on the wing, it seems to be specially singled out for the attention of birds of prey. Neither the merlin nor the peregrine can let it pass without giving chase. A hundred birds may fly by unheeded, but the snipe ever presents an irresistible target—possibly because its flesh is as much prized by bird and beast as by man, possibly because the falcon which has once been fooled by a snipe thereafter bears the enmity of defeat towards the race.

Probably the habits of no bird are so little understood by the majority of sportsmen as those of this little brown bird of our fens and moorland swamps, and this because one must be familiar with the bird in spring and summer,

as well as during the shooting season, in order to learn anything about it. One can learn a good deal about the habits of partridges, pheasants, wild duck and so on while in pursuit of them, but the sportsman who sees the snipe only in winter is in a very poor position to learn much about it. A buzz of wings, a startling "screap," and away the bird goes twisting into the wind. That is all one sees of him—a shy and retiring bird, whose ways are a deadly secret.

One of the most curious things in bird life is the difference of attitude many birds show towards man at the different seasons. This applies specially to the waders, and perhaps most strongly to the snipe. The snipe at its breeding haunts between April and August is an entirely different bird from the snipe which gets up before the sportsman in October and later. It is no longer secretive in its ways, no longer given to crouching fearfully at the sound of a footfall—in fact it is most remarkable for its absolute fearlessness of man and disregard for his presence. Over and above this it utters many strange notes uttered at no other season, performs acrobatic feats in the air unknown in winter, and generally behaves itself in so mad and heedless a way that it is one of the easiest birds to study.

How many people have seen a snipe on the ground when out shooting them? Not one sportsman in a thousand, I am prepared to assert, yet it is no difficult matter to watch them feeding and flirting during the nesting season.

One May day a gamekeeper and I were seated near a moorland swamp in the West Riding, when three snipe alighted within eight yards of our feet. Their flight was curious, and at first glance we mistook them for redshanks. We were straight in view, and they could not possibly have missed seeing us—indeed they several

times looked straight at us as we conversed in low voices. Two were evidently cock birds, the third a hen, and having alighted the two cocks puffed out their feathers, humped their backs, and with tails tremendously fanned out and wings brushing the ground they proceeded to circle round and round the female, who stood with her head up merely getting out of their way. The cocks did not tilt at each other—indeed they seemed entirely oblivious to each other's presence, as to us, and it was only when the female took alarm at our close proximity that the strange performance ended. The hen flew off, her two ardent admirers following, no doubt to repeat the performance in another part of the swamp.

During the nesting season, when the male snipe is mounted guard in the heavens above his mate, I have more than once noticed that the bird has a curious habit of accompanying for a short distance and repeatedly encircling any fast-moving vehicle. I noticed this specially during the two or three seasons just prior to the war when the car in my possession was a pure white one, and again last summer when driving a vehicle of burnished aluminium finish. It would seem, therefore, that the more conspicuous the vehicle the stronger is the attraction, and while driving the white car I once or twice obtained startling evidence as to the speed of this bird. On one dead straight moorland road we held a speedometer reading of sixty-two miles per hour for considerably over a mile and during this burst of speed a snipe was circling easily round us, and not only circling but rising and falling, and apparently with no greater effort than when the vehicle was travelling at between twenty and thirty miles per hour. He must have been travelling three times as fast as we were, close upon one hundred and ninety miles per hour, which is a tremendous and almost unbelievable speed for a bird to hold in the ordinary

course of flight. Yet anyone who has watched one of these birds manœuvring in the heavens, performing a gigantic oval sweep, now overhead, now the merest speck on the other side of the moor, knows that twenty seconds is quite long enough for him to travel almost to the limits of one's vision.

When I was motoring one day with a friend in the West Riding a snipe, accompanying the car in the manner described, collided during a nose dive with the telegraph wires about fifty yards ahead of the car. It came to earth with tremendous force, and picking it up we found it to be a shattered pulp. Almost every bone in its body was broken, and the delicate bill was all but carried clean away.

The habitat of the snipe is certainly worth a visit during the nesting season—that is, any time between mid-April and July, for one is certain to see the male snipe in the heavens, or, indeed, as many males as there are females sitting their eggs below. It would seem that the males are on sentry go day and night at this season, while added to their strange notes is the mournful iteration of the redshank's love song, the melancholy whistle of golden plovers, the "tee-witt" of a lapwing or two tumbling in zig-zag flight over the rushes, and the strident, siren-like bubblings and pipings of the curlews. All these birds are calling as at no other season. Each has its respective love song, each is conducting itself as at no other time.

The love song of the snipe is the bedrock of simplicity, and consists of two notes, which to my ear are best transcribed as "chipp-churr." Few sounds have been so variously transcribed by different writers, however, and Pralle puts the combination of letters as "Gick-Jack" to describe it. Yet Woolley "keet-koot," and Thompson "tinker-tinker." To my mind nothing could

be less like the sound than "tinker-tinker," the originator of which would probably be deaf to the similarity of my own "chipp-churr." Any combination of vowels and consonants judiciously spaced would probably suit someone, which shows the utter futility of attempting to put bird sounds into letters.

At all events, "Quick-Jack," or "Keet-Koot," or "Chin-Chow" the snipe sings to his mate while she sits and he flies, and it is during his early vigil that the male snipe resorts to the habit of drumming, elsewhere alluded to in this work. The sound is not unique in bird life, as some ornithologists assert. Various birds use their wings during the spring of the year for the purpose of producing sound, among them being the lapwing.

But, be that as it may, the drumming of the snipe is at any rate unique in its volume, and in its isolation of purpose. For a century and a half past naturalists have discussed this sound. Some assert that it is vocal, others that it is produced by the tail feathers, the two outside of which are curiously formed as though for some express purpose; others that it is produced both by the tail and the flight feathers. Personally I am convinced that it is produced solely and entirely by the wings, and it is possible to produce a very similar sound by mounting on an aeroplane the stiffened wing of a bird in such a position that it reciprocates slightly while borne through the air at high speeds.

If one watches a snipe during the drumming season, one will see that his method of progress is as follows: he banks steadily upwards to a height of perhaps three hundred feet, then he descends one hundred feet at an angle of forty-five degrees, and forthwith proceeds to mount again. Again he descends, and again he mounts, each descent marking the drumming sound, so that it

occurs more or less regularly once, let us say, every twenty seconds. Probably by the time the bird has ceased to descend, the sound reaches one's ears, and while it lasts the bird is once more mounting. I have, however, heard a snipe drum within about fifty feet of my ears, and the sound is then tremendous and of surprising volume for so small a bird.

When in the act of drumming the tail of the snipe is tremendously fanned out, and the wings slanting slightly tailwards may be seen to vibrate. The flight feathers are separate, so that one can see the sky between them, and each individual feather can be seen to quiver like an upstanding aspen in a mill-race. If the sound were vocal, why should the bird utter it only during those headlong plunges with which, allowing for distance, the sound invariably coincides? Why is it never uttered when the bird is on the ground or mounting, and, moreover, how is it that the snipe is capable of uttering his familiar "chipp-churr" note at the same time as he drums? Personally I have never heard the drumming and the "chipp-churr" concurrently, or rather, on the one or two occasions when I have thought they concurred, I have been unable to decide definitely whether or not the manœuvring of another snipe quite near interfered with my judgment. But other field naturalists definitely assert that they have heard a snipe giving forth the two sounds at the same time, which seems to clinch the argument that the sound is produced otherwise than vocally.

The real value of this drumming note has never been definitely ascertained, but I remember an experience of my boyhood which may be suggestive. I had never before heard the drumming of the snipe, and hearing it I mistook it for the noise of a snake or a lizard somewhere among the grass tufts near by. I followed the sound

from tuft to tuft for over half a mile, always convinced that it was in the tuft ahead. When at the end of this excursion I chanced to look upwards into the heavens and see the creature of the strange music, I was fully three-quarters of a mile from the point at which the sound was first heard. It is quite possible, therefore, that the purpose of the male snipe's drumming may be to lead trespassers from the vicinity where his wife sits her eggs, and it is conceivable that the deceit may act in the case of a young fox or other foe of the kind as it acted on the occasion of my own first visit to the habitat of the snipe.

It is noticeable that the peasant names for this bird invariably have some bearing upon its habit of drumming. Its breeding haunts might, indeed, be defined solely on the authority of its local names ; thus in North Yorkshire it is named moorlamb and heather bleater, while in its breeding haunts in France it is popularly called *chèvre volant*. In Sweden the name sky-goat distinguishes it ; in Germany, sky-nanny ; Gaelic, goat of the air ; Finnish, sky-ram ; Irish, kid of the air ; Lithuanian, God's goat ; Welsh, sheep of the marshes. Most of these names suggest that the sound is like the bleating of a sheep or a goat, and it certainly has a very distinct resemblance to the bleating of a kid heard some distance away. Local names also suggest the neighing of a horse, as for example the Norwegian " sky-horse " and " mist-foal."

The legend of the snipe has indeed some bearing on this latter point. Once upon a time a Norwegian farmer possessed a servant who, day after day, took the horse to graze in a waterless pasture. The horse stood it as long as he could, but one day the man, on going to catch the animal, could not find it. He then went for his master, and the two of them searched together, whereupon they were astounded to hear the neighing of the

horse some considerable distance away, and seemingly over their heads. Looking in that direction they saw the animal drinking at the water's edge in a neighbouring pasture, but as they approached it the horse was suddenly transformed into a snipe, which took wing at their approach, and vanished into the heavens with a mocking neigh.

In addition to this peculiar drumming, and to the utterance of the "chipp-churr" note of the breeding season, the snipe at this time of the year is given to the habit of perching, though at all other seasons it is never known to settle anywhere but on the level earth. In the spring I have repeatedly seen a snipe fly some distance, then alight on a rail end, bobbing like a sandpiper. I have also seen it alight on a wall top or on a boulder—anywhere, indeed, that it could obtain a good view of the surrounding country. I have never known a snipe to alight in the branches of a leaf-covered tree, as a blackbird would; always he alights in some aloof and conspicuous place, for, while other birds seek the trees for shelter, the snipe perches not to avoid detection, but in order to detect. At this season he does not mind whether or not he is seen; he merely wants to see, and so, like the sandpiper and the redshank, he settles when he perches in some open and commanding place.

The female snipe sits her eggs closely, and is a very solicitous mother. Her young are among the most beautiful and attractive of earth-born things, and she evidently knows that their chance of a safe survival depends upon the protective colouring with which Nature so liberally endows this race. Thus, immediately her eggs hatch, she carries away the broken fragments, leaving them at some considerable distance from the nest, knowing, evidently, that the white chips would serve to catch the eyes of her numerous foes. Many birds



SNIPE

Pitching over its watery habitat. *See p. 250.*



[Wishes, N.B.]

RED GROUSE.

This is a hen bird; colouring of the male is generally darker. See p. 277.

Photo by C. Eichl

do this—that is, carry away the broken shells, which accordingly may often be found lying in the open at some considerable distance from the nest.

During recent years the reclaiming of waste swamp grounds has considerably reduced the breeding areas of the snipe in this country. I know of several moorland swamps in the West Riding which in my schoolboy days used invariably to afford nesting sites for snipe ; irrigation has led to the abandonment of these places, and the same thing is occurring all over our island. So far as the sport of snipe shooting is concerned, however, we are not in any way dependent upon the birds which breed here, though naturally a reduction in suitable breeding areas leads to a reduction in the number of snipe visitors. Thus many moors, where at one time snipe bred regularly and which could be depended upon in the winter for producing sport, now no longer exist as snipe grounds.

It may safely be said that there is no such thing in this country as resident snipe. This has been debated repeatedly, and many naturalists assert that we have resident snipe and resident woodcock. By resident, however, is meant a bird which breeds and spends its life thereafter in the same locality, and so far as field observation can prove, neither the snipe nor the woodcock do this. They are here to-day, and gone to-morrow during the shooting season.

With regard to the snipe, my experience is that a certain number of birds breed in a certain swamp. At the end of the breeding season, a number of birds may be put up in that swamp, consisting of the adults and their respective families. Thus, by the end of July, the swamp is exceptionally well stocked, but by the end of August one may cover the whole of it and find not a single snipe. The fact is they are gone. When October comes, a few birds may be put up, and in November it may

carry as many as in July. These winter birds, however, are not, so far as it is possible to judge, the birds which were bred there. They, in all probability, are hundreds of miles away, and the present occupants are migrants from the north, probably from Scandinavia. They remain in the locality till about the beginning of February, then another gap may be noticed. In March the birds reappear; these are the breeding birds, and they remain till the young are able to accompany them on the leisurely southward migration.

Snipe are curiously affected by the weather, and generally speaking high winds and rain are detrimental to snipe shooting. Heavy gales from the south-west have the effect of making the birds so wild that it is impossible to get near them. Then if the wind suddenly veers, with driving mist-like rains, the snipe immediately gather into small packs, which rise ninety yards or so from the gunner instead of sitting close. Immediately one pack has risen, other packs rise from various parts of the swamp, and all set off in the direction of some other feeding ground.

It has often been said that the snipe found in small packs are migrants fresh from overseas, but during my studies of the bird in Norfolk, I have definitely concluded that their packing is merely a matter of weather, and that the birds which rise singly one day may rise in batches of half a dozen the next.

Normally the snipe sleeps during the day, and feeds during the night. Hard frost brings great suffering to them. They are then to be found in all manner of out-of-the-way places, such as the heads of small streams, and about the drainage systems of towns and villages. Indeed I have known them to take up their habitat in most uncongenial quarters on the immediate outskirts of great cities. The snipe depends upon his long soft

bill for his living. His tactile sense is highly developed, and the nerves by which we ourselves see and smell and taste find a highly developed centre in that probing bill of his. Thrusting it into the mud he can feel the presence of insects, can locate them exactly, and is able to feed without withdrawing his bill from the earth. The woodcock feeds in the same way, and it is noticeable that in the case of both these birds, the eyes are set far back in their heads, which gives them a very singular appearance. The object of this is that the snipe and the woodcock can see above them and behind them while in the act of feeding—that is, while probing deeply into the earth. The bill is often so far sunk that the feathers of the face come in contact with the swamp, and thus the position of the eyes serves still further to preserve them from earthy matter.

Anent the packing of snipe and their curious habit of crouching when disturbed, a friend of mine, when one day in pursuit of other game, perceived a snipe sitting on the ground, and, I blush to record, shot it. On going up, what was his surprise to find three snipe lying dead, while two others rose as he approached. This experience, I should think, must be almost unique.

Normally the snipe rises upwind, or doubles immediately into it, and as he rises he zig-zags rapidly. The primary object of this is evidently to defeat a possible pursuer, whether it be a charge of No. 5 shot or the lightning stoop of the peregrine. Sheep double in the same way when startled, their inherited instincts being to foil the charge of bear or panther.

A great many snipe nests are destroyed by flood waters, as are those of the lapwing, but as in the case of the lapwing, this occasions no wastage, as the hen bird immediately nests again. Thus, during a wet season,

it may be on into August ere the last families quit the swamp of their birth.

The jack snipe is a smaller bird than the common snipe, and is a winter visitor chiefly. It does not breed in our island, but comes in September and October, returning to the same haunts year after year. The habit of taking cover and crouching is even more strongly developed in this bird than in the common snipe; it will sit still till almost stepped upon, and it is owing to its peculiar stupidity in this way that it is known by the French as the deaf snipe. I remember on one occasion looking over a wall and seeing a jack snipe feeding on the other side. The little bird was much surprised, and at once crouched, though full in the open. I threw several pebbles at it, but though I almost hit it more than once it refused to rise until I climbed over the wall and walked straight towards it.

The jack snipe leaves us in April, then in very beautiful plumage. It breeds in Northern Europe, where it has an aerial performance similar to that of the common snipe, and described by Woolley as a sound resembling the cantering of a horse over a hard, hollow road.

When disturbed the jack snipe does not usually fly very high or for any great distance. He makes his way to the other end of the swamp and pitches. They do not pack as do common snipe, and are invariably found singly. There is a tale told about an Irish clergyman, for whom a single jack snipe afforded a season's shooting year after year. Day after day he found it at the same place, and day after day he blazed both barrels at it. The parson was growing old, and one day a stranger trespassed on his property and shot his snipe. This blow proved so severe that the reverend gentleman died very shortly afterwards.

WOODLAND THIEVES AND LOAFERS

CHAPTER XVII

WOODLAND THIEVES AND LOAFERS

(THE JACKDAW, THE JAY, THE MAGPIE)

IT would be hard to say which is the most intelligent of our indigenous corvine species. If the power of holding out against persecution has anything to do with it, the jackdaw comes foremost as far and away the most plentiful, for in all parts of the country keepers never miss an opportunity of destroying these birds on account of their sly habits. The jackdaw ever prefers a stolen meal to an honest one, and if, by dint of sneaking in by back-door methods, he can lift a pheasant chick, or plunder a clutch of eggs, he prefers to do so than to hunt in the ordinary way for his living.

In some localities where jackdaws are most plentiful, they are trapped wholesale. The orthodox jackdaw trap consists of a wire cage, six feet or so in height, four or five feet wide, and ten feet or so in length. The cage is provided with two funnel-shaped entrances, pointing inwards and narrowing off till just large enough to admit the entrance of the bird. The trap is on the same lines as the bait traps used by anglers, and generally the carcass of a sheep is placed inside it. Sometimes as many as forty or fifty birds are taken in a single haul, whereupon they are sold for pigeon shooting matches or possibly for pigeon pies!

Numbers of daws are shot during the nesting season, as they then lose much of their distrust of man, and can very easily be killed as they swoop from their nests or

return to feed their young. Yet, despite all this, these birds are among the most plentiful in the land, for, like the starlings, they are found everywhere, often in great numbers where one would least expect to find them.

There is, however, a reason for this over and above the bird's cleverness in avoiding destruction, for were its favourite haunts identical to those of its first cousins, the jay and the magpie, it would certainly be no more plentiful than they are. The jackdaw owes its abundance chiefly to the fact that security exists for it in the midst of its human foes.

How many thousands of these birds are safely reared each year in the tiles of churches?—hence the term “ecclesiastical daw.” There, as in the walnut groves of old mansions, or about the buildings themselves, this bird realizes a security unknown to its kind which cling to wilder places. Scarcely a crumbling abbey in the land is without its jackdaw clan, while countless numbers of them haunt inaccessible cliffs, perhaps overlooking the sea, where they are equally safe from shot and powder. The abundance of the jackdaw, then, is as much owing to its choice of safe breeding haunts as to its cleverness and adaptability.

The two latter characteristics are almost inseparable, as the cleverness of the jackdaw lies largely in its adaptability. In this it surpasses the house sparrow, and closely rivals the starling. The versatility it shows in its choice of breeding haunts is sufficient illustration. The jackdaw will nest anywhere that suggests a sufficient degree of shelter and safety. Hollow trees, crevices in rocks, among the roots of trees overhanging cliffs, rabbit burrows, holes in sandy banks originally made by the martins, and enlarged by kingfishers or the action of the weather. In secluded places I have known them to nest among the piles of rocks left on the ground by bygone

generations of miners, their nests in this case being so far in among the crevices that even by the aid of pick and shovel it was impossible to get anywhere near them. Chimney pots and drain pipes afford common refuge.

The quantity of stuff a pair of jackdaws will collect for the foundation of their nest is really surprising, for in this respect they lack neither enterprise nor energy. Having taken a fancy to a certain dark hole, a pair of jackdaws will sometimes set to work to fill the hole with sticks, albeit they have not the least idea as to the depth of it, and so, by a process of eliminating space, they have it in mind evidently to build a nest on the top of the pile when their object is achieved. Thus, year after year, the birds try to fill up the chimneys of certain old houses they favour, bringing the wrath of the household down upon themselves for the vast amount of dirt and litter they produce. Some years ago I saw a hollow tree which had been twisted and torn open by a gale, and the space down the centre of it, some twelve feet in depth, and three feet in width, was chockablock with small sticks carried there by the jackdaws. Apparently the work was that of a couple of birds in a single season, as there was no indication of old nests on the top of which more material had been added.

The largest colony of jackdaws I have seen haunts the great circular wall on the top of the hill overlooking the town of Oban, and night after night, particularly during the autumn months, I have been kept awake by the unceasing clamour of these birds. When they sleep no man can say, for at regular intervals thousands of them can be heard to rise into the air, flying over the town for a few minutes ere they again settle, presently to rise again.

The jackdaws seem to think that they possess hereditary rights with regard to certain of their ancient breeding

haunts, for they levy blackmail on the various other cliff dwellers which are so unfortunate as to take up abode near them. Rooks as a rule are fairly well able to look after their own interests, but along the sea cliffs many of the sea birds, particularly the foolish guillemots, are robbed and imposed upon till their silly perseverance must be sorely tried. When a male guillemot comes home with fish for his female, and trustingly leaves it on a shelf at their disposal, the jackdaws are down in the twinkling of an eye to bear it off. The eggs of shelf breeding sea birds are never safe from them. If an egg appears temporarily to be without an owner, the daws tip it over the edge, accompanying it as it falls, and devour its contents in peace and comfort among the shelves below.

They are the wolverines of the sea cliffs, ever ready to profit by the industry of others, but they take care that their own eggs and families occupy the most secure crevices, safe not only from bird thieves, but even from the hands of the cliff climber.

A Cornwall observer tells me a curious story which serves to illustrate the cunningness and the long memory of these enterprising corvines. A small colony of daws had always nested in the sea cliffs near his house, but during the war a pair of peregrines took up their stronghold in the same crags. Throughout the season of their arrival they played great havoc among the jackdaws nesting there, scaring them very effectively and knocking numbers of them into the sea. The following season the peregrines returned, but only two or three couples of daws made their appearance. These started to build, but forsook the place before their nests were completed. Since then no daws have returned. The peregrines have not put in an appearance for three or four seasons, but the grey-headed republic has finally forsaken the place.

As a rule, however, it takes a great deal to induce jackdaws to forsake an ancestral haunt, and I have myself seen hundreds of them busily at work in cliffs where a peregrine had its eyrie. Even quarrying activities do not appear unduly to disturb them, as I have known a clan to flourish when all around them blasting with dynamite was in regular operation.

The birds often occupy rabbit burrows along sea cliffs tenanted also by rock doves and puffins.

Jackdaws will eat anything that rooks will eat, but they are more partial to carrion. One day I noticed a great deal of excitement among a flock of these birds and several gulls feeding at the sea edge on the Fife coast, and on my going up to investigate the gulls flew off, though the jackdaws, seeing that I had no gun, remained till I was within a few yards. It then transpired that they were feeding on a decapitated seal thrown up by the tide, though circumstances did not invite too close an enquiry.

Though the jackdaw does not believe in working when he can profit by the labours of others, he is nevertheless an active and industrious bird, astir as early as anyone before sunrise, and among the last to roost. In the early hours they disperse themselves over the fields, feeding like rooks, and since they depend largely on worms and insects, they doubtless do much to counterbalance their destructiveness during the spring of the year. Often small packs are to be seen returning home so late that they are clearly a little afraid of being caught without lights, and their flight then takes the form of a slovenly scramble, suggestive of the adage "more haste less speed."

A jackdaw makes an amusing pet to have about the property, though since the storage habit is so highly developed in these birds, Jack needs to be closely watched

if there is anything at hand to which he might take a fancy. The bird has a very curious expression, turning his head awry and looking at you closely with one grey eye, as though forming a purely personal idea as to your moral worth. The grey head gives him an oddly sage appearance, and when he is wrapped in thought, his feathers puffed out, he looks more like some strange type of little old man than a bird. So one finds oneself wondering what is at work in that strange little brain of his.

The jay, so closely allied in many ways, has ever possessed such unenviable notoriety that in the reign of George II an Act of Parliament was passed granting a bounty of threepence for every bird killed. Since then it has been heedlessly persecuted by gamekeeper and farmer alike, but nevertheless the jay is still surprisingly numerous in many parts of the country. Their distribution is very uneven. In some woods they are to be heard all day long, yet in other parts one may live for years amidst forests which would seem exactly to suit their taste, and never hear a single jay. They cling for the most part to waste lands, where the timber is small and the undergrowth dense, and they have learnt by long persecution to put the dense thickets to good use in the way of taking advantage of their cover. Thus the jay is more commonly heard than seen. Occasionally one catches a glimpse—a vivid blue flash as he falls from one tree top or mounts to the next, but he is a sly bird, and but for his talkative habits would probably be a great deal more plentiful.

The jay feeds on insects, young birds, cherries, berries, peas and vegetables of various kinds, and as many eggs as he can get. Also he kills mice, which he skins before swallowing. The young jays haunt the vicinity of their nests for several weeks after, and so effectively do they

advertise their presence that it is not difficult for an experienced keeper to exterminate the whole family. Indeed I think that their numbers in one locality or another depend entirely upon the activity of the game-keeping fraternity.

These birds are much disliked for their tell-tale habits as for their destructiveness. Poachers hate them, for they are the first to see and spread the alarm. Similarly the keeper hates them, because they quickly betray his whereabouts when he is anxious to pass unseen. The Red Indians, however, those masters of woodcraft, understand jay language, and from it they take many a hint during their hunting. For other wild folk take their warning from the jay, and an Indian never attempts to stalk a deer which suspects the approach of danger till the jays give their "all's well" call. The deer then continues to feed without alarm, and it goes without saying that the Indians themselves have learnt to mimic certain of this bird's notes so effectively that the trick is of real assistance in their hunting.

So far as my own experience goes, I would say that the jay is not so destructive on game preserves as many people think, and I would prefer to see him occupying the woods than the shrike. He is an alert and vivacious bird, which is thoroughly worth watching if one takes the pains to observe his habits. He alights on a branch and looks about him with an enquiring eye. Up go his wings and tail, then down again. His crest is alternately raised and lowered, his bright eyes glance in this direction and in that, then, having seen you, for so little misses him, away he goes, shrieking and chattering, presently to draw the whole of the jay community of the district to the neighbouring trees.

In the early spring of the year jays are much given to social gatherings. I have seen as many as a dozen of

them in a single tree, though why they foregather it is hard to say, for they do not seem specially pleased to see each other. They fight and dispute over apparently nothing at all, till eventually the social gathering splits up amidst a general atmosphere of discord.

The loquacious magpie has no more friends than the other two, and I would certainly set him down as the most destructive of the three. Though not a very formidable bird either in size or equipment, he is so audacious and persistent that he is feared alike by the small song birds and by game birds, and not without good reason.

The magpie is about the most active egg thief that we have. A family of them will destroy every small bird's nest in their immediate vicinity when once they have really taken to this method of hunting, and much as one appreciates Jock's gay plumage and bright manners, he is undoubtedly a holy terror in the lives of his neighbours.

Early one morning I noticed two magpies behaving in an excited and curious manner among some heather between two strips of pine wood on a Yorkshire moor. They appeared to be mobbing something—probably a stoat, I concluded, but moving cautiously I obtained a better view. They were trying to drive off a hen grouse, which, though obviously her task was a hopeless one, was putting up a plucky resistance, using her wings and claws in desperate efforts to hold her own.

One of the magpies was on the ground and doing most of the fighting, while the other was flying round always within a few feet, and apparently heading off every attack the grouse made, striking her with his wings and generally bewildering her. Both of them were as quick as weasels, and evidently seriously intent on business, and anyone seeing them would have realized that the game bird

which is to stand up to the vicious, stabbing assaults of such ruffians would have to be fit indeed.

Anxious to aid the grouse I hurried up to the scene, when both magpies flew off into a neighbouring tree, though the grouse seemed afraid to rise and ran crouching through the heather. Reaching the place I could see nothing to account for the contest, but having no doubt that the newly-hatched brood was the cause of it, and fearing to search about lest I should step upon the chicks as they lay hidden, I went back to the wood edge, and there waited till the mother had time to get her charges away.

Magpies will lift practically anything that they think they can swallow, and I remember watching a pair of them hunting a bent pasture in the West Riding. Hither and thither they ran, always about fifty yards apart, and now and then one of them would be seen to strike into the grass, dragging something out. It then got to work with its bill and claws, evidently devouring food of some kind. Lizards were very numerous on that particular allotment, and I have no doubt whatever that the magpies were catching these.

When fishing on the Tweed, I used regularly one summer to notice a pair of magpies besporting themselves along a railway banking on the Innerleithen and Peebles line. Every noon, as regularly as clockwork, they were to be seen there, though they were so wary that it was impossible to watch them closely. The banking faced south, and being a dry, sunny place, snakes and beetles were most abundant there.

Some friends of mine living in the South of England kept a tame magpie which had free run of the garden. It was found necessary to keep the bird caged during the spring, otherwise every song bird's nest on the premises was rifled and torn to bits by Jock, but when

eventually the bird took to waiting at the hives and killing every bee which came out, till the earth surrounding him was littered with their corpses, it was finally decided that Jock did not pay his way. A length of picture cord with a running noose passed through a keyhole provided an end more merciful than poor Jock could have expected by Nature's ordinary course.

An eminent naturalist has said that the kind of disposition which remembers evil and long works for vengeance is peculiar to man, but I have no doubt whatever that this particular magpie had been stung by a bee, hence the subsequent carnage by the hive.

But, whatever the sins of the magpie, it must be said that in their home lives they have much to recommend them. Jock sticks to his mate for life when circumstances permit, but, being a gay dog, he very soon finds a second mate should he lose the first. Thus, if wife number one, the mother of a fine clutch of eggs, meets her fate ere they are hatched, Jock comes along next morning with a new wife to carry on the good work. I suppose he prefers this course to sitting the eggs himself, as some of the male hawks do after the female is killed, and certainly he deserves the highest credit for his forethought and enterprise. "See, my dear," he doubtless addresses her, "I offer you a nest complete with a promising clutch of eggs, no trouble about building, no more eggs necessary, all you have to do is just sit tight till they hatch!"

Could any eligible lady magpie, finding the season far spent and herself still a spinster, reject such a prospect? Yet, imagine her remarks regarding the previous lady should the eggs prove unfertile!

Mr. Tom Speedy describes how he shot six magpies from the same nest during successive mornings. The unlucky widower must, in this instance, have advertised

in the local agony columns, for at daybreak succeeding the death of number one, a whole flock of prospective step-mothers turned up in the vicinity of the nest!

From the foregoing it would seem that there is generally a superfluity of female, unmarried magpies, for invariably if the hen be shot another takes her place. Or is it that Mrs. Jock is so sadly lacking in the virtue of constancy that, having her own home yet to build, she is prepared to desert her husband and run off with any gay widower who can offer so much without the trouble of stick hunting and laying? No, I doubt whether Mrs. Jock is so fickle as this, for, as already stated, the magpies mate for life, and though the loss of his mate may be a sore blow to the male bird, he is nevertheless sufficiently a stoic to consider the welfare of his projected brood. As a matter of fact the trait indicates a very high standard of reasoning, not to say loyalty and affection.

Though now rare or all but extinct in many counties, the magpie cannot be set down as an uncommon bird, and it is rather remarkable that it has held on to existence so well. The old birds are not difficult to shoot while nesting, and the huge nest is generally so placed that it affords a landmark, and can easily be destroyed by a charge or two of shot. In addition to this the young birds, which like young jays haunt the locality of the nest for some time after they can fly, are very easily trapped and poisoned. A few doctored eggs placed on the top of an ivy-grown tree stump or wall is almost sure to attract them, and keepers have not much difficulty in exterminating a whole family.

Magpies show a great affection for certain places—or rather certain places seem to attract them, and are never without at least one pair. I remember one little valley in the Pennines to which a pair came yearly. Yet every year the keeper shot them and laid waste their

nest, so that it could not possibly have been a case of the same birds or the same family returning to a favourite haunt. That little valley, indeed, bred no magpies. It was merely a source of loss to the species, yet they would not forsake it, and probably still try to breed there.

The nest, with its thorny roof and side entrance has so often been the subject of comment that further description would be superfluous. Often it is placed in the top of a high hedge, so completely barricaded by thorny branches as to be quite inaccessible, sometimes in the topmost branches of an elm, but in the hills of the north, generally in some fir thicket which serves to break the wind and to hide the nest from view. If a pair are successful in bringing off their brood, they return to the same nest the following year, and often year after year, renovating and repairing a little on each return.

Though in England and Scotland the magpie, like the jay, to-day clings to certain familiar haunts, it is plentiful everywhere in Ireland. It is not, however, indigenous to that country, and Yarrell remarks that there is a widespread belief among the Irish that it was introduced there by the English out of spite!

As intimated, the young remain with their parents generally about the locality of their birth during the summer, and it is interesting to watch them foraging. Leaving the home wood they set out in a broken string, generally in pairs, a hundred yards or so between each pair. Here one of them dives into a thorny thicket to explore its dark recesses, while the other alights in the growing corn, and proceeds to run hither and thither, much like a giant pied wagtail in manners as in looks. He seems veritably to change colours, now white, now black, as the sunlight falls at different angles on his radiant plumage, and at intervals he jerks his tail upwards as though to attract attention to himself. He is a very

bright and spritely bird, which cannot fail to attract the eye, and so, as the two dally, they are presently overtaken by the other two previously in the rear, one of which also alights in the corn field, while the other settles on the topmost limb of a pine, there to polish his beak and chatter loudly.

So, by very easy stages, they make their way to some appointed place, and so thoroughly do they explore the country over which they pass that very little escapes them. When a whole family is assembled, feeding about a sheep trough, for example, in the bright morning light, and in the middle of a ten acre field, they present a very pretty picture.

Magpies destroy a large number of mice, probably as many per bird as tawny owls do. As a rule the mouse is gulped whole, for Jock possesses a very accommodating gullet, but in more fastidious mood the magpie skins its mouse meal, as is often to be noticed by the remains they leave. No doubt they kill rats too, as tame magpies have often been known to do so, though as a rule only part of the head of the rat is devoured.

These birds are very fond of scavenging lake margins for dead fish, and often take up their abode by water. I remember once, fishing from the shore of Teaton reservoir in Northamptonshire, I hooked and landed a fine rainbow trout. Not wishing to carry the fish, since I had no basket, I hid it in some high grass under a willow bush a little distance from the water's edge. I could not have been away more than twenty minutes, but on my return I found the fish disembowelled and partly eaten by a magpie. Either the bird had scented the fish or had watched me hide it—I believe the latter—for it was most effectively obscured from view. One needs to be very astute, however, in order to hide anything from a magpie.

In addition to the harsh, familiar chattering call, and the almost equally familiar and oft repeated "Jock" mostly uttered in the thickets, the birds have a curious, guttural manner of talking to each other when in close company. Their conversation at such times is almost uncannily human, and as Hudson says it strongly resembles the guttural tones of two negroes lying somewhere in the grass.

In the days of falconry magpies were said to give excellent sport, chiefly by reason of the fact that the whole field could keep in close touch with the chase and witness everything. For Jock had more sense than to rise and "fly away." He was too wise for that. Instead he made for the nearest thorn bush, and refused to leave it till he was forcibly driven out, when, flying low, he would head for the next. By keeping close to the ground during these desperate spurts he gave the hawk no chance of a swift strike, and by dodging, hiding, and walking as far as he flew or further, he afforded more rollicking fun than any other bird of the country side. And in the end a rabbit burrow or a hollow tree generally provided Jock with the chance he sought, and so the lively chase would conclude with fitting merriment.

STAG MOSS AND HEATHER



CHAPTER XVIII

STAG MOSS AND HEATHER

(THE RED GROUSE)

FEW subjects are more interesting than the flora of the hills, the part played by the birds which essentially belong thereto, and the cultivation, distribution, and preservation of the plants on which they depend. The chief foods of the grouse are heather, ling, *erica cinered*, and some other species of heath, and as everyone knows the success of a grouse moor depends very largely on the proper burning of the heather. The moor fires are arranged each year so that a certain area is burnt close, the men controlling the fires by means of planks and wet bags, which are used to beat out the flames when the prescribed boundaries are reached. On a well-controlled moor, the burning is arranged so that every part of the moor is covered once in ten years. During the previous part of the first year the burnt area is of no use, but towards the end of the first year and during the second year it grows in an abundance of young shoots which afford the very best food for the moorgame. During the fourth and fifth years the food is a little coarser, but the growing heather affords fairer cover, and the big heather of the seventh, eighth and ninth years affords the necessary refuge for the birds from their enemies and from storms. In deep snow it is often the only heather to which the grouse can get access, and thus it will be seen that if the birds are to enjoy the advantage of every kind of food and cover they require, they must have the heather in its various stages of nine years' growth.

I remember in the Pennines a winter of exceptional severity some years ago, when the grouse came in great packs, like flocks of starlings, to a certain part of the moor, where the heather had not been burnt for a number of years. On this particular slope it was thigh deep, and the snow had not buried it to the same extent as the shallower growths. It was interesting to watch the birds, many of which were quite emaciated by hunger. They had lost all their fear of man, and one could have killed numbers of them with a walking stick. Alighting on a protruding shoot, the bird would strip every green shoot from it, working from the bottom upwards, but the heather was so old and coarse that though their crops were quite distended, they were nevertheless starving. The food of the grouse at any season contains but a small amount of nourishment, and thus the birds are compelled to eat great quantities of it, and their digestive organs are arranged to assimilate the food in the best manner possible.

Thus it will be seen that moorgame may suffer hunger with an abundance of their food on every side, unless artificial means be resorted to for feeding the stock of birds, which is probably far greater than the moor would carry by Nature's ordinary course. In other words, by burning the heather and thus providing an abundance of young food, we render it possible for a moor to carry a far greater head of game than it could possibly carry by Nature's ordinary course.

A great deal has been written during recent years about frosted heather, which in some parts of Scotland presents almost as serious a problem as grouse disease. The heather shrivels up and turns brown, thus dying off over certain areas. Certainly it looks as though the damage were caused by extreme cold, but this cannot, of course, be the case, or the frosting would not be limited

to comparatively small areas. I think it is now definitely decided that the disease, if such it may be termed, is caused by a small beetle (*lochincæ saturalis*) commonly known as the heather beetle. This insect breeds in the roots of the heather, and it is a remarkable illustration of Nature's laws of preservation that the beetle is one of the favourite foods of blackgame and grouse. Thus, just as the squirrel plants the forests with certain trees on which he depends for food, so it may be said that moor-game preserve the plant on which they rely for a living.

It is probable that blackgame are more destructive to these beetles than are grouse. Though moorland birds to a certain extent, blackgame do not, so far as I know, feed on heather at any time of the year, and therefore their visits to the moors, which are regular, are chiefly for the purpose of finding insect food. So, while the grouse there make a mixed meal of ling tips and beetles, the blackgame fill their crops entirely with beetles, as has many times been proved by an examination of their crops. These birds, therefore, should be regarded with a very kindly eye in those regions where frosted heather has caused devastation.

A variety of plants and roots grow on the moors above the timber line in addition to those already mentioned. There is, for example, the crowberry. This is seldom seen at a lower altitude than one thousand seven hundred feet, from which level it extends to a greater height than the heather. It is undoubtedly the chief food of the ptarmigan. Indeed it may be said that ptarmigan are seldom to be found at a lower level than the crowberry, except when very severe weather drives them and the deer to the lower slopes. Normally the range of the ptarmigan begins where the crowberry begins, and where this plant does not exist ptarmigan are few and far between, or perhaps entirely absent.

The crowberry is a very hardy little plant, and flourishes well on the wind-swept slopes where practically nothing else can grow. Thus it is a specially important item among the winter foods of the ptarmigan, for it is to be found naked on the wind-swept areas when the more sheltered spaces are buried under the snow. Grouse and ptarmigan feed also on the cranberry, the bear-berry, and the cloudberry, while the blaeberry affords the most important crop next to the crowberry so far as the ptarmigan are concerned. It is specially noteworthy that the seeds of most of these fruits, and the same applies to most fruits which grow in barren places, do not always lose their fertility by passing through the digestive organs of birds, and so moorgame also play an important part in the distribution of the foods on which they depend.

Now to the habits of the grouse, with which the sportsman must be more or less conversant if he is to obtain the best results from his moor. He must know, for example, where the birds are most likely to be found during the different times of the day and under varying weather conditions. Although they may be abundant on a certain part of the moor during certain hours, it is more than likely that they will be entirely absent from that place at other times. In these days, grouse driving becomes more and more popular, and doubtless affords very excellent sport on many moors; the result is that the organization of the day is generally left to the head keeper, and many gentlemen who own moors would be hard put to it to obtain a bag if left to their own resources.

There is, of course, a great science in proper location of the butts, and in knowing just how the birds will fly, all of which is left to the keeper, but when walking birds up and shooting over dogs, it is an entirely different matter. One must then know the habits of the birds, or many a heavy mile will be tramped in fruitless searching.

Generally speaking grouse start the day at their feeding grounds—that is, on and about the patches of young heather. They do not feed so heavily at this time of the day as in the evening, and consequently are likely to rise a little wild. Therefore, the sportsman who really knows his moor confines his morning as far as possible to the deepest of the young heather, in which the grouse will squat much closer than in the newly-burnt crops.

As the heat of the day comes on, the grouse generally forsake entirely their feeding haunts, and make their way to the lower bracken slopes or to the banks of burns, where they seek the cover of the ferns and the bog myrtle, and it is, therefore, during the late forenoon and the early afternoon that one generally hears most complaints as to the scarcity of birds. They seem entirely to have forsaken the moor, but nevertheless good sport is available if one searches in the right places for them.

As the heat of the day begins to subside, the birds dribble back to their feeding grounds, and it is in the cool of evening that they take their heaviest meal. Therefore, they sit closest and afford the best sport towards the cool of evening, the time when most sportsmen pack up and go home with thoughts of a hot bath and dinner.

I have, on more occasions than one, set out with a keeper at four in the afternoon, and walked up as many birds as we cared to carry between then and sundown, and this indeed in a deer forest where the necessity for walking hard and far was regarded as inseparable from a good bag.

It is specially noticeable, however, that grouse often sit closer where they are very little preserved in the deer forests, than they do on the cultivated moors. This is probably because they are more troubled by hawks and vermin of other kinds in the forests than on the

closely preserved moors, and thus they acquire the habit of seeking shelter by crouching rather than by rising awing. Needless to say this bird is far safer squatting down in the heather when falcon or eagle passes, than he is in the air.

If the weather is wild and wet, it is generally very difficult to obtain good sport. The birds do not seek the dense cover for shelter from rain as they do from hailstorms, but instead they seek the bleakest and most open spots, where they perch themselves on the boulders or on the barren mounds, with feathers tightly packed and head-on to the wind. During wet weather a grouse will sit for hours on top of a boulder facing the storm, while the rain streams down his feathered legs and from his tail tip. If shot, however, and given a slight shake, it will be seen that his feathers are perfectly dry, though immediately he is dead they begin to absorb the moisture, and if still exposed to the weather his coat will soon become saturated.

This applies to practically all other birds. Wild duck, for instance, swim and dive without so much as becoming moist below the surface feathers, but if a wild duck be shot and he fall into the water, his plumage at once becomes saturated.

Thus it is evident that birds are able to control the "waterproofness" of their feathers, and this is probably done by the working of the muscles which control the roots. The theory has, however, been advanced that the process is electrical, and that on the bird's death the electrical influence ceases to operate.

Grouse depend very largely upon their protective colouring, and certain it is that they know very well whether or not their immediate surroundings harmonize with their own shades. Near my home in West Yorkshire, numbers of moorgame used to come down to the

bent allotments, on which it was impossible to approach them, albeit there was an abundance of good cover. They rose wildly and flew back to the moor immediately one climbed the boundary wall, perhaps two or three hundred yards distant, nor is it to be wondered at since their dark plumage stood out conspicuously against the dried grass.

Many efforts have been made to introduce the grouse into Norway, but, so far as I know, without good results. They simply disappear, even though there be an abundance of food for them, and the climatic conditions are not so severe but that so hardy a bird might survive. The probable explanation is that the grouse are well aware that their colouring does not harmonize with the unbroken whiteness of their new habitat, and so they immediately migrate, in all probability perishing ere they reach more congenial quarters.

The immense value of this bird is not generally realized south of the Tweed, for the part it plays, at any rate in the prosperity of the Highlands, is truly enormous. Land proprietors are dependent upon their grouse moors for the maintenance of their estates; cotters and crofters obtain good hire for their ponies from the wealthy Sassenach during the grouse shooting season, while the Highland housewife obtains better prices for her eggs and butter during their visits. One has only to visit Perth Station almost any time after August 10 in order to realize that the railway companies profit much by the existence of the red grouse, while hotel keepers and tradesmen of all kinds throughout grouse country reap a rich harvest from those who indulge in the sport.

There are also sentimental reasons why this bird should be highly treasured by British sportsmen, for it is the most British of all our game birds, indeed, the only one which is entirely and exclusively British.

It is an interesting sight to watch the descent of grouse to the barley fields of moorland holdings during harvest time, and at the hours of half light, as pictured by Farquharson, Thorburn, and others. As a rule they are "unco' canny" in their approach, alighting in the heather some hundred yards or so on the far side of the wall bordering the field containing the barley sheafs, and there, descending from the moor in strings, they foregather with much crowing and chatter ere, led by some bold adventurer, they proceed to their feeding grounds.

Very excellent sport can sometimes be had by waiting for them in concealment under the boundary walls of a grain field, and one stands a good chance of a brace or so of lordly blackcock in addition to a left and right at the grouse as they come over. If left undisturbed to their meal they assemble on the sheaves, presenting a very pretty picture, but needless to say, the farmer does not appreciate their presence there.

The fact that grouse are far wilder on our southern moors than on those of Caithness, Sutherland, and Ross-shire has often been a subject of comment, and no doubt the great areas given over to deer forests in the north has something to do with this, as already described. It is owing, also, to the wildness of the grouse in the south, especially on the Yorkshire moors, that driving has become the common order there, while it is still usual on the north Highland moors to shoot grouse over dogs. Another factor, however, enters into this question. For driving to be really successful, the moor must be more or less level, as on precipitous hillsides the birds fly high, and unless the butts are very judiciously placed, the majority of them pass out of range of the guns. Thus many of the north Highland moors are far too steep and rugged for successful driving, for, obviously, butts placed on an almost perpendicular slope are likely to yield very poor results.

Personally, I much prefer the wilder sport of walking up game, when the pleasure of working one's dogs, the necessity for knowing something about the game one is after, and the delights of an ever-changing panorama, are added to the necessity for good marksmanship. We do not always realize the part scenery plays in our devotion to certain pastimes, and it is doubtless owing largely to the grandeur of the scenery which accompanies grouse shooting that the pursuit of the red bird of the heather is regarded as the elixir of British sport.

So much has been written during recent years on the subject of grouse disease, that many sportsmen have become somewhat wearied of it; far more serious is the migration of grouse from certain areas which seem entirely favourable to their existence. There is no accounting for their departure, which has caused much consternation among land proprietors on the west coast, and even in Ayrshire and Dumfriesshire. We know that it is a peculiarity of the grouse family suddenly to desert certain areas to which they may have been partial for a number of years, and that red grouse are not peculiar in this respect. Franklin's grouse of the Rocky Mountains migrate in just the same way, and the Indians will tell you that though for some years these birds may exist in thousands along certain high slopes, they are apt to vanish suddenly and not to return for a number of seasons. Indeed one finds certain localities named after them, indicating that they were once abundant there, but where to-day not a single specimen can be found.

Grouse possess most remarkable powers of recovery. I remember some years ago seeing cartloads of dead and dying birds picked up on a certain moor where disease was raging, to be loaded into the panniers and buried. In due course the disease ran its course, and two years later the same moor produced a greater head of birds than ever previously.

The decimation of certain moors by disease led in some parts to the practice of restocking. Live birds were purchased at the usual price of one pound a pair, and put down in the devastated areas. I am doubtful, however, whether it has ever been satisfactorily proved that these imported birds remained. The grouse, like the red deer, is a great lover of home, and as he will not mate unless he be free to choose his own bride, so he will not settle unless his choice of habitat be his own.

There is, moreover, an objectionable side to the practice of restocking. The live birds are, of course, netted, and the manner in which this is done has from time to time been widely discussed in *The Field*. A few years ago Cumbrian sportsmen were righteously indignant by the almost entire depletion of many of their moors owing to the activities of the netters. Nets were fixed on small properties, and as the birds came over from the adjoining moors they naturally fell foul of them. Thus the Highland proprietor who paid for the introduction of new blood did so at the expense of some Yorkshire or Cumbrian tenant, for naturally the birds were not necessarily reared on the moor on which they were netted. They came over from other moors, the shooting tenants of which suffered accordingly.

This condition of things naturally led to general disapproval of the importation of live birds, and since new blood can just as easily be obtained, and at a much lower cost, by an exchange of eggs, this course would seem by far the more desirable.

Grouse are not difficult to rear artificially. In captivity they lay well, though they are apt to be somewhat broody, and the eggs, as laid, can be collected and hatched out in the ordinary way. The young flourish quite well on pheasant chick food, and make most interesting and fascinating pets. In view of the possibilities in this

line, it is rather surprising that grouse farming has not been more extensively practised.

During the nesting season, the cock grouse are most pugnacious, and will fight with the utmost valour in defence of their young. Once in Ross-shire I surprised a pair of cock grouse which were going at each other hammer and tongs. I walked almost on top of them in a moss-hag, but so intent were they that they did not notice me as I stood only a few feet away, watching the strange encounter. Their actions were very curious. Approaching each other broadside on, they would strike simultaneously with their wings, then leap into the air using their clawed and feathered feet with deadly intent. Throughout the encounter they uttered continuously a soft hissing noise, similar to that uttered by geese.

Eventually one of the two knocked the other over. The bird lay still on its side, quite dazed, for several seconds, while the victor crowed triumphantly. Thinking the vanquished one to be seriously injured, I approached with a view of rendering first aid, but the bird rose immediately, and flew off, hotly pursued by the hero of the fray.

During the process of incubation the male bird strongly resents the approach of any other grouse on the defined area which he considers his own. Should another grouse alight there, he will attack it immediately and drive it off. Where there is a superfluity of male birds, the old unmated ones are a source of endless annoyance to the breeding birds; also they harass the young birds by driving them from place to place, and for this reason it is advisable during the shooting season to shoot off as many old cocks as possible.

The recognizing of the old male birds is not so easy as some sportsmen make out, and I venture to assert that as the season progresses it is impossible for anyone

to pick out the old cocks with any degree of certainty. It may be taken, however, that the father of a covey is the first to rise, and generally the first to pass over the butts, so that, by making a rule of shooting the leader one is fairly certain to achieve the desired end of preventing a superabundance of old males.

Grouse are, of course, monogamous, like partridges and ptarmigan, though blackgame, pheasants, and capercaillie are polygamous. The hen grouse is an excellent mother, and while it is the work of the male bird to mount guard near his brood, ever on the look-out for danger, with one eye on the heavens while the other scans the slopes, the hen bird creeps about among the roots of the ling with her brood. At the slightest suspicion of danger, she gathers her chicks under her wings and keeps them there till the coast is clear.

Some little time ago I peered over the edge of a low crag in the Lammermuirs, and saw a hen grouse with a large brood of chicks directly below me. The heather was thin, and she and her brood were amusing themselves on a sandy patch, the chicks hunting insects while the mother sprawled luxuriously in her sandbath. Presently I discovered the cock bird seated on a boulder much lower down the slope. He too, had failed to notice me, but when a lesser black-backed gull appeared, gliding idly down the glen at a height of perhaps two hundred feet, the cock uttered a warning croak, whereupon his mate at once crept into the deep heather, calling her chicks about her. There, no doubt, she sheltered them under her wings, and not till the black-backed ruffian had disappeared from view did they return to the open.

THE END

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