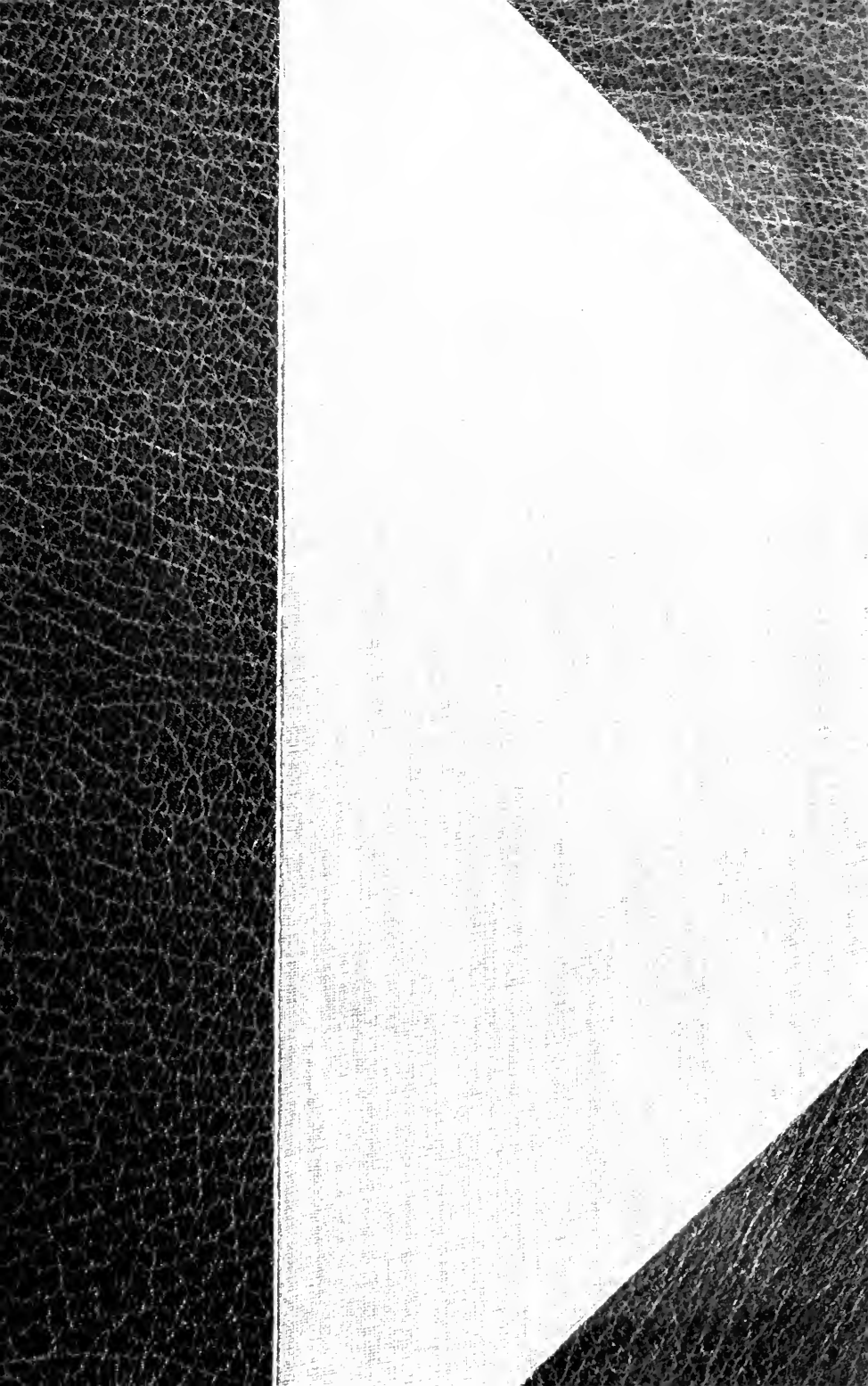
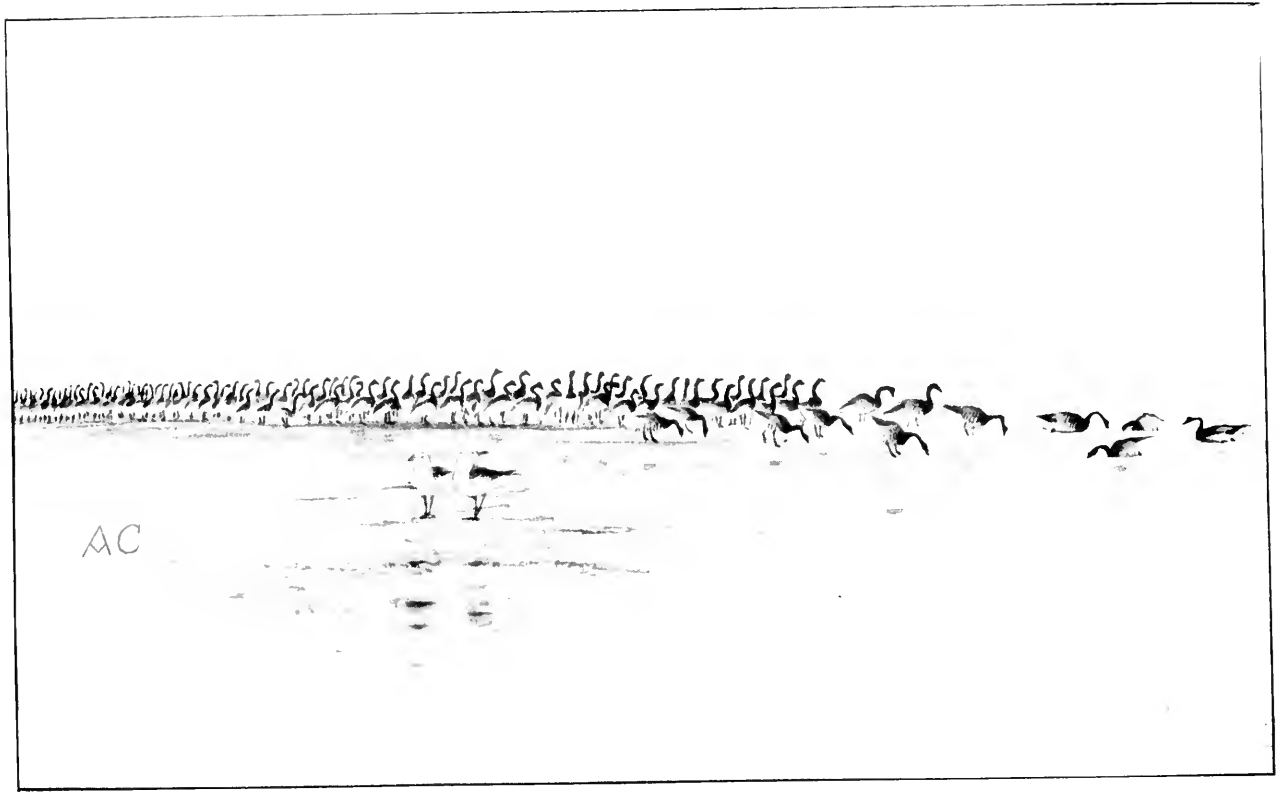


BIRD-LIFE OF THE BORDERS

FIRST EDITION 1889
SECOND EDITION (*in great part re-written and enlarged*) 1907



BRENT GEESE ON THE NORTHUMBRIAN COAST.

[*Frontispiece.*

BIRD-LIFE OF THE BORDERS

ON MOORLAND AND SEA

WITH FAUNAL NOTES EXTENDING OVER FORTY YEARS

BY ABEL CHAPMAN, F.Z.S.

MEMBER OF THE BRITISH ORNITHOLOGISTS' UNION

AUTHOR OF

"THE ART OF WILDFOWLING," "WILD NORWAY," AND "WILD SPAIN"

(THE LAST JOINTLY WITH WALTER J. BUCK)

WITH COLOURED MAP, AND NUMEROUS ILLUSTRATIONS

LONDON

GURNEY AND JACKSON, 10 PATERNOSTER ROW

(SUCCESSORS TO MR VAN VOORST)

1907

PREFACE TO SECOND EDITION

THE first edition of this work was published in 1889, and having for several years past been very scarce, a second edition has now been called for. To the preparation of this I have devoted more than a year's work and thought. The first section of the book—that relating to the Cheviots and moorlands of the Border—has been practically re-written, and on a broader basis. The second part, which treats of the north-eastern sea-board, has needed less extension, since it was founded in the first instance on long years of solid experience in wildfowling afloat; and, as herein revised, it now forms, I believe, as complete a delineation of the lives of these wild and scarce-known birds as any one man may hope to produce.

Since the publication of the original work, a grave calamity has befallen me in the loss of nearly all my earlier ornithological friends, particularly of two brothers —constant companions on fell and flood. This new edition has perforce been written alone, without that earlier assistance and sympathy. Fortunately there is one notable exception, and the same kind eye has revised the proof-sheets of this edition as in the first instance.

The illustrations include several sepia-drawings from my *Art of Wildfowling*, reproduced by kind permission

of Mr Horace Cox, the publisher of that work. The rest (with the exception of a beautiful drawing by my friend, Mr Charles Whymper) are the rough pen-and-ink sketches of the original edition. These nowadays may appear crude; but they are from life, and some of them may possess a fidelity which is not necessarily assured by more artistic treatment.

I have endeavoured to address these chapters, not so much to ornithologists (though they may glean stray grains therein) as to the average reader who possesses some love for the "outbye" country and its bird-life in their wilder aspects.

ABEL CHAPMAN.

HOUXTY, WARK,
NORTHUMBERLAND,
February 1907.

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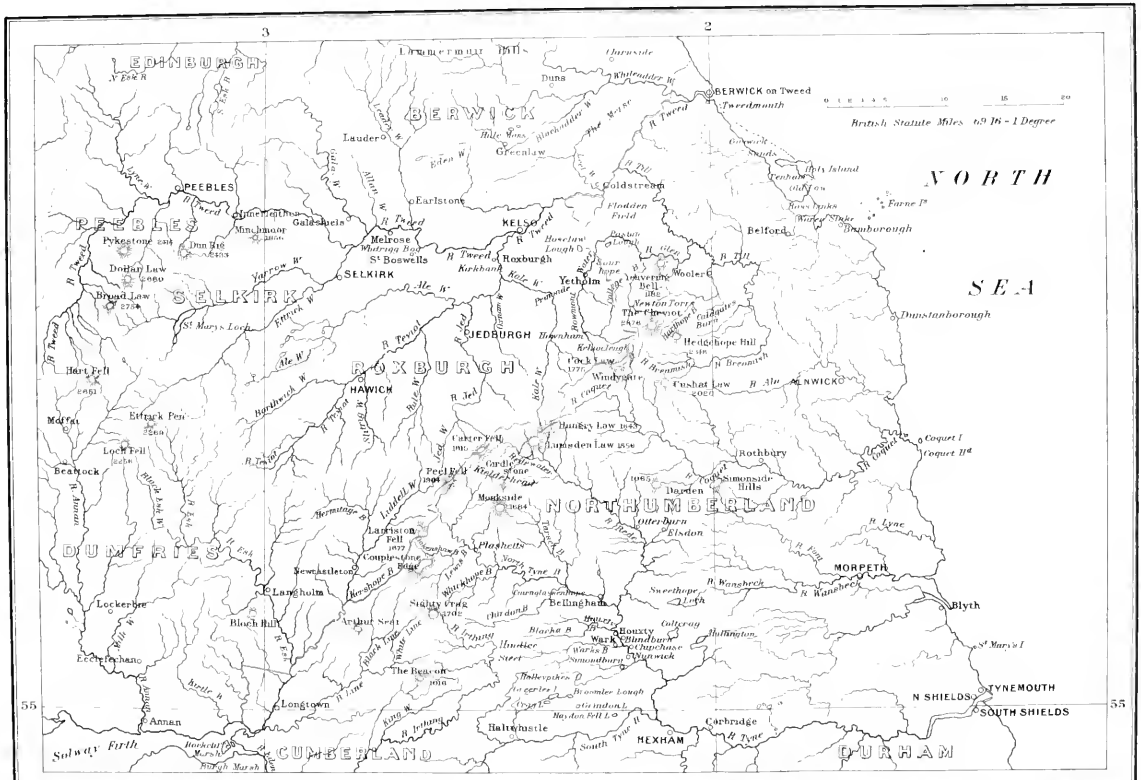


MAP ILLUSTRATING BIRD - LIFE OF THE BORDERS

DRAWN BY DR EDWARD A WILSON

BIRD-LIFE OF THE BORDERS

CHAPTER I

MOORLANDS OF THE BORDER

The Dawn of Spring

Without going beyond the boundaries of our Island, there yet remains many a wild corner neglected and unknown. Of such the Borderland is an example. Stretching from Cheviot to the Solway, these uplands comprise, in either country, an area covering hundreds of square miles of mountain and moor, and include within their limits scenery which, *sui generis*, cannot be rivalled within the four seas. It must, however, be added that the peculiar beauty of the Cheviot range is rather characteristic than sensational—or "clamant," if I may borrow Professor Geikie's expressive term.

The region covered by these observations I would define as that mountain-land which remains as created, unaltered by the hand of man—the land "in God's own holding"—bounded by the line where the shepherd's crook supplants the plough; where heather and bracken, whinstone and black-faced sheep repel corn, cattle, and cultivation; where grouse and blackcock yet retain their

ancient domain, excluding partridge and pheasant: and where the ring-ouzel dispossesses the blackbird. A region largely of peat as distinguished from soil, of flowe, moss, and crag: of tumbling burns and lonely moorland, glorious in all its primeval beauty. My whole area is, in short, one great sheep-walk, ranging up to altitudes of 2700 feet, whereon grouse and sheep outnumber man in the proportion of many thousands to one. On the higher fell-ranges of the Border it takes two to four acres to support each sheep—there are barrens where even this proportion is largely exceeded; hence the minimum may be roughly set down as nearly a thousand acres for each human being. The hill-country is thus all but uninhabited, abandoned to shepherds and flock-masters, whose sequestered homes lie scattered far apart amid the recesses of the fells. A hardy race are these to whom *ovis bidens* is the *præterea nihil* of life, since the more severe the weather, the greater the necessity to keep the hill. Kindly and hospitable they are forbye, as any belated traveller in the wilds can testify; but it cannot be added that they take a lively interest in the bird-life that surrounds them.

In this second edition, I have slightly extended my purview so as to include the subjacent country, namely, the foothills which slope downwards from the higher range, and which zone might perhaps be termed the sub-alpine region. This is the fringe of the moorland; yet it lies beyond the range of the plough (since my soul abhors cultivation), and its faunal character may be exemplified by the substitution of the blackcock, peewit, and whinchat: for the red grouse, golden plover, and wheatear of the higher land. Here, while still enjoying the company of those species which are typical of the moorland proper,

we also come within the outer limit of many of the more charming forms that characterise the lowland.

Thus for example, at Houxty, on the wooded banks of North Tyne, some 18 miles below its source on Peel-fell (2000 feet) of the Cheviot range, there nest in my garden, or immediately adjacent, practically the whole of the delicate summer-visitants; such as the blackcap and garden-warbler, willow- and wood-wrens, whinchat, white-throat, pied and spotted flycatchers: as well as many sandpipers and, on the neighbouring burn, dipper, grey and pied wagtails. And yet, within a few minutes' walk, one may enjoy seeing and hearing most of the moorland forms. Blackgame nest close by; grouse, curlew, red-shank, plover, and snipe within the compass of an even-ing's stroll; wheatear, twite and ring-ouzel, mallard and teal, all within a mile or so. Add to these, in the moss-stained stream below, the salmon, bull-trout, and his golden-flanked cousin: and you have a faunal range that few spots can surpass. This list, of course, is merely typical, and will be widely expanded in the subsequent chapters.

Houxty, with its heathery horizons, its ferny knowes and shaggy cleughs, sheltered by sombre pines, is so often mentioned throughout this book as to need this intro-ductory note.

Westward, stretches for untold leagues beyond the Cumbrian Border, a region of moor and moss as wild as any in England: but less abrupt and of lower elevation than the main line of Cheviots to the north-ward. This, but three centuries ago, formed the field of operation of mosstrooper and reiver: nowadays, the only professional robbers are a few ravens and the big sea-gulls that come to nest on its lonely mosses.

Before pitching my permanent camp here in 1898, I had, for more than a quarter of a century, occupied shootings or fishings at many diverse points upon the Borders; each point being a centre of observation for the collation of the notes upon which this book is based.

An initial difficulty in describing the bird-life of any given area throughout the year is to decide at which point to begin. New Year's Day suits human purposes well enough; but Nature provides no break in her cycle, and no single point of time can be found at which her various operations can start level. Hence, these chapters will necessarily partake something of the character of those golden serpents which one sees made into ladies' bracelets, and which complete the continuity of their circle by taking a large piece of their tails into their jaws.

The opening months of the year are uninteresting and uneventful on the moors. There is but little perceptible change from the conditions which prevailed during November and December; and an outline of the ornithological features of those months will be found later in this book. Hence there is but little attraction to detain us till the advent of spring or of the vernal influence, at which somewhat indefinite period these notes will therefore commence.

Springtide is a subject on which, from time immemorial, poets and those of vivid imagination have delighted to descant. And, truly, there is a charm in the idea of the rejuvenescence of all Nature's productions at this season, when new life springs afresh in bird, beast, and plant, which is generative of poetic instinct. Appreciative and grateful as all must be for the sublimity of thought developed in our classic poetry—a beauty of expression which transcends all power of prose—still, as

naturalists, we must remember that to us is granted neither imagination nor licence.

Graceless is the soul that cannot enjoy—dismissing, the while, untimely reflections on known facts respecting the autumnal moult, and every unharmonious thought—such lines as :—

> "In the spring a fuller crimson comes upon the robin's breast ;
> In the spring the wanton lapwing gets himself another crest ;
> In the spring a livelier iris changes on the burnish'd dove ;
> In the spring a young man's fancy lightly turns to thoughts of love."

By all means enjoy what is beautiful, and picture in introspect how charming all would be did Nature's facts but coincide with poetic sentiment. Try to regard Spring with that joy and thankfulness which poets and the innate character of the season naturally inspire. It was Plato, if I remember aright, who proposed that poets should be banished because they sang only the ideal. Therein, I consider, he displayed some lack of sound philosophy ; since "facts" are not, even now, all proven or capable of precise definition. Hence, even in natural history, some small and ordered measure of idealism may conceivably be admissible.

There exists, however, even among poets, some degree of sophistry ; for, while Browning sang of the joy "to be in England now that April's here," yet he took care to remain in Italy!

In these chapters the author holds himself perforce restrained from indulgence in any sentimental effusiveness beyond what may be dictated by the logic of facts. For in the Borderland, and especially on its moory uplands, the term Spring represents rather a chronological definition than the embodiment of an idea calculated to inspire, from the character of the period

so defined, any high-flown sentiment of poesy. The months of March, April, and often May include some of the crudest and most inclement periods of the year, as regards weather, on the northern hills. Up to the end of May snowfalls may yet occur, and the highlands, at times, lie as white then as in December. If one of these months chances to be bright and fine, the others do extra penance to the Nimbi, and one has to be thankful for single mercies. Jupiter Pluvius holds sway; and, as day after day, and week after week, one's prospect is shut out by the cold north-easterly sleet driving along the hillsides, with pitiless pelting hail-storms shrouding their summits from view, and sending down the burns in bank-high flood, there is little, it will be admitted, to call forth exuberant outbursts of enthusiasm at the new-born glories of the ".glad season," or the revivifying effects produced by the increasing powers of warmth and light.

Unkindly, however, as may be the elements, but little, if any, difference is produced by them on the seasonal progress of Nature's economy—at least as regards bird-life. Thus the raven and the heron go to nest by the middle of February, utterly careless of the temperature—indifferent if the thermometer stands 20° below the freezing-point, and if a foot of snow envelops the hills. They know their appointed time to the day, and care for none of these things. And so it is with bird-life generally. The sequence of events, each at its own season, proceeds with definite regularity and without regard for extraneous conditions. But it is only the higher forms of life that recognise the advent of Spring. For the herbage on the northern hills hardly commences to grow before June; the curved head of the bracken only emerges from the

peat during that month, and the heather shows no sign of change from the black and lifeless hue it had assumed in October, till we reach the period which, by the almanac, should be called summer. For these, in short—that is to say, for the whole plant-world—Spring is simply non-existent; or, if the expression be preferred, their awakening is postponed till summer. With the higher forms of life, as stated, it is different. The moor-birds arrive, pair, nest, and hatch their young without reference to climatic conditions; and many a moorland chick first sees the light in an atmosphere and amid circumstances which would seem necessarily fatal to its tender life. Small wonder that the vast majority of the strong-winged birds—such as the ducks, geese, waders, and other wildfowl—should prefer the Arctic regions for their breeding-grounds. There may be those to whom the words still cause a shudder, and who only associate these regions with thick-ribbed ice, with intense cold, and manifold forms of death. There are, no doubt, plenty of these things in the Arctic; but it is not all ice up there, nor is it always cold, for I have noticed a temperature of 79°, with clouds of dancing midges, in the 80th degree. True, the Polar summer is short, but it can boast three months of continuous sunlight, and there are, moreover, within the Arctic, unmeasured regions of moor, moss, and marsh abounding in plant- and insect-life. Such conditions compare favourably with the spring climate of our temperate zone.

But I must not do injustice to the season, and would be drawing too gloomy a picture of the North British spring-time if I omitted to mention the few spells of bright and warm days which, at uncertain intervals, do occur to break the monotony of even the most incle-

ment springs. Oases in a desert they may be in many cases; but not for that reason is their advent the less welcome and delightful—quite the reverse. I am not alluding to those deceptive spring-like days when brilliant sunshine co-exists with a biting north-easter; when April showers descend in fine snow or cutting hailstones; when one is baked in the shelter and frozen in the shade. Such days are as false and illusory as they are common at this season, and though, perhaps, preferable to fog and rain, they bear no comparison to the grateful hours when winds blow soft and warm from the west and south, with the first touch of the zephyr in their breath.

On such mornings as these, when sunshine bathes the water-logged moor in unwonted warmth, drying the dripping heather and moss, every creature appears inspired by the spirit of the season. The moor-birds pipe and whistle in a wholly different key to their querulous notes of yesterday, and visibly revel in the genial change. Under the cold and humid conditions of atmosphere which have hitherto prevailed, one can hardly enjoy any very close acquaintanceship with them: one only hears their wild alarm notes, as they spring, unseen in the fog, far away. Now, under the influence of warmth and a dry atmosphere, they cease to resent man's intrusion on their domains, and go about their domestic duties almost regardless of his presence, though close at hand. The wilder spirits—those irreconcilables that are impregnated, as it were, to the very marrow with inherent fear and suspicion of our race—such as the mallard and the curlew—may still think it necessary to keep a gunshot or two away from the intruder; but even these seem to do so half unconsciously—merely from force of habit and asso-

ciation, and not at all in an obtrusive manner. The game-birds, the plovers, and the teal now abandon nearly all their hybernal shyness, tacitly recognising a temporary suspension of hostilities. The trout, also, in the hill-burns, which have hitherto disregarded all the attractions of insect-food—real or counterfeit—grubbing about on the bottom for their livelihood, now roll and play on the surface, in the glancing waters, and in the heads of the streams. Every creature, in short, man included, feels the exhilarating influence of the day, and enjoys it all the more from the knowledge that the change may be very transient. Nothing, indeed, is more delightful than the rare spells of fine warm weather, which do occur in early spring, when winter appears at last to have passed away, and the atmosphere becomes resonant with a chorus of wild bird-notes, and redolent with the fragrance of the heather-burning.

Where development depends on so extremely variable a factor as our spring climate, its course is necessarily very irregular. Up to the end of March there is no visible change from the bleak and wintry aspect of the moors. Many of the spring-birds are there, it is true, but at first they are restless and shy. The spring element of trustfulness and confidence has not yet appeared, and the grouse are still seen spinning away, as wild as in November. Indeed it is not till May that the true spirit of the vernal season is fully developed. In mid-April the only signs of vegetation are the catkins on the willows and saughs. By the end of that month the hardy birch and alder may show some symptoms of returning foliage; but the heather remains as black and as cold as ever, and the grass, rushes, and fern are but the dead and withered remnants of last year's growth,

colourless and blanched by the weather, and flattened down by the weight of the winter's snows.

Thus, while birds recognise the advent of Spring long before its presence is otherwise perceptible, and hold their fixtures regardless of weather; yet plant-life exhibits no acknowledgment of the passing of winter till an actual access of warmth awakens it. "Winter lingers in the lap of May," and it is never until May that Watson's distich applies in joyful truth:—

> "Now while the vernal impulsion makes lyrical all that hath language,
> While through the veins of the earth riots the ichor of Spring."

CHAPTER II

THE VERNAL MIGRATION

With Observations on the Scope and Causes of Migration

Among the earlier signs of returning spring is the commencement of migration: a phenomenon so complex and yet so interesting that I propose making a few remarks on its scope and on the causes which produce it, even at the risk of alarming some readers who may perhaps think my book a mere maze of technicalities.

This great bi-annual bird-movement commences as early as February, but the initial stages of the vernal immigration to the moorlands are all but imperceptible. During the cold and wintry months of February and March, very large numbers of birds, many from distant lands, keep quietly arriving day by day, and distribute themselves over the moors. In the aggregate their numbers are immense; but, when distributed over so wide an area, their advent is inconspicuous, and may easily be overlooked, especially as on first arrival the new-comers are shy, since they have not then thrown off their wild character, or assumed the careless disposition of spring. Moreover, these new-comers are not new species suddenly appearing. They are, in most cases, merely reinforcing others of their own kind which have

spent the winter here. It requires, indeed, close observation to detect the progress of the metamorphosis which is then occurring. Observe those half-dozen golden plovers scattered over a moss-flowe high out on the fells; it is the middle of February. Well, surely there is nothing remarkable in that: are there not a couple of hundred of them in the low-lying pastures only a mile away? Quite true; but those hundreds in the valley are merely the normal winter stock; this handful on the hills is the vanguard of the invading army from southern lands which means to spend the summer here.

The following list gives in rough outline the various birds which come to breed on the Northumbrian moorland, together with the approximate average dates of their arrival:—

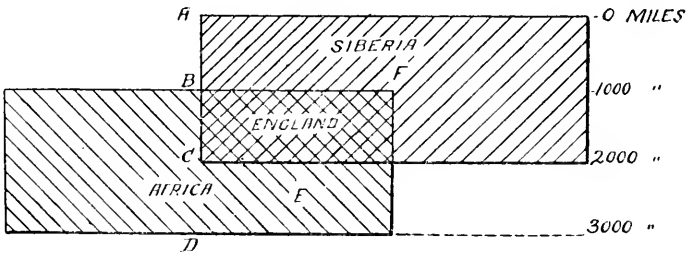
Peewit	February or even earlier (irregular).
Golden Plover	February (irregular).
Skylark	February.
Curlew	February.
Pied Wagtail	February (end).
Titlark	March.
Black-headed Gull	March.
Stockdove	March (middle).
Grey Wagtail	March (middle).
Redshank	March (middle).
Wheatear	March (end).
Ring-Ouzel	March (end).
Sand-Martin and Chiffchaff	April (early).
Dunlin	April (early).
Sandpiper	April 12th to 15th.
Willow-Wren	April 15th to 20th.
Redstart	April 15th to 20th.
Swallow	April 20th.
House-Martin	April 25th.
Whinchat and Pied Flycatcher	April 25th.
Cuckoo	April 30th.
Landrail	May 1st.
Nightjar	May (middle).

Several of the above birds, it will be noticed, belong to species which are found in this country at all seasons of the year. As such, they might therefore be objected to in a list of migrants: but their place as above is correct. Migration is infinitely more general and universal than is popularly supposed. It is, of course, a matter of common knowledge that birds such as the swallow, the cuckoo, and the willow-wren are distinctly foreign migrants. Their summer and winter haunts are far apart, separated by belts of sea and land; consequently their reappearance here every April after a total absence of seven or eight months is markedly conspicuous, and appeals at once to eye or ear in an unmistakable manner. The annual migrations of these, in short, are so patent as to be obvious even to the least observant.[1]

But there are other wanderers whose movements are not so conspicuous; but which are, nevertheless, quite as strictly migratory in their habits. Thus, there is the case of birds whose summer and winter limits may be said to overlap. Such birds are, of course, found permanently within the boundaries of the overlapping zone—as shown in the rough diagram annexed. The upper oblong represents the habitat of any given species during summer; the lower oblong is its habitat during winter. Assuming that the annual range of each individual bird is approximately equal, those breeding in summer at A would winter at B —the two most northern points of their respective areas. The intermediate birds summering at B would pass on in

[1] I leave this as it stood in the last edition: yet, after forty years' experience, I fear that scarce one man in fifty knows or recognises the trill of the willow-wren when first heard in every nook and corner of the land from mid-April onwards. Nor yet do the great majority see any difference between the sand-martin, which often comes in March, and the swallow that is not due for three weeks later.

winter to C, while those at the latter point would move southwards to D—the two latter being the most southerly points in the two areas. In the overlapping zone (the doubly-crossed portion) there will obviously be found birds of the species in question permanently at all seasons. But



they are clearly not the same individual birds. Those individuals which occupied this area in summer will be wintering—say 1000 miles south—at E; while the places they have vacated are reoccupied by others which have passed the summer 1000 miles north at F.

Now, birds of such distribution as above are clearly quite as much migrants as are the swallow or the cuckoo. If one happened to live in Siberia or in Africa, there would be no difficulty in recognising the fact; but to those who live, as we do, within that central area where their summer and winter ranges overlap, the movements of such birds are not patent, and are easily overlooked. It is a prevalent mistake to regard birds of this class as resident (*i.e.*, non-migratory), and this is a point I wish to elucidate.

Take the curlew as an example. Probably nine people out of ten—shore-shooters and others accustomed to seeing them daily—will tell you that the curlews are on the moors all the spring, and on the coast all the winter. This, in a sense, is perfectly correct; but

any inference therefrom, that curlews do not migrate, would be entirely wrong. Let the observations be carried but a very little further, and it will be found that long after the curlews have taken up their summer quarters on the moors, there still remains on the coast, for two months more, the full winter stock of curlews in undiminished numbers. That is to say, that during the months of March and April, there is, in fact, a *double* stock of curlews in this country. There are, on the moors, the curlews newly arrived from the Mediterranean; while on the coast, all our winter curlews still linger till the end of April—waiting till their instinct tells them that the lands of Northern Europe are clear of snow and ready for their reception.

The case of the golden plover is analogous. Our winter plovers can still be seen frequenting their ordinary haunts in large *flights*, for weeks after the breeding *pairs* have settled down in their summer residences. Indeed, as the golden plovers breed rather earlier than the curlews, it is quite a common occurrence to find the home-breeding birds (which have wintered in Southern Europe) sitting hard, or even hatching, at the end of April, and at the same time and place, to observe packs of northward-bound plovers still lingering here, but which, a few weeks later will be nesting, perhaps in Siberia. These latter may be distinguished (apart from the fact of their being still in flocks) by their more perfect development of the black breast of summer—a feature I intend to refer to later.

Similarly, though the extent of their respective ranges differ, the skylark, titlark, black-headed gull, redshank, and other species included in the above list can be found permanently throughout the year at one point or another

of this country. Yet all are distinctly migratory, and it may be doubted whether any single individual found in winter on our fells, fields, or shores, ever remains to breed here during the following spring.

The subject of migration, with its corollary—the seasonal geographical distribution of species—has, of recent years, received close attention from scientific ornithologists; and a flood of information has been thrown upon the question by their researches, and especially by the systematic observations maintained at the various light-stations both around our own coasts and abroad. Recent investigations have shown that migration is vastly more extensive than was formerly supposed. The further it is studied the more general appears to be its scope and the more universal the instinct in birds to migrate. Very few species, remain absolutely stationary throughout the year. The *Migration Reports*[1] of the British Association show that many of our common birds—such as thrushes, blackbirds, starlings, larks, and rooks—cross the seas in astonishing numbers. The greater proportion of these winged hosts is, of course, directed upon Continental Europe, but a due share reaches our islands, including members of every genus and indeed of almost every species.

Few species are entirely stationary; though some have restricted ranges, and others (though perhaps of closely allied genera) are cosmopolitan in their travels; while, of some eminently migratory species (such as, for

[1] These *Migration Reports*, nevertheless, appear to me quite as remarkable for what they omit as for what they include. This remark is made in no spirit of criticism, since the work done has been sound and thorough. But, to my mind, these Reports show conclusively, *by the omissions themselves*, how little of migration is visible and how vast a proportion is carried on absolutely beyond the ken of human eye.

example, the mallard), there also co-exist locally-resident races which, to that extent, vary the general rule. I will, later in this book, endeavour categorically to distinguish each of these two classes—that is to say (1) those which are absolutely stationary, and (2) those species which have both a resident and a migratory race.[1]

As already pointed out, we have in this latitude a numerous class whose annual movements it is less easy to follow with precision, owing to the overlapping in our country of the belts of land which form respectively their summer and their winter quarters. Thoroughly to understand the movements of such birds, it is necessary to ascertain their geographical distribution at the different seasons. In other words, we must go outside our own country—often far outside of it—in order to ascertain the limits of their summer and winter ranges.

Thus, if, for example, we find that a given species occupies during summer the whole area from Siberia to Northumberland, while its winter range extends from Shetland to Morocco, it follows that the average annual range amounts to some 2000 miles. Assuming—and it appears to be a reasonable inference—that the range of each individual is approximately equal to that of the general body, it is easily demonstrable on these lines that most of those species which are popularly regarded as resident British birds are in reality foreign migrants to the extent of 1000 or perhaps 2000 miles twice every year. Many people refuse to believe that their common homely thrushes and starlings are quite as much migrants as are the swallow and the cuckoo; but the logic of ascertained facts shows that such is the case.

Thoroughly to realise the universality of migration, I

[1] See Chapter XII., p. 147.

would suggest beginning with the belief that every individual bird one may see in garden or wood, on fell or shore, has travelled to Africa and back—or alternatively, to the Arctic and back—since you saw it a year ago. This applies to the thrush that is nesting in your apple-tree, and the starling that wakes you at four o'clock on spring mornings with its squalling brood under your eaves. Then, throw the burden of disproof upon that dozen or so of absolutely stationary species, a list of which I have just promised to insert later in this book.

Now, why do birds migrate? The question, at first sight, appears a simple one, and several answers at once suggest themselves. In reality, however, it is a many-sided biological problem, and one of no small complexity and mystery.

Suitable climatic conditions and temperature, food-requirements and distribution in proportion to food-supply, are among the more obvious answers to the question. These, and similar circumstances, influence, and to some extent regulate, migration; but, on examining more deeply into the subject, it becomes clear that though they may form regulating factors in migration, yet they are not its primary cause.

Thus, with regard to food-requirements, it is obvious that when birds of a given species are found permanently inhabiting a certain area at all seasons, the natural or climatic conditions of that area do not render migration imperative. Therefore, when it is seen that large bodies of such birds do migrate and traverse perhaps great distances, it is clear that any hypotheses based on considerations of temperature, climatic conditions, or the like, must be abandoned. Such movements, it is possible, may be dictated by the quantity (as opposed

to the quality) of the food-supply; for, though a district may be adapted to, and inhabited by, a certain number of such birds, yet, if an enormous additional influx of foreigners be suddenly thrown upon it, its resources may then become unequal to the increased demand, and a proportionate exodus, or redistribution, must follow.

Such, and cognate cases, however, are merely incidental factors, and not the first cause of migration. There are, moreover, many cases in which no such factors appear to operate.

Many theories in explanation of the migratory instinct have been advanced. Some are, at any rate, ingenious; but, unless they rest on some solid basis, partake more of a poetic than of a scientific character. The erection of imaginative hypotheses, in support of which it is easy to collect a mass of what looks like circumstantial evidence, but which are incapable of direct proof, is of dubious utility. Causes, no doubt, can be assigned to every effect, a reason to every fact; but it is perhaps wiser, with our finite knowledge, to admit that there yet remain things which cannot be explained.

At the risk of appearing to neglect in practice what I have just preached, I will venture briefly to refer to one theory—which appears to stand on somewhat more tangible foundations. This is the theory of the Polar origin of life, which was first suggested in relation to the origin of plant-life at the North Pole by Professor Heer and Count Saporta. That the deductions of these philosophic minds applied with equal force to the genesis of bird-life was, in the first instance (I believe), suggested by Colonel H. W. Feilden, C.B., in 1879. The subject has more recently been treated by my old friend, the late Canon Tristram, in relation to its bearings both on

the present distribution and on the migrations of birds (*Ibis*, 1887, p. 236, and 1888, p. 204). With respect to the first-named point, all the salient facts relating to present distribution of genera gleaned from the four quarters of the globe are adduced by the learned Canon of Durham, and the various steps of evidence by which the North Polar region is shown to have been the original centre of dispersal of all life are of infinite interest to naturalists.[1]

Beyond its general bearing on the correctness of the whole theory, it is unnecessary here further to dwell on that section of the subject—distribution. But I will endeavour, in as few words as possible, to indicate the influence of the Polar theory upon migration.

It must, in the first place, be granted that our globe was "in the beginning" a molten, lifeless mass; that during unknown æons it was gradually cooling, preparatory to the reception of life. So much I assume. But the cooling process would clearly not proceed with equal speed.

Those portions of the earth which are furthest removed from the power of the sun, and which most rapidly radiate their heat into space, would necessarily be the first to cool, and therefore the first to become capable of maintaining life. These colder portions (provided that the axis of the globe has not materially altered in relation to the sun) would be the Polar regions—Arctic and Antarctic. That the North Polar region has so passed through all the stages that intervene between intense heat and their existing intense cold, is evidenced by their geological

[1] I find, at the last moment, that I have inadvertently overlooked the fact that this "Dispersal" had already, some years previously, been briefly foreshadowed by my friend Mr Howard Saunders, in his cosmic review of the "Distribution of the Gulls and Terns"—*Proceedings of the Linnæan Society*, 1878, pp. 405-406.

record. In the interval—the wide interval between molten heat and "eternal ice"—the Arctic lands have passed, stage by stage, through every gradation of climate, and have been, at one period or another, adapted for every form of life—and that condition, it follows, these regions would attain in advance of all other portions of the earth's surface. Spitsbergen and Franz-Josef Land once luxuriated in the profuse plant-life of the carboniferous epoch. Incidentally I may mention having observed in the first-named ice-bound land, palpable evidence of that period of "grass and herb yielding seed"—though at the present day neither tree nor shrub exist there—and a small series of fossils brought home from Spitsbergen proved to be identical with those of our own coal-measures of Durham and Northumberland.

The whole theory obviously depends, in the first instance, on the presumption that the earth's axis has remained comparatively stationary. But has this been so? This, again, is a problem, the answer to which depends on a consideration of an intricate congeries of facts and forces, all of which must be studied and their effects calculated. Nor can they be examined separately; they must be regarded as a great moving whole, a vast aggregation of forces acting and reacting on each other with ever-varying results. The whole system on which the earth moves through space, the effects upon it of attraction, counter-attraction, and even such complexities as the precession of the equinoxes, all have their bearing on the question. It is, however, sufficient here merely to name such awe-inspiring topics, and to add that a consideration of them appears to justify a conclusion that the earth's axis has not materially altered in relation to the sun.

There is abundant evidence of tropical periods at the Pole; but no trace of glacial conditions in the tropics, nor indeed further south than the Continent of Europe. The Arctic regions have extended as far southwards as the Pyrenees (where reindeer at one period existed), but not much, if at all, beyond. A Polar variation to that extent is explained by the phenomenon known as the "nutation of the earth"—that is, the oscillation of its axis accordingly as the attraction of the sun and the counter-attractions of various other planets alternately predominate. Beyond these limits (and the alternations each occupy very many thousands of years), the position of the axis appears to have been stationary—that is, it has not altered to a degree which would be destructive to the theory of the Polar origin of life.

Granting, then, the substantial accuracy of what I have feebly attempted to describe, it follows that the North Polar regions would be the first spot on the globe adapted to sustain life; that they were, at first, the cradle of all life; and afterwards, as the Polar cold gradually intensified, the centre of dispersal whence the various forms were distributed throughout the world, as its various portions in turn became adapted to their requirements.

Viewed in this light, the great migratory tendency towards the north becomes explicable and comprehensive enough. It simply arises from a perennial instinct, which continues to draw vast numbers of the feathered tribes towards the point which was originally the universal home of all. It is an invariable rule that all birds do breed at the most northerly points of their annual range. In the northern hemisphere, the tendency to move northwards in spring is all but universal; and, as already pointed out, there are, in many cases,

no visible or existing reasons, climatic, economic, or otherwise, which render such movement imperative.[1]

Whatever may be the primary cause of migration, whether it arises from the old-time instinct I have alluded to or otherwise, it is at least certain that it is a deeply implanted and widely spread impulse throughout the feathered tribes. On referring to the foregoing list, it will be seen that as early as February the influx of visitants from southern climes commences, and that during that month and March the majority of the typical moor-breeding birds have distributed themselves over the border-hills. The plovers and curlew come first, followed by larks, wagtails, gulls, and redshanks; all these having northerly winter ranges—and hence comparatively short distances to come—are just what one might expect first. The ring-ouzel, too, from Southern Europe, follows close behind them. Of the trans-Mediterranean group, the wheatear is the first to arrive, some weeks in advance of the main bodies of warblers, swallows, cuckoo, landrail, and, last of all, the nightjar. But, as though to show how unsafe are any general rules, the common sandpiper, which winters in Spain, is among the later arrivals; while the dunlin, which swarms on our own coast throughout even the most severe winters, usually allows the month of April to begin before putting in a tardy appearance on the moors.

[1] The grebes may perhaps be cited as to some extent, deviating from this rule. All five British species are certainly most common, in the Border-land, during winter; and (with the exception of the Slavonian grebe, which nests in Iceland), the majority seem to breed rather to the southward than to the northward of their winter positions.

CHAPTER III

EARLY SPRING ON THE MOORS

February

THE outstanding features of bird-life on the moors in early spring are but few; and those few, at first, may be disregarded, having no general bearing on ornithic economy as a whole. True, some movements may be conspicuous. For example, there are wide differences in the local distribution of golden plover, peewits, and snipe: but these are members of a cosmopolitan genus, and their erratic movements at this period are simply dictated by the exigencies of food-supply. One spring a moss, or moor, or "haugh" may be full of them; another year, in general appearance similar, there are none—nor can their stay, while here, be depended upon for an hour.

Up to a certain period, it is labour lost to attempt to explain these sudden comings and goings. They depend upon causes operating over a wide area, and many of which are probably impalpable to us. Suffice it to say that these birds—all birds—know, in each changing condition of weather, know instinctively which area, which geological formation, will best serve their immediate requirements: and that area they seek.

There comes, however, a point of time in each year

when observations touch bed-rock: and that point is not dependent on the vagaries of local weather. It marks the commencement of that great vernal northing, which is all but universal in the bird-world. That movement (the general movement, I mean) is perfectly recognisable, in the case of the three species named, by the month of March—frequently, in open seasons, as early as the middle of February. But it needs close observation and practised judgment to discriminate accurately between (1) those irregular, unimportant local movements first mentioned, and (2) the commencement of the general systematic northward migration.

The difficulty, moreover, appears at first sight to be accentuated, owing to the two movements (the local and the general) continuing to proceed simultaneously, and side by side.

Fortunately for the ornithologist who is striving to solve these problems, there exist certain species, of which the different climatic races may be distinguished by differences in plumage; or, to be accurate, by the degree of development in that plumage.

To take, as a specific example of my argument, the golden plover aforesaid. This bird (as everyone about the moorlands should know) acquires in spring a different plumage for the breeding-season. The throat, breast, and under parts—which were *white* during all the autumn and winter—now become black. But the degree and intensity of that black develop in precise ratio with the degree of latitude—north or south—where the individual plover was hatched, and whither it is now, in March, returning to reproduce its race.

The Borders form almost the southernmost point in the nesting-area of the golden plover. Hence our local

plovers show the least development of the black plumage. They are hardly black at all, merely marbled, with many white feathers interspersed. Further north, in Shetland, the plovers are much blacker; but skins brought home by my late brother Alfred from 70° north latitude, in Finmark, were absolutely and intensely black.

This more complete development of the perfect typical plumage of the summer is not confined to the golden plover: but appears (where applicable) a tolerably constant feature in ornithology. The brambling (*Fringilla montifringilla*) affords a good illustration. Those obtained by my brother in Lapland (70° north latitude) were markedly more perfect in the glossy blue-black of their heads and shoulders than specimens obtained in Norway, on the Dovre-fjeld (latitude 63° north) and on the Sogne-fjord (61° north), at corresponding seasons. Again, what other birds of the known world attain so complete and perfect a summer-transformation as that hyperborean quartette—the bar-tailed godwit, knot, curlew-sandpiper, and grey plover—the last four species whose breeding-places remained undiscovered? The inference as to Polar origin in such cases is irresistible.

To return to the golden plover:—The first indication of true migration (as distinguished from mere local shiftings) occurs, in mild seasons, as early as the middle of February. These new-comers are not, however, the home-nesting plovers returning to their vernal quarters; but are a contingent of the northern races, now taking a first preliminary stage of their longer journey. They have come, probably, from no farther than the lowlands and coasts of southern England, or from Ireland. This section is recognisable in two

ways: First, by their passing through lowlands and arable country, far from moorland, and uncongenial to their kind, as at Silksworth, county Durham, where the author lived many years, and where golden plovers might be seen passing in February, but at no other season. About the same date you might spring three or four snipe from some ploughed field or stubble, spots which, at other times, never held a snipe.

These passing plovers have already commenced the change to spring plumage. A single black feather, perhaps two, may be seen just showing through the white; but even if not so visible, some will be found concealed beneath the older white plumage on raising the latter with a knitting-needle. These are *new* feathers, growing, showing that this partial moult is a true one: and not a change in the colour of existing feathers.

The second means of recognising this section is that, on arrival within the moorland area, they spread themselves over the *lower* grounds — the river-valleys and haughs—reinforcing those plovers which have been there all winter: but which latter are still pure white below. Here both sections remain, *in packs* and *large flights*, up to the date of their final departure for Northern Europe, at the end of April or early in May.

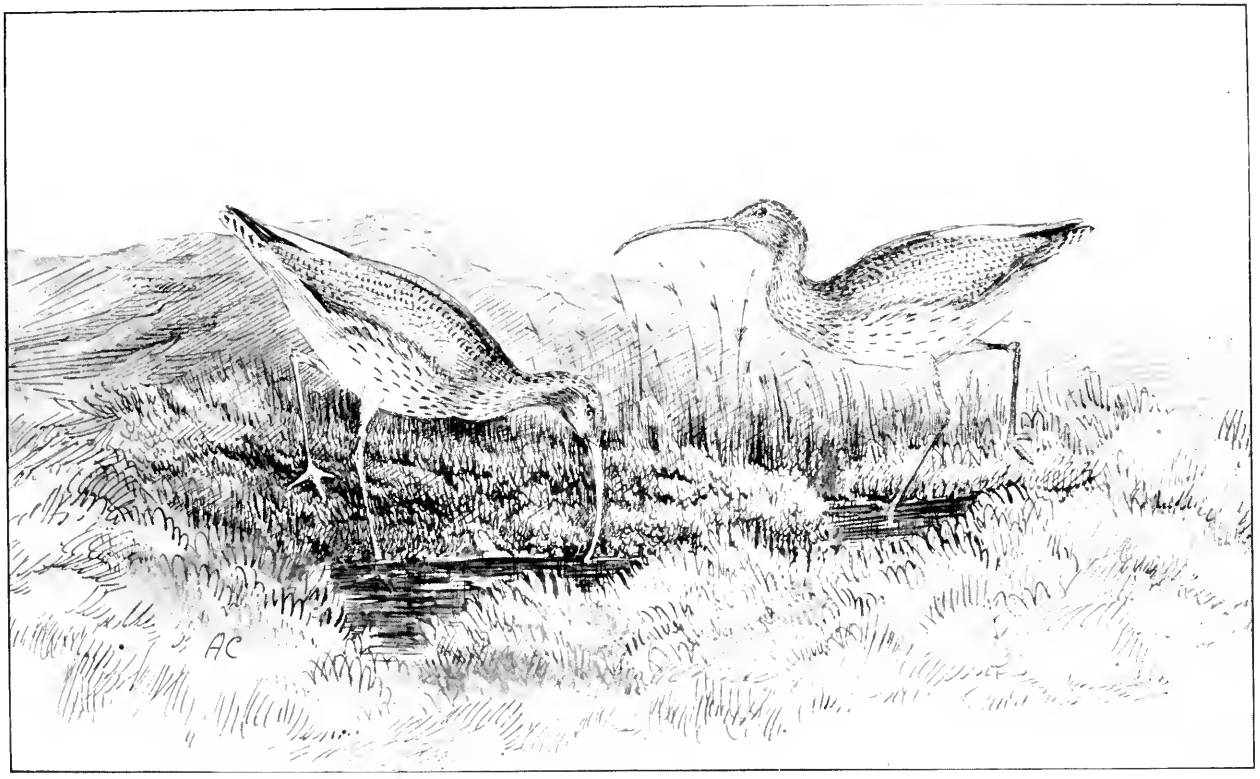
Those golden plovers which come here to breed, arrive later than the above section. Withdrawing from their winter resorts in Southern Europe towards the end of February, they have, within a few days of that date, distributed themselves *in pairs* all over the moors, going direct to the spots where they intend to nest. But these, as just stated, are in *pairs* (not packs), and, moreover, they are on the high ground. By the middle of March, these breeding pairs are all localised on the higher moors:

though they will not have eggs till a month or five weeks later. They are already as black on the breast as our local plovers ever became: for these never attain the full black under-parts usually depicted, and which are only acquired by those that breed further north. Our North-umbrian plovers at best are only marbled.

Their loud and wild spring note—a plaintive whistle, "Tirr-pēē-yŏu"—may now be heard on the high moors: but *not* among the packed plovers on the lower grounds and haughs. This note is only uttered when the birds are on wing, circling high in air.

My readers will, I trust, forgive the length to which this note on a single species has extended. I have given it in detail, partly because it is interesting in itself; but chiefly because it is applicable to many congeneric and other birds at this season, and will not now need to be repeated in each case.

In February the Curlews return, and welcome is the first sound of their wild long-drawn rippling note and the first sight of the shapely clean-cut form sailing across the dark heather. Their arrival has occurred as early as February 5th, and as late as March 11th, the average being after mid-February. In stormy seasons, when the fells are buried in snow, the curlews delay their return till the snow has melted: as in 1886, when none appeared on the moors till March 19th. These curlews are also travellers from afar. They have come—not from adjacent seashores—but from Spanish marismas, from African lagoons, and from the Mediterranean. The curlews of our own coast do not breed here. They remain on the sandflats and oozes, where they have spent the winter, all through the months of February, March, and April, and retire to their more northern breeding-grounds



CURLEWS IN SPRING.

[To face page 28.

in May. By that date, those curlews that do breed here have already laid their eggs on the higher moors.

On February 28th, the Peewits at Houxty first began to utter their spring note—a seasonal sound I had enjoyed hearing exactly one month earlier (on January 28th) in Southern Spain.

Towards the end of February occurs an influx of Skylarks. This common familiar friend is essentially a wanderer. The known facts of his geographical distribution at the various seasons prove this. In mild seasons some remain all winter: in others, none. That of 1885-6 was a noteworthy instance, illustrative of how bird-instinct is sometimes at fault in its forecasts. During the mild months of December and January, skylarks had been numerous; and their numbers increased in February. On the 7th of that month, some had even commenced to sing: but on March 1st, a memorable storm buried the Borders under snow-drifts many feet in depth, isolating villages and swallowing up whole trains on the railways. The spring-dreams of the songsters were dissipated. No more were seen till the snow had melted, three weeks later.

February 22nd is the date on which, in three consecutive years, the Pied Wagtail has made its appearance: and in a fourth year, it was only one day later. The Grey Wagtail (*Motacilla melanope*) is scarcely due before mid-March. The wagtails are hardy birds: considering that they are strictly insect-feeders, their advent in the north is singularly early—nearly two months before the bulk of the summer-birds. But more than this: Although I have just given their dates of arrival, yet it is not uncommon, in mild seasons, to see stray individuals of both species (but especially the grey) in

mid-winter—daintily wading in the shallows and burnsides, turning over each dead leaf in search of any food it may conceal. Their main numbers, however, are made up at the respective dates above mentioned.

Such are the few features of bird-life in February. I cannot find in my notes the record of any other species appearing on the moors before the end of that wintry month. At lower levels, however, another vernal sign foretells the changing season. That is, the resumption of song by several species, including skylark, yellowhammer, chaffinch, and hedge-sparrow. This may be expected whenever temperature rises above 55° or thereby.

March

Early in March, Mallards and Teal return to the moorland loughs. This is probably only a local movement: but, even in open winters, it sometimes happens that no ducks remain on the higher moors, except perhaps a few Golden-eyes.

The Titlark is another of the common moorland birds that arrive at this period. In such hordes do they come, and so deliberately do they saunter along, that it is hardly possible to overlook their passage. This, in the lowlands, occurs by mid-March; but it is a fortnight later before they move into the hill-country. Every year during the concluding days of the month, the hosts of these little birds that suddenly appear, passing up the valleys of North Tyne and Reedwater, are a feature of the season. These "watergates" form a natural access to vast areas of moorland.

The middle of March marks the date when the grey wagtail returns to grace every burnside, and to charm

the appreciative eye—should one be there. I know I have already incidentally mentioned this fact, but this bird is not only typical of the moorland, but one of my firm familar friends—a companion in the solitudes during five of the happiest months—and he shall not lack a second record here, in its proper place.

The grey wagtail frequents alike the loneliest mountain-burns and the broader streams below: but never, in spring, ranges beyond the wilder region. In the rich pastures and water-meadows of the lowland, it is replaced by the yellow wagtail—the latter unknown on the moorlands.

Simultaneously comes another species—not companionable, and with a curious record. This is the Stock-dove, which, during my own lifetime, has voluntarily added itself to the avifauna of the north. The first we ever saw, was shot by my brother Alfred on September 25th, 1878; and since then it has become quite a regular resident in the lowlands, feeding and "flighting" with the wood-pigeons in winter, and nesting in hollow trees and rabbit holes.[1] On the moors, its ways are quite different. None see it come or go: but, in March, it will be found to have taken possession, here and there, of some remote and hoary crag, some rifted rocks splintered by old-time convulsion, and often far away on the moors, surrounded by miles of heather. These strongholds the stockdoves share with jackdaws, ring-ouzels, and often a pair of kestrels. They "keep themselves to themselves," as the saying is: but attend strictly to business, for they breed *twice* in rock-cranny, and are gone before August 12th. The latest I ever saw on the moors was on August 18th. They are quite unknown there in autumn or winter.

[1] We found one nest on Derwentwater, in an old squirrel's drey.

In Roxburghshire, the same remarks apply. Stock-doves first nested there in 1882, and are now quite common. There is a regular colony of them in the Staerough crags, above Yetholm. In Berwickshire it first appeared on Tweedside in 1877, according to Mr Muirhead (*Birds of Berwickshire*, vol. ii., p. 141), and I have heard its curious coo-ing note (more confluent, and scarce so soft as that of the cushat) in the woods of Duns Castle in that county.

The advent of two other characteristic species marks the progress of the year. The Redshank and Black-headed Gull both appear in March — both to form, for four months, conspicuous ornaments to the moorland scene. The wild triple cry of the former (often first heard at night) signalises his arrival; he follows the main "watergates," and never leaves the lower levels: whereas the gulls pass on to seek high-lying moorland loughs for their summer-homes.

These gulls (*Larus ridibundus*), or at least the majority of them, have not come far. Some, possibly, have crossed the Bay of Biscay since the previous summer; but most, if my diagnosis be correct, have passed the winter on our own shores, thus differing essentially from the curlews and plovers, whose case has been already defined. In winter, immense concentrations of these gulls frequent the "slakes" and sandflats of the north-east coast. One stormy winter's night, when shooting on the sea, my puntsman and I both mistook, amid driving snow and deepening gloom, one of these assemblages for wigeon. While preparing to fire, our punt took the ground forward and swung round on the tide, obliging me to take the shot with a shoulder-gun. Nineteen lay dead—not wigeon, but black-headed gulls.

It was a sad accident—one of those that cannot always be avoided. But had the stanchion-gun held her bearing three more seconds, the destruction had been thrice as bad.

The date of this catastrophe was February 28th. The nineteen gulls were all adults, and all well advanced in acquiring the black hood. In another fortnight they would have been soaring over heather and moss instead of tidal sandflat and ooze.

I have often noticed these gulls at Houxty as early as the end of February. In arable lands, they follow the plough, along with rooks.

The last week of March brings quite a little flush of new arrivals from over-sea. Two of these are typical moor-birds, to wit,—the wheatear and the ring-ouzel. Other two represent the earlier contingent of the regular "summer-birds," namely, the sand-martin and the chiffchaff, both of which I have noticed (the latter in full song) as early as March 31st.

The following gives, in tabular form, the earliest and latest dates of arrival of the species already named :—

	Earliest Date.	Latest Date.
Curlew . .	arrives February 5	March 19
Pied Wagtail . .	„ February 19	February 27
Grey Wagtail . .	„ February 27	March 17
Stockdove . .	„ March 7	April 1
Redshank . .	„ March 11	March 27
Wheatear . .	„ March 23	March 31
Ring-Ouzel . .	„ March 24	April 2
Sand-Martin . .	„ March 31	April 16
Chiffchaff . .	„ March 31	April 11

The Ringed Plover (*Ægialitis hiaticula*) is strictly marine in its haunts, and there is no local evidence of its breeding inland: yet we have observed it frequenting

the wide haughs of the upper Coquet (25 miles from the sea) at the end of March, associated with redshanks, peewits, and an occasional dunlin.

March 23.—The Reed-Buntings (*Emberiza schœniclus*) have now acquired their full black heads—not by a moult, but by the abrasion of the buff-coloured tips of the original feathers. But they still only utter the single pipe, or chirrup, of winter—no song until April. On the lower marshy grounds by the coast, these birds remain all winter: but here are partially migrants, appearing at Houxty about the above date.

March 25.—A pair of Goosanders on North Tyne, under my windows at Houxty; watched them through binoculars at 100 yards, diving, and bringing up trout at about four to the minute—all under the 9-inch limit! I have observed these handsome birds here on other occasions at this season; and also, more frequently, on the Tweed and adjacent lochs. St Mary's Loch in Selkirkshire is a notable resort of goosanders in spring. They often keep in trios—a drake with two ducks. But though we have watched them chasing and coquetting early in April, and they remain till quite late in May, yet none have ever nested there.

The Lesser Black-backed Gull (*Larus fuscus*) is another conspicuous species which comes in March to breed on the inland moors: but is not included in my list of migrants, for the simple reason that these modern mosstroopers occur here, sporadically, during every month of the year. I shall have something more to say about them presently.

March 31.—Killed to-day the first adder: another on April 6th. These reptiles abound on the moors throughout the summer, living on mice and small birds.

In July, we killed one which contained a young mole, half-grown, with very small "diggers." One often sees adders while grouse-shooting, and on September 25th (1881), I killed one of a peculiar warm reddish hue—quite different to the ordinary colour. It was gliding down a steep slope, on the top of the heather, and contained three whole field-mice. This adder was also the latest I recollect seeing: they go into winter-quarters about the end of September.

While on the subject of reptiles, I may add that I have only on three occasions come across the common lizard (*Lacerta vivipara*) in the Border highlands. The first was near Loch Doon, Ayrshire, in June 1894; the second on Westburnhope moor in Allendale, August 1896. A third, about 5 inches long, we caught above Falstone in North Tyne, August 1903. There may, perhaps, be some lack of observation here.

The blindworm (*Anguis fragilis*) is another reptile never come across but in one single locality—a small wooded dene close by Houxty. The first was found, dead, on April 3rd, 1902; since then, I have observed blindworms on three occasions, all at this same spot and during the months of April and June. They measure 9 or 10 inches in length.

April

This chapter has already reached its full normal limit; yet it has only taken us to the end of March. The records of the truly vernal month of April are altogether too voluminous, and too interesting, to be crowded in as a mere appendix. I will therefore conclude the chapter by merely mentioning, with short introductory notes,

the data respecting the arrival of the remaining spring-migrants. The exigencies of systematic treatment demand as much; but the details I will leave to a new chapter of their own.

First of the birds to appear in the April list is the Dunlin (*Tringa alpina*). Towards the end of March, a few stray individuals will be observed in the lower haughs and river-valleys; but none appear on the higher moors, where they breed, until the month of April is well established.

Next comes the common Sandpiper (*Totanus hypoleucus*)—one of the dearest little "angler's companions" for the next four months. The middle of April is his due date; and, curiously, he often appears on the *west* coast (the Cumbrian Eden, Liddel, etc.) two days before he rejoices eye and ear on the eastern rivers, say the Tyne, Reed, Coquet, and Tweed. During many years' observation, ever on the keenest look-out for the first sight of this charming visitor, the earliest actual date of arrival was, I see, April 8th, 1899—at Houxty, on North Tyne. About April 12th to 15th is, however, the average date. On first arrival, the sandpipers are always inconspicuous, sitting silent and resting (evidently tired), among the shingle and gravel-beds. Next day there is a feeble half-song; but, after that, for four months, the river-sides ring with their merry intonations. Their flight also, graceful and infinitely varied—now skimming the surface, anon poising on tremulous pinions—is as full of beauty and as instinct with the poetry of motion as are their notes with merriment.

The willow-wren invades the whole land by April 20th—my earliest note is the 15th. From that date

onwards, not a hedgerow or spinney, not a cleugh or dene—not even a little straggling patch of natural birch or alder as far up on the fellside as trees can grow—but resounds with his charming cheery trill. These come literally in thousands: their congener, the Wood-Wren (*Sylvia sibilatrix*), also comes, but in far sparser numbers, and about ten days later. Yet this delicate little warbler goes quite as far: its true home is amidst sheltered vales and the deciduous woods of the low-lands. There it abounds; yet here, on the wild moors, its vedettes penetrate to the furthest limits of tree-growth, to stunted clumps of birch and rowan high out in the most sequestered cleughs. Among such spots are Blackburn linn, on Reedwater: another at 1000 feet, above East Neuk, near Elsdon. My brother Alfred also found it breeding on North Uist, in the Outer Hebrides, where there exist no trees at all.

The chiffchaff, as already mentioned, arrives three weeks earlier; but never penetrates the upland, or ventures far from sheltering woodlands.

The swallow and house-martin appear between April 20th and the end of the month. They are in no characteristic sense moorland birds, and I only restate the well-known fact here in faint hope that it may save the impetuous from rushing into print year after year with a report of "Swallows in March." Those early "swallows" are all sand-martins.

CHAPTER IV

SPRING-TIME ON THE MOORS—(*continued*)

WHATEVER buffets and disenchantments Spring may inflict on mankind, its vagaries affect but little the ordered lives of the feathered race. Throughout March and April, the strange love-song of the Blackcock characterises each glen and valley of the moorland. One hears everywhere that curious low note—half bubbling, half hissing—and presently descries its author, a revolving black and white spot, in some wide pasture or on the rush-clad slope of the hill. Hard by, one sees his consorts, half a dozen greyhens, some picking off rush-seeds, others preening or resting, all supremely careless and apparently unmindful of these demonstrations elaborated for their attraction.

At this season (April), the performance is almost incessant, lasting all day. As early as February it has begun, but is then confined to the first hour or two after daybreak. It is then one sees protracted combats between rival monarchs. So swift are their movements that human eye can scarce follow the fortunes of the fight in its critical stage—my own, at least, utterly fails. Yet never has an apparently impossible subject been more vigorously portrayed than has this, by my friend

BLACKCOCK AND GREYHENS—APRIL.

[*To face page* 38.

Mr J. G. Millais, in his *Game-Birds and Shooting Sketches*.

By mid-April the extreme virulence of their rivalries is abating, and parties of blackcocks can feed amicably together. On the 14th I noticed no less than twenty-one thus assembled. No greyhens were present, yet several of the biggest old cocks moved about (feeding) with their widespreading tails erect and partially distended, as though that fashion was chronic at the season.

Meanwhile, or rather, long before this period, the resident birds, that is, those hardy species that have weathered out the winter on the fells, have already commenced to nest. First among these stand the raven and the heron. As early as February, amidst snow-clad hills, the raven prepares his nest, and often lays before the end of that month. On March 8th there were five eggs in one of the few eyries that yet survive. A fortnight earlier, this nest had already been repaired and completely renewed, but at that date was still empty. We have seen occupied nests at five different spots; but they were not all used yearly, and some are now abandoned. Many former strongholds retain now nothing but the tradition and the name, as Ravenscleugh, Ravenscrag, etc. The raven is gone, and his place occupied by a swarm of jackdaws, in the aggregate more mischievous than he.

April 5 (1890).—There were still eggs unhatched in another nest—a very late date. The shepherd told me the old ravens had been rather destructive at the lambing time, killing several ewes; such an act, however, if correctly stated, is quite exceptional, and its possibility is doubtful, unless the sheep had previously been "cast," and was thus unable to regain its feet, in which event a

natural death often follows. The position of a dead sheep on the hill is frequently indicated by the flight of ravens, hooded crows, and blackbacked gulls.

April 17 (1892).—Three young ravens in nest at C——; near full-grown; but they did not leave the nest till May 12th. I have, however, known of a brood of young ravens fledged a week earlier than this.

April 1 (1893).—Two young ravens hatched to-day. This nest is in a very difficult position, all but inaccessible; that previously mentioned is in so simple a place one might almost walk into it—a tumble of huge boulders flanking a ravine. Two of the five eyries mentioned are so situate that, although inaccessible even by skilled rock-climbing, yet the nests are overlooked from adjoining crags, and the eggs or young can thus be seen *in situ* at quite short range.

Yet another nest is situate midway down a heathery escarpment, so precipitous that neither sheep nor man can maintain equilibrium thereon, though I have seen goats cross it. It forms the northern flank of a mountain-gorge. About 100 feet below the summit, projects a grey boulder, half cleft asunder, and ornamented by a gnarled and wind-tormented rowan. It is in the cleft beneath, that the eyrie is situated.

In the sixties many of these raven-haunted crags were distant 20 miles and upwards from the nearest railway. Nowadays, even in the wildest recesses of "Cheviots' mountains lone," there are few spots so remote. As showing the changes that have taken place within the lifetime of one man, my venerable friend, Canon Tristram of Durham, told me that he himself, during the thirties, found nests of the following, all in the parish of Eglingham, Northumberland,

HOME OF THE DIPPER.

[*To face page* 40.

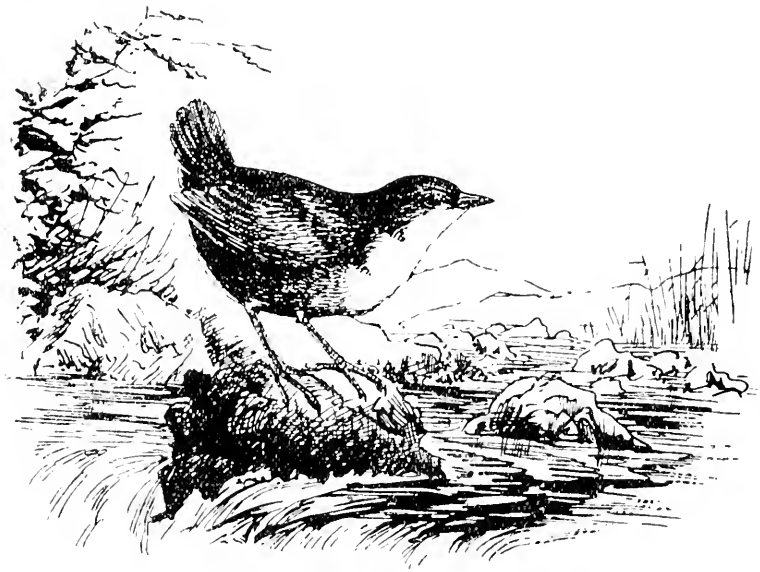
to wit: Buzzard, very common; kite; marsh- and hen-harriers; peregrine and raven. Of the six birds the four first named have now absolutely vanished as breeding species.

The Heron of late years, has found his ancient custom of nesting *gregatim* too dangerous, and is adapting his habit to modern necessities. The older heronries are being abandoned, and these stately birds begin to nest in scattered groups of two, three, or four pairs, selecting some straggled clump of pines far out on the remotest moors. In these sequestered refuges, the herons build in February, and in some years have eggs soon after the middle of that month.

The Dipper I place next—a typical moor bird. About the Ides of March you may see it in rapid direct flight (always holding mid-stream), and you notice, as it passes, green moss in its beak. By the 25th the nest is complete, though fast-ice may still fringe the burn, and icicles impend the site. The dipper works by the calendar and ignores thermometers; no stress of frost interferes with its rigid programme, and eggs are laid in March. Those who know the bird, who have heard the male in full song in the severest weather of mid-winter, and then watched him plunge blythely beneath the ice with a temperature close by zero, would scarcely be surprised if he elected to nest at Christmas.

A favourite site is in the linns, or small waterfalls, where a hill-burn comes tumbling and splashing over some rock-ridge. Many of these linns, overhung by gnarled and lichen-clad birch and rowan, and fringed with shaggy heather and bog-myrtle, form the wildest and most lovely nooks in the wild moorland. There, on a crevice of the moss-grown rock, half hidden by

fern, and all but indistinguishable from its environment, is the dipper's nest—a great round globe of green moss, amidst the very spray of the tumbling waters. The outside is splashed and wet; the old birds must pass, to and fro, through the fringe of the cascade, to reach their home. That is just what these little am-



ANGLERS' COMPANIONS—THE DIPPER.

phibians like, and hardly a linn among the hills but has its pair of white-breasted tenants.

Elsewhere, nests are placed among exposed roots, or on a gnarled branch overhanging the water; in the latter site, the nest is apt to be very conspicuous, its green moss contrasting with the grey clumps of dry wrack and drift stuck in the branches around and above. Moreover, had instinct risen to the level of reasoning power, the little architects would have seen in this wrack,

the evidence of floods that presently may rise to destroy their home. Dippers' nests are ofttimes fixed on a big boulder islanded in mid-stream, others in the wing-walls of bridges, or on overhung rock-ledges.

Inside, the nest is dry and warm, and the eggs number five or six—pure white, but showing a pretty pink blush when freshly laid. The young are already on wing in April—second broods up to June—and from the first take lovingly to the water, diving like water-rats long before they can fly.

Level, in point of date, come the Owls. The tawny owl (*Syrnium aluco*) is thoroughly characteristic, nesting in all the larger deciduous woods of ancient growth, and startling the nocturnal echoes with their sonorous hoŏ-hoŏ-hooō—or, as Shakespeare put it, too-whit, too-hoo. In Morocco, the Arabs render it by their phonetic name, Bŭ-rŭ-ru. Some hollowed tree in the deep wood, a cavernous centenarian, will serve year after year for a home. There is no nest—the eggs lie amid scraps of touchwood; the entrance, three feet long, sometimes four, vertically above, may yet be a mere slit scarce four inches in width—very inconvenient, one would think, for so large a bird. March 25th is the date of laying, and the eggs usually number three.

I have noticed some curious habits of this species at Houxty. Here, where my immediate neighbours are mostly feathered, furred, or scaled,[1] the tawny owl abounds. A favourite stance is in an immemorial elm just outside my window, where (much as I love the owls) a continuous serenade, shocking the silence of night in alto staccato, is occasionally inconvenient during the

[1] I hasten to explain that this does not apply to *all:* there are those whose epidermis is quite beyond suspicion.

small hours. I used, moreover, to feel (though I never admitted) some slight misgiving for the safety of my small rearing of pheasants and wild-duck, which abide hard by. For the innocence and moral character of my owls, I steadfastly stood bail, and never but *once* have they abused my confidence. Their one lapse, in the interests of even-handed justice even to "vermin" (as owls are stigmatised by the wooden-headed), shall be duly recorded at its proper season. Meanwhile, in April, 1904, we found a nest of the tawny owl—or rather, two down-clad owlets and an addled egg—lying on the bare pine-needles at the foot of a spruce. There was neither nest nor other shelter whatever, beyond two big sloping root-shafts, in the angle of which the owlets lay on the ground. I had the pleasure of showing this site, a month later, to Mr Howard Saunders and Mr F. C. Selous.

The following year, these owls (presumably the same pair) nested in a similar situation, only a few hundred yards away. But their new home, when discovered in April, presented quite a different, and a very extraordinary picture. For the downy triplets now reposed amid a veritable holocaust of tiny corpses, which formed, as it were, a rampart around their nursery. These, on examination, numbered twenty-four, to wit:—thirteen field-mice (long- and short-tailed), four shrews, one starling, a cock chaffinch, two fledgling missel-thrushes, and three baby rabbits. For a single day's supply (and owls are clean feeders, rejecting carrion), this list is eloquent of the utility of the genus.

Another owl's larder, on Cheviot, contained (besides many mice and young rabbits) a frog, half-eaten, and a willow-wren.

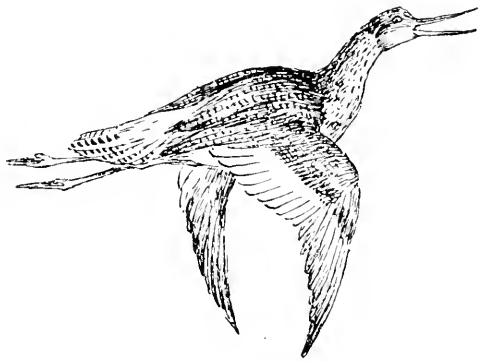
The Long-eared Owls are equally abundant, but prefer coniferous woods. They also prefer a proper nest, but dislike the troubles of construction; hence their keenness to forestall some more industrious architect. This may be one reason for their extremely early nesting. One pair, on March 19th, had already commenced to sit on five eggs laid in a nest which was built and occupied the previous year by sparrow-hawks. These latter, on arriving six weeks later, must surely have been concerned to find their patiently constructed platform of larch-twigs—their "freehold"—occupied by a staring, snapping, hissing brood. But the hawks did not resent the usurpation; on the contrary, they adopted the precedent, and appropriated a wood-pigeon's nest hard by, where they laid their eggs alongside the cushat's pair. Next year the hawks built a new nest for themselves, and on May 4th, had seven eggs. The owls at that date had two large young—one ready to fly—besides three addled eggs, in the evicted hawk's abode.

A peculiarity in the habits of this owl (*Asio otus*) deserves remark, though I have never noticed it but in one particular spot. In those woods, the whole of the resident owls, as soon as fledged, associated themselves (perhaps three or four broods) into a single family and selected a big umbrageous Scotch fir for their diurnal abode. To the particular tree of their choice—(it varied in different years)—the whole owl-world of those woods resorted at dawn; and by day could be interviewed, though it was not easy, amidst flickering shadows, to detect the slim brown upright bodies pressed closely against the brown branches of the pine. Towards dusk, their awakening was notified afar by

the querulous cat-like cry; ten minutes later, silent forms soar and circle outside the wood, and after some preliminary gyrations, the night's hunting begins in earnest. During the nesting-season, these owls have another cry—not unlike the petulant barking of a spoilt lap-dog; but they never hoot.

Besides the above, cushats also lay in March; and so, of course, do rooks. But the only further remarks I will make on March-nesting birds, are these:—

March 20.—A missel-thrush commenced laying, though there were 7° frost at night.



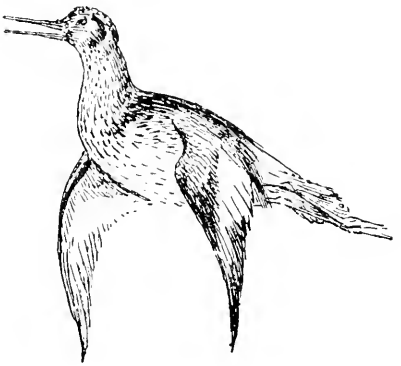
REDSHANK IN APRIL.

March 21.—Planted this day a big cypress (*Thugopsis borealis*). Five days later, a song-thrush had completed nest-building therein, and on the 28th this nest contained two eggs—exactly one week's work.

March 31.—A stockdove's nest at the Keyheugh contained one egg—an exceptionally early date.

By weaving together the numerous skeins above rudely collated, it will be seen that we already have, by mid-April, a sufficiently charming aggregation of bird-life on the moors. The purely summer-birds, the warblers,

will not, it is true, be in evidence for another week; but already the moorlands become resonant with vernal notes, with the sibilant pipe of curlew and plover, peewit and sandpiper, the flute-like song of the ring-ouzel, the purring of dunlin, and less musical notes of wheatears and gulls. The noisy redshanks are already (by April 10th) all localised in pairs about the low-lying rushy pastures or stagnant backwaters, and very graceful are their actions as they wheel overhead, alternating rapid flight with short jerky periods, or



REDSHANK IN APRIL.

poising in mid air on wings curiously bent beneath and pointing stiffly downwards; anon perching on a dead bough or a sheep-rail, still piping. We have found the nest of this species, on Reedwater, as early as April 22nd with four eggs. The redshank, in recent years, has increased immensely in numbers: six or eight pairs will now nest on a single moss, or marshy haugh, in parts where the bird was all but unknown when the first edition of this book appeared (1889). They are also nesting higher out on the fells than they formerly did. Among the bogs and mosses, snipe course high

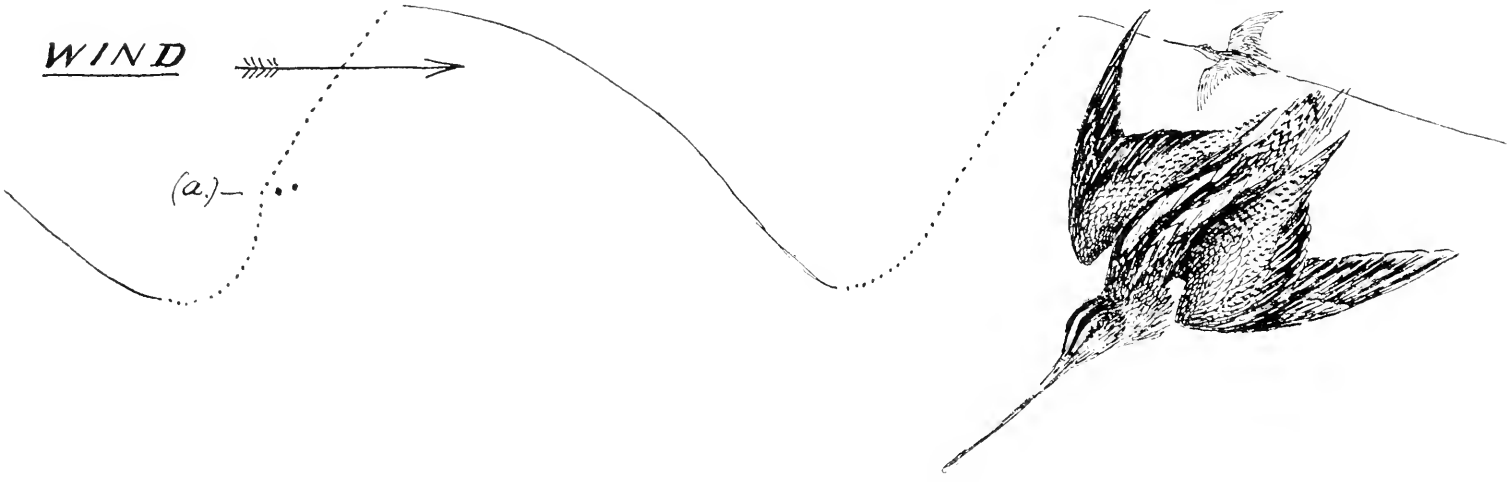


Diagram shewing Flight of Drumming Snipe.

overhead, a dozen at a time, and their strange bleating note comes down from mid air, alternating with the sharp metallic "chip-chip" when flying free. That other sound, the "drumming," is only heard as the snipe, when in rapid flight, suddenly plunges vertically earthwards, and always against the wind.

Snipe only drum—or, at least, drum loudest, against the wind, and when thus hurling themselves headlong downwards. When flying down-wind, I have also heard the sound produced by a sudden sidelong turn; but it is feeble by comparison. The annexed diagram (p. 48) roughly illustrates the flight of a drumming snipe. The sound is produced only during the *dotted* periods, and seems clearly attributable to the wings (not the voice), since the key changes with any alteration in the snipe's course through the air, as at (*a*). The drumming commences about mid-March, and I have heard it as late as July 15th; but by that date it has lost its initial vigour. While nesting, snipe have another note, croaking or querulous, uttered when on the ground, or just rising therefrom; I have noticed it when the bird was perched on a rail.

Another of the vernal signs which, one after another, spring into being to attest the season, is the hum of the humble-bee. It shall not be omitted, for there is a thoroughly summer-like ring about it when first heard in early April. I notice that one year (1905) I heard it as early as March 25th.

April 14.—Nest of grey wagtail, with four eggs, in a crag on Coquetside; the first nest of the pied wagtail found that year was on the 17th, in an old stone-dyke. It will thus be seen that the wagtails are actually laying before the bulk of the summer-birds appear.

April 15, 1905.—Willow-wrens singing everywhere

—the earliest record in thirty odd years. The pink flowers of the burdocks are now coming up through the sand on the river-side, though the leaves do not appear for some time yet.

April 17.—A woodcock's nest with four eggs in a bare opening in the woods on Derwentwater. It was among dead grass, with scattered briars and brackens around—a mere scraping, with a few dead oak-leaves beneath the eggs. The bird sat high, and her big full eye was very conspicuous. Woodcocks nest more or less sporadically throughout the Borderland, and young are seen on wing by the first week in May.

April 20.—This I regard as the standard date, in average seasons, for the laying of the more important moorland birds, to wit: Grouse, mallard, golden plover, snipe, redshank, pied and grey wagtails, and stockdove.

The following are a week or ten days later: Black-game, curlew, teal, ring-ouzel, dunlin, black-backed and black-headed gull.

The curlews are not particular as to site. They nest high out on the hills; but grass or heather, long or short, bare or dry ground or bog, all seem to suit them alike. Even when the nest is among long heather, there is no premeditated concealment. The curlew rather relies on her vigilance and keen eye, and rarely sits close when danger threatens, however distant; yet it is not difficult, owing to her size and light colour, to find these nests if one knows how to look for them. Her four eggs are laid in the closing days of April, one or two being often unfertile. The young curlews (rather ungainly creatures, owing to their immense legs), do not leave the nest on being hatched—as those of most of this genus do; for, although they may not be found actually in the nest,

they will be lying concealed close by, having just slipped out on the approach of danger. This, of course, only applies to their early days.

Golden plovers seldom nest among covert—*i.e.*, their nest is on shortest grass or heather, often on bare or burnt ground. There is no attempt at concealment. On being approached, one plover will rise straight from her eggs, 200 yards away; another slinks off, creeping away unseen; more rarely, she will rise from her eggs (even though freshly-laid) almost at one's feet. The young run as soon as hatched, but are long in acquiring the power of flight, and retain the golden down on their necks when full-grown, as any grouse-shooter may see in August.

Peewits breed in thousands on the lower ground; but not on the high moorland beloved of curlew and plover. The first week of April, by the way, is the time for finding their eggs. Snipe nest at all elevations, on hill or vale. Their nests are well concealed under a dry tuft of grass or heather, and the old bird sits close. Snipe are somewhat irregular in date of laying. I have found young snipes unable to fly, on August 12th; and, on the other hand, have known of a nest as early as March 19th, and of young snipes on the wing by the end of April.

The stockdove lays her two eggs in the crags by April 20th, but (like all the pigeon-tribe) compensates for shortage in numbers by breeding continuously all through the summer, fresh eggs being laid up to the end of June. A few twigs of birch or heather serve for the nest, save in vertical crevices, where more material is needed for a foundation—unless jackdaws have previously filled the hole with sticks, as their habit is. One nest, on May 7th, we found in a different situation — under an immense

boulder at the Cloven Crag, a mass of tumbled rocks flanking a singular cleft in the hills looking down on Coquetdale. These eggs lay on the bare peat, 18 inches from the entrance.

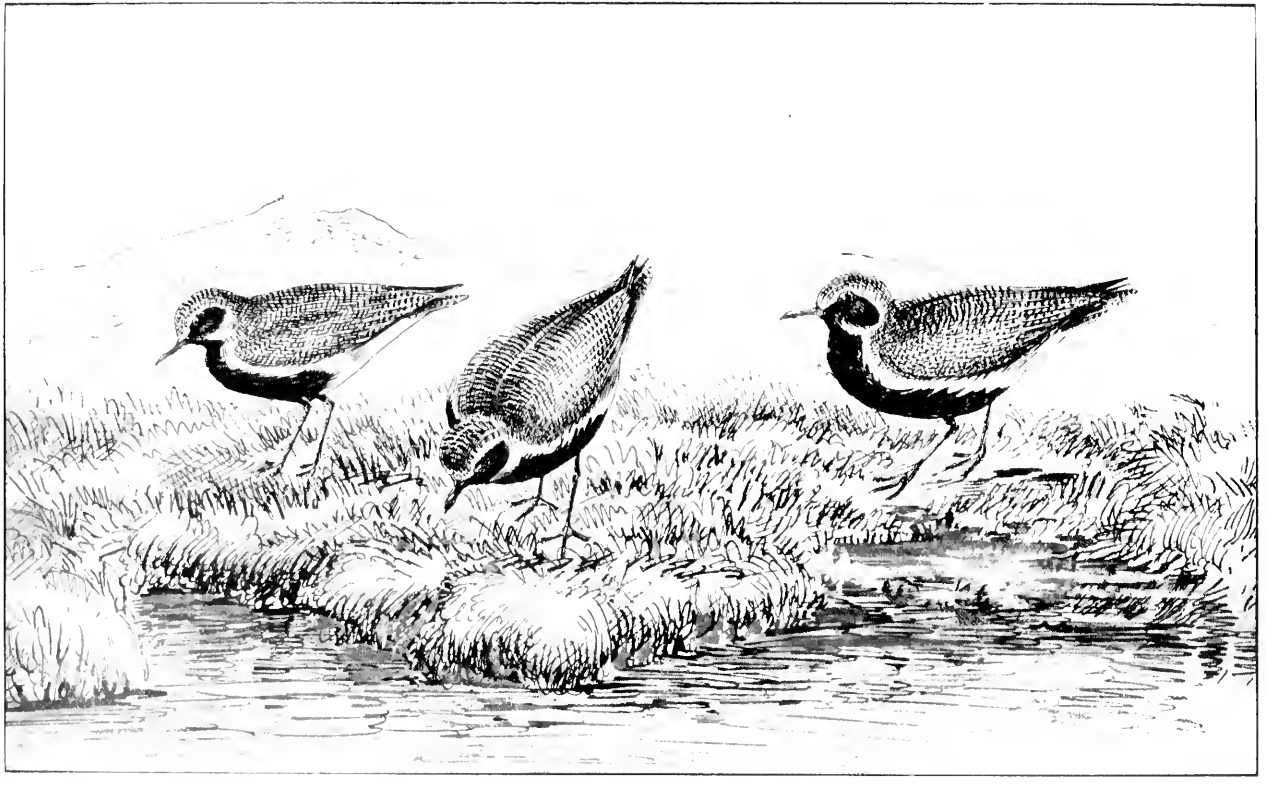
April 22.—Pied flycatcher, Houxty burn. This is the earliest arrival I have noted of this species, which, though increasing, yet remains a scarce bird.

April 23.—White wagtail, also at Houxty. I have only noticed this bird (so common and familiar in Norway) on three occasions in the British Isles. The first was on May 24th, 1885, near Scots Gap; and, by a curious coincidence, my friend Mr Howard Saunders had observed another, on the same day, in another part of Northumberland, viz., at Langley Castle on South Tyne. On September 21st, 1892, a white wagtail (in company with several of the pied and grey species, both old and young) frequented the burn under our window at Otterburn, during nearly a whole week. The third instance occurred at Loch Merkland, in Sutherland; it was feeding about the garden of the lodge all the morning of October 13th (1898)—rather a late date for a wagtail.

The day before, I had shot, on Ben Hee, a royal stag, whose antlers taped hard by a yard in length—should any doubt, they may consult Rowland Ward's *Records of Big Game.*

April 23.—Heard to-day the linnet-like song of the Twite, on the slopes of Monkridge fell; near the spot where, a month later (on May 21st), we watched the female to her nest. It was built among the heather, like a titlark's, and contained five eggs.

It is outside the scope of this work to record the arrivals of *all* the summer-birds; but two others that are



GOLDEN PLOVERS—END OF APRIL (NORTHERN TYPE).

[*To face page* 52.

truly typical if not of the moorland, at least of the foothills and of the "fringe of the moor," must not be left unnoticed. These are the whinchat and the redstart—two little beauties, both of which may be looked for during April. The 21st is my earliest note for the redstart,[1] the 28th for the whinchat. Both are abundant. The stonechat, on the contrary, is extremely local, and quite unknown over wide areas of the Borders. It, moreover, remains during winter.

Year after year at this season (mid-April), one observes, while rambling with one's rod along the burns, the packs of golden plovers still frequenting the haughs and lower grounds. By this date, the packed plovers are visibly blacker beneath than the nesting pairs on the hills above. One now also hears, among the *packed* plovers, that loud wild spring-cry which I have before rendered—Tirr-pēē-yŏu—a sure index that they are ready to depart. The *breeding* plovers no longer utter this cry; *their* note is now confined to the single plaintive pipe and a peculiar rippling song, or warble that is wholly undescribable. It is the joyous note of courtship, analogous with the drumming of snipe and peewit. Most birds—dunlin, redshank, curlew, and many more—have dual notes at this season, namely, their ordinary notes of alarm or communication, and this ebulition indicative of the exuberant spirit of the vernal season.

Ten days later, I have the following note:—*April* 27.—Though weather continues bitterly cold, and the sting of the east wind has lost none of its marrow-piercing venom, yet the packs of golden plovers have now utterly disappeared from all the haughs. Not one remains

[1] I see that in 1892 I observed redstarts as early as April 14th, on the Wansbeck; and in 1895, on the 17th, at Kelso, on Tweed.

where, a week ago, there were hundreds. Instinctive perception of dates rarely fails. Their appointed season has arrived, and these birds know it to a day—they know that the wastes and tundras of Northern Europe and Asia are ready for their reception, and they have gone.

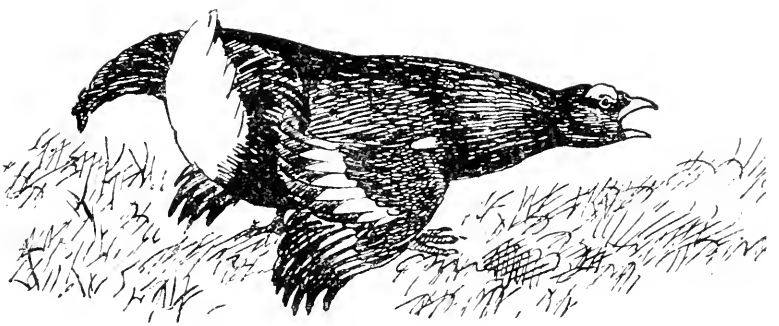
The foreign-bound curlews, too, have now disappeared from the coast. My winter puntsman (specially instructed to watch them) wrote that *April 30th* was the last day on which he observed them in any quantities on the sand-flats where they had spent all the winter and spring. (On the same date, by a mere coincidence, we found the first nest of the year, with four eggs, on the moors.) The above corresponds with the known arrival of curlews and plovers in the far north. I have a note of the arrival of plovers at Langnæs, Tromsö, on May 12th, and on the 18th a curlew's nest was found—considered there exceptionally early; yet three weeks later than here, on the Borders.

Thus the month of April witnesses not only the arrival of nearly all the summer-birds, but also the departure of our winter visitants. Fieldfares, it is true, linger on into May; so do golden-eyes. But the great majority have gone. Jack-snipes collect in little wisps in March and linger but little after that; long before one hears the first half-song of the sandpiper, they, and the hooded crows, have vanished.

A singular combination marks the close of the month. Everywhere, from the same trees, you may hear simultaneously the chattering of fieldfares and the merry trill of the willow-wren. The latter, a fortnight before, was at home in Africa; a fortnight hence, the fieldfares will be nesting by the Arctic circle.

April 29.—Spring-salmon, male, 17 lbs., Gold-island stream, Houxty—the earliest record here. The first

female fish was landed May 15th, weight 15 lbs. These are not given as early dates: but merely as my own. This spring, a salmon was killed further up the river, at Lee-Hall, on February 27th, but that is quite exceptional.



Old Blackcock "in Play."

CHAPTER V

STRAY NOTES ON THE GAME-FISH

DURING the months of March and April, the North Tyne, Reedwater, and other Border rivers swarm with the kelts of salmon and bull-trout, awaiting suitable floods to take them down to the sea. These kelts, in certain years, are subject to a disease, *Saprolegnia ferax*, which disfigures them with ugly white leprose spots, especially about the head, and the poor wretches lie, inert and listless, in back-waters and burn-mouths. For many of these, a flood-water would avail nothing; they are too far gone, and the sand-banks are strewn with the bodies of those already dead—choice morsels for the corbies.

A serious nuisance to the trout-fisher in early spring are these great *hungry* kelts—an epithet to be noted for remembrance later. At that season the "rise" of trout to fly is very uncertain and always brief. In March it may be counted in minutes; in April it may last an hour—perhaps two—some time between eleven and three o'clock.

At length that crucial moment arrives. The angler who has been awaiting it, watching for every premonitory symptom, is all alert and ready for action at precisely that spot where (conditions of water and wind being considered) success is best assured. Already, within a quarter of an hour from the start, he has encreeled six, eight—possibly

ten—golden-spangled beauties. Then follows a "big one"—mark that a trout of a pound weight is *big* on Border streams; this one looks fully that.[1] The angler thinks "*a bit more*"; but no precious seconds can now be wasted in weighing, and away flies the triple lure without interruption for a moment. Alas, the response this time is that dead sullen pull so fatal to all his hopes and chances for that day. A great salmon-kelt has taken the "teal-and-yellow"—a fish of three feet in length, that, when he came from sea, weighed well-nigh 20 lbs. With a 12-foot rod and finest gut, the angler knows there will be ten to twenty minutes lost ere he can hope to clear his hook from those uninvited and undesired jaws—twenty of those "creamy" minutes that only recur on a few days each year! Meanwhile the trout continue rising all round in tantalising security. The weight of the intruder tells on fine tackle; but at length he is played out, brought alongside, and "tailed"—he is far too big for the landing-net. Free once more, the angler again revels in a few joyous moments with the trout. Luckily, they are still in play. But, at any moment, a second such catastrophe may occur; in which event, another ten minutes—fifteen—perhaps twenty, are lost, and then the rise is over for that day.

However intimately one may know a river and its subaqueous geography, it is impossible wholly to avoid these kelts. They are ubiquitous, and voracious of "feathers"—yet rarely indeed have I seen one take a living fly, or other natural food whatever. These last dozen words I feel inclined to underline.

[1] The largest trout that has fallen to the author's lot in the Borderland was landed while this chapter was being written, at Houxty—May 23rd, 1906. Length, 21 inches; weight, $2\frac{3}{4}$ lbs.

Years ago, on the Reedwater, in April, a tragedy occurred before my eyes. In a still pool raged sudden commotion. Towards the shallow shore where I stood, raced trout and troutlets in scores, splashing in and out of water in evident terror—several so stranding themselves that I picked up three or four. Behind them was clearly defined the heavier wave of something big. At the moment, I concluded it was a marauding kelt. But that, I am now satisfied, it was not; for, if such were the habits of kelts, one would see the spectacle repeated daily—almost hourly; whereas never during a lifetime have I witnessed such a scene save on this one solitary occasion. The actual aggressor never showed; it might have been an otter, less improbably a pike, which fish, previously unknown, at that time appeared in Reedwater. A cannibal trout is the simpler solution.

The above incident is mentioned as illustrative of one of the many inexplicable features that surround the lives of salmon in fresh waters. After spawning, the kelts do most undoubtedly feed, for they rapidly recover condition on their seaward way. Yet one never sees *them* feeding as one sees the trout—one seldom or never sees them taking natural flies; still less, chasing smaller fish. And it would be impossible, within the narrow limits of a river, for such large fish to do these things unseen. There is, of course, the alternative that they find nourishment in other ways; but, in such case, their intense greed for artificial flies becomes still more incomprehensible.

In bidding good-bye to the kelts—(to whom, by the way, our utmost respect is due, for, however intrusive and annoying they may be to the trout-fisher, we must remember that they have done their duty once, and are only anxious to do it again)—I may add that it is

no unusual experience to be "hung up" in them three or four times during a short day's fishing. By my notes, I see that I have hooked as many as *seven* in one day, despite every effort to avoid them.

In these rivers, as yet, new-run salmon are few and far between. A succession of favouring floods may bring some fish up in March: for Mr Taylor of Chipchase Castle tells me he has killed many in North Tyne during that month, and even, exceptionally, as early as February. Here, I have not noticed spring-salmon before April—or, perhaps it would be more correct to say, I have not found them worth trying for until that month. During April and May every fair-sized flood will bring up fresh spring-salmon: and a few continue to run in June and July, though there is certainly some stagnation at the latter period, the fish then captured being either grilse (which arrive with the bull-trout in July), or salmon which had entered the river earlier and are now moving up, stage by stage, as waters serve. The autumn run in North Tyne begins in August and September. But truly the movements of salmon are unaccountable—irreducible to rule or reason, since almost each river has its own varying season; while the underlying causes which actuate those movements are as completely unknown to-day as they were a thousand years ago. The Eden, for example, I have known, in suitable seasons, to be *full* of spring-salmon by February 15th (when the fishing opens), and many had presumably entered long before that date. In that river, the spring-run may last, given favourable conditions, till the end of April. It then ceases entirely until the autumn.

In Tweed, the run of salmon coincides, roughly speaking, with that in Eden. That is, in these two

rivers, there is a distinct spring-run and an autumn-run: separated by a quiescent period during the summer.

Without attempting to go into the larger questions here raised, and which lie beyond the scope of this book, I will briefly outline my ideas on the biology of the salmon.

In the beginning—that is, long before historic times, greenheart rods and "black-doctors"—the more enterprising of the genus *Salmo*, finding the competition of the rivers inconvenient, and after successful trial forays in the brackish estuaries, at length boldly ventured forth into the open sea. The result in process of time was the evolution of *Salmo salar*, the less enterprising individuals remaining *Salmo fario*. Just as the bird-world (as suggested in a former chapter) tend, at their reproductive season, to seek the north as being, ages ago, their original home and centre of dispersal; so the evolved form of *Salmo* returns, by hereditary instinct, to reproduce his race in the same fresh waters wherein he was born. But how is it to be explained that the salmon of each particular river have their own particular ideas of the proper season to return thereto? There should be a reason; yet none is apparent—unless it be as suggested below. For their return to fresh waters by no means coincides with the period when they are due to spawn therein. On the contrary, their habits in this respect seem absolutely irrational and illogical, and certainly entail to the early-run salmon many months of grave inconvenience and discomfort for no visible object whatever. Instead of roving the open sea, he deliberately coops himself up, for all the long hot summer, within the narrow limits of some still pool or hole.

The spawning season of salmon is in mid-winter. That

is, at least, one fixed point in their career. It is practically the only one—the only bed-rock on which reasoning may find a solid base. Why then, knowing that they will not spawn till near Christmas, should salmon enter the rivers in February—or even in April? The idea of obtaining food must be dismissed at once. That all tends the other way, since there exists no food in fresh waters for them. In those far back ages, in his *pre-salar* period, the salmon recognised that rivers afforded no feeding-grounds for him. It is to that prescience he owes his evolution.

All salmon return from sea in the highest possible condition—in a word, gorged with high living. So distended with curd and fatty matter are the early-spring fish that not one more ounce could they contain. This "curd" overlying the whole body, interposed between each flake of flesh, and clothing the pylorics, is Nature's provision—her substitute for food, during the salmon's sojourn in fresh water. The salmon then needs no food; but, far more than that, he is, I am satisfied, incapable of receiving or assimilating food. His stomach and digestive organs are already, ere yet he has quitted salt water, thrown temporarily out of gear—shrivelled up.

I believe I was one of the first to notice this fact; though Sir Herbert Maxwell had arrived at similar conclusions about the same time or possibly before. It was in the summer of 1892, when fishing in Surendal, Norway, that my attention was drawn thereto. Each night our host, Mr Fleetwood Sandeman, held autopsies on the salmon caught during the day: the object being to discover what food their stomachs contained. A practical anatomist, it is clear, was needed; and I do not think any of us claimed the smallest technical knowledge of that science. Yet even

to inexpert hands it was not difficult to discover, by following down the gullet from the throat, that that gullet led to no "stomach," but to a shrivelled-up organ that once, one might assume, had been the stomach. Possibly we were wholly wrong — in our technical ignorance, made some mistake; though I hardly think that probable. At any rate those are the facts, and the grounds from which the above conclusions are deduced.

The function of a salmon, once he has entered the fresh water, is wholly and solely to reproduce his species. It is his one idea, object, and occupation. But, for all that, he yet remains a *raptor*—a fierce creature of prey. You can re-awaken that dormant pugnacity with a "Jock Scott," or arouse his ire with a "phantom"; but his appetite you cannot tempt, for the digestive organs, which, all his sojourn in the sea, worked at highest pressure, are no longer in use; the whole physical and corporeal energies are now transferred to those of reproduction. That performed, he becomes a kelt once more, with a renewed appetite for light articles of food, such as March-browns; and there, amidst all these perplexities, we will leave him. For the only conclusion one can come to is that, as soon as ever a salmon in the sea is fully "fed up," and can no more, he must *at once* return to fresh water; and that that condition may be attained at quite irregular times, often entirely irrespective of Nature's one fixed date, the spawning-time in December.

The subaquatic habit of fish (and especially of migrating fish) imposes a degree of care in formulating conclusions beyond even those that prevail in other branches of zoology. For so much is unseen,

so much must be inferred, that life-facts become proportionately less capable of proof, more dependent on deduction—or even conjecture—than is the case with birds or other terrestrial forms of life. The value of work herein depends on correct apportionment of weight to the few facts that come within the scope of vision. For that reason, while writing of the observed habits of kelts, I have purposely minimised the evidence in regard to their taking insect-food; since an undue importance may possibly be attached thereto. For it is natural to conclude when kelts are observed to gulp down surface-flies, that such is their regular means of subsistence. But if that were the case (instead of being, as I hope to show, merely the exception), the phenomenon would be of unmistakable daily demonstration. For in early spring, the rivers *swarm* with kelts; if these large fish had to satisfy voracious appetites in such manner, the waters would *boil* with their constant rises and plunges—as it actually does, on a minor scale, with those of trout. And that demonstration would be the more conspicuous owing to the greater bulk of kelts as compared with trout; and secondly, because of the essentially different construction of the two. For whereas river-trout are enabled by their possession of air-glands, inflatable at will, to float buoyantly in mid-water, so that, during a "hatch" of fly, they can lie poised within an inch or two of the surface, ready to snap up the floating food with a minimum of effort and of splashing; yet the case of the migratory *Salmonidæ* is entirely different. They, not being so provided with air-glands, are incapable of floating thus, poised at ease in mid-water, or near its surface. The salmon, while in fresh water, must perforce rest on the bed of the stream, his weight supported on some convenient

stone or rock-ledge. Hence, for every surface-fly seized, a salmon would be compelled to rise through the entire depth of the water.

For these reasons, sufficing or otherwise, I conclude that kelts do not take natural floating flies as a regular means of subsistence; though they may, and on occasion do, snap at a passing March-brown by way of amusement, exercise, or from other inconsequent motive.

Salmon-fishing, as a sport, stands second to no other, whether in the skill required and the knowledge of one's game that it involves; as well as in the prolonged tension of mind and muscle when handling a heavy fish. Moreover, and beyond all that, it cannot be artificialised. Hence it is regrettable that salmon should still be netted after their arrival within fresh-waters. By all means net them in the open sea so long as local conditions warrant. But netting in rivers—in the narrow waterways of British rivers—is not fair-play; rather is it a "method of barbarism" that may fitly be relegated to Lapps, and Finns, and such-like aborigines.

The habits of the bull-trout (*Salmo eriox*) are, in this river, North Tyne, more rational and comprehensible than are those of the salmon, for he arrives later, and spawns earlier; hence his sojourn in fresh water approaches nearer the minimum. None arrive much before July, until, according to a local adage, somewhat cryptic, "the alder leaf is as big as a bull's eye." Then the fish of this species begin to spawn much earlier—often during the month of October. As a rule, they ascend the hill-burns—often mere rivulets—for this purpose. One such burnlet close to my house, which is sometimes stone-dry all summer, is often occupied towards the end of October, by many pairs of bull-trout running to 3 and even 4

pounds in weight. These fish ascend two, and even three, miles from the main river; yet within a fortnight they have deposited their eggs, covered these over in heaps of new-turned yellow gravel, and themselves returned to the river, presumably proceeding seaward.

But when a droughty summer is prolonged into autumn, and the hill-burns remain dry in October, the bull-trout must perforce remain to spawn (against their instinct) in the main river. Such was the case in 1904, when I watched their procedure with interest. Great part of the river here (at Houxty) is one long spawning-bed of salmon; and it was remarkable to watch how carefully the bull-trout (compelled by circumstance to use their bigger cousins' territory) avoided all spots which were likely to be selected later on by the latter. Whether this arose from prescient instinct, or merely from difference in habit, the "bullies" all selected nests in the gravelly shallows towards the shore, or in the "breaks," or pool-tails. Had they done so in mid-stream, or the deeper waters, their labour would have been lost, for their eggs would inevitably have been rooted up, and scattered abroad in the current, two months later, when these sites were all occupied by a wallowing crowd of salmon.

The true sea-trout (*Salmo trutta*) is comparatively scarce in this river. I have only caught three; one a new-run fish of rather under 2 lbs., the other two, kelts of corresponding dimensions. The bull-trout, as a rule, run bigger than this, averaging here nearly 3 lbs., while some few reach 5 or 6 lbs. in weight.

One of the most charming of Nature's episodes in wild-life may be enjoyed every April, what time the big March-browns hatch out. The phenomenon, how-

ever, is irregular, and independent in its coming of any palpable or calculable cause. The ephemeræ *may* appear in their thousands while snowflakes drive on a bitter east wind. The next day is mild and balmy, yet not an insect appears. Some days the "hatch" may last an hour—or even two, or more; on others, it ceases in five minutes.

To the angler this is perplexing, since no years of experience will afford *data* on which to base a forecast. He must perforce utilise what patience he possesses and await, shivering on the bank, the psychological moment, ever ready for instant action, should it arrive.

Presently from the heavens appear a score of black-headed gulls, sweeping to and fro across the waters. They, like him, are on the watch for a hatch of March-browns; but they also lack *data*—or instinct fails. Ten minutes later, the gulls have gone. The angler may rest assured that there will be no "hatch" that day. But such incidents are the exception, not the rule. Generally speaking, the advent of those gulls foretells a hatch. Within a very few seconds the whole water-surface will have become alive with swarming ephemeræ. From the gravelly depths beneath, ascend thousands—aye, millions of newly-born insects, each floating perkily upright; great brown fellows, drying and straightening their yet crumpled wings in the life-giving sunshine—(or sleet!). Anon they essay a tentative flight, fluttering a few yards, again to alight on the smooth-running stream. Yet so light are they, so buoyant and to the manner born, that they pass safely through rough bits—they navigate rapids and never ship a sea.

Poor ephemeræ! now comes the harvest for bird and fish; alike from above and below, those light-hearted

insects are gobbled up in millions. The patient gulls —disappointed yesterday—now poise and sweep and scream on every side, picking up two score to the minute. Sand-martins work in shoals, passing, a dozen at a time beneath one's rod, and never miss their aim, flicking the surface with flying breast as each victim is snapped off the stream. Wagtails (pied and grey) are there, taking toll; even the titlark and the chaffinch dart out from the fringing alders and pick off those floating luxuries with wholly unwonted dexterity. The shy mallard forgets for a moment his deep-rooted fears, and joins the feast. The air is flecked with darting, poising, screaming forms, all working at top-most pressure; for all know how transient the opportunity may be.

But what of the trout all this time? Hitherto, not one has moved, and the "hatch" has been going on for five minutes. Yes, there goes one at last—a dashing rise that means business, with the glint of a golden side exposed. A second follows, then another. Then, in a moment, the whole water boils with rising trout. The fish have lost—or wasted—or ignored (one cannot tell which) a full five minutes, sometimes ten, of that precious opportunity. They try to make up for that now. During ten minutes, or twenty, this scene continues; birds above, trout below, gorge down the luckless ephemeræ. Then, in one moment, suddenly as they began, the trout, with one accord, cease all at once. The fly still drifts down in undiminished multitude; yet not a rise now breaks the surface. It ceased as by word of command. Are they gorged? *All* gorged, and at precisely the same moment? Who can say?

Presently you see a change—there are fewer fly—now

there are none. As by magic, the hatch has ceased, and of all those myriads, not a living fly can now be seen. Not one survives—only the wreckage, the flotsam and jetsam, drifting limp, black and dead. Countless corpses strew the backwaters and darken every foam-wreath.

Nature's little tragedy is over for that day. It has lasted forty minutes. In that period those March-browns have lived their lives—some of them; and all have died. Birds and fish alike have disappeared—satiated. But the angler—what of him? Few, it may be, and disappointing are the captures he has made. Why should he, or rather, how can he expect to succeed? Amidst all those myriads of the real living prey, why should the silliest of trout consider a feathery counterfeit? A "general hatch" is not the angler's chance. That will come presently, and with less demonstration. It comes when he sees those quiet steady rises—at nice regular intervals—just outside the curl of the current; and when but a stray spring-fly flickers here and there in the shade of the willows.

CHAPTER VI

MAY ON THE MOORS

MAY is a month of repose. It lacks that feverish excitement which has characterised the two preceding moons, during which the whole bird-world has been on the move —on long sea-travel or short, on through-transits, or merely local redistribution. True, there remain two summer-migrants yet to arrive from afar (the nightjar and landrail); but they are unimportant in the general scope. In May the birds, far-travelled or otherwise, have settled down, for two months, to the routine of domestic cares and felicities.

Throughout the Borders are many breeding colonies of the Black-headed Gulls, and the larger gulleries present one of the most animated of moorland scenes. Almost each large sheet of water has its colony; while many a remote moss-pool or nameless hill-lough boasts its pair or two of this most graceful species.

By May 1st there is abundance of gulls' eggs. At a lough on a moor I then rented, were 150 nests. Ten years previously, there were but a dozen or so; perhaps our care and protection had tended towards that increase. The nests, of heather and dead rush, crowd thickly along the lough-side on the short heather and spongy green sphagnum — others are outside on mossy islets.

Hardly two eggs are alike, even in the same nest. They display every shade of green, blue, and brown; some dark and heavily blotched, others pale and almost spotless: and the variation even extends to shape. The regular complement of eggs numbers three; but even when "chipping" (on May 18th), there were nests that only contained two, or sometimes a single egg. By June, the young are old enough to creep away among the heather, and pretty little objects they are—warm yellowish-brown in colour, spotted with black, with large eyes, full and dark; their beaks and legs pinkish, the former tipped, the latter shaded, dusky. When fledged, the young gulls are prettily variegated with warm browns, in pleasing contrast with the pale French-grey and snowy whiteness of the rest of their plumage. Hard by, on an islet, was a mallard's nest, while two pairs of teal bred on dry tussocks in an adjoining flowe. Yet withal, no sign of spring can yet be detected out here, save among the birds. Not a shoot of grass or fern has yet appeared; the heather is brown and lifeless —the plant-world has not yet awakened from its winter's sleep.

Jackdaws are persistent raiders of these gulleries. Their own homes may be miles away; yet here they are, ever in evidence and ever on the look-out for a chance to plunder. They are, too, masters of the situation, and one sees young gulls lying dead with a sharp beak-thrust through their soft stomachs. We intervened to vary Nature's balance, and by setting traps baited with eggs, materially reduced the numbers of the marauders and scared the rest. It is noteworthy that not a gull came near the traps, showing that this small species is innocent of egg-stealing. Its food consists largely of worms, slugs,

etc., in search of which the gulls come down regularly to the grass-lands far below. There, in the long summer evenings, they hawk over the meadows after night-flying moths until it is nearly dark.

Not so innocent are the Black-backed Gulls (*Larus fuscus*). These large and powerful birds are inveterate egg-stealers. One I found floating dead in Darden lough, choked with a mallard's egg stuck fast in his gullet.[1] It is this species, the Lesser Blackback, that breeds thousands strong on the coast, at the Farne Islands, some 30 miles away; but they also nest inland, on the moors of North Tyne, to the westward of Wark, and in numbers which are increasing.

Their colonies they establish—not alongside loughs, as the black-headed gulls do—but far out on those wide, flat "mosses," often a mile or two in extent, that characterise this wild region. Here, far away from water, their rudely-built nests are scattered over the moss, amid bents and stunted heather. The three eggs, laid early in May, are hatched before the end of that month, and the down-clad young are pale grey, mottled with black spots, but lacking the warmer tints of *L. ridibundus*.

On the moss around, lie scattered in damning profusion the evidence of misdeeds. True, many of their cast pellets contain nothing but fur of rabbits and rats, mice, moles, and the like: others are composed of fish-bones, with feathers and remains of small birds; but a truly direful proportion are crammed with egg-shells—and those mostly of grouse — while broken shells lie scattered broadcast.[2] Occasionally, however, a brood of

[1] This incident is quoted in Yarrell's *British Birds*, 4th ed., vol. iii., p. 627.

[2] Those pellets which contain egg-shells only, are compacted with moss (*sphagnum*), as though the gulls had swallowed this for the express purpose.

grouse *may* escape: for, this year, in the midst of the "Seagull moss" on Hindlee Steel, we sprang a covey of eight, already able to fly: while, hard by, another grouse sat on six eggs, exactly 10 feet distant from the nearest gull's nest! The date, however (June 12th), showed that this grouse had already lost one sitting. One bitter experience was not enough for that foolish bird; the second lesson would not be long delayed—it was probably learnt that same evening, on returning to her nest.

Near another nest lay an adder, chewed, and apparently partially digested. We also found sea-shells, bivalves of strictly marine habitat, the *Macoma balthica* of Linnæus; though the sea is 40 miles distant. The shepherds aver that these are brought by the gulls to aid in forming their own egg-shells, and also positively accuse the latter of attacking sheep, both weakly lambs and old sheep when the latter are "cast" and unable to regain their feet—a mischance to which these animals are always liable. The gulls then go for the eyes, thus assuring death—not necessarily speedy. A couple of blackbacks, which we trapped, were certainly gorged with mutton: possibly this was "braxy"—at any rate, it was so horribly "high" as to discount any further interest in our specimens. The gulls are also great fishers; and in the long summer days, when hill-burns run nearly dry, and trout have neither refuge nor defence, they are simply mopped up and annihilated. "We have long been tired of their company," quoth an "outbye" shepherd of his robber neighbours.

Besides those reckless, much-venturing grouse, there were also nesting on, or near, that moss (amidst 100 pairs of raiding gulls) a dunlin or two, a pair of twites, and numerous curlews, golden plovers, and titlarks.

On Cairnglassenhope, also on North Tyne, a few

pairs of blackbacks breed; not in company, as on Hindlee Steel, but scattered singly over the mosses of that wild fell, and of Blackaburn adjoining. There is a little eerie lough up there, on the boggy shores of which, or among the sedges that fringe them, is established an extensive colony of blackheads. The bigger gulls, however, nest far apart—a mile or two away—quite separately, both from their smaller cousins and from each other—only one pair occupying each broad "moss."

Dunlins also nest on these mosses, together with curlews, plovers, teal, and mallard; while a pair of merlins were established (1905) on a heathery slope hard by.

On a dry tussock, lay half-devoured eggs of grouse and golden plover; the depredator, in this instance, we had reason to imagine, might have been a corby.

Mischievous and destructive as the big gulls are (and this year, on July 2nd, a pair of them mopped up a whole brood of eleven young wild-duck close to my house), yet I forgive them their trespasses solely for the sake of their picturesque appearance. In Northumberland we have exterminated everything big; the soaring flight of buzzard or kite will never again delight one's eye. There is nothing left to us more imposing than this great gull. We have him on the Borders—far inland—in every month of the year, and—robber though he be—he fills that void. As he sweeps to and fro across wastes and waters on 4-foot pinions, with those cut-throat mandibles, and his boldly-contrasted colours, he is a magnificent object, and, with the heron, adds an element of stately dignity to the bird-life of the moorland, which, without them, would be lacking. Hence I would turn the blind eye to his crimes—unless, indeed, his numbers increased quite unendurably.

The Herring-Gull (*Larus argentatus*) is also an oologist; but rarely visits the inland moors. Its stronghold is St Abbs' Head, a few pairs also nesting on the Farnes, among the blackbacks. But during the present spring (1906), I have enjoyed the satisfaction of finding this fine species nesting inland, alongside the blackbacks, on the mosses of Hindlee Steel on North Tyne, just described. There were only two or three pairs; their nests placed in the midst of the robber-colony—yet it was clear that they (though few in numbers) were not the least important of its members. This is the first recorded instance of such an occurrence in Northumberland.

The herring-gulls are the first to appear in spring at their inland stations, arriving towards the end of March—a few days in advance of the blackbacks.

On the Scottish side also, these big gulls frequent the inland moors exactly as they do in Northumberland. Blackbacks in numbers, with a few herring-gulls, we observed, early and late, soaring over the moors of Roxburghshire. This was in May and June. We could not ascertain from keepers and shepherds where they bred; but have no doubt there are nesting colonies inland, though time precluded our locating the exact spots in so wide and wild a country. On April 15th (1895), we found one of the Great Black-backed Gulls (*L. marinus*, immature) caught in a trap, baited with rabbit, on the top of Cappercleugh, a hill overlooking St Mary's Loch in Selkirkshire—the only instance of meeting with that species inland.

May 1.—Greyhens have eggs by this date. Blackgame are not so alpine in their tastes as grouse, and at this season come well down below the level of the heather. The haunts they now love are the rolling grass-prairies,

moist and ill-drained, where the drier slopes are clad with bent and bracken, the hollows with rush, sedge, and natural wood of alder, birch, and scroggy saugh.[1]

To define the relative distribution of grouse and blackgame in spring, the former may be said to nest at the highest, the latter at the lowest, zones of their respective areas. Grouse in spring seek the higher ground for nesting; and in autumn (so far as they move at all) tend to shift downwards. Blackgame breed chiefly in the lowest ground of moorland character; and as the young acquire strength in autumn, tend to climb outwards to the higher fells.

Greyhens are often lamentably careless in their choice of a site; one nest was in a tuft of rushes immediately adjoining a stile, another on a bank thrown up to form a sheep-washing pool on a burn; and they frequently nest alongside a footpath, or open "green lane," where men and dogs pass daily. One nest in a young plantation at Houxty contained three partridges' eggs, as well as seven of its original owner. All ten were hatched.

In 1877 we had deep snow in May. On the 4th we shot some fieldfares, and they remained about for a week later; though then almost due to be nesting in Norway.

May 7.—A single Golden-eye duck still lingers on the

[1] I cannot find the word "saugh" in the dictionary; but it is one of the commonest shrubs in the north. It is one of the willows, more of a bush than a tree. Were cattle and sheep removed (personally I wish they all lived in our colonies), a considerable area of the Borderland would, within a dozen years, become a jungle of saugh and silver-birch, rowan, willow, and hazel-scrub. There is a station on the North British line, a few miles from here, called "Saughtree"—amidst the green hills of Liddesdale.

lough—another northern-breeding species. The weather being warm and summer-like, it seems strange to see this winter duck still here. But the fjeld-lakes of Norway, whither he is bound, are still ice-bound, and will remain so for another fortnight. This I know from experience; my little diving friend knows it equally well by intuition, or instinct. Hence he is in no hurry to be off. In 1886, I witnessed the arrival of two pairs of golden-eyes at their Norsk breeding-quarters on June 3rd. That lake was then just clear of ice.

The Ring-Ouzel is a typical bird of the moorland, and this is his date for breeding. We found the first nest on May 7th at Leechope; another on the 13th, each with four eggs. Their most favourite site is some steep bank on the fells, where the nest finds support among the loose stalks of long shaggy heather. Others select more sheltered spots, among scrub or fern, or on a rocky scaur. On the burns, ring-ouzels often nest on a crevice of the crags; sometimes in close companionship with a dipper. The nest resembles a blackbird's, but has a framework of heather-stalks; eggs usually number four, occasionally five. The young are hatched in May, and on wing by mid-June. They remain on the moors, sheltering by day in bracken-beds, till the autumnal crop of wild fruits and berries (especially bilberry and rowan) is exhausted; then they raid subjacent gardens before finally disappearing.

The song of the ring-ouzel is one of the most pleasing of moorland melodies. There is not much of it, and it sounds feeble; yet it can be heard afar—a mellow triple pipe, that when heard in the dusk of a summer's evening, coming from far above, or from the depths of some rocky glen, is full of the *genius loci*, sweetly wild.

The Dunlin is the next of the moorland birds whose summer-history I shall endeavour to portray. He is not an easy study. Arriving on the higher fells in April, the dunlins are scattered so widely in sporadic pairs, or groups of pairs, that one may search for a week without seeing a sign of their presence. Year after year they return to the identical moss or flowe—it is perhaps a mile in circuit, and that great, flat, featureless area is tenanted by but a single pair of dunlins. Very likely there is not another haunt within 10 miles. Then, when at last you have succeeded in locating them, they are most perplexing birds to understand. They are so ridiculously tame, running around almost within arm's length, "purring" the while in their peculiar fashion, that they induce you to believe their nest must be close at hand. Yet, after lying prone in that oozy bog for half an hour, up goes the dunlin with a little wild pipe and flies out of sight. True, they are beautiful to watch, graceful in the extreme; but such conduct exasperates. I have seen them, year after year, in spots where they certainly do *not* breed, perform all their presumptively breeding antics, as though gratuitously to deceive.

When at length the nest is found, it will be situated on a tiny hummock—one of thousands, all similar—in some broad flowe, each hummock islanded by a labyrinth of black oozy peat-channels. The nest itself is not concealed—a mere depression, artlessly lined—among the low bents, stunted heather, and cotton-grass that clothe the hummock. The dunlin herself, knowing that her treasures have been discovered, still continues crooning and "purring" close by, and even pretends to be feeding, or preening her upper-coverts. Later on, however, when the eggs are incubated, she flutters off with a fine display of

feigned lameness. Young dunlins "in down" are very richly-coloured, dark ruddy-brown, somewhat resembling nestling snipes.

Dunlins breed on the highest part of Cheviot (2676 feet), and on the grassy heights of Sourhope, on the Scottish side; thence westwards, in very widely scattered pairs, along the line of the Borders down to the Solway, where many nest on Burgh and Rockcliffe marshes, actually at sea-level. They are, I think, rather more numerous away from the plutonic formations of Cheviot—as, for example, on the Simonside range, and on the moors of North Tyne.

My brothers and I, some years ago, walked along this "line of the Border." Starting from the Tweed and continuing along the summit of Cheviot, we followed the boundary south and westward, spending some ten days thereon: putting up by nights at shepherds' houses or wherever we could get shelter—a delightfully wild ramble. Few people, I conceive (even in the north), have the faintest conception of the extent and wild character of this mountain-land which lies betwixt England and Scotland. We observed dunlins, at wide intervals, all along.

The marshes of the Solway are of great extent, dead-flat salt-grasses, barely above tide-levels and intersected by salt-water creeks and channels—a striking change from the haunts of the dunlin on the Northumbrian highlands. Here, in May, my brother Alfred and I found many nests of both that species and of the redshank—more than you would see in years on the moors—but the latter are not easy to detect. The redshank here, as elsewhere, hollows out some strong tuft of bents, leaving the tops entwined—thus completely hiding the eggs from view. Casual search thus avails nothing. It is necessary that

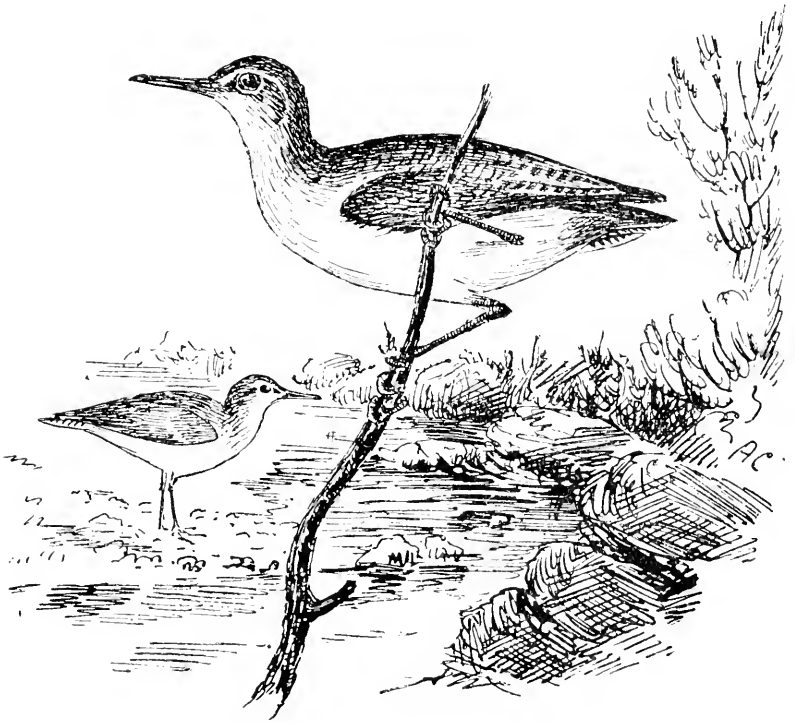
the eye should instantly detect the bird as she springs, perhaps 100 yards away, and that amidst scores of wheeling peewits, etc. After that, one must still mark the precise spot, though there be not a feature or an object that will serve as a guide.

The dunlins here make a slight nest, like a sky-lark's, among short salt-grass or sea-thrift, without much, or any, concealment. But as the bird has often crept away many yards before being perceived, one is still liable to be disappointed, if counting on immediate success.

We enjoyed seeing on these marshes the most perfect mirage we ever witnessed. Before us, at a mile's distance, stood a country-house, embedded in trees, a green lawn sloping down to a lake—but well we knew that not a house or a tree existed, in that direction, within 100 miles. It was all open marsh, with the sea beyond. I have seen curious mirage-effects in the marismas of Spain; and once, in the Arctic seas, sighted surf-beaten rocks which had no place on the chart. Two Norsk sealing-sloops, which were in sight, were reproduced, inverted, immediately above the actual vessels. In all these other cases, there had been something of distortion or extravagance. Here, in this Solway mirage, every feature was natural and defined.

I have thus traced the breeding area of the dunlin from the heights of Cheviot, at 2700 feet, down to sea-level on the marshes of the Solway—a singularly wide vertical range within so short a distance. But the geographical distribution of several species of this class affords contrasts even more remarkable. Thus in the extreme south of Spain, both peewit and redshank remain to breed in the blazing heat of Andalusia; once,

also, I found the dunlin breeding there; though that is exceptional. On the other hand, in Northern Europe, the redshank nests right up to Finmark (my brother found its eggs in 70° N. lat.), and both these species are included by Wheelwright (*Ornithology of Lapland*,



ANGLERS' COMPANIONS—SANDPIPERS.

p. 5) among the birds which breed within the "region of perpetual snow." Creatures of such diversified tastes are, clearly, at home anywhere.

May 15.—Grouse are now hatching-out in all directions; this is their regular average date, and greyhens are now

sitting. This is also the date when the sandpipers lay. Whether it be because I love them—and they reciprocate the sentiment—at any rate these charming little summer-songsters have come to live right beside me, actually in my garden—or rather among the bushes and shrubs that surround it. In the spring of 1905, there were four nests, the nearest close under my window: and all quite 100 yards from the river-side. These four nests were placed in little hollows on a rough bankside, one beneath a tiny spruce, another overhung by fern. One was prettily situate in the midst of a clump of primroses, the fourth almost openly among dead grasses, though within a yard of a footpath.

Usually the sandpipers' nests are on the broken grassy banks of burns—sometimes right in the angler's path, and the old bird flutters out across the shingle with well-feigned lameness. A favourite site is among the low vegetation, such as ramps and dog's-mercury, that grows beneath waterside alders; in beds of osier-saplings, or among dead leaves, coltsfoot, and wild hyacinths on some mossy tree-clad slope. Many nests are on drifted beds of shingle and sand, overgrown with low brushwood.

Pied Flycatcher.—The status of this little warbler has altered in the north during the last twenty years. From being a scarce "come-by-chance," it must now be accounted a regular spring-migrant. Not, it is true, in any great numbers—merely a few pairs scattered along each main river-valley, with its sequestered subsidiary glens—nor always easy to detect amidst the gnarley grey birches which, in such spots, form their favourite resorts. The first ever noticed at home was on May 7th, 1885; and we subsequently perfected their

acquaintance in Norway. In that land, tourists who have an eye for such things, may see the pied flycatcher even in the park at Bergen and in the open woods along every Norsk river up to the Arctic circle. There it nests, early in June, in deep holes in living trees, often close by human dwellings: last spring (1905), one pair nested in the roof of our cottage at Etne, another in an ash within 10 yards. Here, the pied flycatcher occasionally selects a crevice in an old stone wall or dyke, though usually preferring trees (always near water), and builds its nest of white dry grass, with dead leaves for a foundation, at the end of May, laying six or seven pale blue eggs early in June. The song of the male, my brother Alfred wrote, "reminds me of that of a hedge-sparrow, but more mellow. At other times it resembles the notes of whitethroat and reed-bunting." The female, when alarmed near her nest, utters a hissing note very like that of its congener, *M. grisola.*

This year (1906), there are two pairs nesting at Houxty—both in silver-birches; and four pairs in Chipchase woods. In that locality, Miss Taylor tells me the nests are invariably in holes in trees, mostly ash and elm, and at heights varying from 7 feet from the ground up to quite 20 feet. There, many nests are close by the house, or near frequented footpaths, and not in the sequestered burnsides above described.

Grasshopper-Warbler.—This is another scarce and local migrant to the Borders; but one of its characteristics (in my experience) is its sudden appearance in a spot where it had never before been known; and then, after that one summer, never to return thither again. The first we ever saw—or rather heard—was at Silksworth, county Durham, on April 22nd, 1882. One never forgets one's

first meeting with a new species; and least of all with this, whose extraordinary song is totally dissimilar from that of any other bird in Europe—a resonant rattling flow of sibilant sound resembling rather the voice of a reptile or an insect—most of all, of a grasshopper, but we had no grasshoppers there. That song could never have escaped our attention had it ever been sung there before. On May 15th we found its nest with four eggs, and subsequently observed other pairs in that neighbourhood; but never again, except in that one year (1882), either before or since.

Again at Houxty, in 1904, a grasshopper-warbler rejoiced my ear by starting his sibilations on May 10th. On the 27th, accompanied by Mr Howard Saunders and Mr F. C. Selous, we found its nest with two eggs in a young plantation. It was built in a low bush, about a foot from the ground, and completely covered above with long dead grasses. This bird never laid more than the two eggs first found, and although unmolested, did not return the following spring nor in 1906. 'Tis always *adieu*, not *au revoir*, with this tantalising species.

On Ilderton moor, Cheviot, where we had the shooting in 1893, we found grasshopper-warblers in May, nesting among long heather far out on the open moor, miles from tree or bush. Subsequently, I have observed them above Alwinton in Coquetdale, and at various points, both in the lowlands and on the heathery hills of Cheviot.

The song of the grasshopper-warbler, though unmistakable, is hard to describe. There is a lack of all "lilt" in it—an endless running monotone, unsatisfying, like the course of the shameless rolling stone, so exquisitely

reproduced in that hexameter of dactyls lacking the cæsura :—

'Ορθις ἐπειτα πεδὸνδε κυλινδετο λαας ἀνιδης.

May 17.—Jays clearly possess a conscience, and the memory of their crimes sits heavily thereon. They have been noisy enough all the spring; but now, one never hears a squeak, and might conclude they had gone away. Not so; they have merely retired into the deep wood to nest, and have become as "mum as mutes." Their deep instinctive cunning teaches them the value of silence. Jays are scarce birds now, through the persecution of gamekeepers; but there remain a few in the woods at Hesleyside, and one pair nests in Houxty wood.

May 20.—Wheatears are now laying on the high moors. One nest, in an old stone-dyke, has four eggs; others are built in deep holes or cracks in the peat, or beneath the grey boulders that lie strewn on the moors. Lower down, the tree-pipits had eggs a week or more ago; so also had the redstarts, whitethroats, and willow-wrens. Now the earlier whinchats are laying; but the bulk of the summer-warblers do not commence till a week, or ten days later, to wit: Wood-wren, chiffchaff, garden- and sedge-warblers, blackcap, and pied and spotted flycatchers.

For this latter group, the first week in June may be regarded as the average date for completed clutches.

Two notes may here be appropriately interjected. The first, illustrative of the enormous distances these tiny creatures have traversed within the few preceding weeks: the following British species are included in his lists of the avifauna of British East Africa (lying

right under the equator, and distant 5500 miles), compiled by Mr F. J. Jackson, C.B., whose acquaintance I have recently had the pleasure of making at Nairobi (*Ibis*, 1899, p. 587; 1901, p. 33):—

Tree-Pipit, Mount Elgon (8000 feet)	observed	Feb. 14
Willow-Wren, Machakos	„	Mar. 20
Sedge-Warbler, Ukamba	„	Jan. 7
Marsh-Warbler „	„	„ 5
Wheatear, Athi Plains	„	„ 21
Grey Wagtail, Mau	„	Sept. 30

Since writing the above, I have myself met with several of the above in East Equatorial Africa, especially the wheatear and tree-pipit, grey and (I think) yellow wagtails, as well as our common swallow in thousands. This was in January, February, and March. The whinchat also has lately been found beyond the equator, namely, in Uganda, on the Ruwenzori range (together with tree-pipit and willow-wren), by my friend, Mr Geoffrey F. Archer. This was on March 14th (*Ibis*, 1906, p. 545).[1]

Still further away, in the Transvaal, at Irene, near Johannesburg (distant over 7000 miles), two of the above species are recorded as occurring at Christmas, to wit: the tree-pipit and sedge-warbler.—(*Bulletin British Ornithologists' Club*, cxviii.)

These scientifically-recorded facts, quoted above, afford food for reflection; and so also, following in precisely the same trend, may the second note. In 1905, at Houxty, in the same hollow birch, a pair of redstarts nested for the *fourth* consecutive year. Apparently these individual redstarts had four times succeeded in flying to

[1] Archer was my companion when, on Lake Baringo, we were twice charged, and all but caught, by a lone bull elephant.—August 22nd, 1904.

Africa and back (eight transits in all—say 30,000 miles). This would be a marvellous record for a bird of such insignificant wing-power. We know little or nothing, as yet, of migration; but the inference is that its dangers must be much less than are apparent.

This spring (1906), a pair of spotted flycatchers are also occupying the same site in which they nested in 1903—their fourth consecutive season.

May 21 (1887).—After several days of bitter northerly gales, the hills this morning lay pure white with snow—only a month from midsummer day! Yet even this Arctic record was surpassed in 1903, when at midsummer itself—from June 19th to 21st—we had severe frosts on *three* consecutive nights, following on N. and N.-E. gales. Ferns and bracken were blighted, so also the young shoots of spruce (but not Scotch fir), and indeed much of the delicate young frondage now just at its birth. By mid-July, I noticed that a new growth of bracken, springing away from the roots, was replacing that destroyed at midsummer. Such is the power of Nature's recuperation.

As a coincidence, it may be recorded that on the same date in the present year, we had a similar snowstorm. I quote the following from the *Daily Telegraph* of May 21st, 1906. "In the extreme north of England, the weather is . . . intensely cold. In some parts of Northumberland, snow is lying to a depth of 18 inches. The white-capped hills present an extraordinary contrast with the verdure and blossom of the valleys."

May 24.—The first young grouse seen on the wing. Though barely ten days old, and no bigger than sparrows, yet with the wind under their tiny pinions, and the fall of the hill, one or two went quite 200 yards.

The rapid development of flight-power in grouse—and in all the game-birds—is noteworthy, being quite unique in the bird-world. No other birds fly till full-grown, and till they have acquired full flight-feathers, by growth, in the normal course. But Nature has designed a different process with the game-birds. These, no sooner than they are excluded from the egg, are supplied with a set of tiny primaries sufficient, within a few days, to lift them in air. As the chick grows heavier, and needs more power, one little primary on either side drops out and is replaced by another, slightly longer, till all are renewed. As each new set becomes insufficient, a new growth (always in corresponding pairs, one in either wing) is ever ready to replace it, proportioned to the increasing weight of the youngster. This succession of new quills (which, in grouse, are spotted with yellow) continues till the period (about August) when the final moult, both of quills and tail, in old and young alike, takes place.[1] At the autumnal moult, but not before, the game-birds range into line with the rest of the feathered world. All birds alike have (by October) acquired their new plumage and new quills, which have to serve them for a whole twelvemonth. There are neither tailors nor dressmakers in their circle; though Nature has certainly provided for certain repairs and renewals when vitally necessary. Otherwise, the plumage acquired by every bird in autumn must serve it for a year.

May 31.—The young peewits are already beginning to fly in flocks. Thus we can see, even as early as May, the first incipient symptom of autumnal conditions.

[1] See Charles Murray Adamson's *Some more Scraps about Birds*, p. 7 *et seq.* (J. Bell & Co., Newcastle-on-Tyne, 1880-81).

CHAPTER VII

SUMMER ON THE MOORS

JUNE

JUNE is the leafy month elsewhere; and even on the moorland, where there are no trees, there is an equivalent for the absence of foliage in the intense greenery of the highland vegetation. Even heather is now green, as is the bent, and with fern and fell-grasses, sedges and sphagnum, the whole blend into one living green carpet of varied and vivid tones. The moorland landscape, at this period, is *all* green—there is no contrast of colours such as it afforded in autumn, when not only does heather-bloom empurple the hills, but a wave of changing hues—russet, gold, and tawny red—adorns each bracken-clad height, and lends a blaze of colour to every moss and flowe.

Mosses and flowes, I should perhaps explain, are those flat expanses filling the floor of some shallow basin among the hills. At a casual glance, either might be mistaken for a snipe-bog; but they are not bogs, nor specially beloved of snipe. A "moss" is entirely composed of the green spongy *sphagnum*, with some slight growth of moor-grass and sedge—no place for snipe. Though equally level, the "flowes" are far more varied in character, being composed of miry peat with infinite tussocks, whereon survives a stunted heather-growth, and where bog-grasses, blaeberry-ling, creeping

heath, and cotton-grass flourish. In such spots are often interspersed oozy peat-hags, some of which may develop into pools of peat-black water, large enough, it may be, to attain the title of "lough."

Very welcome nevertheless, and despite its lack of contrasting hues, is this vivid, new-born verdancy of June—a charming change from those dull and lifeless colours which have characterised the highlands during all the period we call spring.

Lower down on the hillsides, the golden bloom of gorse is at its best by June, to be followed a little later by broom and hawthorn. The ash-trees, always a fortnight behind, are barely in full leafage till the middle of the month ; the rest are already perfect—the spruce especially beautiful, with its thousand golden tips to each dark-green frond, as though from a storm of golden snow.

Pochard.—Towards the end of May, we had observed—always a living joy to a naturalist—a species of bird new to us. On a small hill-loch on the Scottish side (Primside loch, near Yetholm, in Roxburghshire) were a number of ducks, some of which the binocular showed to be pochard. It is noteworthy that, before that day (1887), during near twenty years' wildfowling, afloat and ashore, I had never met with this species in the north. Presently, my brothers and I crept within 50 yards of four (three drakes) resting on a low foreshore backed by tall flags, the whole reflected in the still water beneath—a pretty picture. There were quite a dozen pochards on the loch (mostly drakes) and an even larger number of tufted ducks.

Ten days later, in June, the pochard-drakes alone were visible, circling high overhead with their characteristic croaking note. Their mates, with those of the

tufts, were then engaged in incubation on a floating islet of matted bog-plants, and in the "moss" that lies to the west of the loch—both spots too soft and dangerous to traverse. But, towards evening, this fact was established by the females of *both* species appearing, for a brief spell, to feed on the open water outside.

My brother Alfred subsequently visited this loch alone, his later experience entirely corroborating the above, as to the nesting of pochard and tufted duck thereon. His notes, moreover, contain a further remarkable accession—namely, that he had satisfied himself that there was local evidence—good, so far as such may ever be accepted—that *wigeon* also nested there; though he had failed to verify the fact for himself. Accordingly, during the present spring, the author twice returned to Roxburghshire to investigate this point—as wigeon, it should be stated, have not, within my knowledge, been proved to nest south of Sutherland.

Yetholm loch, in 1906, proved a disappointment. Tufted ducks were there, nesting; but not a sign either of pochard or of wigeon. The pochards had, I at once concluded, been banished thence by the introduction of that abomination to wildfowl—the tame swan. The latter had actually destroyed the floating islet aforesaid, tearing up huge aquatic roots, 10 or 12 feet in length, which were subsequently swept down the Bowmont in winter floods.

Primside failed, but I presently discovered the refuge of the banished pochards. They had retired to Hoselaw loch, where not less than twenty or thirty pairs (together with an equal number of tufts, and some shovelers) were then breeding. Hoselaw, together with Whitrigg bog near St Boswells, and Hule moss on Greenlaw

POCHARDS AND TUFTED DRAKE.

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moor, towards the southern verge of the Lammermuirs, are now the only lochs on the Borders on which, within my knowledge, the pochard nests. Paston lough on Cheviot, and Whitton loch on the hills west of Morebattle in Roxburghshire, were also tried, but never a sign of wigeon rewarded our search. At Whitton a pair or two of tufted ducks were nesting, with a fine show of mallards, and some teal. At Paston the tufted ducks were quite a feature. There were at least fifty drakes on the sheltered waters of this lovely, wood-embowered lake; and on June 23rd, we observed three broods following their mothers. There were only three, four, and five young, respectively—meagre numbers explained, it is probable, by the voracious pike beneath. The only other ducks on this lough, were mallards and a single pair of shovelers.

The search for wigeon thus proved, so far, barren of positive results. It is fair to add that, on various occasions, ducks went away *wild*, without affording opportunity for identification. These may, or may not, have been wigeon.

On the other hand, my friend John Graham of Yetholm Law, for many years gamekeeper to the late General Wauchope, of heroic memory, gives me, as he gave my brother before, the following positive statement:—"Wigeon have nested on Yetholm loch, many times within my recollection. Twenty years ago, or thereby, we shot one duck off her nest (which was in the moss, 200 yards west of the loch), and sent her, with one of the eggs, to the late Mr Andrew Hogg, in Edinburgh, in proof of the fact. Since then, wigeon have nested several times; I have seen the broods following the old duck in June and July, and have shot the flappers

in August." There, for the present, the record must remain. Verdict: "Not proven."

It must ever be borne in mind, when endeavouring to identify ducks afloat, that several of the diving species (such as tufts, pochards, scaup, and others) require two, three, or even four years to attain complete maturity of plumage; and that these intermediate phases are also present, on the water, along with the breeding adults. This gradation in plumage may lead to their being mistaken for different species.

Tufted ducks have, within the last twenty years, begun to nest at nearly every suitable loch, or large sheet of water, on either side the Border. Besides the places mentioned, they were breeding at Hule moss and on Duns Castle lake in Berwickshire, where in July we saw young broods on the water; while in Northumberland, they may be seen all summer at Hallington and Coltcrag, Capheaton, Hallypikes, and the other loughs in that neighbourhood.

Both pochards and tufted ducks begin laying about May 15th, and young appear on the water, June 20th.

Tufted and all diving-ducks necessarily nest close by the water's edge, their pedestrian powers being so feeble; yet the nest is often situated at quite a considerable distance from the main lough up some open ditch or marsh-drain, that affords access by water. The nest is always deeply hidden away, under long bog-grass and sedge, or a saugh-bush; and the eggs covered over with down. They may perhaps be distinguished from those of pochard by a faint greenish wash—those of the latter having more of a buff tinge. I have not, however, found these myself.

Wholly delightful, despite any slight disappointment with the absent wigeon, were the days spent by these

Border lochs. Paston, lying in a cleft of bracken-clad hills, sheltered and entirely surrounded by woods (pine and hardwood), is a charming spot to a bird-lover. Its winding gulfs and bays, fringed far out with aquatic plants, sedge, and bulrush, form ideal homes for water-fowl with which its surface was dotted. Besides mallards and tufted ducks, were herons, coots, and waterhens; while innumerable cushats everywhere caught one's eye.

On approaching, we detected a pair of shovelers sheltering from boisterous waves in a reed-fringed inlet. By aid of the wind, we crept in near enough to distinguish, not only the yellow eye of the drake, but also the fact that already (at the end of June) he was losing his full glory of feather; brown "half-moons" impairing the snowy purity of his breast, while the full burnished gloss of the head was waning.

But a more interesting incident followed. In a creek beyond, hard by the outer edge of floating lilies, swam and dived three birds that, for a time, completely puzzled me. One was a coot; but its two companions were grebes, none of which (save the dabchick) breed here. But that fact dwindled into insignificance by comparison with the state of plumage of these two particular grebes, for they can best be described as exact counterparts, both in size and plumage, of the Slavonian grebes (*Podicipes auritus*) that I have so often shot on the coast in winter. To-day, however, it was not winter, but midsummer!

Behind a screen of trees and sedge, I crept within 20 yards of the trio, and watched them for an hour, in mingled interest, doubt, and perplexity. The entire upper parts (crown, back of neck, and body) of both grebes were plain dusky-black; but the cheeks, throat,

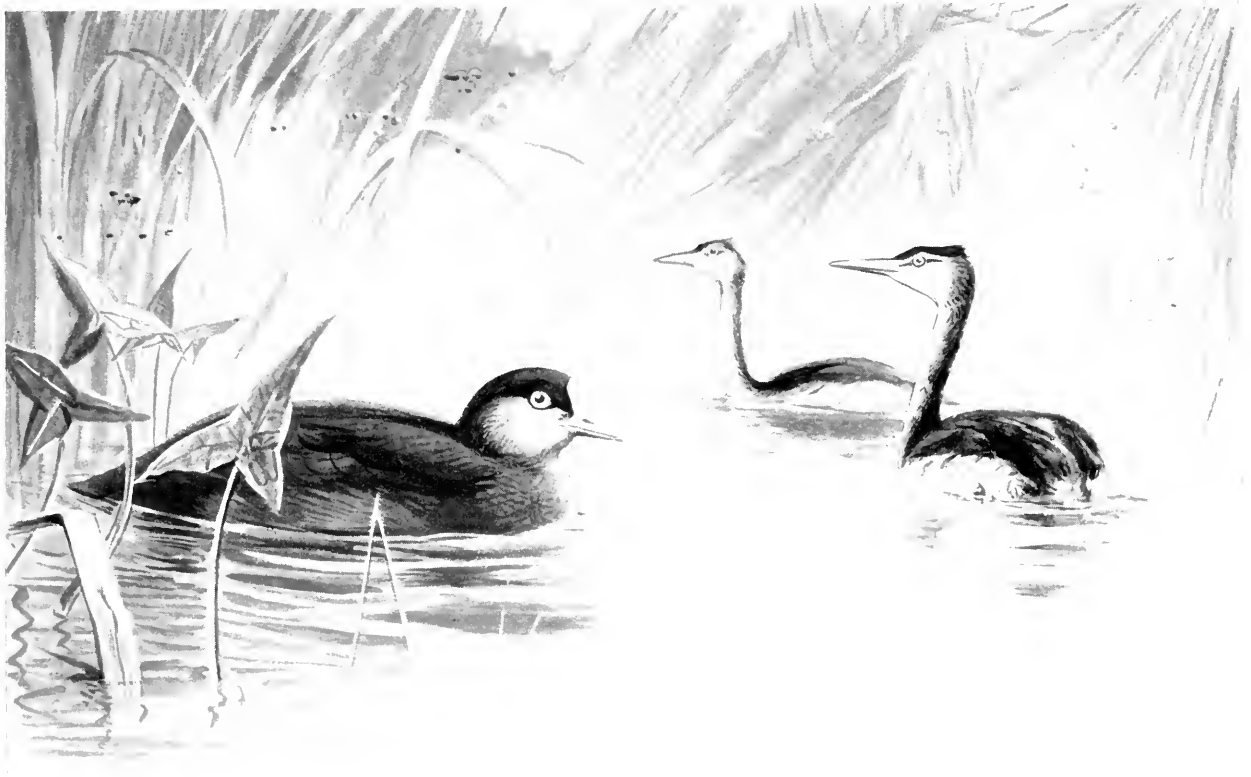
and front of the long slim neck and breast were brilliantly white—slightly less pronounced in one than the other. There was no sign of nuptial dress—no gorgeous tippets, auricles, or any touch whatever of those bright colours that, in summer, adorn all the grebes—save only a little yellow on the beak.

The grebes were on terms of close friendship with their clumsier companion, the coot—the contrast was striking as the smarter birds sailed swiftly about, their slim snake-like necks held stiff and erect as a pole-mast. To solve this problem, I returned to Paston a few days later, taking Graham with me. This time, only one grebe was in sight—apparently the male—and both of us were satisfied that no mistake had been made. The scene is perpetuated in the beautiful drawing opposite, for which grateful thanks are due to my friend, Mr Charles Whymper.

Such are the facts, and I leave the record that a pair of Slavonian grebes, in full *winter*-dress, were frequenting Paston lough at midsummer. The probable solution is that grebes do not attain maturity in their first year; but even so, I can find no previous record of Slavonian grebes in these islands in summer—whether immature or otherwise.

Young coots of the earlier broods had now acquired the pure white throat and fore-neck; their colours, in fact, resembled those of the grebes, though the two differed so widely in form. The younger coots still carried the downy, orange-red head.

Whitrigg bog, near St Boswells, is a notable resort of shovelers. This is quite an extensive morass, a mile or more of deep ooze, untraversable. Excepting a few patches of open water along the centre, this bog in



GREBES AND YOUNG COOT—MIDSUMMER 1906.

[*To face page* 34.

summer is entirely overgrown with sedge, rush, and aquatic plants, with tufts here and there of yellow iris—an ideal home for shovelers, as well as for crakes, rails, and even bittern, if one survive.

Besides shovelers and numerous mallards and teal, there were also nesting here, in 1906, some eight or ten pairs of pochards.

Whitrigg also possesses one of the most extensive colonies of black-headed gulls, or "pickiemaws" as they are called in Scotland. In July, every nook and corner of mud and ooze, each creek and inlet, was crowded with young gulls in all stages from tawny down-clad to strong fliers; and amidst the mob, swam (at thrice their speed) broods of the various ducks aforesaid, while the air above was rent with vociferations.

Black-headed gulls are even more numerous on the Scottish side than in Northumberland, nesting both on moor and merse. Indeed, all along the lovely vale of Tweed, they become quasi-domestic; hawking for moths in the cottagers' gardens in every hamlet around "fair Melrose," St Boswells, Dryburgh, and all that storied land.

On Greenlaw moor, south of the Lammermuirs, are two wild sheets of water known as Hule moss, where various ducks also nest. On the larger loch (near 20 acres), there were, among others, three or four pairs of pochards; while the smaller and more rush-grown loch, attracts shovelers. Here, on July 10th (1906), we counted nineteen mallard ducks, with never a drake nor a brood among them all. These, together with many grouse and other moor birds, had lost their broods during the disastrous floods and snowstorms of the preceding May. The drakes (in eclipse) kept separate.

There is an obvious difficulty in dealing with the duck-

tribe during the nesting time. Their inland haunts being restricted to such narrow limits, since the total area of inland waters can only reach a few thousand acres, and these being often private and preserved property, one cannot frequent such spots with the absolute freedom necessary for definite investigation. True, one can take stock of all the fowl on a loch by walking round it with binoculars; but to ascertain precisely the local status of wildfowl, necessitates much closer and more prolonged attention.

There have been small loughs and moss-pools on many of the shootings that we have happened to hold, and these were always interesting as affording summer-homes to various waterfowl. But of the duck-tribe, the only species that ever nested with us were the common mallard and the teal; though we had golden-eyes lingering until May, and tufted ducks, wigeon, and others arriving as early as September. The following summer-notes on other species have, therefore, been based on mere casual observation without that full opportunity for close investigation that is desirable.

Gadwall.—This is one of the species that might conceivably nest here;[1] but the only two observations here recorded rather point the other way:—

March 26.—Six gadwall, with a pair of shovelers, on Boldon Flats, county Durham. Next day the shovelers had gone, and only four gadwall remained. By April 2nd, they also had disappeared.

March 27.—Four gadwall, together with many mallard and wigeon, and quite 100 teal, on Grindon lough. A fortnight later, both gadwall and the rest had gone; but a pair of shovelers had appeared, with apparent intention

[1] It does so in Norfolk; and I have also found its nest in Spain.

of nesting here. These ducks love sedgy rush-grown waters, and Grindon lough is an ideal home for them, since in summer it is almost choked with rank aquatic vegetation.

On both these occasions we enjoyed opportunity to identify the birds, as they circled around, with their distinctive croaking quack. There are three other entries of gadwall in my notes (two in Northumberland, one in Roxburghshire), but lacking sufficiently clear evidence to justify insertion here.

During the present summer, a pair of gadwalls are reported to have nested in Peebleshire, near Broughton, and to have reared their brood (*Field*, July 28th, 1906).

SHOVELER. — Besides the above occurrences, noted incidentally with the gadwalls, I have two or three similar records—all about end of March. The shoveler nests in limited numbers on both sides of the Border, but especially on the Scottish side, owing to suitable lochs being there more frequent. Besides the localities named, it also breeds every year on Holy Island, where there is a small reed-clad lough. The actual nest, however, is usually placed in growing hay-grass, at some little distance from the water. I fear the eggs (laid by the end of April) are taken every year by the islanders.

Shovelers, wherever they are found breeding, are strictly summer-migrants; arriving in March, and never seen after October. As a rule, as soon as the young can fly, shovelers leave this country—say, by August. Those that are said to occur in winter (at which season the author has not once met with this species) must come from further north.

PINTAIL.—This species must not be entirely omitted; for, though I have no note of it inland, yet it has

occurred on the coast every autumn since 1889. We found it breeding abundantly in Jutland (exactly opposite our shores), and its being found to do so on the Borders is probably only a question of time.

The following are the dates at which the undermentioned summer-warblers fledged (by which I mean that the young left the nest) in my garden at Houxty. In each case, the eggs had been laid, almost to a day, on the corresponding dates in May—showing that exactly one month elapses from laying to fledging :—

Redstart	fledged	June 13
Willow-Wren	„	15
Whitethroat	„	18
Tree-Pipit	„	18
Whinchat	„	21
Garden-Warbler	„	26
Blackcap	„	28
Wood-Wren	„	29

The dates recorded are average ones, and are not given as exceptionally early; indeed I have seen both young willow-wrens and whitethroats out a fortnight before the dates above stated, but that was unusual.

To the occurrences of what are called "rare birds" little importance need be attached. Broadly speaking, there is no such thing as a rare bird, save in a relative sense. Go to its proper home—perhaps only a few hundred miles away—and what has appeared a rarity will be found as abundant as Nature's balance of life will permit. All creatures seek out those zones of land or sea which best fulfil their requirements. When one of them wanders, by chance or stress, a degree or two beyond its normal limits, it is described as a *rara avis;* and sentimentalists bewail the death of a straggler as though, had it survived, the whole species would have

extended its bounds, or altered its natural home. Personally, I would never harm the wanderer myself or give it other than a kindly reception; but it is illogical to assume that its life or death makes the slightest difference to Nature's plan. A bird far removed from its natural sphere is destined to come to an untimely end; but even assuming that it survived the hazardous adventure, it would be most unlikely to repeat it.

The only intrinsic value to ornithologists, in such stray occurrences, is the evidence they may afford of the maximum geographical range of the species involved—even though it be (as such usually are) a merely accidental variation. Thus on July 24th, 1871, we happened to meet with an Alpine Swift (*Cypselus melba*), full 500 miles out of his proper latitude, slowly hawking along the Durham coast, near Souter Point. Not a score of these large swifts have ever been obtained in Great Britain; yet, in Southern Spain, I have seen them in hundreds, and at Gibraltar have watched their dashing flight till one almost turns dizzy as they hurl themselves over the 1400-feet precipice that fronts the Mediterranean.

Again, such stray occurrences of unusual birds may pass unrecorded hundreds of times, unless they happen to come under the observation of some ornithologist who recognises them. Thus, on June 11th a Lesser Whitethroat (a scarce species in the north) came into our garden at Moorhouse, Leamside. My brother Alfred instantly recognised by its note that it was a strange bird to him. Unfortunately, it was impossible, in the thick foliage, to identify its species without shooting it. A fortnight afterwards, we identified the bird in South Norway, solely through having learned its song on the above occasion. Similarly, on June 21st, 1889,

an Icterine Warbler (*Hippolais icterina*) appeared in the garden of my old friend, the late Mr C. M. Adamson, at North Jesmond—probably the only spot in all Northumberland where its note would have been recognised! It was shot, for complete identification, and most nearly resembled a wood-wren (*S. sibilatrix*), but for its larger size; legs slaty blue, beak brown. This is, I believe, the only record of the species in the north of England.

In 1877, on June 15th, I observed, near Elsdon, several clouded yellows (*Colias edusa*), and caught one—curiously, a hybernated example. This is a butterfly I have never seen in the north of England before or since, and have no doubt that these were immigrants from over-sea. Another rare insect, only once seen, is the comma (*Grapta C. album*)—Silksworth, September 23rd, 1874. Of the aristocracy of the insect-world, the emperor moth (*Saturnia pavonia minor*) is characteristic of the moorland, and its conspicuous green- and red-spotted caterpillar may often be seen among the heather in the earlier part of the shooting season.

This is also the date (mid-June) when the whinchat commences that note, "U-tic, tic, tic," indicative of young being hatched; and which continues, with monotonous iteration, till towards the end of July. I specially name this, since a similar remark would apply to nearly all the small summer-birds; but the whinchat is the most conspicuous and its note the most easily recognised.

June 20 (1906).—The lowland woods swarm with newly-fledged broods of wrens, ruddier, but no less perky than their parents. This is an exceptionally late date, since the wren nests early, and in other years the young are abroad a fortnight before this.

June 22.—Found a nest of the twite (*Linota flavi-*

rostris) among the heather on Lanshot Hill, Elsdon. There were two eggs and two small young. It is puzzling to see the whitish eggs of a *linnet* where one only expects the sombre product of a titlark. We found another twite's nest, largely composed of sheep's wool, with nearly-fledged young (fawn-coloured, and noticeably paler below than the adults) on Elsdon Hillhead, July 30th. The twite is typical of the moorland; but is nowhere abundant, and easily overlooked. Indeed, there is no nest more difficult to find. The linnet-like song, however, is a sufficient index to a well-attuned ear, and almost the only means of locating the few breeding pairs, widely scattered over the moors. We had previously, as before-mentioned, found a nest, with five eggs, on Monkridge, May 21st; another, under a tuft of bell-heather, on Hartside, Cheviot, on May 29th. The twite also nests on Warksfell, above Houxty. The lesser redpoll is a somewhat similar bird, but breeds at lower elevations—among the alder woods, and in thick osier-beds along the burns. We have found eggs as early as May, and again at the end of June; so that this species (as well as the twite) probably breeds twice. These nests are beautifully lined with catkins and thistle-down, and one contained a feather of a kestrel.

The corn-bunting (*Emberiza miliaria*) is not a bird of the moorland—alpine or subalpine—but one or two pairs come every summer to a particular spot (close to Wark church), and never another in the district. They nest there in growing hay, and drone forth their monotonous dirge with almost irritating persistency.

The young ring-ouzels are full-feathered by midsummer; yet on June 17th another nest contained five newly-laid eggs.

Mallard-drakes lose their glossy green heads and pearly backs towards the end of June, preparatory to undergoing that "eclipse" that is peculiar to their genus. They now seek the shelter of the thickest reed-beds and rank marsh-vegetation; for in July, having completely moulted their quills, they become incapable of flight. The normal plumage is not fully recovered before mid-October.

June 21.—A redshank on the river-side—a sign they are quitting their breeding-places and preparing to move.

June 24.—A single whimbrel on Cheviot. I have many notes of them (inland) in May, and again at end of July; but the above seems a "belated" date—probably an immature bird, which do not breed.

During the long summer nights, the black-headed gulls hawk after moths all the evening and even after it is quite dusk, hovering over newly-mown hay-fields and darting amidst trees, like nightjars after their prey.

CHAPTER VIII

SUMMER ON THE MOORS—(*concluded*)

JULY

EARLY this month, the young curlews, plovers, and other moor-bred wild birds, are already on the wing, gaining strength and wildness daily, and congregating into packs preparatory to their impending departure.

On the lower levels, by July, bird-song has been superseded by an infinity of low call-notes—some harsh and scolding, others soft and sibilant. These are the communications — the secret signals — from anxious parents to callow young, with the corresponding responses. None but the most highly-trained ear can hope to interpret these semi-articulate signs and sounds, their authors lurking unseen amidst the dense foliage and lush herbage of July.

By the end of this month and during early August, a striking silence reigns. Parental cares have then ceased. The young are now on wing, launched upon life, independent; while the old are commencing to moult.

The young of all birds at this stage possess a plumage more perfect and regular than at any subsequent period of their lives. For these first feathers have all grown simultaneously; hence all are equal in size and development—a condition which does not obtain in moulting. As

adults, they may acquire bolder and more striking coloration, but never again the perfectly even regularity of their first dress.

During the early part of July, starlings congregate in enormous numbers—perfect clouds—on the open moors, and (with bands of rooks) remain there, feeding on caterpillars and ripening seeds, for ten days or a fortnight. But before the end of the month, every starling has disappeared.

July 8.—On Peel-fell, 2000 feet. The summit, a desolate plateau, half in England, half Scotland, is a regular bed of cloudberries, the fruit, at this date, in its red-ripe stage. It also grows on Deadwater-fell adjoining, and the kindly shepherdess who gave me a cup of tea, said that, in good seasons, they would gather for preserving 8 or 10 quarts of "noops." The growth of blaeberry-ling on Peel-fell is very beautiful—in parts almost supplanting the heather. Cranberries also grow there. Young curlews were flying in packs of twenty-five to fifty, and peewits in hundreds.

The young black-headed gulls were first seen flying about the river and lower grounds on July 10th. Many of the old gulls are now losing the black hood. On the same date young blackgame were first seen on wing; and four days later, my dogs sprang a brood of young wild-ducks, which could then fly a short distance.

Any little 6-inch "spate" will now serve to bring up bull-trout from the sea. The smaller came first; so strong, indeed, is the migratory impulse in these, that fish up to 2 lbs. or thereby will manage to wriggle up by night, even in waters of summer-level.

Throughout July, waters permitting, the bull-trout fishing is a feature of the season. Evening is the time for this, and a 12-foot rod, with the smallest grilse-flies.

Very delicious is the close of those long summer days by the river-side, when a lingering twilight slowly fades, yet hardly disappears; while waning colours softly change on the moss-brown streams till detail is lost, and one is only conscious of the murmur of those swirling waters. The line one can no longer see, and only judges the position of the gently-working lures by a sort of instinct.

That heavy sullen plunge away below in those still darkly deeps, is a salmon. But him you may disregard; for he has been in that pool, a prisoner, this three weeks past, and will now scarcely look at fly—not until after another flood, and then only when he has travelled a mile or two further up-stream.

Presently comes a different plunge—or rather a rush, smart and active, tearing the surface, and one sees the water fly like a flash of flame. That is a 4-lb. bull-trout, fresh from sea yesterday, and bright as a bar of silver; a turn of the wrist, and the "dark-teal-and-purple" is well home in his jaws. Then, varied and vivid are the sensations aroused in the gloaming, as this dashing fish runs off line at 20 miles an hour—you cannot see whither—turns and twists in the dark; jumps where you least expected, slacks the line in spite of all you can do, and for three long minutes keeps the angler on full stretch and in delicious nerve-trying doubt. Those three minutes—given firm handling—will have turned the scale in the angler's favour. But there may yet be other three ere suspense and anxieties—pleasant, albeit prolonged—are ended, and the cleek, by aid of starlight, shall have decided the fortunes of the night. On such evenings you may linger till past ten o'clock, and dine towards midnight.

However late it may be, into the kettle with your

fish—presuming you have got him—that same night. Leave second-day salmon to city-dwellers and other unfortunates who know nothing better.

On one such summer's evening at Blindburn, Capt. A. G. Allgood hooked a bat on the dropper, while running a bull-trout on the tail-fly.

A droughty July means, of course, nothing less than the loss of all these joys. A few persistent "bullies" will force their way up, dry-back, through rapids and shallows; yet angling is impossible by reason of the slimy green waterweed (*Conferva rivularis*) that clogs the flies and cumbers every knot on the cast. A rainless July is the angler's purgatory—worst month of all. Here is an example: From June 29th (when, on a slight spate, I got a salmon of 17½ lbs.) never another drop of rain fell for five weeks; nor is there in the fishing-book, all through July, a single entry of sea-fish—not until August 5th, when, after a three-days' flood, the score reopens with a grilse of 5¼ lbs., three bull-trout of 3¼ lbs., 3 lbs., and 2 lbs. respectively, besides sundry dace that took large flies in the darkening.

The same flood brought up several salmon, but not from sea; those seen were all tinged with red, indicating that they had been some time in fresh water.

But should July bring rain, and with it the bull-trouts, the opportunity should not be neglected. The following suggestions, having been revised for me by two of the most successful anglers on North Tyne, may then prove useful:—Do not disturb the water till the sun is well off it, and never before 6 P.M. Provide beforehand, soaked and ready for instant use, three casts of graded sizes, so as to be able quickly to change the smallest flies for larger as darkness deepens. The third cast

(for night use) should have fairly large flies, and these of lighter colours. The droppers of all should be fixed on short, say two inches. In strong water, cast more directly down-stream than is usual in salmon-fishing; work the flies less—hardly at all—and bring them slowly across the current—rather let them "hang." Reel up at intervals after dusk, to see that all is clear and in order. When a fish comes, strike quite deliberately, and never till you have *felt* him. A landing-net serves best for fish up to 3 or 4 lbs., but have a gaff at hand, in case of hooking a grilse or a salmon.

July 9-10.—During the whole of these two days a migration of young eels, about 5 or 6 inches long, was proceeding up the river, millions strong.

An oystercatcher (adult) was shot far up Whickhope burn, North Tyne, early in July, 1905. What this essentially marine species was doing on a mountain-burn, 40 miles from the sea and at such a date, passes understanding. True, there are freshwater mussels in the Border streams; but never a "native" would he find therein!—no inference that *Ostralegus* eats such is conveyed.

Waterhens at this season, finding the original nests inadequate to accommodate large and growing broods, construct supplementary nurseries for their use. These they build quite openly, as though by a curious mental failure to appreciate the new advantages of concealment. In April, when nest-building began (there being then little or no covert), their nests were necessarily somewhat exposed; but in July, when the tangle of rush and sedge is at its rankest growth, they ignore it. It may be that they have reasons of their own for the course adopted.

These birds in April habitually construct two, three, or more nests before finally laying in the last. It sometimes happens that one of these "false nests" comes in useful as a supplementary nursery in July.

Waterhens breed twice; and apparently pair afresh, preparatory to entry *en secondes noces*—at least the males go through a bout of furious fighting in the early days of June.

July 16.—This evening at 8 P.M., while sitting by the river-side at Gold-Island stream, waiting for that "psychological moment," the precise stage of twilight when salmon are most apt to regard a "Jock Scott" in the proper and desired light, my terrier *Van* made a sudden dash into the thick willows, and out sprang an otter within a few yards. The water here shoals to the shore, and, knowing this, the otter cleared a good 10 feet, taking a beautiful "header" into the deeper pool beyond. During the same week the hounds hunted this water, and my friend—a dog-otter of 22 lbs.—lost his life

One seldom sees otters by day, though webbed footprints on the sand betray their presence. Evidence of their handiwork is most frequent in early spring, when they kill a good many salmon-kelts. They often eat a bit out of the back of the neck, and leave the rest of the fish lying on the gravel, or on a rock in mid-stream.

July 18.—Watched a kingfisher on the burn take three trout in consecutive plunges, each capture being carried to a stone in mid-stream. The fourth attempt failed, when he changed his stance, and then caught two more. Shortly afterwards he retired to a crevice among some rocks and went to sleep. A kingfisher's favourite perch is on some dead twig a couple of feet above the water, and always shaded above by an overhanging

branch, the foliage thus concealing his form from the "glegg e'ed" trout beneath.

Kingfishers nest here, but are scarce from two causes. The first is the selfishness of the "man with a gun," who persists in reducing one of Nature's most lovely ornaments to a miserable, ill-stuffed effigy for his own private delectation. But severe winters are a still more potent agency, since frozen streams and snow-covered burns mean death to the halcyon bird.

July 31.—This afternoon at 4 P.M. a sudden thunderstorm with heavy rain drove us to shelter in a pinewood on the hillside. Dense black clouds darkened the heavens, and the owls, mistaking this for night, awakened and began to call. Ten minutes later, two owls appeared outside, actually commencing to hunt! In less than an hour the sun was shining once more, and the owls must have felt rather silly, especially when they found themselves mobbed by all the small birds within call.

The month of July marks in bird-life the conclusion of the summer period, and inaugurates that of autumn.

The whole trend and object of the feathered world, all its infinite instincts and aspirations—(a study of some few features of which has occupied the preceding chapters)—are now reversed. Birds, in common with the rest of creation, find themselves ever confronted by ceaseless labour. No sooner are the hard conditions of one period fulfilled, than the revolving cycle brings them face to face with a fresh set of duties and labours no less onerous. In spring the birds have gathered from afar—some from the very ends of the earth—at a degree of risk which our present knowledge is insufficient to gauge. On arrival, the survivors at once set about the functions of reproduction. Then, no sooner is the new

bird-generation fledged, no sooner do the young realise their newly-gained powers of flight—than we see symptoms of the desire to migrate, these mere fledglings being all but universally permeated by an irresistible impulse to fly afar. The subject is referred to later, in more specific detail.

As early as mid-June (and even before) such birds as starlings and peewits are gathering into flocks, preparatory to moving; but in July the phenomenon rapidly develops, and the signs of the time then become plentiful and patent enough to those who care to read them. Strange birds appear in unwonted situations. The whistle of curlew or plover is heard amid the unaccustomed environment of waving corn, or among enclosed fields of turnips or potatoes. From a farm-pond in the lowlands, there springs a dunlin, or half-a-dozen sandpipers; while often, by night, a chorus of mingled bird-notes come down from the dark skies overhead. Far away from moorland, a "blackbird with a white breast" is reported by the gardener among the currant-bushes. This is, of course, a ring-ouzel, and the small bird the cat has caught, proves to be a young wheatear. Poor fellow! He is not yet four weeks old, yet was starting so blithely on a voyage of discovery to the unknown Mediterranean.

On the seaside, the terns have broken up their camps and spread themselves all along the coast where sand-eels and "herring-syle" are just now so abundant and tempting. The terns are immediately followed up by their arch-enemy the pirate skua; and, from day to day, one may expect to see the first stragglers of the incoming waterfowl and wading birds: whimbrels from Shetland, a little string of grey-geese from Sutherland or the

Hebrides, the first godwits, knots, or turnstones—the vanguard of the approaching hosts from the north, flying before the Arctic winter.

It is unnecessary to recapitulate the sights and signs which show that the bird-world is on the move. Nesting is over once more, the cares of spring and summer are past; while the universal movement southward towards winter-quarters has commenced. It is conspicuous enough in July, attains a greater development in August, and approaches its climax when swallows congregate on the dead trees in September.

CHAPTER IX

CHEVIOT

MIDSUMMER day of 1887, the first jubilee of our beloved Queen Victoria and one of the most delicious that our temperate zone is capable of producing, the author spent in a solitary ramble over Cheviot.

Approached from the east, the route towards Cheviot runs for several miles up the Caldgate valley—a glen which is certainly by far the prettiest on the volcanic formation, and much more varied and striking than that of the College-burn, the alternative route by which Cheviot is approached from the north. The walk up Caldgate's glen reveals several miles of lovely moorland scenery, with great naked rocks standing out abrupt as ruined castles from the steep and rugged inclines. The track, passing through heather, fern, and shaggy foliage, follows the course of the burn, a splashing torrent, full of troutlets, and fringed with natural wood—oak and birch, alder, saugh, and rowan. The bloom of the hawthorn at midsummer is perfect—each bush bearing a canopy of spotless white; the mossy banks and braes glow with the purple of wild thyme and bell-heather, and all are alive with little chestnut-winged butterflies (*Cœnonympha pamphilus*); while the air is resonant with the warble of willow-wren and whinchat, the trill of the sandpiper, and

overhead the croak of the white gulls from Pallinsburn.

Man is all but absent: the only specimen seen all day was an aged Scot, with vast bushy beard and a pack on his back, who, when I chanced on him, was lighting his pipe with a burning glass. He told me he was "jest seeking a wee bit pickle o' 'oo'" (wool), and had walked that morning "fra' Scotch Belford, no that awfu' far"—though it is a dozen miles and more. Poor old soul, he reckoned a pound of wool (worth sixpence), a fair day's pick, and spent his summer among the hills, gathering stray scraps of wool, and depending on shepherds for chance accommodation. Yet he was not a tramp. That is a different species, and one that is notably abundant on the Borders.

At the head of the glen lies Langleeford, a lonely farmstead—the last house in England, ensconsed amid sheltering pinewood, that protect it from the snowblasts of winter. To-day, however, the heat is tropical, but for the light breeze that comes redolent of the fragrance of pine and hawthorn, rowan, woodbine, and a score of Nature's exquisite perfumes. It was here, at Langleeford, that just a century before (in the autumn of 1791), Sir Walter Scott wrote to his friend, William Clerk in Edinburgh, from "the very centre of the Cheviot hills, in one of the wildest and most romantic situations which your imagination, always fertile, ever suggested. We are amidst places renowned by the feats of former days. Each hill is crowned by a tower, or camp, or cairn; and nowhere can you be nearer more fields of battle—Flodden, Otterburn, Chevy Chase, Ford, Chillingham, Copeland Castle, are all within the compass of a forenoon's ride. Out of brooks with which these

hills are intersected, we pull trouts of half a yard in length as fast as we did the perches from the ponds at Pennycuik, and we are in the very centre of muir-fowl. My uncle drinks the whey, and so do I—ever since I understood it was brought to his bedside every morning at six, by a very pretty dairymaid. So much simplicity resides amidst these hills that a pen (which could write at least) was not to be found about the house, though belonging to a considerable farmer, till I shot the crow with whose quill I write this epistle."

A more degenerate century finds the trout, as a rule, of less noble dimensions—about six to the yard would nowadays be an average measure. Nevertheless, disclaiming poetic license, I may here record a basket taken one May afternoon from these same waters. We had gone first to the Glen; but finding that lovely stream in top-flood, from rains beyond the hills—(the sources of the Glen, I must stop to explain, arise on the further side of Cheviot)—we returned by noon to our own water, which had not been so much affected by the rain. During that afternoon, I extracted forty-three trout, weighing just under 14½ lbs. Half were caught, in a biggish water, on fly: the rest with worm, when (at 4 P.M.) the water began to fine down. The creel was already full, and so were the pockets of my keeper, Ternent, ere we started on our homeward tramp in the dark.

A curious incident befell me on this burn. While fly-fishing, a dipper, flying out from under a hollow brae, touched the cast with his wing and was firmly hooked. He dropped on the water and instantly dived. Hence I had to play a *bird* under water, the same as a trout. The dipper fought hard; yet seemed none the worse when released.

From Langleeford, we "take the hill," and climbing commences in earnest. At first the ascent is over ordinary moorland, heathery slopes with scattered beds of bracken now in its beautiful emerald stage. Close by, spring three or four cheeping fledglings. They are young grouse; and, following their departure, ensues a flutter and a scuffle among the heather. It is their anxious mother, flapping along, wing-broken and disabled. Admirably she feigns all this, at the moment when her brood need the opportunity to make good their escape; not till all are safely out of sight, do the parents take wing—the old cock had been crouching all this time within a few yards.

Leaving the gaunt cone of Hedgehope on the left, presently the broad, flat summit of Cheviot comes into view, though still far above. Gradually as one ascends, the heather becomes scrubby and dwarfed, and mixed with the golden fronds of blaeberry-ling, whortleberry (*Vaccinium vitis-idæa*), and creeping-heath. For the last few hundred feet, so stunted is the vegetation as to resemble a great soft mossy carpet, easy to the tread, yet strewn broadcast with fragments of the dark grey porphyry and dolerite that form Cheviot's plutonic mass.

The actual summit is a broad, desolate plateau, over half-a-mile in extent, its surface but half clad with wiry bents and cotton-grass, interspersed with moss-hags and stagnant pools, oozy peat-flats and deep, black ravines. The monotony of barrenness is relieved by the white blossoms of the cloudberry (*Rubus chæmimorus*), a mountain-plant that flourishes at altitudes of some 2000 feet. The fruit, which matures in August, resembles a raspberry in form; but is red at first, turning yellow

when ripe.[1] The alpine *Cornus suecica* also grows at one spot here—a very rare British plant, not found save on Cheviot and on one other of the northern hills. Here and there grow tufts of stag's-horn moss (*Lycopodium*), trailing shoots of crowberry (*Empetrum nigrum*), bilberry (*Vaccinium myrtillus*), and many another alpine plant.

Besides a few golden plovers, a grouse or two (none nest so high), and a chance titlark, the only birds one may expect to see on the summit of Cheviot (2676 feet) are the dunlins. Of these there is a little colony—generally five or six pairs, all breeding together among the moory tussocks, and extremely tame, preening and "purring" within a dozen yards. Beautiful little creatures they are, in their summer-plumage of bright chestnut and black, with white flanks and the black patch on their breasts.

One might expect that these bleak altitudes would attract dotterel and whimbrel: but although the invitation is cordial enough, yet for reasons of their own, both these species ignore it, and every spring pass by unresponsive.

On a clear day the view from Cheviot repays all labour of the ascent. The eye ranges over a panorama of mountain-land. Northward, beyond the Tweed, with glimpses of its silvery thread, extend interminable Lammermuirs. The triple crests of the Eildons, above Melrose, stand out prominent in the west; while all the

[1] A kindly critic of the first edition wrote from Kelso that the cloudberry "flourishes in fine fruit at Moodlaw Loch, which is only about 1200 feet above sea-level." I have since found it growing luxuriantly on Peel-fell (1975 feet), and on Deadwater-fell (1867 feet) at the head of North Tyne. Cloudberries are called "noops" in Northumberland, and grow all along the Border line, but not, according to general belief, under 1000 feet altitude.

successive fell-ranges along the Border can be distinguished. Southward also are hills—nothing but hills; Kelso Cleugh and the Windy Gyle; the broad contour of Shilmoor, and, nearer at hand, the rival peak of Hedgehope (2348 feet), its green steeps furrowed with peat-cracks like the pencillings on a bunting's egg. The Simonside range limits the view in this direction; but to the east, nearly all the seaboard of Northumberland lies in view. There, one distinguishes the ancient Border fortresses of Bamborough, Dunstanborough, and the Lindisfarne, the wooded heights of Chillingham and the fatal field of Flodden. Further away, the Farnes and Coquet Island show dimly through a slight sea-haze; while right opposite, lies Holy Island, with its white sands set off by a sunlit sea :—

> "The tide did now its floodmark gain
> And girdled in the saints' domain,
> For with the ebb and flow, its style
> Varies from Continent to Isle.
> Dryshod o'er sands twice every day
> The pilgrim to the shrine finds way.
> Twice every day the waves efface
> Of staves and sandalled feet the trace."
>
> (*Marmion.*)

Half-a-mile across the plateau, the actual boundary is marked by Auchhope Cairn, a steepled granite pile that dominates that eerie abyss yclept the Henhole. At this spot, England and Scotland are divided by a gorge that is certainly as wild and bold as any that I have seen in the three kingdoms. The whole mountain-flank is rent in twain from the top to the bottom—the depth of the gorge, by rude eye-measurement, looks like 1500 feet. The screes, or "glitters," which fringe the flanks of this abyss are interrupted by jagged outstanding

ridges of porphyry and black volcanic rock that arrest even a careless eye. Within its depths, dash and leap, unseen, the headwaters of College, hurrying down to its romantic valley, far below.

A mile or two to the northward, another tremendous chasm rends the flanks of Cheviot. This is the Bezzil, an amphitheatre of pinnacled rocks, less constricted than Henhole, but even more precipitous. Here, even at midsummer, a great snowbrae often lingers in defiance of our summer sun. This hot year (1887), it had disappeared; but only three weeks before (on May 29th), I had noticed an acre or two of heavy snow lying on the sheltered face.

These two sequestered crags, the Bezzil and the Henhole, have been, from time immemorial (and remained, even to these days), the breeding-places of the raven and the peregrine falcon. In the year of which I write (1887), both eyries had been occupied. Two months before, the ravens already had their brood fledged in Henhole. Their nest, in a rock-cleft, though accessible by a diagonal ledge to within a few yards, was, at that point, protected from nearer approach by a vertical chasm that was impassable even to skilled rock-climbers. But at that short distance—only a few yards—one could overlook the great rough nest, and see the eggs or young within. The peregrines also had bred in the Bezzil; but their young had (as usual) been taken, by the detestable device of lowering a ball of rough worsted into the eyrie. Into this the young falcons so inextricably drive their talons that they could thus be hauled up to the crag-top. It was two years later, in 1889, according to local report, that a Scotch gamekeeper came over and shot the female peregrine off her nest. At any rate, since the year named, the eyrie in Bezzil has been deserted.

To-day I could still enjoy the pleasure of seeing a peregrine falcon, one of which dashed out from a rock-ledge in the crags far below, and, with her beautiful wild scream, circled and soared around for some minutes before disappearing among the clouds.

The following is a note made some years ago on the breeding of the peregrine on the Borders, though it does not refer to the Bezzil nor to Cheviot at all :—

May 29.—The peregrines at B—— Crag have this morning hatched two young—white and down-clad. Their larder contains a snipe, a golden plover, and a cushat, all these uneaten. There are, besides, numerous wings and other fragments of former feasts on the ledge, and scattered on the rocks beneath. Ten days ago (May 19th), there were three eggs, lying quite bare on a mere scratching on the rock-ledge, and quite easy of access. The falcon's note resembles that of a kestrel, but is louder—there is a kestrel's nest close by, for comparison. The raven's nest this year is within 20 yards of the falcon's; but the young of the former have already flown, a month ago. Curiously, this latter nest is built on the exact spot where the peregrines bred last year.

On a steep heathery slope, half a mile beyond, a pair of merlins had their nest. We watched the male chase a cock-grouse. It was probably in pure fun and exuberance of spirit; yet the grouse doubled and dived into some long heather to avoid being struck.

Further round to the north and east of the Bezzil, above the head of Goldscleugh burn, a third great ravine cleaves asunder the mountain-side with a singular diagonal fissure. At this crag, on one occasion, while crawling to look over a perpendicular face, we came on a

fox, fast asleep, curled up on a ledge scarce 5 feet below. Foxes are, of course, abundant enough all over the Cheviots, and in spring, almost every crag or series of tumbled rocks holds a brood.

The pine-marten has utterly disappeared from the Cheviots;[1] but badgers still hold their own at many points. There was a badger's earth in the rocks below Ilderton Dod, on Cheviot, that we watched one spring with great interest. In habits, these animals are scrupulously cleanly. A fox's earth, as everyone knows, has an overpowering, sickening smell, while that of a badger is clean and sweet. The latter possesses, moreover, some rudimentary sense of comfort—which a fox lacks—for the badger provides himself with a nice dry bed of dead grass and fern, and on sunny days brings it out to air! There is danger, however, in this practice, for the mass of broken litter about the mouth of the den is apt to betray its whereabouts.

Though built and designed by nature for digging up roots and a vegetable diet, yet badgers do destroy a certain number of rabbits—(of which there are always enough and to spare)—and in spring they exhibit a marvellous skill in "spotting" from above, nests containing young rabbits. These they do not attack from the mouth of the burrow, which would seem the easiest plan; but dig down vertically upon them—"crowning," the keepers call this performance. Badgers are also fond of wild-honey; and in Garret Hott wood, a couple of miles from here, Mr Thomas Robson of Bridgeford tells

[1] Though the pine-marten is extinct in Northumberland, a few still survive in Westmorland and Cumberland; whence stragglers may occasionally find their way along the crags and rugged moors that mark the line of the Roman wall.

me he has found as many as nine wasps' nests dug out by them during a single summer.

Another notable tenant of the crags of Cheviot is the wild-goat. Little herds of these have, from time immemorial, rambled over the hills of the Border, and still lead a life of absolute wildness. Some of the old "Billies" carry quite imposing heads. One such, the leader of a band of seven, at times frequented a shooting I then had, and eventually afforded me a thoroughly exciting stalk which culminated in the wild rock-gorge of Skirlnaked. There are bigger rocks in Bezzil, steeper screes in Henhole; yet Cheviot boasts few more picturesque spots than Skirlnaked, with its abrupt crags, its tumbling fosses, and silvery icicles. My Cheviot wild-goat's head measures 25 inches from tip to tip of horns, and now hangs on my walls—the *hairiest* by far of all the hundred head of big game collected thereon from three continents.

It may be asked why animals yielding no return in fleece or flesh, are granted free pasturage on the hills. The answer given by the shepherds is unanimous—"The goats earn their livelihood by killing the adders." Whether this be so or not, there is some corroboration in the native name of the grandest of all the wild goats—the Markhoor of the Himalayas—that word signifying "snake-eater." These Cheviot goats, moreover, graze largely among precipitous rocks, great parts of which are inaccessible to sheep.[1]

We have a dozen miles to tramp home, and the shadows lengthen. The steep slopes grow all orange and gold with the bright-leaved bilberry, aglow in the

[1] In North Tyne also are goats; but there they mostly belong to the shepherds, who keep them for their own use. These goats are not so wild as those of Cheviot.

evening sunlight, and there is the tormentilla, like a small buttercup, with tufts of saxifrage, green spleenwort, and other quasi-alpine plants. Now we strike the head of a hill-burn which leads towards our destination, and for six miles follow its course over moorlands where curlews whistle and plovers pipe; by tumbling linns where rowans scent the breeze and foxgloves grow in rocky crannies; by darkly pools where trout splash and play —a delicious walk in that cool twilight ends a delightful day.

Already, ere home is reached, the first glint of flame on every surrounding fell and peak recalls the sentiment of the jubilee day—a sentiment which ten thousand beacon-fires will presently attest throughout our land, the symbols of a nation's joy.

CHAPTER X

THE PROCESS OF MIGRATION

In a former chapter were discussed some aspects of the *Causes* which impel birds to migrate. In the present, are added certain studies on the Process by which that migration is effected.

The migration of birds is accepted too generally as an article of faith. Its operation (in certain obvious cases) is so patent, that many are content to accept the whole phenomenon on trust without further ado or the trouble of investigation. But inquiry brings its students face to face with facts and circumstances of such difficulty as to shake to its foundations that earlier easy-going faith. That, it may be said, is inherent to the nature of "faith"; but, in this case, we have means of probing, deeper than in all, towards the bases in actual facts that underlie the unknown.

We are apt to measure Nature's methods by the standard she has assigned to ourselves alone. Thereby we may create for ourselves difficulties and "marvels," not to say impossibilities, which, if regarded from some more appropriate standpoint, might prove explicable enough.

How do birds migrate? That is, by what means can such feeble creatures transfer themselves by millions,

twice each year, over vast distances (often thousands of miles) of sea and land?

I suggest, in the first place, that no one has ever seen the process of migration in actual operation. Migrating birds are, of course, seen at lightships and lighthouses, and in many analogous cases. But that is not the *process* of migration. It is merely its termination, as the birds make good their landfall.

The extent of the migratory impulse in birds has already been emphasised. That impulse is all but universal. It follows that a very large proportion of its whole bird-population leave this country (and every northern country) every half-year, and return thereto during the other half. Thus the actual numbers of birds on the move are utterly incalculable—a tangle of figures beyond computation.

Put it this way: That acres and square miles of birds pass and repass twice yearly over, say, half the earth's superficies, land or water. Yet no one sees them. Every September you see the assembling of swallows on dead trees or telegraph-wires—next day they are gone. But none see them go, or see them on transit. Swallows are but one species, and we have in England 200 or 300 species that migrate. Migration, in fact, is effected as far beyond our vision, as its means lie beyond our knowledge.

There is always abundant evidence of the progress of migration, although the process is invisible. For the observation of migration, not many ornithologists can have enjoyed wider opportunity than the author, during upwards of fifty over-sea voyages, out and home, including the North Sea and Cattegat, Arctic and Atlantic (North and South), Mediterranean, Red Sea,

and Indian Ocean as far south as the Mozambique Channel. Though perhaps outside the scope of a book on local ornithology, an example or two of the experiences on which these conclusions are based, may be instanced.

With a single exception (and that on the short run to Norway), we noticed land-birds at sea on each of fifty-six voyages—even in mid-Atlantic, snow-buntings boarded our ship. But the numbers observed, save in two cases, were quite insignificant, varying from an odd bird or two up to a few dozens or scores at a time, during an entire voyage. Note also, that in the majority of cases these travellers sought refuge on the ship, and that many of them died there, of cold, hunger, and exhaustion.

But where were the "acres and square miles" of birds that were not exhausted? These are not seen. The inference is that at sea practically nothing is visible of the real process of migration. All one does see, is merely casual external evidence of its progress—its waifs and strays, its lost wanderers, that, in last resource, seek fatuous safety on passing vessels as drowning men are said to catch at straws. The few that are seen are a bagatelle, a wholly negligible quantity as compared with the unseen armies above. Those seen, moreover, mostly perish.

Even those birds that have so far succeeded in their over-sea journey as to have reached the outermost light-ships—should they be so far deceived by them as to drop their flight earthwards—will still assuredly perish, should adverse conditions be then encountered. They cannot cover even that short distance unaided.

The following is an illustration. On April 10th (1906), we were traversing the Eastern Mediterranean, homeward-bound. While off Crete (which was dimly visible, 15

miles to the northward), a sudden and bitter northerly gale sprang up. Two hours later, our ship, the Messageries Maritimes' steamer *Djemnah*, became the goal of hundreds of birds, no longer able (while already in sight of land) to face the adverse wind. The great majority of these unfortunates were yellow wagtails (the continental blue-headed species), together with swallows and martins, pipits, and wheatears of a southern species (either the eared or the black-throated).[1]

Stronger-winged birds—to wit, nightjars and lesser kestrels—hovered under our lee, and at dusk took refuge in the rigging. These perhaps passed on at dawn; but of the rest, the only traces visible in the morning were a few draggled corpses. Similar conditions prevailed throughout the whole of that day (April 11th), while crossing the Ionian Sea. Thousands of migrants perished through that untimely breeze. But if thousands died, tens of thousands passed safely onwards, unseen. Nature recks naught of individual lives. As when in warfare a commander reckons on gaining an object at a loss of 10,000 and secures it at 5000, he has succeeded; so with the birds—the majority get safely across.

In this case, for forty hours we were passing across (or beneath) the lines of an army of migrants—say 500 miles in width; yet not a sign did we see, save only the wreckage—the feeble that fell out by the way.

Two other questions invite consideration. (1) By what means do small species, of little wing-power,

[1] The arrangement of modern Liners, shut in fore and aft with canvas awnings, though conducive to the comfort of passengers, is totally adverse to ornithological observation—hence the uncertain identification.

cover the enormous distances appointed them; and (2), how do any birds, weak or strong, so direct their course as to reach their distant points, year after year, with unerring precision?

The only truthful answer to both these questions, despite all the attention paid to ornithology for centuries, is simple enough: we do not know.

I will take the second question first. A presumptive reply, which *primâ facie* seems obvious, is that the knowledge of direction is derived from older birds, which, having performed the journey before, are thus enabled to pilot the young. But any such idea collapses when we find that, as a rule, young and old travel separately; and that, in most cases, the young birds precede the adults in their first migratory flight. Too impatient to wait till their parents have completed the autumnal moult, these mere fledglings set out alone to traverse an unknown world. Very unfilial, no doubt, appears such conduct; but that they do so is an easily proved fact, well within our knowledge—some details thereof are set out elsewhere in this book.[1] We are therefore left (in our blindness) with no other resource than to ascribe this juvenile success in steering to that nebulous definition, "inherited instinct."

Nor, as suggested, can twentieth-century knowledge furnish any more definite reply to the question first above propounded. That long-winged birds such as cuckoos, swallows and swifts, curlews, sandpipers, and even the crows and thrushes, are capable of sustained flight, we can readily imagine. But how can the punier

[1] The following extract from the *Migration Report*, 1880, p. 66, seems pertinent:—"As a rule the young of the year migrate some weeks in advance of the old birds. This holds good of all orders and species."

folk—feathered mites such as tits and goldcrests, together with all the short-winged warblers—cover their distances? Knowledge of these birds while here, with close observation of their habits and powers, appear absolutely to negative the possibility of their flying unaided across wide seas. None of the small warblers ever flies one hundred yards on end during the four months they spend with us. Yet, at the end of that period, they all start on a straightaway flight of two, three, or four thousand miles. A few typical cases, though conveying nothing new to ornithologists, will serve to emphasise the point to others:—

Goldcrest.—Length $3\frac{1}{2}$ inches, wing 2 inches, weight 95 grains. Habitually crosses the North Sea by thousands—distance 400 miles.

Willow-wren.—Length 5 inches, wing $2\frac{1}{2}$ inches. Summers not only in Northumberland, but right up to the North Cape in Norway, and winters in Africa, direct distance, North Cape to Algeria 2550 miles; and it goes far beyond this.

The chiffchaff (wing $2\frac{1}{3}$ inches) and the whitethroat halt by the Polar circle; but the wheatear, blackcap, and garden-warbler, along with several others of our small summer-warblers, wagtails, etc., push on as far north as land stretches in Europe. Yet all, as a rule, winter beyond the Mediterranean—at least 2500 miles; and I have myself seen the wheatear, wagtails, tree-pipit, and others far further south than that—another 2600 miles, namely in British East Africa, beyond the equator.

Tree-pipit.—We found this small bird breeding beyond the Arctic circle and in Finmark (70° N. lat.); yet, as just stated, I recognised it at Nairobi in British East

Africa, and (together with the sedge-warbler) it has been recorded wintering 1800 miles further south still, namely, at Irene in the Transvaal—making a total range of 6000 miles.

Swallow.—Following are four casual observations of my own. The four I separate into two groups, but without suggestion that either event is actually co-related to its fellow: though the coincidence of the juxtaposed dates certainly possesses a strong general significance that bears on the process of migration.

Group No. 1.

February 13.—Swallows congregating by thousands on islets of Lake Elmenteita, slightly south of the equator, in British East Africa.[1]

February 23.—Arrival of swallows in Southern Spain; quite a nuisance while snipe-shooting, by catching one's eye in every direction.

Group No. 2.

March 26.—Another great departure from East Africa, observed at Sultan Hamud, and continuing over three days.

April 10-11.—Swallows crossing Eastern Mediterranean on a front of 500 miles—(cf. *supra*, p. 126).

Our swallow ranges from North Cape to Cape Colony, a total distance of 7450 miles.

That these tiny creatures do actually perform journeys that appear impossible, is, of course, a well ascertained fact, that we have got to recognise. I venture, never-

[1] Note, incidentally, that beneath the swallows, lay two huge Hippopotami, basking in the sun!

theless, to disbelieve that these migrations are accomplished in the way that is ordinarily accepted—that is, by hard straightaway flying. There remain yet to be discovered the auxiliary factors that alone can render such feats possible—those natural or physical advantages, or favouring conditions, not necessarily recondite, that will bring the phenomenon within the radius of practicable performance.

The anomaly puzzled ancient thinkers ages ago. They suggested that larger birds carried the smaller over-sea, in fact that migrating storks and cranes took passengers. Nearer our own times, Gilbert White gravely ruminated on the alternative of hibernation as a solvent of the perplexity. Such ideas are abandoned; but we have not yet touched solid ground, and still remain in the region of theory and conjecture.

Birds are warmer-blooded than ourselves or other mammalia, and are capable of sustaining life in rarified atmospheres where these could not. By a simple mechanical ascent, they can reach, within a league or two, regions and conditions quite beyond human knowledge: where, selecting favouring air-strata, they may be able to rest without exertion; or find meteorological or atmospheric forces that mitigate or abolish the labours of ordinary flight, or possibly assist their progress. The explanation may be simple; some force or factor overlooked, though it may be, perhaps, in full view—or perhaps, at present, unknown.

It is in the upper regions of open space where, I suggest, the final clue will be found. Nowhere else on this earth does there remain a region (within the trifling span of a league or two) which yet resists the ingenuity and the enterprise of mankind to pierce and

to investigate. Birds, as shown, travel far above the utmost range of our vision. The two considerations, taken together, indicate the direction whence a final solution of present perplexities may be sought — and found.

A NOTE ON MIGRATION.—While these pages are passing through the press, my attention was arrested, during a meeting of the British Ornithologists' Club (London, November 20th, 1906), by certain simple facts stated by my friend, Mr W. Eagle Clarke of Edinburgh; for these facts clearly point the conclusion that we yet overlook much. During two successive autumn sojourns on Fair Isle (Shetland), Mr Clarke met in quite considerable numbers, with species which are practically unknown on the adjacent mainland—such as, for example, the Lapland Bunting.

Now Fair Isle is a mere rock, two miles by one, with some 300 acres of tillage. It lies midway between Orkney and Shetland, about 25 miles from either. Yet neither in Orkney or in Shetland, nor anywhere else in Scotland, have Lap Buntings been recorded during the whole of the two years in question! The conclusion is irresistible—that, although skilled ornithological observation can detect on barren little islets such as this (or on Heligoland) the occurrence of every species that may visit them; yet that, on reaching the wider areas of the mainland, the scarcer species may (and do) escape the most careful work and closest observation of numberless local ornithologists. For it stands to reason that when Lap Buntings pass regularly across Fair Isle, they must also reach the surrounding Orkneys and Shetland, and many other North British shores; yet in the bigger lands they are not recognised—overlooked.

CHAPTER XI

FASCICULA

SPECIFIC BIRD-STUDIES

GREATER SPOTTED WOODPECKER (*Dendrocopus major*).

THIS species is the typical woodpecker of the Borderland—the Lesser being wholly unknown and the Green Woodpecker very scarce and irregular.[1] A few of the above are permanently resident, a pair or two frequenting most of the larger woods. But the numbers of these residents are reinforced, at quite irregular intervals, by migrants from Northern Europe. Such accessions occurred, for example, in the autumns of 1886 and 1898. During both, this bird was reported at many points, some occurrences coming under our own observation. One at Scots Gap, November 12th, 1886—"making the chips fly like a woodman," as the keeper put it. Two others, in the same week, on Holy Island—clearly from over-sea. There are few trees on the island, and for lack of a suitable perch, one of these two woodpeckers "clapped itself on to a gate-post"! Another on the 20th, near Durham.

Then in 1898, a spotted woodpecker spent an after-

[1] A Green Woodpecker was observed at Houxty, October 26th, 1905—only the second occurrence that has fallen within my own observation.

noon in my sister's garden at Jesmond, Newcastle, hammering at oak-apples. He was "quite tame and very dirty"! A local paper had mentioned one in the Leazes park, at Newcastle, a day or two before; another note recorded it at Hawick, with the specific addition that "such a bird had not been seen there since 1886."—Note the coincidence of dates.

During the following spring (1899) these woodpeckers were noticeably more numerous than usual. I picked one up dead on the river-side at Houxty, April 28th, and two months later, while I was in South Africa, my brothers found a nest with six young in a silver-birch in Houxty wood. It has nested in this neighbourhood almost every year since. Though preferring coniferous woods, this woodpecker always selects for nesting, a deciduous tree—birch, ash, alder, or wych-elm for choice, and always rotten at the core. One tree may be occupied year after year, in which case it becomes completely hollowed-out, and has two or more entrance-holes, each as round as though bored with an augur. Eggs are laid at end of May, and young fledged July 10th. This is a shy bird, impatient of observation, and has a fine wild fluid cry—as far as can be expressed in words, "gee-yēēk"—uttered when on flight. Its call-note, while nesting, is a sort of "clack, clack."

This spring (1906), a pair of great spotted woodpeckers nested at Nunwick, quite close by the house; the tree selected being a silver-birch, ancient, and broken off short at about 30 feet from the ground. The nest-hole was bored (after several trial "drifts") at about two-thirds that height. When I saw it, the lawn and shrubs beneath were strewn with chips, and Mr A. M. Allgood gave me the following account:—"The wood-

peckers started prospecting the tree on Thursday, May 24th. Boring commenced on Friday, and by Saturday the hole was deep enough to conceal the borers. On Sunday, May 27th, they worked all day, bringing up, at short intervals, great beaks-full of excavation, which they ejected far into air—quite a couple of feet, or more. So hard did they work, that, after each discharge, the bird would cling, gasping, with open beak, outside the entrance. No chips were put out, nor any tapping heard after Monday (28th), so I presume nest was then finished. I first heard the young birds (inside the hole) on June 25th. On July 5th and 6th they were notably noisy, but on the 7th had disappeared." The date of fledging was thus three days earlier than that before cited.

Miss Taylor kindly writes me, that in the beautiful woods of Chipchase, on North Tyne (opposite Nunwick) —"One pair of woodpeckers nested in 1898, two pairs in 1899 and 1900. One pair in each of the two succeeding years, but none the next. Two pairs bred in 1904, and one in 1905, but this year (1906) there are none."

Tree-Creeper.—This, although not allied to the woodpeckers, is of analogous habitat, and abounds in all the Border woodlands. At Houxty it frequents some large ash-trees close outside, and its sprightly movements can be watched at a few yards' distance. Round the big bole, it runs with half-spread wings and mouse-like agility—now stopping to explore some horizontal bough, anon resuming its spiral ascent till the topmost branch is reached. Thence, like a stone, it drops to the base of the next big tree, to repeat thereon the tireless search for tiny insect and larvæ. On occasion, the creeper even enters the house—coming into the porch, where some small trees and shrubs grow in pots, and which seem to be considered

as requiring investigation. On July 5th, 1902, a creeper and a cock blackcap were both so engaged there together.

The creeper's favourite nesting site is the cavity between some old stump and the loose unattached bark—a most insecure position, since there is no solid foundation, the nest-material being simply wedged in. Other nests are in the cracks or crevices of split trees—equally destitute of foundation. Eggs are laid in April, and young near ready to fly by May 20th. The beautiful woods of Ashiesteel on Tweed are a favourite resort. We found two nests there on May 8th, the creepers at that date sitting hard.

In the rough weather of winter they withdraw to the shelter of deep pine-wood. There, amid massive spruce and fir; and in company with gold-crests, kitty-wrens, and tits of all the five species found here, they defy even the severest winters.

WRYNECK.—Wholly unknown in the north. In forty years' observation, I have neither seen nor heard it, and its unmistakable cry can scarce be overlooked. In Southern Norway it arrives by the end of April, and its loud "Hoo, hoo, hoo," repeated ten or a dozen times, can be heard at half a mile.

NUTHATCH.—Also unknown in the north.

CROSSBILL.—This is certainly a bird of the Borders; but very local, and most difficult of observation. My brother Alfred paid special attention to it; yet failed to ascertain definitely the fact of its breeding here, though it constantly frequented the same woods from February to April, and this during several years. Houxty wood is an ideal resort, yet I have never detected the bird amid the tall and thickly-growing spruces.

NIGHTJAR.—This is quite the last to arrive of all our

summer-migrants, being seldom either seen or heard before June. Its favoured haunts by day are sometimes amid the most impenetrable spots in all the wild moorland—on some fell-edge where riven rocks and boulders lie piled in confusion, many half-hidden amidst shaggy heather and 6-foot bracken.

Not always, however, do they seek such break-neck retreats; they also frequent lowland woods, and it is one of my silent sorrows that none abide here. In Houxty wood are deep pine-glades, with acres of bracken; but never a nightjar breaks the stillness of a summer's twilight. The conditions do not suit—perhaps it is a clay subsoil that offends, or the lack of cockchafers. The latter, by the way, though never seen on wing, we often dig out when tree-planting in March—perfect insects, 6 inches underground.

No bird surpasses the nightjar in agile flight and command of wing. One may enjoy a beautiful exhibition of specialised bird-life in watching a pair in the gloaming of a summer's day. To and fro they hawk, as light slowly fades, in swift pursuit of night-flying noctuæ; but so instantaneous are their sidelong swerves, those lightning darts and swoops, that eye can scarce follow—it loses touch in the twilight. Next instant the bird flashes back, almost in one's face, and one sees the "kill" within 15 feet.

The nightjars begin what time the crepuscular gulls leave off. For a few moments, one may see both at work together. The black-headed gulls are smart on wing—no bird that is not, need hope to dine on night-moths. They miss but little within reach; yet their graceful performance is presently overshadowed by that of the nightjar. It is darker now, yet the latter seems to

work the "double right-and-left" with unerring precision. Before it is over, one has seen a sight that will not fade from memory.

Crakes and Rails.

The Water-Rail (*Rallus aquaticus*) cannot properly be regarded as a summer-bird, though he is here at that season. One sees more of him in the depth of winter, when frosts and snows have cut down the dense aquatic growths in which he delights—those tangles of sedge and rush wherein, at other seasons, he lives well-nigh invisible.

March 18.—Heard to-day near Houxty the curious rolling note—as it were between the purring of a cat and the croak of a frog — that I take to be the pairing call of the water-rail. This continued for some days, often in two separate places; and after infinite watching with the binoculars (in a freezing wind), I, at length, satisfied myself. There were two pairs of water-rails; but such is their innate secretiveness, that even in the thin covert (the mere wreck of last summer's growth), one could get no more than an occasional glimpse. While watching, two herons settled close beyond and remained, catching minnows, till I was too stiff and cold to stay any longer.

Early in April (along with the above) a second note was heard, quite distinct, and which frequently ended in a little wild cry or shriek. The water-rails had now settled down; they were more at home, and more easily seen than before. But the author of this second note never could be fairly distinguished. One might know the very tuft that concealed him, even detect his movement within it, but never did even his outline appear in

the light of day. I have no doubt, however, from my recollection of this note in Spain and Denmark, that the stranger was a Spotted Crake. Both notes continued to be heard until the early part of May, and there is no doubt that both species bred there.

This bog is a little bit of a place, that I had made a year or two before, by damming-back a sluggish ditch; and it was an intense satisfaction to find it attract two such interesting species. Besides these, reed-buntings came to breed there, as well as waterhens, sandpipers, kingfisher, and mallard. Redshanks and snipe also visit it in March, and again in July.

It is the drainage of every bit of moist or marshy land—even a little boggy corner like this—that has well-nigh eliminated marsh-birds from the British avifauna. There are very few spots where the spotted crake breeds in the north—perhaps half-a-dozen. I have notes of three specimens shot in autumn: but, unlike the water-rail, it disappears before winter, and the latest killed was on October 26th.

My brother Alfred and I found a spotted crake's nest in West Jutland, May 15th, 1893—A. almost putting his hand on the old bird (to save himself from falling in the squash-bog), when she rose from eight eggs. We were looking for a nest of the blacktailed godwit at the moment, and the four eggs of the latter also lay within a dozen yards. Jutland, however, is not all drained dry.

Short-Eared Owl (*Asio accipitrinus*).

The status of this species, until recent years, might have been defined as that of a winter-migrant with strong presumption that a small proportion remained to breed;

while it was an ascertained fact that some had actually done so. Hancock's recorded instances referred chiefly to North Tyne, where the short-eared owl still nests annually in small numbers. It clings to certain spots (young woods and rough heathery cleughs, as well as on the open moor), where I have frequently sprung these owls from the ground during the spring months. With setters, a nest or two could be found within a couple of hours any year; but the evidence suffices as it stands, and I am loth to push it to full proof; for needless disturbance of scarce birds should be avoided, lest it give offence. The same remarks apply equally in the cases of the water-rail and spotted crake, above mentioned.

Any doubts, moreover, have been set at rest by the events of the early nineties. At that date, there occurred throughout the south of Scotland, a "vole-plague." The destructive little rodents swarmed in millions, and following them appeared, as by magic, an attendant army of short-eared owls: which so long as this food-supply lasted, remained to nest in the Borderland.

In 1893, the last expiring ripples of the vole-plague lapped over the Border into Northumberland. We had, that year, the shooting of Ilderton, on Cheviot; and on that one moor, at least a dozen pairs of owls nested on the open heather. So vigorous had these owls become, through several years of unwonted abundance, that each nest contained families of ten or a dozen, and even more; these were, moreover, in all stages—from fresh eggs and downy owlets, up to full-feathered fledglings, side by side in the same nest. The old owls might often be seen hunting by day, sometimes half-a-dozen being in sight

at once; and during the August shooting, they circled inquisitively close round dog and man. After the vole-plague ceased, the invading owls vanished as mysteriously as they had come.[1]

A curious result followed the vole-plague. In districts where the most severe damage appeared to have been suffered (the grass being destroyed at the roots, cut through, and lying all loose on the earth), the new herbage, we were told a couple of years later, had come away green and sweet, and of far better quality than the destroyed bents.

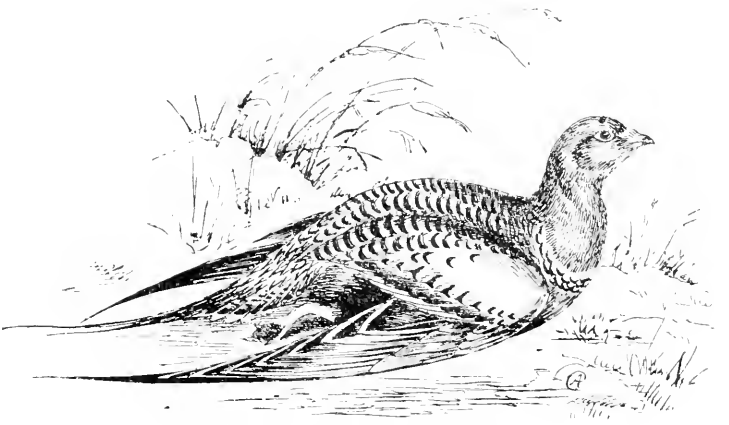
Pallas' Sandgrouse (*Syrrhaptes paradoxus*).

Most remarkable of all erratic wanderers is this Central-Asian species, which, on three occasions during the last half-century, has invaded Europe. The main facts need no recapitulation. Suffice it to say that, after a minor irruption in 1859, there occurred in 1863 a regular inrush. Deserting their distant homes on the steppes of Tartary, Turkestan, and Tibet, these sandgrouse, seized by an inexplicable impulse, sped with the sun as far as land stretches to the westward; and, crossing Caspian and Caucasus, they spread themselves over Europe from Italy to Archangel, and across Ireland to Donegal.

A quarter of a century later—namely, in April 1888—a third advance to the outposts of scientific observation was reported from Austrian sources. We were therefore prepared to hear of their advent at home; yet

[1] A similar, but far more extensive invasion of these same short-eared owls has occurred in Argentina—the owls, in that case, having come all the way from, say, Canada.

never shall I forget the surprise and pleasure experienced (on May 31st), on opening a parcel-post package, to find within, a pair of these strange and lovely birds. They had just been shot on Holy Island, and were accompanied by a letter asking what they were, and stating that a flock of sixty had arrived there on May 6th; but that "as they were destroying his crop, the farmer had got liberty to shoot them." These two contained a few grains of barley and a quantity of what certainly re-



PALLAS' SANDGROUSE (male).

sembled turnip-seed; on planting the latter, however, it proved to be the common field-runch, a noxious weed. Thus, so far from destroying crops, the sandgrouse were really assisting to clean the land.

The extent of wastes and sandlinks in that neighbourhood appeared to offer at least as congenial a haunt as the wanderers were likely to find on British soil; yet all had disappeared shortly after midsummer. Later in the year, others were observed there; but these were probably fresh arrivals.

The weather in July 1888 was phenomenally cold, with a succession of bitter gales from E.—N.E., and N., and snow was reported on the Cumberland hills. This probably settled the fate of the sandgrouse. But they were doomed, in any case, as all such wanderers are; and not even an Act of Parliament, specially passed to protect them, could retard their destiny by a single hour.

The following is an extract from the letter which accompanied a second pair sent me:—"They were very tame; there were flocks of 200 or 300, and I passed within 30 yards. The nearest birds were lying on their sides, 'howking' with one foot like molerats."

Of the four birds sent us, two males weighed 10 oz. each; the females, 9¼ and 10½ oz. They were good eating, of grouse-like flavour, the flesh of the *inner* part of the breast being white, as in blackgame. All four were partially moulting: the testes and ovaries well-developed, the latter in varying degree.

Hooded Crow (*Corvus cornix*).

Though usually regarded as a purely winter migrant, an odd pair will occasionally remain to breed among the Cheviot hills. Thus in April 1890, my brother Alfred, with Mr V. W. Corbett, found a nest with young in the College-burn, behind Cheviot. Both parents were grey, but the five young were black. Mr Corbett writes me: "We only found that one hoodie's nest. It was on Southern Knowe. The young had evidently just left the nest, and could only fly a short distance —perhaps 50 yards. They managed, however, to keep out of our way when we ran after and tried to catch

them. They were quite black. I have sometimes wondered if they could have been young rooks; but what goes against that is that the two old hoodies kept flying about over our heads, discoursing sweet music all the time—so I take it they were young hoodies. I do not think there has been another hoodie's nest up the College-burn during the last sixteen years, since that one in 1890."

The interbreeding of two such apparently distinct species as the black carrion-crow (*Corvus corone*) and the hooded crow is one of the unsolved problems of ornithology. No similar case occurs in the whole range of European bird-life. The more obvious explanation, that the two are not specifically distinct, but merely northern and southern forms of one species, which interbreed at the point of juncture, appears to be negatived by their respective geographical ranges. For the hooded crow is not an exclusively northern race. True, it breeds abundantly in Norway and Scotland, avoiding England altogether, except in winter. But outside our islands, the hooded crow goes a long way south—further than its black congener—breeding not only in Italy, Sicily, and the Mediterranean islands, but even in Egypt.

Professor Newton regards the two forms as a "dimorphism"; but it seems to be a matter of "ear" in stating that in their *notes* the two are identical. I think one may distinguish the triple croak of a hoodie as he flies to roost in the woods from that of a carrion crow. The hoodies also breed slightly earlier, having eggs (in Scotland) in March; whereas the corby, in Northumberland, regards April 10th as a more suitable date for laying.

HAWFINCH (*Coccothraustes vulgaris*).

This bird is so extremely rare on the Borders (unrecorded hitherto as breeding in Northumberland), that the following notes, extending over a period of years —for which I am indebted to Miss Taylor of Chipchase Castle, Northumberland—have special value and are quoted *in extenso*:—"I had not noticed Hawfinches previous to 1901, but in the middle of July of that year, saw fully-fledged young in the garden at Chipchase, and on searching, found the nest in an old apple-tree, 8 feet from the ground. In 1902, a nest was built in the top branches of a pear-tree at 10 feet, completed the third week in May; but, being disturbed by a gardener when four eggs had been laid, was deserted.

"During the two following years, no hawfinches were observed at Chipchase, though I carefully watched for them.

"In 1905, I did not find nest till the young were nearly full-fledged, in the last week of July. It was built in the top branches of a golden yew in a shrubbery near the garden—a much thicker situation than any of those previously found. Until I got a very close view, I could not be certain that the parents were hawfinches. Nest 5½ feet from ground, five young birds.

"In 1906, the hawfinches built in the top branches of a pear-tree, 10 feet from ground. Nest commenced May 18th, six eggs laid May 28th. Hen killed on nest by a cat on the 29th, and since the 30th the cock bird has not been seen."

This last nest I examined *in situ*. It was loosely constructed of thin dark twigs, almost as slight as that

of a turtle-dove; though compacted in the cup with scraps of moss and a few lichens. One could see daylight through it anywhere.

Lesser Whitethroat (*Sylvia curruca*).

To the same observant lady, I am indebted for the following note on another species, the Lesser Whitethroat, which also is here, for the first time within my knowledge, recorded as nesting in Northumberland.

Miss Taylor writes:—"In 1899 a pair nested at Chipchase in a low thick thorn, one of several similar bushes growing together, 30 yards from a burn. This nest was about 2 feet from the ground, and the female commenced sitting on five eggs in the second week of June.

"The following year (1900) the nest was in a similar situation, in a very thick thorn, about 10 yards distant from the old site, and 3 feet from the ground. There were four eggs when I left home in the middle of June. No lesser whitethroats have been seen at Chipchase since then."

The only two instances of the nesting of the lesser whitethroat that have come under my observation, both occurred in the county of Durham.

The eggs of the common whitethroat (*Sylvia cinerea*) are subject to an aberrant type (rare, yet persistent), which varieties may be mistaken for eggs of the lesser species. One such nest I found here on June 8th, 1903; and the following year, on May 27th, a similar clutch was discovered, near the same spot, by Mr Selous. On the latter occasion, doubts were resolved by securing the female. These aberrant eggs, however, differ from those

of the Lesser Whitethroat, since, while agreeing in a generally whiter ground-colour, these are flecked rather than spotted, with angular splashes of a blackish-brown; whereas eggs of *S. curruca* exhibit large sub-rounded spots of a warmer wood-brown, darker in the centre.

CHAPTER XII

STATIONARY SPECIES

THE compilation of an analysis such as this should occupy infinitely more time than the few hours that the author has been able to allot to it. Yet, though incomplete and extemporaneous, it may serve to emphasise the point so often put forward—as to the universality of the migratory impulse in birds.

There are included in the British list, some 400 species. In his *Catalogue of the Birds of Northumberland and Durham*, Mr Hancock enumerated 265; so that (allowing for accidental stragglers) the feathered population of the Borderland may roughly be estimated as not far short of 200 species of birds.

And of all this number, I have not been able to count, as absolute residents, more than fourteen land-birds; while of eighteen other species, there co-exist both a resident and a migratory race. Put it thus :—

	Species
1. Birds absolutely stationary	14
2. Birds which, although stationary, have yet a migrant-complement	18
	32
3. Leaving the number of regular migrants	170
Total, say	202

I. ABSOLUTELY STATIONARY SPECIES

That is, those birds as to which NO EVIDENCE EXISTS *of a regular migration.*

(1) DIPPER (*Cinclus aquaticus*).

The evidence of arrivals from over-sea on the N.-E. coast is too trivial to consider. Dippers, it is true, have been exceptionally recorded, as, *e.g.*, from the Isle of May in August—another at same spot (specifically stated to have belonged to the "British form") on April 22nd. These exceptions, I overlook.

Those few dippers which, in autumn, reach East Anglia (where the species is otherwise unknown) belong to the continental form, *C. melanogaster*.

(2) TREE-CREEPER (*Certhia familiaris*).

(3) MARSH-TIT (*Parus palustris*, subsp. *dresseri*).

(4) COAL-TIT (*Parus ater*, subsp. *britannicus*).

In both these, the British race is subspecifically distinct from the continental. Our insular varieties are stationary.

A few of typical *P. ater* (as well as *A. caudata—rosea*) do cross the North Sea ; but in such trifling numbers as to be negligible.

(5) LONGTAILED TIT (*Acredula caudata*, var. *rosea*).

Here again we have a stationary insular form, subspecifically distinguishable from true *A. caudata* of Linnæus, by its duller colours, and absence of the white head.

Of the latter Mr Saunders and I found, in Norway, a nest of pendulous form, not hitherto noticed in these islands.

(6) GREAT SPOTTED WOODPECKER (*Dendrocopus major*).

The precise status of this species is elsewhere defined (*Fascicula*, p. 132). At intervals of years, occur irregular invasions from over-sea—reinforcing our sedentary stock. I place the bird in the list of RESIDENTS because the said invasions are wholly irregular and unsystematic.

(7) JAY (*Garrulus glandarius*).

The same remarks apply to this as to the last-named species.

(8) MAGPIE (*Pica caudata*).

The recorded occurrences at sea are so few, and so irregular that they may best be regarded as accidental.

(9) WHITE OWL (*Strix flammea*).

The range of this species is very restricted to the northward. The few that arrive here from foreign parts, appear to be invariably of the darker, continental form. Our insular stock is stationary.

(10) RED GROUSE (*Lagopus scoticus*).

(11) BLACK GROUSE (*Tetrao tetrix*).

(12) PARTRIDGE (*Perdix cinerea*).

(13) PHEASANT (*Phasianus*).

(14) WATERHEN (*Gallinula chloropus*).

All observed movements are merely local. No evidence of immigration from over-sea.

NOTE.—Razorbill, cormorant, and others may possibly be entitled to rank as residents ; but these purely sea-fowl, together with the gulls, are herein excluded from consideration.

2. SPECIES OF DOUBLE RACE,

Possessing both (a) *a stationary stock, and* (b) *a migrant influx.*

(1) PEREGRINE (*Falco peregrinus*).

(2) SPARROW-HAWK (*Accipiter nisus*).

(3) TAWNY OWL (*Syrnium aluco*).

(4) LONG-EARED OWL (*Asio otus*).

(5) RAVEN (*Corvus corax*).

(6) CARRION-CROW (*C. corone*).

In the above six cases, our stationary breeding-stock is supplemented every autumn (though presumably not reinforced) by a foreign influx, which returns north in spring.

In the case of birds of prey, it should be remembered that the old necessarily drive their young away from their own locality.

(7) ROOK (*Corvus frugilegus*).

As many rooks cross the North Sea as do hoodies. Both come in battalions—numerically, in fact, the rook stands fifth on the list of immigrants. Yet in many rookeries, it is impossible to detect evidence of any seasonal movement.

(8) JACKDAW (*Corvus monedula*).

Similar remarks apply. Thousands cross the sea ; yet certain crags and favourite resorts possess a stationary population.

(9) ROBIN (*Erythacus rubecula*).

Though, as a species, essentially migratory, crossing the North Sea by thousands, yet unquestionably individuals (affected, in many instances, by human influence) acquire a sedentary habit; and have learnt to stay at home.

(10) WREN (*Troglodytes parvulus*).

In this case also, a limited number of individuals appear to localise themselves, while the vast majority migrate.

(11) STONECHAT (*Pratincola rubicola*).

The migratory impulse is distinctly less pronounced in this than in almost any other species of its order. Unquestionably this bird does cross the seas, having been recorded (seldom, it is true) at various sea-lights, as well as from Heligoland. The movements more frequently recorded are on our own *west* coast; and these are probably merely local or inter-insular.

(12) ROCK-PIPIT (*Anthus obscurus*).

Our local race shifts in autumn from the Farnes, the Bass, and other rocky coasts where it has bred, to open shores and salt-grasses where it spends the winter. This race is stationary; but there co-exists some clear evidence (from sea-lights) of a slight immigration from abroad.

(13) GREAT TIT (*Parus major*).
(14) BLUE TIT (*Parus cæruleus*).

As with the robin, human kindness and winter-feeding have accentuated a latent sedentary tendency, producing, in individual cases, a state of semi-domestication that over-rides the migratory impulse.

(15) BLACKBIRD (*Turdus merula*).

(16) RINGED PLOVER (*Ægialitis hiaticula*).

I am far from sure whether it is right to include this species. Those birds which nest at Teesmouth, depart in autumn; while at Holy Island, on the Northumbrian coast, they both breed and remain all the winter. These are all of the larger race: it is the smaller, called by Seebohm *Æ. h. minor*, that is world-wide in its wanderings.

(17) HERON (*Ardea cinerea*).

Besides the few regular heronries that yet survive, these stately birds also nest (in threes and fours) in scattered patches of pine on the remotest moorlands. At these spots, herons are certainly stationary, fishing for trout in the neighbouring burnlets by day,

and roosting all winter in their chosen pines. Yet there is distinct evidence of an over-sea movement—not heavy certainly, but systematic.

(18) MALLARD (*Anas boscas*).

The local race which breeds on the moors, or wherever an acre or two of marsh-land is suffered to survive, can be distinguished at a glance from the immigrant foreigners by their extra bulk. For while the two races are of exactly the same expanse of wing, the native drake weighs from 3 to 3¼ lbs., the foreigner barely 2½ lbs.

The latter, moreover, while here, confine themselves exclusively to the salt water, or its immediate neighbourhood: while the home-bred ducks hold to their native loughs, and never leave these till driven out by ice to the tide.

[Note that, as regards validity of species, subspecies, or climatic variations, I express no personal opinion. Such points are purely for systematists, who (having large series from distant localities for comparison) have differentiated as above.]

CHAPTER XIII

SOME RECOLLECTIONS OF THE TWELFTH

THE art and the practice of shooting grouse over dogs have, within a generation, been so entirely superseded by "driving," that it may nowadays seem an anachronism even to refer to the earlier system. The reasons for the change are well known, and have been so often discussed that I will touch but lightly on them. Admittedly I regret the *entire* supersession of the hunting-dog: not because I dislike the substitute—driving (since the reverse is, in fact, the case)—but because I hold that the reasons for the supersession are, in many cases, unproven and insufficient, and chiefly because it has eliminated from moorland sport an intrinsically artistic feature, namely, the arts of hunting and of fieldcraft. These were, a generation ago, the pride of the moorland fowler, with marksmanship as a necessary complement; nowadays it is marksmanship solely.

The abandonment of dogs is defended on the ground that grouse can no longer be so approached: and on moors which are flat in contour, or where heather-burning is so rigidly carried out as to leave absolutely no holding-covert, the contention is probably correct. On the Borders, however, there exist areas of moorland to which

neither of these conditions apply, and where the entire abandonment of the dog is not necessary.

Here, the wildest of grouse in August can be killed over dogs, even though they may rise—not once or twice, but half-a-dozen times—far beyond gunshot. This involves real hunting. It involves also, I admit, very hard work; for the sportsman must follow up his game, *and find it*, again and again, till he eventually "dominates" and finally kills it—firstly, by virtue of, and in proportion with, the "dominion" that is in him, and secondly, by his control of sound and reliable dog-work.

All this is quite out of touch with the modern ideal, when men seek greater results with less labour. Many, again, are incapacitated for success by their lack of sympathy with dogs. But neither circumstance affects the contention.

If he found himself in a foreign country, say on African veld, in Scandinavian or Canadian backwood, the man who relied exclusively on brilliant marksmanship, might be at a loss to provide his own supper. The other would feed a camp.

Be the change for better or for worse, modern innovations cannot certainly be held to have augmented the dignity or the status of moorland sport. Rather they tend to reduce what was formerly a craft to the level of a pastime—hateful word! A generation ago, years of apprenticeship were served on the hills. That is now no longer necessary, nor would the knowledge so acquired be of any practical use. Unless changes intervene, the evolved sportsman of another decade (or "Pompommer" as I may differentiate the new type), will conceivably be turned out, a finished article complete in every requisite qualification, "within thirty minutes of Piccadilly

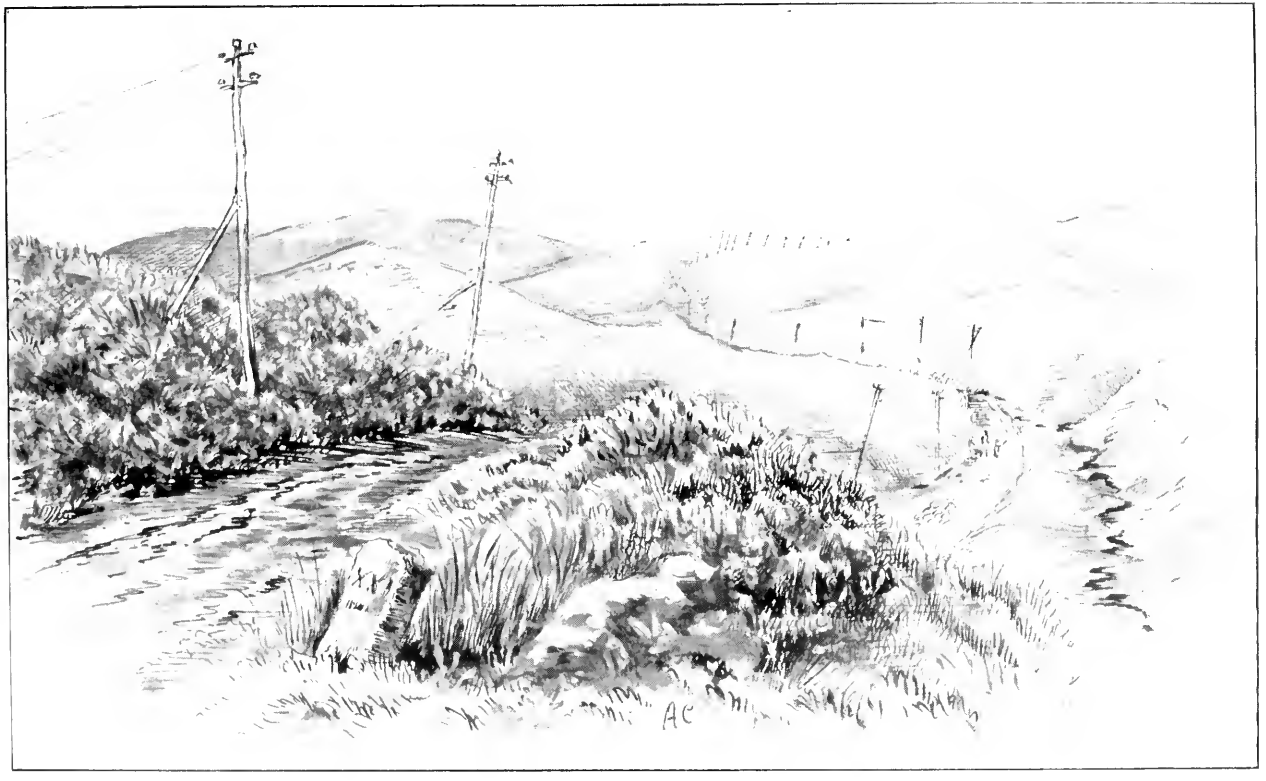
Circus"—see the gunmakers' advertisements, which there appears no palpable reason to discredit.

Nothing derogatory to "driving," as such, is herein implied or intended. Driving becomes legitimate in proportion as game cannot otherwise be handled satisfactorily; and, in such conditions, affords the smartest of shooting and a delightful phase of sport. The objection is that it should be regarded and practised as the *sole* means, and resorted to when game can, and should, be obtained by field-craft instead of merely by marksmanship. Driving, as a branch and an adjunct of the fowler's craft, was practised a century ago and more. In the many clever drawings of grouse-shooting in Weardale and Hexhamshire left by my grandfather, Joseph Crawhall, are several that depict "drives." This was about 1820-30. There were no butts in those days: the gunners are concealed behind walls, or crouching in burns and in "brocks" or peat-ravines.

In one of these drawings, it is interesting to add, a skein of wild-geese is shown coming overhead.

Some of these formed the illustrations to my grandfather's *Grouse-shooting made Quite Easy*, by "Geoffrey Gorcock," privately printed, though—according to the title-page—the book was ostensibly "published at Kilhope Cross—on August 12th, 1827." The said Kilhope Cross is one of the loftiest points of the northern moorland, being 2206 feet above sea-level and situate at the juncture of the three counties of Durham, Northumberland, and Cumberland. Not far therefrom, namely, on Linesketh-fell, in Weardale, the present writer, two generations later, killed his first grouse on August 12th, 1866.

It may be of interest to add that only at about the period named was game-preserving generally practised in



A Moorland Road.

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the north. A local newspaper as late as August 29th, 1829, contains many notices stating that the game on such-and-such a manor or moor is reserved, and requesting sportsmen to refrain from shooting thereon.

What is the meaning of the word "wild" as applied to grouse in August? It is difficult to understand what degree of wildness is meant when one sees the expression appended to a report of several hundred birds having been shot. Perhaps it is merely a form of words used unconsciously to magnify the exploits or gratify the vanity of the shooters. Obviously, when grouse are really wild they cannot be killed by the hundred over dogs. By comparison with the numbers of people who flock to the moors in August, those who follow the sport of grouse-shooting throughout the season are few; but, it is the latter alone who really know what wildness means.

Yet in the August reports it has become almost a set phrase, "birds wild and strong on the wing," a frequent affix being "scent very bad." Now, the former can only mean that the young grouse are normally well-grown and rise boldly at 30 or 40 yards, or more, instead of "cheepers" which can be poked up from under a dog's nose. Young grouse hatched in mid-May are by the Twelfth three months old and, in the ordinary course of nature, are nearly full-grown, with their powers largely developed. Such birds have cast the soft spotted quills of their adolescence, and are acquiring the strong black primaries of winter, although still, on either side, will be found one or two of the spotted quills yet remaining among the new. (See remarks on this subject at p. 87.) Perhaps a streak of the yellow-barred nest-plumage yet remains along the centre of the breast, divid-

ing the newly-acquired dark feathers on either flank. At that stage, it is not reasonable to expect that a species so bold and intractable as *Lagopus scoticus* will lie cowering in the heather till almost trodden on. The grouse is a finer bird than that; nor is the sport of shooting him over dogs so simple and so artless. The covies must be followed again and again, out-manœuvered, broken, and finally killed in detail.

This leads me to the second part of my text, the scent question; for, undoubtedly, to find grouse time after time in so wide and wild a country as the moorland, where marking is often impossible, and where one cannot tell down which glen or along which hillside the grouse may have taken their course after disappearing from view, means *good dogs*. Well then! bad scent generally means bad dogs. True, there are days when the scent is bad, sometimes almost *nil*. But scent is always best to those dogs which best understand their business. The dogs themselves may not be intrinsically bad, and may be capable of doing excellent work, if they are excellently handled. It is a moral certainty that a good man will have good dogs, simply because the former understands his business and the latter appreciate that fact; and, in proportion to their mutual self-confidence and reliance, so the directing power of mind in one is brought to bear on the instinctive faculties in the other. One sees many dogs which appear to regard a hunt on the moors as an institution specially arranged for their particular delectation. These travel far and fast, they are hunting one hillside while their owner is helplessly endeavouring to work another. For his wishes these canine assistants (?) care nothing. The keeper, with stentorian lungs and an ear-piercing whistle that

might serve as a syren to wake the echoes on some fog-enveloped coast, endeavours to induce them to hunt the same grounds as his master, but in vain. That keeper is too late. The Twelfth of August is not the time for breaking dogs.

There are, however, dogs (whether born or made) which realise the aim and the art of killing game. These understand that their first business is to assist their master to find it; but they look to him for directions as to the best methods of doing so. Constant touch is thus maintained between dog and man. Dogs know when their work is critically and appreciatively watched, and when each touch on scent is at once observed and backed up by their master. They know, moreover, when it is not so. Thus such dogs become attentive to—indeed watching for—every signal by hand, say to hold wider out, to change course, to back another that is not in their sight, to pay special attention to likely bits, and so on. They will seldom hunt long out of sight, even when in hollows or irregular ground where one can only see a short distance. They instinctively take advantage of the wind, so that the sportsman can hunt practically in any direction, regardless of its airt. By spending near half his time walking away to leeward, so as to "give his dogs the wind" on the return-cast, a man evidences lack of grasp of the hunter's craft since he is depriving canine instinct of half its scope and value. Good dogs, in short, well handled, are utilising to the full every canine instinct and faculty in co-operation with their master's directing capacity, and in precise ratio therewith.

As already mentioned, the wildest grouse in August can be dominated by persistent following. But, when once broken and partially demoralised, they are apt to lie,

and it then needs thoroughly useful dogs to find them again. This is best illustrated if one happens to be at the spot where such a covey stop, after being fired at. One hears the shot and, sitting down, presently sees a straggling line of grouse top the ridge and dip down the sloping glen. Suddenly one of them stops—appears to dive headlong into a patch of long heather within twenty yards of the ridge. The rest hurry on, closely hugging the heather, till, at the bottom, three more wheel sidelong to the right and tumble themselves headlong into the covert, all scattered and apparently careless as to how they alight. The rest swerve in their flight, taking a second glen. Fifty yards up this, down plumps another, then another—now the remaining three are lost to sight. One sits still and waits patiently, knowing that our friend, whom we will call "Syren," will be following up. Presently he appears. He has already walked right past number one, and numbers two to four, before his dogs have appeared on the scene. When they do come, it is a wild rush—a few wide gallops. There is no systematic *hunting*, such as is here essential to find *lying* birds. Syren passes close to the first birds, but misses that lateral glen on his right, where, as we have seen, the second lot are lying. He remarks that they "must have gone on" and himself does likewise. Then, one can pick up in half-an-hour three or four brace of fine young grouse on the ground where friend Syren has only had a long shot at the old cock.

Now, walking about a moor with a gun and a dog thus, is not grouse-shooting; but, if Syren happens to report his bag, he will probably add that stereotyped phrase, "Grouse wild and strong on the wing," etc. No one can fairly dispute his ingenuousness, for he is totally unconscious of having again and again walked

right past *lying* grouse ; while, if he also blames the scent, he is quite innocent of his own ignorance in handling dogs.

Grouse-shooting over dogs is essentially single-handed work. No two guns can conceivably succeed, shooting over the same dog or dogs. It is the pre-ordained failure of every such attempt that is partially accountable for the disfavour into which the hunting-dog has fallen on the moors. Partridge-shooting over dogs with two or three guns in line is simple enough : but on the moors the problem is totally different. In the former case, among the enclosed fields of the lowlands, mostly rectangular, of small and defined sizes, and with a monotony of crop, any part of which is as good as any other—since there is no individuality in a turnip—the system of marching, wheeling, and counter-marching serves well enough. But, no such system can avail on wild moorland, unenclosed, irregular in form and in its likelihood, or "smittleness" : and where individual judgment in directing the dogs is ceaselessly necessary, and the gunner's immediate ideas and objects in view are ever changing. The gunner must be absolutely free and unhampered in following any new line that may suggest itself. To be *attached*, as it were, to any second or third gun is as bad as having a clog to his leg, and perpetually thwarts his ability to seize each momentary advantage and opportunity. A man thus attached, has abandoned his initiative—the one essential quality without which all personal skill is paralysed. I wish to lay stress on this ; since never, otherwise, can the pleasures of grouse-shooting to dogs be truly realised.

To walk up grouse in line and at same time to run dogs, is to attempt two distinct systems which are essentially incompatible—that is, with such dogs as I ever

have in mind—fast, far-ranging setters. A slow, pottering pointer might serve, in a way, for such work; but it is at best a makeshift, and under no circumstances can such combination either satisfy or succeed. Either the dog must be neglected, or, alternatively, the whole formation is thrown into confusion at every passing "touch" on scent.

The employment of the hunting-dog is not advocated as affording an easier means of killing game. Quite the contrary. As compared with driving, the ratio of results to labour is reversed; while nothing less than years of practice will ensure a fair degree of skill in fieldcraft. To enter into detail is beyond the scope of this book; but readers desiring fuller information may be referred to an excellent little work, *The Scientific Education of Dogs for the Gun*, by H. H. (London: Sampson, Low & Co.).

It is a very prevalent but erroneous belief that grouse feed twice a day. This is not so. Grouse only feed in earnest towards the evening. The birds, no doubt, lend some grounds to the supposition by their habits of "flighting" at daybreak and by their frequenting the short "feeding-heather" during the earlier hours of the day.[1] But that they are not feeding can easily enough be proved. Open the crops of a dozen grouse at 8 A.M.; they will be found empty, except perhaps for a few heather-shoots, or rush-seeds, picked up in idleness or for amusement. There will also be found a few bits of gravel or sand, taken to aid digestion. But the crops of grouse killed at dusk are choke-full of heather—an old cock will contain a breakfast-cupful. I mention this point to

[1] These remarks refer exclusively to heather-fed grouse, since my experience does not extend to those which, by the proximity of oat-stubbles, have been "educated up" to a corn diet.

show that any strategic operations based on the assumption that grouse will be on the feed in the early morning, are undertaken erroneously, but chiefly to show the advisability of holding in reserve till evening a full proportion of "going power," both human and canine. Then, in the closing hours of the day, this reserve can be brought into action most effectively. The birds, when scattered on the feed, are easier to find, lie closer, and are more apt to rise separately; thus each covey may perhaps yield several brace, and between 5 and 7 P.M. a modest bag may be converted into a heavy one by the sportsman who knows how to bide his time. It is right to add that in the *Badminton Library* ("Shooting: Moor and Marsh," p. 3), exception is taken to the above remarks. The author, Lord Walsingham, one of the first authorities of the day, questions rather than disputes their accuracy, holding that the evidence adduced does not amount to proof. Possibly to that extent his contention is correct, but I leave the statement as it stood, being, by long and close observation, satisfied of its accuracy as regards Northumberland—with this addition. A gamekeeper of wide experience on the Borders, and one on whose statement I place reliance, assures me that grouse, in summer and up to August, *do* feed at dawn; but so extremely early that one must be on the moor at 3.30 A.M. to find them with crops filled. I leave it to others to put this assertion to matutinal proof. Later in the year, when days have shortened, it is certainly not the case.

To older grouse-shooters, these few random notes will no doubt appear trite enough; but nowadays, all have not that old-time experience, and it is a prevalent mistake to regard dogs (if used at all) as

automata, and grouse-shooting as merely an affair of so many hours' walking on the heather. Possibly, a perusal of these few hints may prove of some advantage to another generation, to some of whom the Twelfth often brings only the chagrin of fallen pride.

CHAPTER XIV

NOTES ON GROUSE-DISEASE

So many able scientists and experienced observers have discussed the question of grouse-disease, and so many theories have been promulgated—though none of them are apparently conclusive, at least as to the remedy—that the author only proposes to give some notes of his personal experience of the disease. One circumstance appears to be invariable, and to be the inevitable precursor of disease, viz., a heavy stock of grouse—it may not be the cause, but is certainly the accompaniment. Every instance that I have myself known has occurred after a period of plenty. Indeed cycles are almost regular in their sequence, though intervals vary.

Different areas of moorland vary in their capacity of sustaining a head of grouse. Thus, on a hill-range of the Scottish highlands, each acre may accommodate several grouse; while, in the lowlands, or in Northumberland, one grouse to several acres may be a full stock. But each moorland area has its fixed capacity; and whatever the local maximum may be, if it be exceeded, disease, in my experience, has followed.

This variation in grouse-producing, or sustaining

power, is exemplified in the north of England by the immense head of game which, in favourable years, is attained in North Yorkshire and on the adjoining moors of Durham. The deep peat-deposits and rich heather of Teesdale in Yorkshire, and of the Weardale hills lying adjacent in the county of Durham, are infinitely more prolific of grouse than are the more alluvial moors of Northumberland extending northwards thence, along and beyond the Scottish border. In these latter, the peat is poorer and the heather of less luxuriant growth, alternating with stretches of white grass, rush, and fern. Moorlands of this character, though eminently suitable for black-game—of which they are, in fact, the stronghold—are distinctly inferior as regards red grouse. Where both these species of game are found together, the power of man to increase abnormally the head of grouse is limited. It is not till the Scottish highlands are reached that we find repeated on the solid heather of Perthshire and Aberdeen, some approach to the phenomenal fecundity of Wemmergill and Blubberhouses.

Man, it seems certain, is the chief cause of grouse-disease through his tampering with Nature's balance, and with the economic conditions of wild-life on the moor-land. Nature fixed a normal stock and designed her own checks upon the undue fecundity of the *Tetraonidæ*. She designed the peregrine and buzzard, harrier and merlins specially to hunt the moors. Man determined to have all the hunting himself, and removed Nature's safeguards. When the above-named birds of prey day by day examined every acre of fell and flowe, both the superabundance of healthy birds and the sickly, if ever the symptoms of disease had appeared, were removed. The disease, as a matter of fact, appears to

have been unknown till the commencement of the recent century.[1]

But now, we have changed all that. Game-preservation and vermin-trapping have instituted a new balance of life. The harrier, the buzzard, and the falcon have gone; the hill-fox and weasel are held in check. Thus, the stock of grouse has been abnormally increased, and is maintained ever close along the margin of that dividing line beyond which Nature has decreed it shall not go. Once that line is passed, she reasserts her supremacy, repels our interference, and disease sweeps bare the heath-clad hills.

The system, or to be precise (as regards the Borders), the lack of system on which heather-burning is now carried on, is probably a factor in the problem of disease. Heather-burning, rationally conducted, is necessary and even essential to the well-being of the plant, and equally so to the interests both of sheep and grouse alike. To ensure the best economic results, heather should be burnt in sections and in regular rotation of about seven years. But how often one sees a whole hill in a blaze; the fire, destroying good and bad growth alike, utterly beyond all available control (say, a couple of shepherds), and free to burn at its own fierce will, subject only to any vagrant shift in the direction or force of the wind. There follows on such careless haphazard methods a loss and a wastage, the price of which remains to be made good in one way or another.

The question of whether heather-burning is or is not

[1] The first recorded outbreak of disease appears to have occurred in the Reay forest, in Sutherland, in 1815 (*Zoologist*, 1887, p. 302). There would be little human interference then. In 1766, at a meeting of owners and others interested in grouse-moors in Northumberland, it was proposed to restrict the shooting that year; but whether the scarcity of grouse was then due to disease or otherwise, I am unaware.

injurious to grouse, is negatived by the experience of Yorkshire, where the burning—or, as I would rather put it, the cultivation—of the heather is now carried on to an extent and on systematic methods formerly unknown; yet without causing injury to the plant, while the grouse-stock has been largely increased. Any straining of Nature's gifts to the utmost must tend towards deterioration in both products, rendering them more susceptible to injurious influences and less able to resist their attacks. But systematic burning, carefully carried out, involves no straining.

The tastes and requirements of grouse, as regards heather, do not differ from those of sheep; and therefore no conflict of interests can arise.

Black-faced sheep are supposed to live where Cheviots or any other would starve. That is (being interpreted), the former can, when forced thereto by sheer necessity, retain the life in them by a starvation subsistence on dried heather-stalks, or by grubbing down into the roots. But that character in the black-faces is not spontaneous on their part—far from it; they relish young heather and sweet grass as much as other breeds. But the character named is one which is to-day (in parts) pushed to extremes.

There may be flockmasters who will dispute this and say that I know nothing of sheep. Quite true. But anyone knows healthy and vigorous heather, and can distinguish between it and those melancholy areas where the plant has had the very heart eaten out of it—where the once lovely moorland, instead of being clad in Nature's beauteous and bountiful growth, has become (to my eye) hideous in its mangy remnant of what *was* heather, all contorted and gnawed to death.

Such conditions may suit black-faced sheep: but if so,

those animals differ from every other living creature on this earth. My personal conviction is that the system is wrong for sheep also, and that, before many years have passed, it will be found as unsound as it is short-sighted. Enjoyment by anticipation entails repayment in tribulation, and with interest on the compound scale. That result follows on the working of Nature's own laws of equivalents and equilibrium. There are moorlands on the Border which, to my eye, are "eaten" years ahead of the times. But the check will come, and then there will be longer and wearier years to wait while "the times" creep up abreast again.

A frequent happening may be described thus:—The burning of the heather is neglected, or forgotten, till the plant has grown almost too old for burning with safety at all —tall, woody, and shrublike.[1] Heather of that age, when burnt, naturally requires years to recuperate and re-establish itself on a sound, vigorous basis. But no such chance is given it. The burnt ground is at once stocked with the close-cropping black-faces—because they are capable of living upon nothing—with the result already indicated. Cases such as these convey to outside observers an idea of carelessness and laxity that seems radically wrong. In the more precise forms of industry, "slovenliness" would be the only adequate epithet. Heather is a plant of high economic value, and that fact needs fuller recognition.

There is no fault, inherent or implied, in the black-faced sheep. On the contrary, that breed has its own special qualities which, used with discretion, have their value. For example, when crossed with Border Leicesters, the mutton is of the best; and the very character named—

[1] There are, of course, years of snow and heavy rainfall which render heather-burning impossible at its proper season.

that of "hard living"—when properly utilised, is of supreme importance in a wild upland region. It is the abuse of that character that I deplore. Healthy, vigorous heather-growth means healthy, vigorous sheep—and grouse. The converse follows axiomatically. The circumstances I have feebly attempted to portray, incidentally cast a sidelight on economic conditions that affect not only sheep and grouse, but almost all wild-life within the highlands defined. They affect also (though that may count for nothing) the natural beauty of the country.

In addition to careless burning and overstocking, evils which are avoidable, the heather-crop is also necessarily subject to climatic vicissitudes, which affect both the plant and all creatures dependent upon it for support. Cold wet summers mean bad bloom and feeble frondage, while early autumnal frosts blight the seed before it is fully ripe, reducing both the quantity of the crop and also its nutritive qualities, with corresponding detriment to the sheep and grouse that feed on it. While I write this chapter, appears a thoughtful article on the subject in *The Field* (July 28th, 1906), wherein Mr Jas. W. Barclay thus summarises the conclusions he has arrived at on the Glenbucket moors in Aberdeenshire:—

"(1) A late and ungenial summer with frosted heather and heather-seed, is followed by grouse-disease.

"(2) A prolonged severe winter, with frozen snow, kills or causes grouse to migrate, but is not attended or followed by disease.

"(3) A large stock of grouse does not cause disease.

"(4) With a succession of fine seasons, the stock of grouse, notwithstanding hard shooting, steadily increases.

"(5) Disease has never appeared when there has been a good crop of oats."

Clause No. 3 above, as drawn, may appear to conflict with my own conclusions, but I have certainly not stated the contrary.

Grouse-disease, so far as it has come under my observation, is referable to two distinct types. One, the most common, is the lingering form, slow in operation, which gradually reduces its victims to mere skeletons, when they die of emaciation. The symptoms of the malady in this form are, first in the grouse affected seeking lower ground, especially along burnsides and wet spots, often right down into the valleys where sound birds are never seen; and, secondly, in the change of plumage, which loses its glossy sheen and fades to a dull, dingy hue, most unhealthy-looking to a practised eye. The legs and feet at the same time lose the feathery "stockings," becoming bare and naked.

It should, however, here be expressly added that this symptom, though easy enough to diagnose during late autumn and winter, may induce deception in August; for, at that season, owing to the moult, both the plumage and the "stockings" of grouse (and all other birds) are worn, washed out, and threadbare.

The other type of disease is subtle, instant in operation, and less easy to foresee. Its approach is not perceptible, for it comes as a thief in the night. In 1884 we had, in Northumberland, an irruption of this sudden form of disease, of which the following were the salient features. We had heard during the spring intermittent reports of the appearance of disease in various quarters and particularly on certain specified moors. After the abundant season of 1883, grouse-shooters were nervously apprehensive of what might occur; but, up to the middle of June, their fears were certainly baseless, and (at least on

the writer's ground) there was no evidence to indicate the approach of disease. During the spring, I had detected no signs of anything serious, at least nothing worse than an old bird or two "found dead," and early in June I examined the ground carefully. Nothing could well appear more favourable. The young broods had hatched out in great numbers, and many could already (on June 1st) fly 200 yards or more; the majority, however, were still in various stages of down. A few nests still contained eggs, which I noticed were rather less richly coloured than average grouse eggs; but nearly all hatched out subsequently, except a few, which were almost colourless.

In the middle of June I had a favourable report from the keeper, who wrote that he thought "the disease has now quite stopped as I have seen none new dead lately." So matters ran on for a whole month and more. But the line had been passed; and at the end of July there broke out a disease whose virulence devastated the hills, and in less than a fortnight the stock of grouse was decimated.

Here is the keeper's report of August 5th: "I am sorry to say the prospects for the Twelfth are very bad indeed. The black ground by all means worst, as that was sure to be when disease comes. Mixed ground is always best off. I was out yesterday with the dogs. I found the young birds dying, great big, good birds. I opened some and it is the real disease—their livers affected."

The outward symptoms of the disease in this acute form were not easy to recognise when shooting began in August, for the physical condition of the grouse hardly afforded a criterion, and many birds which were undoubtedly affected retained the full plump breast and thighs. The

proportion of emaciated fleshless grouse with protruding breast-bone, was insignificant. Nor was plumage in this case any more reliable as an indication; it is, of course, as just stated, always worn and dull at this season, but keepers, when disease occurs in August, usually forget this (or do not know it), and ascribe the washed-out appearance of old birds exclusively to disease. From these and other reasons, I infer that this particular form of disease is no lingering illness, but one which cuts its victims down sharply before they have time to lose plumage or plumpness.

In that year (1884), I was a little deceived by appearances on the Twelfth, for at first birds seemed tolerably numerous and signs of disease but few. Between three and four o'clock I had fired my last cartridge (since we had taken out less than an ordinary supply) and had twelve brace of grouse, a teal, and a couple of golden plover—a fair bag on that ground in an average year. There remained some of the best hours of the day, and I felt sure (had cartridges lasted) of getting twenty brace. Certainly the reports about disease appeared to have been exaggerated, but the next time we went over this ground, the true state of the case became conspicuously apparent. With no lack of cartridges and a long day, I only managed to put together five and a half brace, and these *all* old birds. Of young broods, there were simply none. The young had evidently been the first to succumb. Many of the old were also affected, though without showing much external evidence.

So matters remained throughout August and September. But the disease appeared to have been local, and had not perhaps affected any very great extent of ground; for, during October, on the general movement or redistribution

of grouse which annually occurs in that month, our stock shortly rose to a normal level, and continued so during the rest of the season.

As the subject of "vermin" has been alluded to as a factor in the production of disease, the following statistics, showing roughly the results of their depredations on moorland game, together with the benefits that accrue by their reduction, may appropriately be inserted here. The figures show the game killed on the same ground during two equal periods—(1) without trapping at all, and (2) with regular trapping all the year round :—

Game killed.	(1) Period—without trapping at all.	(2) Equal period. Trapping regularly.
Grouse	1109	2125
Blackgame	308	518
Partridge	89	201
Pheasants	2	6
Hares	13	29
Snipes	122	228
Plovers	105	130
Mallards	13	33

In the year 1903, we had a severe epidemic of disease of the normal character, which calls for no special remark so far as grouse are concerned. But on that occasion, the blackgame were also affected, and large numbers of these birds perished (as well as grouse) between the months of April and August, at which latter date the disease seemed to have run its course. This was the only occasion on which I have known the disease extend to blackgame.

To summarise the conclusions :—Grouse-disease is unquestionably the price we have to pay for maintaining the stock of moor-game at a much higher level than nature ever intended. But, on the whole, we are undoubtedly the gainers, for we enjoy perhaps five or

six seasons of an artificial or extra-natural abundance, with the drawback of one of bad disease.

In corroboration of the above deductions, it may be added that in Norway, where the closely allied Willow-Grouse (*Lagopus albus*, probably the parent race) is extremely abundant, grouse-disease is wholly unknown. The Scandinavian grouse are nowhere more numerous than in Lapland, where, according to Wheelwright, no trace of disease has ever been detected. The same remark, in my own experience, applies to wide tracts of fell-land throughout southern and western Norway, where man's disturbing influence has never been brought to bear, and where the grouse are left to fight unaided their own battles for existence.

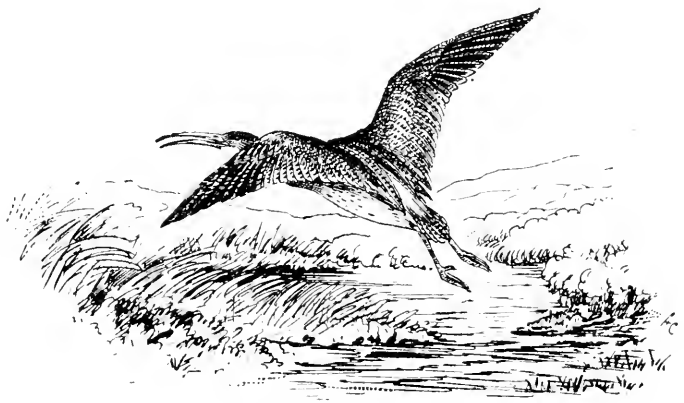
CHAPTER XV

MOORLAND BIRDS IN AUGUST

On August the Twelfth, British moorlands are invaded at a thousand points by man and dog, after the enjoyment of eight or ten months of unbroken peace. In these circumstances, it has always struck me as remarkable how very few wild creatures, save the game, fall in the way of these hosts of guns. From scores of moors, forests, and fells, there comes the almost unvarying record—grouse, nothing but grouse. Many who only see the moorlands during the season of purple heather, must conclude that they are rather deficient in variety of bird-life. The "Twelfth," in point of fact, falls on what happens to be, ornithologically, one of the less interesting periods of the year—in the interval between the departure of most of the summer-birds and the arrival of the winter visitants. The great bulk of the former, whose presence during four months past has so adorned the heathery solitudes, have departed. The redshank and dunlin have disappeared; though, once only, I find a note of the latter—a late-fledged youngster in the backward season of 1879; which I shot on August 15th, thinking that it might be a jack-snipe. The gulls too, of both kinds, have gone, save for an odd laggard, and the sandpipers no longer enliven the

burns with their merry song. The average date for their withdrawal is August 25th, after giving us just four months of their delightful company.[1]

The curlew and golden plover have also gone, though it is true that a few belated individuals still linger. In wet seasons, curlews and plovers continue frequenting the lower-lying pastures and boggy haughs, as well as the broad gravel-beds on riversides. One sometimes kills a late-hatched young curlew on the upper moors — often to



CURLEW (ALARMED)

a point-shot, for they lie close in heather or rush; and, occasionally, after a "rode" of perhaps 50 or 100 yards before the dogs. It naturally takes one by surprise when a *curlew* springs before one under such circumstances. The golden plovers too—that is, the vast majority of them—have departed for the south long before the

[1] The above date applies to birds which have spent the summer here. Later in this book will be found records of sandpipers still occurring up to the very middle of September. These are, beyond all doubt, birds in through-transit from further north.

Twelfth. Their southern migration commences in July, and few, if any, of the birds actually bred on any given moor remain thereon till the middle of August. On the high "black ground," where they had bred, few are seen in August (except sometimes in wet weather)—only a ragged old bird or two with marbled breast, and some late-hatched youngsters, still downy on the neck, which pipe restlessly about and generally manage to get shot. At a short interval after the departure of our native plovers, commences that irregular but continuous stream of plovers which have presumably come from the Scottish moorlands and from Orkney and Shetland; and which stream continues until the end of September. There then occurs a perceptible interval before the arrival of the great flights of over-sea plovers, which come from Northern Europe in October.

These deductions have since been confirmed by the experience of three seasons' shooting in Scotland—two in Sutherland, one in the Outer Hebrides. No golden plovers at all remained on any of those moors in August, though numbers, we were assured, had bred thereon. In North Uist there were plenty of plovers on the shore and salt-marshes, but none on the heather.

In Norway also, during several seasons' reindeer-stalking on the high fjeld, I have only twice noticed golden plovers remaining on their breeding-ground after mid-August. Both instances occurred in 1897, on the Dovre-fjeld.

Snipes also come in the category of birds which are migratory *as species*, but of which individuals may be found here at all seasons. Many of those shot on the Border moors in August are obviously of local breed, since they are in all stages of adolescence, from the down

upwards. Once on August 12th, I found a whole brood just emerged from the shell; and one frequently sees young snipes, which can only fly 30 or 40 yards. By September, we certainly have birds on passage, because they come in at irregular intervals, replenishing our (vanishing) stock; yet the quills of these appear insufficiently developed to have enabled them to cross the North Sea. These, therefore, I take to be birds bred in Scotland, slowly sauntering southwards; while the foreign contingent do not arrive till October, leaving always a distinct interval between the two movements, varying according to the season, from a few days up to nearly a month. Those snipes that linger here in September are all old birds, still renewing their quills, the young having already departed as soon as fully fledged. Very hot, dry seasons are, of course, unfavourable for the observation of such birds; but, in those years, I have sometimes noticed a corresponding increase in the number of peewits.

Of course, all grouse-shooters meet with the birds above mentioned, together with the few wildfowl that breed on the moors, such as mallard, teal, or an occasional tufted duck; but how seldom one hears of the occurrence of any unexpected species. This, in the circumstances, appears noteworthy. One might, for example, look for the occasional occurrence of some of those ducks and waders whose usual summer habitat is in northern latitudes, but which have been suspected of remaining occasionally to nest in the more remote parts of the British Islands. Had such ever been the case, some of these rarer birds might reasonably be expected to fall in the way of the invading army of gunners in August, and that they do not do so is strong negative evidence against

the presumption in question. Personally, I have never shared that expectation, nor the opinion that such wild-fowl breed in England, or that, by legislation, they may be induced to do so. Years of close observation during the spring months on the moors must annihilate any such "pious hope," and, with all deference to those who think otherwise, I consider that it is only "the wish that is father to the thought."

Into this question, a degree of credulity has sometimes been imported that, in other cases, is discountenanced; and evidence has been accepted which an unbiassed mind would dismiss as valueless. Thus, a fictitious importance has been attached to chance appearances in summer of any of the Arctic-breeding birds, ignoring the wide difference between the Arctic calendar and our own. Here, April is the nesting season, there July. There are, moreover, several genera (comprising ducks, gulls, and some waders) which certainly do not breed at all in their first year; and the young (immature) birds of such species sometimes remain here throughout the summer. We have scoters, for example, on the north-east coast all the year round, but it would be absurd to conclude therefrom that the scoter breeds here. Again, one may see, on the sand-flats and slakes, a few bar-tailed godwits, knots, turnstones, and even grey plovers during summer; and I have observed the whimbrel inland during every month from May to September. It must be borne in mind that no amount of probabilities amount to a fact. On the other hand, so materially do the young of many of the duck-tribe differ from the adults, and so infinitesimal is the knowledge possessed by nine-tenths of sportsmen on this subject, that it is quite conceivable that these rarer birds might pass unrecognised, even if they should happen to be

obtained. It would indeed be a marvel if they were recognised, since in most instances such birds would be crammed into a game-bag unexamined.

It cannot, moreover, be made too clear that such few ducks and waders from over-sea as do breed on British moorlands bear no relationship whatever to those (even though conspecific) that frequent our coasts in winter. The former, in spring, without exception, fly direct from their foreign haunts to the exact points at which they intend to breed, never touching salt water at all. And in very many cases, no sooner can their young fly, than these birds leave us at once, returning direct to whence they came.

Several of the strictly summer-birds remain, of course, on the moors during August, and even later. The cuckoos have gone, except for a few late-fledged young; but nightjars still remain, skulking by day among heaviest bracken and shaggy heather—especially among rocks—and are seldom disturbed, as game avoid such places. They are, nevertheless, commoner than they appear, and on early autumnal evenings, hawk round the moorland woods, and especially along roadsides. Young wheatears flick about the stone-dykes, and ring-ouzels cling to the cleughs and glens where they were bred. Many of the latter—already on the move—congregate, along with thrushes, missel-thrushes, and other birds on through-transit, among the bracken-beds on the open fell. The attraction which delays them is the ripening crop of mountain-berries (especially bilberry), and caterpillars; also, I believe, though this I have not verified, the swarms of bluebottle flies which infest the bracken. These ferns, as grouse-shooters must observe, often swarm, at this season, with passage-birds. Rooks, jackdaws, and packs of cushats also come

out to the fell-edges, to feast on the hill-berries and the abundance of caterpillars.

The willow-wren, by August 12th, has recommenced to sing; his song is identical with that of spring in note, but feebler in depth and volume. It continues up to about August 25th—after that date, one never hears it. This also is the exact date at which the sandpiper, whinchat, flycatchers, and most of the summer-warblers disappear. Several of these, like the willow-wren, treat us for a few days before their departure, to a brief and subdued renewal of their spring song—a sweet farewell, confined, as a rule, to the first hour or two after dawn. All, as a body, have left the hill-country before the end of the month.

I omit here mention of the titlark, pied and grey wagtails, twite, and other migrants, because these continue to linger on the fells till later in the year. I have shot a landrail as late as October 4th, though its usual date of departure is mid-September. This species is late in acquiring the power of flight—that is, the young are full-grown before their quills are developed. One August day, while we sat at lunch on a grassy moor, a weasel, hunting down the burnside, attacked something that I took to be a young "grey"—as blackgame are collectively termed. I shot the weasel and found that his victim was a landrail. On hunting my setter round the spot, several more landrails were discovered, evidently a brood, since, though nearly full-grown, they were quite unable to rise, having only the blue stumps of their future quill-feathers. Yet these youngsters might have to fly near 2000 miles within the next six weeks!

The flycatchers have already vanished by August 25th. The young spotted flycatchers at this period deserve their

descriptive title, being pale-coloured and conspicuously spotted, which the adults never really are. I am unable to give a date for the withdrawal of the pied flycatchers. Although the adult male in spring appears to be a conspicuous bird, he is hardly so when in his favourite resort among silver-birches, while the females and young are quite the reverse, and in autumn all moult into a sombre grey dress, most difficult to detect. One utterly loses sight of them after the young are fledged. That occurs by July 20th, and all are probably gone before the end of that month, or early in August.

The departure of these summer-birds synchronises with the appearance of the earlier autumnal migrants, the dual movement proceeding simultaneously; since already, in August, several of the northern-breeding species may be expected.

On the open moorland, however, this movement is not nearly so conspicuous as on the coast: where it is inaugurated, often as early as July, by the arrival of the Arctic skuas and whimbrels. These, in August, are followed by flights of godwits, knots, turnstones, and other waders. None of these, as a rule, travel inland, their routes following the lines of salt water. Whimbrels, however, take cross-country routes. On August 28th, 1878, a flight settled on a high moss-flowe some 20 miles from the sea; and on the same date, nine years later, a pack of over one hundred passed overhead close by that spot. They flew in V-form, like wild-geese, calling continuously. These two occurrences are cited simply for the coincidence of dates; since, otherwise, the migration of whimbrels may almost be called an everyday sign of the season, whether on moor or sea. Never a year but one may hear that note, loud, clear, and trisyllabic, audible at a mile or more, and one

that, once learnt, is never forgotten or mistaken for that of any other species.

The greenshank is another wader that passes through in August—in small numbers along the coast; yet smaller still inland. A characteristic feature of this species is the pertinacity with which, year after year, it returns every August to the same spot—be that spot on fresh water or salt—even though the individual birds be killed. But it is incorrect to write "returns," since *all* these greenshanks are young of the year, that have never crossed sea or land before; yet they know to seek out those precise spots frequented by their ancestors in previous years. There are several of these spots on the salt-slakes of the coast, where, in August, greenshanks may be found, every year, within half-an-acre, and never another for 20 miles. Inland, there is one such spot on Reedwater, near Monkridge bog, where, during different years, I have observed their return. The earliest date was on August 16th—three together. Another year, as late as August 31st, a single bird, which either remained or its place was refilled, up to September 6th, and I heard the note by night, a week later.

The green sandpiper is another passer-by of this season; but scarce and irregular. My own notes include half-a-dozen occurrences, always single birds; but three of these in one year, on the Lilburn and Wooler-water. The dates are all between August 8th and September 10th. The green sandpiper (easily recognised by its conspicuous white tail and upper tail-coverts) travels exclusively inland, frequenting on its passage the small boggy streams that drain marshy "haughs," and backwaters. It never touches the coast-line or salt water, as the greenshank does. Mr Lancelot

Allgood tells me he meets with it almost every year in September, on the boggy haughs of the Breamish, where that stream flows out of the Cheviots.

The wood-sandpiper (*Totanus glarcola*) also passes through at this season; but I have never chanced to meet with it, though knowing the bird well. It was this species, with the reeve, shoveler, and others, that Mr Hancock found nesting at Prestwick Carr, June 3rd, 1853, as graphically described in his "Catalogue," but a few years later, that marsh was drained; and neither wood-sandpiper nor reeve have nested in Northumberland since.

On the coast, ruffs and reeves occur not uncommonly on passage in August and September—all young. We have shot several in Fenham slakes; but have only one note of a reeve occurring inland—on Coquet. Lord William Percy informs me that he shot three young male ruffs in August, 1905, on Alnwick moor, out of a flock of sixteen, that flew close past in a thick mist.

August 10 (1904).—A young cock pheasant (now beginning to take the trees at night) was found killed and partly eaten. The keeper blamed the owls. Not to discourage him (but confident myself that a sparrow-hawk was the culprit), I allowed a trap to be set. Next morning, to my great distress, an adult tawny owl was caught alongside the dead pheasant. This single "conviction" is recorded as it tends to show that such lapses by owls are quite exceptional. I know of no other; and a second similar incident resulted in the capture of a sparrow-hawk. Owls are, of course, birds of prey, and liable to fall into temptation. Yet such lapses from virtue are rare; and the temptations, be it remembered, are great indeed, where hundreds of hand-reared game are congregated in close proximity to the woods. Also

be it remembered—to their credit, and as a set-off to a few young pheasants—that these owls are destroying night by night throughout the entire year, thousands of field-mice and rats that would scarce leave a green thing alive, unless they were thus held in check.

No owl should ever be molested under any pretext; nor should a kestrel. Both these do us inestimable service. The sparrow-hawk is so mischievous that their numbers must be kept within reasonable limits.

On August 3rd, 1902, seven teal settled on a marsh at Longstrother, near Houxty. The circumstance is specially mentioned, as I had, only three months before, formed the marsh in question by damming back a small hill-burn, and it illustrates how much may be done by very small means to increase and enrich the bird-life of a district. Generally speaking, the tendency is all the other way. Every little marshy patch is pipe-drained; each waste corner reclaimed and reduced to the same miserable monotony of sheep-bearing grass. What chance is there left for the wilder creatures?

In the present instance, within eight days of its completion in May, this small marsh was occupied by a pair of mallards; and on this date (that is, within three months) I counted, besides the seven teal, upwards of fifty snipe. Within two years, all the above species regularly nested there, together with redshanks, waterhens, and reed-buntings. The latter may seem unimportant; but to me, as a bird-lover, it is a source of infinite pleasure to have attracted a beautiful species never before known there. Curlews also, and plovers, though they were there before, appreciate the unwonted boon and reward me by yearly increasing. There has already been mentioned (p. 138) the case of another small marsh—smaller even

than this—which induced such interesting birds as spotted crakes and water-rails to tarry here.

August 21.—The young robins have now acquired the red-breast; but it will be three weeks or a month yet before the adults attain that "fuller crimson" which we have already read (p. 5) is poetically supposed to be a sign of returning spring. As a matter of ornithological fact, it rather betokens the approach of autumn.

Here is another note bearing on the same subject:—*September* 2 (1889).—Heard to-day, simultaneously, the songs of willow-wren and of robin—a combination of extremes that may not occur again in a lifetime—the one so late, the other so early, indicating that already, at this date, the robin had acquired his full plumage and was proudly notifying the fact. This occurred during splendid autumnal weather, at Otterburn in Reedwater. Grasshoppers were chirping and bees humming at the same moment.

August 22, 1906.—Shot a woodcock, adult, on Snabdough, North Tyne. Though woodcocks nest here and the young are on the wing by May 10th, yet it is rare to meet with them during the August shooting, and the above is the first I have ever killed during that month. This may perhaps be explained by the nature of their haunts. This woodcock, for example, rose from a very rough spot—a regular jungle of heavy bracken growing among rocks. Such places are seldom entered by sportsmen: by chance, my Irish terrier had gone in to hunt rabbits "on his own"—hence this note.

CHAPTER XVI

AUTUMN ON THE MOORS

(1) September

Early autumn on the moorland is marked by a double characteristic. There is a period of exodus, followed by a period of hiatus. August has witnessed both the completed withdrawal of the summer-visitants from the hill-country; and also the commencement of that through-transit of conspecific birds which have summered in the more northerly portions of these islands, but *not beyond* them. For neither in August nor in September can there be traced, on the moorland, evidence of any considerable influx from foreign parts to compensate for these losses by withdrawal. That compensation will come later—in October and November. Meanwhile we must endure, in August and September, what I have called a hiatus—by way of counterbalance to that "double stock" of the birds in question which (as described at p. 15) we enjoyed during the months of March and April.

These remarks refer specially to the moorland; since on the coast the case is widely different. There, on tidal estuary, salt-slake, and sandflat, that influx for which one looks in vain on the hills is patent enough—torrential would scarce be too strong a description. These wastes,

which, all through the summer, have lain comparatively lifeless and uninteresting, now, from mid-August onwards, teem with wild bird-life—and that, too, in some of its most graceful and attractive forms.

By September, the brief, bright, Arctic summer is over. The "midnight sun," to use the tourist phrase, has set; and now, as ice gradually envelops the Polar archipelago and North Asiatic seaboard, the feathered world—with one notable exception—is in full flight to the southward. They travel in battalions, or in handfuls; some move slowly and reluctantly, resisting foot by foot the advance of winter, while others span the world without rest or effort. The curlew-sandpiper, as an example, passes from Arctic through tropic within a few weeks—more probably, *days*—and by exchanging hemispheres at each equinox, practically eliminates the element of winter from its little life.

Curlew-sandpipers, with many congeneric species, pass down the north-east coast during September. But we are not here concerned with the coast, as that will be treated in detail in the second part of this book, so we now return to the moorland.

I mentioned a single exception to the general autumnal exodus from the far north. That exception is not without interest reflecting indirectly on moorland ornithology, inasmuch as it is *the* grouse—the father of all the grouse. That species, the Spitsbergen grouse (*Lagopus hemileucurus*), is generally spoken of by Arctic whalers, and by the few travellers who have ever seen it, as a *ptarmigan*. But that is not correct. The author, being one of the few ornithologists who have seen and shot this bird, regards it as no ptarmigan, but a true grouse. Its note corresponds with that of our own *Lagopus scoticus*, whereas

ptarmigan croak like frogs; its beak and claws also are remarkably thick and strong, while in ptarmigan those organs are feeble and weak. We like to regard the red grouse as exclusively British; so he is, but we must recognise that the grandfather of his stock survives in Spitsbergen, while the intermediate generation is represented by the well-known willow-grouse of Northern Europe and Asia.

The latter, moreover, extends right across North America to the Pacific. The willow-grouse, in fact, completely encircle the Pole wherever land exists within their range of latitude; while our British red grouse is merely a detached insular form, and the southernmost of all. In Newfoundland, I noticed, among the many singular perversions of current names that distinguish our oldest British colony, the willow-grouse are known as "partridges."

The true grouse can thus claim to rank as the hardiest bird-form on earth; since it alone retains that primeval position in the farthest north that was formerly, as elsewhere suggested, common to all.

Hardly will September have commenced than the wagtails (pied and grey) become conspicuous. One may see both species daily on the green lawn beneath one's window, darting hither and thither on the close-cut grass, nimble as mice in their chase of tiny insects and aphides, or springing for a yard on wing after some wilder spirit that has essayed to escape by flight. Another favourite resort of theirs is the rough pasture-land where cattle feed. Wagtails attend regularly on these, catching the insects that are disturbed as the animals move about, grazing. The agile birds run among the very hoofs of the beasts, and even fly up beneath them, deftly picking off fly or gnat

from the stomachs and from the insides of the legs—a pretty performance.

These wagtails mostly disappear with the first frosts of autumn—usually not later than early October—and after that date, one sees very little more of the pied wagtail. But towards the end of that month (October), the beautiful grey wagtails again show up, noticeably abundant. These are arrivals from further north, and some of them linger here quite a long time. Their numbers, however, perceptibly diminish as winter approaches; though in mild, open seasons, it is not unusual to see one or two of these dainty little creatures about sheltered burn-sides, even in December and January. They are then feeding, apparently, on the eggs or larvæ of water-insects, turning over each dead leaf or bit of drifted wrack in search of some food that it may conceal.

Considering their insect-food and delicacy of form, the seasonal distribution of these two species lies remarkably far northward; and their range is also restricted. The pied wagtail scarcely reaches so far as Southern Europe, the place which it should occupy in Spain during winter being taken by the white wagtail (*M. alba*), which latter also goes further north in summer, being the common and familiar wagtail of Norway.

Curious and quite inexplicable is this diversity in range between two forms so closely allied as scarcely to be differentiable! No doubt the more enterprising of the two races has found some slight variation in plumage essential to its well-being.

Altitude and latitude become, in bird-life, equivalents. Thus, while an individual, say a titlark, that has summered on the uplands of Cheviot, may find sufficient seasonal change in a descent to the littoral plains subjacent; yet

another which has spent its summer in this latter region, may not find its economic instincts satisfied till it has reached the south of Europe.

A prominent feature of the month of September, which everyone must have noticed while partridge-shooting, is the immense congregations of small birds that everywhere pervade the lower lands. Each field of root-crop may hold many hundreds. Almost at every step they flutter up underfoot by dozens from among the turnips or potatoes. The species so found consist chiefly of blackbirds, thrushes, skylarks, pipits, linnets, greenfinches, and redstarts—sometimes also the tiny golden-crested wrens in very considerable numbers. These birds are not the ordinary denizens of the neighbouring woods, fields, and gardens simply seeking a change; for the said ordinary denizens still remain in their accustomed haunts and in undiminished numbers. The birds in question are all birds on passage —travellers from over-sea—and their presence synchronises with recorded observations of their movements collected at lighthouses and similar points around the coast.

These "Reports," collected in book-form by the Migration Committee of the British Association, are now available for general perusal. They demonstrate that this September influx is exactly what we might expect. For it coincides with the period when birds of the species named do cross the North Sea, and reach our east coast in successive flights. Within a few weeks, all these pass on southwards. Probably no individual bird lingers here more than a few days; yet the "through-transit" of such numbers, arriving and departing in successive hosts, occupies the period stated.

The evidence of their continued journey southward is

set out in the *Migration Reports* aforesaid, as clearly as is that of their previous arrival from the north.

This continued and extensive passage is confined, as indicated above, to the lower and cultivated lands. On the moorlands there is little evidence of it, as regards the species named; but we do witness, even more conspicuously, on the moors, the passage of the missel-thrush, which during September proceeds uninterruptedly. These birds, moreover, linger considerably longer in the hill-country. They are tempted to dawdle on the way by the ripening rowan-berries, whose bright scarlet clusters are so beautiful at this season. The small purple-black fruit of the hackberry, or bird-cherry (*Prunus padanus*) is also attractive, and to these two trees, as well as to the service-tree, or elder, both missel-thrush and ring-ouzel are specially fond of resorting. Neither, however, confines his attentions to wild fruits—fain would gardeners pray that they did so. Nor is it with these two species alone that the luckless gardener has to reckon. He has on his hands in September, the whole mobilised armies of the *Turdidæ*, with scouts and detachments of other genera—to say nothing of the unholy taste for fruit developed at this season by various other birds — finches, tits, and the rest. The garden attached to sequestered homes in the hill-country is probably the only bit of cultivated land for miles around—a little oasis of fruits for travelling birds! Hence the unfortunate owner who has done all the work, can scarcely, and that only with the utmost difficulty, save even a minor share of his crop for himself.

Birds display a lamentable lack of economy, wasting and destroying far more than they actually eat. Half-a-dozen missel-thrushes and ring-ouzels assembling on a

rowan, will shake to bits every cluster of fruit thereon. The ground beneath is strewn with scarlet berries; but never a bird troubles to pick these up. They are left for the field-mice, while our friends move on to finish the currants.

Though I mentioned the blackbird as prominent among the September seafarers, yet, as a species, it is also conspicuously sedentary. This paradox is explained by there co-existing both a migratory and a stationary race of *Turdus merula*. The latter section breed and remain here throughout the year. Indeed, during the coldest and most protracted winters on the moors, we still have blackbirds in the Borderland; when never a thrush is to be seen, and when the only other small birds that withstand the extreme severity of winter, are the dippers, robins, wrens, bullfinches, tits, hedge-sparrows, and a few others. Then again, the blackbird is stationary in the far south of Europe, remaining to breed even in the heat of Andalusia.

The number of these stationary residents in Spain is, however, vastly increased by arrivals from the north in October and November—at which period those very wanderers, some of which we have just been noticing in our own root-crops in September, make their appearance throughout Continental Europe. In Belgium and France, the advent of the thrushes is looked for as we look for that of woodcock and the *chasse aux grives* is an institution with the village fowler. Southern Spain is reached in October, and occupied till March, when the bird-travellers return north. Of our local birds that come within this category, I may mention, besides the blackbird, thrushes of both species, starlings, greenfinches, skylarks, and titlarks. The fieldfare seldom reaches so far to the south-

west, and passes along the east of Spain ; but the redwing is not uncommon in the Andalusian hills, associating with the thrushes.

The ring-ouzels, tree-pipits, redstarts, whinchats, and wheatears all reach Spain at that date (October) ; but most of these pass through into Africa, and only reappear on their way northward in the following March.

Thus has systematised observation at home, aided by the recorded researches of naturalists abroad, enabled us to follow step by step these migrants in their unseen flight. This enlarged knowledge of the seasonal distribution of birds has cast a light on migration that none dreamed of a generation ago. That is why I have here ventured to follow our September blackbirds and thrushes away through France into Spain ; and our ring-ouzels, wheatears, and redstarts onwards through Spain into Africa.[1]

In the wild moorland, where the grouse is the dominant type, the homely partridge is hardly of much account

[1] The ring-ouzel, while these chapters are yet in manuscript, has been stated to winter in parts of England ; and evidence is adduced (*Field*, May 26th, 1906) that I will certainly not question or doubt. It refers exclusively, however, to the west and south. Bearing in mind that the ring-ouzel passes right across Europe into Africa every autumn, before finding a congenial winter home, it seems incredible that such *desiderata* should, after all, exist in this island. But it is unwise to be dogmatic. Such marked and unexpected effects may be produced on bird-life by a single hill-range—even such hills as we can boast—that (especially when aided, as in this instance, by the influence of the Gulf Stream) these apparent anomalies become conceivable. During the discussion, the Duchess of Bedford obligingly wrote me that in Scotland she had twice observed ring-ouzels on Cairnsmore, in Galloway (a district notable for mild winters) as late as October 23rd and 25th (1905), while, as regards England, other evidence makes it clear that at favourable points on our west coast and in the south, some ring-ouzels do pass the winter. But that they do not remain in Northumberland, or elsewhere on the east coast, I am equally confident ; for, spending the winter as I do, and constantly shooting right in their favourite haunts, it would be impossible for the conspicuous ring-ouzel to escape observation, were any there.

as a game-bird. The hill-country is altogether too cold and bleak for his more tender constitution. Needing shelter and grain, his loves lie amid cornlands and cultivation. Here, where his fare is confined perforce to simple grasses and trefoils (neatly cut into regular half-inch lengths for stowage in the crop), the partridge neither thrives nor increases. There is, however, a point of interest about him which is here recorded before the introduction of Hungarian and other exotic strains shall have stamped out all individuality of race.

The true fell-partridge (by which is meant those that have seldom or never seen corn for generations) differ in plumage from their relatives of the stubble in having the chestnut-red colours on head, scapulars, and flank-feathers distinctly paler and less vivid. The whole colour-plan has, moreover, a pale ashen-grey cast that recalls the partridges exposed for sale in game-shops in spring, and said to come "from Russia." These hill-partridge weigh —cocks, 13 to 15 oz., hens, 12 to 13¼ oz.

Scarce as they are, the little fell-partridges are, nevertheless, a welcome feature of the "fringe of the moor." For in a wild country, habits assimilate with environment, and their flights over open grass and bare hillside are far and wide. For a mile, and more, they skim away far beyond the range of vision; whereas, in cornlands, with frequent hedges to hide their course, they seldom fly beyond a field or two. The pursuit of the partridge in unenclosed country thus entails a lot more "hunting": it needs fast and good dogs and good dog-work. These are, of course, ideal conditions, such as a sportsman (of old-fashioned school) ever seeks; but in this case, alas! they avail not. For the fell-partridge are altogether too scarce, their struggle for existence too keen. You may take your

shot when you come across them; but must never follow them up. Treat them as tenderly as you will, they never increase. A series of favourable seasons may help them along for the time; but one severe winter almost wipes them out.

In the larger valleys are grown small patches of oats; but the moorland districts lie too high and exposed to lend themselves to agriculture. Even in favourable seasons, these little oat-crops are rarely gathered before the end of September. In autumn these stubbles are extremely attractive to game, and it is a pretty sight to witness the blackcocks flying in to feed towards dusk. I do not, however, think that game should be shot on such occasion, unless urgently wanted or for special reasons. The bits of stubble, as a rule, are so small that the gunner has too great an advantage—the birds have no escape. In younger days, one is apt to be less scrupulous, and enjoys hearing that rush, as of a whirlwind, when a big pack sweep close over the fowler hidden inside an oat-stook. Next moment, the narrow space commanded from the peep-hole is crowded with upright, flight-checking wings—great blackcocks by the dozen, plumping down on the stubble, or balancing on the tiny stooks, which often capsize under their weight. But even in those unregenerate days, I was content with my one shot, and walked away to watch from a distance those same blackcocks sweep down again, fifteen minutes later, and this time to enjoy their supper in peace.

Considering the numbers of game-birds that are shot, variations from the normal are remarkably scarce. Only three cases have come under my notice—the first, a partridge, shot near Scots' Gap, in which the parts usually chestnut-red were quite black; the second, a

young blackcock, shot September 12th in Reedwater, which had each of the new black feathers on the flanks and breast streaked centrally with white. Later, I shot an old blackcock on Haydon-fell with precisely the same peculiarity; and I have twice observed similar cases in Norway.

There is, or was, in Northumberland a race of rich dark-brown partridges, almost grouse-like, described and figured in Mr Hancock's "Catalogue" (*Nat. Hist. Trans.*, Northumberland and Durham, vol. vi., pp. 91-93).

The earliest of the winter migrants to reach the moors are the jacksnipes. On five occasions (during forty years) have I met with them in September. The earliest date was September 21st, as far back as 1869. On first arrival they sometimes plump down in the barest, driest places where there is no covert beyond the dead stalks of burnt heather. But within a few hours they will have found more congenial resort among the little bogs and marshy ditches of the moor. Jacksnipes must sometimes arrive during daylight, since I have found, in the afternoon, half-a-dozen together in a spot where none had been seen, though carefully hunted, that same morning.

The great or solitary snipe also arrives in September, or rather passes through, since none winter; but it is so scarce that I have never myself seen one alive, and believe that supposed occurrences are sometimes based on ignorance, or mistaken identity. Reported occurrences of rare birds are seldom reliable unless the bird has been obtained—and then only when obtained by one qualified to recognise the species. How many venerable records in ornithology, now accepted almost as Holy Writ, would utterly disappear were a searching investigation possible into their real histories and circumstances?

Following is an instance in point. On September 15th, my setter flushed a bird which, from its size, slow flight, and general appearance, I felt assured was *Scolopax major*. With intense keenness, I followed the line, and after infinite hunting, the dog found again. I then picked up, from a tuft of rough grass under her nose, a wounded golden plover!

Solitary snipes, at least those obtained in the north of England, are invariably young birds in nestling-dress, that have been hatched the preceding spring—exactly as is the case with curlew-sandpipers, greenshanks, spotted redshanks, both species of stint and other allied birds that also pass southwards along the coast at this season. Adults of *all* these are wholly unknown, and must go south by a different route—that is, only *once* in their lives (if ever) do these travel *viâ* England. The few solitary snipes obtained here in September are always extremely fat and in higher condition than the common snipes at that period; that being evidently a provision of Nature's for an extended journey, since already by October the solitary snipes have reached South Africa, before commencing to moult their flight-feathers.

My uncle, Mr G. E. Crawhall, shot a solitary snipe at Eshott, on Coquet, September 12th (1872), and also killed, while we were shooting together in Weardale, the only quail I have ever seen in this country. It rose from a hill-stubble above Frosterley: this was on September 22nd (1870). I have since heard a pair of quails (whose dactylic note is well known to me in Spain) in growing hay, on May 28th. No doubt they were nesting there; and a quail's nest with ten eggs was recently found, while hay-cutting, on Yetholm Law, Roxburghshire.

While touching on the scarcer game-birds may be

mentioned shooting a red-legged partridge at Hilton, near Yarm, in Yorkshire. This is far from the Borders; but I name the incident because it is probably the "furthest north" for that species, which finds no place in Mr Hancock's *Catalogue of the Birds of Northumberland and Durham.* In Portugal, I have shot these partridge on high heathery ridges, not unlike many of our Border moors. There I liked them, because they "stretched out" one's dogs; and have since twice reared and turned them down at home. Both experiments proved failures. The redlegs seemed to do well till about Christmas; but vanished when the snow came.

To return to the appearance of the foreign migrants:— Beyond that of the jacksnipe and solitary snipe just mentioned, I have no notes of the arrival of any other species on the moors during September, except occurrences (more or less casual) of whimbrel, greenshank, reeve, dotterel, green and curlew-sandpipers, knot, and (on Oct. 5) a grey phalarope.

The tufted duck and wigeon also show up on the hill-loughs: but of them, more anon.

September is the month when bullfinches reappear at Houxty, though none breed in this immediate neighbourhood. It is merely a local movement. Bullfinches remain throughout the winter, even the most severe.

September 9.—The dipper commenced singing this evening, a somewhat simple, but altogether delicious, symphony in a minor key, usually uttered from a stone in mid-stream. The dipper is one of our few winter-songsters, and from September onwards the low trilling melody of his evensong may often be enjoyed just as the shortening autumnal days fade into night.

September 13.—Two sandpipers still on river to-night,

singing. This is the latest record of these summer-birds. Our local sandpipers left quite a fortnight ago—including those that bred in my garden, and whose young I helped over the rabbit-netting on June 14th! Their parents looked on, chattering, from the railing hard by—nervous no doubt, yet recognising benevolence. Those seen to-night were birds on passage, from the north southward.

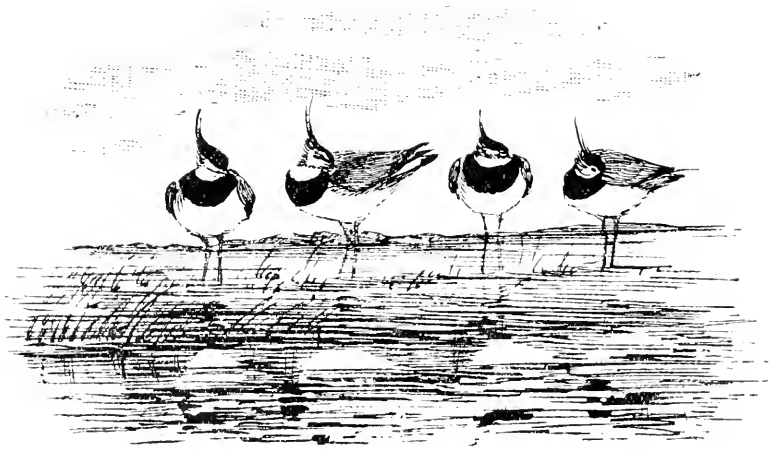
September 15.—Skylarks, which a month ago were in full moult, and many almost tailless, have recovered their plumage by mid-September, and some even begin to think of singing.

September 16.—I cut the following from a local newspaper:—"A beautiful scene was witnessed on Sunday evening in the glen of Paxton dene, Northumberland. A bank was literally covered with glow-worms (*Lampyris noctiluca*). The waxing and waning of their tiny phosphorescent lamps conjured visions of fairyland in the mind of the onlooker."

Glow-worms are found in various other localities, notably at Harehope and at Blindburn near Wark. Mr Thos. Robson, of Bridgeford, writes that he has "come across glow-worms in three places in Northumberland, viz.: near Woodpark on Houxty burn, Blackburn linn on Reedwater (where they abound), and near Eals crags on the way to Falstone." He adds that those caught and placed in his garden "never survived the winter—the probable reason being that I only secured *one* sex. I believe only one glows, so that I never found the other."

During the second half of September, and all October, merlins (chiefly immature) are conspicuous on migration: preying on larks and other small birds along the fell-edges. These little falcons breed on the moors in May, nesting among the heather; but are never so numerous as on

their southern journey. Very few remain throughout the winter, though I shot one, chasing a chaffinch, during heavy snow, on December 21st, and have other notes in January and February. Adult males are comparatively scarce. Their blue-grey plumage shows up in contrast with heather when the birds are seen flying over it, but assimilates admirably in tone with the grey boulders on which they are so fond of perching.



PEEWITS—A SIESTA.

CHAPTER XVII

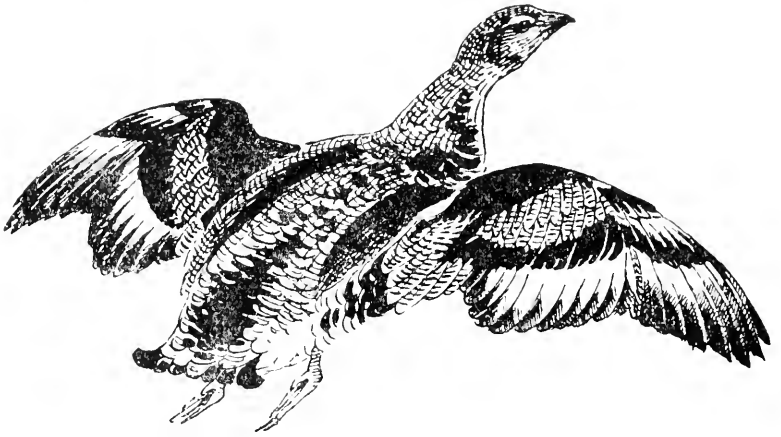
BLACKGAME

Of all seasons the period from the end of August to the middle of October is, on the Border moorlands, the most difficult to kill grouse. This sentence, I am painfully aware, is absolutely inapplicable to everyone except that obsolete character, the *hunter*, since the modern sportsman has cut the Gordian knot, and to him all seasons are alike, in respect of such difficulties as here alluded to. Well, with this preamble, I will continue in the sense in which I wrote this chapter twenty years ago, and towards which I yet retain a lurking allegiance.

The grouse have been so harassed and driven about by the August shooting, that they have now really no fixed haunts or flights, but go flocking about, seeking safety in numbers. They sit in packs among shaggy heather, always unapproachable, yet not "showing" at all, as yet. The weather, moreover, is often broken, and gales and rain that prevail about the Equinox tend to increase their wildness. Later on, with fine sharp weather in October, these packs break up, and though no less wild, grouse are then scattered about in twos and threes, and, sitting bare, become more possible to deal with.

During September, blackgame become more attractive

than the impracticable grouse. Indeed, the presence of blackgame at this season more than compensates for the relatively smaller numbers of grouse found in those districts where both these species of game-birds are found co-existent. In such, the pursuit of blackgame possesses many altogether charming features, both in the variety it affords after the August grouse-shooting and also in the changed scenes amidst which it is carried on. Whilst in August one's eye had rested day after day upon an



Young Blackcock—1st of September.

almost unvarying, unbroken sea of purple heather, glorious in its fullest bloom, and with a golden cloud of pollen streaming away to leeward of the course of dog and man; now, in September, the gunner's sport lies amidst different scenes, no less wild, and hardly less beautiful. For seas of heather substitute rolling prairie-land clad in rough grass, rush, and bracken, interspersed with self-sown birch and hazel. Grey boulders strew the broken ground; while here and there some hoary crag or moss-grown scaur afford foothold for prehensile pine

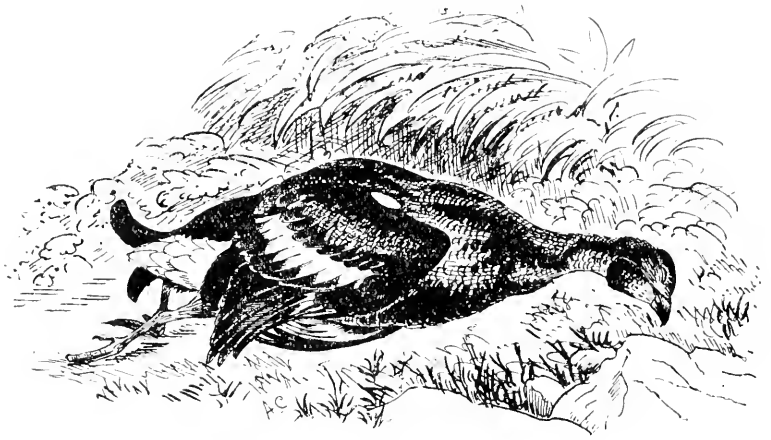
and rowan. The lower grounds are broken by tortuous cleughs or glens, shaggy with lichen-clad alder and saugh, or by some rock-girt burn—such are the favourite haunts of blackgame. Here, as a September sun shines through scattered birchwood upon massed bracken and the variegated undergrowth beneath, amidst which the setters are bustling about, their russet coats in sharp contrast with dark rush and paler fern, surely one has as fair a scene as eye need wish to contemplate.

Young blackgame are the slowest of game-birds to attain maturity. Hatched early in June, they are not full-grown till the middle of September; and during their four-months' adolescence, are certainly the softest and most tender of all game-birds—in contrast with their strong and hardy nature when adult. Even when three-parts grown, a young blackcock, if raised two or three times on a wet day, becomes so draggled and exhausted as to be unable to fly. The habits of young blackgame are analogous with their tardy development, and throughout August and great part of September they are the tamest of game. Then comes an accession of strength and wildness what time they cast the little pointed ruddy tails of their nestling-plumage; and, within a few weeks, even days, the young blackcock, from being the tamest, becomes the wildest of all our game-birds.

To shoot blackgame in August—whether old or young, and when the latter are hardly bigger than quail, and the cocks indistinguishable from the hens—is not only unsportsmanlike in itself, but so suicidal a policy that one cannot understand anyone being guilty thereof. Yet the massacre of young "grey" is lamentably prevalent on the Borders. Wretched little fledglings are sacrificed on the Twentieth, presumably because that is the date

sanctioned by law; or possibly, in some cases, to deceive the ignorant by boasting of the numbers killed.

By the middle of September, the young blackcocks have nearly attained their full growth, and are then about three-parts black, with tails beginning to spread. At the period when they attain that stage, they separate themselves from the young greyhens of the brood, and for a very short time become quite solitary. Being then scattered singly over a wide extent of rough country, they



YOUNG BLACKCOCK—END OF SEPTEMBER.

are more difficult to find than to approach: for, though now nearly full-sized, they will yet lie close in sheltering bracken or rush, or among the white grass with its scant patches of heather. As evening approaches, however, when they begin to feed on the seeds of rushes (especially "spratt," or flowering-rush), young blackcocks are much wilder than during the day—indeed, unless previously viewed, they are then inaccessible. They continue to feed until it is quite dark. Mid-September, in average years, is the season when young blackcocks afford the finest

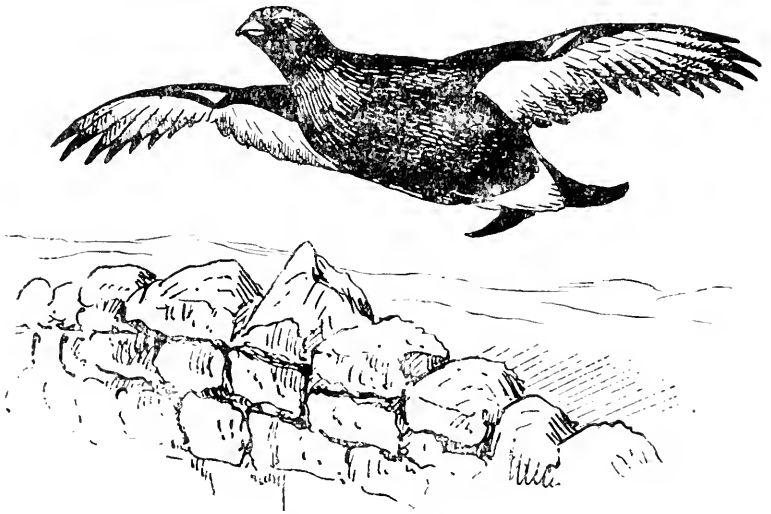
sport over dogs; for, although they lie close during the day, and seldom offer difficult shots, yet they need a deal of hunting, and a bag of six or eight brace of full-grown handsome young blackcocks, varied, perhaps, by a brace or two of fell-partridge, and an odd grouse picked up on the fringe of the heather, are proofs of sound knowledge of one's ground, some fieldcraft, and good dogs.

Their next stage is to assemble into packs about the end of September. These packs, from a dozen to fifty or one hundred strong, cocks and hens together, may, at this season, be readily detected, being always, whether resting or feeding, in the open: since now they disdain concealment. You may see them a quarter-of-a-mile away, on the fringe of the heather, on the bent-grass prairie, or perched in troops on the straggling thorn-hedges which fringe the moor. Should there be cornland within a few miles, these packs will make descents at daybreak and dusk upon the stubble; and then spend the day among the distant hills, by some straggling birch or pinewood with rough undergrowth of saugh, bog-myrtle, and fern, or in the cleugh of some tortuous hill-burn. Such birds as these are watchful and wild, and can now be only handled comprehensively on a wildfowling basis. The young blackcocks cannot now be distinguished on the wing from the old, and carry finer "tails."

Old blackcocks, at the beginning of the season, that is August 20th (it may seem needless to say this, would it were so), are in full moult and have not the slightest vestige of a tail; that is to say, the short blood-feathers of the nascent rectrices are entirely hidden between the upper and under coverts which meet beyond them. At that period they lie close, skulking in beds of the heaviest brackens, ashamed of their ragged condition, and during

that stage are not legitimate game. An old blackcock in August which retains some or all of the long curved tail-feathers of the previous year is invariably a bird in backward condition, either from age or other cause. Such birds may appear large, but scale less than smaller, tailless specimens.

During what I may call the "stubble-period," that is



OLD BLACKCOCK—WINTER.

from October till the middle of November (varying, of course, according to the date of the harvest), blackgame are often scarce on the higher moors. During September, they have enjoyed abundant food on the hills in Nature's crop of seeds and wild fruits, mountain-berries, etc. But, as these become exhausted in October, and the corn-crops are by then "led" out of the fields, the blackgame temporarily abandon the higher moorland and resort to lower grounds adjacent to tillage. Later on, as stubbles are ploughed up, they return to the hills, usually in November,

and their food then consists largely of heather, hips and haws of thorns, buds of birch and alder, and of the various plants which grow in (or rather form) "old grassland."[1]

The following are the contents of the crops of four blackcocks shot on November 3rd. The first, killed out on the fell, contained heather alone. A brace, shot on the fell-edge at dusk, half heather, and half aromatic grass-plants, the former uppermost. These two birds had probably been disturbed in the hay-fields below, and had finished their dinner on heather. The fourth, shot on grassland at dusk, contained exclusively grass-plants—trefoils, sorrels, sedges, etc. Sometimes one finds a few dozen oats at the bottom of the crop, though none may happen to be grown within miles of where the bird was killed.

I have examined, at different times, the crops of very many blackgame, and give the few following notes to illustrate the variety of their food :—

November 26.—Blackcock shot at dusk, contained 373 red hips and haws, weighing 4¼ oz. A greyhen had 270 hips and 2 beech-mast, besides a few thorn-buds and some grass.

December 10.—Deep snow. Examined eleven blackgame ; four were empty. The other seven contained either heather or alder-buds, or a mixture of the two. Two also had a small proportion of rush-seeds.

November 15.—Two old blackcocks, shot at night, were filled with trefoil—the "hop-clover" that grows on limestone formations—together with a few buds of bog-myrtle.

December 8.—A grouse and a greyhen were both full

[1] These grass-plants include ranunculus, viola, common sorrel (runex acetosa), plantains (plantago lanceolata), sedges, clover, and grass.

of heather, the grey entirely of young green shoots; the grouse with the older, seed-bearing tops.

All game-birds feed very low, crouching along, and it is surprisingly easy to overlook even so large and conspicuous a bird as a blackcock. A pack of these may be feeding on short meadow-grass, slowly advancing with all heads and tails down, yet may be overlooked, or perhaps mistaken, at a careless glance, for a lot of molehills.

There is one remarkable feature in the habits of blackgame in mid-autumn which I do not think has been explained. I refer to the distinct display of amatory instincts which occurs in October, and during mild seasons continues until November. On wet, foggy mornings, in particular, one hears the old blackcocks crooning, bubbling, and sneezing as excitedly as on a fine day in early spring. With a glass, I have watched one surrounded by his harem, strutting round some bare little knowe, in fullest display, with neck swollen, tail expanded erect, and wings trailing—truly a remarkable spectacle in October. Whether it is merely a chronological miscalculation, or arises from a specific cause, the origin of which is lost in the mists of a remote past, the instinct is certainly conspicuous, and for want of another name I will coin the word "pseudo-erotism" to designate it. The character is not confined to blackgame, for grouse conspicuously, and golden plover to a certain degree, display pseudo-erotic instincts, and we all know how busily rooks employ themselves at their nests in November. I also notice that the black-headed gulls are apt to revisit their moorland breeding-haunts during that month.[1] So strong is the instinct in blackgame that in December, with snow a

[1] Snipe also "drum" during the autumnal season. I have never heard this myself; but see Stevenson's *Birds of Norfolk*, ii., pp. 315-6.

foot deep, I have observed the yearling cocks (which had then apparently arrived at maturity) dancing around and among a pack of grey, the latter, as usual, utterly heedless of the performance. I should add, it was not so impressive as that of old blackcocks in October and November.

During the concluding months of the year blackgame do not alter their habits, except as they are influenced by the weather. These handsome game-birds are now firmly established on the high moors, selecting certain fixed haunts—usually some flat-topped ridge, whereon patches of short sweet grass are interspersed among the heather—at which spots large packs may always be found. I have noticed on certain moors in Northumberland a perceptible increase in the numbers of blackgame as the year advances (despite their thinning by the gun), and imagine there may be at this season a partial local immigration, perhaps from the higher grounds of Roxburghshire, Selkirkshire, etc., beyond the Border. This is, of course, merely a local redistribution.

Heavy gales of wind and rain at this season will generally drive the blackgame off the hills to seek shelter in the wooded valleys and cleughs below—but not always; in attempting to review the habits of birds, it is impossible to lay down absolute rules. So many and such varied causes influence their habits and movements that it is unwise to write dogmatically, and nearly all observations should be made and read in a general sense. Excellent sport may usually be looked for by driving the woods and gills the morning after a storm; but, on other days, under what appear precisely similar circumstances, hardly a bird has been found in the shelter.

Not always, however, do the blackgame and the hill-farmers enjoy the luxury of a mild winter. Often the

snow makes its appearance, and storm follows storm till the brown heather disappears beneath a universal dazzling mantle. Under these conditions, the blackgame (though many of them for a time still cling to their chosen hillocks above with surprising tenacity) are soon to be found in the lower grounds and wooded valleys where dozens of them may be seen perched like rooks on the bare birches and hawthorns. Here they feed on haws and budding shoots of birch and alder. They also procure a certain amount of heather in places where the wind has drifted the snow from the weather-slopes of the hill, or where sheep have been feeding. Blackgame endure long snowstorms with great hardihood, showing little or no falling off in condition. In December, 1882, however, a friend told me he found many greyhens, dead and dying, on his farm, even in the stackyards. The crops of these were full, and death was ascribed to their inability to secure the necessary supplies of sand and gravel which are required to promote digestion.

There is a general belief among gamekeepers that young greyhens do not breed in their first spring, and not, I have even heard it stated, until their third spring. This, of course, is a matter incapable of direct proof; but, personally, I dismiss all such ideas as absolutely untenable. So precarious are the lives of game-birds that, under such a handicap, they could not long maintain the struggle for existence. My own observation leads me unhesitatingly to say that greyhens *do* breed in their first year, or at least as many of them as have the opportunity. The number of greyhens without broods is explained (1) by the fact of the species being polygamous, and (2) by their being *too old*—not by their being too young.

On most moors greyhens are spared—in some cases

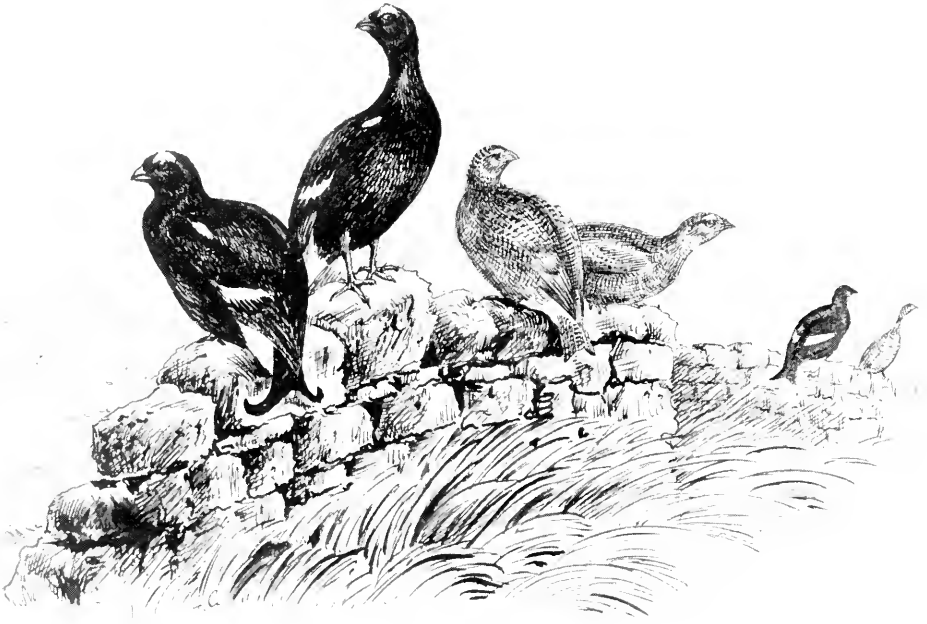
absolutely. It follows that many of the old ladies must have attained the full span of years allotted to their kind, and that they will eventually die a natural death, or whatever may be its equivalent in bird-life. This cannot tend to the unqualified benefit of the race: though it is difficult to suggest the remedy. Could old greyhens be distinguished on the wing from the younger birds, the former should undoubtedly be shot. But they are not so distinguishable. Just as with grouse, the pugnacious old cocks are now recognised to be as prejudicial as any other vermin on a grouse-moor, so should the old greyhens be regarded in their own sphere. They might, of course, be distinguished, and destroyed over dogs, in the early part of the season. Such work would be uncongenial to the sportsman, but its execution might, with advantage to the race (where signs of decadence are visible), be relegated to the gamekeeper, along with his other functions of ridding the ground of pests.

This remedy, however, is only suggested where blackgame are found to be decreasing; or, at least, not flourishing. Otherwise, let well alone.

Blackgame are very generally stated to be decreasing in numbers; and, in places, one hears their eventual disappearance foretold. That is not my experience of them in Northumberland during the last thirty years or more. The blackcock is, of course, a rigid Conservative in the wrong sense of that word. He abominates improvements, and anything in the form of reclamation is anathema to him. Even surface-drainage molests him, and a 3-inch pipe is his notice to quit. His Eden must be boggy and sponge-like, the lower levels waterlogged. Where such primitive conditions remain, the numbers of blackgame have not decreased; but they

must inevitably do so in precise proportion as moorlands are "improved." The valleys of the North Tyne and Reedwater, with their many subsidiary glens, are their great strongholds in Northumberland. Probably in no other part of the British Islands are they more numerous. I cannot think that they were ever more abundant than they are here at the present day. In corroboration of this, I quote a bag made on November 4th, 1901, on Chirdon Head, North Tyne, when in the evening there were laid out exactly eighty birds. Of these, forty-one were grouse and no less than thirty-nine were blackgame — almost the whole of the latter being blackcocks. Another record—November 14th, 1902, on the Nunwick low moors, eighty-five grouse, twenty-nine blackcocks, and a partridge. Never in my life have I seen greater numbers of blackgame than on the two days named—the packs of greyhens which swung over the butts or along their line at times almost covering the face of the heavens. Both these moors belong to Mr Allgood of Nunwick.

It is right to add that in 1903—the year following that last quoted—blackgame were visited by a severe epidemic, which swept them off in large numbers; thus on the same moor first alluded to, a bag of forty brace in 1903 was composed exclusively of grouse without a single blackcock. This wide discrepancy, however, was not entirely to be ascribed to disease, but was partly attributable to the shooting taking place at an earlier date, viz., September 14th, at which period (as fully explained above), blackgame are partially absent from the higher moors and temporarily frequenting the lower-lying lands. Though I can recollect many instances of grouse-disease, that year was the first, within my experience, when black-



First Signs of Alarm.

[*To face page* 212.

game also were seriously affected. Their numbers during the succeeding years have certainly been reduced below their previous high standard, but there seems now (1905) every prospect of their regaining their former level. Long may this desirable condition prevail, and may improved breeds of mutton in the future be brought from the Antipodes, or the Cape, or from British East Africa (which latter colony I commend to the attention of pastoral emigrants), and leave the blackcock in unmolested enjoyment of those primeval moorlands—swampy, rush-clad, and ill-drained—which are his ancestral inheritance.[1]

The watershed of the Wansbeck is another stronghold of blackgame in Northumberland. This, again, is a big country—a country of broad prairie-like pasturage and infinite stretches of tawny grass. The following bags of blackgame, made at Wallington, evidence the effects of judicious and sportsmanlike shooting. In each case there were three guns :—

September 2,	1902—35	Blackcocks,	3	Greyhens.
„ 12,	1903—32	„	2	„
„ 9,	1904—30	„	4	„
„ 14,	1905—45	„	3	„

Such figures need no comment of mine. For them I am indebted to Sir Geo. O. Trevelyan, Bart., who kindly adds :—"After fifty years, in wet seasons and dry, I am strongly of opinion that blackgame should

[1] Lest this appear purely retrograde, it should be added that the draining of moorland has, in places, been carried to excess. One result of pipe-drainage on high-lying pasture (say 700 to 1000 feet) has been to destroy the natural grasses and semi-aquatic plants that normally flourish thereon. No other growth comes to replace these, and at such altitudes tillage is not available. Here, the return on wasted capital has been reduced produce and lowered rental : together with a sharp lesson to those who thought their human shrewdness superior to Nature's matured plan.

not legally be shot before the 1st of September. To kill the young on August 20th is like shooting chickens on the lid of an incubator. On the other hand, I see no reason why the shooting should close before the end of the year. It is important to kill the old cocks of previous years, and these by December are very hard to get at."

The great estates, carefully shot, are the safeguard and the salvation of blackgame. Were this country all cut up into small properties, this fine species would scarce survive a couple of generations.

CHAPTER XVIII

AUTUMN ON THE MOORS

(2) October

Early this morning, October 1st, a chiffchaff was singing in precisely the same trees where we first heard his note on March 31st. This little songster thus spends six months clear with us; whereas the closely-allied willow-wren only stays but little more than four—arriving on April 20th and leaving about August 25th. Yet so alike are these two, in plumage, form, and habit, that at ten yards' distance I cannot see safely to distinguish one from the other. In their notes, of course, they are totally dissimilar, as well as in their manner of nesting. Next morning, the chiffchaff was gone.

The month of October is often inaugurated on the moors by the appearance of the wild-geese, which pass overhead in clanging V-shaped skeins soon after harvest. Their course, hereabouts, is invariably to the westward, and rarely do they alight or afford to the gunner the slightest opportunity of identifying their species. Forty or fifty years ago, before the universal drainage of the moorlands, and when the flowes and mosses of North Tyne and elsewhere in Northumberland often stood in sheets of shallow water, the case was different. The grey

geese then regularly resorted to such spots, and a few were not infrequently secured by the gunners of that day—usually by "driving."

The only instance, within my experience, of geese so alighting occurred in 1878, when, on November 13th, a little pack of thirteen settled on Darden lough, which was partly frozen, and remained for some days, sitting on the outer edge of the ice. We tried, both at dawn and dusk, to secure a specimen; but the wariness of the geese, combined with local disadvantage, proved insuperable.

Never having succeeded in shooting a grey goose in the moorland area, I write with no certainty as to the species which pass over in October. Doubtless, however, these will be of the same kinds as are obtained in Berwickshire, where grey-geese still frequent the Merse both in spring and autumn, and also on the Northumbrian coast, to wit: Pink-footed and bean-geese the most common; the white-fronted less so, and the big grey-lags the rarest, if indeed they ever visit us at all.

The above were the species which used to be obtained at Prestwick Carr, long since drained. That one marsh, in olden days, formed a rendezvous for wildfowl—a sort of nucleus from which the moorland loughs for a wide radius around were stocked with geese and ducks. Some of the older hill-farmers of thirty years ago told anecdotes of incidents which befell when they went to lie in wait for the geese at nights.

For the following description of the wildfowl-shooting, near seventy years ago at Darden lough, I am indebted to Col. J. Mitford of Old Town, Otterburn. It gives a vivid picture of the bird-life of those days, and brings in contrast the changes that have since occurred:—"I accom-

panied my father to Darden lough in 1842, reaching it in sufficient time to select hiding-places before dusk, when flights of wild-geese and wild-ducks began to pour in from every direction. A beautiful spectacle it was as pack after pack came swooping down on to the water; and the gabbling noise they made, though not musical, was interestingly wild. Of course my father, who was an excellent shot, was soon busy with his gun and quickly brought down a couple of geese—right and left. This, of course, disturbed the whole assembly; but we had not long to wait till either the disturbed birds or fresh packs came swooping down as before, and in the course of an hour, my father had killed as many geese as could be carried home. That consideration, and darkness closing in, brought to a close an evening's sport that I fear, so far as Darden lough is concerned, is now, and will remain, a thing of the past.

"In the forties, corn was grown plentifully in all the adjacent valleys, which doubtless attracted the geese; and it was exciting sport to stalk them as they fed on the stubbles. But, alas! at the present day, there are no stubbles, and but few stray wild-geese in consequence. It is a long time to look back to, but I shall never forget my enjoyment of that sport at Darden lough."

Beyond the Border, matters are not quite so bad. There, wild-geese still frequent the 'Merse' of Berwickshire—that is, the broad stretch of rich arable plain that lies between Tweed and the Lammermuirs. Thither come the pink-footed and bean-geese every autumn, arriving usually in October, and again in March; remaining a few weeks at either period. Their favourite haunts in the Merse, together with their exact dates of arrival and departure, are set forth by Mr Geo. Muirhead

in his *Birds of Berwickshire* (vol. ii., p. 66 *et seq.*) in full detail.

In mild open seasons some geese may remain all winter. At such times, as many as 800 to 1000 will resort at dusk to Hule moss to roost. This spot is admirably adapted to their requirements—a wild sequestered sheet of water on Greenlaw moor; yet within easy reach of the rich cornlands of the subjacent Merse.

The moorland loughs, as they are called in Northumberland (pronounced *loff*), always interest by virtue of their attracting a variety of waterfowl in spring, and wildfowl in autumn. There is, to some minds, a quality in wildfowl, a subtle influence, irresistible as the lodestone, which cannot be defined—perhaps that inherent indefiniteness aids the charm. Wildfowling is no mere boyish ambition; rather the instinctive sense that thus (and thus only) can you bring yourself alongside "some new thing"—something unknown, uncertain, unforeseen, exotic, difficult. Now we have little else than cornfields and drainage, hand-reared pheasants and tame wild-ducks.

These moorland loughs are, as a rule, unfavourable places for approaching wildfowl. Many lying high out on the hills, have scarce a vestige of covert on their banks, not even a screen of rush or reed, nor any bush or shrub higher than heather or bog-myrtle. Others are simply open peat-holes, their surface not a foot below the general level of the dead-flat bogs and moss-hags which surround them. Some occupy basins among the hills where the heather slopes down unbroken to the water's edge; the "syke" or gully at the outflow may, however, enable one to approach the water at that point. Their bottoms are usually firm—either peat or gravel, and deep to the

edge. There is seldom any extent of foreshore where fowl can sit dry, though in some, as at St Mary's Loch—

"... A fringe of silver sand
Marks where the water meets the land."

Where the peat-formation is exposed in section, trunks and roots of ancient oaks, pine, and other trees—up to elevations of 1200 feet or more—attest a period when these open moors were clad with forest.

Of the duck-tribe that frequent these loughs in autumn, first both in numbers and importance, stands the mallard. This is, of course, a resident throughout the year, and has been on the moors all summer. But it is not until October that mallards show up in force upon the open waters. Previous to that, they have been undergoing their heavy moult, the drakes in "eclipse," and during July incapable of flight. That period they spend in deep seclusion, skulking among the lush marsh-growths of the summer. Not until October does the mallard recover full plumage, and even an old drake, shot as late as October 10th, though apparently complete, still lacked the characteristic curly feathers of the tail.

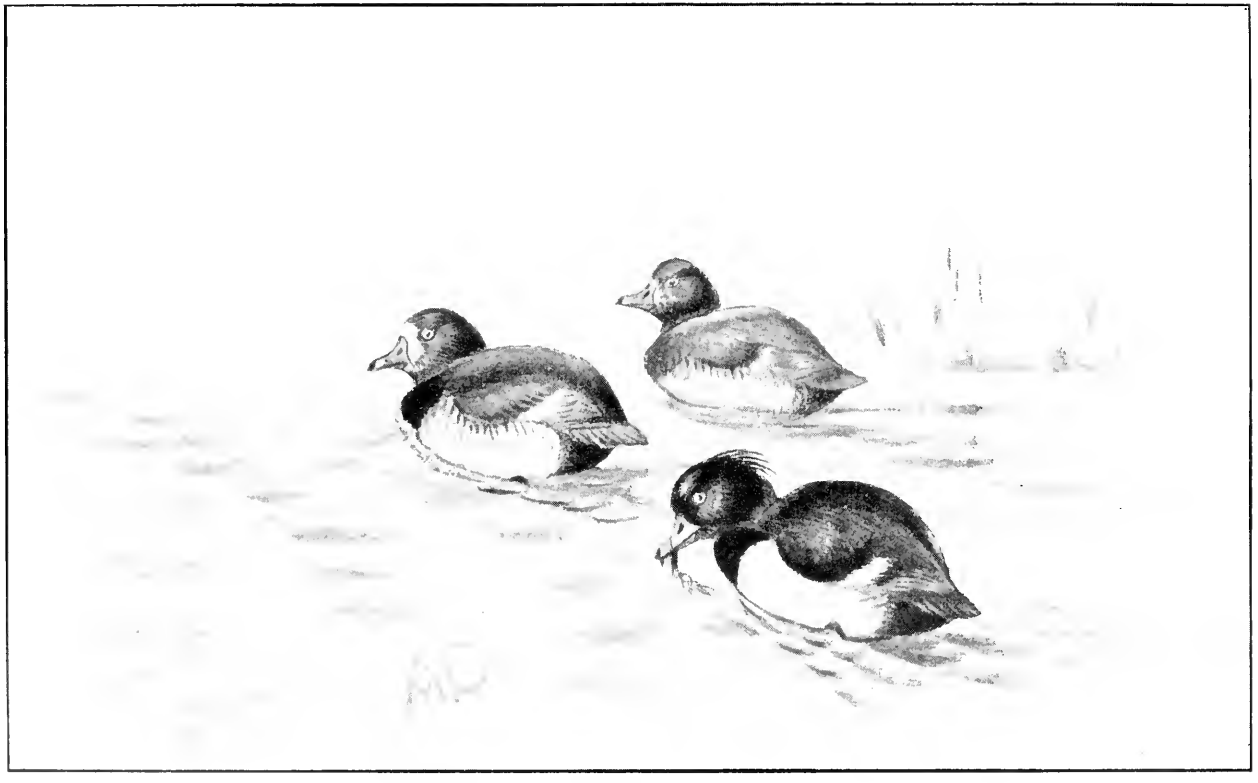
Not a sign of migration from abroad can be detected on these inland waters. Though one may find, on an October day, as many as 150 or 200 mallards assembled on a single lough (where few or none were seen a month before), yet these are all the heavy native-bred ducks. They probably constitute the entire produce of the wild country for miles around, and now, in regained strength and self-confidence, they dare the dangers of open water. But there is not a foreigner among them. The two races, resident and migrant, are readily distinguishable, and besides they keep apart. The foreign-going mallards

confine themselves to salt water and the neighbourhood of the coast.

Teal are most numerous during August, September, and October—that is on the smaller loughs to which these notes chiefly refer. At that season, one may fall in with teal at any little moss-pool or green spring-head. It is one of the agreeable surprises of autumn days on the moor, when from some unsuspected bit of bog or marshy drain, spring a couple of these light-winged wildfowl. Later in the year, teal are met with but rarely and irregularly, and then in small numbers—often but a single bird or perhaps a couple together. Teal are impatient of cold.

Tufted ducks appear as early as September; local-bred birds almost certainly. On the 9th, my brother Alfred and I shot two out of three on Haydon-fell lough—an adult duck with complete white front and golden irides, and a young drake with brown irides and a few scattered white feathers on forehead. The heads of both were dark brown; but the adult was pure white beneath, while the other was mottled throughout. From September onwards, we frequently met with the tufted duck at this lough, which lies in the neighbourhood of the Northumberland lakes, where they are numerous. This species prefers the lower-lying waters, seldom appearing on the high peat loughs, though on October 15th (1890), we fell in with a pack of a score on Darden lough (1200 feet), of which three were secured—two drakes and a duck[1]—the first seen there during fifteen years.

[1] These ducks displayed an interesting phase of plumage. Though all three were nearly adult (irides being yellow), they were not quite so—being probably in their second year. The heads of the drakes, though black, lacked the full bright lustre of perfect maturity, and the clean-cut edge to their "waistcoats" was still wanting. Their "tufts" were of medium length, and one (the least advanced) retained a few tiny white feathers under the chin.



TUFTED DUCKS.

[*To face page 220.*

There are in my notes entries of the occurrence of tufted ducks on the Tweed and other Border rivers, all through the winter months—sometimes during very severe weather. Yet never once, in over twenty years' wildfowling on this coast, have we met with it on salt water. In Spain also, where many come during winter, both tufted ducks and pochards frequent exclusively fresh water.

Of the ducks from over-sea, the first to arrive, and the most numerous, are the wigeon. These, however, confine themselves to the larger and lower-lying waters; their appearance on the small loughs and moss-pools of the higher moors being accidental and irregular. Though wigeon reach this coast quite early in September, usually in bunches of six to a dozen, yet the earliest we happen to have shot inland were on October 11th, when we found three on Haydon-fell lough and secured all—a drake and two ducks, in second year's plumage. A few days later, we observed two more, with a small diving companion. After killing the two wigeon by a drive, we hustled the stranger from some thick reeds, when it proved to be a dabchick.

We obtained wigeon at intervals, from mid-October onwards throughout the winter, in this neighbourhood, both by day and night. With a moon, wigeon afford some pretty shots as they drop in among the water-cresses and sweet aquatic plants by the mouth of some unfrozen burn. Wild as they are, wigeon, when disturbed by daylight, will usually (like the diving-ducks) take a turn or two around the lough before finally disappearing in space. Mallard, on the contrary, take right away at the first alarm. These latter, when on the hill-loughs, however numerous they may be, are practically beyond the power of man to handle comprehensively. Being natives,

they are intimately acquainted with every pool and point of vantage in all the wild land for leagues around. That is their safeguard. An odd shot or two may (or may not) be obtained by placing a concealed gun on their probable line of retreat, but that is all.

Of the ducks from over-sea, that which most interested me was the golden-eye, for to him I am grateful for many memories and many an exciting hour. Not that he is extremely wild, in fact the case is rather the reverse. Golden-eyes arrive from mid-October onwards and distribute themselves, singly or in small bunches, on every water, fresh or salt, stagnant or stream, highland or lowland. Next to the mallard, they are the commonest duck of the highland loughs and afford some charming sport. For, whereas the mallards, on first alarm, mount high in air and depart afar, the golden-eyes, on the contrary, either because, being strangers, they know not the country and its waters, or because of their own self-confidence and simplicity, remain afloat. Self-confidence, however, is either misplaced or overestimated; since it is seldom that, having seen a pair or more, one fails to secure them. In truth, on first arrival they are simple fowl. By sending a man round them, they will often swim towards or fly over a concealed gun. Then, even after being shot at, golden-eyes are quite likely to continue circling round overhead; indeed, should there be no other water within their sight, they may return to pitch alongside their defunct companions. Thus it is always worth while after a shot, though the ducks may have disappeared in the distance, to remain in hiding for ten minutes longer.

Golden-eyes are distinguishable from all other ducks at a distance by their white wing-spot, or "speculum,"

and by their incessant diving. This, however, is never considered by many of our modern keepers (there are exceptions), who regard all ducks as alike, ignoring the fact that different tactics should be employed with differing species. When ducks are descried on open water, the first essential is to discriminate exactly what they are; and this in autumn can be done with a good field-glass.

Ducks on inland waters are capable of affording sport of the very highest order—by which I mean to convey that to handle these, or any wildfowl, is always difficult. The fowler, for example, will descry, assembled on the same water, both surface-ducks (such as mallard, teal, and wigeon) and diving-ducks together. The first-named may (or may not) be secured by "moving" them, without disturbing the teal or the divers at all. The shot, in such case, is obtained at a point probably a mile away from the water. The teal, it is just possible, may then be secured by a second operation, leaving the diving-ducks for a third. Such work is obviously delicate, involving thorough local knowledge and (what is rarer still) competent assistance. It is "one-man work"—or two at most: for it cannot be shared by parties of shooters, and is for that reason (and another) little consonant with modern ideals. The second reason is that but very, very few couples—or units—necessarily represent the possible reward of thought-out schemes and labour. To the wildfowler, however, these few units suffice, since their possession bespeaks to his inner consciousness, that virtue of "dominion" and the pride thereof.

To return to our golden-eyes: Among the many shot, or seen shot, on the moorland loughs in autumn, never a single adult drake, in the full piebald plumage, has

occurred. That drakes are plentiful enough (though immature) is shown by the weights of those shot, thus :—

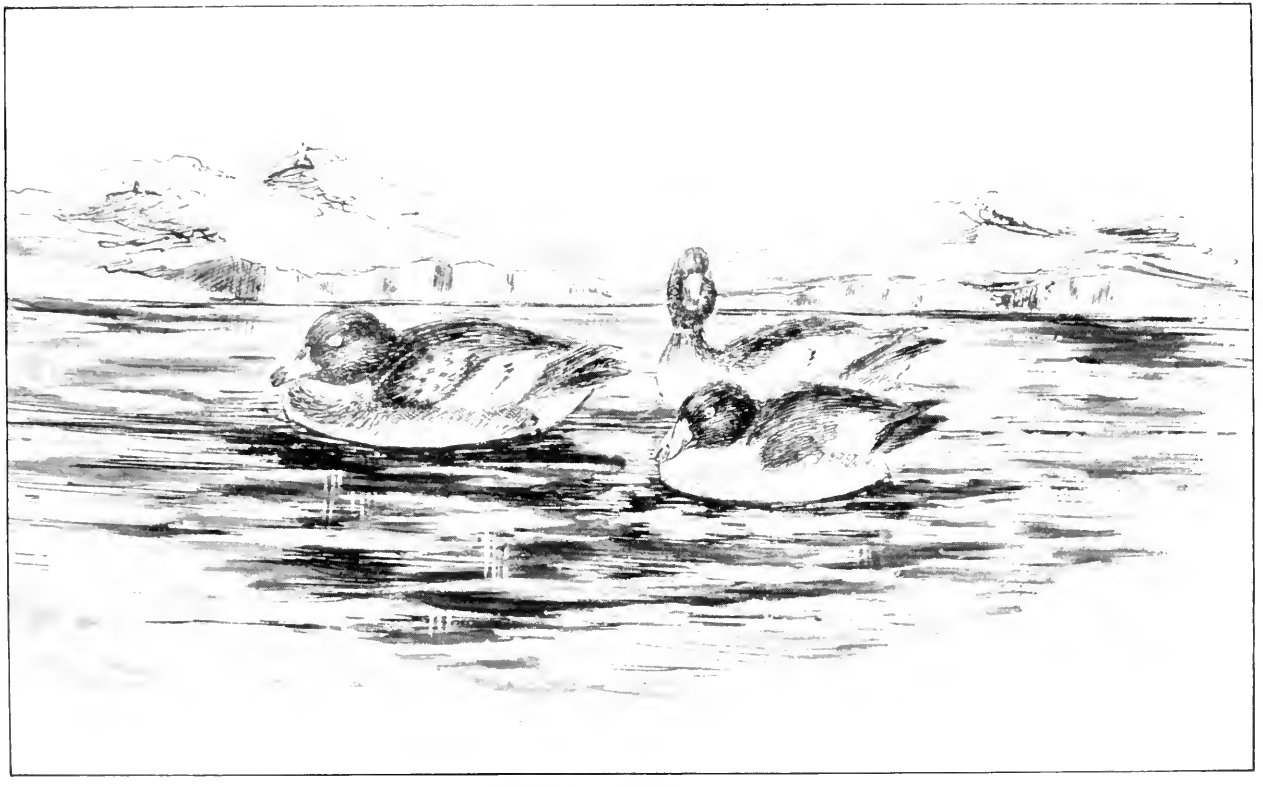
Ducks (young)	. . . .	average	1 lb. 4 oz.
Ducks (adults)	. . . .	„	1 lb. 12 oz.
Drakes (young)	. . . .	„	2 lb. 4 oz.

The irides of both the latter are golden, those of the smaller birds (the "morillons" of Colquhoun) being brown. The adult duck is more boldly parti-coloured, her wing-coverts and scapulars being splashed with white, and her neck also much whiter. Golden-eyes, shot inland, are excellent eating, less oily than most wigeon. They are usually very silent; but occasionally utter a low, harsh, corvine quack.

To prevent misconception, it should be added that adult drakes, though absent in autumn, show up in early spring. Towards the end of March, I have seen them in numbers (Crag lough may be mentioned as a favourite resort in Northumberland, and Hoselaw in Roxburghshire), and they then acquire that resonant rattle, or rustle, in their flight that may be heard a quarter of a mile away.

I shot an adult golden-eye drake on the Tweed, October 19th, 1888. At that date, the white cheek-patch and neck were still slightly obscured with dusky feathers—a phase of plumage rarely met with. A month later (November 12th), I killed another drake on Tweed—younger, and less complete in plumage. The diving-ducks take several years to attain full maturity.

Of the pochard we have not a single autumn record. In Roxburghshire, as already shown, it breeds regularly in small numbers, and the young fly by August. Hence it may be inferred that this species leaves us immediately after the nesting-season. A similar remark applies to the



GOLDEN-EYES ON A MOORLAND LOUGH.

[*To face page* 224.

shoveler: we have shot two, on Aug. 12th and 20th respectively, after which date they have disappeared.

Such are the ducks regularly met with on the moorland loughs. A few records of others, which must only be regarded as casual occurrences, may be added.

On October 4th (1880), I noticed on Darden lough, along with a dozen mallards, a big black diving-duck, showing a white "speculum." Seeing that this was a stranger, I took opportunity, while it was under water, to put the mallards away, and then (as it remained under for half a minute at a time) easily "ran down" on the diving-duck. It proved to be a velvet scoter—a strange bird to find on a hill-lough at 1200 feet, and some 23 miles inland: for this, in autumn, is a sea-frequenting duck, and its occurrence here is quoted in Yarrell's *British Birds* (4th ed., vol. iv., p. 477). This duck (a female) weighed 3 lb. 2 oz., and had two curious patches of white on either side of the head, one at base of beak (like a golden-eye drake), the other, larger and more defined, on the ear. The crop contained only gravel.

Hardly less remarkable was the occurrence of the sheld-duck, an even more marine species, at this same lough. There were seven of them, and, deliberately flying over the guns, they paid the penalty of innocence by losing half their company, three being killed and a fourth wounded. This was on November 20th, 1877, and I believe that to this day the villagers of Elsdon suspect that those gaudily-plumaged ducks were never honestly come by, but that they had strayed from some private pond or ornamental water. I have, however, noted three subsequent occurrences of sheld-ducks on loughs equally remote from the sea.

Two other sea-ducks of which single instances may be

recorded on inland waters, are the scaup and the long-tailed duck. The first, a young drake shot in November (1875); the longtail (a female) was killed by my brother Alfred on Haydon-fell lough, 35 miles from the sea, on October 30th (1889).

The goosander is a rare autumn visitor; seldom appearing on the hill-lakes, preferring trout-streams, more especially Tweed. An example of the value of protective coloration occurred in connection with this species. I had "glassed" a sheet of water of some 15 acres, taking, as usual, the utmost pains to search out every corner, but without detecting anything on its surface. Yet on my rising in sight, a goosander drake splashed from the water within 200 yards. Hardly could a wigeon or golden-eye have escaped detection; yet this large and apparently conspicuous bird completely baffled search, so perfectly did his black and white plumage assimilate with the rippling water on a bright November day.

This chapter may be concluded (leaving October but half finished) with another example of protective coloration. On October 5th (1887), we found on Darden-pike, on the high black peat, a frog which was absolutely black above, pure white below. Never did we see a frog up there, before or since.

CHAPTER XIX

AUTUMN ON THE MOORS

(3) OCTOBER—*concluded*

OCTOBER is a busy month with bird-life. Already the ducks alone have occupied almost a whole chapter; yet the half remains untold. I must perforce give short shrift to those regular winter migrants that come crowding across the North Sea during the later part of the month.

These comprise, as regards the moorlands (omitting, as a rule, those species of which some individuals have nested here), fieldfares and redwings, bramblings, siskins, grey crows, short-eared owls, and woodcocks; together with a sprinkling of the larger raptores, such as hen-harrier, rough-legged buzzard, osprey, and similar irregular visitants.

Redwings arrive early in October: fieldfares a week or more later, their average date being the 20th. When on the sea-coast, my brother Alfred and I, sitting outside on fine October nights, used to hear the fieldfares making the land between 10 and 11 P.M. These had left the Norway coast at sundown; thus covering the 400 miles in five or six hours.

While migrating, fieldfares utter continually a peculiar low single pipe, quite different to their ordinary note. I

first noticed this on October 23rd, 1880, when happening on an army of migrating fieldfares. I was hidden by a loughside, awaiting a "drive" of ducks, and many of the fieldfares, flying low over the heather, passed within a foot or two of my head as I lay concealed. On two subsequent occasions I have heard this peculiar note by day, as well as at night. Redwings also, when arriving, keep up a constant chirping chatter.

Neither of these birds winter among the hills. Redwings, especially, make a very short stay, merely resting for a day or two to feed on fell-berries and in marshy meadows, before passing onwards to more cultivated regions. In mild seasons a few fieldfares occasionally remain throughout the winter.

Woodcocks on first arrival sometimes pitch down among the heather, far out on the open moor—just as the jacksnipes had done a month previously. The earliest of these distinctly foreign arrivals that I recollect finding thus, was on October 2nd.

On October 8th, 1879, I came across what is now a rare bird on the Northumbrian moors, a hen-harrier, an adult male, pale ash-blue. The hawk had struck down a grouse, obviously on the wing, and was busy devouring it in a deep black ravine, or peat chasm, into which the grouse had fallen, when my setter pointed the pair of them from the opposite side. The harrier rose from almost beneath my feet, with a wild scream, his yellow claws dangling below him. The head of the grouse had been completely severed and lay some distance lower down the ravine. It is worth adding that in beating up-wind to where we found the harrier (which was on one of the highest ridges of that fell), the grouse had been "lying" —a most unusual occurrence at that period—and my

brother and I had just killed four or five brace in the open over dogs. For this we had undoubtedly to thank the harrier, which had apparently hunted the same ground up-wind, right in front of us.

On only two other occasions have I observed harriers on the Borders. One, a female, in September; the other, an adult male, June 1st, 1884. This latter I raised on a wide low-lying bog, and afterwards followed and put him up several times, each time carrying some prey in his claws. Though I have never succeeded in proving the hen-harrier's nesting on the moors within recent years, it may yet have done so on occasion. Its geographical distribution rather favours the probability: for it is strictly a winter migrant to southern Europe, while on the continent, its breeding-range, where undisturbed, extends far further south than the Borderland. There would therefore be nothing surprising if a few pairs did nest amidst all that wide expanse of fell and flowe, and there are leagues of it whereon a gamekeeper scarcely sets foot in spring.

Montagu's Harrier (*Circus cineraceus*).—The occurrence of this species in the north of England, and especially its attempting to nest there, is so exceptional an event that a recent instance should not pass unrecorded. The record unfortunately begins and ends, as usual, with the destruction of the bird at the hands of a gamekeeper. My authority is a letter published in the *Newcastle Daily Journal* of August 8th, 1905, the details which were given being subsequently corroborated: though I had no opportunity of identifying the bird myself. "A fine female specimen," the letter states, "of this rare harrier was shot on the moors of Coquetdale in Northumberland. The keepers had been aware of its presence for some weeks and accused it of having actually dragged the sitting grouse

from off their nests." This points to the harriers having actually attempted to nest here, an event that has not been recorded in the north for seventy years, *i.e.*, since 1835, when a brood was destroyed at Wolsingham, county Durham, as recorded in Mr Hancock's *Catalogue*, two of these being now in the museum at Newcastle.

As regards Montagu's harrier "dragging grouse from off their nests," I will not dispute the statement, though I doubt it, being acquainted with Montagu's harrier in Spain, and having studied it during several years in the nesting-time. The hen-harrier might do so; but I would not accept the story of a gamekeeper as sufficing evidence on such points. It is too apt to be tainted. This is an extremely light-built hawk, all feathers and no force, and preys on lizards, frogs, and small birds.

To me such an act as the destruction of this rare and beautiful bird is nothing less than brutal and selfish. Yet the published notice evoked no protest or remark. Hardly one reader in a thousand knew what a "Montagu's harrier" was! There were those who vaguely imagined it was some new breed of hound; others probably concluded that a notable feat had been performed in destroying the creature—whatever it was.

The gamekeeper is an utterly hopeless subject. The only chance for these rarer birds lies in the higher intelligence of his employer. I wrote to the employer in this case; but the subject, alas! was not deemed worthy of a reply. Subsequently Lord William Percy kindly wrote me as follows:—"In the spring of 1905, there was a pair of Montagu's harriers in the park at Alnwick. I wanted a specimen, but spared them in the hope that they might stay to breed there. They left some time in May, and

on July 11th a female was trapped in Coquetdale, close by. Duncan in Newcastle told me that when he dissected it, he was sure the bird had been sitting for ten days. Such is one's reward for attempting to preserve the rarer things of interest."

The buzzard is another of those indigenous species which has (within some half-century) been sacrificed to the gamekeeper. I must limit this remark to the eastern Border: for on the Cumbrian side a few buzzards survive among the hills, and in Westmorland (chiefly because there is little or no game there) I have enjoyed watching both buzzards and red deer still possessing their native mountains. No longer, on the Cheviots, does a single pair of buzzards breed; but in autumn, stragglers occasionally appear on migration. These are chiefly of the northern species, the rough-legged buzzard (*Buteo lagopus*), of which I have examined several shot at this season, and once (on October 31st, 1890) had the pleasure of watching one for some time at quite close quarters. While salmon-fishing on Reedwater, near Otterburn, this fine bird passed close overhead—easily recognised by the broad, whitish tail-band as he swept to and fro over the rushy haughs. Here he presently raised the ire of a crowd of peewits, which eventually chased him far beyond sight.

I have seen a goshawk (immature) killed in November; and a honey-buzzard (*Pernis apivorus*), wounded by a farmer in the county of Durham on October 20th, 1892, and kept alive for a fortnight, proved a most tame and gentle bird. It escaped, and was then shot on Boldon Flats, November 4th, in my brother Walter's presence. I have the skin; it was a male, weighing 32½ oz., length, 22¾ inches, expanse of wing, 48½ inches.

Another large raptor appeared when my old friend and co-author of "Wild Spain," Walter Buck, happened to be with me. We were snipe-shooting on Monkridge bog, near Otterburn, when Buck (who in Spain is accustomed to seeing large birds of prey every day) exclaimed, "Hallo! here's an eagle coming over!" The stranger was an osprey, recognisable, as it passed overhead, by its white head, very long and pointed wings, and short broad tail, widely spread. I had that very morning (September 28th, 1891) seen the same bird, shortly after daybreak, hovering over Reedwater; but was not then quite satisfied of its identity. My local companion (the water-bailiff) had declared it was a "heronsewe"!

Twelve days later (October 10th), I again saw this osprey, coming this time close on him, within 40 yards, as we climbed a steep bank on Reedwater, after fishing a pool. The osprey was perched on the edge of a marsh-drain, eating a frog; and at that short distance I could plainly distinguish the prettily-mottled wing-coverts—bespeaking immaturity. Even my friend the bailiff (still with me) admitted that it was *not* a heronsewe!

The osprey breeds in Europe from the North Cape to Gibraltar, and the young reared in the far north necessarily migrate southwards in the autumn. Formerly ospreys nested also, commonly, on the Scottish lochs; but that, of course, was too much for our friends, the "naturalists" and gamekeepers.

To introduce the name of the kite (*Milvus ictinus*) in a book on the ornithology of the Borders seems scarcely less inappropriate than would be that of the Dodo. My object in mentioning the bird, is to try and bring towards the light the following fact. The kite (once abundant and resident), is now all but extinct in the British Isles. The

exact number that still survives is, I believe, five pairs. To preserve this last sad remnant from extermination, the British Ornithologists' Club have established a "kite fund," whereby these nests are watched and safe-guarded, day and night during the whole period of incubation. The danger, in this instance, arises, not from gamekeepers, but from that fungoid excrescence on science, the "collector"—the miscreant who poses under the guise of a naturalist, but is more fitly described as a receiver of stolen goods. Thus only may be averted, it is hoped, the extermination of another indigenous British bird.

During the second half of October a marked change will be observed in the habits of the stronger and wilder moorland birds—especially the game and the wildfowl. The grouse which, during September, had been congregated high out on the hills in big, shifty, inaccessible packs, now disperse into small congeries of a couple to half-a-dozen birds, and sit boldly conspicuous on the open "white ground," on stones and dykes, and on bare knowes. One no longer expects point-shots at the young blackcocks; and (as already mentioned) the mallard-drakes having acquired their glossy green heads and chestnut breasts, these ducks show up boldly on the open waters, instead of skulking in reed or sedge.

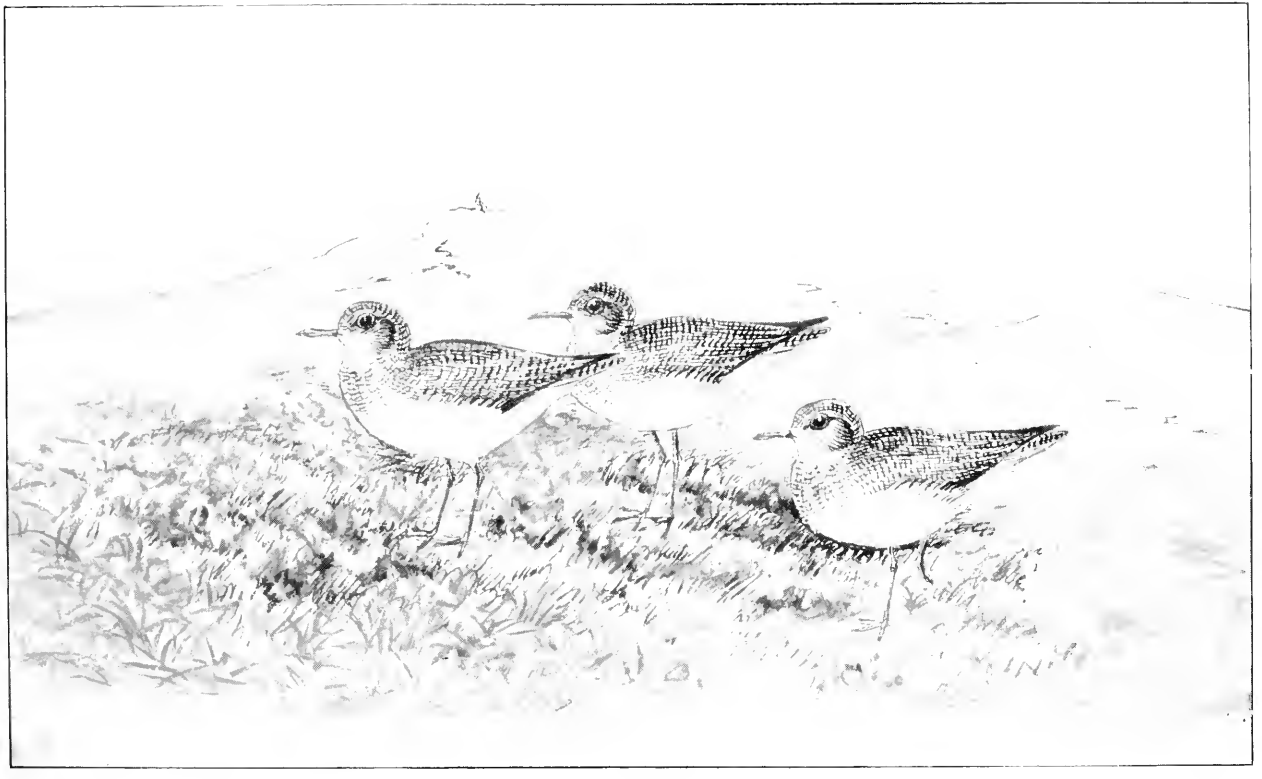
All the strong wild birds, in short, having attained their full feather and beauty, now assume the full measure of confidence—not to say defiance—that marks their winter habit. They no longer seek a delusive security in concealment. Early in the season such tactics were intelligible enough with immature poults, or with ragged old birds still in full moult. But with increasing strength their former devices are cast aside: they now sit bare

and conspicuous on hillside, knowe, or lough, confident in their own keen instincts and powers of wing and eye, to keep themselves beyond the reach of danger.

Towards the end of October grouse become very noisy, especially just after their "morning flight," which takes place at, and before, the break of day. As the first streak of dawn lights up the eastern hills, the grouse commence these movements; and on a bright frosty morning, the concert they keep up is delightful to hear. From every hill, often before it is light enough to see, ring out those resonant notes, and the variety of intonation and expression is truly surprising.

Given fine frosty weather, the grouse are all in pairs, or in groups of six, eight, or ten, which are also composed of pairs. That this is the case is clearly seen when stalking, or what is called "edging" them, and when "carting" to them. The courtship of the grouse-cock and coquetries of his mate—even the *amantium iræ*—are all observable thus. Presently the lady dashes away, followed by her lover, and the chase lasts for minutes at a time. Round hillocks, along sinuous "sykes"—now low on the heather, then high in air—the pursuit is carried on with intense energy, the hen often dodging downwards, or doubling sidelong, as though a falcon were behind. All this time, the low soft spring-note is repeatedly uttered.

All this seems very curious in late October. I have already referred, when writing of blackgame, to this amatory recrudescence in mid-autumn, and christened the phenomenon pseudo-erotism. So conspicuous a feature of the season is it, that one wonders how it comes to pass that but few previous writers have even alluded to it. In "driving" there is, of course, no opportunity of observing such quasi-domestic affairs.



GOLDEN PLOVERS—AUTUMN.

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Here is a note on the subject relating to the golden plover:—October 31st (1882).—To-day, in fine warm sunshine, observed the plovers persistently chasing each other, repeating the while their pretty love-note of the spring. There was a large pack, perhaps 200, all evidently in exuberant spirits—now high in the clouds, then suddenly darting earthwards in a hundred curving lines like falling stars, right to the very heather, whence they rose again to reunite in close order in the skies, when the pack would again shiver into atoms, dashing headlong in every direction.

In reference to the spring-note of the golden plover, it is delightful on bright October mornings, to hear the absolutely perfect imitation of it that is produced by the common starling. In some old trees around my house a colony of these have their headquarters, and frequently astonish a stranger by their exquisite reproduction of this wild gurgling note, as well as of the spring whistle of the curlew. This latter, at any rate, they cannot have heard for some six months; while the plover's spring-note always appeared to me absolutely incapable of imitation. The starling's memory is as good as are his powers of mimicry.

It may here be appropriately added that the common blackbird also renders, in very fair style, this spring-note of the plovers; and imitates, besides, the song of the ring-ouzel. This, however, is always in June. During the present summer (June, 1906), a blackbird close to the house, has picked up the triple cry of the redshank!

By the middle of October, skylarks, which a fortnight before had abounded, have disappeared; and the titlarks follow them at the end of the month. I have a note that in a week's shooting at that period on the "white grass"

only a single titlark was observed, where in September hundreds had been seen.

The grey-backed crows are at this season most inimical to sport. They hunt the heather as regularly as a setter and put up every grouse they can find, checking their flight whenever they come over a game-bird, apparently to see if it is wounded. Why unwounded game should display such fear of the crows (for the latter are incapable of injuring them) is not apparent. Even rooks make feints at grouse which invariably put the latter up.

Rooks are very fond of a feast on grouse when procurable, and daily hunt the whole line of the old coach-road to Edinburgh which crosses the Border at Carter-fell, and along which the telegraph-wires are stretched. This line carries no less than twenty-five wires, a perfect death-trap for birds, and the destruction it causes is incredible. The twenty-five wires cover so much space, and being fixed at exactly the usual height of the flight of game (and especially of their "morning flight," when, in the grey dawn, the wires are invisible) that they cannot fail to effect grievous damage, and occasionally a pack is cut down by wholesale. This is going on at all seasons, and at times the roadside is strewn with remains. Every morning at break of day come out marauding bands of rooks from the lowland woods, reconnoitring the road-side and feasting on the dead and dying.

To convey some idea of the mischief wrought by these wires, and the cruelty and ceaseless suffering they inflict on the moor-birds, I quote *one* extract from my shooting-diary :—"October 6th.—Found to-day four grouse severely damaged by the wires. Two were already dead and pulled to bits by the crows. A third had evidently received his wound late the previous evening, for the blow had

completely carried away his crop (which at that time would have been full of heather). This poor bird had been hungry this morning: for, oblivious of having no crop, he had been feeding, the throat down to that ghastly gash, being crammed with heather-shoots. The fourth grouse had been injured some time before. He also had received a terrible gash across the breast, which was bare of feathers, the old skin hard and yellow, with a mass of clotted blood remaining in the cut." I could quote many similar instances, including not only grouse, but all the other moorland birds. There survives a spice of smug hypocrisy about us still; we fine a man for overworking a horse (on which perhaps depends his daily bread), another for shooting a wild-goose in March (no harm in that)—yet we allow this abomination to go on, inflicting cruelties day by day. True, these are not much seen; they occur among remote hills, where the only witnesses are shepherds.

Another danger, peculiar to the moorland, arises from the quantity of sheeps' wool caught up on heather or bent. A single strand gets twisted round the leg of a young bird—chiefly plovers, peewits, and snipe; as the leg grows the wool cuts in, circulation stops, and the limb is lost. I have a note that of six peewits shot one evening by a schoolboy, no less than three were thus affected, two having already lost a leg; while in a third the constrictive amputation was in progress. At Houxty, I have shot two snipes in a day similarly afflicted.

Peewits in October are preparing to leave the moorland. In mild, wet seasons, they are still abundant, feeding (by night) on bare black ground, where the heather has been burnt; but the first severe frost or snow at once drives them off the hills.

The oceanic birds, such as solan geese, petrels, and little auks, seem peculiarly liable to get driven inland after stormy weather at sea. One frequently hears of their occurrence in most unlikely localities. Thus a young solan goose was caught alive near Elsdon, October 31st, 1883. It was in an exhausted condition, and did not long survive; but that was hardly surprising, since the only food he was offered was cold mutton!

The following cutting from a local paper obviously refers to another occurrence inland of this same species (a young solan goose), and is sufficiently amusing to deserve insertion :—

"A wonderful bird has been found by a shepherd near Kirton-in-Lindsay, Lincolnshire. It is about the size of a turkey, dark grey, speckled, web-footed, quite amphibious. The naturalists of the district are quite puzzled, some thinking it to be a Northern Diver, others a Vulture escaped from a ship, or driven away by the gale."—*Newcastle Daily Journal*, October 22nd, 1886.

One's sympathy goes out to those "naturalists of the district." Small wonder that they should be puzzled with a *vulture* which was web-footed, and "quite amphibious!"

CHAPTER XX

MOORGAME IN MID-AUTUMN

THE month of September, as already mentioned, is the worst period of the season for killing grouse to dogs. Blackgame, by the end of the month, are sufficiently thinned; the season for shooting over dogs in the open is thus practically finished by mid-October.

But in October a new era opens in the grouse-shooting; so that, between the two game-birds, there is no break in the sequence of sport on the moors. This arises from the altered habits of the grouse. They no longer cower in packs as was their wont in September. The first bright frosty mornings in October, speedily dissolve those packs into twos, fours, and sixes, scattered widely over the hills, and sitting bold and conspicuous on every ridge and knowe.

At this period, a man with a good eye and who knows how and where to look for them, may secure several brace in a day on rugged or broken ground, either by stalking the grouse that he has descried sitting: or by "edging" them from the cleughs, sykes, or peat-ravines which intersect most moors.

By the latter method, very excellent opportunity is

afforded for skilled dog-work. There must, of course, be no "ranging," or showing-up in sight, on the part of either dog or man. Both must learn to keep cover and move unseen, holding the course of cleugh or ravine. The same setters you used in August will, with a little patience and attention to teaching, speedily take in the changed situation and intuitively diagnose the new strategy. But this, be it repeated, is skilled dog-work; and the prettiest spectacle possible it is to watch a setter that has learned his business, systematically indicate the position of grouse after grouse, all unseen, on the higher levels, and yet never showing so much as the tip of his tail upon the sky-line.

It will frequently happen that, on reaching his dog and cautiously surveying the ground above, the gunner will see the grouse sitting, yet quite beyond range; but he may also see that a shot can be obtained from some other point—possibly involving a considerable detour. It then becomes necessary to "put down" the dog, and leave him lying, while the sportsman proceeds alone to stalk his game from that other point of vantage. This course is usually preferable to requiring a dog to "break his point" when the animal has not been able to understand the reason therefor. With young dogs, or those whose absolute steadiness cannot be relied upon, a keeper may be left in charge. Personally, however, I prefer being alone in this, or any operation that involves stalking. An attendant, nevertheless, on occasion, enables one to utilise yet a third means of outmanœuvring those wild-flying grouse. Assuming that they are not only out of shot from the original point of view, but also that no other means of access may be discoverable, the gunner can then go round to the probable point at which their flight may

best be intercepted, leaving the keeper, with the dog, to put the birds up so soon as that point has been reached.

The number of grouse which can be killed thus is often considerable: for not only can advantage be taken of ravines or water-courses, but every crag or brae, in fact, every inequality of the ground if sufficiently abrupt, will serve to conceal an approach. Thus a thorough knowledge of the lie of the land, with the relation of its gradients and distances, will enable the possessor thereof to approach game which otherwise appears inaccessible, and to obtain the maximum of shots while disturbing the minimum of ground.

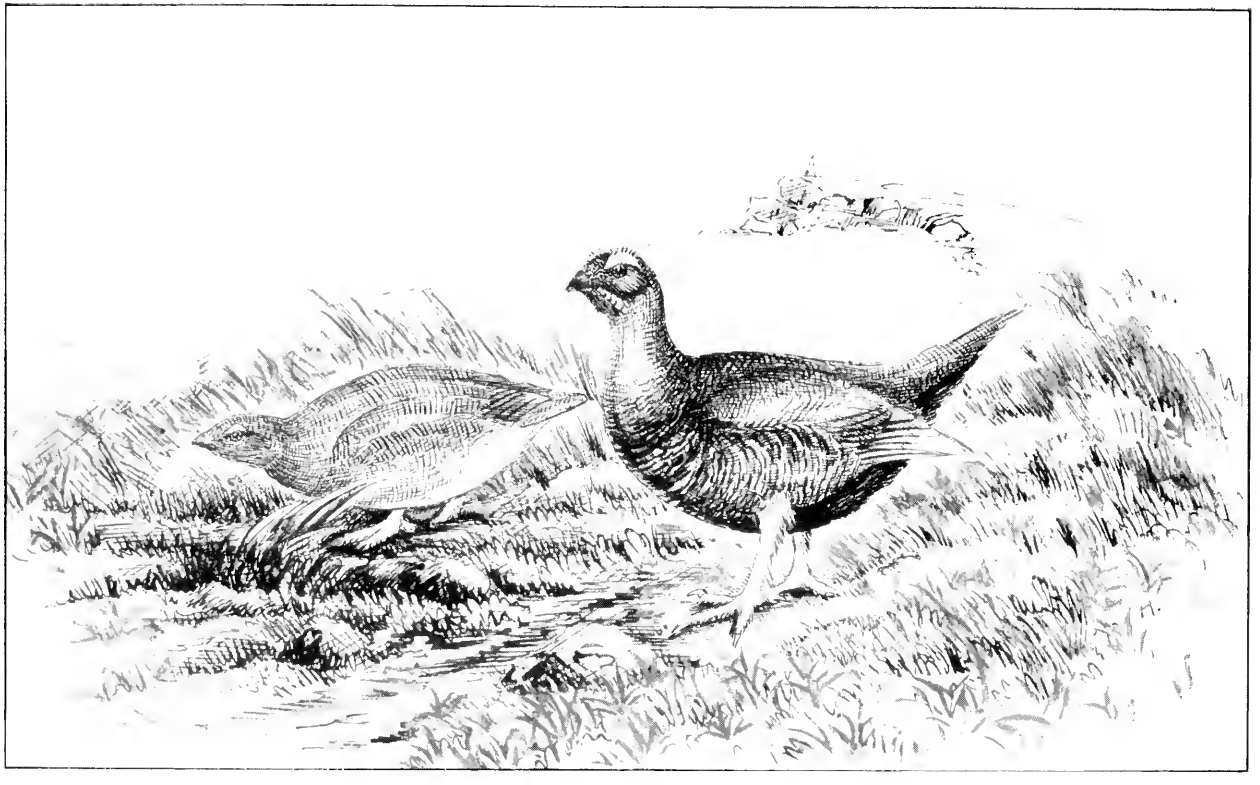
Shooting on such lines, combining both dog-work and stalking at once, involves hard going and ceaseless attention. An objection may be raised that the shots, being straight-away, are therefore easy. The basis of reasoning, however, on which all away-going shots are nowadays pronounced "too easy," has never been apparent to the author. Of course if pheasants sprung from turnips were the sole criterion, the argument would become intelligible: with "back-end" grouse on the fells, it is not so. The shots thus obtained are mostly 40-yard rises, with kill—or miss—at 50 yards, for wild grouse are quick at doubling a crag or dipping a ridge. Our friend "Pompommer" might find them present as smart shooting as any he ever saw; but the antecedent strategy, being outside the narrow limits of his practice, would probably preclude his ever getting a chance.

This system of shooting the wildest of grouse over dogs, as indicated in rough outline above, presupposes the existence of broken ground, of cleughs and ravines,

and is only available on rugged, hilly moors. But there are, on all moors, wide stretches of flat ground, wholly devoid of "advantage" to the gunner, and on which he may see his handsome quarry in dozens, strutting about on the short heather, or loudly "becc-ing" out their defiant challenge, as though conscious of security. A few shots may of course be got at these, and a brace or two secured, single-handed, by short drives. But there is a method of handling them more comprehensively, which is often practised on the Borders, and which merits a brief description. This method is to outmanœuvre the grouse by means of a horse and cart. There is nothing new in the idea. The stalking-horse was one of the earliest inventions of the aucipial mind, and to this day is used in many lands to gain access to wildfowl. In Spain, for example, within my own experience, trained ponies are employed for approaching wild-ducks; and in the same country, the great bustard is shot from a farm-cart, when the corn is being led off the stubbles after harvest.[1]

As already explained, a bright frosty morning in October finds the grouse scattered about in pairs, or in small parties, sitting quite openly and in full view. Should a human being (with a gun) appear alone, they would at once rise, a quarter-mile away, and fly right out of sight. But by a lumbering creaking cart, pitching and tumbling over the rough ground, like a cross-channel

[1] I have seen the savages of East Africa (Wandorobo and Kikuyu) employing a donkey to approach big game. To it, they had fitted a pair of wooden horns, rudely approximated in shape to those of the animal they were endeavouring to outwit (oryx or hartebeest), and by that deception, hoped to get near enough to bring their poisoned arrows into effective use. In its inception, the system does not materially differ from that I am about to describe.



"CONFIDENCE."

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steamer, their suspicions are less aroused, for they seem to regard it as a harmless implement of everyday farm service; and so long as a course is held not too directly upon the birds, but rather circling round, as though about to pass them by, while in reality drawing nearer every moment, they will pay it but little attention or display much sign of alarm. The cock grouse sits bold and erect, or proudly struts a yard or two further away, while his crouching mate is just visible beyond, creeping low and inconspicuous through the rough grass or heather.

One thus enjoys delightful views of wild game at comparatively close quarters; but it does not follow that grouse will permit of an advance to fatal range. Frequently they are restless and suspicious, and many attempts may result in failure. But the use of a cart gives the gunner this advantage, that it does not alarm the grouse in the degree that the appearance of a man alone would have done. They may be too wary to permit approach; yet they will not go far. Ere they have covered a couple of hundred yards, the cock grouse will fling himself up in air, in his splendidly defiant way, poise for an instant, and then, loudly "becc-ing," drop vertically into the heather below—adding as soon as he has reached the ground, "c'm back, c'm back, c'm back!" By that latter note, one knows, though out of sight, that he is down. Then his partner joins him, and another manœuvre begins.

When, after a successful approach on the open moor, the grouse rise within shot, and one or more fall to the gun, one might suppose that then, at length, they would realise the danger. But that is not so. So long as the gunner remains close alongside the cart, the charm con-

tinues unbroken. Once let his figure appear in separate outline and it ceases.

It is not, however, with the sporting aspects that we are concerned, so much as with the opportunities for

SUSPICION.

observation that a cart affords to the naturalist. Rarely is it possible to watch wild birds so close at hand, yet unconcerned—to enter, as it were, into the privacy of their domestic life, as one is enabled to do by this device. In punt-gunning, it is true, and also in stalking, one enjoys,

over lengthened periods, that opportunity of watching one's game and studying at leisure its habits, manners, and poses. In both these cases, however, the distances are always considerable; while here, with a cart, one gets into closest touch with creatures to which the human presence is anathema.

While following this pursuit over a series of years, one meets, of course, with every kind of moorgame; and the different manner in which the various species regard the stratagem, together with their respective methods of reasoning and gradations of reasoning power, form an interesting study.

The grouse, which certainly possess the most highly organised mental faculties, have worked out the whole problem. The cart, as stated, they regard as an ordinary implement of farm service, which they are accustomed to see on the moors, collecting peats or bracken (used locally in place of straw), or passing along the open roads that traverse the fells. It is a further illustration of their acute reasoning capacity that they discriminate between a shepherd with staff and collie, and a solitary sportsman with gun and setter. Instances in proof have come within my observation. After marking grouse down at a distance, and while reconnoitring the ground before advancing, a shepherd has appeared on the scene. Unconscious alike of the presence of another man and of the birds, he passes close by the game with "lish" gait and swinging stride. The grouse recognise him—"It's only the shepherd!" and they crouch low till he and his dog are gone by. But attempt to go and do the like—they are gone ere one's nose is fairly clear of the sky-line.

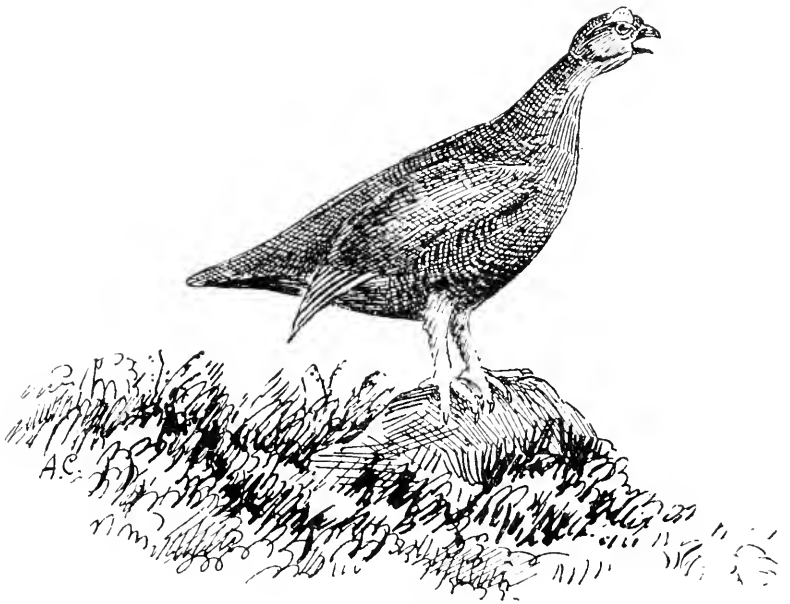
The reason which actuates the survivors of a small

party of grouse to re-settle immediately after some of their companions have fallen to the gun, is intelligible enough, albeit the premises are mistaken. Being still doubtful of there being any offensive power in a *cart*, and the report of the gun having been deadened by the rattling and creaking of its wheels, they conclude that their late friends had ascertained that the cause of alarm was baseless, and had therefore lit again. Such conduct will so influence every kind of game—even the biggest and the wildest. Within my experience, similar mistakes have been made, not only by wigeon and other wildfowl, but by big game, such as eland and red deer.

When a grouse (usually a single bird) finds the cart, with its human adjuncts, nearer than he intended or cares about, he will often sink from sight, squatting in the heather. Nothing will then induce him to move, and after circling round the spot, one detects him lying almost at one's feet, motionless yet without fear. I say fearless, for, when he eventually rises, he does so boldly and with his loud challenging "bec-bec-bec"—indicating that his chief sentiment is merely annoyance at being disturbed—very different from the silent terror-stricken dash with which a *wounded* bird (one that *has* realised the danger) springs away from a close point.

Charming pictures of the inner life of the grouse are enjoyed as the lumbering cart manœuvres around them—their various poses and contours are infinite and interesting. In fine dry weather, some are lying down, basking in the midday sunshine; with, perhaps, one wing and a leg fully extended. Others are preening, or loitering about, picking up a rush-seed or odd bits of gravel, to aid digestion. Then one observes little amatory skirmishes and reconciliations—this as early as mid-October. When

the ground is wet, grouse seek the barest spots, and the old cocks walk about with tails carried as high as their heads—so careful are they to keep dry. During rain, they will be huddled up into round balls of feathers, perched on rocks, stone-dykes, or any slight elevation where they can sit dry. On such days, they are silent;



CHALLENGE.

whereas, on fine frosty mornings, the moor rings with calls of infinite intonation; and cheery sounds these are to the gunner as he reaches the fell by day-dawn, while the cart-wheels crunch and grind over the frozen ground.

Next to grouse, our most important game-birds on the Borders are the blackcocks. One sees them daily, in packs.

They will not "cart" at all. True, one may find oneself close alongside the greyhens; but they are not nearly so wild as their lords. They are emboldened by being habitually spared, and thus, from carelessness, simplicity, or confidence, they may disregard the proximity of a cart. But the case is very different with the blackcock. He is neither simple nor careless, nor apt to trust, and he will never "cart."

On approaching blackcocks with a cart, all are visibly on the alert, with necks at full stretch, yet unable to comprehend the meaning of the phenomenon. It may be, they perhaps argue, only a harmless farm-cart; but if ever they commence so to grapple with the problem, then distrust and suspicion invariably supersede reasoning powers, and they take wing at 100 yards.

The failure of the stratagem in this case arises, therefore, from no superior intellectual development in the blackcock, as compared with grouse, but really the reverse. Intellectually, *Tetrao tetrix* is inferior, since cunning, distrust, and suspicion predominate over reason and calculating power. It is, in short, in despite of his mental capacity, rather than by virtue thereof, that he escapes.

That the blackcock is devoid of intelligence is not conveyed, and such deduction would be absurdly erroneous. In reasoning out this particular problem, he (luckily for himself) fails, or at least falls behind the grouse. But on other occasions, he often displays fine level-headed coolness and judgment in face of danger. Thus, while driving, a pack of blackcocks may pitch on some ridge just short of the line of butts; and will then deliberately remain there, despite frequent firing within two or three gunshots of their position. There they sit, in full view, quietly await-

ing developments. But so soon as the drivers show up from the other side, the astute blackcocks will at once (having fully taken in the situation) fly back in face of the driving line—assessing shouts and frantically-waving flags at precisely their true value.

Although blackcocks cannot be directly approached with a cart, yet that lumbersome apparatus may sometimes afford means for securing a shot. For, by manœuvring at a cautious distance (so far, that is, as will not put the game up), a position may be reached whence there is "advantage" for a stalk. The blackcocks will then continue to watch the harmless cart, while the gunner, having slipped away from its side, is creeping on them under cover of some bank or broken ground—even a tuft of tall rushes is sometimes sufficient.

Golden plovers are always erratic in disposition. One day they are so careless one can walk almost openly within shot; or, with a cart, lead round a pack till the greatest possible number fall into line. On other days, they will scarcely remain on the same hill with a human being. On one occasion, after trying in vain to outmanœuvre a pack of 100 on an open flowe—carting, stalking, driving, all had failed—we finally left them in disgust. Then, amid a chorus of pipes, the whole pack swept past from behind, within 30 yards! The advantage they had refused to persistent effort, they now gave away spontaneously, and five of them forfeited their lives to that erratic behaviour.

Partridges are often met with on the outskirts of the moor; and, *if seen*, will usually "cart." But as they do not show, preferring to run like rats among the rough grass, one never troubles them, and I only name them here as illustrative of their habitual instinct in this respect.

Moor-partridges, moreover, never get really wild, since there is at all seasons plenty of rough covert. It is the lack of this, in an era of shaving reapers and close-cut hedgerows, that makes partridge wilder. On the moors, when the covies are broken, they will lie to dogs throughout the season.

On moors that are too irregular in shape, or too narrow, to admit of driving; but which may yet be too level to afford any access to wild birds, the above method offers a means of killing a few brace, where hardly a bird would otherwise reward the utmost labour. Driving, moreover, presupposes several guns, and yet more drivers. By the method described, a single gunner may not only enjoy a novel sport, but will be delighted with the constant and favourable opportunities it affords for the observation of wild birds.

None of the true wildfowl—by which I mean ducks and geese—can be outwitted thus. It is true that, on moorland, they present little or no opportunity to test this opinion. But it is foreign to their natures to permit the proximity of humankind, consciously, whether with a cart or otherwise. No carts exist where wildfowl live. The basis of the Spanish style of fowling, with *cabresto*-ponies, is essentially different, for there, wild-bred ponies do live in the marsh-lands, in the midst of the wildfowl.

The curlew, however, though one of the wariest and most watchful of birds, appeared quite likely to fall a victim to misplaced sagacity. There are no curlews on the moors in autumn, so the experiment had to be made on the coast. There, on wide sandflats, where they feed, and where they are accustomed to seeing carts passing, we found it quite possible to approach

within shot. Even when a curlew was killed, the rest flew but a short distance; but were considerably more suspicious on a second attempt. It also proved to be possible to approach sheld-ducks, on the coast, by this method.

MALLARDS (ON THE MOORS)

CHAPTER XXI

WINTER

(1) November.

With November, according to the calendar, comes "winter," and I can certainly recollect, during forty years, two really bad snowstorms occurring in the "dark month"—the last as recently as 1904. The snow came that year with a N.-E. gale on the 21st, and on the following day lay 18 inches deep on the level, with drifts of 10 or 12 feet, river frozen, trains buried, and communications cut off. Such occurrences are, however, exceptional in November. The general impression that the month has left on memory is agreeable: the days, it is true, are short, but they are mild and bright, and with an average degree of warmth that one never enjoys in April, and seldom in May.

But, bring it winter or "Indian summer," November always brings the snow-buntings—charming little birds apparently ordained by Nature ever to brighten the most dreary prospect of snow and ice, since no bird living seems more blythe and joyous than the snowfleck. Whether one sees him in summer (as the author has), amidst grim landscapes within the Arctic zone; or in winter on our own snow-clad hills, he is always the same—bright and happy despite the dreariest environ-

ment, overflowing with life and exuberant spirits as he flits about, more like a big butterfly than a bird; and his little triple trill is as cheery as his actions. It rather resembles the rustle of a partridge's wing, and one turns to see if some have passed behind. The snowflecks arrive on the moors with great regularity about November 1st, usually in large flights, and feed on the seeds of grass and rushes. Wherever a single seed-bearing blade rises above the snow, their little footsteps will be found imprinted on its surface. These earlier flights are composed exclusively of immature birds: the adults, in full black and white plumage, are comparatively scarce at all times, though rather more numerous in mid-winter.

Snow-buntings were noticeably numerous on the fells in November, 1880—presaging, it may be, the phenomenally severe weather that followed a few weeks later, in January and February 1881.

The brambling also comes about the same date, but cannot properly be claimed as a bird of the moorland—hardly even of the "subalpine" region—for, though numerous enough in some winters, it passes right on to agricultural lands far beyond my limits. It is really a lowland species, flocking with chaffinches, yellow-hammers, and the like, about stubbles and deciduous woods.

The siskin (*Carduelis spinus*), though irregular in its comings—numerous one winter, and never a bird the next—is more characteristic than the last-named of the lower moorland country, where it frequents in flocks the woods of birch and alder that fringe fell-side and burn. This is a species that is easily overlooked, for neither its appearance nor its winter-note are at all distinctive: but if seen from above, the bright yellow in its plumage (almost canary-like in the wintry sunshine) and sharply

forked tail, suffice to distinguish it from the redpolls, tits, and other small birds that frequent the same woods. The siskins feed on the shoots and buds of the trees named. On December 2nd (1905), I watched a large flock of siskins and redpolls feeding on the seeds of dockins, sorrel, and (apparently) nettles, on the Clint banks near Houxty.

In November many salmon leave the larger rivers and enter the burns; while the trout, which spawn earlier, have already pushed far up the tiniest hill-streams, taking advantage of every "spate" to reach spots high out on the fells where the streamlet has dwindled to a mere drain with the shaggy heather meeting across it. Of this fact the solitary heron is well aware, and his grey form, solemnly flapping across the moor, is characteristic of the month. He is bound for some little burnlet he wots of as a favourite resort of trout; and at times startles a sportsman by suddenly flapping out from under his very feet from some deep-sided, heather-hidden stream, far outbye, whither neither trout nor heron would ever be suspected of resorting.

Another bird which seeks the higher ground in November, is the dipper. Usually these little fellows, as well as the herons, prefer rivers and larger burns; but towards the end of October and during November, both species (and kingfishers also) are found high out on the fells, and it is no unusual occurrence to almost step upon a dipper concealed in one of these overgrown drains on the moor. I have then seen a dipper swimming like a little duck on the open water of a lough on one of the highest fells.

The dipper's object in seeking the higher land simultaneously with the spawning of trout, has *primâ*

facie a suspicious look. It has, however, I believe, been conclusively shown that the dipper is almost or entirely guiltless of devouring spawn. Even if it did commit so heinous an offence, the damage resultant, in northern streams, would be imperceptible; but man is very intolerant—sometimes quite unintelligently intolerant—of even an appearance of rivalry in anything of which he may have arrogated to himself a monopoly.

November 2.—Reedwater in flood after heavy rain all last night. This, by the way, explains the apathy of the salmon during the preceding days—which were the last of the angling season. Not a fish would look at fly, though all conditions had appeared favourable. This result, however, had been forecast by observant anglers, owing to a sharp drop in the barometer.

To-day, however, salmon were all on the move, swarming in dozens up the cauld at Otterburn—fish of 10 to 15 lbs. and upwards; while the burn adjoining was full of bull-trout, jumping all over.

Such scenes are a feature of the season, animated and interesting. How curiously the cold-blooded fish reverse the season of reproductive activity as compared with the warm-blooded birds. The former in downright winter, are seen to be in the fullest bustle and excitement of their breeding-season.

Trout (*Salmo fario*) have already begun to spawn in October—earlier than the first of the bull-trout. Of the latter, the smaller fish invariably spawn first—sometimes, if waters permit, by the third week in October. The same rule applies to salmon, the heavy fish not appearing on the "redds" before December. Cold-blooded though they be, yet severe frost interrupts spawning operations; at such times, or should much drift ice be coming down,

the redds are abandoned. Here is another note on the subject.

December 6.—Heavy floods these three days; over thirty salmon spawning in Elsdon burn—seven on one stream. The Grasslees burn is also full of bull-trout, spawning. On the 8th watched them at close quarters, big fish working in water so shallow that tails and dorsal fins showed clear above as they "howked" in the gravel, rolling over and over and wallowing like porpoises in the narrow stream. Below, on either flank, hung trouts alert to snap up any jetsam or flotsam ova swept down by the stream, or to rush in to a wholesale feast should the spawning fish be disturbed.

During the four months comprised within the limits of this chapter—that is, November, December, January, and great part of February—bird-life is absolutely stationary, as much so, at least, as its physical economies ever permit. There is neither ebb nor flow in the feathered tide. Birds have now all reached their permanent winter-quarters, and there they settle down, practically for four months, subject only to such purely local movements as may be dictated by climatic or other transient causes.

To take as a single example, that erratic species, the snipe. The following figures based on records kept during ten years, show the relative abundance of snipe in each autumnal month; together with, inferentially, the extent of their seasonal movements:—

	Aug.	Sep.	Oct.	Nov.	Dec.
Snipes killed . .	90	125	75	30	25

The slight reduction in December is due merely to the greater prevalence of snow during that month. For snow at once drives snipes from the moors to the lowlands—say

20 or 30 miles. Thus at Silksworth, we rarely saw a snipe during ordinary mild weather; but directly snow

GONE TO ROOST.

came, down came the snipes with it. By walking round the "letches," or open burns on the morning after a

snowstorm, one could always find several snipe; if these were killed, others took their place by next day, and so on during the continuance of the snow. But on the first indication of a thaw, the snipes were gone at once.

The most favourable time for snipe-shooting, it may here be remarked, is during the full of the moon, especially if the nights at that period be fine and fair. The snipe have then fed uninterruptedly all night, and consequently are more apt to be resting and to lie closer during the day. On dark nights without moon, or in wild weather when her light is overcast, snipe are driven to feed partially by day, and are then watchful and wild. I have had opportunities at such times to observe them while feeding—often with breasts half immersed as they probed about in the shallow water.

Woodcock also at such times are forced to abandon nocturnal habit, and I have seen them feeding in full daylight under the brae of some open burn. But, indeed, to the depths of many of those bosky dells in which woodcock delight, the weak horizontal rays of the winter sun hardly penetrate at all, even at noontide, and in such spots they can feed unmolested by daylight.

The prevailing winds during autumn are westerly, and these in Northumberland are usually dry. Little really bad weather need be feared, however threatening the heavens may appear, so long as the wind's airt is westerly. The east winds are those which bring the fog, rain, and dirty weather. A change of wind from east to west, will be attended by an almost simultaneous clearing of the waterlogged atmosphere and shortly succeeded by the welcome appearance of the sun, often enhanced by superb cloud-effects, as the murky masses are rolled up and hurled back upon the North Sea. Weather forecasts

are rarely reliable and oft cause vexation of spirit; yet it may be stated as an average rule, that an extremely wet morning *early* will be succeeded—say at 10 or 11 A.M.—by a fine bright day. The sportsman who, looking out of his window before dawn, finds it "coming down whole water," may discover both comfort and wisdom in the local adage, "It's raining too hard for a wet day"; he will be well advised to turn in again for a couple of hours, and then put this other proverb to the test—"Good luck is better than early rising."

Provided the weather holds mild and open, but little change occurs in bird-life at this season. On the hills, the lives and habits of the game and other moorland forms remain as defined in the chapters on autumn; and all the smaller species therein mentioned continue in the hill-country. Thus the birch and alder-woods of the valleys are still enlivened by flocks of finches, with bramblings rarely, siskins irregularly, and redpoles, goldcrests, and all five British tits in plenty. Tree-creepers remain, also woodpeckers: but it is only during *mild* weather we enjoy their company, for when winter comes in earnest they disappear, to seek shelter in the larger low-lying woods, and not one of these remains after three days of snow. The wren, however, is steadfast, simply moving off the fells into the woods below. As regards hardihood, in the first rank of all our small birds, stand these six: the wren and the robin, the dipper, bullfinch, hedge-sparrow, and blackbird. Thrushes utterly disappear; but these six remain immovable, braving the utmost extremities of weather. Blackbirds suffer soonest, and after a week or ten days' really severe weather, many are in moribund condition. The cock bullfinch, with his crimson breast and sharp contrasts of

bright plumage, is a conspicuously handsome object in the wintry landscape, and a pair of these, perched on tall hemlock or thistle, and busily shelling out the seeds when all else is deep buried in snow, are one of the features of the season.

The Great Grey Shrike is a winter migrant that should not be entirely omitted, though I have only two records of it; one on October 20th, 1876, the other at the end of March, 1873, both at Silksworth in Durham. A Lesser Shrike was shot near Whitby, September 20th, 1905.

(2) December.

Winter on the highlands is not always mild and open. December in average seasons will bring the snow in greater or less quantity; though really severe storms only recur at wider intervals. Looking back over a series of decades, several of those phenomenal winters stand out prominent in the vistas of the author's memory—winters when storm followed on storm till the hill-country lay buried feet deep under curving wreaths and mountainous drifts of snow. The single-line track that traverses the Border moorlands—often with a belated train thereon—will be enveloped in a single night, blocked at a dozen points, with its cuttings levelled up solid. Though snow-ploughs and the notable energies of the North British Company effect a clearance of their line; yet the open roads beyond, leading to distant hamlets among the hills, may remain closed for days or weeks—traffic and communication interrupted, and, if not suspended, at least diverted to roundabout routes.

Stern though they be, yet such times and such scenes possess a beauty of their own and a charm that endures in memory. Than the great hills, thus newly enveloped in

their wintry mantle, are few more imposing landscapes; nor, of its kind, more lovely — the infinite dazzling purity of white only broken where some gaunt crag or scaur stands out bare and black, casting its deep-blue shadow across the slopes below; or where the dark frondage of pine and fir struggles through its frozen burden.

For more than twenty years the Tenth of December was to the author as sacred a date as the Twelfth of August; and no elemental power ever prevented—though it oft delayed—arrival at that remote spot which chanced to be our shooting-quarters for the time. There was, in those days, a pride and a fierce joy in facing the worst that winter could oppose. What though the route were doubled, the labour quintupled, yet one did reach one's grateful rest and shelter some time during the night, with clothes frozen hard as boards and icicles hanging from either moustache!

How changed, at such times, are all the conditions of bird-life! Setting forth as the tardy daylight breaks, the first sound heard will be the low gentle carol of the dipper, poured forth by that winter-songster from some mid-stream stone in the burn. Fast-ice fringes either shore; yet, ere we pass, that hardy amphibian has dived beneath, presently to pop up unconcernedly in the narrow water between, or landing on the ice-edge, there to resume his song.

The dipper is thoroughly at home; but far differently do his neighbours, the waterhens, regard the new conditions of life. They are utterly dismayed at the loss of their accustomed shelter amid rush and sedge, and splash about in constant alarm. Even that secretive bird, the water-rail, is now at fault in his consummate mastery

of the art of "taking cover," and runs disconsolate about the frozen reed-beds, vainly seeking to conceal his dark form where everything is white. Except at such times, so retiring are the rails, that one would scarce be aware of their existence on the hill-burns. Now, they seem stupefied by the changed conditions, and so loth to take wing that in the heavy snowstorms of Christmas, 1869, we ran one down and captured it alive. The spotted crake, wiser in his generation, does not expose himself to such terrors, for already—two months before—he has quitted this country.

During heavy snow, the hill-burns are a favourite resort of mine for the chances they offer of snipe and duck (mallard, tufted duck, and golden-eye), driven in from the frozen loughs above. But in long-protracted snowstorms the mallards, after a time, forsake inland waters and betake themselves to the coast, where I have then found them a comparatively easy prey to the punt-gunner: for, wild and watchful as mallards always are, these know not the danger that lurks in that long, low, white craft that is then so carefully avoided by their own cousins of the salt water. Golden-eyes, on the other hand, being strong divers and feeding under water, are little affected by hard weather and continue on inland streams long after the mallards have departed. Only once—viz., in the Arctic weather of January, 1881—have I known this species compelled to retire to the salt water for a living.

There are, it should be added, plenty of both mallard and golden-eye on the tide all winter, be it mild or hard; but these storm-driven ducks from inland are readily distinguished when they appear on the coast from the regular tide-loving ducks, by their simplicity and lack of appreciation of the dangers of the sea.

Teal dislike extreme cold, and are rarely seen; but the tufted duck I have shot in the worst of winters, though always inland, never on the tide. The heron and jack-snipe agree in few respects; but both are characteristic of severe weather—the heron on the larger burns, the jack on the tiniest little open rills.

Now, we leave the burn and take the hill. The ascent in deep snow at the best involves the hardest of work, but beyond all that, a 6-foot "wreath" will definitely stop the longest-legged; while a steep-sided burn, blown up level, is more impassable than a crevass. One may know the ground to an inch, yet such obstacles cannot be wholly avoided, and with two or three such delays the short December day is far spent; and we must wrothly defer our scramble on the "high tops" till the morrow.

When, at length, one reaches the fell-ridge, it might be thought an easy matter to find the grouse on the open snow, where the smallest object shows up bold and big, and often magnified by the rarification of frost-dried air till a snow-bunting looms as large as a blackcock. Yet one scans for miles that wide expanse of glistening snow, till eyes ache with the brilliant monotony of its millions of sparkling crystals—but not a single bird is there. The grouse, as a matter of fact, are all deep-buried beneath the snow. This one presently discovers, on coming across a perfect network of burrows—most nearly resembling a rabbit-warren. You may have seen afar—or you may not—just the head of one grouse, the sentry on guard. Quite as often, this precaution is neglected and a whole pack will be asleep in their burrows, secured, they imagine, by the miles of snow-fastnesses that surround them.

The site usually selected for these burrows is on some steep slope; but always where the heather is old and

shaggy, and where its strong shrub-like stalks keep the snow loose and open beneath.

This habit in the red grouse—(in a country like ours, where heavy snowfalls are few and, at best, but intermittent)—this habit of instantly burrowing beneath the snow as soon as it is deep enough, is worthy of a moment's consideration. For it appears to indicate in *Lagopus scoticus* a quality of memory that must arrest attention—a memory that carries the bird back into pre-insular ages, when the habit was vital; now, it rather resembles a survival.

The existing grouse of Spitsbergen, *Lagopus hemileucurus*, lives under conditions precisely reversed—but which conditions, at one period, obtained nearer home. For there, in Spitsbergen, snowfalls are neither few nor intermittent. On the contrary, that race of grouse which has lingered there, enjoys but four months of life in daylight and above ground; the remaining eight being perforce spent in snow-burrows and tunnels in the dark. But in the Arctic, and throughout Scandinavia, Nature has organised a beautiful provision to meet these cases. For the earlier autumnal snows fall soft and light, easy of excavation; and are, in fact, already ramified in every direction with grouse-burrows and tunnels long before that subsequent stage when severe frosts shall have indurated its substance and steeled its surface. Beyond that, the grouse have here provided, not merely a winter home, but—more important still—a full winter's stock of provisions. For these early autumnal snows hold enclosed within their soft and easily excavated recesses, the whole abundant crop of Arctic wild-fruits and berries, "preserved" for the birds' winter's needs and guarded by the frost-steeled roof above against risk of decay.

Such are the existing conditions of grouse-life in the Arctic — in Spitsbergen and Lapland, and throughout the whole of Arctic Scandinavia, throughout, in fact, all circumpolar lands. Yet here, in these temperate British Isles, our insular form of *Lagopus*—segregated since thousands of years—yet retains the memory of primeval necessities no longer prevalent; for, on every heavy snowfall, the red grouse will already, within twenty-four hours, have commenced a system of burrowing and snow-tunnelling, while the snow still remains soft and porous, as though the recurrence of yet another "glacial epoch" was still a living apprehension in their minds.

Here, however, hybernal conditions, at their worst, are not analogous; for the whole land is never snow-bound. Strong winds sweep clear the weather-slopes of the hills, and to such spots the moorgame resort in large packs, finding there both feeding-ground and immunity from man; since the blown snow from the ridges above, forms impenetrable drifts below. Moorgame can also find food where sheep have partially uncovered the heather; and thus suffer but little inconvenience from the utmost severities of weather. Their chief danger arises from their sometimes appearing to lose their bearings, owing to the absence of their accustomed landmarks.

During such weather, one frequently sees numbers of grouse perched upon trees, especially on thorns. This is contrary to their usual habit (though I have noticed a few instances of it in open weather), and recalls the custom of their northern cousins, the willow-grouse. Should we be visited by a period of severe winters (say a few centuries), our red grouse would presumably revert to this form, acquiring the white breast (some approach to

it now) and white primaries of *L. albus*, and habitually perch on trees in preference to sitting among the snowy heather.

As a rule, the only small birds seen wide out on the open moor during snow, are wrens and snow-buntings; but in 1905, for the first time, I noticed a stonechat. This was on November 29th, on Chirdon Head, North Tyne. The snow, new-fallen, was soft, about a foot deep, and the little bird was lively enough, seeking insect-food (as the wrens do) in the tiniest little open holes left beneath tufts of upstanding heather. On the same day we observed a belated black-backed gull soaring over the snow-clad moor.

Nothing need be added as regards the remaining winter months. Throughout January and February, bird-life on the moorland remains as described above, subject only to local movements dictated by climatic vicissitudes. There is no notable event until the end of February, when the reappearance of the golden plovers from Southern Europe brings us back to the point at which these chapters commenced.

CHAPTER XXII

WILD PIGEONS

FEW are the fowls of the air to which the author owes a debt of deeper gratitude than to the homely wood-pigeon —the first to reach the four-figure score in those long-ago days when one kept a game-list of one's own. The cushat, as it is generally called in the north, comes in throngs every winter to our woods, and affords many an excellent evening's sport, and that at the very season when game is scarcest and least available, namely, during January, February, and March.

This chapter was originally written from twenty years' observation of these pigeons in the county of Durham, wherein one was aided in following their migratory movements by a local circumstance. Beautiful by nature as is nearly the whole of that county, yet it possesses the misfortune—or good fortune, according to the point of view — of being underlaid by some of the richest coal-measures in the world. One result of numerous collieries, smoke-stacks, and coke-ovens is that the surface of the land in their neighbourhood becomes begrimed: and this discoloration extends to the resident birds; hence it becomes possible to distinguish new-comers from residents by their cleaner, brighter plumage on first arrival. New-comers in fact are "ear-marked" in a

manner that does not obtain outside coal-bearing regions; and this facilitates tracing both local movements and oversea migrations throughout the year.

To set down what appears to be as nearly an average as possible, there occurs one main annual immigration of wood-pigeons some time before Christmas. Occasionally this may take place as early as November; in other years it is delayed until the middle or even the end of January. The new-comers are recognisable as above described; but indeed there remain at that period but few cushats in this district, since most of those locally bred depart southwards as soon as their latest broods are fledged—not later than October. There thus occurs in this case also, a perceptible interval between the departure of the home-bred birds and the arrival of the foreigners from oversea.

That this influx is from foreign lands is shown by the observed migrations of pigeons across the North Sea recorded in the *Migration Reports;* these birds, moreover, are also regularly seen by fishermen off this coast, as they "make the land" shortly after dawn on late autumn mornings. It coincides also in date with the withdrawal of the pigeon-tribe from the great forest-regions of central Europe. The course of these birds in search of a milder clime thus lies east and west—and indeed rather to the northward of that line. This deviation from the usual direction pursued by migrants on similiar quest—that is, towards the south—is explained by the greater intensity of continental cold as compared with that of our insular winter.

That these migrants have not come from the more northern parts of our own islands is demonstrated by the fact that there is no diminution, but an actual increase

in the stock of wood-pigeons throughout Scotland at that season.

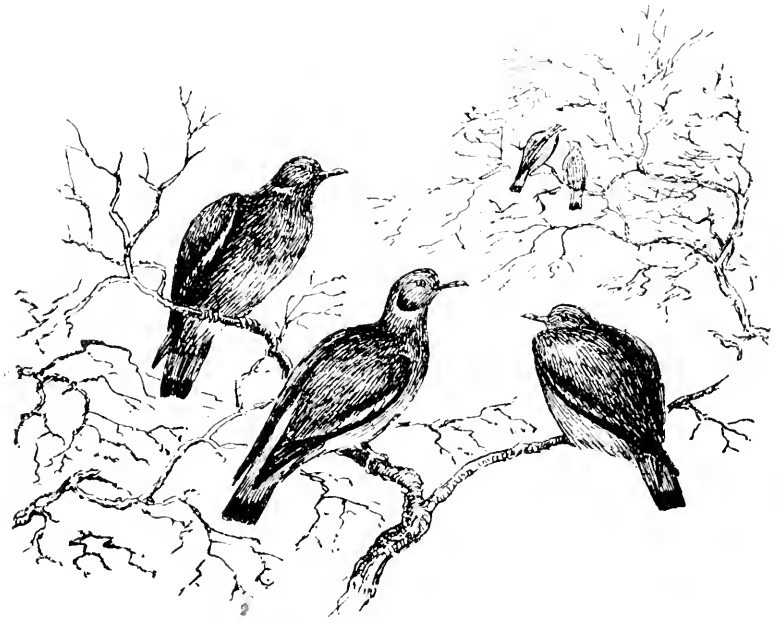
Cushats are, in their nature, as shifty and restless as are the true wildfowl; and it is equally difficult to diagnose or foretell their movements. Roughly summarised, cushats are usually most numerous during severe weather; the harder and more prolonged the winter, the more cushats keep coming. But they are the slaves of the weather and each change affects their numbers. Thus, while heavy snow may bring hundreds where few were seen before; yet in exact reverse, should they be absent in the hard weather, they will appear thousands-strong on the thaw.

All the day they spend on their feeding-grounds among turnip-fields, stubble or clover-lea, alternately feeding and resting on the nearest trees, the birds in the latter position serving as sentries, whether purposely or by accident.

A big pack of cushats on the feed can be made out a long way off by the habit of the rearmost birds continually flying up and alighting in the front rank, thus causing constant movement. There are localities where pigeons in such conditions afford excellent sport, and large numbers are killed over decoys, especially should the gunner have the luck to strike a day of migration, when successive bands keep pouring in. On one such fortunate occasion, a wild stormy day at end of January, I have a note of 122 wild pigeons (including stockdoves) being secured by two guns. This was in Roxburghshire; and curiously was the first appearance of cushats in mass in that county during the winter of 1902-3—a month or six weeks later than usual.

But it is only under such exceptional conditions, or where pigeons are extremely abundant and "strongly-

haunted," that they can be handled satisfactorily at their feeding-grounds. Elsewhere it is usually a mistake to molest them during the day. Whoever would fill his bag with wood-pigeons should there leave them to get their feed in peace, and wait for them towards night in the woods whither they fly to roost. Therein, during the



WOOD-PIGEONS—EVENING.

last hour of daylight, is the time and place, on favourable occasion, to kill them by wholesale. A stormy evening should be selected, and then, as flight after flight streams in, in quick succession, the gunner will be rewarded for his moderation during the day. But a very little shooting will make cushats exceedingly cautious, and they then circle high round the woods, wheeling perhaps

three or four times before dropping within shot. This is the critical moment for the gunner, standing grey and rigid against a tree which he must resemble as closely as though he formed a component part thereof. Scores of keen eyes are wheeling overhead, searching out each sign of danger, and the slightest movement or conspicuous colour will assuredly betray him.

There are two points in particular which are specially noticeable by those scrutinising eyes, namely, the up-turned human face, and the inward movement of the elbows on raising the gun to fire. The birds instantly detect the change of outline in the "tree," and, what would have been a fair incoming shot is transformed in a moment into an all-but-impossible "snap," end-on through the branches. Both dangers may be avoided by raising the gun vertically before one's face, just before the pigeons begin to "pitch in." It is no use turning round to watch birds as they circle behind. If they have gone on, you are done with them; if not, and they continue wheeling, one's eye picks them up as soon as they re-enter its radius of vision. So long as the "swish, swish" of strong pinions remains audible, the pigeons are, as a rule, too high—there is no greater mistake than scaring them by shots at impossible heights. The finest shots are when the pigeons are "pitching in," lowering their flight to alight, and then it is noiseless. Should some alight within shot, but in a position which cannot be commanded without moving one's body, it is a mistake to hurry to fire. They will not see a man, though full in view, provided that he remains rigid as a statue, and with his back glued to the tree. Give them thirty seconds; then you can safely look round to see where two or more are sitting together, or in line; or by

giving them a little more time, some may begin to crowd, and a family-shot is the result of a little patience. If two pigeons are perched a foot or two apart it is possible to kill them both sitting, by a quick right-and-left—*i.e.*, after killing number one, the second barrel is instantly placed on the assumed position of number two. This is sharp work, and if success is by no means certain, its occasional attainment is the more gratifying. In these directions for shooting wood-pigeons, it will be observed that I treat them, not as game, but as wildfowl; for, as already indicated, their nature and habits partake of those of true wildfowl, and on such basis should they be treated. An intrinsic charm of this pursuit consists in the fact that it is virtually a minor branch of wildfowling—and the only branch that can be enjoyed amidst such unwonted environment as the woods of beech and pine that surround one's inland home.

One habit of cushats is fixed and invariable—like wild-ducks and geese, they fly head to wind; consequently they must always be looked for to leeward. This habit they observe equally in the strongest gale and lightest breeze; but in the latter case, be it observed, their flight will be exceedingly high. So long as there is the slightest current of air to indicate the direction of the wind, from the opposite quarter the pigeons will certainly approach, and, after their preliminary circling flight, will always finally alight in that direction. The position to select, therefore, for shooting them at flight, is on the lee side of a wood, about a gunshot from the outside, and if possible, opposite to the highest deciduous trees, which may happen to grow there, and towards which they are most likely to direct their flight. Not only are the prettiest shots obtained as the pigeons pitch downwards,

but should they get past and alight behind one, they are less difficult of approach from that direction, especially in a strong wind. Plenty of wind indeed is an essential for a thoroughly successful night at wood-pigeons. On dead calm nights they are liable to drop in from all directions, and however vigilant a watch be kept, some chances are sure to be lost through birds suddenly pitching-in from behind. Besides which, on such still nights it is hardly possible to move a yard without disturbing them—the least crack of a dead twig, or rustle of fallen leaves underfoot, and they are gone.

The above remarks as to choice of position are, of course, only applicable to places previously untried; and much will always depend on the shape and lie of the woods, the trees which compose them (whether deciduous or evergreen), and other local conditions. But the sylvan geography soon becomes well-known to the gunner, who, in a few evenings, ascertains the most advantageous spots and the favourite roosting-places of the pigeon. One of the best woods in my knowledge is a small clump of tall beeches, perhaps four acres in extent, and standing in a somewhat exposed position on rising ground. In this small wood hundreds of pigeons have been killed in the season—say from December to March—the best evening's work being twenty-three birds, all single shots, to one gun. But during rough stormy weather the cushats avoid tall exposed beeches; and on such evenings the best sport is obtainable in lower-lying woods where black Scotch firs and spruce abound and afford both shelter for the pigeons as well as concealment for the gunner. On exceptional occasions during the wildest weather, with strong winds and driving snow, the pigeons fly very low, almost brushing the pine-tops in their struggle to wind-

ward, and on such nights are easily obtained—the more so as one can move freely about (provided the underwood is tolerably clear) without much risk of disturbing them. But although such chance occasions afford opportunity of killing considerable numbers, yet the sport is inferior to that enjoyed in more moderate weather, when the pigeons fly higher and more boldly, affording the greatest variety of shots, together with left-barrel chances in every degree of difficulty.

Where there are several woods to which the pigeons resort, a gun placed in each certainly keeps them moving about; but it is a more deadly plan (for a single gun) to send a couple of boys round to tap the trees with a stick, this being sufficient to move the birds without scaring them right away.

During heavy snow, especially when the wind has covered the tree-trunks with the drift, it is often difficult to find sufficient concealment. I remember one night in January being disappointed through this circumstance. The pigeons invariably detected me too soon, and, though there were many hundreds on flight, I only managed to get eight. A few days afterwards, under similar conditions, I tried the experiment of putting on a common white nightshirt over-all, and a white flannel punting-cap. This succeeded admirably; and that evening I got twenty-one out of a much smaller number than had been seen on the previous occasion.

There is a charm in the stillness of the wintry woods as the daylight fades away, and the gloom gradually deepens among the tree-trunks—hardly a sign of life except little parties of chaffinches and tits flitting about among the leafless branches, or the rustle of a mouse among the dead leaves at one's feet. Presently a hooded

crow approaches with triple croak. Few birds are sharper of eye, and it is almost ludicrous to see the aerial somersault he turns, when he discovers an ambush and a pair of barrels right under him. Then the silence is broken by the call of the partridge on a stubble outside, summoning together the scant remnants of a once big brood; and as darkness settles down, the low, cat-like whistle of the long-eared owl is a warning that it is time to gather up the spoils and be off home.

As winter merges into spring, we once more see, towards the end of March, clean bright-plumaged pigeons, clearly new-comers from afar, which, within a fortnight, have completely replaced our grimier friends. These new-comers are, in fact, our native cushats returning to breed in the self-same woods where they were hatched; while simultaneously the winter packs which have afforded the sport above described, withdraw to those regions whence in late autumn they had come.

But whence have the former come, and whither have the others departed? Such questions long puzzled inquirers, but can now be answered with some degree of definition. Even my own limited experience abroad points an answer at both ends. For in the south of Spain, we have migrating cushats passing northwards in conspicuous multitudes through our Andalusian shooting-grounds every March. They do not winter there; it is not far enough to the southward. But in March, successive flights follow each other from Africa, resting a day or two in our pine-forests of the Coto Doñana. In his *Ornithology of the Straits of Gibraltar* (p. 232), Colonel Irby described the wood-pigeon as "swarming" in winter in Morocco, in such numbers that "it would have been easy to shoot 100 in a day." These are the

birds that pass through Spain in March and some of which come to breed in this country in April.

Again, looking northwards, I found wood-pigeons nesting in vast numbers in the great forest-regions of south and central Sweden, and they are equally abundant throughout the other Baltic countries; though absolutely unknown there in winter. The arrival of cushats in these parts occurs at the end of March, coinciding with their disappearance from England; while they all quit Scandinavia by the end of October, or early in November—being the precise date when they are due here, as above described. Our home-breeding cushats may thus be said to winter in Morocco, while our packs of winter pigeons breed in Sweden.[1]

Since the early eighties, we have had an addition to the variety of wild-pigeon shooting throughout the Borderland, in the appearance of the stockdove, which formerly was totally unknown here. Out of some thousands of wood-pigeons killed at Silksworth during twenty winters, there was not a single stockdove until 1879, when we got one, which was regarded as quite a rarity. The following winter three or four were obtained, but in the winter of 1884-85 they became quite numerous. Of fifty-three wild pigeons shot at Christmas-time, no less than five were stockdoves, and many others were seen with them. During the subsequent months of January and

[1] A correspondent in Sweden says that stockdoves reach Wermland by mid-March—a fortnight before the cushats—and breed in May, quite abundantly, in hollow trees among oak and alder woods. They disappear in September—again a month before the cushats. The latter arrive at the end of March and nest by thousands in the vast pine-forests of the interior; whence, in September, they descend to feed for a month or six weeks on the rye and oat-stubbles, and finally leave the country at the end of October, neither species ever wintering in Sweden.

February 1885, we obtained them quite commonly—indeed, two or three stockdoves were killed every evening we went out, and they came to be regarded quite as a regular component part of the bag. They sometimes flew to roost in company with the cushats, for birds of both species were once or twice killed out of the same flock; but more often the stockdoves came in separately, in small parties of six or eight. They were easily distinguishable from cushats when on the wing, by their more rapid, impetuous flight, as well as by their much smaller size, as the following weights will show: Wood-pigeons, weight 17 ozs. to 26 ozs.; stockdoves, weight 12¾ ozs. to 14½ ozs.

The crops of the latter were filled with turnip (not tops), various field-seeds, and a little grain. One contained thirty-seven sprouting beans, weighing nearly 1½ ozs., besides some grain. We replanted the beans, which in due time grew to maturity.

In Roxburghshire, as elsewhere mentioned, stockdoves first nested in 1882, and are now as abundant there as on the Northumbrian side. The only turtle-dove (*Turtur communis*) that has come under my observation in the north, was also shot in that county, in the month of May, a few years ago.

During the week that I rewrite this chapter, after an interval of twenty years, an incident occurs which illustrates the shifty and restless tendencies of these birds—akin to those of wildfowl upon which I have already insisted. On November 28th, 1905, while pheasant-shooting on North Tyne, we observed, between three o'clock and dusk, a magnificent entry of wood-pigeons, flight after flight coming in low over the trees, in almost unbroken succession during upwards of an

hour. It was, of course, impossible on such occasion to afford them the attention they deserved. Had a couple of guns been placed in position, thirty or forty pigeons might have been secured. On the morrow we were otherwise engaged, and the weather had changed to snow; but on the following day, when we devoted the afternoon to the pigeons, *scarcely a dozen* were to be seen. The weather had reverted to mildness, there was little or no wind, and climatic conditions were not dissimilar from those which had prevailed forty-eight hours before. Yet the venture resulted in almost total failure, the very few pigeons which appeared coming in far above gun-shot—up in the clouds.

"GOING."

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CHAPTER XXIII

WILDFOWL OF THE NORTH-EAST COAST

Their Haunts and Habits

In its natural conformation the north-east coast is but ill adapted to the requirements of wildfowl. Geographically, no doubt, it forms the objective point of the trans-oceanic journeys of a proportion of those migratory hosts from northern Europe and Asia which, every autumn, direct their flight upon our islands. Great numbers of these certainly "make the land" within the limits so defined; but there is little attraction to induce them to remain here. They are aware, or soon discover, the deficiency of resorts congenial to their tastes; and, after brief periods of rest, move on to localities more suited to their requirements. These casual visits, or "through-transits," of wildfowl are of but little value to the fowler, since they occur irregularly, and without calculable or presumptive fixity of date: there being no "North-Sea Bradshaw" available to disclose their probable arrivals or departures. Hence the pursuit of wildfowling in the north-east is limited to a few enthusiasts, and is carried on more as a matter of local convenience than otherwise—it is, in fact, pursued rather in spite of disadvantages than by reason of any special facilities which this coast affords.

The north-eastern seaboard is too straight and exposed, and its configuration is wanting in those irregularities of outline denoting sheltered bays and land-locked waters, the abundance of which on a map—say, of western Ireland—give that coast so attractive an appearance to the eye of a wildfowler. The coast-line from the Humber to the Forth is to a large extent occupied by lofty cliffs, rising sheer from the sea; and even where the shores are low and flat, the lines are so straight as to leave no extent of foreshore—that is, the space between high and low water-mark is merely a long strip of sand, shingle, or rock, only a few hundred yards in width at the utmost. Such situations are not at all congenial to the requirements of wildfowl, properly so called. The sandy stretches attract a few small waders, and the cliffs afford suitable homes for gulls, guillemots, cormorants, and other rock-fowl. Flamborough Head, the Farn Islands, and the beetling grey precipices of St Abb's Head in Berwickshire, are notable breeding resorts of those birds; but such iron-bound coasts are the last places in the world for true wildfowl.

Then, too, the encroachment by man on the foreshores has seriously interfered with the few localities which, in former days, attracted wildfowl to this coast. The development of the northern coal and iron trades has transformed what fifty years ago were desolate tidal wastes into busy scenes of human industry—their once-deserted shores now flanked by towns, docks, and factories, with their concomitants of smoky chimneys and the other paraphernalia of "civilisation." From such places the altered conditions and the incessant turmoil of revolving paddles and propellers have effectually banished the fowl—never to return. Such a spot is

Jarrow slake on the Tyne, and the Teesmouth is rapidly following suit.

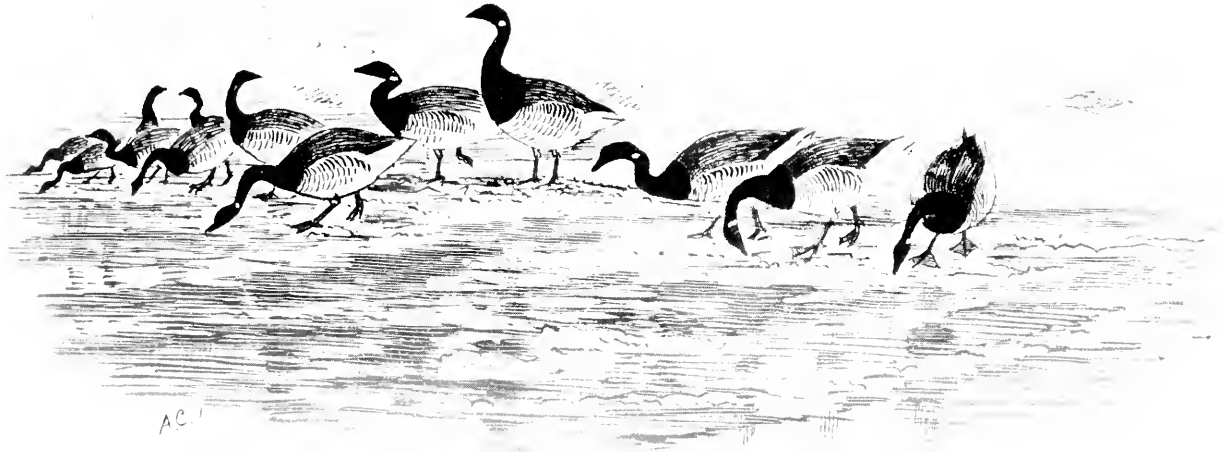
The places which are most favoured of wildfowl are precisely those which are least congenial to man—remote and lonely expanses of tidal ooze. Such conditions only obtain either at the estuaries of large rivers, or on those low-lying parts of the coast where land and sea are engaged along the boundary line in one ceaseless perennial struggle for dominion—their battle-ground a vast level stretch of sand, mud, and ooze, which *nec tellus est, nec mare*. In such a spot, at low tide, the eye roams over illimitable expanses of flat, featureless foreshore; miles away in the far distance, across the mud-flats, and across the broad yellow sand-bar beyond, a white line of breaking surf is just distinguishable against the grey background of the open sea. At high tide this whole expanse will be one great sheet of blue salt water, reaching right up to the hedgerows of the stubbles and pasture-fields, and to a passer-by not distinguishable from the sea itself. Then, to all appearance, it might be forty fathoms deep; while, as a matter of fact, there will be thousands of acres over which the maximum depth—except in a few tide-channels—never exceeds from three to six feet, and of this depth one-half or more will be occupied by the long waving fronds of the sea-grass growing from the submerged oozes.

Such a place is the favoured resort of wildfowl; those tiny white dots stretching far along the shore are a couple of thousand brent geese! They are in five feet of water, but graze easily on the long shoots of the sea-grass beneath them. To such a resort as described wildfowl still come every winter in numbers greater or less according to the season, and will continue to do so as long

as such places continue to exist, in despite of all that man can do. His persecution, with all the artifices which his ingenuity can devise, has no effect on their numbers, though it modifies many of their habits, as I propose hereafter to show. It should be remembered that twice every twenty-four hours the fowl have secured to them periods of several hours' absolute immunity from molestation by the ebb of the tide; for then they can feed or rest, in undisturbed peace and security, right out in the centre of miles of mud-flats which are far too solid to admit the approach of a punt, while yet too soft and "rotten" to bear the weight of a man.

The staple fowl pursued by punt-gunners on the north-east coast (as in most British waters) in winter, are brent geese by day, mallard and wigeon by night, teal being seldom met with on salt water after their autumnal passage in September and October. Among the minor objects of pursuit are the diving-ducks, chiefly scaup and golden-eye, as well as the larger class of wading birds—"hen-footed fowl" I have heard them called—both of which are mostly obtained by day. There is, however, some variation in the game, according to locality. Thus, while wigeon frequent every considerable estuary which is undisturbed and otherwise suitable to their habits, the geese are far more capricious, frequenting one harbour year after year in very great numbers, while another, perhaps only a few miles away, and apparently similar in its natural features, is never entered by them.

In order to ascertain what fowl frequent any particular harbour or bay, it is only necessary to watch their "morning flight" on two or three occasions. The whole stock of fowl may then be observed, from a favourable post, in the course of a couple of hours. The time thus



BRENT GEESE.

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to "take stock" is at an hour about the break of day—sooner or later, according to the tide. The tide, in fact, on the coast, supplants to a great extent the ordinary chronological measurements in vogue elsewhere—as, somewhere about the middle watches of the night, awakened by the rattle of gravel on the window, or by finding a man in sea-boots in one's bedroom, one helplessly asks what hour it may be, the reply is, "It's quarter-flood, sir, and there's no time to be lost!"

As the first streak of dawn becomes discernible in the eastern skies—or rather a trifle before that period—there commences a general movement of wildfowl, and from a favourable position (usually near the mouth of the seaward channel) the whole local stock of fowl may be observed in the course of an hour or two's watching—the night-feeding birds speeding outwards to the open sea, and those of diurnal habit hurrying in, hungry, to their feeding-grounds within the harbour. Lying concealed among the weed-covered rocks of the outermost promontory, the gunner enjoys a moving panorama of bird-life, which amply repays the trouble of turning-out an hour or two earlier than usual. The nearer the water's edge he lies, the better his chance of a shot; and he can shift his position a few yards backwards at intervals, as the tide creeps up to his sea-boots.

At first it is pitch dark, the rude features of the coast scenery but dimly discernible, and only the wild cry of some seafowl blends with the roar of the breakers outside. First to move are the mallards, then the wigeon; both of these, in winter, go out to sea before a symptom of daylight has appeared. They are only recognisable by their well-known notes (if uttered), or by the resonant swish, swish of their strong pinions, distinctly audible far up

in the dark skies. Perhaps the stately lines of the mallards may be discerned for a moment against some cloud-bank —wigeon never form line, but hurry out in confused mass. Next to these come the mergansers, the first of the "inward-bound" from the sea. They come singly, or in twos and threes, flying very close, as though linked together, and at tremendous speed. Then the darkness resounds with the vibrations of a thousand wings, as a shapeless mass of godwits or knots rush past from inside, or a string of oystercatchers pass overhead—all these waders being driven out as the sand-banks disappear under the flowing tide. The latter bear a strong resemblance to duck as they file out in line on drooping pinion, and in the uncertain light many a "sea-pyot" has lost his life, owing to this unfortunate similitude to his superiors. The waders are not, of course, bound for the sea, but for some extensive salt-marsh or sandflats they wot of alongshore, where they can rest in security during high water.

As the light gradually strengthens towards the dawn, spectral forms loom silently overhead; these are the big gulls diligently searching the waters for their breakfast, and the boisterous laughter of the small black-headed gull resounds from the tideway beyond the bar. Early one January morning a glaucous gull settled down on the water close at hand, carried off one dead godwit, and deliberately pulled another to bits.

Next a grebe may come spinning along. Close to the water he flies, and, considering the shortness of his wings, at amazing speed. Then a few golden-eyes, usually singly, and always very high, pass inwards. Meanwhile the geese are on the move; and, in the dim light seawards, one descries, far away over the dark waters, what might be the edge of a little cloud, or the smoke of a

distant steamer, as they go through their matutinal evolutions preparatory to "coming inside." For some ten minutes these evolutions continue, and in the increasing light the forms of their dense columns become gradually discernible, gyrating rapidly to and fro beyond the line of breakers to seaward. Presently, rank after rank, they head up for the harbour, always high in air, unless half a gale blows right in their teeth, and pass up the channel, clanging down, as it were, a glorious defiance to man to do his worst. As daylight becomes fully established, there appear the weird-looking divers (*Colymbi*), usually the last, or perhaps an unwieldy cormorant brings up the rear; and now the rim of the sun appears above the eastern horizon, and one lingers a few minutes longer while the eye revels in the gorgeous hues and lovely effects of a sunrise over the sea.

Such, in rough outline, is the "morning flight," as it may be observed on any winter's dawn at a well-frequented resort. The fowl pass in and out pretty regularly in something like the order named, and to a lover of bird-life the whole scene is delightful and interesting. In addition to the species named, various others may be observed, according to locality. Thus, for example, the grey-geese pass certain points as regularly as dawn and dusk come round. The particular harbour the writer has in his mind's eye in describing the above, does not happen to lie in their line of flight, though they pass regularly over a point only a few miles distant.

Apart from the charm of observing these wild creatures, there is but little tangible reward, for it is seldom that any of the more desirable fowl pass over

within gunshot; on fine, calm mornings especially they fly very high—up in the clouds. During rough, boisterous weather, when the force of the wind is dead against the fowl, their flight is lower, and on such mornings a pair or two *may* be secured before breakfast. As it is precisely on such occasions that one cannot go afloat in a gunning-punt, the morning-flight then affords an interesting, and sometimes exciting, means of relieving, for an hour or two, the tedium of what would otherwise be a blank day.

A good eye and some judgment are required to distinguish the different species of fowl as they speed overhead. The local gunners of the coast often have remarkably good knowledge of these points; the casual amateur little or none. I recollect one of these latter displaying what he called "a wigeon" he had shot. When the palpable fact was pointed out that the bird was a common mallard drake, he remarked, "Well, that's what we call a wigeon *in the south*, at any rate!" Next morning our friend strolled in to breakfast with a couple of brent geese slung over the barrels of his 12-bore, and ostensibly slain therewith; during the day, however, I chanced to discover that his success was traceable to a professional fowler's cottage among the sand-links he affected!

There is some art in using a large gun and killing long shots from a prostrate position at fowl passing fast and high overhead, especially in the half-light. All wildfowl fly fast, some at tremendous speed; and even those, such as geese, which appear to go slowly, are travelling far faster than they seem. Many a first-rate game-shot, who, when erect on his legs, may be tolerably sure of his right-and-left under all reasonable

conditions, is wofully disappointed in his first attempts to use a big gun. The new conditions and the constrained position, lying prone among rocks, are apt to disconcert his wonted skill; and he has perhaps to admit himself outstripped at the business by the long single-barrel of a fisherman-gunner, who probably could not hit a partridge to save his life.

CHAPTER XXIV

WILDFOWL OF THE NORTH-EAST COAST

THEIR HAUNTS AND HABITS—*continued*

HAVING obtained from the "morning flight" a tolerably accurate idea both of the numbers and the variety of wildfowl in the neighbourhood, and of their distribution for the day, we will launch the gunning-punt and follow that section of the fowl which have passed *inwards* (*i.e.*, up the harbour), leaving those which have gone out to sea for another day.

As the flowing tide covers the flats, and the punt presently glides over what had just before been slimy ooze, all verdant with recumbent masses of algæ, one is surprised to see, beneath the craft, a luxuriant maze of foliage. The mud has disappeared beneath a dense growth of long green grass waving to and fro in the tide-currents like a rich crop of clover-seeds on a windy day in June. This sea-grass, so graceful when submerged, though almost repellent when lying high and dry on the ooze at low tide, is the *Zostera marina*. It is the first essential of wildfowl. What heather is to grouse and stubbles are to partridge, such is the *Zostera* to our sea-game. Geese and most of the surface-feeding ducks live almost exclusively upon it

while on our coasts, and to the broad expanses of mud and ooze whereon it grows, they will constantly resort, despite all the artifices of the fowler. Here, roughly speaking, the geese feed by day and the ducks by night, and will continue to do so so long as such places continue to exist.

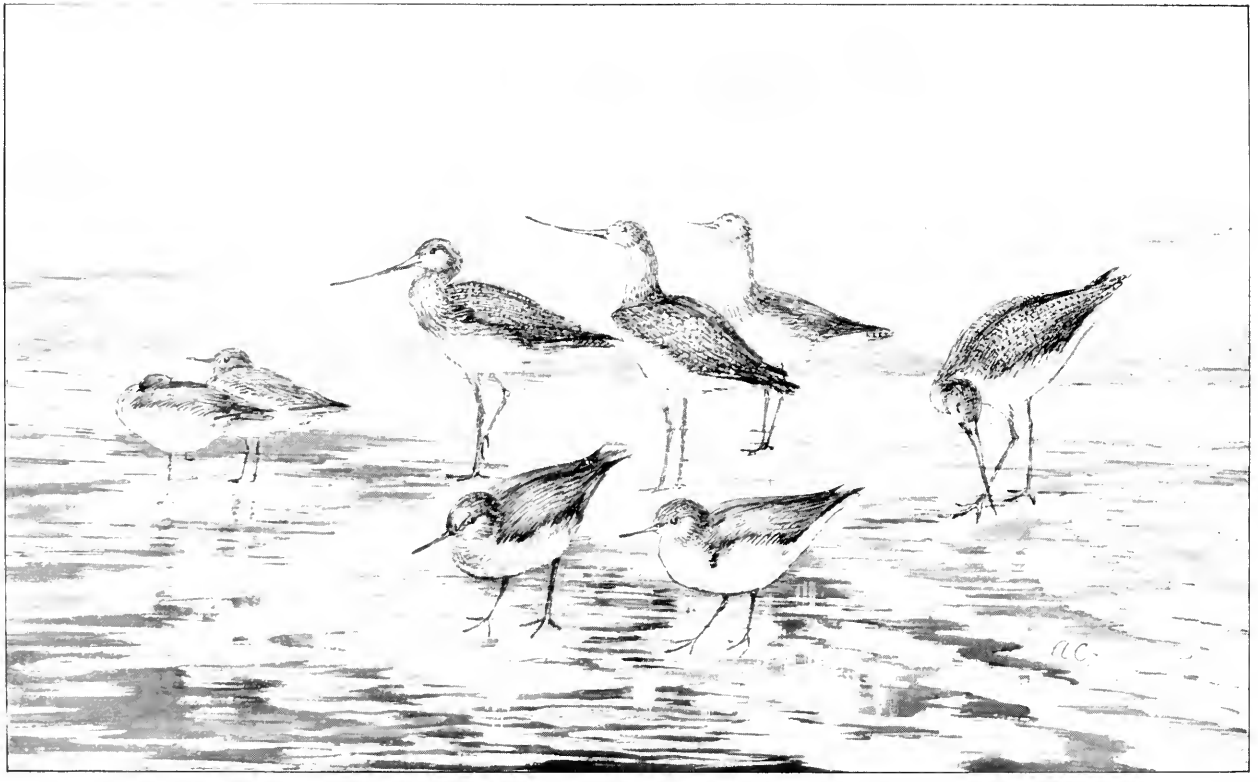
Such is the luxuriance of this sea-grass that over thousands of acres its densely thick fronds, each measuring four or five feet in length, completely cover the whole surface of the ooze as closely as grass grows in a meadow. The depth and rich quality of the mud itself are favourable to this exuberant fertility, both of the *Zostera* and of many other algæ and marine plants which grow on its surface. Among these is the marsh-samphire (*Salicornia herbacea*), which alone stands upright, not unlike an equisetum, but is not relished by wildfowl. The profusion and variety of marine vegetation which flourishes in such situations is, indeed, as great as that which clothes the inland fields and fells: and it is this which attracts the wildfowl to our coasts. Yet how universal is the error that wildfowl live on fish. "What can you do with these ducks and geese; surely they must be very fishy?" are the almost invariable questions asked, often by people who should know better. The food of the game-ducks and geese is quite as exclusively vegetable as is that of the game-birds themselves.

When cruising about in these "salt-slakes," one soon observes that they consist of two different materials, quite separate, and each possessing very distinct characteristics. The two materials are MUD and SAND. On the former alone grows the *Zostera*, and to it, therefore, resort the flat-billed fowl—ducks and geese. But the sand-flats

and the sandy-bottomed channels have each a character and a fauna of their own. The bird-population of the sands are chiefly waders—curlews, godwits, grey plovers, and birds of that ilk, together with a few sheld-ducks; while the deep-water channels, or "guts," are the resort of divers of all denominations, namely, scaup and golden-eyes, mergansers, cormorants, grebes, and the colymbi.

The sand-flats, which on some parts of the coast are of immense extent, are not favourable grounds for punting operations, even though occupied by thousands of birds. Their surface is too level. A fall of perhaps a foot to the mile renders it demonstrably impossible to float a punt (drawing, say, three inches) within many hundred yards of birds sitting on the "dry"—on sand. Mud is flat enough; but on it there *are* slight banks and hollows, and shallow winding creeks: sand being a far less coherent substance, the powerful sweep of the tide removes every irregularity of surface, and reduces the whole wide area to a practically horizontal plane as smooth as a polished mahogany table. When cruising along the tide-channels which border such a place, what looks like a solid wall of birds may be observed ahead, from which there resounds a tumultuous babble of harsh voices. These are all godwits, standing in very shallow water. Long ere the punt can float within shot, the solid wall is seen to be melting away by driblets—now a dozen, then fifty, or a hundred birds depart in detachments as the tide creeps up, and before a fair range is attained, not a pair can be observed together.

All these larger waders are feeding chiefly on the sand-worms, whose numbers in such places are legion. Hardly has the tide ebbed off the sand than its smooth surface is dotted and spotted all over with their myriad little



GODWITS ON THE OOZE—SEPTEMBER.

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castings—as many as fifty to a hundred in the square yard. Out beyond these flats to seaward, and separating them from the open sea, there lies, in most harbours, the sand-bar, a region of a different character, great part of which is never covered by the tide—and of which more anon.

Thus, wildfowl-resorts may be roughly divided into three main regions, each of widely different features—(1) The mud-flats, or "slakes," as they are called for distinction; (2) the tidal sand-flats; and (3) the non-tidal sand-bar.

To see wildfowl in real abundance, one must select the hardest weather of mid-winter; this is, moreover, the time to get them. Severe frost, it is well known, has a deadening, or soporific effect on all (or nearly all) fowl, rendering them less alert to threatening dangers, and it also produces certain changes in their normal habits, engendered by the altered climatic conditions and the consequent difficulty in obtaining food. Mallard and wigeon, for example, will, under these conditions, forsake their regular nocturnal habits and resort by day to the oozes and feeding-grounds. Here they are, then, comparatively easy of approach, especially the mallard, on which severe cold produces exceptional effect. Small "paddlings" of six or eight to a dozen may be approached in a gunning-punt within fifty yards, sitting apparently fast asleep among the ice, and with their bills snugly tucked away among their back-feathers. Many of these modifications of the habits of wildfowl during severe weather, and especially the precise causes which tend to produce them, form an interesting subject for investigation.

The sand-flats, just described, afford one main factor

in bringing about the altered physical conditions which then prevail. Over these dead-level expanses of wet sand there is spread for miles a thin covering—a mere film—of salt water, either left by the tide or blown up by the wind. In severe frost this film freezes into a sheet of ice, so thin and elastic (or pliant) as to rise with the succeeding tide, unbroken. With every ebb its thickness increases; then, perhaps, comes a snowfall, and the surface of the ice is covered three or four inches thick with snow. This freezes to the ice below, and, in fact, forms a compact and homogeneous mass with it. Other snowfalls follow, each thickening the growing ice, till in the course of a three-days' frost there is formed on the sand-flats what can only be described as a vast ice-field, perhaps hundreds of acres in extent, and anything from a foot to a yard in thickness. The weight of the ice, when lifted by the flood-tide, causes the solid field to split and crack up, the chief breakages occurring along the outer side, where the water is deepest and the influence of the tideway most felt. The whole ice-field also tends to slip outwards on the ebb; while, so long as the frost holds, the process of congelation and the creation of new ice continues afresh with each tide. Thus very great quantities of ice are carried off the flats by every ebb, while the places left vacant to landward are reoccupied by a further generation of glacial supplies.

Even in a frost of but a few days' duration the quantity of ice thus daily set afloat by the tide is very considerable. But when, as happens in such extremity of cold as we experienced in the winters of 1878-9, and again in January 1881, the frost continues unbroken for weeks at a time, and with a temperature approaching zero, the phenomena created thereby are indeed incredible, save to those who

have witnessed them. The masses of detached ice, split up by their own weight into fragments of all sizes and shapes, and carried here and there by the currents, drive helter-skelter in the tideway, and along the lee shores are thrown up into ridges and rugged piles, extending for miles along the shore. Outside this barrier of stranded ice-blocks, the floating floes, swept along by tide-currents, grind and crash against each other, piling up cake upon cake till they form miniature icebergs, and present a spectacle such as few have seen outside the Arctic regions.[1]

Severe frost, even though unaccompanied by snow, equally seals up the feeding-grounds: for then, between tides, mudflats and shallow pools, with all the vegetation thereof, are frozen hard as steel. At such times one may see small boys "sliding" on oozes that in open weather would scarce bear a redshank!

The effect of such metamorphoses upon the fowl are obvious; great part of their feeding-grounds are rendered inaccessible to them. At low water, or during neap tides, hundreds of acres of the mud are buried under stranded ice-floes, and as the tide sets them afloat the whole area is occupied by these blocks, rushing, driving, and careering forward on the current. So great is the turmoil that it is in the highest degree unsafe to venture among the moving ice in a gunning-punt; and, of course, for the fowl it is

[1] An apparently similar result is produced by heavy snowfalls, even when unaccompanied by hard frost. The snow which accumulates during low water on the flats becomes solidified by the rising tide, and floats away in large blocks closely resembling ice. These, however, are comparatively soft and "rotten," and can be penetrated by a punt without danger, and with but little trouble. We had plenty of this half-frozen drift snow during the early part of the month of January 1887, and in many subsequent winters.

even more impossible safely to visit their accustomed feeding-haunts. Especially must this be the case by night, when the drift-ice is invisible; hence many of the nocturnal fowl are at such times to be found frequenting the oozes by day.

It is at such times as these, when ice and snow cover both land and sea, and an angry grey sky is spangled with driving feathery flakes—at such times one may look for the appearance of the wild swan, monarch of the flood, and several of these noble wildfowl pay the penalty of their lives ere they learn the wisdom of giving a wide berth to that low, white, unsuspicious-looking craft which so closely resembles the blocks of ice drifting along on the tide. In the mild winter of 1882, about Christmas, several of the smaller species (Bewick's swan) appeared on this coast, and, being very incautious, were nearly all killed.

In such seasons, the number of brent geese on this coast, as described elsewhere, is truly amazing. In the winters of 1878-9, and 1880-1, it was no uncommon occurrence to see from ten to twelve thousand in a single harbour; and during March 1886, even these great numbers were largely exceeded. The soporific effect of the frost on mallard and wigeon has already been alluded to. Sheld-ducks (usually rather wary fowl) now become quite tame; indeed, they and all the shell-feeding birds suffer severely in protracted frosts. The vegetable-feeders can make shift for a considerable time on the drift weed, which, by every tide, is carried off the flats at the ebb; but the food of the others is absolutely sealed against them, and they suffer proportionately. Even the curlews, usually near impracticable, now yield to the extremity of the weather, and may easily be approached, if thought

worth shooting in their half-starved condition. Scaup-ducks, always tame, will now admit of approach even on foot—they are feeding, perforce, on the wandering whelk; while the lesser waders hardly take the trouble to get out of one's way. The effect of long and severe frost, in short, is to tame and subdue all wildfowl, and render them accessible to a punt, though mergansers and golden-eyes are always the least affected.

During the continuance of the frost, wildfowl enjoy one great safeguard, in *the ice itself*, from the ascendency which would otherwise accrue at such times to the gunning-punt. As already mentioned, it is most imprudent to adventure these frail craft among the drifting floes, where they run a serious risk of being stove, to say nothing of the impossibility of holding a course, or of working a big gun under such conditions. Moreover, during neap tides the accumulations of stranded ice along the "full-sea mark" render large areas of the flats beyond wholly inaccessible to craft of any description. The very best chances to score occur, therefore, not so much during the frost itself (though glorious sport may then be enjoyed) as on the first break-up of the ice. The fowl are then so intent on getting a "square meal," and so determined to make up for the hardships and short commons of the "glacial epoch," that excellent opportunities may be secured by those who are lucky enough to be on the spot at exactly the right moment. Within thirty-six hours of the break-up of the frost, every vestige of ice has disappeared, carried off to sea by the tide, and normal conditions are at once restored.

Incidentally, I may remark that the effect of the lowest temperatures on the human body when exposed for many hours together in a punt at sea, is relatively much less

severe than one would expect. Of course, one must be suitably clad. Abundance of warm woollen clothing goes without saying; and no part of one's flesh, except what is actually necessary, must be exposed to the bite of the frost. The only limit as regards nether garments, is the capacity of the sea-boots; and, as to upper gear, the ability to handle the cripple-stopper.

Whether the effect is caused by the relatively higher temperature of the salt water, or by the extreme dryness of the atmosphere owing to the entire absorption of all moisture by the frost, or otherwise, I can state from experience that one suffers a great deal less from exposure to cold in the lowest known temperature (as in January, 1881, when for several days the thermometer stood from 2° to 7° below zero, and the salt water at once froze solid on the setting-pole, and even on the rounded decks of the punt) than is the case in the raw, chilling, marrow-piercing winds of a "mild winter." Such degree of frost kills the wind.[1]

[1] On one of those Arctic days of January 1881, the tide being full at noon, we were lying among the stranded ice close alongside the main shore, when a robin flew out and joined us at lunch aboard the gunboat. Mindful of good things, our red-breasted friend boarded us again on the morrow, though we were then, owing to the daily variation in the tide, a full half-mile off-shore. So well fared our guest that for a whole week thereafter he flew out to us daily, even when we lay two miles off the land. The little bird soon grew so fearless that he remained on board, a passenger, even when we were moving about, working the boat at sea.

CHAPTER XXV

THE GAME-DUCKS

UNDER the head of "Game-Ducks" there are included, from a wildfowler's point of view, those members of the duck-tribe which are met with on sheltered waters—in other words, on waters where a gunning-punt can be safely navigated. These are chiefly the surface-feeding ducks, which feed by night; but a certain section of the diving ducks, such as scaup and golden-eye, also frequent these same situations by day, and must therefore be regarded as forming a subdivision of the game-ducks. The remaining section of diving-ducks, being confined exclusively to the open sea, are seldom or never met with in waters where a gunning-punt can venture. These are classified, in wildfowling parlance, as sea-ducks, and to them is devoted a subsequent chapter.

By far the most important of the ducks included in the first-named category are mallard and wigeon. From September till March both are the most numerous, most valuable, and most sporting fowl on the coast-gunner's game-list. To him these two species are what partridge and pheasant represent to the inland sportsman: while, correspondingly, the brent geese on the tide take the place of the grouse on the heather. The habits of the mallard when on salt water vary to some extent from those

of all their congeners; it will, in fact, presently be shown that each species possesses individual characteristics peculiar to itself. The different conditions of natural disposition, food-requirements, and general physical economies of every separate species vary so infinitely, that a close study of these conditions and of their effects on the respective birds are both instructive in themselves and an interesting complement to the pursuit of wildfowling.

By nature the mallard is essentially and absolutely a night-feeding bird (far more so than the wigeon); is almost omnivorous in its tastes, but with a partiality for fresh water if easily accessible; has a strong inclination to rest by day, but is careless as to whether it rests ashore or afloat. Well aware of the danger of remaining inside harbour by day, the mallards, with the wigeon, take flight from their feeding-grounds, as a rule, before a sign of dawn has appeared. Their favourite resorts for whiling away the hours of daylight are, either on the open sea, opposite their feeding-grounds if smooth, or, otherwise, some sheltered bay or roadstead along the coast, possibly several miles away; or else among the tidal channels, and shallow backwaters formed by the tide in the sand-bars which inclose most large estuaries, both in this and other countries. Wigeon seldom care for these latter resorts, or stop short of the open sea.

Of course, if there should happen to be in the neighbourhood of their feeding-grounds an inland lake or pool, undisturbed and of sufficient extent, this would be the grand resort of the mallard (and wigeon too); but I am now referring exclusively to their habits on the coast.

The sand-bars above mentioned deserve a few words of description, since they form one of the characteristic features of wildfowl-resorts. In many places these wastes of

sand are of immense extent, a considerable portion never being covered, even by the highest spring-tides. At low water, mile after mile of flat red-brown sand lies exposed—the result of ages of ceaseless struggle between land and sea. Far away across the level expanse, a white line of breakers bounds the horizon to seaward; and one may wander for hours over the yielding spongy surface without an object in sight, except the grey-barnacled ribs of some old wreck half swallowed in the shifting sands, or perhaps a big grey seal cautiously basking in the bright October sun, always close to the edge of a deep-water channel. Presently we come across a spot where the smooth, unruffled level is disturbed and the sand imprinted with the paddlings of many webbed feet. All around lie strewn for half-an-acre feathers, great and small—many long and strong quills—and other vestiges of a departed multitude. That is where the grey-geese roosted last night.[1] To-night, if you lie in wait for their arrival, they will perhaps take up their quarters a mile away. The flight-gunners bury themselves in the sand at such places as this, on the barest off-chance of getting a shot; but, on so vast an area of ground, it is the merest fluke if the geese should happen to flight within range.

The sand-bars are of course intersected by the main stream of the estuary, which traverses the sand by one or more deep-water channels on its course to the sea outside. On these channels, and along the inner margin of the sand-bar, the strong sweep of the tide cuts out broad flats on a slightly lower level than that of the

[1] Note that those long and strong quills do not belong to the geese, which shed not a feather in October. Geese moult all their quills together, in *July*. The larger feathers alluded to have been cast by the great black-backed gulls, which also frequent these desolate sands, and are now gradually moulting their flight-feathers.

sand-bar itself: and these flats, as the tide rises, form shallow backwaters. It is to these backwaters, and to the edges of the main channels, that the mallard are especially fond of resorting to rest and sleep during the day; and here, during the flood-tide, some excellent shots can now and then be obtained at these fowl, particularly if the sand-bar lies remote from the quarters of the local punt-gunners. Puntsmen, as a rule, confine their operations to the mud and ooze, and seldom trouble to "pole" perhaps several miles into what appears but a useless waste of sand.

There is a perilous feature about these "water-meets" that should not be overlooked, namely, the deep and dangerous quicksands that fringe the tidal channels. These are caused by the ceaseless churning and swirl of the sea, and are the more treacherous by reason both of their constant shifting, as well as by their smooth surfaces being indistinguishable from the solid sands that surround them.

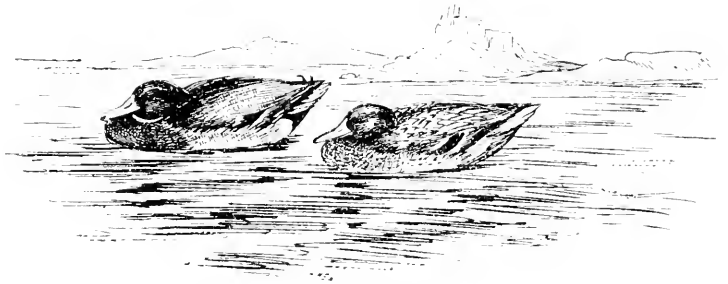
At full spring-tides the area of sand left uncovered is of course greatly reduced, and during the last quarter's flood the best chances are secured by the punt-gunner. Then, the ducks which have been dozing the hours away along the sand-edges are set afloat, and, together with those which have been resting in the channels, come driving gently up on the tide, and drift, as it were passively, into these backwaters. Here the fowler should be lying ready, and barring accidents, is tolerably sure of a fair reward.

Considering that the mallard is one of the most watchful birds in existence, the comparative ease with which they can often be approached in broad daylight in a gunning-punt is difficult to understand. Under

such circumstances, one sometimes obtains chances to experiment on a variety of fowl and to compare their relative degrees of wariness. Thus we perhaps first try our skill on a small lot of grey-geese, resting close to the wash of the sea. No! They won't have it at all. They rise five gun-shots away; then some sheld-ducks fix the range of safety (in their ideas) at three. Even the spread-eagled cormorants utterly decline negotiation, and as for the waders, they are perhaps the "shiftiest" of all. Incidentally I may remark that the aggregations of these latter birds, which at flood-tide assemble on the sand-bars, are sometimes actually marvellous. The whole interior expanse of mud-flat and ooze being then submerged, the wading-birds are driven out to the only refuge which remains uncovered—namely, the now comparatively limited area of the sand-bar. At full-sea this resort is thronged, aye, "carpeted," with such multitudes of "hen-footed fowl," as I must decline attempting to describe! To convey an adequate idea of their number would necessitate inadmissible superlatives, while any estimate would be hopeless. If legislators who premised an Act of Parliament with the preamble that wildfowl are decreasing in the British Islands, could see some of these spectacles that fall to the everyday lot of the punt-gunner, they might wonder where they got that information; but such an event is scarcely likely to occur. Should the fowler, however, attempt to "set up" to these whistling, chattering hordes in a gunning-punt—let your boat be the lowest, the lightest, and the fastest ever launched, and her occupants past masters of their craft—they will utterly fail. The sea-pyots, plovers, and such-like simple birds (if alone) will, no doubt, admit of approach; but as for the rest, the curlews, godwits, knots

—well, they know a gunning-punt and its meaning as well as though each of them had a copy of Hawker in his pocket.

Yet, the mallards, the finest and most valuable of all, despite the experience of generations, do not yet seem fully to recognise that low white craft. Time after time I have "shoved" up to within sixty, even fifty, yards of their flotilla, drifting along on the tide, all inanimate and apparently asleep, not a head to be seen. Even after a miss-fire they have not risen at once. Up go their necks at the snap of the cap, and their deep-



MALLARDS ASLEEP—MIDDAY.

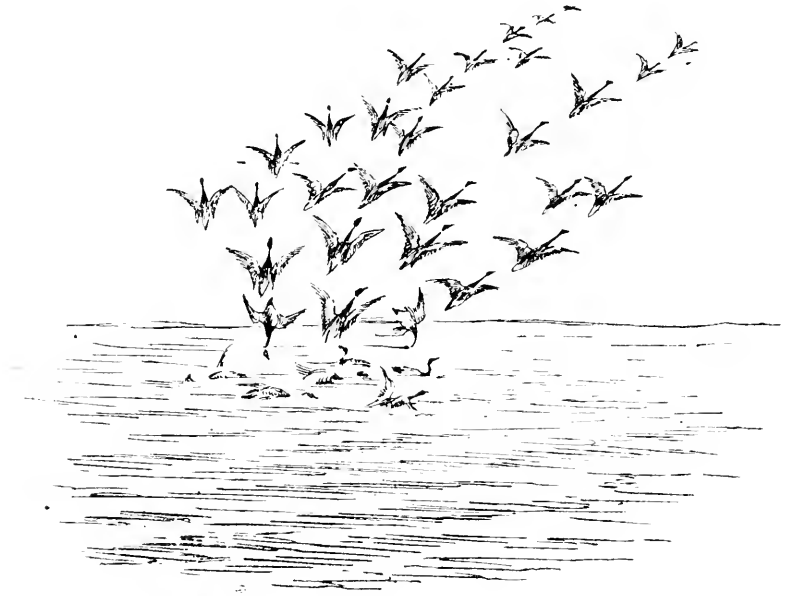
toned "q-u-a-r-k! q-u-a-r-k!" is barely audible, so gently is the alarm-note sounded; but they do not rise till one has had *almost* time to replace the cap, but not quite.

There is one imperative point in approaching mallard, or, indeed, any wildfowl. They must always be "set to" from the leeward; neglect of this precaution assures certain failure. Nevertheless it happens that fowl are met with in such a situation (as, *e.g.*, on the weather-side of a recurved bank, or in the leeward recesses of a creek), that there exists no alternative but to proceed down-wind on

them. The attempt is sure to fail, but the effect is interesting to observe. Their sense of smell is obviously keener than their perception of the danger; and as they get our wind when still two or three gunshots distant, the ducks will be observed to be affected by a suspicion which appears to be vague and indefinite, each duck swimming to and fro uneasily. Now they fly low, and probably pitch again at no great distance. But that lurking spirit of suspicion smoulders in their breasts, making them restless and shifty, and seldom can that pack again be manœuvred.

So great is the dash with which the game-ducks (mallard, teal, or wigeon) spring from the sea, throwing themselves at a single impulse a full dozen feet clear of the water, that they cannot well be taken "on the rise" with a set punt-gun. The shot must be taken on the water, or, at latest, just as their wings are opening. Of course, flying shots can be made by "tipping" the gun; but these are not so effective as firing with the gun trained in position along the fore-deck. To illustrate my meaning, let us compare a shot at, say, mallard, and one at geese. The latter fowl, being heavier and less active, rise horizontally from the sea, offering at that moment the most effective shot that can be desired. A gaggle of geese, when swimming, may be compared to a book lying flat on a table; on rising, it is as though the book was opened in the middle, and half its pages held upright, thus presenting a far more extensive target. All that the gunner need remember on going to geese, is to give his gun a good elevation, and shove ahead full speed till they rise. The geese themselves, in fact, give the signal when to fire (if within range), and the fowler's difficulty is to attain that distance. But with duck the case is different,

since their first spring carries them clear of the trajectory of a punt-gun. The choice of the precise moment to fire is, therefore, a fine point: by pulling the moment a long range has been attained, a couple or two may possibly be secured at each shot; but this is an unsportsmanlike proceeding. On the other extreme, an undue anxiety



MALLARD SPRINGING TO SHOT—DAYBREAK.

to grasp the "horn of plenty" may result in the pack springing unscathed, when within fair shot. Mallard and wigeon (but never teal) will sometimes give notice of their intention to spring by heading the wind and raising their heads. Of course, on such timely intimation the charge is despatched at once; but, in default of any such notice, it is no easy matter to correctly judge the distance while lying flat, and to seize the precise moment

for placing the shot to best advantage. The middle course is, however, the safest, namely, to fire as soon as ever the forms of the fowl are distinctly distinguishable —say, between sixty and seventy yards, at which distance the pearly grey backs of the mallards, and the white wing-patches of the old wigeon drakes can be clearly seen.

To return to the habits of ducks. In the absence of any such favourite diurnal resort as I have—perhaps too lovingly—dilated upon, the bulk of both mallard and wigeon pass the day on the open sea, where the two species associate freely. Even at sea, ducks usually have a distinct predilection in favour of some particular spot, to which they yearly resort, winter after winter. This is generally under the shelter of some point or headland, or, in the absence of these, of a reef of rock which affords some protection from the sea, where they prefer to sit close outside the line of the breakers. Hence, as the main bodies of duck seldom enter harbour before dark, and leave it again before daybreak, and as on the sea they sit further in-shore than boats usually care to go, they may be overlooked by those not acquainted with their habits.

With regard to migration, both mallard and wigeon begin to arrive in this country in September. The wigeon are the first to appear, their vanguard often reaching our coast during the first or second week of September, usually in bunches of six to a dozen. Towards the latter part of the month these are followed by small detachments of mallard, and from that date onwards constant arrivals of both species keep occurring till the end of October, by which period the full complement of their winter numbers is made up.

The whole, or, at least, the vast majority, of our sea-coast mallards are foreigners. A few broods of native mallards from the sand-links or immediate vicinity of the coast-line may join the foreign legions on their arrival here, but that is all. The inland, native-bred mallards remain all the year round in the neighbourhood of the moors and marshes where they were bred: never, of their own choice, coming down to the coast or tidal estuaries. In very severe weather, when their regular haunts are frozen or snowed up, they are obliged to have recourse to the open waters of the coast, but on the break-up of the frost they return within a few hours to their inland homes.

The return migration northwards takes place in March. As early as the end of February, in mild seasons, we have evidence of the commencement of the migratory movement, and its concluding stages are still perceptible in April. But March is the month when the withdrawal of these ducks is in full operation, and, in average seasons, the great bulk of them leave our coasts during its concluding week.

Wigeon, on their first arrival—about mid-September, and during the remainder of that month and a great part of October—remain inside harbour throughout the day, instead of flying out to sea at dawn, as is their invariable habit later on. During the period mentioned, the wigeon may be seen all day long floating lazily about the open water, or swimming round the edges of the mud-banks, toying with the blades of the *Zostera marina*. Naturally, the punt-gunners take advantage of this habit, and during the first month of their sojourn on our coast a good many wigeon fall victims to the big guns. Before the advent of November, however, their habits undergo an entire alteration. Whether they have learned wisdom in the bitter

school of experience or otherwise, it is rare to find these ducks about the oozes during the day-time after the 1st of November.

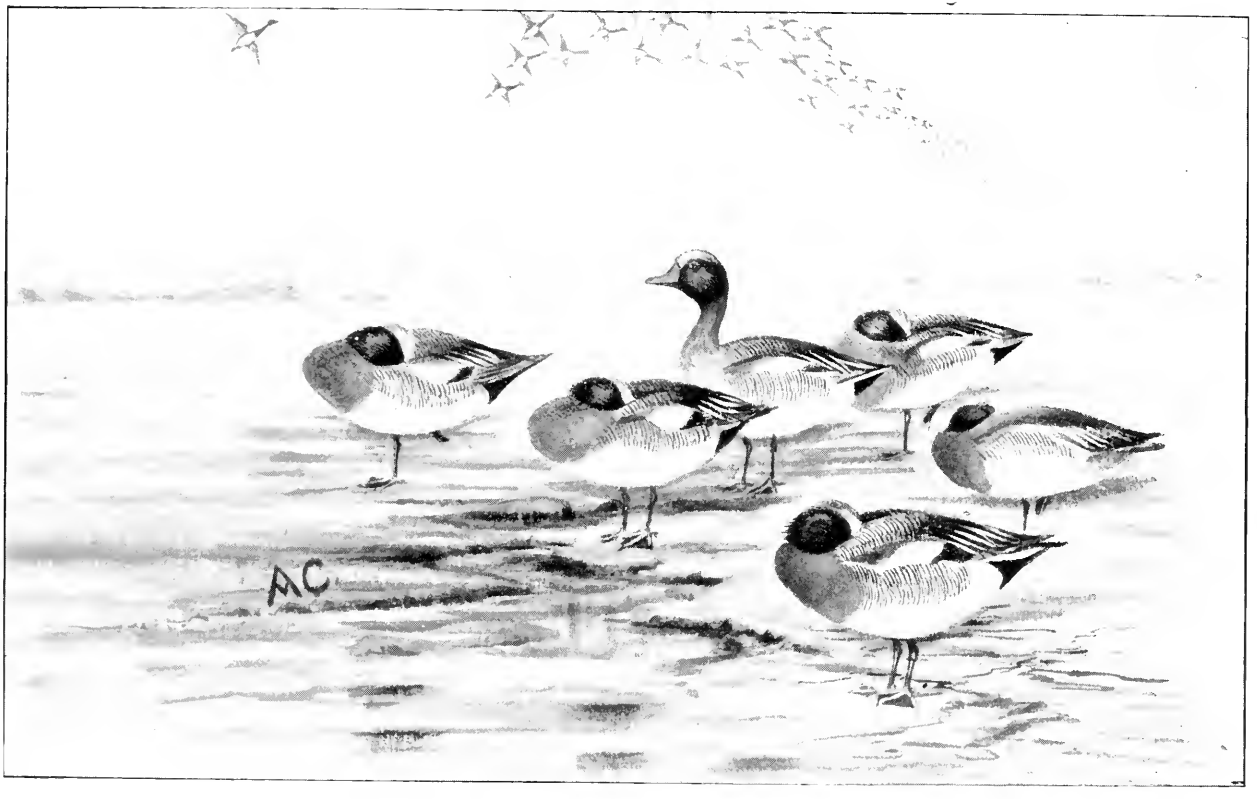
This phase in the character of wigeon appears at first sight to point to the conclusion that they are, by nature, diurnal in their habits: and that they are only driven to acquire night-feeding proclivities by the influence of man, and by considerations of safety. But on further examination, this conclusion appears hardly to be borne out. In their northern breeding-grounds (whence they have newly returned) there is practically, during their sojourn, no night at all; even in central Norway there is no darkness, and in their main resorts in Lapland and corresponding latitudes, midnight is indistinguishable from noon. Consequently they then acquire promiscuous habits; and, like other Arctic voyagers, eat when hungry and sleep when tired, without much regard to solar chronology. On first arrival here, the wigeon, and especially the young birds, which then for the first time experience the regular alternations of light and darkness, continue the anomalous habits acquired in northern lands, where the summer sun never sets or at least his light never dies out. In a few weeks, however, they adapt themselves to the altered conditions, and become absolutely nocturnal in their habits.

No doubt this change in their daily life is influenced by the disturbance and persecution they undergo in our islands; but that this persecution is not the sole factor in producing it, is shown by the fact that their procedure is exactly the same in countries where they are but little or never disturbed at all. In various parts of the Spanish Peninsula their habits proved precisely similar to those noticed at home. Thus, on some of the large

estuaries of North Portugal, where the natives had not at the time of my visit thought of practising flight-shooting by night, the wigeon spent the day on the grassy islands and sand-banks in the river for some weeks after their arrival; but by the middle of November they habitually went out to sea at the dawn. Then, the only observable difference in their habits was the earliness and extreme regularity with which they flighted at dusk, owing to the accustomed absence of danger. Night after night they would appear within two minutes of the same hour—just before daylight had quite disappeared—and by my watch I could always time myself to leave the snipe-grounds and be in position for "flight," with the certainty of having only a few minutes to wait for their appearance.

To return to our own coast: it is far from certain that a shot will result, even when one does fall in with a flight of wigeon lingering about the oozes during the day. On the contrary, wigeon are so much more suspicious of a gunning-punt than are mallard, that, especially in mild, open weather, they will rarely permit of approach within any reasonable range. Wigeon under such circumstances, begin to take notice of the presence of a punt as far away as 500 or 600 yards, and as a precautionary measure, they will paddle off into deep water; then, if pursued thither, will rise at perhaps 300 yards, and make straight for the open sea. In severe and frosty weather they are naturally less alert, and a shot may occasionally be obtained in daylight, though they are always a "kittle" sort of fowl, and it is wise to fire as soon as ever a reasonable range has been obtained.

The two best shots that have been made on this coast,



WIGEON.

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within my knowledge, realised ninety-six wigeon empunted —fifty-four and forty-two. This occurred in October, 1895, the two shots being obtained within an hour, in an interval between gales. One dozen, however, may be reckoned quite a satisfactory shot: while as many as a score together are not secured twice during an entire winter. The next best shot, after those just cited, also made in October, numbered thirty wigeon.

So far these notes have been confined to the diurnal habits of the birds under consideration. Now follows the night—by far their busiest and most animated period—and we will try to follow their fortunes under the moon. As the sun sinks below the land, and the gloom of a winter's night gathers around, there is commotion among those keen-eyed hosts which, since daybreak, have been rocking and tossing on the waves, or whiling away the hours on the sand-wastes. The sensation of hunger arouses them again to activity, and about an hour after dark—could one but see them!—they are rising in detachments, in little trips of two or three to a dozen or more, and speeding away separately through the darkness. Over the sea, and over the desolate sand-links, they hurry forward to the ooze and mud-flats within, and which all day have been deserted, so far as ducks are concerned. Now the dark skies resound with the rustling of wings, and they circle lovingly over the succulent zostera, piping out their pretty resonant "whee-you." Then from right beneath them, flashes a lurid gleam, and, as the report echoes across the waste, down falls poor "*Penelope*" with sounding flop on the mud. Away speed the survivors, but at point after point they meet with the same inhospitable reception. The "flighters" are out in force to-night, for the moon is well obscured by

driving clouds, and the ducks are more easily discerned against their half-translucent masses. At last, in despair of finding a safe landing on the mud, down drop the wigeon in the open water, and presently paddle cautiously inshore. But even then there is no absolute security. To the very outermost verge of the plains of rotten ooze, some hardy gunner, inspired to the tips of his toes with the predatory instinct, has found a way by "plodging" down the course of some burn, whose shell-paved bed will just bear his weight. There he lies flat on his slimy couch; the armful of bent-grass he has brought to rest on, already soaked by the rising tide, and the ooze and water slowly creeping into his sea-boots and all over him. Presently the little flotilla looms on the moonlit water in his front. He will not move a muscle now, though the water rises inches around him: and as the ducks draw inshore, he has the reward he sought. One by one his dog brings in the slain, and he departs homewards—satisfied. Verily it is hard and bitter work, this flight-shooting on our British coasts in winter, and one can only admire the resolute pluck which alone can command success. But zeal is sometimes carried to excess, and, to my knowledge, the strongest constitutions have become mere wrecks from the long hours of wet and bitter cold spent on those wintry oozes.

The objects sought by the different ducks on their nocturnal excursions vary in each species. The mallard, with its omnivorous tastes, is not confined to any single feeding-ground but speeds away on divers courses; some far inland to root about in potato-fields, or to search for acorns, or stray grains in the stubble. Others make straight for some clover-seeds or "hard corn" they wot of; while another contingent remains to feed on the

zostera. These last show so strong a predilection for fresh water and its productions, that more of them will be shot by lying in wait about the places where small streams of fresh water from the land run down across the oozes than anywhere else.

Illustrative of this, I quote the following from my *Art of Wildfowling* (p. 32):—During intensely severe frost in February, 1895, two gunners (brothers), flight-shooting by a trickling land-spring of fresh water, where it crossed the salt-slakes, shot and fairly bagged during three consecutive nights just preceding the "full of the moon," fifty-one ducks—two-thirds of which were mallards, the rest wigeon. Another night during the same frost, one of these gunners bagged nine mallards in eight shots without the aid of the moon. The nine were shot by starlight as they plumped down on a tiny land-spring—the only fresh water, and the only *unfrozen* water, over miles of saltings.

Wigeon, on the other hand, feed exclusively on the green blades of the zostera and other marine algæ and seldom (so far as one can see in the dark) pass beyond the limits of the "full-sea mark." Neither fresh water, grain, nor potatoes have any attractions for them, the great oozy plains being their resort. Here, so soon as the disturbances of the flight-shooters have ceased for the night, they get to work in earnest. An animated scene there must then be under the rays of the moon, could one's eye only pierce her bright but deceptive light.

To come to terms with wigeon, the best time is during the small hours of the morning, at a period when the tide happens to be from half to three-quarters flood. They have then fed, and will be found congregated about the

rapidly disappearing mud-banks. The exact locality of the main bodies is not difficult to make out by reason of their noisiness. The clear-toned "whee-you" of the drakes is audible afar, and, on nearer approach, the purring growl of the ducks is also distinctly heard. These single notes are incessant, but at intervals the whole pack burst out into a simultaneous chorus, which lasts perhaps half a minute, and then subsides. Wigeon, like some higher types of creation, are always noisy after a good dinner. In working-up to wigeon by night, it is absolutely essential to avoid going at all to windward, or they spring at once; they must also be kept full in the play of the moon on the water, otherwise they cannot be seen, even though within a dozen yards. With regard to seeing the fowl, the writer can only envy those who can detect wigeon *on the mud* on a dark night, or even by such weak aid as starlight. This is, of course, a matter of eyesight almost as much as of practice; and personally I am always content if, under the most favourable conditions of smooth water and bright moonlight ahead, I can make them out as soon as within shot, or nearly so.

It occurs to me, on reading over the foregoing, that, between the flight-shooters at night and the punt-gunners in early morning, the ducks may appear to have but a poor chance. But this is not the case—quite the reverse: no creatures on this earth enjoy greater natural defence and protection, nor (considering their numbers) are any more difficult to secure. On a great majority of nights they enjoy absolute peace, since not one night in a score is favourable for night-punting, and at all times during low tide vast areas of the mud are inaccessible alike to man or punts. It is only during the period

of moonlight each month that an attempt is possible, and then adverse climatic conditions—such, for example, as a breeze of wind, or heavy clouds obscuring the moon—may preclude all chance of success. There are probably not a dozen nights throughout the whole winter, on an average, when conditions are even fairly suitable; on some of these it may not be convenient to go out, and now the useless and mistaken legal restrictions have deprived us of the month of March—one of the best we had. The proportion of wigeon killed annually is very small indeed, compared with the numbers of these birds. I have roughly estimated it, in different seasons, as varying from 10 to 15 per cent. The wigeon shot on our coasts in winter, whether they be counted by hundreds or by thousands, have no appreciable influence on the numbers or abundance of the species. They are of less importance than the "drop in a bucket"; and the same remark applies equally to the brent geese and all other winter wildfowl. There are those, including Parliament men, cabinet-naturalists and sentimentalists who may yet doubt this; but that is only because they have no means of knowing better. All the wildfowl that can be killed on salt water in these islands make no difference whatever to the breed.

Before daybreak, or, at latest, on the first symptoms of dawn, both mallard and wigeon depart for the open sea to spend the day: and there, on our exposed coast, they are inaccessible to man, whether by punt or sailing-boat. I have seen (in pictures) a dingey running into a page of sea literally strewn with dead and dying mallards. This is not my experience in actual practice. The world is wide, and there may be spots where such feats are possible: I will believe when I have seen them performed.

The game-ducks when at sea I have always found fivefold more wary than the regular sea-ducks, and have never yet shot, or seen shot, a single mallard or wigeon from a sailing-boat at sea. Often as I have run down on them, merely for the pleasure of seeing, say, a thousand ducks spring at once from the sea, I never knew them allow a boat to approach within shot, or, for that matter, within a quarter of a mile.

Next in importance to the two above-described ducks is the teal. As early as August some appear on the salt water, and during September and early October they are plentiful enough, and right glad is the puntsman to welcome them. No sight is more gratifying than a flight of teal, no sound more pleasing to his ear than their low clucking note; for, though usually unsuspicious of a punt, no fowl in existence is smarter or more game-like in springing, or requires more care and judgment to secure the most effective shot. But in the month of October all these teal have passed on further south, or perhaps inland, and rarely are any seen on the salt water, even in mild seasons, after that date, until their return northwards in March. They are essentially lovers of fresh water; after punting for a week in January without seeing a single teal, I have sprung half-a-dozen of them from a small fresh-water burn within a few hundred yards of the salt-slakes. Like all wildfowl that prefer fresh water and its productions, teal are impatient of cold, and of the risks of having their feeding-grounds closed by ice. Hence they move southward to avoid such dangers. Yet once, during the intensely severe frost early in 1881, I fell in with six of these birds—all drakes—four of which were secured with a shot from a shoulder-gun.

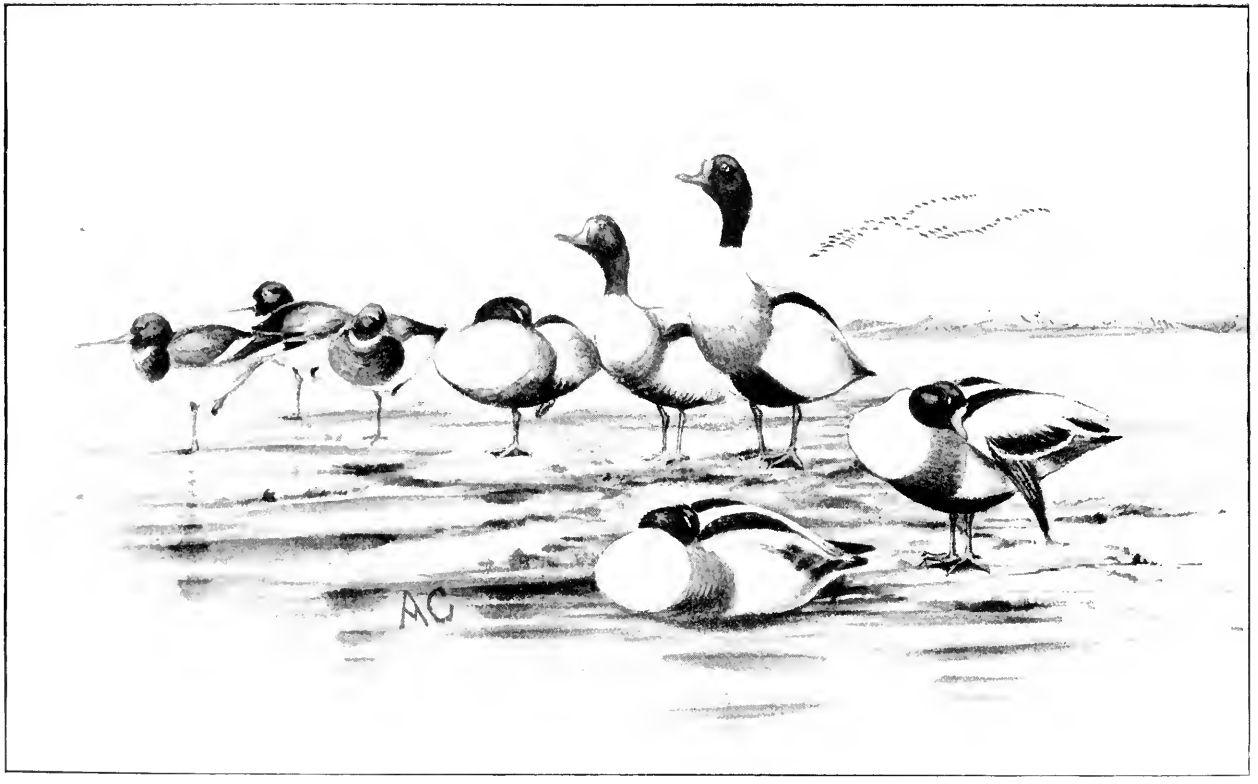
Next in importance comes the pintail. Up to the date of my first edition, I had never, during twenty years' coast-gunning, seen or heard of this species on the north-east coast; yet, during the succeeding autumn (in October, 1889), pintails made their first appearance here, and have since been observed and obtained almost every year at that season. So regular, indeed, has been their appearance that pintails are now known to the fisherman-fowlers of this coast as "long-necks." All, however, are birds of the year, and never an adult among them; though these latter, on rare occasion, pass northwards along this coast during March. During their short stay here, on autumnal passage, the observed habits of pintails are similar to those of mallards at that season.

The next three species of game-ducks I must dismiss in a very few words. The gadwall, garganey, and shoveler never frequent the north-east coast in winter. Casual stragglers may occur at intervals on migration; but as habitual, or even fairly regular, visitants, they are unknown. Shovelers come every year to breed in certain localities; they arrive at the end of March, go straight to the pool or pond where they intend to breed, pair in April, nest in May, and as soon as their young can fly, at once depart for Southern Europe and Africa. Shovelers, it may be added, are quite uneatable. Of the rest I have never myself met with a single example, and, with the exceptions above defined, they may be regarded (on the north-east coast) as non-existent. From personal acquaintance with these ducks in other countries, they are all, I observe, strongly addicted to fresh water, both by day and night. We have pintail and shoveler in thousands on our Spanish marshes all winter, and

garganeys appear some seasons in March: while this year (1906) I recognised both the first-named species on the lakes of East Equatorial Africa, in January and February. Clearly our coast lies far north of their winter range.[1]

The last of the surface-ducks regularly met with by the coast-gunner are the sheld-ducks. They are resident, breeding in the sand-links, and bringing down their young into the water in July and August, and are more or less common all the year round. But in autumn their numbers are reinforced tenfold by arrivals from Scandinavia, and in winter as many as two hundred may be seen in a pack, though lesser numbers are more usual. Their favourite haunts are the "mussel-scaps," or stretches of mixed sand and mud, where various shell-fish abound, and a certain amount of sea-grass and green weed grows. Such spots they may frequent by day, moving actively about in search of crustacea, small shell-fish, and the like, keeping up the while a constant low sibilant note. The night is, however, their more regular feeding-time, and by day they are commonly found passing away the hours at rest on the wide open sands already described as a favourite diurnal resort of the mallards. However sleepy they may then appear, there is always a sentinel on duty, even if their company be only four or five strong, and it is seldom possible to approach within

[1] Fifty years ago, before drainage and reclamation had become general, a pair of two of garganeys appeared, once in a decade, in Northumberland —always at end of March; but even in those days, no single instance of their actually breeding here was ascertained. Had they done so, both old and young would have quitted this country by the end of July, or early in August, for the garganey is even less tolerant of cold than the teal. Of the gadwall, only two occurrences have been recorded during the best part of a century —both these in winter.



SHELD-DUCKS AND OYSTERCATCHERS.

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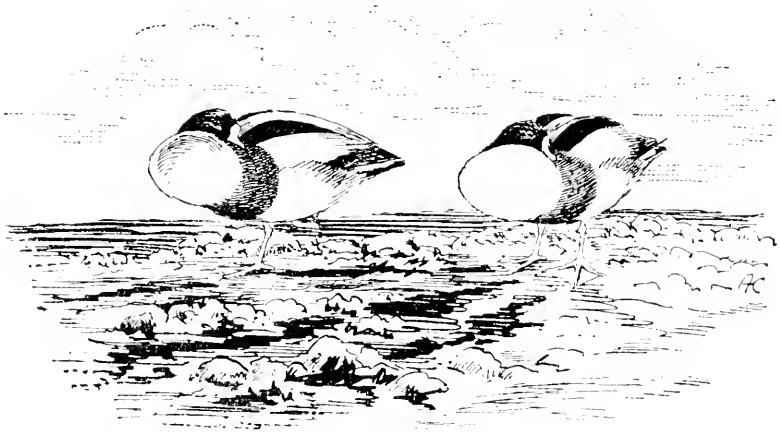
shot, though I have occasionally done so, even in mild weather.

Like the rest of the surface-ducks, the "skells," when feeding afloat, frequently turn up vertically in order to reach the bottom, or the submerged grasses beneath them.

Sheld-ducks differ from all the other surface-ducks in that the sexes are alike; they have, moreover, no "eclipse," and no heavy moult. For to them the loss of the power of flight on the open shores devoid of shelter or covert which form their home, would be fatal. Hence Nature has provided that their quills be cast, not all together, but in separate corresponding pairs. In summer, when they bring their young down to the water (the drakes at that period keeping separate in little bunches), it is almost impossible to make the female sheld-duck fly; and she, with her brood, develops a facility for diving that is remarkable in a species not "built that way." This circumstance might be construed into a belief that sheld-ducks are then unable to fly owing to the moult. But that, according to my experience, is not so. The reluctance arises solely from maternal solicitude, as is demonstrated should one catch a female with her brood away from the water: she will then take wing, leaving the young to seek safety by squatting among the stones and tide-wrack on the shore.

I must not overlook the fact recorded by C. M. Adamson, that sheld-ducks kept by him in confinement *did* moult their quills simultaneously, and so lost the power of flight. That, however, may be attributable to the altered conditions of captivity and the easier life—without need to hunt for their living, as in the wild state. In reply to an enquiry, my puntsman writes me:—"I know

for certain that sheld-ducks can fly at all times, because I have caught them at their nests when they are at their worst: and when let away, they could fly quite well. We have them all the year, and I have never seen them but what they could fly."



SHELD-DUCKS.

CHAPTER XXVI

MIDNIGHT ON THE OOZES

A Winter's Night in a Gunning-Punt

The elements of hardship and uncertainty which are inherent to the pursuit of wildfowl have been alluded to; but it is by night that both are the most pronounced, and especially the former. Night-punting, while intensely exciting, is yet the most precarious of British sports, and demands the greatest sacrifices of comfort. The boldest spirit may quail at the prospect of spending a winter's night aboard an open punt amidst shelterless creeks; and the keenest must stiffen his neck and harden his heart when it comes to turning out into a freezing atmosphere at midnight, just when the rest of the world are seeking their snug beds.

Moonlight is the primary essential of success—that is, the sport is limited to a possible eight or ten nights each month; but in practice there are seldom found more than a couple during each moon, when meteorological conditions are sufficiently favourable. On stormy nights one cannot go afloat, for a gunning-punt would not weather the sea; and even when the sea is calm, the moon may be so overcast as to preclude any chance of discerning the fowl on the dark water. Then—cruellest disappointment

of all—on those rare occasions when climatic conditions have appeared auspicious, and one has set out full of confidence, perhaps in the course of an hour or two the whole face of the heavens changes, a breeze springs up, cloud-masses spin across the skies, obscuring the moon and "blackening" the waters—the game is up; the night's labour is lost, and nothing remains but to go home to bed—soaked, starved, and empty-handed.

Perhaps the readiest means available to draw a vivid picture of the vicissitudes of wildfowling by night is to narrate an ideal instance as experienced during the month of February.

To begin with:—A continuous gale, blowing fresh from south and west, rendered all operations afloat impossible for five whole days. Nothing could be done but "loaf," smoke, and watch a falling barometer. Weary days! The gale at length subsided, and the sixth evening offered fair promise of the patiently-awaited opportunity: the moon, a few days past the full, shone brightly, and under her silvery rays the calm waters gleam clear and white. The tide would flow at 4 A.M., so an hour before midnight we launched the *Boanerges*, and got under weigh with the first of the flood-tide. A couple of miles' paddling brought us to the outskirts of the ooze, and soon there was evidence of the presence of the Anatidæ. For miles along the dreary mud-flats rang out their inspiring notes, and this in a spot where by day not the ghost of a duck would be seen. Game-shooters—good sportsmen, and keen too—who confine their wildfowling efforts to the hours of daylight, have before now returned from such a place in disgust, declaring "there was not a duck in the district." Nor is there, by day, but a change comes on the scene at night.

Then, soon after dark, in their thousands the duck-tribe pour in from the sea, and by midnight the erst deserted oozes teem with wild bird-life.

At first we are only on the fringe of the feathered hosts—among the stragglers, single ducks, twos and threes. The tide being still low, these scattered birds were most difficult to discern (even were there any object to serve by seeing them), since they are feeding among the loose stones and drift bunches of sea-weed which strew the shore. They, in fact, usually detect us before we become aware of their proximity, which we only learn by the frantic quack, flutter and splash, as they spring from the slob within a few yards. The main bodies are, during low tide, so straggled about, feeding, as seldom to offer a tempting shot; over and over again we discern in the moonlight little bunches—fours, sixes, and eights—swimming on the white water, or dabbling on the ooze, and within half-gunshot. "Won't you take that lot, sir?" whispers my companion; "there's nine together, all of a clump!" But I did not intend spending a winter's night at sea for a possible nine, and decided to hold on and await the more promising chance when the rising tide should have concentrated those scattered units into solid battalions. Moreover, except for a fairly heavy shot, one is reluctant to dispel the charm of the wild sounds and sights around us.

Now the ooze and the moonlit water ahead are alive with sprightly, active forms, feeding, playing, and revelling in a well-founded security; while the dark skies reverberate with the swish, swish of strong pinions as fresh "trips" pass and re-pass above. The variety of bird-notes and their musical intonations, to an appreciative ear, offer no small compensation for the hardships or dis-

comforts of the situation, and also for a slight temporary restraint of the spirit of bloodthirstiness. From far and near along the flats resounds a running refrain of blended voices. Then, at shortly-recurring intervals, the whole host join, for a few seconds, in one united chorus from thousands of throats—the wigeon, in fowling parlance, are "all in charm"; and this is followed by a few seconds of comparative silence.

Most kinds of wildfowl are distinguishable at night by their notes: there is the low soliloquy of the mallard-drake, and the far noisier quacking of his wife; the strange half-"purr," half-growl of the wigeon-ducks, the long-drawn "whee-you" of the drakes: even the gentle splashing of their bills as they dabble in the ooze is distinctly audible. All these and many others are well known —as familiar to the fowler as the bo'sun's pipe to a sailor. Then there is an almost infinite variety of notes—sharp, shrill whistles, low piping calls, and undulated growls, which he knows proceeds from the various wading-birds; but to allocate each of these precisely, requires more attention than the average fowler cares to bestow on these, to him, unimportant birds. Presently there rings out a long-drawn, reverberating bark, and that, too, he knows well; it is the call of the female sheld-duck—she, like the mallard, being far more vociferous than her consort. Sometimes she winds up with half-a-dozen distinct quacks, but the note of the drake is quite different—the peculiar sibilant noise, half-squeak, half-whistle, before alluded to, usually quite low and gentle, but at times sharp and ringing. It is curious that the beak of the sheld-duck is tightly closed while the note is being uttered: the bird sometimes appears to be busy feeding at the very moment. Wigeon-drakes, on the other hand, open their beaks wide before commencing

their pretty "pipe," and close it during the note. Teal-ducks quack not unlike mallard, but lower, more hurriedly, and less defined; and these drakes have also a sibilant note. The young teal when in packs in autumn keep up a constant low clucking chatter. Scaup appear silent—I never heard them speak—and golden-eyes rarely, though they, with all the diving-ducks, utter a low, hoarse croak—almost corvine.

Noisiest of all his noisy race is the curlew, the official sentinel of the wastes. His lung-power is simply terrific, and the vociferations of half-a-dozen, suddenly springing from a creek close by, fairly outrage the decencies of night, and spread an alarm for miles. I to-night overheard my companion angrily muttering to himself that their conduct was "parfectly scandalous!" On a still, calm night such as this, we could also distinctly hear the croaks and gabbling of the geese, sitting, full two miles away, on the open sea outside.

It was nearly 3 A.M. before the rising tide sufficiently covered the flats, concentrating the scattered ducks by its steady advance, and before the chance we had awaited arrived. A mile or so beyond the spot where they had been feeding, we came upon the now united assemblage, resting on the water of a sequestered bay. By their notes we had little difficulty in making out their position, and presently drew up within sight of a fine flotilla under the rays of the moon. This was the critical moment. The slightest noise of man, boat, or gear—let an oar creak or the setting-pole strike on a stone—and they are gone. No such ill-luck, however, befell to-night.

The midnight fowler, during these critical moments, enjoys a rare scene in bird-life—he has before him, and at close quarters, a surging sibilant mass of the wildest of all

wild creatures. Some of the wigeon still keep their feet—those on the higher level; but the competition for such spots of vantage is keen and spirited. Ever that indistinct outline ahead keeps altering as the outside ranks, now afloat, spring on wing and try to wedge themselves among the crowd on the favoured spot beyond. Now the great gun bears well within range; already the nearer stragglers begin to "lift"—the alarm is sounded; and inside that same instant the roar of a thousand wings blends with the louder boom of the stancheon-gun and near a pound of No. 3 traverses the ranks. Now, the silvery sea is strewn with dead; and, shoving full speed ahead, the cripple-stopper is brought to bear on all that show signs of life. There are few cripples at night—since ranges are then short; and in less time than it takes to write this, all that we can see are secured, and perhaps six or eight couple—on happy occasion, more than that—of mallards and wigeon justify the prudence of the earlier hours.

There still want four hours till the dawn, when there may be a chance of again falling in with duck ere they take wing for the open sea. How to spend those hours is an ever-recurring problem in night-punting. To drop anchor and coil oneself up as snugly as is compatible with circumstances, appears the easiest mode; but it is madness. So long as a man remains awake and in full action, no cold will hurt—provided, that is to say, that he is naturally sound and of strong constitution. But to go to sleep in the night-air is the height of folly, and sooner or later entails certain retribution.[1] Suffice it to add that a

[1] This, when written twenty years ago, was merely prophetic. I can now testify, *in propriâ personâ*, to its absolute accuracy: but, after these many years' fowling, I am thankful to have escaped more lightly than some contemporaries.

rather long shot just before dawn increased the spoils of the night by two more pair of wigeon.

Now it is daylight; but a dense sea-fog obscures the sky. In semi-darkness, we can only creep ahead, feeling our way by compass and by the set of the ebb-tide. The latter index is our safeguard against being caught in some *cul de sac* and there left stranded all the long hours till released by the flood. While vainly trying to pick up our landmarks, there resounds through the murk a note that rejoices our hearts—it is the clang of grey-geese. Ere the 10-bore can be reached from beneath the fore-peak, eight huge fowl loom up right ahead. How wondrous smart they take all in—tack and wheel! But that does not disconcert—for these are old friends—and at twenty-five yards there is no escape. With mighty splash, *ratione ruentis acervi*, two pink-footed geese fall plump on the tide—in themselves alone a rare reward for all our night's labour.

After a few hours' turn-in, and a short cruise among the geese on the afternoon tide, we again went afloat at midnight. Again the ducks were there in hosts, but the conditions were changed; the sky was overcast, the moon obscured by heavy drifting clouds, and, though several times close up to the coveted fowl, it was impossible in the darkness to make out their position, and we failed to obtain a shot. Once I was on the point of pulling trigger, but at the nick of time a glint of moonlight disclosed the fact that the dark objects ahead were not ducks, but floes of drift ice, turning over, upwards and edgeways, in the tide-current, and whose moving outline had closely resembled a nice "bunch" of fowl. Then, after eight of the coldest hours' patient effort, we returned to breakfast without a feather.

CHAPTER XXVII

BRENT GEESE

THE wildest and gamest, as well as the most numerous, of all our winter wildfowl, the brent geese, in hard weather and favourable seasons, afford right royal sport to the punt-gunner, and with this additional advantage, that their pursuit is enjoyed exclusively during the hours of daylight.

Though they are so abundant, and on many parts of our coasts the chief object of pursuit of the puntsman in mid-winter, yet on the north-east coast the brents are quite the last to arrive of all the migratory fowl which seek refuge on our shores from the rigours of the northern winter. The wigeon appear in September, the grey-geese and most of the diving-ducks are all here before the close of October: but the brents delay their arrival in force till the New Year, or even later. The date of their arrival on this coast, as well as the numbers which visit us, are precisely regulated by the state of the weather at the different points of their range. Although they have completed their domestic duties in Spitsbergen and Novaya Zemlya, and left those desolate regions by the end of August or early in September, yet they do not reach our coast *in force* till some four months afterwards. So strong is their hyperborean affection, that they will

come no further south than is actually necessitated by their food-requirements, and they are only driven reluctantly southward, point by point, before the advancing line of the winter's ice. In severe winters, however, the congealing element carries stronghold after stronghold against them, and, as their last resources in the Baltic and in Denmark are closed up, they come here—but not before.

Though small numbers may frequently be seen here about the end of October, and these slightly increase as the winter advances, yet, as already stated, the great bulk do not arrive till after Christmas, and during January their numbers are being constantly reinforced by arrivals of "strangers," till their maximum numbers are reached, usually in February: during which month in severe seasons the aggregations are often almost incredible. The "strangers" referred to are distinguishable on first arrival by their ignorance of local geography. It is often amusing to watch a big flight of them about daybreak, hungrily seeking the entrance to the harbour after their over-sea journey. Each bird appears to have his own idea of the way in, to judge by the clamorous chorus they keep up; yet, after tacking off-and-on for half-an-hour, the whole pack will sometimes return to sea rather than trust themselves to fly over dry land, or into an ambush.

The following are the approximate dates of arrival of these geese on the north-east coast during twenty years:—

1877. Middle of January.

1878. Early days of January; immense numbers in February and March.

1879. Second week in January.

1880. As early as December 7th, 1879.

1881. January 15th; very abundant in February.

1882, 1883, 1884. Mild seasons with very few geese; those which came, arrived in driblets in January.

1885. About a thousand arrived at Christmas, 1884; none came afterwards.

1886. Very few till the great snowstorm of March 1, when they arrived in unprecedented numbers, leaving again at end of month, as hereinafter described.

1888. About 250 geese arrived off the coast December 7th, 1887, but up to the 18th, none entered the slakes. They subsisted entirely on the drift sea-grass of which each ebb-tide took them out a sufficient supply.

1892. In successive bands throughout January.

1893. January 13th; arrival in bulk.

1897. Driblets arrived during January: the bulk, all together, on February 8th, as undermentioned.

1897-8. Three geese arrived in October, nine in November, and twenty-eight in December. After that no more appeared, and gunners feared that none were coming at all; but on January 28th, about a thousand showed up together.

Were the above score of dates examined in co-relation with climatic conditions prevailing at the respective times in the Baltic, Denmark, etc., it would be found in each case that the appearance of the geese here precisely coincided with an intensifying of cold and frost on the other side.

On Monday, February 8th, 1897, I read in the morning papers that the Baltic ports of Reval, Aalborg, Copenhagen and others had been closed by ice on the Saturday preceding, while the Sound was only navigable by the aid of ice-breakers. I entered in my note-book: "we shall have the geese over by to-morrow, and will probably hear of swans to-day." That afternoon a single hooper was shot within a few miles, and a herd of eleven was reported at a

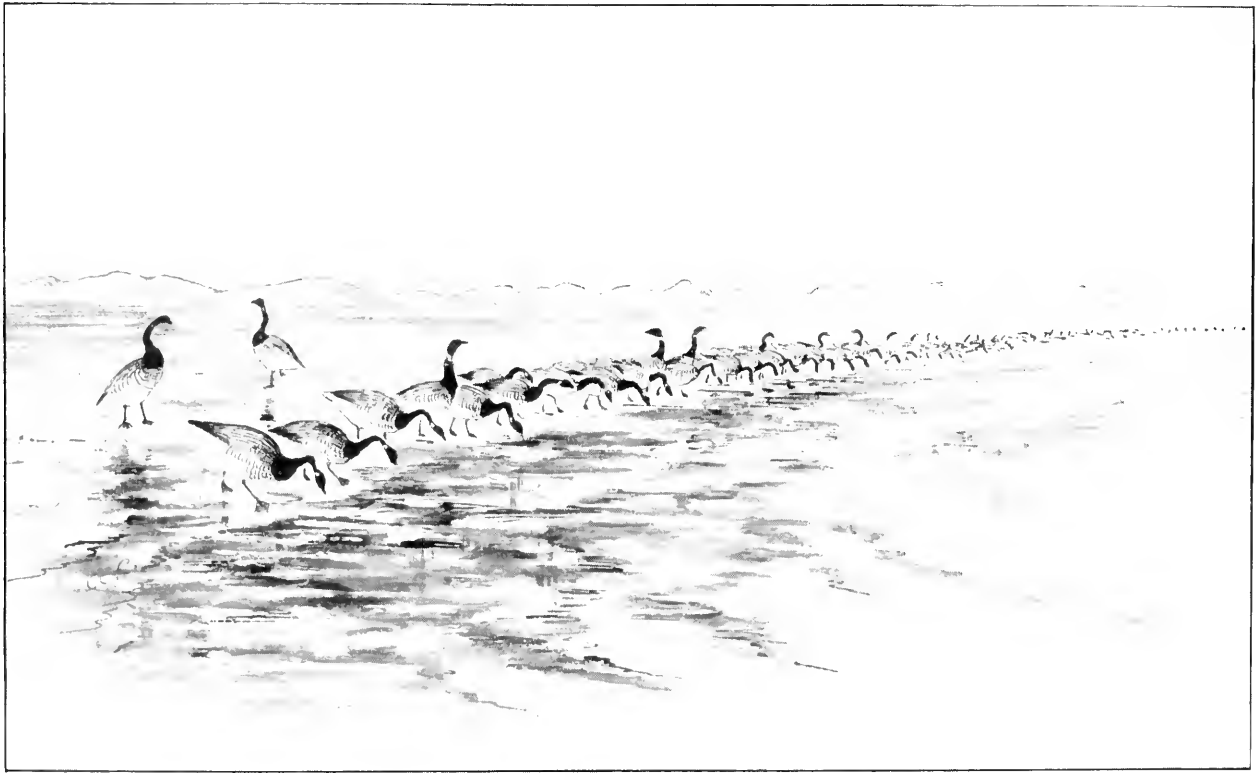
neighbouring point on the coast: while, for a week, wild swans became quite numerous, until a thaw set in abroad. The geese, as anticipated, arrived with strict punctuality within twenty-four hours of the ice-block in Danish sounds; but (unlike the swans), having once crossed the sea, these elected to remain on our side throughout the rest of the season. Despite their immense numbers, however, very few were obtained, owing to boisterous weather and incessant gales of wind. This cold snap abroad proved extremely short, lasting barely one week.

Two exceptionally early occurrences of brent geese (in each case a single bird) are recorded in my note-books. A specimen curiously splashed with yellowish-brown on the upper-coverts, was shot by my brother Alfred on Fenham Flats, September 17th, 1886—the day after he had obtained the lesser white-fronted goose recorded later. A second was shot by my cousin, E. H. C., on September 28th, 1905.

Brent geese differ from the rest of the family in being exclusively marine in their haunts; speaking generally, they spend the night at sea and the day on the tidal oozes, but never (like the grey-geese) go inland to feed in the fields, or travel a single yard beyond high-water mark.

The habits of brents, if left unmolested, are as follows: After spending the night at sea, as the first streak of dawn appears in the east, they rise from the waves, and, after ten minutes or so spent in preliminary evolutions, flying rapidly to and fro over the water, they head up, flight after flight, for their feeding-grounds on the great zostera-covered mud-flats of the harbour or estuary frequented. But the tide affects their movements to some extent, and they prefer to come in on a flowing tide,

especially at about one-quarter flood, if that period at all coincides with the daybreak. Of course this stage of the tide synchronises only at intervals with flight-time, being often very remote therefrom, and geese, like other creatures, have to submit to sublunary influences. Thus a few days before full moon, when the flood (on this coast) commences several hours before dawn, the geese come in at that period—*i.e.*, in the dark. Such times, therefore, appear to afford opportunity to bring the punt-gun to bear upon them, since they are somewhat dullish fowl in the dark, and we have them "inside" for an hour or so before daybreak. A good shot, however, is never obtained under these circumstances, for at such times the moon sets just at that particular hour; hence the last hour before dawn is the darkest of the whole night, and the puntsman, therefore, is best in bed. Again, when the tide is falling at flight-time, the geese come in on the ebb, though rather later (after daybreak). But since brent geese, though very active on their legs, have a strong objection to remain on the "dry" for more than an hour or two at a time, and are afraid to trust themselves in the deep-water channels, a large number may then be seen going out to sea about midday, returning on the flood in the afternoon. This reluctance to remain long out of the water is a factor in all their habits, since at frequent intervals they must go afloat to drink, splash about, and preen themselves. But I have perhaps written enough to show the sort of effect produced by the relative changes of time and tide, neap and spring, upon their movements. These, of necessity varying in each locality, must be ascertained for himself by every puntsman who wishes to be thoroughly conversant with their local habits and idiosyncrasies.



BRENT GEESE ON FEED.

[To face page 330.

On alighting at their feeding-grounds, the geese at once commence greedily to pull up and devour the blades of the sea-grass, or *Zostera marina;* the whole black crowd advancing in the closest order over the green oozy sward, all heads down, except the sentries, of which an ample number are always discernible. With their small narrow bills, it takes a considerable time for a brent to satisfy his appetite, and as the flood-tide covers the flats, setting the geese afloat, they still continue feeding as busily as ever, pulling up the sea-grass which grows within reach beneath them. Even at full tide, and in deep water, the geese have no difficulty in obtaining abundance of food in the floating grass which is always carried off the flats by the tide; but they never dive for their food or otherwise, except when wounded, and, even then, they are very poor hands at diving.

In approaching a gaggle of black-geese feeding afloat, during the exciting moments when the punt gradually draws near, a number of white spots are observed constantly to break their dark line, appearing for a moment, then vanishing. The effect is peculiar, and is caused by the geese (as the water deepens) turning up vertically in the sea, paddling with their feet while their heads reach down to the waving grasses below. Their black fore-ends are thus submerged, while white sterns protrude conspicuously.

After finishing their morning feed, before noon, the geese are disposed to rest and spend the middle of the day floating about on the water, preening themselves; and, in mild weather, splashing about and chasing each other in sheer exuberance of spirit—analogous to what we might call a "flirtation"—while the volume of sound that proceeds from a big pack is something one re-

members. During this midday interlude they are very wide-awake, and in open weather so utterly inaccessible, that a whole season may go by without a single satisfactory shot being obtained, even where punt-gunners are numerous and geese thousands strong. Times without number one may "set" to them, but ere one's eye can clearly distinguish their thin black line from the flat and featureless wastes—they are up! The distance at which these keen-eyed birds can discern so small and insignificant an object as a gunning-punt "end-on," is truly amazing.

Towards evening the geese recommence feeding; and so intensely eager are they about sunset to utilise the few remaining minutes, that they then offer perhaps a chance to get within shot. The fortunes of a long blank day have been completely altered, and hours of fruitless toil rewarded by a splendid shot the last thing at dusk.

It is, however, in the hardest weather that the brents afford right royal sport to those who have then the endurance to follow them. When between tides the oozes and salt-grasses are congealed in the iron grip of the frost, the geese are unable to get a bite during the ebb, and, as the tide flows over the mud, the quantities of drift ice which have been formed in shallow pools or in the stretches of "blown water," driving to and fro in the tide-currents, effectually interrupts their feed, and makes them less alive than usual to external dangers. After a week or two of such weather, one begins to find the punt drawing nearer in upon them, and, at the short and deadly ranges which are then (and then only) attainable, one reaps some reward for perhaps years of mild seasons, blank days, and numberless failures.

In approaching geese (of any kind), as they do not rise

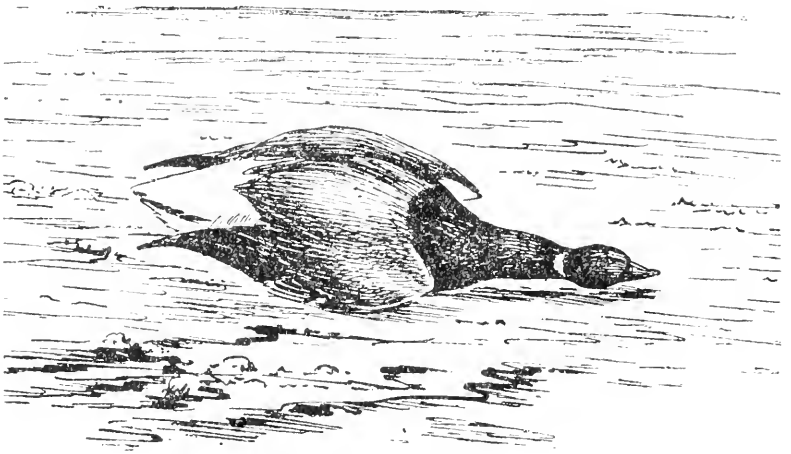
vertically, spinning high off the sea at a single impulse, as ducks do, but rise horizontally, going a yard or two before they are clear of the trajectory of a punt-gun, one's fire should always be reserved till they fly. They are, however, smarter than they appear in getting under way. Consequently the trigger-lanyard must be pulled at the same instant that the black pinions begin to spread. Not the eighth part of a second must elapse, or assuredly not a bird will be hit. The best shots at geese are invariably made on the wing, by keeping a good elevation on the gun, and firing the instant they rise. The best time of all, when the heaviest shots are made, is on the break-up of long-protracted periods of frost and hard weather. At such times the geese are often mixed with mallard and wigeon; in mild weather they keep separate.

Just at dark the whole host rise on wing together, and make for the open sea. In the morning they have come in by companies and battalions, but at night they go out in one solid army; and a fine sight it is to witness their departure. The whole host, perhaps ten thousand strong, here massed in dense phalanxes, elsewhere in columns, tailing off into long skeins, V's, or rectilineal formations of every conceivable shape (but always with a certain formation)—out they go, full one hundred yards high, while their loud clanging defiance—"honk, honk!—torròck, torròck!" and its running accompaniment of lower croaks and shrill bi-tones, resounds for miles around.

When much harassed during the day, brents may come into harbour by night, especially during full moon; but they are fully aware of the danger of doing so, and of their own (comparatively) deficient vision during the dark. Hence they only trust themselves inside by

night as a last resource; they also, as a rule, take the precaution of returning to sea before the tide has flowed over the mud. They are never, therefore, obtained at night by punt-gunners, though a few may fall victims to the flight-shooters.

Some of their habits, when wounded, are rather curious. After a shot on the mud, when the gunner goes ashore to retrieve his spoils, the winged geese march away before him in a little herd. It is almost a ludicrous



"The Last Resource." Wounded Goose trying to hide on Bare Shore.

spectacle—the fowler splashing and plodging half-way up his long sea-boots in the rotten, treacherous mud, with the little flock of geese waddling and croaking just in front of him, for all the world like an old henwife driving her brood to market. One by one, as they are overtaken, each bird lies flat down on the mud, stretching out his snake-like neck horizontally in a last hope of escaping detection. It is, moreover, astonishing how easy it is to overlook a goose (which has fallen at a distance) when

crouching thus. By taking advantage of some small hollow in the mud, they reduce themselves to much less bulk than one would imagine such large birds to be capable of; and so closely do they then resemble bunches of drift weed, etc., that you may easily be searching all round, while your victim lies motionless, his keen eye intent on you, within a dozen yards.

The plumage of these birds is subject to considerable variation. Generally speaking, it may be described thus:—Head and neck black, sooty in tone, but yet glossy; back and wings dark slate-blue; the whole of the tail-coverts, above and below, pure white, causing the conspicuous "white sterns." It is the plumage of the under parts which varies most, this ranging from the palest grey (almost white in some birds) to quite dark colours. In many of the latter dark-complexioned individuals the breast is slate-blue, almost as dark as the back; but in about one bird in a thousand it is of a bright glossy-brown shade.

These dark-breasted birds are the exception, the vast majority being pale grey or dusky below, but all conspicuously barred about the flanks. Then, on turning over a pile of brents, one finds here and there a bird with pale edgings to the upper wing-coverts, forming a regular series of light bars across the wing. Such birds are the young of the year; but it is difficult to see why they should be, relatively, so scarce. The reverse is what one would expect, unless, indeed, it should prove that the young are less inclined to so far prolong their migrations, and that the bulk of our visitors are adults. Some of these bar-winged birds have the white neck-spot fully developed, more so than many of the plain-plumaged examples.

The migrations of these geese do not appear to extend much beyond British waters. When shooting near Arcachon some years ago, I was told they were sometimes numerous at certain places in that neighbourhood; but I saw none myself, nor have I seen a single occurrence during more than twenty winters' fowling in the Spanish Peninsula. Their departure northwards in spring depends absolutely on the weather abroad. It may commence as early as the end of February, continue throughout March, and even last into April; or, alternatively, the geese may quit in a body on a single day—in that case, *never* before the last week in March. Their departure is regulated by thermometrical readings abroad—precisely as was their arrival here; and they know to an hour, as well, or better, than we do ourselves (with all our submarine cables) the precise climatic changes which are occurring 500 miles and more to the north and east. In 1883 (mild season) a part of the geese were seen to leave as early as February 20th; the rest in March. In the severe winter of 1879 my puntsman wrote me on March 25th, "There is still a great many geese left, but hardly so many as in February." In 1881, after an unusually severe and prolific season, he wrote on March 17th, "Part of the geese left yesterday. They were seen going about east, mounting higher in the air as they went." (On the same date I read in the newspapers a notice of the partial re-opening of the Baltic navigation.) The rest of the geese left that year on March 31st.[1] Some linger on our coast till April, but, as above stated, the bulk are gone by the end of March. Yet, though they leave us in March, their breeding-season in arctic latitudes does not commence till late in June. Their course, on leaving our shores, as

[1] In 1896, they left in mass on March 22nd.

observed by fishermen several miles out at sea, is invariably east, or a trifle to the south of east, pointing towards Denmark, which their instinct tells them is the most northerly point which the state of the ice at that period will permit. Thence they move on northwards by degrees. In 1886, on May 27th (just two months after they had left this coast), I happened to fall in with my winter friends, thousands strong, in the midst of their northward journey. We met off the Norway coast, towards the latitude of Stavanger. The brents were then bound due north, direct for Spitsbergen, where they would thus arrive exactly on their "scheduled date"—that is June 1st. Thus in spring they follow the retiring ice-edge northwards as tenaciously as they retreat before it in autumn.

In his *Geese of Europe and Asia*—an exhaustive and admirably illustrated monograph (London: Rowland Ward)—M. Serge Alphéraky of St Petersburg distinguishes the two forms of the Brent goose as dimorphisms rather than as subspecies, giving the light-bellied race the distinctive trinomial *B. b. glaucogaster* for convenience. It was this—the light-bellied race—and the more abundant of the two locally—that was formerly believed to emanate exclusively from Greenland and the Western Arctic. But all the Brents we obtained in Spitsbergen in 1881 were of this description; and now M. Alphéraky shows that both forms breed (sometimes side by side, as on Kolguev) on the shores and islands of the Eastern Arctic region. Hence it is reasonable to assume that our Northumbrian Brents are, after all, of old world origin.

Nothing approaching *B. nigricans*, with its broad white collar encircling the neck, ever occurs on this north-east coast. That species belongs to the far east and the Pacific.

NOTE.—The Bernicle geese (*Bernicla leucopsis*) I have never met with. Though numerous on the Solway and west coast, they are practically unknown on the east—whole decades elapsing between the chance visits of a few stragglers. [I leave the above precisely as it stood in 1st edition. During the subsequent eighteen years, I have only noted two occurrences on the north-east coast.]

CHAPTER XXVIII

AMONG THE WILD GEESE

A Winter's Day in a Gunning-Punt

The morning broke with one of those surprises to which in a temperate clime we are more or less accustomed. A sudden and heavy snowfall had occurred during the night. While men slept, all the familiar features of the landscape had disappeared, buried under the wintry mantle. Moreover, the feathery particles still continued to fall heavily, and with that steady persistency which bodes a "breeding-storm." How differently is such a phenomenon regarded! To the writer it was ever welcome, as presaging new experiences and, it might be, fresh successes in the wild sports of the coast. The morning's post brought an invitation for a couple of days' covert-shooting to wind up the season (it was the middle of January), but this in the altered condition of things could not now be entertained—such is the fascination that wildfowling inspires. No other sport is so precarious, yet no one who has ever entered into its spirit, or been "bitten" by its enthusiasm, would dream of exchanging the chances of the gunning-punt, with all its risks, hardships, and uncertainties, for the most abundant game-shooting which the season will afford. That after-

noon, therefore, I travelled down to the out-of-the-world corner whereat were established my fowling-quarters, more to "prospect" than in any great hopes of doing much so early in the season. On arrival, the reports of fowl were satisfactory: several hundreds of geese had appeared within the last few days, and the evening was spent in discussions piscatorial and aucipial.

The object of the expedition being chiefly the geese, which would then be snugly roosting on the rolling waves a mile or two outside the bar, nothing could be done that night or until the tide commenced to flow about six in the morning. At that hour the morning proved fine; the moon, only a few days past the full, shone brightly in the western heavens, and by her light we could dimly discern the desolate features of the estuary, extending far away inland, a dreary succession of dusky sand-banks and oozes, backed by the snowy outline of distant hills. The tide being now low, we had to launch the punt over some two hundred yards of sand and shingle—no easy matter with a craft some twenty-two feet long and so heavy as to require the full strength of my puntsman and myself to lift her on to the launching-carriage. Moreover, the sand was soft, and the wheels sank in places up to the axles, while ever and anon they ran against a half-hidden boulder. The morning, however, was intensely cold—snow lying a foot deep down to high-water mark—so the hard work was not unwelcome, for it set the blood tingling through our veins. There is a certain weirdness about these dark hours just before dawn which is peculiarly impressive on the coast; the wind moans with melancholy cadence, there are dreary periods while clouds cross the moon, and the measured murmur of the dark wavelets on the shore has an eerie monotony. Of all Nature's

creatures, man, or rather that amphibious variety or "sub-species" of our race which gains a living by the sea, is perhaps the hardest-working, and has the keenest struggle for existence. Already, at this early hour, the brown sails of the fishing-fleet are disappearing in the gloom to seaward. They will be back with the produce of their "long lines" before noon, to get their fish to market that day, and the results will appear on the tables of the ichthyophagous, possibly hundreds of miles away, before night. That hoarse "clank, clank," resounding across the dark water, is also human; it proceeds from the small schooner which put in for shelter last night, and is now hauling short her cable preparatory to getting away on her voyage by daylight. The only other sign of life is the weak little pipe of the ring-dotterels, running along the shore close by in search of breakfast.

Our destination is the ooze where the *Zostera marina* and the samphire grow, and whither the geese will resort at daybreak. The course at first lies across the main channel, where the tide-sheer knocks up a nasty sea, some icy cold sprays breaking aboard. Just as daylight begins to break, my man descries duck ahead, but not being myself endowed with crepuscular vision I fail to make them out. Faith, however, is still the essence of my creed, so we "flatten," and after "setting" for some distance in the direction indicated they became visible—six teal on the point of a sand-spit. Unluckily we had forgotten to remove the handful of tow placed in the muzzle of the big gun to prevent her "drowning" as we crossed the "deeps," and I didn't quite fancy the risk of firing thirty drachms of powder with so solid an obstruction in the barrel. Teal, however, are the simplest of wildfowl, and as they sat well together, a

shot from the large shoulder-gun stopped four out of the six—all drakes; lovely objects, with their exquisitely pencilled plumage and bright colours. This was a good beginning, and a mile or so farther up we observed a couple of geese sitting on a dry sand-bank. They were "pensioners," or pricked birds, so we decided to wait till the flowing tide should take us to them, when I killed the pair, right and left, with the cripple-stopper, as they rose off the sea within forty yards. This last acquisition, however, had cost considerable delay—over an hour—and during that time the main bodies of geese had been passing in from the sea, filing off in long, black gaggling skeins to the salt-grasses ahead. And on our arrival thereat, we truly appeared to have good reasons for abusing that unlucky pair of "pensioners," and our own folly in wasting a precious hour in securing them. For there, all congregated on the far-stretching sward of slobby ooze, sat a thousand geese: while two creeks which appeared to converge on their position, were each occupied by a rival gunner!

How we anathematised our "ill-luck" (as bad judgment or carelessness is usually called) needs not be told. Regrets and posthumous wisdom were alike of no avail, and nothing remained but to lie flat and watch the course of events. Gradually, foot by foot, as the flowing tide rose in the creeks, we watched our rivals pushing nearer and nearer to the clamorous phalanx before them. Presently they lay within a gunshot and a half, and their success appeared but a matter of moments. Then a change occurred in the tide of fortune. All at once, and for no visible reason, the thousand pairs of dark pinions were spread, and with sonorous roar the anserine host rose on wing. Directly towards us they shape their

flight; close over three prostrate puntsmen passed their loudly-gaggling columns, apparently quite unconscious of danger, for in the open water just outside our unseen craft they splash down with wheeling flight and graceful evolution, describing in their descent a thousand eddying, opposing circles, concentric, eccentric, and elliptic. The position of the rival gunners was now reversed, for while the two "early birds" had to extricate themselves, stern-first, from the creeks, we were in position for immediate action. Luck had stepped in to help where foresight failed! The geese sat very scatteredly, so much so that while occupying acres of water they did not offer at any single point a dense mass on which to direct the stanchion-gun. In a few minutes we were close on their flank—already amongst the rearmost stragglers, and within range of the main line, when they again rose, suddenly and spontaneously as before. A shot as they rose would probably have secured four or five; but I refrained, for the geese were only shifting their quarters, and almost immediately pitched again on the mud-edge, within a quarter-of-a-mile. Once more we "set in" towards them: again we reach the fatal range, and ere they rise the big muzzle yawns within a hundred yards of a fairly thick crowd. Then the clamour of their departure resounded: they had just risen clear of the mud, when the thunder of the stanchion-gun booms over the watery waste. Back rebounds the punt, and through the cloud of smoke we see a deadly result; their line is broken, and the wide gap cut by ten oz. of BB is strewn with spoils. Ten geese fall on the mud, another, hard hit, slants obliquely downwards, while from the retreating host a pair more of "droppers" turn over, and fall dead on the sea. Now follows a lively quarter-of-an-hour with the cripples, and

just as all are secured, down comes the snow again. Thick and fast it falls in blinding sheets, blotting out the sight of sea and sky, of geese and gunners. But the tide is spent; we have had enough; so with a fresh breeze, and the ebb in our favour, we set our sprit-sail and spin away homewards—fifteen geese and four teal to the good.

CHAPTER XXIX

GREY-GEESE

THERE is no division of our British wildfowl, the delineation of which I approach with so much incertitude, and conscious lack of precise knowledge, as the little genus defined by coast-gunners as "grey-geese." The genus consists, in this country, of but four members, all closely resembling each other, hardly to be distinguished except when actually in one's hand, and all bearing a strong family likeness to their domesticated descendants of the farmyard.

This uncertainty arises from no scarcity of the birds, or lack of opportunities for observing them. During six months out of the twelve, the grey-geese come almost daily under the observation of the punt-gunner on the coast; while, inland, they are the only geese met with, for the brents and bernicles (which form the "black-geese" division of fowlers) never quit salt water: hence the long skeins of wild-geese so often seen passing overland, all belong to the *grey* division, but who can say to which species?

The difficulties which surround the problem of the specific identity of this group of birds arise neither from their scarcity, nor from any peculiar wariness on their part which is not common to all wild-geese. It is rather the

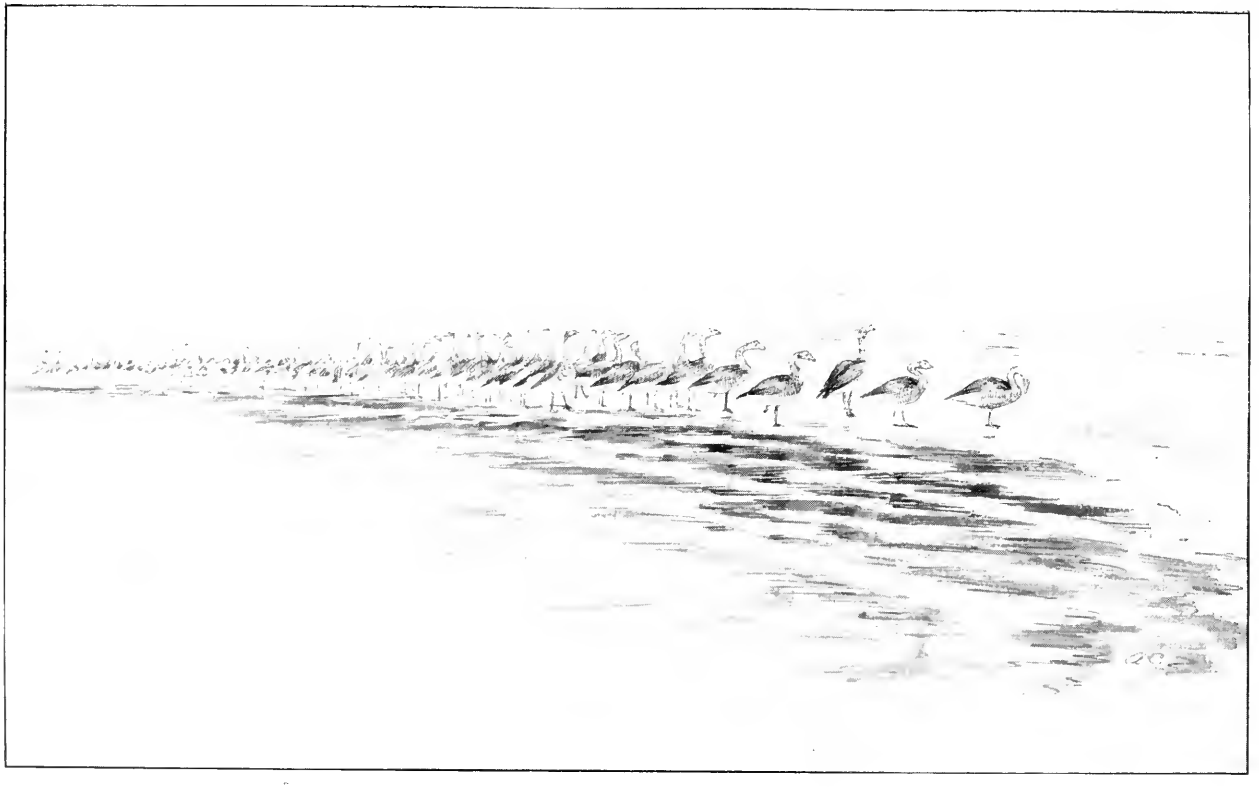
impracticable, or inaccessible nature of their chosen haunts, and the resulting impossibility of obtaining a sufficient number of specimens at different periods, that leaves us so much in the dark as regards their specific distribution.

These remarks are undoubtedly at variance with the very confident and positive assertions of other writers on this subject; but they rest on experience, which always leads one to sift questions for oneself, and not to accept statements as facts merely because they are in print. In this study it is of the first importance to discriminate between the grain and the chaff of ornithological literature. Many writers have drawn conclusions from grounds which are far too slight, or inconclusive: while others (lacking personal experience) perpetuate error by simply transcribing the mistakes of their predecessors, or create a fresh set by substituting for missing facts a mere maze of guesswork. Such devices may serve the purpose of making their writers' books *appear* more "complete"; but it is infinitely preferable to be honest, to admit deficiencies in knowledge, and to indicate the points which remain in doubt. Those whose knowledge is the most complete will be the first to acknowledge the justice of these remarks.

Well, leaving for the present the doubtful ground of specific identity, the ordinary life-habits of the grey-goose group are more easily diagnosed. They are among the earlier arrivals of our winter wildfowl. The middle of October is about the average date at which the geese arrive in bulk; but the vanguard frequently appears in September, and exceptional occurrences even earlier. October is, however, the month when their V-shaped skeins are most often seen crossing the skies—each pack bound direct to some definite point, some resort they have perhaps frequented for centuries. We will accompany one of these skeins and

follow their movements. First as to the physical character and natural features of the locality which they seek for their abode. Grey-geese, unlike their somewhat distant relatives the brents, claim to share the fruits of the earth with their arch-enemy, man. Grain is what they want, and, despite the most deeply-rooted fear and suspicion of our race, they will have it, and will frequent the arable lands so long as a stubble remains unploughed. After that, they will content themselves with the tender blades of clover or of meadow-grass; or perhaps will wing their way southwards to lands where a more bountiful nature, or a lazier race dispense with the plough. Feeding on the open corn-lands by day, their next desideratum is security by night. Inland, they spend the hours of darkness in the centre of extensive pastures, or upon the water of an undisturbed lake or pool; but on the coast, if *Anser cinereus* could define his *beau ideal* of a "bedroom," it would be "ten square miles of dead-level sand, over which the highest spring-tides never flow."

Such are the two desiderata of these wary fowl, and to a locality affording both requirements, the grey-geese come year after year, arriving in successive contingents till their full numbers are made up by about the end of October. Their normal habit, in common with the whole genus *Anser*, is to feed by day and to retire to sleep by night. But in October, when they first arrive, they find the fields full of workpeople, harvesters gathering in and leading the corn. Hence they are compelled temporarily to vary what is otherwise their normal disposition of time, in order to suit the exigencies of the moment. At that season, hundreds of grey-geese may often be seen sitting huddled together during the day at their roosting-places on the sand-flats. Now and then a detachment will rise, take a



GREY-GEESE ON THE SAND-BAR—"FULL SEA."

[*To face page* 346.

cruise inland, as though to reconnoitre the stubbles, and, finding the fields still occupied, return to their enforced meditations. But at dusk, as soon as the harvesters retire and the "coast is clear," away they speed in full force to gather in their share of the farmer's crop.

In several works on sport and natural history these birds have been described as *night-feeding* fowl — a mistake which has probably arisen from some such circumstances as those just described. The authors in question have arrived at a false conclusion, based on a half-truth. All geese feed by day; and although at times compelled by extraneous circumstances to modify their normal life-habits, yet such variations are only temporary and exceptional. They are caused by the force of chance circumstances, and abandoned as soon as the causes cease to operate. In November, when the harvest is completed, and the fields deserted, the geese no longer dream of nocturnal excursions. They then resume their temporarily disturbed habits, and as regularly as the sun rises, may be seen winging their way inland to the stubbles, and returning as regularly at dusk to spend the night on the sand-flats of the coast.

I should here mention that, never having had any shooting-ground to which these geese resorted to feed, my experience of them is limited to the coast. There, the only chance one can hope to obtain of securing them are on the sand-flats; and since the spots selected are never reached by the tide, this practically amounts to saying that they never offer a chance at all to the punt-gunner. Rarely indeed do grey-geese alight in the water or on tidal oozes where the flood-tide would set them afloat or enable a punt to approach within shot.

My brother Alfred and I made special efforts to obtain

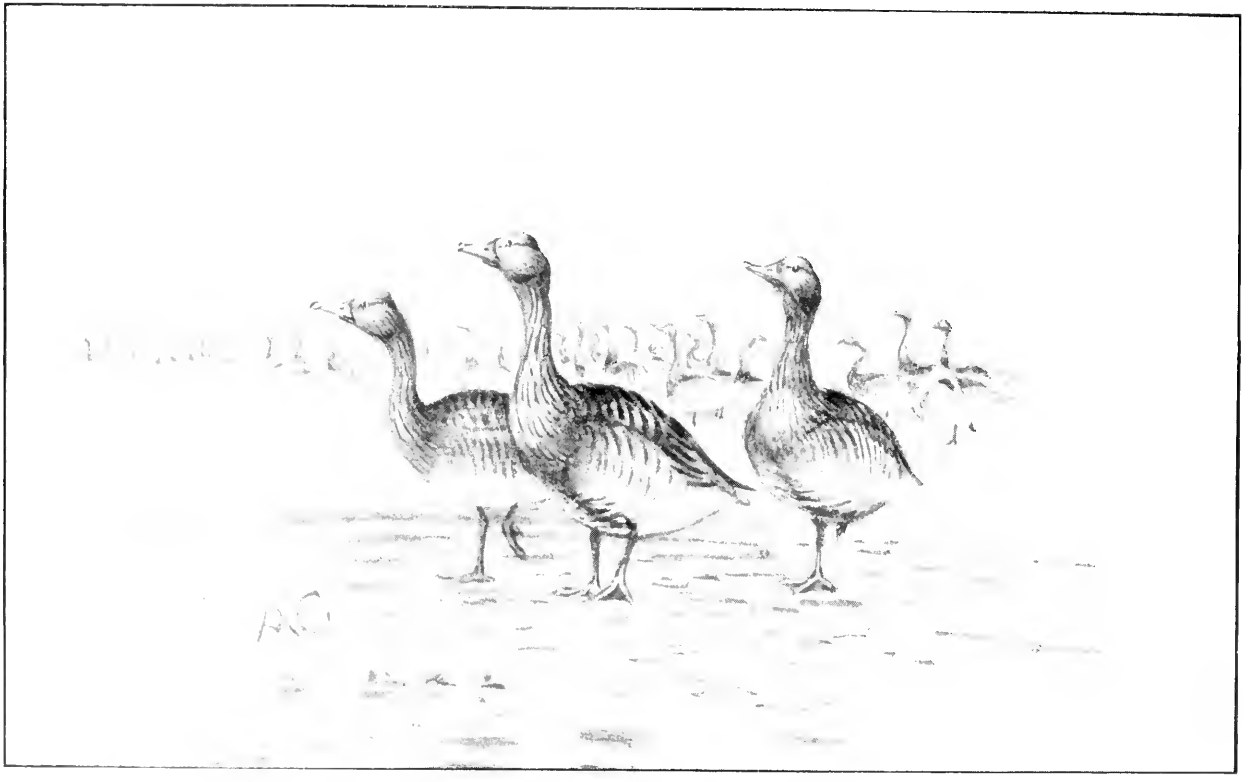
a few shots at these birds, in order to determine their species, but almost always in vain. On October 11th, A. lay in his punt almost within shot of some 600; it was high tide, and the geese stood densely packed (no fowl sit closer) almost in the wash of a heavy sea that was breaking along the outer shore. They were only separated from the stanchion-gun by a sand-bar—180 yards across—and through which ran a deep, winding channel, intersecting the obstacle exactly at the point where the geese sat most thickly. This channel, with its shelving banks, appeared to afford an admirable means of access. But, alas! down that "gut" the tide rushed like a mill-race; once in its deep and surging torrent all control of the punt would be lost; boat and men would have been swept to certain destruction, either in the labyrinth of quicksands that fringe each shore, or else amidst the boiling breakers outside. A month later (November 11th) I observed eleven grey-geese near the same spot. The tides being good, we awaited the flood, and set to them at "full sea"; but just as the advancing water, though a mere film, reached their toes, they took wing: in my limited experience these birds have always shown a decided antipathy to salt water—clearly they foresee the danger that the rising tide imports. It being then within half-an-hour of dusk, we waited on, and soon heard the chorus of an approaching host. Presently they appeared—high in the clouds, and in two divisions. On nearing the sand-bar they lowered their flight close to the water, and amidst a crash of clanging, stertorous voices, down they pitched, luckily on our side of the bar. At first we thought (being at some distance) that they had dropped in the water, and the tide being dead slack, we went into action at once. Never had I felt such confidence in the prospect of at last getting a really good

"rake" at these impracticable fowl. They sat massed more thickly than a battalion of guards, and as the punt shot ahead, towered tall as a herd of giraffes before us. I know my heart fairly bumped on the bottom-boards as momentarily we seemed to be getting on level terms with fowl that had so long defied us. Nearer still . . . and then that horrid hissing sound told we were touching the sand. Only a yard or two nearer could she possibly float, when, with another mighty outcry, up-rose the geese and I fired. "How many down?" and I jumped to my knees, only to see with unspeakable vexation that the whole pack was scathless. The great size and high carriage of these geese (they were sitting *dry*, not afloat as we had hoped) had deceived us, and instead of being within a hundred yards, the range, we found, had been nearly double. Then for six miles we "poled" homewards in silence, misery, and darkness.

To return to the habits of the geese. With the frosts of December, nearly all those which have arrived in October disappear from our coast. This departure of the "harvest geese" on the approach of winter is one of the set phases in their life-histories. Then, in spring, they turn up again, and during March and April spend some six weeks or so here, on their way north. The local gunners hold that they leave us as soon as the stubbles are exhausted, and return in spring for the seed-corn; but it is probable that their nature, rather than food-supply, is the main cause of their movements. One other fact remains to be considered, as bearing on specific distribution:—namely, that even during hard and severe winters, in January and February, there is often to be seen an abundance of grey-geese frequenting the same haunts, and living identically the same life as those

already described, but which have departed. From an examination of the limited number of specimens I have had the opportunity of handling, all these hard-weather, or mid-winter geese belong to the bean and the pink-footed species (*Anser segetum* and *A. brachyrhynchus*), the latter predominating. But to what species do the large spring-and-autumn birds belong? The grey-lag is usually described as a scarce, and more or less casual visitant to our north-east coast, but perhaps the evidence rests on no very solid or sufficing basis. Mere market specimens I dismiss as utterly worthless, since, firstly, there is nowadays no certainty as to whence they have come; and, secondly, as just described, a thousand geese may spend a month or two on our coast and depart without losing a single member of their mess, or leaving any "marketable" trace of their having been here at all.

Though we have failed to prove the case, collateral evidence rather points to the probability of the double passage (spring-and-autumn) geese being grey-lags. The main breeding-ground of that species is on the islands of the Norway coast, from Stavanger to the North Cape; they leave that country almost simultaneously about September 20th, but do not appear in bulk at their great winter resorts in Southern Europe till November. Where are they in the meantime? The interval coincides with the period at which we have the large geese above-named on the north-east coast, which, moreover, lies directly on their line of route. Comparing the distribution of the respective species, the bean and pink-footed geese are far more northerly breeders than the grey-lag, both nesting northward of the Arctic circle—I found the pink-footed goose breeding in Spitsbergen: and neither of these



"In the Grey Dawn."

[*To face page 350.*

species pass nearly so far southward *in winter* as the grey-lag. The last nests not only, as just stated, on the Norwegian coast, but also in considerable numbers in Scotland (especially the Hebrides); while in winter, it is by far the most numerous of the geese that resort to the Spanish marismas. The grey-lag, in short, is of distinctly more temperate tastes than either of the other two species, which latter are certainly the common winter wild-geese of the British Islands.

Turning to these winter wild-geese (that is, the bean and pink-footed species), their habits are identical with those of the autumnal geese already described. They pass the night roosting on the dry sand-flats, and by daylight proceed inland to feed on grain, grass, and other vegetable substances. But they never, in my experience, pitch on water, mud, or ooze; or, in short, in any position in which a stanchion-gun can be brought to bear upon them. A few instances in which, within my lifelong experience of wildfowling afloat, a successful shot has been brought off at grey-geese (and then only by lucky chance), are related in my *Art of Wildfowling*. All those obtained have been pink-footed and bean-geese. The grey-lag we have never once secured.

The fourth species of the group is the white-fronted goose (*Anser albifrons*); and it is a remarkable fact, and one strongly corroborative of the uncertainty which, as I hold, surrounds our knowledge of this genus, that of the merely trifling number of specimens which we have been able to secure, one has proved to belong to a *fifth* species, previously unknown in the British Isles. This is the Lesser White-fronted goose (*Anser erythropus* of Linnæus), a bird which breeds on the Lapland fjelds, but appears to be of more easterly distribution in winter, frequenting the

coasts of Greece and Egypt, especially the great lagoons of the Nile Delta. Its occurrence in Spain has been reported, but not a single example has been obtained therein among many hundreds of grey-lags shot by us on the marshes of the lower Guadalquivir during over twenty winters past. This addition to the British avifauna was made by my brother Alfred, who shot a young male of this small grey-goose on Fenham Flats, on the Northumbrian coast, September 16th, 1886, and the credit of the discovery is due to his correct identification. This bird is now admitted to be an unquestionable example of *Anser erythropus*, the only one then in existence killed in Great Britain, and the specimen is now in my collection.[1]

The following is my brother's description:—By midday we had secured seven wigeon and three teal, and were lunching aboard the punt when, about 3 P.M., a bird came in sight flying from north directly towards us. We, of course, lay flat, and as it approached I was struck by its great expanse of wing. It was evidently a "grey-goose" of some kind. There was hardly any wind. When it arrived within fifty yards, I raised my arms to shoot: the goose gave a quick swerve, but next moment dropped in the water with broken wing, and began to swim away, gaggling like a domestic goose. From the moment of handling him, I felt sure I had got a prize, though what it was I could not tell. It was evidently a bird of the year, but too small for a young white-fronted goose.

The following particulars describe this young male of *Anser erythropus*, the colours being jotted down within a few minutes of the bird's death:—Legs and feet, yellow-

[1] A second British example was killed on the Wash, off the Norfolk coast, in January 1901 (*Ibis*, 1902, p. 269).

ochre; irides brown, orbits yellow-ochre; beak pink, nail horn-colour; weight, 2¾ lbs., in fair condition. The upper part of head from base of beak to occiput, was much darker brown than the cheeks, throat, and neck, giving the bird a capped appearance. One small white feather alone showed in forehead. Primaries light blue, shading to black at the tips; bastard-wing light blue; secondaries black; wing-coverts pale brown, tipped with white. Back brown, each feather edged paler; tail nearly black, with white upper and under coverts. Breast warm reddish-brown; belly grey, dappled and chequered with black all over. Alar expanse, 48 inches; length, tip of beak to tip of tail, 24 inches, and the toes extended another inch beyond the tail.

The ordinary white-fronted goose is more addicted to inland resorts than to the coast, and in the north-east is certainly not a common species, only occurring at intervals, and in small numbers. In the severe frost of January 1881, a string of eight passed over the punt, so near that we could distinctly see their "barred waistcoats." I refrained from taking the chance with a shoulder-gun, judging, from their low flight, that they were about to pitch; but they passed right on, loudly cachinnating, never shifting brace, tack, or sheet while in sight, and left us in the lurch—befooled once more!

I must now bring this chapter of doubts, surmises, and uncertainties to an end. It is perhaps humiliating to admit, but the grey-goose has proved "too many" for us. There are others among our winter wildfowl whose intense wariness all but sets at naught the most elaborate devices of the fowler; but with these there *will* occur an odd chance when, by some fortuitous combination of favouring circumstances, one may work a charge of BB among

them. Not so with these geese; they come in hundreds, spend months at a time, and are as regular in their habits as we are ourselves, but we *cannot get at them.* As already explained, they never alight where a punt can approach, or a punt-gun be brought to bear.

CHAPTER XXX

DIVING-DUCKS

THE diving-ducks form a subdivision of what I have termed the game-ducks, and are a well-defined and important little group, comprising several handsome species, and forming a regular (though minor) component in the objective of the coast-gunner.

From the nature of their avocations, the diving-ducks are almost entirely day-feeding fowl, since they require light for their subaquatic avocation. Those which prey on animal-food—living crustacea and other creatures which require catching—are exclusively diurnal in their habits; but one or two species, such as the pochard, whose food consists of grass and vegetable substances, exhibit nocturnal proclivities. In the main, however, the diving-ducks are of diurnal habits, and are consequently met with during the day inside the harbours or estuaries; in short, they occupy by day the situations then vacated by the game-ducks.

The presence of these fowl "inside" is, in winter, a distinctive feature in the sport of punt-gunning. The programme of the wildfowler at that season is practically limited as follows:—By night alone is it that he can hope to obtain chances at mallard, wigeon, etc. By day these

are all at sea, and beyond his reach, and he has then only left to him the geese, which, if the winter be mild and open, are pretty well inaccessible. Thus the chance of falling in with a company of diving-ducks is a contingency that is ever welcome, for on some days it averts the calamity of an empty bag, and at more fortunate times adds a pleasing variety to the sport.

On the north-east coast, the most important species of this group of ducks are the scaup and the golden-eye. Both arrive in this country during the month of October; but while the former is entirely restricted to the salt water, the golden-eyes distribute themselves throughout the country, being almost equally common on inland lakes and rivers as on tidal waters.

About mid-October, one may begin to look for the golden-eyes, which arrive during the latter half of that month in small trips of from two or three to a dozen birds. These, on first arrival, are easily approached in a punt, before which they continue stupidly swimming away even when within fair shot. But a few weeks later, so soon as they have acquired experience of the dangers of the coast, golden-eyes are among the wildest of all wildfowl; indeed, with the mergansers, they are perhaps the only birds which, on open water, it is wholly useless to try to approach in a gunning-punt. Golden-eyes, when on the coast, spend the night at sea, flying up in twos and threes into the estuaries at the dawn, and their haunts are deep-water channels, especially those with sandy or shingly bottoms, where they continue diving ceaselessly all day long. Their food consists of shrimps, small shell-fish and marine insects, besides, in a lesser degree, the sea-grass and other vegetable-matter: which latter they often carry up from the bottom and eat at their leisure on the surface.

I would not have thought them sufficiently agile to catch any of the true fishes, but one winter day (December 5th), while watching a golden-eye busily diving among the ice on a small inland pool, I was surprised to see it capture several fish. Every third or fourth dive, it brought up a small silvery fish—minnows or sticklebacks apparently—which it spent some time tugging at and chewing on the surface before finally swallowing. When feeding, the golden-eyes are usually scattered about the "guts," and if for the sake of experience, or in the absence of other game (for it is tolerably certain that no shot will be obtained), one tries to "set up" to a pair, their conduct is as follows:—They continue diving, first one then the other, often both under at once, and the gunboat draws nearer and nearer. There is no sign of alarm, and as our friends appear quite unconscious of our approach, one begins to hope against hope. But it is all vanity. They are deceptive birds, and at two gunshots' distance, without a sign of warning, they are off—they seem to rise literally from mid-water, flying, as it were, from the very sea-bottom without tarrying a single instant on the surface. It is rare for many of these ducks to be obtained by punt-gunners in winter (though one sees them almost daily) except in *very* severe weather. Thus one January day, when the thermometer stood a few degrees below zero, a bunch of about a dozen not only allowed my brother Walter to approach within shot, but—the gun having missed fire—to re-cap, by which time, being very near, the charge stopped nearly the whole lot, though several escaped by diving under the ice. These birds had probably been driven down to the coast by the severity of the frost from some moorland lough; in which situations (as described earlier in this book) golden-eyes remain comparatively tame and unsuspicious through-

out the whole winter — the reverse of their behaviour on the coast.

The drakes of this species take some years to acquire the handsome pied plumage of full maturity—perhaps three or four. One gets birds in all stages of the female or immature plumage, some with brown eyes, others hazel and many light golden, and with the speculum, wing-coverts, and neck-plumage in various degrees of development; but adult drakes are always extremely rare on the coast. We have only obtained four or five in all, the first on December 13th, 1887—a lovely specimen in full mature plumage. It was a single bird, and so busy diving as to permit the punt to approach within shot of a small gun. Golden-eyes remain here till late in the spring. I have seen adults in May, but that is not surprising, as in Norway they do not seek their breeding-spots, among the hill lochs, till early in June.

The scaup is another of the diving-ducks which the punt-gunner is sure to meet with "inside" from time to time, though less often than the golden-eyes. This, however, is not due to any relative scarcity of the scaup, which some winters is quite as abundant, but is explained by difference in haunts and habits. The favourite feeding-grounds of the scaup are in a fathom or two of water over rocks where sea-weed grows luxuriantly, and where they dive among the long, waving tangles in search of the various shell-fish, with their spawn, and the host of minute forms of marine life which abound in such places. Owing to this preference, their company is often confined all through the winter to certain localities — usually rocky bays adjoining the open sea—hence they are less frequently met with than the golden-eyes, which are scattered in odd pairs all over the sandy channels of the

estuary. Such places moreover, as alluded to, are not conveniently accessible to punts; the water is too deep, and the long inward roll of the sea, even when smooth, is dangerous for these low-sided craft, to say nothing of the difficulty of handling a big gun, when one moment half the fore-deck is buried in a great, oily, sloping swell, and the next the gun points heavenwards, far over the

Scaup-Drake (Adult).

heads of the fowl. I have taken a punt, in broad daylight, within forty yards of nice packs of scaup in such situations, but never could work a stancheon-gun to advantage for the above reasons.

Besides the places where, as above indicated, the main bodies of the resident scaup-ducks take up their winter quarters, one frequently meets with small bunches of half-a-dozen or so inside harbour, especially about the

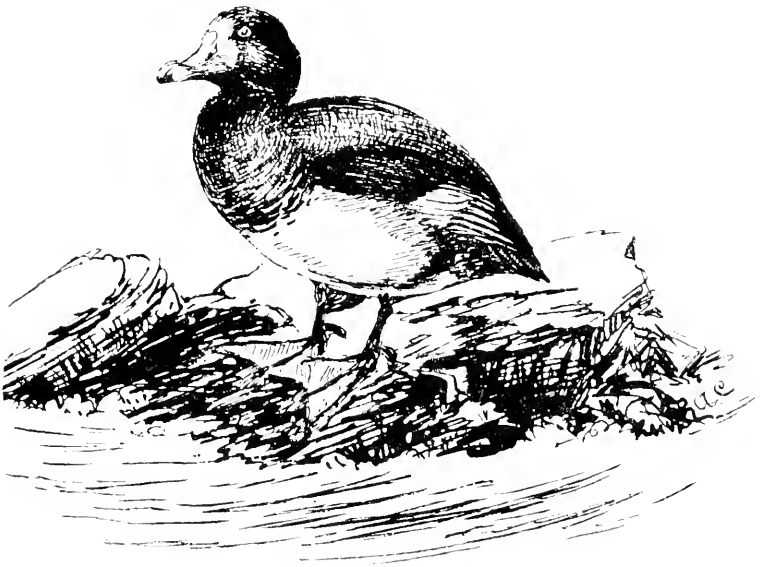
"scaps," or mussel-beds (whence presumably their name), and even on the edge of the ooze, where these ducks occasionally vary their shell-fish diet (*Tellina zonata*, shrimps, and small crustaceans) with a feed of sea-grass. They always, however, keep afloat, or nearly so; it is very seldom one sees a scaup or golden-eye go on to dry land, nor (on the coast) have I ever heard either species utter any note.

Scaup are the tamest of the duck-tribe, and—exactly the reverse of the golden-eye—they may be as easily approached throughout the winter as when they first arrive in October. On seeing a pack, one may shove the punt close in upon them, and then, if scattered, wait securely till they arrange themselves nicely to receive the charge. Scaup are also among the toughest of birds and the most tenacious of life; and are of no value, beyond their interest as specimens, being the strongest and most uneatable ducks I ever tried.

The following extract from a note-book is illustrative of the two points just described—namely, the tameness and the toughness of these ducks. "January 5th; Early this morning came on four scaup, feeding, half-afloat, in the dark; stopped three with a shot from 10-bore—only got two, a young drake and an old one. Later in day, came on seven, very squandered: after getting within fifty yards, we lay by them for several minutes till they were ranged in a line, when I fired and laid all seven on their backs—three apparently dead, four winged. Shoved in and commenced playing on latter with small gun, when one by one six of them disappeared, and though the sea was like glass, we saw not one of these again! We thus lost, at the moment, seven out of ten crippled scaup, though three or four of these were picked

up the same day, and nearly all within twenty-four hours."

Scaup also appear to be some years in attaining the full plumage of maturity. The young drakes, on first arrival in October, show the full white front characteristic of the adult female. This they gradually lose, and by November, the whole head (including the white front)



Young Scaup-Drake. (November.)

is spotted with black feathers: while by December the latter colour predominates. Young scaup-drakes shot early in January have a full black head, only the faintest traces of the white then remain; but the tone is dullish black, only slightly glossed with green, and lacking the beautiful glossy reflections of bottle-green and purples

which distinguish the adult. The dark colour, moreover, only extends to the head and upper-neck, the breast-plumage being still incomplete—merely mottled browns and greys, very different to the velvety purple-blacks and clean-cut waistcoat of maturity. The fine grey mantle is also but half developed; and in this stage, though the process of change appears irregular, and varies in different individuals, the bulk of the young scaup-drakes remain so long as we have opportunities of observing them on our coast—that is up to March.

The pochard is now a very scarce bird on the north-east coast. Fifty years ago, according to the records of that period and the recollection of old fowlers, it was an abundant species, and well known to both gunners and flight-shooters. There appears to be no assignable reason for its withdrawal; but whatever the cause may be, the fact remains that at the present day the pochard is all but unknown. A chance straggler may now and then turn up in August, or while on migration, and a few years back I heard of two or three being obtained by flight-shooters in winter, but I have only thrice myself met with this duck on the north-east coast. The first time was in January, during severe frost. It formed one of a little bunch of about a dozen ducks which were sitting on the point of a sandspit. We were in the act of "setting up" to them, when another gunner, concealed from our view by an intervening sand-bank, fired and killed six of them. Five were scaups, and the sixth a pochard in immature plumage. Then on November 17th, 1889, we fell in with twenty-one pochards; but, though not wild, they swam so "squandered" that the shot stopped but five, and of these we only secured three. The third occurrence was a single

adult drake, among some coots, on January 18th, 1890, another being secured by a local fowler just five years afterwards.

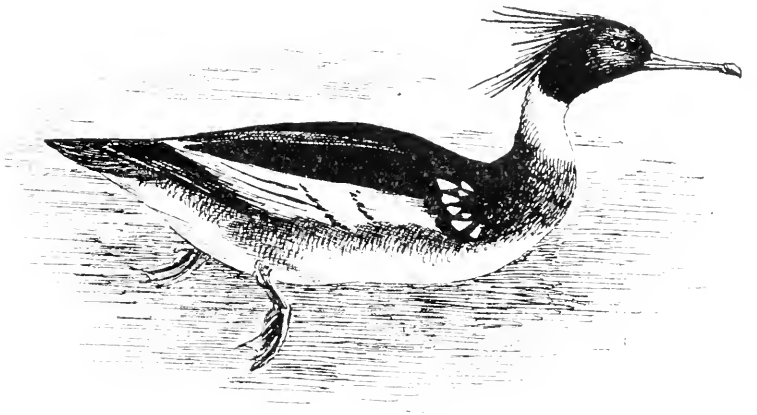
The tufted duck I have never met with on the north-east coast; but during the intensely severe frosts of February, 1895, was informed that small "bunches" had appeared among the ice-bound slakes, two or three being secured. Such an occurrence appears in no way improbable, as tufted ducks frequent all the inland waters at that season; but it is singular that during the many Arctic days I spent that winter on the coast, I had not myself the luck to fall in with them.

A beautiful member of the family which the wildfowler sees almost daily when afloat, is the red-breasted merganser. Exquisitely graceful in form and plumage, it is yet so wholly useless when killed, that no professional fowler would waste a charge of powder and shot over them. The mergansers are, nevertheless, among the most timid, wild, and utterly inaccessible of all the wild birds of the sea. So keen and alert is their vision, and so hateful the human race, that they will not, wittingly, allow the presence of a punt on the same square mile of sea as themselves; it is, in fact, ludicrous to observe the immense distances at which their almost irrational timidity bids them decamp. Spending the night at sea, they enter the estuaries at dawn, and for the period of daylight set at naught all the arts and stratagems of man; to them indeed, and to the golden-eyes, belongs alone of all their watchful tribe the credit of outmanœuvring and nullifying the most elaborate devices of the enemy. They systematically enter waters which are as free and as open to punts as to themselves, remain there for their own purposes

all day, and leave again at night for the open sea, without losing the number of their mess. Of course, in punting year after year, a stray chance does turn up at intervals to work in a successful shot: but as a rule mergansers and golden-eyes are more than a match for the most skilful fowler that ever went afloat.

The only shots I have known at mergansers from a gunning-punt have occurred when the birds have been caught sunning themselves round some sharp bend in a sand-bank—a mere lucky chance. The habit is one that mergansers always indulge in at midday, going ashore to dry and preen their feathers, when a dozen or more may be seen basking together. Other chance shots are obtained, should the birds be cut off in some narrow "gut," whither the punt has crept up unobserved. But mergansers rarely make a mistake or trust themselves in either danger-spot; while, should they find themselves hemmed in up a *cul de sac*, they will rather attempt to dive back beneath the boat than fly over "dry land"—or what mergansers may regard as such. They feed entirely on shrimps and small fish, and are quite uneatable. There are, however, few more lovely birds than a newly-killed merganser drake. As he lies on the fore-deck—the weird, half-uncanny expression in his blood-red eye still undimmed; the slim, snake-like neck and glossy head, adorned with its long double crest—one-half standing straight out backwards, like the "toppin" of a peewit, the other pointing downwards towards the back (*not pendent*, as invariably misrepresented in books); then the lovely but evanescent salmon-hues which tinge his breast—all these points, together with the bold colours and brightly contrasted plumage, combine to form an object of striking beauty.

Towards the end of February, mergansers, and other ducks, begin to move northwards, and at that period we often observe, on the north-east coast, small parties of this and other species putting into our harbours for rest and food, preparatory to continuing their journey by stages. On March 1st, 1881, I was cautiously



Merganser Drake, showing Form and Carriage of Crest.

following six mergansers at low tide in the punt, when, on rounding a bend in the sand-bank, they all landed. It was interesting to watch their sprightly graceful carriage as, half-upright (*i.e.*, at an angle of about 45°), they ran up the sloping sand in active style—very different from the waddling gait of the other diving-ducks, some of which appear almost unable to stand at all. The scaup and scoters, for example, are seldom seen ashore, but when driven to it, sit awkwardly with their great splay feet turned inwards in most ungainly style. The farther back a bird's feet are placed, the more upright it necessarily stands. Thus the cormorant and merganser sit as described—about half-upright (45°); the sea-ducks

rather more horizontally, while the wigeon is actually horizontal. Guillemots and grebes, whose legs are practically terminal members, sit bolt upright, while, so far as I have been able to see, the Colymbi are unable to stand at all.

To return to my six mergansers: they were evidently mated, for after landing they separated into three pairs of *fiancés*, one of which I shot, thereby, perhaps, saving them from future remorse and recrimination! These birds roost on the sea, and are exclusively marine in their haunts; I have never, in winter, seen them away from the salt water, whereas their congener, the goosander, though not uncommon inland, rarely visits the tidal waters, their haunts being freshwater streams and large rivers, where they feed on trout.

There remain two other members of the mergus tribe, which are invariably mentioned by writers on wildfowl; but neither of which I have ever seen alive —namely, the smew and the hooded merganser. The former can only be regarded as an extremely rare winter visitant, which has, perhaps, never occurred *on the coast;* and as regards the hooded merganser, the circumstantial descriptions given by certain writers notwithstanding, I cannot regard the evidence as sufficiently conclusive to establish a scientific fact. Once an American or other exotic species has been admitted into the "British List" —even though by mistake in the first instance, or on inadequate knowledge—there always arises around it a nebulous superstratum of surmise, figment, and dubious identification, tending to obscure rather than elucidate its true status. There are not a dozen men in this country capable of identifying, in all their varying stages of plumage, such species as the hooded merganser, buffel-

headed duck, and others reputed British; and that dozen are not the men most likely to have such opportunity. Several of these reputed visitors should, in my opinion, be expunged from our list.[1]

[1] The above remarks may appear sweeping; but I prefer to let them stand, and for a statement of the facts respecting the occurrences of reputed British birds, refer my readers to "Yarrell" (4th ed.), where all the evidence is set out with judicial impartiality.

CHAPTER XXXI

SEA-DUCKS

In describing the habitat and the natural economy of the various members of the duck-tribe, and of other birds whose haunts are remote from arm-chairs, and which cannot be observed during an after-breakfast ramble, it has been customary to write somewhat vaguely. Thus, on looking over many books on Natural History, the haunts of any given species of duck will be stated to be "arms of the sea, rivers, lakes, and marshes," or perhaps such expressions as "creeks, pools, and moist situations" may be substituted. There is obviously abundant scope for synonymic verbosity and neatly-turned paraphrase; but when all that is written is "boiled down," it amounts to little more than platitude. Every schoolboy knows that ducks swim, and require water to swim in; and this, despite all the redundant verbiage employed, is about the sum and substance of the information that can be extracted from three-fourths of the *popular* works on this subject. Endeavour to ascertain from them any special feature—consult them with a view to confirming personal observations or ideas—they are silent.

Yet the duck-tribe vary in their haunts and habits, as between one species and another, quite as much as any other family of the feathered race. The poverty of

definition arises from their being less understood. These variations can only be intimately observed, or, at any rate, observed to the best advantage, by those who follow the regular sport of wildfowling afloat, and who alone enjoy the opportunity of becoming acquainted with these wild creatures in their bleak and desolate haunts. Hitherto, unfortunately, but few of those who have seriously taken up this sea-craft have paid any attention to ornithology; while fewer still (though there are notable exceptions) have displayed any intelligent appreciation thereof.

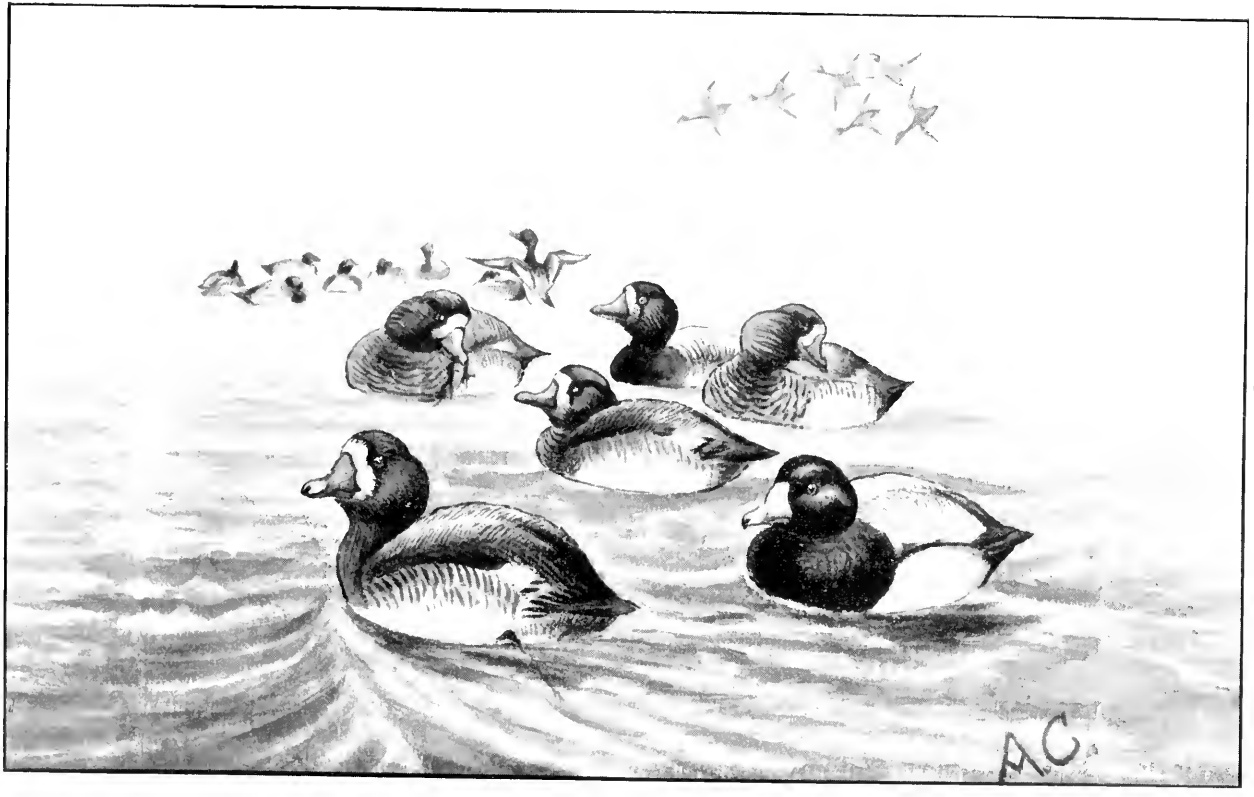
In the foregoing articles I have described, so far as my opportunities of observation permit, the habits of the different groups and species of ducks and geese which are comprised under the term of wildfowl, as they come under the notice of the punt-gunner. But the British ducks are a numerous family, and there remains a section which he never meets with, and of whose existence he might remain wholly unaware, so long as he confined his operations to the punt and the sheltered waters which alone are navigable by these craft. The group of ducks to which I here refer do *not* frequent "rivers, lakes, or arms of the sea"; they do not enter harbours or creeks; but their haunts are the open sea itself. The sea-ducks comprise the scoter and the velvet scoter, the eider, the long-tailed duck, and, to a less extent, the scaup.

The last-named, as already described, is not infrequently met with inside harbours, where they go to feed on young mussels, tellinas, and such-like shell-fish. Still they are mainly sea-ducks, and a favourite resort is a rock-bound, weed-covered bay on the open coast. Under the shelter of a long black reef or scar, or within a narrow

bay on a rocky coast, a company of scaup will take up their quarters for the whole winter, and seldom leave the spot, unless disturbed by man, or driven out by a heavy sea. From their unsuspicious nature, it is not difficult to approach them, and an interesting sight it is to watch a company of them in such a place, all busily engaged on their everyday employment. The fretted-white back of an old drake contrasts prettily with the dark weed-covered reef along which he cruises, ever and anon diving close under the rocks to study conchology among the waving fronds and sea-tangles which grow beneath him.

The eider resembles the scaup in many of its habits, and both ducks are intimately acquainted with the local geography of the sea-bottom; all its depths for miles, and the position of every submerged reef and shallow being well known to them. But while the scaup contents himself with the smaller shell-fish and crustacea, the eider, with his strong, hooked beak, can crush and devour dog-crabs nearly as broad across as one's fist; from the gullet of an eider-drake I have shaken out three or four big crabs, on holding him up by the legs.

Eiders are specially fond of going ashore to sun themselves on the edge of a reef or rocky island. In such positions, among black rocks, one would imagine an old eider-drake would be a very conspicuous object; but it is surprisingly easy to sail past a dozen of them unperceived, so precisely does their bold black-and-white plumage harmonise with the broken water, and with the great balls of foam which are driven up on to the rocks by the wind and sea. Eiders, or, as they are locally called, "culvers," are quite common on parts of the north-east coast; but Northumberland has the honour of being the only English county in which they breed. Their



SCAUP-DUCKS.

[To face page 370.

nests are placed both on the rocks and among the bent-grass along the sand-links, and contain five green eggs. In July the old eider-drakes undergo a complete "eclipse," their snowy plumage being then exchanged for a dress of sombre black, only an indistinct superciliary line of white remaining: and eiders then entirely lose the power of flight. This would seem a dangerous condition for a bird confined, as the eider is, to the open sea, and thus deprived of all refuge amongst reeds, sedges, or other covert, while in this defenceless state. But that is not the case in practice: for so adept and determined a diver is this species, habitually facing the heaviest seas, and even passing through or under breakers, that the loss of wing-power hardly affects its safety; indeed, so much at home does it appear, that this loss of the flight-feathers is doubted by fishermen and others who see the birds daily. Early in October, the old eider-drakes have almost completely regained their full white plumage: young drakes retain the black dress throughout their first winter, though a slight white band appears above the eye. During winter, the sexes often congregate separately, but a few precocious females usually accompany the packs of drakes. In the month of March, as the nesting-season approaches, eiders are apt to draw into the harbours and sand-flats: places which they never frequent in winter.

Eiders, as a rule, we never molest: but having been asked to send two pairs to ornithological friends, we set sail for that purpose on a breezy day in February. The sea after a forty-eight hours' gale was still "lumpy" even under the land, and running heavy outside. The first shot was at five eiders, rising fairly near: but so smartly did they dip (like woodcocks) over a curling 6-feet sea, that the charge was intercepted by its fizzling crest. Later, we

ran down at top speed upon a pair, duck and drake. At 80 yards, both turned deliberately down-wind and I saw they ought to be mine; since before they could again head the wind to rise, we had slipped within fair shot, and both were gathered, dead. The next was a single drake, which seemed fairly struck, full broadside, yet we never saw him more. He disappeared as he fell, and though the boat was instantly brought into the wind and we cruised around the spot with six pairs of eyes on keenest look-out, no sign of the bird was ever seen. The depth was four fathoms, rocky bottom with long sea-tangle.

In a deep bay, sheltered from the swell, we secured the second pair required. There were sixty to eighty eiders inside, and as our boat dashed in full-speed, they kept coming out to pass us: and a well-timed luff brought a dozen within forty yards when right abeam. Eiders have been credited with exceptional speed of wing: erroneously in my opinion. In this case, where the ducks were coming out down-wind, meeting our craft spinning past in an opposite direction, the pace, as between the two, was very great. But both eiders fell dead, which was not the case with a red-throated diver a few seconds later. I was anxious for special reasons to get this bird: but felt as I touched trigger, that the pace was too fast for me—it appeared half as great again as that of the eiders.

Among the few eiders we have killed, one specimen, an adult drake shot in Skate Roads, Holy Island, on January 18th, 1878, showed under the chin a dusky chevron of blackish feathers. This, it appears, is one of the distinguishing marks of another species, found as far away as Bering Sea—to wit, *Somateria V-nigrum*, and this curious specimen is now in the National collection at South Kensington.

Another handsome bird which spends the winter with us is the long-tailed duck. This also gets its living by diving, but in a different manner to the two species just described, whose food, as stated, consists of shell-fish, with their spawn, of kinds which restrict them to places where the bottom is rocky and of no great depth. Hence eiders and scaups are usually met with close inshore, or, if found diving at a distance from land, the fact will be explained by the existence of a submarine reef, and in no case do they dive where the depth exceeds, perhaps, two or three fathoms. Their food is exclusively *on the sea-bottom* or among the algæ that grow thereon ; but that of the long-tail is *in mid-water ;* that is to say, the latter bird does not require to reach the bottom at all, its food consisting of animalculæ and other minute creatures which swim at all depths. Hence the long-tails, and, in a less degree, the scoters, are able, like guillemots and razor-bills, to live in sea of any depth, and can often be seen busily diving several miles out from land. On examining one of these ducks when newly-killed, it is impossible not to be struck with the difference in the form of their small bills when compared with those of the rest of the sea-diving ducks. The latter are heavy and swollen organs, broadening out towards the tip—regular shovels in fact. The bill of the long-tail, on the contrary, is small, narrow, and delicate, tapering to the tip, but strongly pectinated, or furnished with a comb-like process expressly designed for sifting animalculæ from the sea-water, but not for catching crabs and other crustaceans, as the rest of the sea-ducks do. At the same time, these ducks are often to be seen diving in quite shallow water near the shore, where they feed on spawn and the minutest forms of marine life. At one point on this coast, where the depth rarely exceeds

a fathom or two, over a shingly bottom, a company of long-tails are nearly always to be found, in company with a few of the somewhat similarly-formed golden-eyes.

The long-tailed ducks are rather late in arriving—often not till November, and disappear during the early days of April—sometimes simultaneously with the advent of the terns, about April 8th, by which date the adults are already assuming their rich breeding-plumage; while even immature drakes, some of which had acquired the long white tertials in October, begin in March to show traces thereon of the warmer colours.

The long-tail is the only British duck that possesses a distinctive breeding-dress at all; and this species illustrates one fact, among the many obscure phases of colour-change, which was first pointed out to me by my late friend Charles Murray Adamson, as follows:—That the new feathers, when they have commenced to grow so early in the year that the younger birds had not then acquired their "summer-condition" of blood, at first come *white*, as in winter; but that, as the *blood-condition* of the bird develops, so the growing feathers change from their white, winter colour to the warmer tone indicative of the breeding-time. The colour of growing feathers, in short, changes with the changing seasonal "condition" of the bird—a rule which obtains generally throughout bird-life, and is not confined to this species, though it appears to apply chiefly to those genera (such as the *Limicolæ*) that in spring assume a bright distinctive breeding-dress. In their build these ducks are heavy and thick-set, like the rest of the diving-ducks; not long and slim, as most illustrations of them appear to convey. Though the females are always plain and sombrely clad, an old drake, when newly killed, with his chaste

and harmonious plumage, is a strikingly handsome object. The exquisite tints which, in life, so delight the eye, fade rapidly away after death. This applies equally to the salmon-hued breast of the merganser and to the pale sea-greens, lemon-yellows, and vinaceous tones that decorate the eider-drake. None but those who have handled newly-killed specimens of these, and other wild-fowl, can form an adequate idea of their lovely colour-plan in life. Museum examples represent the originals only as black-and-white may portray a rainbow.

From the nature of their haunts it is impossible to get at any of these sea-ducks in a gunning-punt—those craft being only available in smooth or land-locked waters. Outside harbour, however, some most enjoyable days may be spent, in a well-frequented locality, cruising under sail among the fowl. If the day be fine, with a good, steady land-breeze, a few fair shots may now and then be got at sea-ducks with a shoulder-gun; but any one who has tried, knows how rarely ducks of any kind will allow approach in a sailing-boat at sea. Still there is, quite independently of killing or sport, a charm in shooting under sail: for not only is there an opportunity of observing many wild and interesting fowl, but the sensation of spinning along in a fast-sailing coble, as she walks through the seas with a wale of hissing waters rising in menacing slope above her lee gunwale, is in itself exhilarating. Presently the look-out descries fowl. "Luff!" he whispers, "Covies (*i.e.*, scaup) bearing the South Beacon!" and in a moment the boat is beating to windward. "Keep your luff!"—why, we can hardly keep our seats as the craft thrashes through the seas, close-hauled to windward and flying scud, to say nothing of bucketfuls of green water drive athwart her. Nothing

short of oilskins will keep one dry as she is driven ahead, "full and bye," and with the leach of the sail temporarily stiffened with the boathook. When a weather-gauge has been attained, up goes the helm, and we run in on the pack of scaup gently rising and falling on the swell. But even scaup, tame as they are, won't allow a big coble to run right over them at sea, and long before we are in shot, one sees jets of spray flying up among the ducks as, one by one, they rise and get under way. Poor birds! they have done their best to assure safety; but instinct, or, at any rate, reasoning power, lacks a little at this point: for as they steam away in a straggling line to windward, they fail to observe that the coble's course is altered again. Under a lee helm she has flown up into the wind, and, with gathered "way" is scudding right into their "line of communications." If, moreover, she has been well handled, she has an even less distance to traverse than the birds, and this (unless, as happens, they change their course) will bring the fowl across her bows—sometimes indeed, right over them. It is, of course, a very old manœuvre—cutting out ducks by a "luff," as they fly to windward—but still it is a very pretty one, and affords exciting moments.

The behaviour of all sea-ducks when approached by a boat is the same, *i.e.*, they rise wide, but may, under favourable conditions and in a steady breeze, be "cut out" as described. No duck of any sort whatever would dream of attempting to escape by *diving*. I have been told that long-tails occasionally do so: but never saw any approach to it myself, and fancy that either the birds had not realised the presence of danger and were simply diving for food, or that grebes, tysties, or other birds had been mistaken for ducks. It may be that long-tails will,

under certain circumstances, attempt that means of evading pursuit, but such conduct appears improbable and entirely foreign to what I have observed of their natural disposition. What Folkard referred to—(and "Wildfowler" copies his mistakes)—when he described shoveler and sheld-duck as habitually resorting to diving as a means of escape from danger, is incomprehensible; but so, I must add, are many statements in both those books. Thus Folkard spoke of chasing shovelers about with a rowing boat (p. 260); presumably he referred to *scaup*, but even so the idea is unthinkable.

Although the sea-ducks invariably use wings in preference to legs to keep clear of danger, yet, *when winged*, so proficient are they at diving, that it is all but hopeless to attempt to capture them. Half-a-dozen scaup, scoter, or long-tails may fall to a shot, but, except the dead, not one will ever be seen again save by a mere chance; for they dive straight as they fall, and nothing more than the point of a bill will again appear above water till danger is past. Winged eiders, as a rule, can be followed up and occasionally secured if the sea is smooth: they have hardly the same power of holding themselves just under the surface, and, being so large, are more easily seen when they reappear. They rely on the immense distances they can traverse under water, and generally with reason. But as for the others, give it up, gather the dead and go on to try for others, for the winged you will never get.

More numerous than all the above-mentioned species together, are the common scoters or black-ducks, which come to the coast in swarms. The open sea is their home; they may be met with diving in twenty fathoms several miles from land, or at other times close along-shore, feed-

ing off the reefs which fringe the coast-line. Inside harbour they never go—I only once remember seeing one there: a single bird shot by my brother, but it had probably been "pricked."

Scoters are resident here all the year round. Throughout the whole summer, flocks of these ducks still frequent their winter haunts off the coast, though they are a northern-breeding species, none ever nesting in England, though they have been known to do so, exceptionally, in Scotland and Ireland.

These summer scoters are all immature, from which it appears clear both that this species requires, at least, two years to attain full maturity, and also that they do not breed till that stage is attained. Many young drakes (of the second year), shot in November, are half-changed to full black plumage; by March one meets with them almost wholly black, but dull in tone, and lacking the lustre of maturity.

Abundant as these ducks are, they afford little or no sport; being equally distasteful both to eye and palate, they offer no reason or excuse for pursuit after a few have been obtained. In the last-named particular they are, it is true, no worse than the rest of the sea-ducks; but the others have at least the charm of beautiful plumage, which is wanting in these "ugly ducklings." The velvet scoter is a larger and handsome species, old drakes being peculiarly rich and glossy in their jet-black plumage, and are easily distinguishable at any distance by the broad white speculum on the wings, closely resembling an old blackcock, if one could imagine such a bird far out at sea. They are far less numerous than the black scoters, though a company or two of half-a-dozen birds each, may generally be met with in the same localities as those ducks. The velvet

scoters, and the winter contingent of the smaller species, both arrive here in October and withdraw at the end of March. Beyond seeing them at sea, I have not had much opportunity of observing the habits of the velvet duck.

Such are the regular "sea-ducks"; but in the course of a day's cruise, one falls in with other kinds. Thus one often sees sheld-ducks spending the day at rest on the waves —sometimes seventy or eighty strong—and is almost sure to come across the local stock of mallard and wigeon sitting along-shore and close in to the line of breakers.

The pleasure of shooting under canvas is enhanced by the constant opportunities it affords of observing various wild creatures other than the Anatidæ. During mid-winter we have little auks from Spitsbergen, and the pretty coral-footed sea-pigeon, or tystie from Shetland. These are replaced as spring approaches by the arrival (in March) of the puffins. The two first-named are more or less oceanic in their resorts, but the common guillemot and razor-bill are ubiquitous, and hardly take the trouble to get out of the coble's way. Then there are the large divers (Colymbi) —I have shot all the three species—and four kinds of grebe: one of these, however (the eared grebe) is decidedly rare. Lastly, there are the seals—weird, uncouth amphibians—as they silently gaze from the deep with great mild eyes, they impress one rather as ghostly relics of some long-past Arctic epoch than as contemporary denizens of British Seas! Great Grey Seals (*Halichærus gryphus*) still breed at certain spots on the north-east coast, bringing out their young in November on some remote little islet or "skeir" of rock, just awash at full tide and usually surrounded by dangerous surf. On these islets half a dozen or more of their bulky forms may be seen basking

in the wintry sun, while hard-by stand the gaunt, upright figures of the cormorants.

This species, the great grey seal, is an immense animal, the males being four times heavier than those of the common seal (*Phoca vitulina*), which also breeds on this coast, but at quite a different season, namely, in June. Both kinds are found here throughout the year: whereas in the Orkneys, Hebrides, and western isles of Scotland, the grey seal appears to be of more oceanic habit, chiefly coming inshore towards the breeding-season, that is, in October.

While shooting in the Outer Hebrides, we were told that these great seals, "Atlantic bulls" as they are there termed, would then be drawing in towards the rocks whereon they breed. Naturally we were intensely interested and set out in October to a fishing-hamlet afar, to make their acquaintance and, if possible, to secure a specimen. There were not many—perhaps three pairs—but it repaid all labour to watch such huge creatures in British seas, and to hear their sonorous roar blending with that of breaking surf. Having spied an enormous bull ashore on tidal rocks some two miles away, I commenced an elaborate stalk, during which the seal, having left the rocks, came up within one hundred yards of a boat wherein my brother J—— had stayed behind. Promptly J—— placed a .303 bullet in the cranium of *Halichœrus*, which (such was my brother's luck),[1] instead of sinking, as seals usually do, remained afloat till a bight of rope had been passed round the flippers, when we towed him ashore.

This seal measured 10 feet 3 inches in length by 7 feet in girth, and was estimated to weigh 45 stone. The

[1] Besides this seal, J—— also shot there a stag carrying sixteen points.

colour was clear brownish-grey, heavily splashed with blotches of black; and a conspicuous feature was the singular swollen lump on the ridge of the nose, extending from the eyes forward.

After further fruitless efforts to secure an Atlantic bull, I was fain to content myself with a specimen or two of the common seal which weighed from 9 to 12 stone apiece. In Northumberland, I have a note of a bull grey seal that measured 8 feet 6 inches and scaled 44 stone: and have myself seen a female with her cub, as early as November 13th, on the Crumstone rock.

A serious drawback to the pursuit of wildfowl at sea on this exposed coast is the risk of being caught in a sudden gale, perhaps when several miles from shelter. This contingency, which is ever impending, not unfrequently bursts upon one without notice, and an unpleasant experience it is to undergo. Sea-kindly as northern cobles are, they, and in fact all open boats, are unmercifully wet in a gale at sea. Many a day which opens auspiciously with a bright morning, calm sea, and fine land-breeze, ends in a wet and miserable scuttle back to harbour in the teeth of a nor'-easter, with three reefs in, and one "hand" at the halyards: while sea after sea drives athwart the craft in hissing volume of green water.

CHAPTER XXXII

WADERS

To the coast-fowler a source of interest is ever present in the variety of sea-game. These include, moreover, many of nature's most graceful designs, beautiful both as regards form and plumage. The wild-geese, ducks, and swans have already been surveyed; but there remain, besides, the weird-looking divers and quaint forms such as grebes, auks, and all the multitude of sea-fowl that falls outside the definition of "game"; while, lastly, there is that varied and most graceful order of all, the wading-birds. These combine both qualities, attractive equally to the naturalist and to the wildfowler.

In the stern practice of wildfowling afloat, it is, unfortunately, impossible to assume at once the dual character of sportsman and naturalist—at least as regards the securing of specimens. One character or the other must be predominant; or failure and disappointment will result from an attempt to sit on two stools. A first essential of successful fowling is quiet. Cruise about unseen and unheard: disturb nothing—not even a gull: and never fire a shot till you have at length within your grasp, that grand opportunity that for hours, possibly for days, you have been manœuvring to secure.

From a purely ornithological point of view, this is a

matter of regret, especially when one remembers the persistency with which stray chances at out-of-the-way fowl turn up at the wrong moment. One may spend days, weeks, without seeing a creature beyond those telescopic-eyed geese and impracticable wigeon. Then, just as one is "flattened" to what looks like a chance of a big shot, there floats past within half-gunshot a single grebe, or a pair of ducks one does not recognise, either of which *might* prove of exceptional interest. But to fire at these would be madness; your puntsman might justifiably resign office in disgust, and a possible prize drifts out of sight, never to appear again.

With the writer the point has never been in doubt, and however much the necessity may be regretted, the pursuit of sport must be paramount. Otherwise, no one would be found willing to undergo the hard labour and the long cold hours merely on the chance of getting, once in a lifetime, a really "rare bird." This, too, is on the hypothesis that such a creature exists, a proposition which (except relatively) is untenable.

The waders are the earliest migrants to reach our coasts in summer. During the spring and earlier summer months the stretches of tidal ooze and sand lie dreary and almost lifeless. Visit a great estuary in June or July: you may ramble for miles around its shores, the scene of the winter's exploits (and failures), and call to mind the wondrous flights of wildfowl seen, and the glorious moments enjoyed on these very spots in January and February. In summer there is hardly a living creature to enliven the dreary monotony of the wastes. Now and again the glint of a sea-gull's wing, or perhaps a brood of young sheld-ducks—that is all one sees in several hours' ramble. But in August a change occurs, and in a few days

the shores are once more enlivened by the cheery sights and sounds of a profuse bird-life.

As early as the end of July the whimbrels and the Arctic skuas appear. Both these breed in Shetland and have not far to come. Distance, however, is a mere nothing to these cosmopolitan wanderers. It is an element which is practically eliminated from their reckonings by the trim build and wide pinions of even the tiniest waders. Thus the Shetlanders are hardly here than there pours in, close behind them, a perfect flood of travellers from the highest latitudes and most remote spots in the known world—aye! and beyond it too. Purple sandpipers from Spitsbergen and turnstones from Nordland throng the rocks; godwits, knots, and sanderlings from Asiatic *tundras*, greenshanks, ruffs, and whimbrels from various points between Sutherland and Siberia, and a host of allied birds from the morasses of Lapland and the Scandinavian fjeld suddenly populate our shores. In September the curlew-sandpiper, stints, and grey plover arrive.

Some of these birds have come to spend the winter on our coasts; another section only appear here in transit, passing on southwards at once, not to reappear (if at all) till their return-journey northward in the following spring. This latter group comprises those species which, seeking their food largely among fresh water and its productions, are dependent on mild, warm weather. They are impatient of cold, and must always keep well to the southward of the risk of frost—which to them implies starvation.

Within this category fall the whimbrels, greenshanks, common and curlew-sandpipers, the stints and the ruff. The through-transit of these birds continues during the months of August and September; but it is probable that

no individual bird spends more than a few days on our coast, the period being occupied by the continuous succession of fresh arrivals and departures, lasting till the whole bird-population of these species has completed its passage. The whimbrels, while here, frequent both the mud-flats and sandy shores, and are also much addicted to the rock-pools and weed-covered rocks, where they feed on small dog-crabs and other shell-fish. About the 25th of August, greenshanks appear: always a scarce bird, though every year, at the same date, a few arrive with remarkable persistency at the same pool, slake, or stream, and this, too, although the particular individuals have been shot each year on arrival. The whole of these greenshanks are the young of the year, newly-fledged. The young of the common sandpiper comes down from the moors at the end of July, but only passes a few days on the rocky shores before proceeding onwards for the south. The (larger) curlew-sandpipers are later in arriving, not being due till September, and moving on within a few days. By September 20th they, and the greenshanks, have passed right on and are gone. The ruff is also a scarce bird, though some come every August. "On August 23rd" (my brother writes), "we were rowing up a bight in the slakes, when I chanced to see a bird stretch its wing and gently close it again. It was sitting among grey whelk-covered shingle, and, though close at hand, I could not make it out, so fired at the place. Nothing flew away. On coming up, two young knots and a reeve lay dead."

Some of each and all the species named, may be secured any August by those who know where to look for them: for almost every kind has some special resort to which it is more or less confined. But, in order to complete the

list of this group, I must mention also the following allied birds, which also pass south at about the same period, but so scarcely or irregularly that one may shoot for years without meeting with any of them. They are the green and wood-sandpipers (both these travelling inland), the little and Temminck's stints, the spotted redshank, and the phalaropes.

Coincidently with this extensive "through-transit" in August and September, there also occurs the arrival of those hardier members of the same great bird-family which mean to make our shores their winter home. These are chiefly curlews, godwits, knots, redshanks, grey plovers, turnstones, dunlin, purple sandpiper, sea-pyots, and, in less degree, the sanderling. This last might almost be included in the former category, so few are found here in winter, though abundant enough in autumn.

The months of August and September, it will thus be seen, are a period of great activity among the feathered tribes of the coast, and an interesting period to spend among them. Rambling on a fine autumn day over the wastes of sand, one enjoys charming views of bird-life. Suddenly one finds oneself almost in the midst of a flock of graceful little creatures—dunlins, ringed plovers, and sanderlings, all mixed—which, among the myriad small pyramidal piles cast up by the sand-worms, had escaped observation at first. So tame are these that one can watch, close at hand, their pretty postures and agile movements as they dart about, nimble as mice, each form reflected on the mirror-like surface of wet sand. Further up, on the drier ground, close to the sand-links, are curlew-sandpipers; and where a mussel-bed has created a mixed deposit of mud and sand, will be found

turnstones and a few grey plovers. Examine carefully with binoculars that strip of wave-worn pebbles and grey shingle. You see nothing: yet it is crowded with sanderlings, dunlins, and other Tringæ. So still and motionless do they sit, and so admirably do form and colour assimilate with environment, as to evade all but the closest scrutiny.

The great chattering flights of godwits are always wild and cannot be approached on foot; they and the knots mostly frequent the mud-flats. Overhead, behind, and on every side, resounds the incessant scream of the terns, busily fishing in pools left by the receding tide. Head-first into the shallow water they plunge, one after another, completely disappearing for a second, and hardly will the small fish escape their scissor-like bills. In sheer exuberance of spirits they scream and dive, and dive and scream again. Presently there is turmoil; one of their persecutors, the piratical skuas, has come on the scene, and the plucky little birds at once unite in a combined attack on their common enemy.

Go out again on the morrow—you are keen to renew and extend your experiences of to-day. But hardly a bird is now to be seen! Ooze and sandflat, rocky shores and tidal pools, all alike deserted. In certain states of the atmosphere, you may perhaps hear, high overhead, the wing-beats of passing hosts far beyond the range of vision: but you see nothing.

Not discouraged, you return on the following day and may then be rewarded by yet more wondrous scenes of abounding bird-life. But the species are all changed: some are entirely new; others that were numerous before, are scarce to-day, and the reverse. Why is this? Simply because you are here witnessing one tiny corner of a

world-wide revolution—a cinematograph of infinite bird-travel. Those flights you heard in high heaven yestreen, possibly never alighted in these islands at all: some that interested you the day before, may now be resting on the Mediterranean: the new-comers that to-morrow will delight your eye, have not yet quitted Scandinavia.

Some interesting problems have long centred round these little August migrants. Few problems nowadays remain unsolved—that is, few of what may be called questions of fact, though dozens of mere abstruse interest still remain unanswerable. Who, for example, can give reason why the godwit, knot, and curlew-sandpiper should turn rufous-coloured in summer, while the allied curlew, whimbrel, greenshank, and others remain unchanged? Why should the plovers, the spotted redshank, and the dunlin in summer acquire black breasts, while the common redshank, sanderling, and other waders, remain white? Such questions will probably some day be solved, since there should be some "first cause" assignable.

One practical problem, which at the date of the first edition of this book deeply concerned me, has since been solved; yet the details are still full of interest. Amidst this inrush, by thousands, of wading-birds which every autumn throngs our shores, there were, in my earlier fowling days (not so very remote), at least six species whose far-northern *incunabula* remained, at that period, practically unknown. These six mysterious migrants included the grey plover and little stint, bar-tailed godwit, knot, sanderling, and curlew-sandpiper. Whence came these six, in successive clouds? None could answer.

True, in Arctic America, both knot and sanderling had been discovered breeding on the North Georgian Islands, on Smith's Sound, and elsewhere; but that I steadfastly ignored, refusing to believe that all the thousands of these species that swarm throughout Europe could be of transatlantic origin. I also regarded as merely exceptions, and not as rules, the few instances in which the godwit had been found nesting in Lapland by Wolley, in Norway by Tristram, and so on. The question appeared to me, not one of units or of dozens, but of thousands: and the bar-tailed godwit is not found in America.

Already, far away in Eastern Siberia, Dr von Middendorff, in 1843, had discovered breeding-points of the little stint and grey plover on the Taimyr Peninsula; while in Europe, first Edward Rae on the Kola Peninsula, and later Seebohm and Harvie-Brown by their journey to the Petchora in 1875, had brought the summer resorts of these two—the grey plover and little stint—within the confines of this continent. But there yet remained the other four—those four that I before named the "hyperborean quartette"; and all eyes turned towards Siberia as affording the only possible breeding-ground in the Old World.

That anticipation has since been verified; though much yet remains to discover. Being blocked on the north by a shallow frozen ocean that precludes navigation till late (if at all) in the season, the Siberian tundras cannot be reached by sea in time for observation of nesting-habits. Thus to reach the crucial spots in spring, necessitates a sledge-journey of some thousands of miles over snow, and weeks of labour.

Not even such obstacles, however, deter British orni-

thologists.[1] Seebohm in 1877 undertook a second journey, this time to the Yenisei: and thrice since then has Mr H. Leyborne Popham visited that great Siberian river, where he was the first to find a region where the godwit "breeds plentifully." This was between 69° and 72° N. lat., four nests being found at the end of June and early in July, 1895; while he also met with grey plover and little stint breeding in this new locality.

A yet greater success befell the same explorer two years later, when, on July 3rd, 1897, he at length succeeded in discovering a nest of the curlew-sandpiper on an island of the Yenisei below Golchika. The female was secured as she ran from her nest containing four eggs—the first ever seen by civilised man! But only this single nest was discovered, and it appeared probable that the main breeding-grounds of the curlew-sandpiper lay still further eastward.

Gradually the veil of mystery was being lifted: but two of the quartette remained undiscovered till four years later. Then, in 1900, the Russian exploring-vessel *Sarja*, being caught in the ice off the Siberian coast on September 13th, remained beset till August 11th of the following year; during which involuntary sojourn, her surgeon and ornithologist, Dr Walter, succeeded in discovering both the missing species—the knot and sanderling—nesting in the Old World; besides finding the curlew-sandpiper in a second spot, the whole trio breeding within reach of the ice-bound ship!

The exact position of the *Sarja* was in 76° 68″ N. lat.,

[1] Many foreign naturalists, notably Dr von Middendorff aforesaid, Professor Collett, Henke, Dr O. Finsch, and others, have done excellent work in far northern Europe and Siberia; but in the interests of brevity, I may perhaps be excused if I confine my remarks to compatriots.

95° 9″ E. long., off the north-west coast of the Taimyr Peninsula, the most northerly land of the Asiatic continent. I quote the following dates of breeding from the *Ibis*, 1904, p. 228:—

Knot . . .	from	June 9th	(1 egg, fresh).
Curlew-sandpiper	,,	,, 11th	(4 eggs, fresh).
Sanderling . .	,,	,, 25th	(4 eggs, incubated).

The grey plover and little stint were also nesting here; but not the godwit, though flights of adults passed over on June 19th, and young appeared by July 30th.

The above results indicate beyond all doubt the main breeding-ground of the six species named. The actual number of nests found was quite trifling in each case; but that is explained by the region being so vast and so inaccessible that hardly an appreciable portion of its extent has yet been touched.

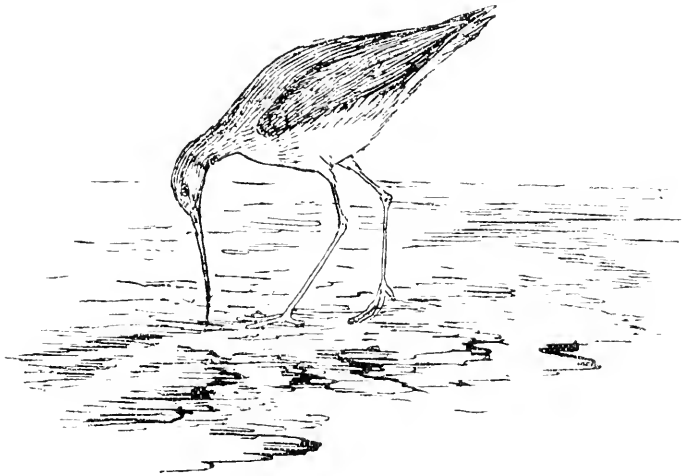
The curlew-sandpiper is also a remarkable example of wide geographical range, and of marvellous powers of flight in a species no bigger than a snipe. Though breeding in the remote penetralia of the Arctic, yet in winter Europe is not wide enough for it. During September it passes southwards: some travelling by the western route, *viâ* Norway, England, France, and Spain; others crossing mid-Europe; while a third contingent, undaunted even by such barriers as the Central-Asian deserts and 20,000 feet of the Himalayas, boldly traverses the Asiatic continent at its widest points. Of the first two sections, a few winter in the Mediterranean; but the majority push forward along both coasts of Africa, and, crossing the tropics, winter on the shores of Cape Colony, Natal, and Madagascar. Then the trans-Asiatic section, after reaching the coasts of India,

Burmah, etc., continue their southern career through the Malay archipelago, and eventually winter in Australia and New Zealand. To say they "winter" there is not, of course, strictly correct, for it is obvious that birds which thus transfer their home bi-annually from one hemisphere to the other, practically exclude that period from their chronology. Curlew-sandpipers enjoy the advantage of perennial summer. They, or at least the majority of them, pass what is our winter in the summer of the southern hemisphere. In (our) spring they begin to move north again. Even in Australia they are obtained in April in full summer-plumage while yet 10,000 miles distant from the points whereat they will breed. Early in May they reappear on the Mediterranean, at which period I have shot them in Andalusia, together with grey plovers, knots, and whimbrels, in perfect breeding-plumage. During that month they traverse Europe, and by June have again disappeared from our view in the mists of the scarce-known north.

One more example of the utterly inscrutable dispositions of Nature with regard to the migrations of this bird-group—a volume might be filled on the subject! The first arrivals on our coasts in autumn are composed (in several species) *exclusively of young birds*, then only a few weeks old. The parents not having completed their moult, are not ready to leave their northern home till three weeks or a month later. Thus these infantile creatures, some of which still display filaments of "down," are able, without knowledge, experience, or guide, without pilot or compass, safely to traverse thousands of miles of unknown space. Yet, generation after generation, they arrive with unerring regularity, punctual to a week—almost to a day—at the very spots, often the

identical creeks, streams, or marshes to which, for untold years, their progenitors have also steered their course. Some species take distinct routes—like the Cunard liners—for their northward and for the southward journeys; of others the young birds affect one route, while the old travel by another. These points are set out in more specific detail in the succeeding chapter.

Turning to a purely sporting point of view, the larger waders, even in early autumn, are wild and watchful, by



GODWIT, ADULT—WINTER.

no means easy of access, even to a punt, though a fair number can sometimes be thus obtained, chiefly from the smaller flights—the main bodies, at the same time, being often wholly unapproachable. A gunning-punt, moreover, despite her light draft, is but ill-adapted for the pursuit of this class of sea-game, so extremely flat are their favourite resorts. There are two methods which are more effectual to secure them. At full spring-tides, when the sea comes right up to the sand-links or main coast-

line, the waders may thereby be driven up within shot of the banks or other cover; but it often happens that they will then betake themselves to the open fields or the refuge of the sand-bar, rather than incur such risks—at full-sea, I have seen large ploughed fields quite "grey" with godwits. The other method is to lie in wait for their flights at ebb and flow, when they have more or less regular lines, a knowledge of which will afford as much shooting for a few minutes as a grouse-drive. They leave their feeding-grounds when the flowing tide covers the flats, returning as soon as the sands begin to dry again at the ebb. The points they pass over in coming and going to their interim resting-places are the position for the gunner. This is no easy undertaking: the man who succeeds has in him the elements that make a craftsman.

CHAPTER XXXII

OBSERVATIONS ON GODWITS, SANDPIPERS, PLOVERS, AND OTHER WADERS

GODWITS.—This genus contains but two British members: yet it would be difficult to find another as to whose species, plumage, and seasonal distribution such grave errors and misconceptions have prevailed until quite a recent date—if we may, even now, assume that these two birds are fully understood, except by a select half-dozen.

Earlier works on ornithology only made confusion worse confounded: for instance, the letterpress appended to Bewick's inimitable woodcuts is utterly wrong, both specifically and generically. The descriptions of Morris describe nothing; while Montagu merely illustrates the darkness of his era, and it is difficult to-day to reconcile the views of some of the latest authorities with actual experience on the north-east coast.

There are, as stated, but two species of godwits—the common, or "bar-tailed" godwit, and the black-tailed. The latter may promptly be dismissed from further consideration, as unknown on this coast, save only as a scarce accidental straggler on migration—usually in September. The black-tailed godwit is essentially a lover of fresh water, and in former days bred in British

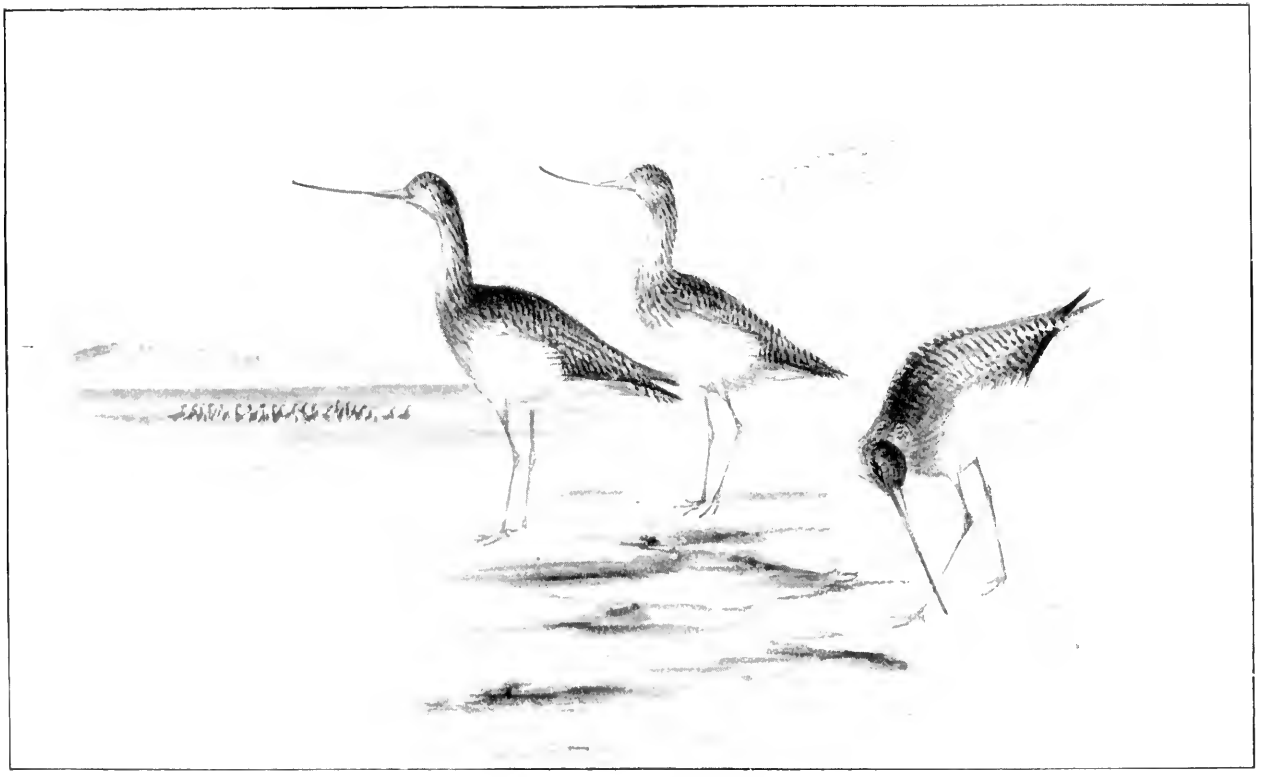
fens. Nowadays there are no fens: consequently no godwits.[1]

The species referred to in these remarks is therefore exclusively the common godwit (*Limosa lapponica* of Linnæus), generally described as the "bar-tailed" godwit, though the true tail is not always barred—only, indeed, in the young in first plumage and in the breeding adults. In winter, when these godwits are here, the tail (in old and young alike) is uniform ash-grey. The outer rectrices, it is true, exhibit white splashes or indentations on their *inner* webs: but these are not bars and are invisible unless the feathers are widely opened out.[2]

There exist in the common godwit, four distinct phases of plumage. The young when they arrive here in August, are warm brown and buff in colour, boldly speckled and spotted with lighter shades, and having a strongly-barred tail. The adults (which arrive a month or more later) have already by then acquired their winter-dress of uniform ash-blue, including the tail. But the second stage in the young—that is on the assumption in October of their first winter plumage—is quite distinct, and forms an intermediate phase, combining some of both the above

[1] The black-tailed godwit continues to breed in Holland and Denmark, exactly opposite our own coasts. Illustrative of the changes in bird-life caused by drainage and reclamation, may here be mentioned that, during a fortnight's bird-nesting in West Jutland in May 1893, my brother and I found the following marsh-birds breeding: black-tailed godwit, avocet, ruff and reeve, green and wood-sandpipers (neither of these yet laying), Kentish and lesser ringed plovers, great snipe, stork, black tern, spotted crake, pintail, shoveler, garganey, great crested grebe, marsh-harrier, and others. We also observed pelicans, though the record curiously perturbed certain excellent Danish ornithologists, perhaps because they had failed to ascertain the fact themselves. (Cf. *Ibis*, 1894, p. 339, and 1895, p. 294.)

[2] Mr Saunders, in his *Manual of British Birds* (2nd ed., and the best text-book of all), defines its distribution, and also justifies its popular name by pointing out that the upper-coverts of the tail are always strongly barred.



GODWITS IN SEPTEMBER.

[*To face page* 396.

characters. For while in colour these birds now assume an ash-blue shade almost identical with that of the adults, their plumage yet differs in this particular—that, instead of being uniform, each feather is shaded lighter on the outer edge. This phase, moreover, continues to exhibit, although subdued and in the altered hue—grey, *vice* brown—the speckled features of the earlier dress. This intermediate stage—the shaded or marbled plumage of the young in their first winter—thus resembles that of adults in *colour:* while, in *pattern*, retaining some approach to the speckled features that characterise the young in first dress.

This intermediate stage of shaded or marbled ash-grey is retained by the young godwits for a whole year—until the following October. These immature birds do not breed or acquire breeding-dress: though in some, according to the "blood-condition" of the individual, the breast feathers, scapulars and tertials may assume a ruddier tinge in spring.

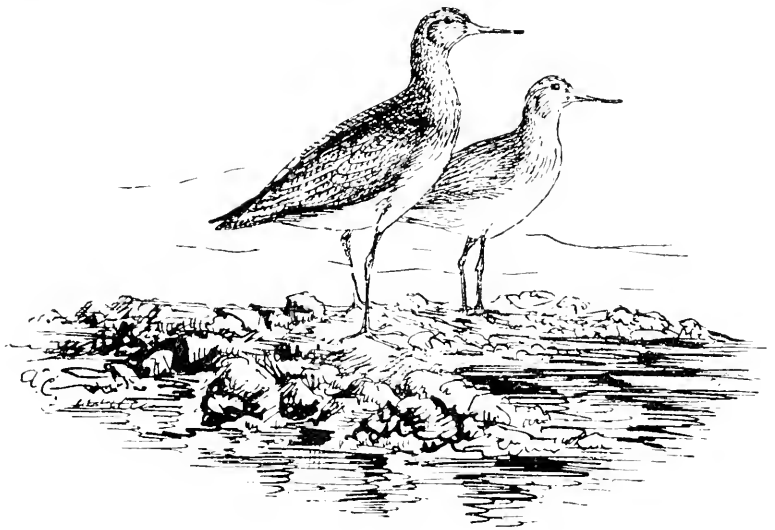
The fourth stage is the rich red breeding-plumage, with strongly-barred tail. This phase, however, is rarely seen on the north-east coast—seldom or *never* in spring.

These somewhat obscure and complex variations of plumage, both as regards season and age (together with the disparity in size between the sexes), have long perplexed ornithologists and still, it appears, cause needless doubt and uncertainty.

Turning next to the seasonal distribution of these godwits on our coast, it will be seen that this has proved a scarcely less serious stumbling-block than has their plumage.

Regarded generally as a British bird, the bar-tailed godwit must be described as a spring-and-autumn migrant

to our islands—that is to say, it is not, as a rule, found therein in winter. Yet this general rule does not apply to the north-east coast; for here the common godwit is one of our abundant winter wildfowl and is found, thousands strong, from August up to March, be that season mild or severe. It is, in fact, during the hardest weather and most protracted frosts of mid-winter that godwits are most numerous.



REDSHANKS—ON THE SCAP POINT.

These winter godwits were well known both to Hancock and Adamson, as evidenced in their writings; while in the Humber, they were recorded by the late John Cordeaux as occasionally abundant in January. In Scotland they are described as widely distributed in winter (Gray, *Birds of the West of Scotland*); while in the Dornoch firth they occur in very large flocks at that season. Southward, in Essex, as many as fifty at one shot are reported to have been gathered (*Field*, February

20th, 1897). Godwits are there known as "preens," their local name in Northumberland being "speethes." My own records fall far short of this, namely, forty in two shots—seventeen and twenty-three; both made on flood-tide at daybreak, during very severe frost.

On January 15th, 1881, one of the most Arctic days of our epoch (temperature 7° below zero), my brother H—— killed twelve godwits at a shot, when so deceptive was the frost-haze that both he and his puntsman had mistaken the wall of birds before them for geese! H——'s bag that day was prettily varied; besides the godwits, it included a hooper, 18 lbs., four brent geese, three mallards, and a scaup-drake.

Following is the evidence of the oldest coast-fowler of my acquaintance, written down verbatim, and on which I place the more reliance as I had previously, during a dozen years, taken similar notes from his lips. Owing, moreover, to his summer-occupation being shellfish-gathering and "long-lining" in the shallows for flounders and such-like, my old friend would be more likely to have observed the *red* godwits in May (should any ever pass along this coast) than other fowlers who, at that season, are busy with the deep-sea fishing. He said:—"I am seventy-four years of age, and since I can mind, the 'speethes' have come in tar'ble quantities. They stay here all the winter, but there's always most in the hardest weather. Whiles I've seen into thousands in one flock. Happening birds stay all summer, and in August some are red: but these few red birds come along with the young. I have never seen red ones among the happening speethes that stop here through the summer: but I can mind seeing red speethes whiles in May."

This is the only evidence that the red (summer-plumaged) godwits ever pass in spring along the north-east coast, as they are regularly observed to do in the south and south-east of England. They evidently, with the knots and grey plovers, "take their departure" for the North Sea passage from East Anglia. The only red godwits obtained here are the few, very few, that arrive with the young in August, and which are probably birds that have lost their broods in the far north.

The adult godwits do not reach this coast till October —six weeks later than the young—and are then in full ash-blue winter-dress. The young, by that date (mid-October), have also moulted from the buff-brown nest-plumage in which they had arrived here in August, into that marbled ash-blue dress already described.

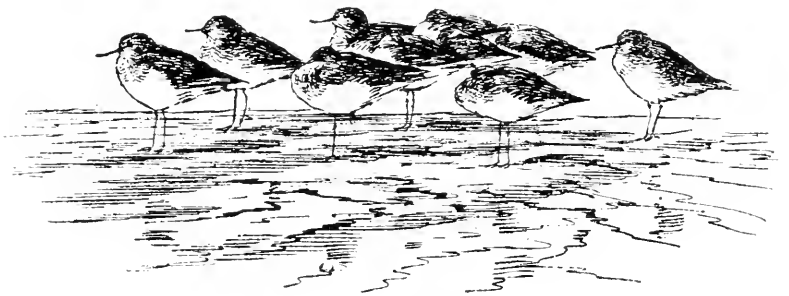
It remains to add that this godwit, while here, is exclusively marine in its haunts.

BLACK-TAILED GODWIT. — One more word on this species, although, as stated, I have never once met with it at home. Though it breeds in numbers both to east and west of our islands (to wit, in Iceland on the one side; in Holland and Denmark on the other), yet it rarely appears on British coasts on its regular passage southwards. By what route does it travel?

In southern Spain, we frequently have these godwits in great abundance on our shooting-grounds on the lower Guadalquivir, usually from January to March. They there frequent exclusively the great fresh-water marshes and marismas. In this species, the young of the year exhibit no distinctive intermediate phase of plumage, all those shot in winter being in the same plain grey dress; though many, before leaving Spain, acquire some portions of the ruddier breeding-plumage.

I cannot but conclude that both Selby in Northumberland (*Illus. Brit. Orn.*, ii., p. 96), and Gray in his *Birds of the West of Scotland*, had mistaken the species when describing *this* godwit as occurring in winter, or as being plentiful at any season.

KNOT.—In the early days of August, a few adults, in faded red plumage, appear on this coast, preceding the young birds, which do not show up in mass till the latter part of the month. These young knots, from their first



GROUP OF SMALL WADERS.

arrival in August until their moult into winter-dress in October, are richly coloured with warm buff on the breast, but including also the scapulars and tertials. This species in thousands spends the winter here, however severe, associating with the godwits; but is never seen in spring in its red summer-dress, as regularly observed on its passage along the south and south-east coasts. Though knots linger on this coast until April and even May, yet all these retain the grey winter-dress up to the final date of departure.

CURLEW-SANDPIPER.—Towards the end of August a few appear, and often in September the species is abundant: but all have passed away south before the end of the month. They occur at no other season.

These are *all* young of the year, and though they have come from the outer limits of the known world, yet some still have *down* adhering to their feathers. Adults are unknown in Northumberland, whether in spring or autumn. On the Solway two adults were shot, in full summer-dress, in the last week of May 1833.

SANDERLING.—Reversing the case of godwit, curlew-sandpiper, and grey plover—yet agreeing with that of the knot—the adult sanderling arrives here *before* the young, appearing in considerable, though varying abundance, during the early days of August. The young sanderlings (some still exhibiting filaments of down) hardly show up before the 20th, and already by that date the adults have passed on and disappeared! The immature remain throughout September, and by the end of that month, are acquiring the plain grey dress of winter. They then, in turn, pass on, only a very few wintering here.

In spring, on the Northumbrian coast, sanderlings again become numerous, northward-bound. These are in full summer-plumage, and the passage occurs during May and even continues well into June.

On the Solway, curiously, their movements differ. There, no adult sanderlings are seen on the autumn passage: though the young appear exactly as they do on the east coast. Yet on the spring-passage in May, adults are even more abundant than on this side!

GREENSHANK.—Arrives by mid-August, *all* young of the year; and all have passed on southwards by mid-September. We have never met with one later than the 18th; and adult greenshanks, like adult curlew-sandpipers, are wholly unknown on this coast, whether in spring or autumn. In southern Spain, they occur commonly on northward passage in May, and are then

very pale-grey in appearance: whence the specific title *canescens*.

SPOTTED REDSHANK.—Extremely rare and never met with by us. The very few that do occur are *all* young of the year, and always during August. On August 20th, 1878, Mr Adamson shot one at the lough on Holy Island.

LITTLE STINT.—Of rare and quite irregular occurrence on sandy beaches along the coast, in September only, and all exclusively young of the year, adults never appearing. Date of passage, according to Adamson, September 12th till end of month.

TEMMINCK'S STINT.—Even rarer than the last-named, the very few that are ever found on the north-east coast (all young birds) occur early in September. On the west, they appear slightly less irregular, their passage on the Solway taking place during the first week of September.

Exceptionally, Mr Adamson obtained one adult in summer plumage on May 25th, 1843 (Hancock, *Catalogue*, p. 119). It was shot on the King's Meadows, near Newcastle, and is the only example on record.

RED-NECKED PHALAROPE.—Though nesting so near as the Orkneys and Outer Hebrides, yet this species is all but unknown on our north-east coast, and the few records are at irregular dates; all invariably of young of the year, adults being unknown.

GREY PHALAROPE.—This far-northern species, though never abundant, yet occurs with distinctly greater frequency on our coast than does its Scottish-breeding congener. It arrives latest of all its tribe, appearing in October and November when the few that come, though all young, have by that date almost acquired the full grey winter-plumage.

GREY PLOVER.—Arrive mid-September, *all* young birds —never an adult among them—and many winter here. The old birds clearly take a different course from the young at this season; and it is noteworthy that the two or three summer-plumaged examples that have exceptionally been recorded on this coast, were shot in August—a month *earlier* than the young arrive, a reversal of the rule with this species. These had probably lost their broods—and subsequently lost their way!

Grey plovers never pack, ten or a dozen being the maximum number usually seen together. Their disposition is sociable rather than gregarious as a species; since every great cloud of knots, dunlins, etc., has the company of two or three grey plovers. I have noticed them associating with nearly all the different waders; even with half-a-dozen ringed plovers on the rocks. These are distinguishable by their note from golden-plovers: the latter, however, only appear on the salt-slakes, in winter, when driven thereto by snow and severe weather inland. The grey plovers, on the contrary, never leave the tidal area.

RUFF AND REEVE.—All that I have seen or heard of have been young birds, obtained in August and September, on passage. This species would, nevertheless, come here every spring to breed, were there spared any marshy corners suitable to its requirements.

Those of my readers who have had the patience to follow me through the last ten or a dozen paragraphs, not excluding some ornithologists, must have been struck by the extraordinary and anomalous disparity in habit exhibited by a group of birds so closely related and otherwise similar. No two agree. In some the old arrive

first, in others the young — both separately; while of certain species the adults never come at all, though the young are abundant. That is to say, these birds only *once* in their lives travel by this route; in after-years they seek another. A single principle stands out clear—that old and young never travel together. The causes that actuate these discrepancies are too wide a subject for discussions within a chapter—even were they within my power to define; but one general rule may be incidentally noted, namely, that in proportion as a species is dependent for food on fresh water and its productions, so must its members hurry forwards and southwards in autumn.

One other point is noteworthy. While most of our winter waders leave us in March, still retaining their winter-dress, yet a month or six weeks later, in May, another lot, including many of the same species, pass along the coast, these having acquired more or less of their summer-plumage. It is interesting also to observe that in the remote Taimyr Peninsula, Dr Walter categorically remarks, that in each case, he had noticed immature birds in *flocks* at the same time and place that the adults were incubating. Where immaturity spends its summer is an ever recurrent problem.

Oystercatcher.—On January 20th, 1882, observing a single bird swimming far out in deep water, and expecting it was a "pensioner" or wounded goose (which always separate from the packs and are found singly thus), we "paddled" out. To our surprise, the bird proved to be an oystercatcher, which, after rising close to the boat, flew round and again settled in the deep. Except on this occasion, I never saw a wader swim of its own accord; though, *when winged*, many of them can swim, and even dive, fairly well.

CHAPTER XXXIV

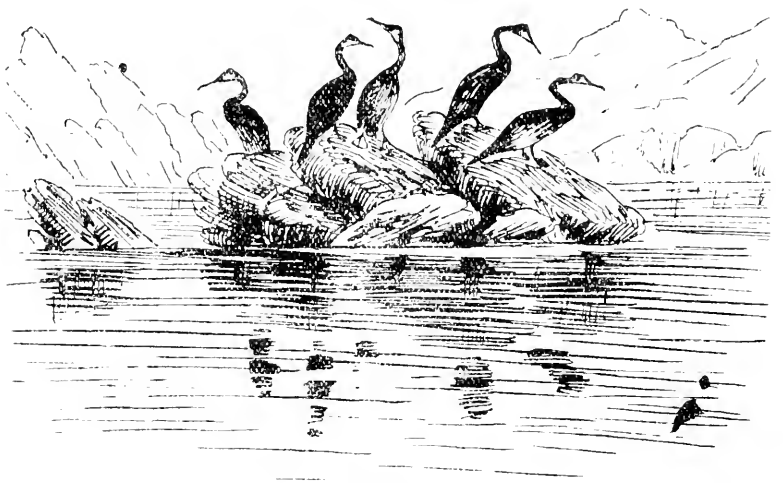
GREBES AND DIVERS

THE grebes are a class of sea-bird that is regularly met with by the wildfowler, both on sheltered waters and on the open sea: and though in no sense game, form an interesting study. All the five British species are met with on the Borders; four frequenting the coast alone, while the fifth (the dabchick) confines itself to fresh waters.

Of the four marine species, the most abundant is the Slavonian grebe; the rarest is the eared kind. During twenty years, to the date of the first edition, we had obtained only one eared grebe (*Podicipes nigricollis, L.*), which was shot by my brother J——, February 6th, 1879, while running for shelter into Holy Island harbour. Since then we have secured two others, one of which, shot February 24th, 1892, had already at that early date acquired the flame-coloured ear-tufts of summer, together with distinct indications of the black throat and neck and the rufous flanks of its breeding-dress. The irides of all the grebes present an exquisite arrangement in colours, having double orbits in concentric rings, the outer being paler and in mid-winter white. Those of an eared grebe shot January 18th, were crimson, encircled

with white; lore dark and ill-defined, almost invisible; neck freckled dusky.

The Slavonian grebe (*P. auritus, L.*) is much more numerous. These two species, in winter, closely resemble each other both in size and colouring; but may be distinguished by the "tip-tilted" bill of the eared kind and by its duskier neck, that of the Slavonian being white.



CORMORANTS.

The weights of two of the above-cited eared grebes were 10¾ oz. and 11¼ oz., while those of a series of Slavonians range from 11½ to 13¼ oz.

The Great Crested grebe is a much larger bird, a female shot February 3rd, 1881, weighing 31 oz., while a male, obtained two years later, scaled 32½ oz. Both these had been feeding on small fish; while the gullet of a Red-necked grebe (*P. griseigena*), shot at the same season, was crammed with shrimps. The latter species is rather less common and weighs 18 to 19 oz.

The following table may be useful for identifying these birds when shot in winter :—

Grebes.	Weight.	Iris.	Colour of beak (winter).
Great Crested.....	32 oz.	Red	Pink, dusky at tip.
Red-necked.....	19 „	Yellow	Base yellow, rest black.
Slavonian.....	12 „	Crimson	Pink base, black band, white tip.
Eared	11 „	Crimson	Black ; base of under mandible pink ; tip up-tilted.
Dabchick.....	6 „	Brown	Base yellow, tip horn.

The little Dabchick never appears on salt water, though it frequents the backwaters of Tweed and other Border rivers in winter; as well as the lochs both of Northumberland and of the Scottish side.

Divers.—Of the three species the red-throated is so well-known a coast-bird as to require no further remark than that on March 26th, 1881, I obtained a specially fine example in summer-dress, with full red throat. This bird I gave to Mr Hancock.

Of the other two, the black-throated is quite the most scarce, and rarely met with. I shot one at sea, January 22nd, 1880—a male, weight 5 lbs., length 27 inches, expanse 42½ inches ; a second, shot subsequently, weighed 8½ lbs. Its winter plumage of marbled grey and slate-blue closely approximates to that of the northern diver, these two being nearly related. The black-throat, however, is a strong flyer, always ready to take wing on the approach of danger, which the northern diver never does. The latter, of course, can and does fly well during the breeding-season or when migrating : in March I have seen a pair (recognised by their note) passing northwards, high and at great speed.

I found the black-throated diver nesting in Norway, eggs being laid by June 19th ; but it breeds a month

earlier in Scotland, where my brother Alfred found a nest on May 17th (1883), in the Outer Hebrides.

The Great Northern diver appears on this coast every winter, but in small numbers. A pair shot by myself in January, measured as follows :—

	Weight.	Expanse.	Length.
Male . . .	12¾ lbs.	54 in.	36 in.
Female . . .	8 „	48 „	30 „

The male (shot January 19th) still retained a considerable proportion of the spotted plumage of the previous summer on wings and coverts: but back and neck were in full winter-dress. The gullet contained several fair-sized flounders. The beak in mid-winter is pale horn—in one specimen approaching ivory-colour.

Grebes and divers vary notably in numbers in different winters. One year, both are numerous; in another, one scarce sees half-a-dozen all the season. Though fishing day by day in the tide-channels, they are never seen to go ashore. Both are, as a rule, solitary: though occasionally a few grebes may associate together.

Little Auk.—Some winters this oceanic species appears in considerable numbers. Thus in 1879, we observed many, and on January 7th I shot a female at Holy Island, weight 4¼ oz. They swim very deep and "by the stern," but fly fast: in contrast with the great auk!

When met with "in soundings," the little auk is usually in a bad way and may then often be picked up by hand, while others are found, dead or dying, far inland. One picked up dead at Yetholm on March 6th had the whole throat and breast a dull slate-blue—a preparatory

stage, I conclude, to acquiring the full black plumage of summer.

SHEARWATER.—On August 24th, 1874, my brother Alfred and I spent the night aboard a herring-boat some five or six miles outside the Longstone light, Farne Islands, in order to observe the sea-birds that assemble when nets are drawn at daybreak. It proved a rough morning with heavy sea, and beyond the common gulls, guillemots, and gannets (of which last I shot an adult), the only noteworthy species observed were a few shearwaters. During many voyages to Norway, these oceanic birds, as well as fulmar petrels, have been regularly observed right across the North Sea, until within forty or fifty miles of land: but neither species touches the coast-line. The only fulmar ever seen on this side was washed up dead by the tide.

NOTE.—In regard to the big sea-divers (*Colymbi*) assuming an upright attitude such as guillemots and razorbills do, and as the divers are frequently represented in books and museums, I believe that that position, though not actually impossible, is at least highly improbable owing to the osteological formation of their feet. For the joint which connects the leg (*Tibia*) with the toes is so constructed that it will not bend forward beyond the straight line—nor, indeed, quite so far.

CHAPTER XXXV

CONTRASTS IN WILDFOWLING

I.—Mild Weather and Blank Days and Nights (January 1886)

Descriptions of wildfowling usually relate to successful attempts made under the favourable auspices of severe weather. One seldom reads of what has been done (rather, in many cases, *not* done) under the reverse conditions. Perhaps, therefore, the following may interest, as showing the other side of the picture, and illustrating the habits of wildfowl during mild seasons. Those who remember it, may object to the winter of 1886 being described as "mild"; and in point of fact it was the most irregular winter in its intensity and erratic in its distribution, that has occurred in the writer's experience. In the same county, within twenty miles, we had both winter and spring simultaneously: where I write (February 8th) there is not a sign of winter, but an hour's journey inland the snow lies several feet deep, roads and railways are blocked, and all the rigours of severe winter prevail. Throughout the north of England generally the snowfall was local and "patchy," in some districts the frost having held almost continuously for weeks, while elsewhere not a vestige of snow was visible. Thus on the inland moors

there occurred successions of heavy snowfalls, alternating with partial thaws and renewal of frost, this causing the half-melted snow to freeze again into a crust so hard that neither sheep nor grouse could reach their food. The hill-farmers were at their wits' end, and local papers almost daily contained reports of the occurrence of grouse and other moor-birds in most unusual localities, very many miles from their accustomed haunts. Such phenomena are similar to what occurred in the severe winter of 1880-1 and some former years; but hitherto only in winters of universal severity, and are remarkable in a season of such sporadic intensity as that under notice.

On the coast, on the other hand, there was little or no severe weather; what frost there was seldom lasting more than a few days, insufficient either to bring over fowl in any quantities, or to "tame" them when here. Towards the end of January, I spent three days and nights aboard my gunning-punt. The numbers of brent geese this year I estimated at only one-twentieth of what we have in hard winters, and considerably less than I recollected seeing in any former year. I must guard myself against appearing to infer that the state of the winter here is the sole factor in influencing the quantities of wildfowl which migrate hither at this season. It is merely a reflex: their movements being regulated exclusively by the state of the winter and extent of ice in Northern Europe, and but little, if at all, by our local conditions, as was demonstrated a few weeks later, and is recorded in the succeeding chapter. Inferentially, the winter must have been unusually open farther north, though I had no direct means of knowing.

Mallard and wigeon being fairly plentiful, offered the

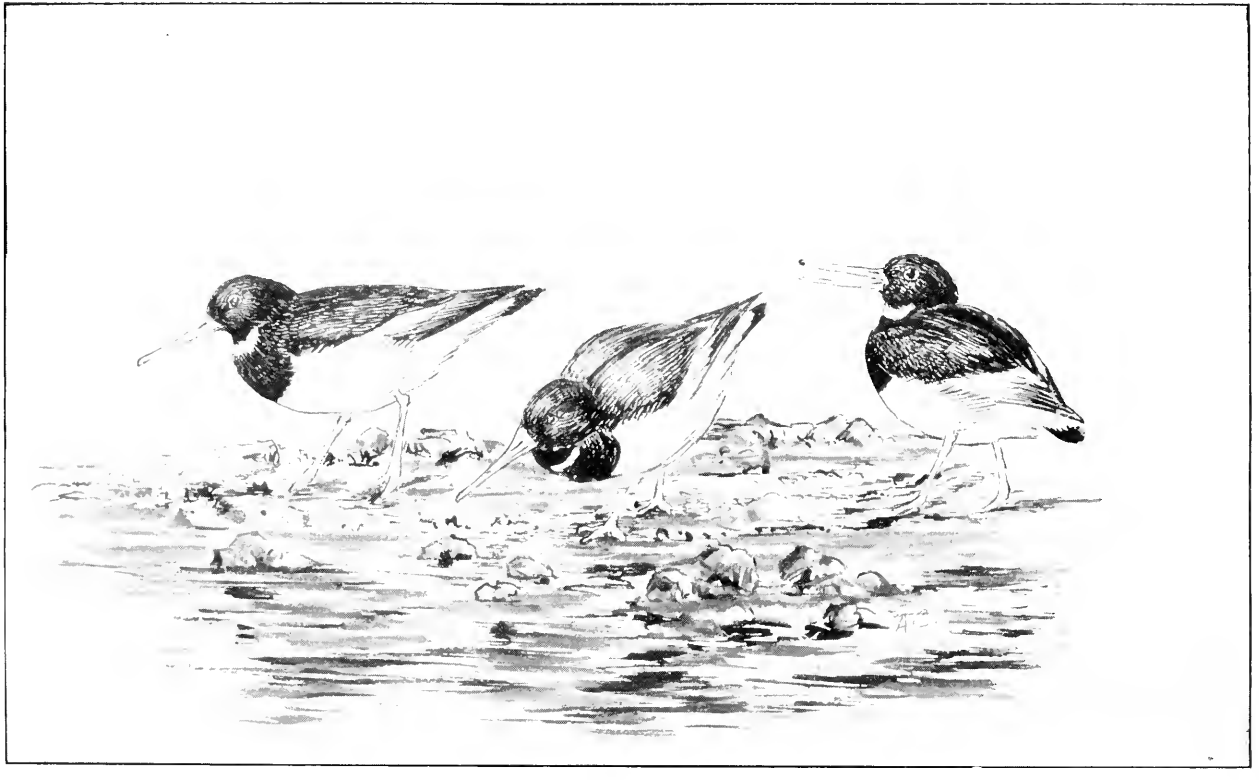
best chance of scoring, so we went afloat on a quarter-flood, at five in the morning, in hopes of getting a shot at the ducks before they went to sea at daybreak. The night at that hour was bright and calm: starlight and a third-quarter moon affording quite sufficient light for a shot to the westward. There were some miles to "pole" before reaching the zostera-covered mud-flats; and, ere we reached our destination, a most unfortunate change came over the night, which completely altered our prospects and reduced the chance of success to zero. About half-past five we noticed a slight haze beginning to rise off the water, which rapidly increased in density. Spreading over the face of the heavens, in half-an-hour it obscured moon and stars, and enveloped us in hopeless darkness. We were now in the best of the feeding-grounds, and heard around us at intervals the enticing "talk" of mallard and wigeon, and anon the strange hoarse bark of the sheld-duck. But not a fowl could we see. Helplessly we groped about amidst Cimmerian darkness, while the coveted prizes were in evidence all around.

About the period when (by the almanac) daylight should have appeared, we heard the clanging chorus of geese arriving in from sea, and presently made out a "bunch" of a score or so, an indistinct line of grey on the grey water some 200 yards ahead. Geese are dullish fowl *in the dark;* so we "set" to these with renewed hopes. Dusky as it was, however, the geese were fully on the alert, for they rose almost immediately, and, though I risked a long shot, it was not responded to. We observed, however, that a single goose lagged considerably behind. This shot was disappointing, we having counted on securing a couple or more. The elevation and instant of firing were, I knew, both correct; but in the fog the

geese loomed large, and were probably farther off than we had calculated.

The density of the fog relaxed a little as the sun rose, and we proceeded on a cruise round the whole of the mud, with the result of ascertaining that all the ducks (except a few sheld-duck) had gone to sea at dawn. There only then remained our friends the geese, to which we directed our attention. Several times we advanced on their main line, but with one unvarying result; whether we paddled, "poled," or sailed, the watchful fowl rose at (roughly speaking) 600 to 800 yards—a distance at which one might suppose a gunning-punt, end-on, would be absolutely invisible. Each time we noticed our "pricked" goose lagging behind, though he always managed to rejoin his company. The sheld-ducks, too, proved quite unapproachable, as is usually the case in mild weather. Several small lots were busily feeding on mussel-scaps, often in company with such unsuspicious fowl as oyster-catchers; but the ducks always had one sentry, bolt upright, and ere the punt glided within 200 yards his broad goose-like pinions were spread, and silently and without a sign of warning they left their more simple friends behind.

By midday the tide was half-ebb, and the mud-banks were reappearing. Simultaneously the wading-birds, in their varied kinds, began to congregate from all sides. I think I have never seen such immense quantities as we had of these birds that winter. I hesitate to attempt to estimate numbers, but may mention that a single flock (or rather a cloud) composed chiefly of godwits and knots, certainly extended to a quarter of a mile in length and appeared to be about twenty-five or thirty birds abreast. Its numbers can be roughly computed by my readers. In



OYSTERCATCHERS.

[*To face page* 414.

addition to these, perfect hosts of dunlin and small waders covered the mud as it dried, and the volume of tiny voices came rolling across the waste in a sea of undulating sounds. The rest of the day was, for lack of better game, devoted to the godwits, knots, and grey plover, but with only meagre results: for on the dead-level flats of mud and sand it seldom happens that the bulk of the waders are congregated within shot of water sufficiently deep to float a punt. Indeed, even the lightest gunning-punt is, in such places, but ill-adapted for killing any great quantities of this sort of sea-game, and I have rarely succeeded in making a satisfactory shot at godwits in winter with the punt-gun, nor heard of others doing so. At low water in the evening we took a cruise round the deep-water channels or "guts" to look for divers, which at this time of the tide are confined thereto: but these birds were conspicuous by their absence. We found nothing but a few mergansers and a single golden-eye—both these always inaccessible to a punt. Not another diving-duck, or even a grebe, was to be seen; and of the Colymbi, a couple of red-throats and one great northern diver were all I observed during the three days. The latter was on the open coast, unconcernedly feeding amidst a boiling surf that was breaking outside a reef of basaltic rocks. On seeing us he dived, reappearing a good quarter-mile to seaward.

The next day was again a blank. A whole gale from the south-east forbade any idea of going afloat. At the morning-flight I did manage to drop a mallard at the harbour entrance, but even this solitary spoil I was not destined to get: for, with the predatory instinct of his tribe, a fisherman-gunner, who had taken up a position behind me with his dog, quietly retrieved the duck as it drifted ashore, and decamped—a bit of by-play I did not

observe at the time, it being still dark. Eventually I secured a heron and a couple of curlews in return for two bitterly cold hours' lying on weed-covered rocks. In spite of the heavy sea that was running outside, the bulk of the geese left harbour, as usual, at dusk; they went to sea in a single body, and at least 100 yards high, though the gale blew dead against them. Only one small lot of about two score remained inside, sitting in the "deep," where no punt could approach them.

An hour before daybreak on my third and last day again found us in our former position at the edge of the mud-flats. Once more Nature persisted in frowning on our endeavours; our first attempt she had frustrated by a fog, with a storm our second. No such adventitious phenomena were needed to be invoked by her this morning: the obstacle now presented being simply the daily variation in the tide. Before us, on the mud, we made out two packs of wigeon, unsuspectingly feeding under the feeble rays of a waning moon. In less than an hour they would, under the friendly shelter of darkness, have been in our power, and had we now but the conditions of tide which prevailed yesterday, we should have been nearly sure of a shot; but to-day we knew full well that, before those sixty minutes had run their course, the treacherous daylight would have appeared and—even if the wigeon should have remained inside—revealed to the whistling phalanx its threatened danger. Still, after the storm of yesterday, we cherished a hope that the wigeon would hesitate to take the sea; and as daylight broke we had the momentary satisfaction of observing that one of the two packs did elect to remain on the sheltered waters. After many gyrations, and a loud chorus of their musical "whee-yoo!" this company settled on

deep water some half-a-mile outside our position, the other section going out to sea. But Fortune was only toying with us: for after patiently waiting till the flowing tide had carried the ducks into shoal water where an attack was possible, we had once more to submit to failure. This pack was composed exclusively of wigeon (the other having been at least one-third mallards, which are always easier of access by daylight), and refused to be cajoled, rising some 300 yards off, and following their companions to the open sea.

Up to this point our lack of success had arisen exclusively from circumstances beyond our control—fogs, storms, tides, and the like. But now we *did* throw away a last remaining chance, to some extent through an error in judgment. Far away along the edge of the rapidly disappearing mud, we descried our "pricked" goose—a black dot bobbing about on the tide; not another fowl was in sight. A careful scrutiny of the few remaining banks with the binoculars satisfied us that no ducks remained anywhere near us, so I proceeded to gather the "pensioner." Alas! as the report of the cripple-stopper rang out across the waters, there rose from behind the bank of a tiny creek over a score of ducks—all mallards—which, had we but detected their presence, would in all probability have fallen an easy prey. Fortune and the elements conspired to deprive us of the few chances which are the utmost that can be expected in a mild season, and with despondent hearts we watched the little string of mallards, our last hope, speeding away to the open sea.

The rest of the day was spent in fruitless attempts to outmanœuvre the impracticable geese. Once only did we appear within measurable distance of getting a chance. This was by running-down on them under sail, and luffing

sharply as they crossed our bows to windward. But the treacherous breeze failed us precisely at the critical moment, and though I "tipped" the big gun and risked a very long shot, we got nothing.

I fear my reader's patience will be well-nigh exhausted with this catalogue of misfortunes and mischances. Such, however, are from time to time the inevitable concomitants of coast-gunning *during mild weather*, and he will perhaps charitably remember that the experiences which will cost him but ten minutes to read, occupied the writer the greater part of three long days and nights.

CHAPTER XXXVI

CONTRASTS IN WILDFOWLING

II.— Brent Geese and the Blizzard of March, 1886

Contrasted with the mild months and the blank days and nights described in the last chapter, the following month of March presented such unexpected and remarkable climatic phenomena, attended by an absolutely unprecedented influx of wildfowl, that the following may prove an interesting record.

As already mentioned, the winter up to the end of February had been unusually irregular and local in its severity, and the quantity of wildfowl on our coast considerably less than had been the case for several years. But on the morning of March 1st, we awoke to find a heavy and persistent snowstorm, driving before a south-easterly gale. Throughout that day and the following night the storm and gale continued without intermission. The snow was of that fine dry powdery description which forms the most dangerous drifts, and the morning of the 2nd found us cut off from communication with the outer world: we had no post, no newspapers, the snow lay piled in huge drifts, and—still worse—there were no signs of abatement. The wind veered to the north-east, but the snowfall continued all that day and night. After nearly

forty hours' incessant snowfall, the morning of March 3rd at last broke fine, though the wind still blew strongly, and my front-door was enveloped in a drift which, we found, measured rather over six feet in depth. During this time we had been to a great extent deprived of news from outside, each town and village being cut off from its neighbours, and it was only as communication was gradually restored that we learnt the full extent of the storm.

As soon as railway communication was partially re-opened, I received a letter from my puntsman (on March 6th), telling me of the arrival of the geese. On the afternoon of March 2nd, he wrote, after some thirty-six hours' incessant snow-blast, the geese began to appear in thousands. Flight after flight, all that afternoon, they came pouring in from the sea; their dark columns all blended with the driving snow, and alighting in dense masses in the harbour, and even along the mud, close to the village. During the night the arrival still continued, as could be judged by their notes, and on the morning of the 3rd the numbers which had come were roughly estimated as "into the 'teens of thousands"! Two swans also passed to the northward on the 3rd, the first seen that season, and fresh bodies of geese kept coming in all day from sea, until the total aggregate could not then be estimated (as I saw myself a few days later) at less than 20,000; and this in a single harbour, where there had not been over 400 or 500 geese all the winter.

In connection with this extraordinary influx of geese on March 2nd and following days, let us first examine the state of the weather abroad, especially in Denmark and the Lower Baltic. The frost in Denmark, which had been extremely severe towards the end of February—

a friend who left Copenhagen on the 28th luckily got across in the last steamer which could leave Korsoer for Kiel—was intensified in March; and on the 2nd (the very day of the arrival of the geese here), the following telegram was despatched by Lloyd's agent at Copenhagen: "The frost continues with increased strength, and the navigation is almost entirely stopped between the Scaw and this port. Powerful steamers have succeeded in forcing their passage; but seven or eight others are reported to be fast in the ice." Later telegrams reported that "the Cattegatt is full of ice, and navigation most dangerous. All the Baltic and Danish ports are closed, and the frost still continues." In short, the whole of the sounds and harbours of the northern coast of the continent were frozen up by the early days of March, and the "grand army" of geese which usually winter there, at once crossed over to seek refuge on our side of the North Sea.

On March 8th, the North line having been dug out, and several embedded trains (conveying, among others, a duke and a bishop who had had to dine on red-herrings toasted at the engine-furnace!) released from the snow drifts, I went down to my fowling-quarters, and was afloat next morning by daybreak. This also was a bitterly cold day, with 16° of frost, and a cutting wind off the snow-clad hills. The rounded decks of the gunboat were soon encased in a sheet of ice, and the sea-water froze into icicles along the barrel of the punt-gun and elevator. But, cruel and biting as was the cold, the marvellous spectacles of bird-life witnessed that day proved ample compensation. Words fail to convey an adequate idea of the numbers of brent geese, and of the effects produced by the disciplined evolu-

tions of their vast hosts as they wheeled and manœuvred in air. In roughly estimating their numbers at double the quantity we had in the severe winters of 1878-9 and 1880-1, I may be suspected of exaggeration: but such risk I accept.

In spite, however, of the numbers by which we were surrounded, we found it no easy matter to get near them, or to lay hands on so much as a single goose. Hour after hour was spent in fruitless efforts, which, up to midday, were not rewarded by a shot. The tide was ebb, consequently the main bodies of the geese were congregated upon the dry mud, far beyond our reach. There was, however, no lack of them in the deep-water channels, or "guts," to which detachments of several thousands were continually resorting during the intervals of feeding, and where they sat in the water, splashing, washing, and preening themselves. These, however, proved so extremely watchful and wide-awake that, though "setting" to them at least a dozen times, we never succeeded in getting within fair shot. Two or three times small straggling "bunches," or the fringe, so to speak, of their main line fell within range; but with the enormous numbers in view, I was all anxiety to make a *heavy* shot, and declined to accept paltry chances.

As the day wore on and afternoon arrived with the fore-peak still empty, we began to despair of getting to close quarters, and I risked a long shot, which secured five. After this it was a long time before we could get on any sort of terms with them; but as the flowing tide gradually covered the mud-flats, we began to get in touch of the main bodies of geese which had hitherto been feeding on the dry, beyond our reach.

It had become clear that nothing effective could be done

until we should have the assistance of the full flood-tide. At 3 o'clock we anchored to have our second lunch—time allowed, ten minutes—and being then under the lee flank of very great masses of geese, I landed to reconnoitre the enemies' whole position before going into action. Never shall I forget the spectacle witnessed from behind a bluff in the sand-dunes; commencing within 500 or 600 yards of our standpoint, the whole shore-line was blackened with moving armies of geese, on wing and water, which extended for full two miles to the northward. In places the line was thicker, in others more open; but nowhere could a breach be seen, and the aggregation formed a scene that few have witnessed.

The furthest advance-guard of the geese extending to the northward limits of mud and ooze, the fowl, as the tide rose, had to fly back. We therefore moved out to intercept them; and as the rearmost files of those two-miles-of-geese crossed our bows, though at considerable distance, I "tipped" the gun and knocked down four, two of which were lost in the rough water beyond.

So far, practically nothing had been effected; but luck was to flow with the tide. Towards evening, having meanwhile "poled" several miles to the southward, we again got into touch with one of the main armies of geese.

The sun was sinking behind old Cheviots' "fire-hills" ere we commenced our final approach. The tide being now full-flood, enabled us to advance from under the cover of snow-clad banks—a great advantage. A slight snow-fall, moreover, had just encased our trim gunboat in spotless white, rendering her still less conspicuous. The geese, however, proved intensely watchful, and already ere yet we had gained the 100-yard range, alarm-bugles rang out

all along their line. Well we both knew that this was the chance of a lifetime, and for some pregnant seconds the punt flew forward through hissing waves. Then at eighty yards, the whole host "lifted" as one bird, the roar of wings resounding like thunder, while 10 oz. of BB cut a yawning gap through those black ranks. In all, twenty-one geese fell direct to the shot—a capital performance for a gun of only 60-lb. weight. The cripples at first formed a tolerably solid flotilla, and the play of the "stopper" speedily stretched all save one or two of the outermost on the sea: but it takes time to catch so many, and in the increasing darkness it was impossible to secure the latter that night. At dawn we recovered five more; besides making, during that day, two more fair shots.

One delightful feature of punt-gunning during frost such as then prevailed, is the opportunity of observing, at very close quarters, birds which are ordinarily unapproachably wild. The intensity of the frost, covering the oozes with thin sheets of ice between tides, has the effect of making many fowl quite tame. Mallards especially were frequently passed within thirty yards, some sitting asleep on the mud, with bills tucked under back-feathers, others paddling about the water's edge, dabbling about among the sea-grass, all quite unconscious of our proximity. The mallards were in small bunches of three or four up to a dozen; and all these were the heavy native-bred ducks, driven down to the open water of the coast by the severe weather, their ordinary haunts on the moorland lochs being frozen and snowed up. Needless to say, we did not molest them. It is unusual to meet with these heavy ducks on the coast at this season, except under such exceptional climatic conditions as prevailed that March. They are easily distinguished from the foreign ducks;

moreover, the latter are not usually found in harbour by day. They, together with the wigeon, to the number of perhaps a couple of thousand, spent that day in their accustomed resort, a secluded bay a mile or two along the coast, and did not approach their feeding-grounds till after dark. Redshanks were frequently feeding within ten yards, up to their breast-feathers in water, and a pretty sight it was to watch the impetuous manner they tossed aside the floating weed to find some food which it concealed. Oystercatchers and other waders were also extremely tame, and for the first time since January 1881, I noticed great numbers of golden plovers out on the salt-slakes. On one occasion I approached a long thin line of knots on the mud-edge, all asleep, no heads in sight, and looking for all the world like a strip of rounded blue pebbles, except that they were raised a couple of inches off the mud. As these birds do not breed in the British Islands (nor in Europe for that matter), and neither they nor the geese are included in the Wildfowl Act, I sent a charge from the cripple-gun athwart their line and secured eight of them.

On the evening of the last day a catastrophe occurred. It was full tide, and just before dusk an immense body of geese were feeding in towards the shore. We crept close along the banks under the ice-edge; the geese drove in with the tide, and in a few minutes we were, so to speak, in the midst of them. The water was of deepest blue, and, in the bright rays of the setting sun, it fairly shone with glossy black necks and snow-white sterns. But the big gun missed fire. Had she "gone," I must have killed geese from forty yards up to one hundred. So near were some geese that there was time to pull out the double-10 from under the fore-deck, and

stop a couple of those which had risen within twenty yards of the gunboat's beam.

To pass on to the departure of the geese: the facts in connection with their withdrawal are quite as interesting to naturalists as those which attended their appearance. As their arrival here has been shown to have coincided with the closing of the North European sounds and harbours, so their departure was precisely, to a day, contemporaneous with the breaking-up of the ice in those waters. First, as to the weather: after a partial renewal of the storm about the middle of March, a thaw became general here about the 18th. So rapid was the transition, that the snow in my garden, which lay between two and three feet deep on March 18th, had entirely disappeared by the 20th. On the 23rd a brilliant crop of crocuses appeared; two days later the grass turned green, and all was summer that a short week before had been Arctic. The temperature rose from 16° on the 9th to 60 on the 24th! On the continent the thaw was a few days later, as the following extracts from the daily papers show. On March 24th (thermometer here 60° in shade) a telegram from Bremen stated, "Ice breaking up in Weser and at Vegesack," and on the same date the port of Gothenburg was announced to be open, and the first steamer forced her passage through the ice from Reval. On March 25th, a telegram from Reval reported, "The Baltic ports are now open for navigation; ice breaking up slowly." A Stettin report of March 26th states, "Complete thaw here: ice disappearing rapidly." Several other telegrams also confirmed the above dates of the re-opening of the waters.

The departure of the geese coincided precisely with these dates. Large flights left our coast on March 23rd, and still greater numbers on the 24th, many others doubt-

less leaving during the night. On the 25th and 26th the remainder almost all took their departure, and of the tens of thousands which arrived here on March 2nd, hardly two score remained on the 31st. The geese when last seen were steering due east, and very high, mounting higher in the air as they went.

The wigeon withdrew during the latter part of the month, and by the 25th were nearly all gone. Swans occurred three times in March. In addition to those already mentioned as passing on the 3rd, five others arrived on the 27th, and remained several days, and on the 31st, six more passed to the northwards. These three occurrences were all that had been seen during the winter. It will thus be observed that, after one of the worst fowling-winters on record, abundant sport was obtainable (with exclusively foreign fowl) in March.

Later in the year, by a curious coincidence, I had another opportunity of observing the movements of the brent geese. Having left England for Norway on May 25th, early on the morning of the 27th, the Norway coast in sight, distant fifteen miles, we saw far astern an immense body of geese on the wing, looking at the distance like a small cloud over the sea. They rapidly overhauled us, though our steamer was making eleven knots under steam and canvas, and passed outside her, heading due North. There were many thousands of them in long straggling skeins, and at the speed they were travelling (say thirty or forty knots) would reach Spitsbergen in about forty-eight hours—that is on one of the last days of May—exactly the date when they are due there!

The two months which had elapsed since leaving our British coasts on March 26th, the geese had evidently spent in North-Continental waters or Danish Sounds.

CHAPTER XXXVII

SUNDRY INCIDENTS OF FOWL AND FOWLING

THE foregoing chapters describe the ordinary daily life and habits of our coast wildfowl; but denizens of such bleak and exposed haunts are necessarily subject to all the vicissitudes of our winter weather, which often vary their daily routine. Thus, during very rough seas, wildfowl are unable to "weather it" outside, and are driven to seek shelter elsewhere. At such times the estuaries may sometimes be seen fairly packed with wigeon, etc., at midday; but one can only watch them covetously through the telescope, for no gunning-punt can stand the sea.

The effect of sudden gales are interesting as showing that these are sometimes quite unforeseen by the fowl —usually fairly accurate weather-prophets. This the following couple of extracts from old shooting note-books will serve to illustrate:—"January 5th.—Many hundreds of ducks left for sea early this morning; but about 9 A.M., a sudden easterly squall coming away and knocking up a nasty sea, the whole of them returned inside for shelter. Shot one wigeon drake as they passed up, but there was too much sea on to follow them." Another incident was with geese, and occurred during very severe weather. It

was flood-tide shortly before dusk, and the geese had just gone to sea in a solid body, several thousand strong, when a sudden and severe gale came away from south-east, driving us for safety into the southern (and most distant) corner of the harbour. Here we had hauled the gunboat ashore and were trying to keep ourselves warm by running up and down the narrow interval between sea and snow—literally "between the devil and the deep sea!"—and with no very cheery feelings as to our prospects for the night in that desolate spot amidst snow-covered sand-hills. Just at dusk, however, we observed a coble coming across to our relief. To her we transhipped gun, gear, and fowl, and taking the punt in tow, commenced, with all reefs in, to beat back to windward. Suddenly the whole army of geese reappeared—driven back from sea to the shelter of the harbour. It was a grand chance to "Up helm, and run in under them!" but prudence forbade. The punt astern, light as a cork, has no steerage when in tow, and had we executed any such manœuvre, would have filled, broken adrift, and been lost.

On another occasion (February 23rd), during very bitter weather, wind and sea having prevented our going afloat for three days, I went, about 1 P.M., to a salient point separating two bays, at which a few flight-shots may sometimes be obtained at daybreak. At the hour mentioned there was no such prospect, and I went thither more for exercise, and to watch the fowl, than in any hope of securing any. Yet within an hour-and-a-half, by 3 P.M. (when the rising tide drove me off the rocks), I had fairly bagged nine geese and a wigeon. The wild weather, combined with heavy seas outside, and another reason given below, had kept the fowl restless, and, as it were, "flighting" at that abnormal hour. An incident that

occurred is worth relating as illustrative of the speed at which wildfowl fly. A string of eight geese came straight overhead, rather high. I shot at the leader, aiming, I thought, well ahead; yet apparently missed. With the left, I hit another hard (he eventually fell dead), and while marking this second bird, flop fell a goose, stone-dead, in the shallow water close by! My boatman afterwards told me that the first shot had killed the *last but one* in the string of eight geese!

Seven of these nine geese were in that wing-barred plumage that indicates immaturity; and during the following day I secured with the punt-gun two fair shots at geese, the great majority of those bagged being also young birds with barred wing-coverts. As a rule the proportion of young to old, on this coast, is just the reverse, and it was evident that a quite unusual influx of the former had taken place at the date named. Their being strangers, newly arrived, partially explained their persistent flighting about midday.

In January 1893 eight wild swans took up their quarters on some marshy land known as Boldon Flats, midway between the large towns of Newcastle and Sunderland, and being in full view of the railway, along which frequent trains were passing, attracted considerable attention. Discussions occurred in the newspapers as to whether the swans were wild or tame; and on February 10th, a local paper sent a representative to ask my opinion. I told him that the swans were wild, and that the fact would shortly be proved by this sign:—That within *twenty-four hours* of the first steamer entering Copenhagen (then closed by ice), the swans would disappear. Three weeks later, the prophecy was fulfilled to an hour: for on Thursday, March 2nd, the ice broke up in the

Sound, on Friday steamers entered Copenhagen, and before Saturday morning, March 4th, the swans had departed.

Meanwhile, a critic had disputed the basis of the forecast, gravely arguing that he knew Copenhagen—lived there, I fancy; and could certify that there were no wild swans about the Danish capital. Bird-instinct is sometimes at fault—several instances of its mistakes and failures are herein recorded; but it never quite reaches the degree of mental obfuscation revealed in this case!

December 17 (1889).—At 9 A.M. we lay awaiting the tide to take us in to three-score wigeon on the mud. In the gut behind, two golden-eyes were busy diving: when right ahead appeared eleven swans, coming in from north, and trumpeting splendidly. They decided to pitch in the channel beyond—already their huge bodies were thrown upwards, topsails backed, tails and black feet expanded to check their "way," when up popped a golden-eye ten yards from the boat, took in the situation at a glance, and rose with all the splash and wing-rattle peculiar to his kind. In a moment, both swans and wigeon had recognised the danger-signal: long necks and heavy bodies quickly recovered equilibrium, and we were left in the lurch.

January 13 (1892).—The following incident was reported by my brother W. This morning at daybreak, we were returning home to breakfast, when L. (puntsman) exclaimed, "Lie flat, sir! here comes six geese." They were flying directly towards us, low on the water and straight in line with the fiery ball of the sun then just rising from the sea, and pitched a quarter-mile ahead. As the boat shot in towards them, I noticed how closely they crowded together, far more so than is customary with geese. "You can fire whenever you

please," whispered L., meaning that we were already within shot; but as the birds showed no sign of going, I held on, and only pulled when I believed I had six geese within seventy or eighty yards, and safe as rats in a trap. But when I saw the BB ploughing the still surface all too short, and beyond it twelve huge pinions thrashing the sea, we realised, too late, our mistake. They were not geese, but six swans that in the bad light against the sun had looked dark: four of the six being, in fact, cygnets (which are brownish-coloured), partly explained the mistake, while their bulk had completely deceived in calculating the distance, for we now saw they were quite 120 yards away. As a set-off to this bungle, we made one pretty shot. Some eighteen mergansers were diving along the scap-heads: as we approached they kept rising in twos and threes, till only a single pair remained, and at very long range. As these "lifted," I pulled and bagged both—two lovely drakes with long double crests.

October 21 (1890).—Homeward-bound at dawn, in dense sea-fog, waxing alternately thicker and clearer. Observed something big looming through the mist, which could only be grey-geese. The strengthening light presently revealed a company of seventy or eighty; but we lay opposite the thin end thereof. Unluckily the tide was spent and the boat was already fast on clusters of mussels, fore and aft; nothing remained but to take them as we lay, and four pink-footed geese rolled over, dead. The tides being the worst of the neaps, and held back, moreover, by a breeze outside, the sandy flat on which these geese had roosted had never been covered, hence they had stood dry-foot all night.

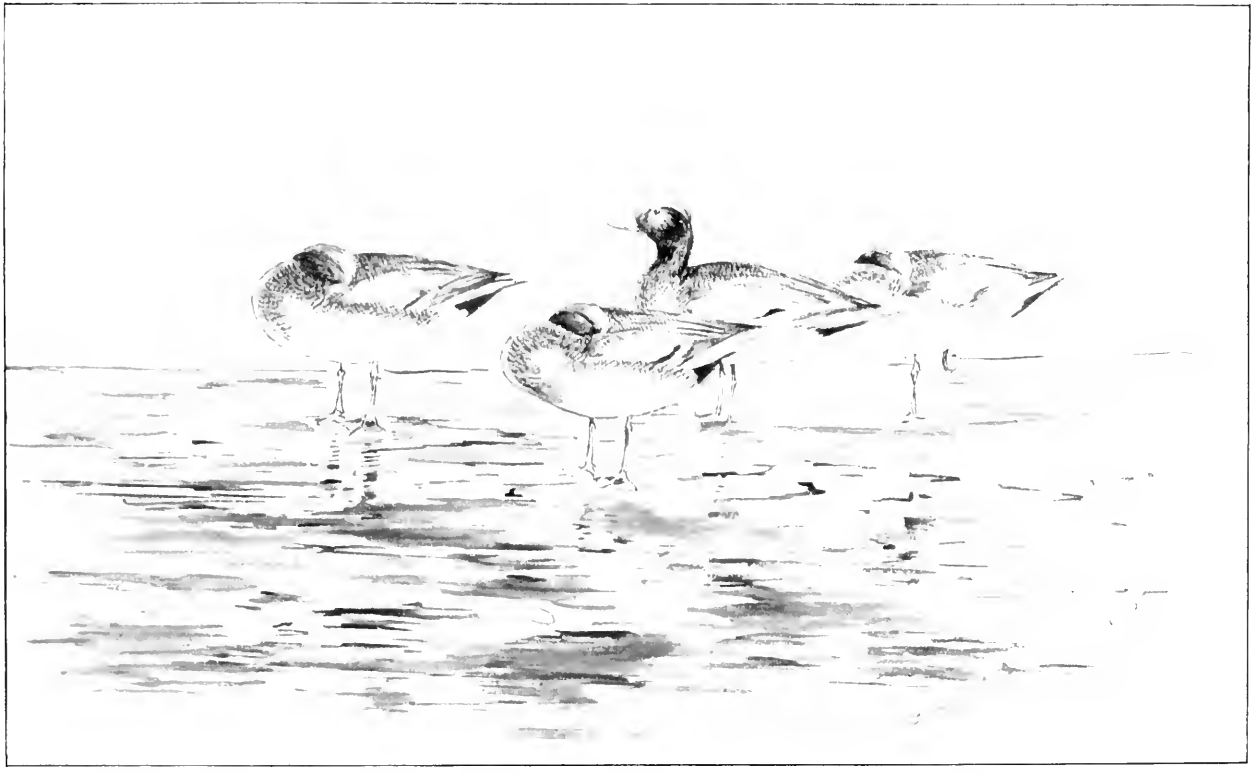
February 28, 1896.—While walking across the saltings

to take up positions for flight-shooting, we observed the moon (full to-morrow) gradually become obscured. Ere we reached our points, an almost total eclipse had commenced, which lasted for three hours: the penumbra coming from the east and passing upwards across the disc. During this period the moon was still faintly distinguishable, a dull red circle beneath the shadow. Meanwhile, we perforce lay shivering on our backs on the mud, unable to see, or to find a way homewards across the treacherous slake. But, curiously, never a duck flew! The preceding night they had come in force, and shooting was constant: to-night we never fired or even heard a distant shot. Whether the wigeon came in later, we know not; for, so soon as it became light, we set off, and sat down to dinner at 10 P.M.

To the naturalist-gunner, perhaps the most interesting periods are the commencement, and then the latter end of the season—say the months of October and March. In autumn, birds newly arrived from the barren uninhabited north are naturally less difficult of access than later on, when they have taken in and digested the whole system of fowling. This rule is not absolute—no rules are—still there are perceptibly greater odds on the gun in autumn than during the mid-winter months. Then, as winter begins to merge into spring, the fowler may again hope to secure a favourable chance or two, if he has the luck to fall in with the passing bands of fowl which at that season are gradually moving northwards. I once witnessed a considerable arrival of geese (on March 1st) from the southward. It was shortly after daybreak, and the birds were evidently tired with a long flight, for, though at the harbour entrance they received several shots from the "skirmishers of the coast," yet they all settled, some 500,

within a mile, in a narrow gut where I was lying in my punt. Naturally expecting to find the geese wide-awake after the reception they had just received, I elevated the gun high for a flying shot: but to our surprise, got close up without any signs of alarm being observed. The utter carelessness, however, of these geese actually proved their salvation and, from my point of view, a serious catastrophe. Being at very close quarters, I decided to take the sitting shot, and drew in the elevator, taking point-blank aim. But I forgot to allow for the high trajectory at so short a distance—perhaps forty yards, never having been so near to geese before—and thus, although the gun lay aligned on the thick of a forest of necks, the whole charge passed *clean over them*, without touching a feather! Later in the day I had a modified revenge. The same geese were rounding a point of land when we "set" to them from inshore. Never were geese so tame! So near were we as they crossed our bows, that their black paddles were clearly visible, working away under the barred flanks. They were at that moment too straggled to offer a fair shot; but as they weathered the point and formed up beyond, we had their company in flank and fairly raked them, empunting eleven geese.

Similarly, on February 28th (1880), my brother Walter was out in a punt at Teesmouth when a flight of sixty or seventy wigeon arrived in from sea, and, after a few gyrations, pitched along the edge of a sand-bank. Here they allowed so near an approach that, though he had only a shoulder-gun, the 3 oz. of shot stopped no less than sixteen, of which fourteen were fairly bagged. The birds were, no doubt, beautifully lined-out: still it was an exceptional shot for a shoulder-gun, and in broad daylight. Neither of these two incidents would have occurred



WIGEON ON THE SLAKE—HARD FROST.

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except with passage-birds, wearied and resting after long flights.

Birds of prey can hardly be included in the category of wildfowl, yet two rare visitors are perhaps worth recording in this chapter of odds and ends. In the very hard weather towards the end of January 1881 an eagle (probably the white-tailed sea-eagle, *Haliaëtus albicilla*) appeared on the Northumbrian coast, near Goswick, and remained for several weeks, frequenting the slakes, where he fed on the plentiful supply of "pensioners" which that hard winter produced. This eagle was seen daily by fishermen and others, and of course strenuous efforts were made to secure him, but always in vain, though several guns were often engaged at a time. He appeared to roost among the sand-links, which are very extensive, at times alighting on some disused buildings. I did not chance to fall in with the eagle on any of my visits to the coast, but the mail-carrier told me he saw him almost every day, usually "sitting on the sands eating a 'ware-goose' (=brent), and with half-a-dozen grey crows waiting close around." The eagle remained till well on in March, when, of course, the supply of "pensioners" ceased to exist.

On December 8th, 1885, about thirty geese arrived, and my boatman launched the punt to go in pursuit. He noticed they were unusually tame, especially as several wigeon were in their company: and had already got within shot, when a "glead" appeared, having apparently descended from the skies, and hovered over the geese within a yard of their heads. Three times they sprang, but, not daring to fly, splashed down again into the water just where they had risen. S—— then fired, killing three geese and two wigeon, and the

"glead" made off for the mainland. From the description, this glead was no doubt a buzzard, being a large dark-brown bird with broad heavy wings and straight-edged tail. In answer to a question as to size, S—— remarked that it "was not half so big as the eagle (of 1881): that bird was as large as a canny-sized laddie sitting on the sands!"

In cruising year after year over the same grounds, one notices small geological changes (if the word be admissible) constantly going on, and the causes are often interesting. A little mussel-spawn happens accidentally to become deposited by the current on *sand*, instead of on its natural bed of mud. As the young mussels grow, the mud also appears to grow around them—the mussels create it. After a while the zostera begins to take root, and in a few years a stretch of several acres of mud, with all its peculiar vegetable and crustacean productions, has from such small beginnings been created, in the midst of sand. This in time forms a fresh haunt and feeding-ground for wildfowl. Ducks are now regularly found where none were ever known before those vagrant particles of mussel-spawn drifted on to uncongenial sand. Of course such increases are counterbalanced by denudations elsewhere —the tide here and there sweeping away a superstratum of mud, and laying bare the non-productive sand below. Sand is proverbially a shifty substance, and every year its local geography alters more or less; old channels disappear, and new waterways open up through the midst of what was before quite solid ground.

Wildfowling is essentially a *waiting game*, and the long hours one often has to spend in the creeks "waiting on" the tide, or for fowl to appear, give opportunity of becoming tolerably well acquainted with, at least, the super-

ficial features of the bleak spots around. Examine the space that lies within arm's length of the boat—what a wonderful microcosm exists in every yard! The profusion of marine life is bewildering, and a struggle for existence rages as keenly here, out on desert ooze and sand-flat, as on thronging Stock Exchange or in the precincts of Lombard Street. What are those little coteries of dunlins finding on the bare sand—what is it that impels them to dart hither and thither, alert and active as frightened mice? Apparently there is sand, nothing but sand: but to them that sand is a mine of wealth, in the form of countless tiny insects, crustaceans, sand-worms, and the spawn of an infinity of minute forms of life. The mud, too, has its swarming population: those holes which everywhere perforate the banks of its creeks are the homes of the clam; its surface is traced in every direction with the trail of the wandering periwinkle—the objective of the "popular pin." These in warm weather lie scattered broad-cast; the mussels cluster in dense groups: but why are all these empty shells strewn around? Examine one against the light, and there will be observed a tiny circular hole in its side. This is the work of the dog-whelk, a very cannibal among molluscs: with his strong-toothed proboscis, he drills a hole right through the hard calcareous armour of poor *mytillus*, and proceeds to feast on his succulent interior. But the whelk, too, has his enemies; for, on picking up half-a-dozen shells, several are found to be tenanted by that strange usurper the hermit-crab. . . . But our investigations are suddenly cut short. "Look out, sir!" shouts our puntsman; "here come the geese!" and in one moment we are aboard, and lying as flat as any oyster.

The following list of the local names by which the

different wildfowl are known on parts of the north-east coast may perhaps be interesting to the etymologist :—

Grey Geese (generally)	"Grey-lags."
Brent Geese	"Ware Geese."
Mallard	"Mallart."
Wigeon	"Whews."
Golden-eyes	"Wigeon."
Scaup Duck	"Covie."
Long-tailed Duck	"Jacky Forster."
Long-tailed Duck (female)	"Jenny Forster."
Eider Duck	"Culver."
Scoter (Black Duck)	"Sea-hens."
Merganser	"Yarrell."
Northern Diver	"Nauk."
Red-throated Diver	"Lion."
Grebes	"Tommy Allens."
Coots	"Belpoots."
Skua	"Gull Allan."
Guillemot	"Willock."
Black Guillemot	"Sea-pigeon."
Cormorant	"Gormer."
Whimbrel	"Curlew-Jack."
Godwit	"Speethe."
Oystercatcher	"Sea-pyot."
Turnstone	"Brackett."
Purple Sandpipers (etc.)	"Tinkers."

Curiously, the geese are never spoken of except in the plural. The word *Goose* is barred, and a single bird will be described as "a lame *Geese*"!

CHAPTER XXXVIII

DIFFICULTIES AND DANGERS OF THE GUNNING-PUNT

I HAVE already stated my experience that during mild winters, and under certain conditions of weather, wildfowl are practically unobtainable, even with the complete appliances of punt and stanchion-gun. I refer to the ordinary type of gun as generally used on the coast. Of course, if the size and weight of wildfowling weapons is to be increased indefinitely, the case might be wholly altered; but surely good taste should impose some limit in this direction. Geese might, no doubt, be reached with *shrapnell* at many hundred yards, for a season or two; after that they would leave this country for good.[1]

The unfavourable conditions referred to may prevail throughout the whole winter and quite an inappreciable proportion of geese will be killed, though hundreds, or even thousands, may daily be seen. Yet there have been written books to tell us how to get them—and to get them in numbers—under any conditions whatever. Such conceits would, on our bleak and shelterless north-east coast, prove misleading, and probably lead their exponents

[1] Reading the above paragraph after eighteen years, it sounds almost prophetic; for we have since suffered the very abomination foreshadowed, in this abuse of huge swivel-guns by shrapnell-shooting Pompommers.

into no small personal danger. A moderately calm sea is an essential in punt-gunning, and how seldom do we have it in winter? How often does a wildfowling diary contain such entries as "Strong breeze from east all day; could not go afloat"; or else, "Blowing a whole gale this morning; harbour one sheet of white water." Day after day, perhaps a whole week, may be lost thus, and the fowler can only wait, smoke, watch the glass, or (best of all) go home.

A gunning-punt, to be of service, must necessarily be a low and shallow craft. Her "depth of hold" is only some nine or ten inches, and her freeboard four or five. In such a vessel it is obviously the height of recklessness and folly to venture into rough water: for the slightest sea is liable, and certain, to break on board, placing her crew in the utmost discomfort, to say nothing of danger. Even with the cautious, however, it will sometimes occur that, from a sudden change of wind or other cause, a puntsman will be placed in a position, if not of actual danger, at least of great discomfort and difficulty. As an example of this, the author remembers one January day when, on the wind suddenly shifting from west to north-east, with furious squalls and blinding snow, he was placed on a lee-shore, where 500 yards of rotten mud prevented a landing, and with some six miles of rough water to face ere shelter could be reached. We had hardly time to unship the gun and bring her inboard, so as to trim the punt by the stern, ere the change was complete. It then only remained to sit low and pole like bargees, using every exertion to keep the small craft head to sea. Once let her fall off, and the rush of a sea take her in flank, and you realise that very unpleasant sensation—of your ship sinking under you. You realise also how horribly cold

(and wet) is a winter sea. I have undergone such, and they are experiences one does not forget.

In the present instance, by grim exertion at the setting-poles and taking turns with the bailing-scoop as sea after sea broke inboard, we kept her going and afloat. In mid-slake, where the water was deep, it was a question if she could weather it—or not; but at that point we began to meet the drift-ice which had been accumulated by the tide and west wind along the eastern shores. This circumstance perhaps saved us; for though the ice added greatly to the labour, it had the effect of "flattening" the sea, which no longer broke into us. Ere we gained the weather-shore, we had three inches of water in the hold, the fore-deck was awash to the gun-crutch, likewise the coamings amidships; hardly an ounce of "life" was left in our craft, and as S—— remarked, "one more bucketful would have sent her under."

This incident, however, is mere child's play as compared with the narrow escape of my brother Alfred in the Holy Island slakes on that fearfully memorable day, October 14th, 1881, a day which strewed the north-east coast with the bodies of fishermen and the shattered wrecks of their vessels. The morning broke fine, but the barometer having rapidly dropped to 28° 40′, the Northumbrian men did not put to sea. Those of Eyemouth and Burnmouth, a few miles to the northward in Berwickshire, set sail as usual, and encountered the full fury of the cyclone, with the melancholy result that 170 lives were lost, and the manhood of the latter village all but annihilated.

The following is my brother's description of that terrible day:—"Launched the punt at seven and poled up the North Slakes with the flood, picking up a couple

of godwits with the small gun. The day was fine, though rather windy, and the sky full of white fleecy clouds. About eleven o'clock we made out a flight of wigeon, splashing and gamboling by the edge of a mud-bank. They were very restless, rising at 300 yards without any warning; they made several impetuous gyrations in the air, sometimes passing close over the punt, where we lay flattened on the bottom-boards; but so unsettled were they (probably conscious of the coming storm), that, though frequently splashing into the water almost within shot, they never allowed time to execute the necessary manœuvres for a shot with the big gun. At noon we anchored to have our lunch. The weather had not altered —fleecy clouds still hastening across the sky from the westward: but now a small black cloud seemed to rise from the northern horizon. Quickly it rose and increased in magnitude. Hardly had we observed its ill-omened appearance, than a horrible roaring noise was borne down upon us. Up went the wigeon and away to the southward, followed by a string of grey-geese, driving before the wind at enormous velocity. At these I sent a No. 1 wire-cartridge, and remember distinctly hearing it patter against their strong quills as they hastened before the cyclone; now a flock of oystercatchers, now a score of godwits hurried past. The rushing noise increased in violence, and we could now see its advance, as the once tranquil waters were lashed up into seething foam some 500 yards to windward. 'Be quick, sir! jump out, and hold on fast!' shouts S——; but it was too late. In an instant we were overwhelmed—the punt bottom upwards, myself struggling to get out from underneath her. Being a mile from the main shore, it was a case of hold on, or drown. Never have I seen such a fearful sight as those

masses of seething waters. The wind roared like an express train bearing down on one in a subterranean tunnel, scooping up the water and flinging it in our faces. So terrific was its force in these wide and unprotected slakes, that it was impossible to stand or to make our voices heard to each other. As we were carried along in the driving foam, we simply clung to the coamings of the punt, and twice did the wind pick her off the water and literally hurl her over me, who happened to have the leeward berth, S—— hanging on to windward. Fortunately, we managed to hit off a 'gut,' or channel, leading up to the mainland. The depth varied here from two to four feet, and at times the wind fairly scooped the water out of its channel, dashing it bodily upon the black ooze which formed the sides. This ooze was, if possible, more treacherous than the water, affording no foothold, and, on the contrary, tending to anchor one in its slimy depths. In the midst of the hurricane, I well remember seeing close at hand a belated oystercatcher thrown down on the mud, and how quickly the poor bird instantly headed to windward. Gulls, too, and the smaller waders seemed equally incapable of flight, as frequently they were dashed down on the muddy ooze, and, crouching low, tried to seek shelter there from the overwhelming elements.

"For three hours and a half we struggled thus with the storm, fighting foot by foot to gain the mainland, which lay on our beam, as we faced the gale. Eventually we reached the shore near an old barn. To this we crept on all fours, and while lying, half-unconscious, behind its gable, the slates were lifted high in air and carried away. During these three-and-a-half hours, some hundred and seventy fishermen were drowned within a few miles of us,

and twice we observed the glare of the rockets as they conveyed the life-saving apparatus to the crews of two stranded steamers a couple of miles to seaward of us. That night I spent at the farmhouse of Fenham Low Moor, where the good-wife wrapped me in blankets and acted as a veritable good Samaritan. As a warning to brother-sportsmen, I would urgently advise never to go out punt-gunning without having observed the barometer before starting. I afterwards found that the glass that morning had stood at 28° 40′ (sea-level)—a sufficient warning of the impending hurricane."

CHAPTER XXXIX

THE LAST DAY OF WILDFOWLING

A Lucky Wind-up

After a mild and open winter, which had been almost totally unproductive of fowl, we betook ourselves on the evening of February 27th to the remote fishing hamlet whereat we have long established our wildfowling head-quarters, to try our luck in a final day's campaign, for the end of the season was at hand. By the way, it may be remarked that there is no conceivable reason why wild-geese and wigeon should not be killed in March. The legal restrictions are a cruel injustice to many a poor fisherman-fowler; but figs do not grow on thorns, and it is as reasonable to expect politicians to understand such subjects as to ask a punt-gunner to settle the Irish question. Well, it was dark enough as our crawling train at last pulled up at the roadside station; but presently the clouds passed away, the full moon shone out, and the long radiating columns of the "northern lights" flickered brightly across the heavens as we traversed the water-logged sand-flats. The longest road has an end, and we are presently at work on ham-and-eggs in our snug den, in a hamlet redolent of fish and things piscatorial. There only remained to us one day to shoot (for March

1st was a Sunday), and we determined to make the most of it, albeit our chances of success in so extremely mild a season were remote. Accordingly, after vainly trying to sleep for a couple of hours on two hard oak chairs, I turned out at midnight, and passing through the tortuous little street, paved with the shells of defunct generations of mussels and cockles, proceeded to launch our trim little craft, the *Boanerges* gunning-punt. First the big gun had to be loaded: down her long barrel rattle the 30 drams "Colonel Hawker," followed by 10 oz. of BB—the priming is carefully inserted, and the cap fixed. Then she is gently adjusted into position, breech-ropes secured, gear, ammunition, etc., all stowed, everything in its place, for aboard a gunning-punt there is not a square inch of room to spare—and away we go. With a brilliant moon, dead-calm sea, and flowing tide, we proceed right merrily, and hopes rise rapidly—on so favourable a night surely we shall manage a heavy shot at the wigeon! But it was not to be. At 2 A.M. a change came over the scene. The western horizon suddenly banked up with cloud-masses, and we presently heard afar that strange rustling sound, like the distant rumble of an approaching express, which at sea foretells wind. On it came. In ten short minutes driving clouds were scudding across the moon, and what had been calm white water was lashed into a confused black mass. For some time we persisted in shoving to windward, but all efforts to gain the weather-shore were vain. Sea after sea broke into us, and the chance for the night was clearly gone: for a couple of weary hours we sought shelter on a desolate bent-grown sandspit. Then the ebb tide forced us to quit this refuge, and make the best we could of our passage back—to bed. Thus ended attempt No. 1—a

failure; and No. 2 failed likewise. Before daybreak we were out again at the "morning-flight," but though we saw plenty of fowl, with a fair show of geese, not a single shot rewarded a two hours' vigil, and at 9 A.M. we returned a second time empty-handed (and empty elsewhere) to breakfast. Such, in plain fact, is but the common luck of coast wildfowling—the most difficult, uncertain, yet withal one of the most exciting of all our British sports. It is amusing to read of hecatombs slaughtered on paper, and still more so to see the lightsome mood in which the undertaking is often essayed by "'prentice hands"; but after years of practice the writer can confidently state that, though patient, dogged perseverance and skill will from time to time reap a due reward in gratifying success, yet there is no royal road thereto, nor on salt water will duck-shooting and shooting ducks ever become synonymous terms.

To return to our narrative. It is still only 10 A.M., and there remain to us several hours in which to avert the disaster of an empty bag: so we start on our third essay. The tide being now about dead low, the field of operations is restricted to the deep-water channels which intersect the mud-flats. These vast expanses of ooze—too soft to carry a man, too solid to float a punt—thus, through the action of the tides, afford a safe asylum to the fowl, where twice every day they can for several hours feed and rest in peace, secure from man and all his works. At first luck seemed about to dawn upon us, for in the channels we got a pair of scaup-duck and a grebe with the small gun. Then the current changed again. As the tide flowed over the mud, we observed that a number of mallards had remained "inside" to feed on that luxuriant sea-grass—*Zostera marina*—which now

waved in the tide-currents beneath us in swathes of brightest emerald. At the mallard we had two punt-shots during the flood; the first, at about a dozen sitting scattered on the mud-edge, was a total failure. The range was the deadly seventy yards, the elevation was correct; but, though the BB seemed fairly to rake their position, not a single bird stayed. It was one of the mischances that will occur; so with an effort we choke despair and try again. The second shot was at rather over a score swimming in roughish water and at longer range: as the smoke cleared we saw four mallard stretched on the sea and two more fatally crippled—still far from being as satisfactory a shot as it might have been.

All the morning we had had the geese in view, some busily feeding in black patches on the zostera, others flying restlessly about in long gaggling skeins. The winter had been so mild and open throughout, that these wary fowl were far too watchful to allow the slightest chance of approach, even in a punt. Now, at full tide, they lined the shore in scattered companies for several miles, and their white sterns were conspicuous bobbing up among the dark wavelets as heads reached down to the succulent sea-grasses beneath. From midday till dusk we stuck to them. Every "dodge" we knew was tried; we "set" to them, sailed, paddled, drifted—all in vain. Hour after hour slipped fruitlessly away, and the only result of our manœuvres was that towards dusk we had their scattered companies now all congregated into one solid, compact phalanx of geese, perhaps a thousand strong. There they sat, only half-a-mile from us, and as the sun "took the hill" we commenced our last supreme effort. Alas! it was now a full quarter's ebb, and before we had approached within three gunshots, we took the ground.

A Scientific Shot: Geese coming over—high.

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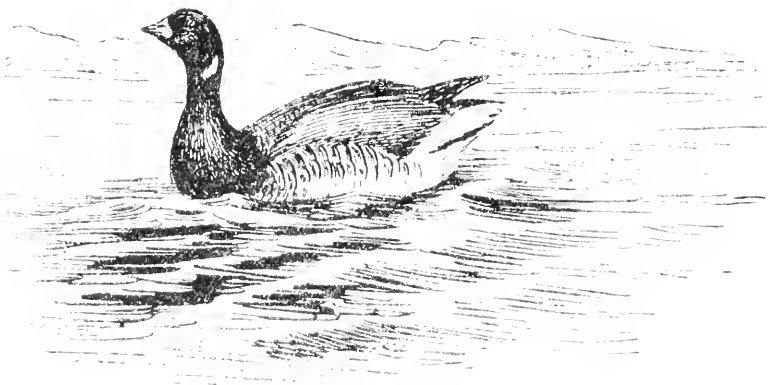
Just then S—— nudged me and pointed out a couple of score of "whews" (wigeon) sitting on the mud-edge far away to the right of us. Half in despair, we hove our bows round to starboard to give them a trial; but it, too, failed. As luck would have it, a single pair was swimming, unobserved, in the black water between us, and these, rising close at hand, shifted the rest.

There now only remained the geese, far up on the slobby ooze. As a final tactic, I determined to try for a flying shot as they went to sea at night. Accordingly we let the punt drive with the tide till we lay directly on their course to the seaward channel; then we shoved in as near the mud-edge as was safe to go on the ebb, and waited patiently. The night was still and calm, the western sky aglow with the glorious hues of sunset, and not a sound audible but the gentle lapping of the tide against the punt, and the loud and weird babble of voices from the thousand throats in front of us. What a concert! No music sweeter to my ear; no articulate words more expressive of intensely watchful security, of guarded suspicion, than their varied intonations. At last the critical moment arrived, the moment which was to decide all our hopes and fears. "They're up!" With a roar like the distant rumbling of thunder, the sonorous host take wing for the open sea. Will they come our way? . . . Yes! straight for us, lying prone on our chests, steer the leaders, and in ten seconds the sky above us is flecked with moving masses, and seamed with strings of black half-moons. "Now then, sir! let 'em have it!" hisses S——, as I fumble for the eighth part of a second with the trigger-string (for "tipping" a punt-gun is no child's play); then up goes the long barrel, and afar across the darkening water resounds her thunderous boom. Ye gods! I'm among 'em! right in the

thick of them. Mark! three—five—six—seven—eight—fall all round us; fall in curving lines, each with a sousing "flop" into the sea, while at least two more slant away, body-struck, to fall dead a little farther out. It was a glorious shot for a tipped one; but there is no time to revel in the triumph of the moment, for only one of our geese lies actually dead, and "clear decks for the cripple-chase" is the order of the day. Then for a long half-hour we pole and shove, as no galley-slave ever toiled before; we toil till perspiration half blinds us, banging away the while with the cripple-stopper till all our "pensioners" lie stretched and prostrate on the sea. Then, with joyous hearts and a full fore-peak, we set our sprit-sail, our centre-boards, and spin away homeward with wind and tide at eight knots through the gloaming, delighted with the final success of our eighteen hours' toil, and its reward in THE BEST SHOT OF THE SEASON.



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