

THE STORY OF
HEDGEROW
AND POND



R. B. LODGE

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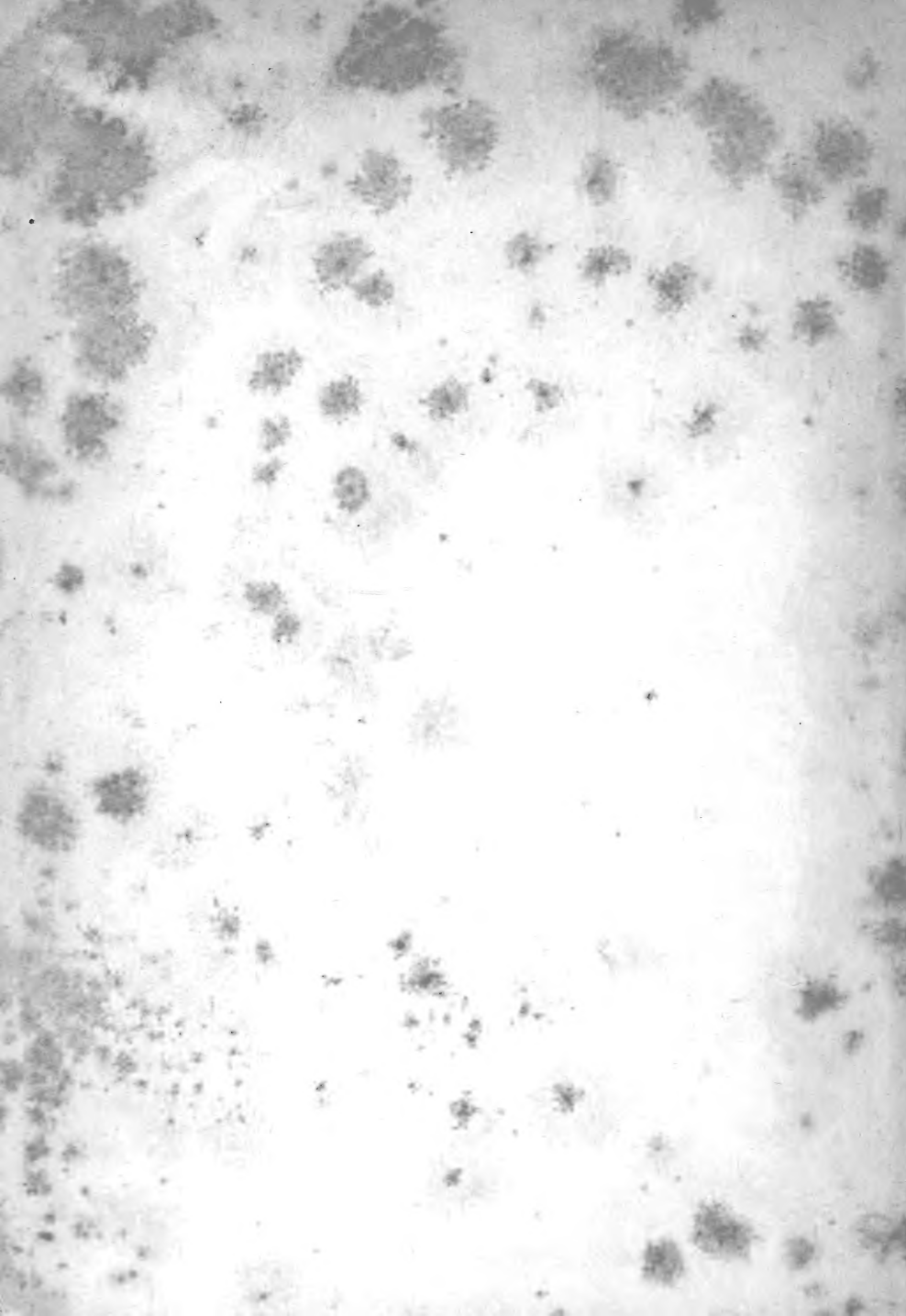
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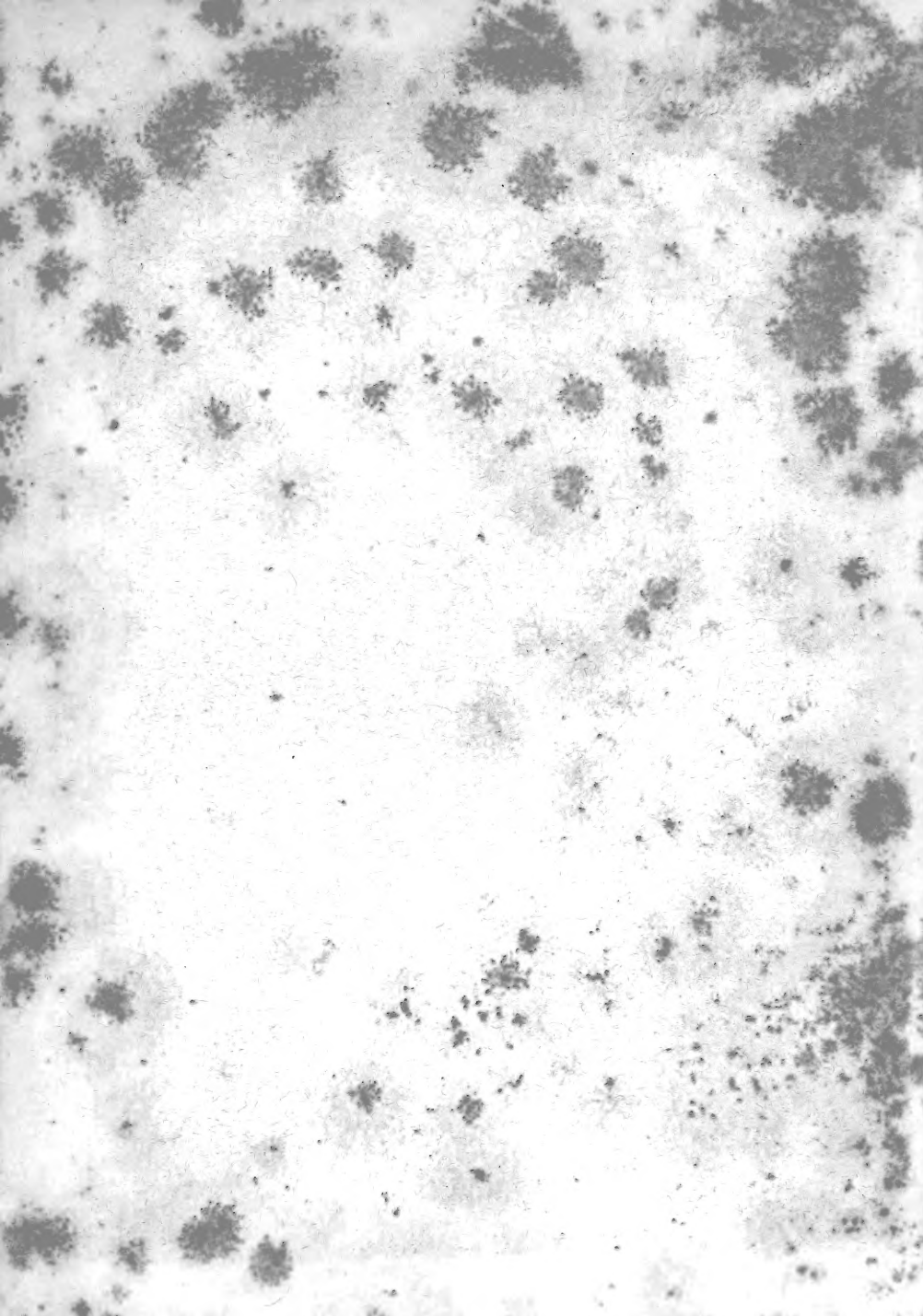
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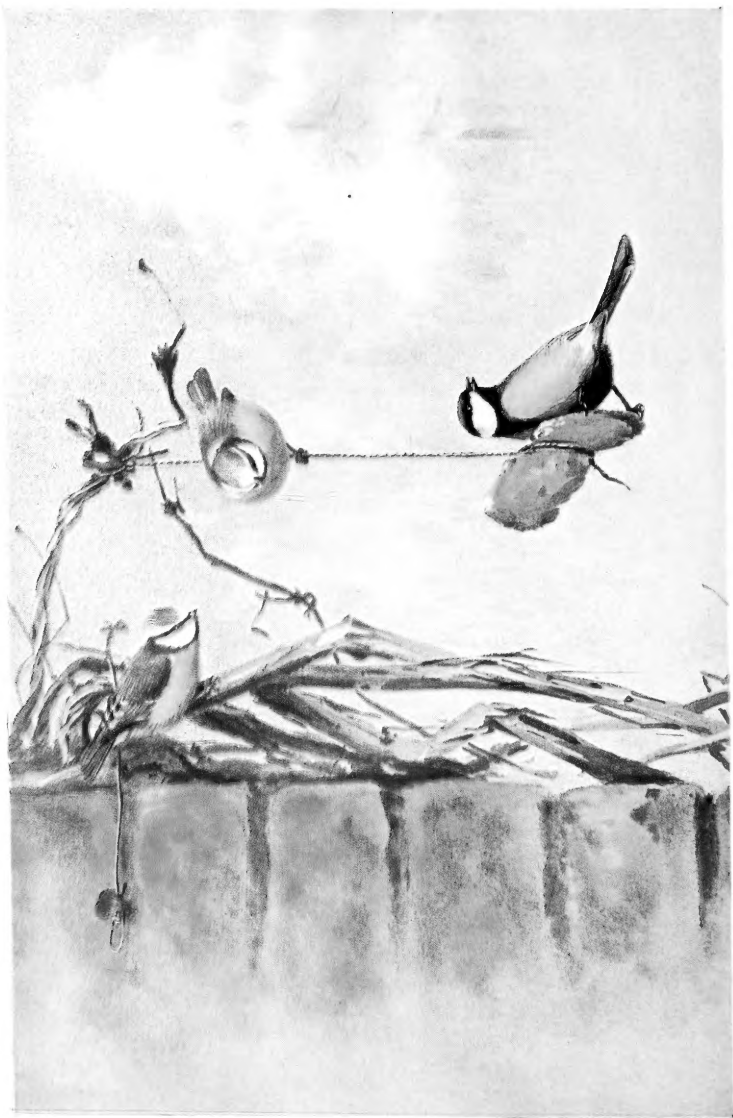
by William Burdet, in 1972

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BLUE TITS AND GREAT TIT

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L82 BIRDS

THE
STORY OF
HEDGEROW
AND
POND



BY

eginald
R. B. LODGE

MEDALLIST ROYAL PHOTOGRAPHIC
SOCIETY

AUTHOR OF

'PICTURES OF BIRD LIFE'

'THE BIRDS AND THEIR STORY'

COLOURED ILLUSTRATIONS FROM
DRAWINGS BY

G. E. LODGE



LONDON

CHARLES H. KELLY

2 CASTLE STREET, CITY ROAD, and 26 PATERNOSTER ROW, E.C.

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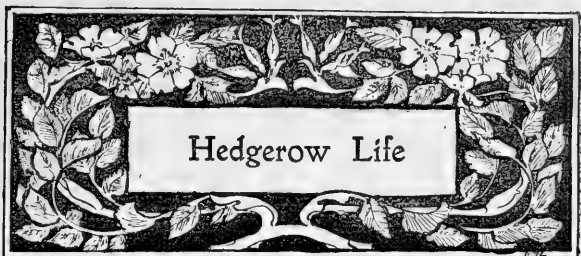
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I WONDER how often children say, and bigger people too, that there is 'nothing to see'? Perhaps they are told to go for a walk; and they say, 'Oh, that is such an ugly way; there is nothing to do, and nothing to see.' Then another direction is suggested, but they don't like that one any better; there also, they say, there is 'nothing to see.'

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But are there not the hedgerows, which give England its chief charm? In my opinion a common hedgerow is more beautiful and more full of interest than the best-kept garden. In fact, very often the more pretentious a garden is, the uglier it is. But the hedgerow is full of life and full of surprises for those who take the trouble to look for them, and the more you search the more there is to reward you for doing so, while the changing seasons provide a constant variety.

If you were to start to-morrow to collect, or only to count and keep a list of, all the different plants and flowers which you could find in the hedges and growing on the banks and sides of the ditches wherever you happen to live, you would have work enough to

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keep you busy and interested at every season of the year for a very long time; and then if you added to that list other kinds of plants in different parts of the country—when at school, for instance, or on a visit, or at the seaside—and then took notice of all the many living creatures which live and find shelter and food in our hedges, you would find that after all there is plenty to see in the hedges of the most ordinary part of the country, even close to London and other large towns.

To show you that you need not feel hopeless of seeing anything near London, I may tell you that during the last few years I have myself seen one hundred different sorts of birds in the suburban parish where I live. And a large proportion of these birds live chiefly in the






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hedges and bushes. The hedgerow to many small creatures is really like a forest to larger ones ; in it they can hide, and live in their own way, and obtain food, without exposing themselves to danger.

But if you want to see and understand all the varied sort of life which is going on in the hedgerow, you must look for it carefully. Half a dozen boys and girls racing along a road after one another, and shouting at the top of their voices, will see nothing. For one thing, they are so occupied with their games, and talking to one another, and larking about, that they have eyes for nothing else ; and for another reason, the noise has given warning to all the roadside creatures to fly away and run into their holes and hiding-places until all the



disturbance has passed. Even the snails think it wise to draw in their horns and shut themselves up in their shells in case they might get trodden upon and squashed flat. If you only knew it, there are hundreds of bright-eyed, timid things waiting for you to pass before they can come out to feed; and I should think it very likely that they wonder sometimes why children make such a lot of unnecessary noise.

Now, play is a very good thing indeed. But suppose you have nobody to play with, and don't quite know what to do. Then it is that you will find what a blessing it is to have something you can do by yourself, and do it better than when you are with others.

Suppose you come out for a winter's walk along the roadside anywhere, and

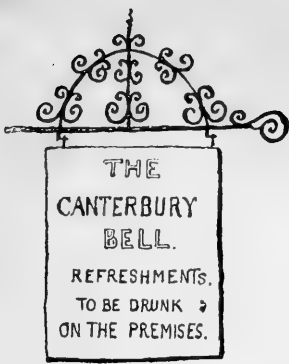
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pry about and see what there is to be seen. The hedges look very bare and brown, and don't perhaps seem very interesting at first. But if they are bare now, there is at least the promise of next summer's green leaves in the swelling buds. Look at that dead-looking twig which wanders in and out, with, as far as you can see, no beginning or end. At intervals here and there are buds, half open, of pale green, in pairs, one on each side of the main stalk. That is the honeysuckle; and in the hedge-bottom you may see the pointed green spike of the arum. ✓ Later on, this spike will uncurl and then die away, leaving an upright bunch of bright scarlet berries. ✓ Very poisonous they are, although they look so tempting and juicy. ✓



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Of course you know that flowers depend very much upon insects. If there were no insects there would not be nearly so many flowers. There would be some, because many of them are fertilized by the wind. When you see bees, and flies, and other insects hovering over and crawling into the flowers in the fields and gardens you know very well that they are getting the honey out of them. But you may not know that unless they came thus for the honey the flowers could not exist at all, and that the honey is provided as a reward, or as an inducement for them to come and work for the flowers—or, rather, for the plant which bears the flowers. For, really, the flower itself is only an advertisement to the insects, a sort of public-house sign which means to them



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that there is liquid refreshment to be had within.

You know that certain flowers contain a lot of fine powder, generally yellow; that if you bury your nose inside a big white lily, for instance, to sniff up the delicious smell, it will be covered with yellow dust. That is the pollen; and this pollen has to be carried from one flower to another before the seeds can form. The seed is really the important part of a plant; if that doesn't properly form and afterwards get ripe, the plant comes to an end without leaving other plants to follow it. And there are ever so many different forms and shapes in the advertisement signs which the plants hang out in the form of flowers to suit the many different sorts of insects. The scent of a flower also



is another form of advertisement. Many flowers smell more strongly at night, for the benefit of the night-flying moths and insects.

The honey is generally at the very bottom or end of the flower ; and the insect, to get at it, has to crawl right inside. To do this, it must get dusted with some of the pollen, either on its back, or its legs, or some other part of it. Then, when it has sucked up all the honey it can get, off it goes to another flower, and in entering leaves some of the pollen-dust behind and perhaps gets a fresh supply. And so, as the creature goes from flower to flower through the drowsy summer day, it is, without knowing it, working for the plants, and getting paid for it with honey—a very satisfactory arrangement,

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which suits both the flower and the insect.

And the flowers take care that they don't pay away good money—or honey ; it all means the same, you see—without getting the work done. That would never do. And so there are all sorts of artful contrivances to prevent any cheating. For instance, a small insect like our ant might come and get the honey intended for a bumble-bee. Its body wouldn't be big enough to touch the pollen-bearing parts, so that something has to be done to prevent its getting the pay. Perhaps it is packed away at the end of a long tube, and its tongue isn't long enough to reach it. When it has tried one or two flowers and finds itself unable to get at the honey, it soon gives it up as a bad job and goes some-

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where else, and avoids that particular flower in future.

Some plants, again, have an arrangement of springy hairs through which the insect has to force its way—like a lobster-pot or a mouse-trap. The arum has such a trap; and the flies which force their way in are unable to get out again, but are kept imprisoned in a hollow chamber until the pollen ripens and falls on their backs and dusts them with the life-giving powder. Then, but not before, the hairs through which they have entered, and which have barred their way out, wither away, and out they all fly, ready to take the pollen to other arums. Other flowers, like those of the broom, on being touched by a bee, spring open suddenly and dust the insect with the pollen-powder.

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Here, you see, is an interesting thing to know almost before we have begun to study our hedgerow at all. And if this one fact makes you want to know all about the thousands of other similar contrivances to be found in flowers and plants alone, you are at once provided with enough study for a lifetime; and a study of which you will never tire or grow weary all the days of your life.

Now let us look for nests—birds' nests. Of course, it is the wrong time of the year to find any eggs, and the birds which build the nests are some of them thousands of miles away. But all the same the nests will be there, and will be more easily seen than when the leaves are green and full, and cover the hedges with their shade. And we shall know better where to look later on. Perhaps



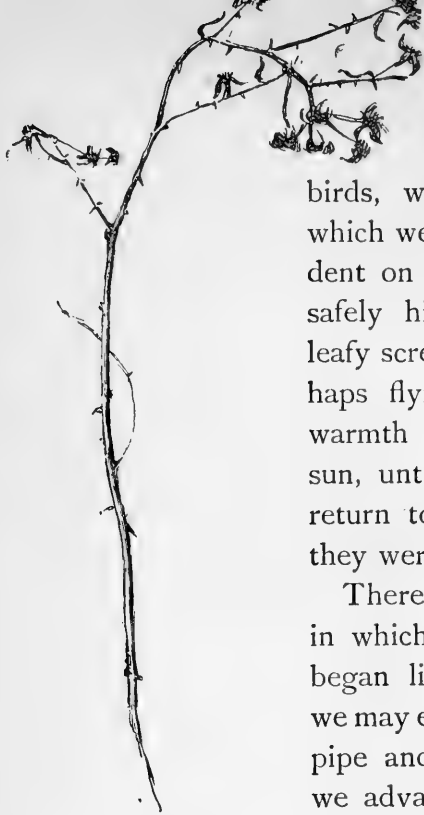
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we passed this very hedge in the summer-time and never dreamt there were any nests there in it ; it was so thick and so covered and matted over with wild rose, bramble, and all sorts of prickly things that it was difficult to see into it.

Good friends to all the hedgerow birds and beasts are these brambles and trailing wild roses, and faithfully they guard the secrets hidden away beneath their sheltering cover. But now the need for secrecy is over, for they have served their purpose, and all the nests of the past summer are plainly revealed. Much we wonder now that we didn't see them before.

In the top of the hedge there is the frail platform of the turtle-dove, on which, last June, were lying two pearly white eggs. The two young





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birds, which were duly hatched, and which were so long helpless and dependent on the devotion of their parents, safely hidden as they were under the leafy screen around them, are now perhaps flying about and enjoying the warmth and brightness of an African sun, until the time arrives for them to return to the familiar hedge in which they were born.

There is the hollow cup of fine roots in which a brood of young bullfinches began life. And it is quite likely that we may even now hear their low, plaintive pipe and see them flitting on ahead as we advance.

In both these nests, and in the old thrushes' nests, may be seen a reddish mass of some substance which looks as if it had been gnawed by something. That

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is the work of the field-mice. These creatures use the abandoned nests of the birds as dining-rooms, in which to sit and nibble the scarlet hips which in the early days of winter have helped to make such a blaze of colour after the autumnal fall of the leaves. These, though they have indeed left the hedges bare, have covered the ground with a carpet of many colours—yellow, green, gold, russet, and even scarlet. The wintry winds have now scattered this carpet of fallen leaves, and they are dispersed in every direction. Some are still clogging up the deeper hollows in the ditches and banks, and serve to keep the hedgehog warm when tucked away for his winter's sleep. And of the berries—hips and haws, service and privet—of which there was such an



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abundant store, there are now only a few remaining.

The field-mice, in their ruddy coats, have had their share, as we have seen ; and the dormice also, before they put themselves to bed for the winter. Now the missel-thrush, the blackbird, and song-thrush resort to the hedges in search of them, especially when the frost binds the earth with its icy hands, and makes it impossible for them to obtain any ground food ; or when the snow falls deep and soft, burying the whole face of nature in its white mantle. Then, too, the wandering fieldfares and the redwings flock to the hedges and hedgeside trees and bushes after the berries. They are foreigners, forced away from their home in Scandinavian forests by the harshness of the winter, which would deprive them



FIELDFARES FEEDING ON HAWTHORN BERRIES



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of their daily food. Yearly they cross the North Sea, in chattering flocks, in search of the abundance of English hedgerow fruits and berries. Not until the spring has well advanced do these strangers venture to return to the inhospitable country which has given them birth.

And while this mantle of snow hides the familiar landscape with a strange new loveliness which we can hardly recognize, we can see fresh beauties everywhere. The commonest objects are changed into specimens of fairy workmanship, as the delicate structure of blade and twig and leaf is encrusted with hoar frost, like fairy diamonds.

The snow will give us a good idea of the abundance of life. On its smooth surface every footstep, however light,

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leaves a print behind which we can read if up betimes, before the wind has swept away the loose, feathery particles, or the sudden thaw and drip from overhead branches have destroyed all trace of the track. The birds that hop, like blackbirds and thrushes, leave quite a different track from that of the starlings, which run. The partridges and pheasants which have passed can be distinguished by the size of the footprints as well as the shape. You may perhaps see a mark—a four-toed footprint of some bird, but one with very long toes; and you wonder what it can be. That is where a moorhen has walked along, leaving the track of its long green toes. The pond near by is frozen up; and so the moorhens have to take to the ditches, and hunt up and down them for food wherever they can



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find a soft spot. And those round holes in the softer parts show where a snipe has bored with its long, sensitive beak.

You see, a heavy fall of snow or a hard frost, especially if it lasts some time, compels many birds to alter their ordinary way of life. The first bird to feel the effects of cold weather is generally the song-thrush. Much of its food is obtained from the ground; and when that is frozen hard, or covered up with a thick layer of snow, it is unable to pull out worms and grubs, or to turn out slugs and other insects from under the fallen leaves, and amid the grass-roots. So then they may be seen close to the houses, hopping about near the back doors, on the look-out for scraps left by the chickens, bones round the dog-kennel, or anything else they may find.

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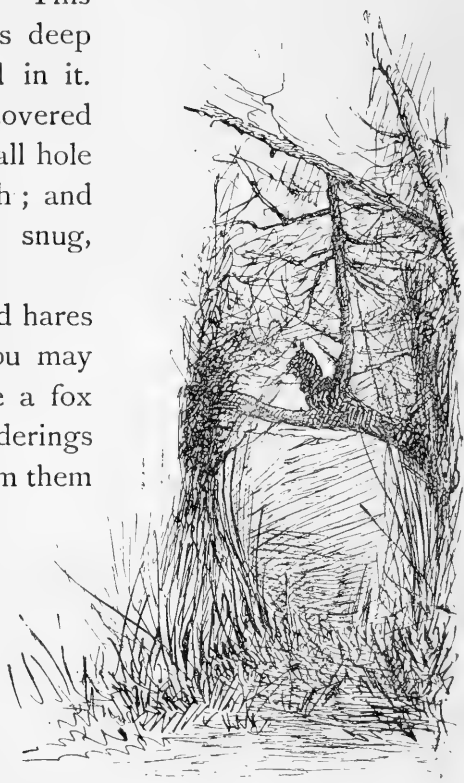
See how round they look, with all their feathers fluffed out with the cold, and how they glance at you with their bright eyes, as if asking for food. They are now almost as tame as cock robin himself, who is sitting on the gatepost and asking for food as plainly as if he could speak.

When the snow first comes, the rabbits down in their holes don't like it very much ; but as they get hungry they have to turn out, whether they like it or not. And you can see the curious track they make as they go 'hoppity-hop, hoppity-hop.' A hare makes quite a different sort of mark, and you may easily see the difference for yourself, for a little farther on there is a hare's 'meuse,' a gap or hole in the hedge made by the hares constantly passing through on

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their way to feed. They feed a good deal at night, hiding by day in their 'form' in long grass or anything high enough to hide them; and when they pass from one field to another they always use the same hole, which can be easily found by the track which leads up to it and passes through the hole. This is its 'meuse.' When the snow is deep they make their 'form' or bed in it. Sometimes they are entirely covered over with snow, except just a small hole kept open by their warm breath; and inside they sit, quite warm, and snug, and hidden.

The enemies of the rabbits and hares also leave *their* footprints, and you may sometimes see the traces where a fox has followed a hare on its wanderings during the previous night, and from them



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find out whether the fox was successful in its hunting and succeeded in getting a fat hare for supper, or whether it went home hungry. Perhaps the trampled and bloodstained snow shows that the fox caught it after all, or else that some hungry stoat or weasel has killed a rabbit. The snow has many such tales to tell to those who can read the language and interpret the signs of Nature.

Round some tall thistle or teasle there is a circle of seeds lying, with no foot-prints at all to show who has been along that way to drop them. Then you may be sure that some goldfinches or linnets have spied out the plant, and scattered the seed-feathers after cracking and eating the little seeds contained in them.

But the snow and frost must come to

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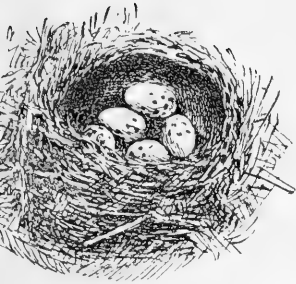
an end some day, and the spring arrive again with all its joys. The tender leaf-buds gradually open, and our bare brown hedge becomes covered with bright greenery once more. And what a bewildering variety there is to be sure, each plant with a beauty of its own! The golden 'palms' of the willow, or the star-like blossoms of blackthorn, and the lovely foamy-white masses of the may; the sweet-scented wild cherry; and, later, the pinky-white petals of the wild rose, and the trailing sprays of bramble and honeysuckle, all add their charm and fragrance, each in its own season. Then, too, there is the modest violet nestling in the sheltered nooks, and the primrose studding the banks with its yellow blossoms.

And now the birds commence to



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build, and the hedgerow begins to be brimful of interest. The first to build are the homely blackbirds and thrushes, and then the robins and the hedge-sparrows. The first two have made their nests and laid their eggs long before the leaves are out. Don't take all the eggs you can find. If you must have a collection—and I must admit they are tempting things to collect—only take a limited number. Never take any to destroy or waste. The spotted blue eggs of the thrush, though so common, are as beautiful as any to be seen, but they are much prettier in their nest ; and when the old thrush looks at us so appealingly, as we stand and watch her on the nest, surely the least we can do is to leave them for her to hatch.



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The hedge-sparrows, which have been creeping about the ground and hedges in their dusky plumage, uttering only their monotonous pipe all the winter, have been for some time sitting on the topmost twigs singing a short but pleasing song; and when the leaves begin to make a little shelter for them they construct a comfortable nest, in which they lay the loveliest blue eggs. Though this bird is called the hedge-sparrow, it isn't really a sparrow at all. Its beak isn't a hard seed-cracking beak like the sparrows', but soft and pointed like the insect-eating birds', and insects are its chief food. I suspect, however, it also eats soft seeds when it can get them. At any rate, I know that these birds can eat canary seed in confinement.

The brightly coloured titmice are now

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to be seen in every direction. One wonders where they can all come from. You can hear their notes in great variety ; the great tit, in particular, seems to have a fresh note every week. Early in the year he asks you in the plainest manner, 'Did-you? Did-you?' In the spring-time, if I hear a bird's note I don't recognize, I generally put it down to a great tit or a starling, and mostly find it is one of the two. For the starling, not content with its own queer jabber, imitates the notes of all the birds around and mixes them up in the most puzzling fashion. On any warm day in winter and early spring it likes to sit in the sun and talk to itself, clapping its beak and fluffing out the pointed glossy feathers on its neck as it does so. The blue tit also has a special spring note, very different



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from the harsh winter one ; for in March he goes courting, and rings a little silvery bell up and down the trees and hedges until he meets his bride.

Then the summer birds begin to arrive, and enliven the fields and hedges with their presence and songs. The chiff-chaff, though one of the smallest, is the first to come. Its loud note, 'Chip, chip,' can be heard in the tree-tops in March, while the weather is still bleak and cold. Then its cousin the willow-wren appears on the scene, and, soon after, the wood-wren. All these three build domed nests on the ground.

By this time there are fresh arrivals daily. The swallow may once more be seen skimming over the ponds and fields, and we begin to listen for the welcome



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cry of the cuckoo and the 'jug-jug' of the nightingale. And hosts of less conspicuous birds throng the bushes: whitethroats and garden-warblers, blackcaps, whinchats, butcher-birds, wrynecks, and all the rest of them. The hawthorn is covered with may-blossom, and the cow-parsley and the taller flowering grasses of the meadows grow right up to the hedge and mingle with the lower branches and the tangled mass of bramble and nettle. This is the place in which we may expect to find the roughly woven nest of the whitethroat—the 'nettle-creeper,' as the boys call it; and right on the ground among the nettles and bramble-stalks we may find the nightingale's nest, with its five polished brown eggs.

Talking of the butcher-bird leads me

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to ask if you ever heard of it before. Perhaps you didn't know that any bird kept a butcher's shop. But this bird does ; and if you are lucky you may perhaps see the butcher-bird, and even find its store of bees and beetles and little birds hung up for its future use. It is really more of a larder than a butcher's shop, for the things are not for sale, as you may suppose, but only for its own consumption. And a queer sight it is. On the sharp-pointed thorns of the hedge there may be a couple of big, fat, yellow-banded bumble-bees, and a large beetle. Near at hand on another thorn is a mouse or a young bird, a nestling hedge-sparrow or robin perhaps, which it has dragged out of the nest, or caught soon after leaving it, before it was strong enough on the wing to escape. It has





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even been known to use the sharp points of a barbed-wire fence on which to hang its prey; and no doubt thought, while it was doing so, that this useful form of spike was put there for its convenience.

Its nest will not be far away, and looks somewhat like that of a blackbird, but lined with finer stuff; and the eggs are smaller, more pointed, and have a ring of darker spots all round the larger end. In its ways the bird is something like a small hawk, though it is not strong enough nor big enough to kill anything larger than quite a small bird, and seems to live chiefly on insects. It isn't fast enough on the wing to catch things by flying after them, but pounces on them suddenly from some perch, where it sits on the watch for anything eatable to pass, and generally seizes the larger

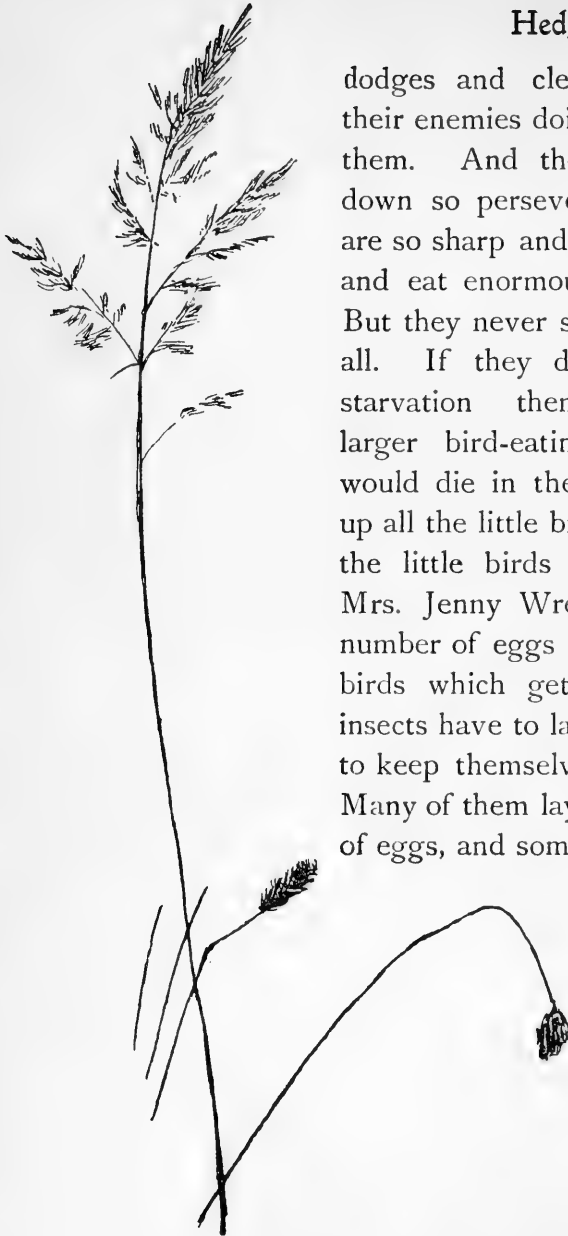
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insects, which are too big to be in any danger from the other smaller and weaker insect-eating birds. Some of these latter catch the smallest gnats and other insects which fly about in the bright sunshine throughout the long summer day, and others seek out the little caterpillars and grubs which would otherwise turn into insects if they were not devoured before they can grow up. So that all the little summer birds are doing a most useful work in keeping down the swarms of insects, which would, without this check, increase their numbers enormously, and eat up every green thing.

You see, therefore, that there is a constant warfare going on between the insects and the birds—the insects trying to escape observation by all sorts of

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dodges and clever contrivances, and their enemies doing their best to devour them. And the birds hunt up and down so perseveringly, and their eyes are so sharp and bright, that they catch and eat enormous numbers of insects. But they never succeed in eating them all. If they did they would die of starvation themselves—just as the larger bird-eating hawks and beasts would die in the same way if they ate up all the little birds and mice. And if the little birds like the bottle-tit and Mrs. Jenny Wren have to lay a large number of eggs to allow for the young birds which get killed and eaten, the insects have to lay still greater numbers to keep themselves in the world at all. Many of them lay hundreds or thousands of eggs, and some even more than that ;



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so that there are always enough to supply all the birds and leave a few over. All the things in this world, you see—living things and plants and vegetables—are bound up together; they can't do without one another.

Some of the contrivances used by insects in their different stages are most curious. The hedges are full of insects nearly all the year round; but if you were to go out and look for them you wouldn't find many until you had learned just where to look, and when to look, and, above all, what to look for. For they hide away in every possible place. Some only feed at night, when they think they are safe, and during the daytime burrow underground. There are many caterpillars in our English hedges which all the time they are in the caterpillar

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state pretend they are not caterpillars at all, but something quite different. And they pretend so cleverly that you would never know what they really were, unless you were shown. For some are shaped just like a bit of dead stick, and are brown in colour, and have knobs and lumps just like the knobs on a stick out of the hedge. It would not be of much use for them to look so like a stick as they do if they were moving about feeding, because the movement would tell the birds they were only shams; so they feed at night, and during the hours of daylight hold themselves out stiff and straight by a pair of clasping legs right at the end of their body; so that they look exactly like a bit of the hedge, instead of a fat, juicy caterpillar. When you first saw one,



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you would have to touch it before you could believe it was really a caterpillar. For the resemblance, to be of any use, has to be very perfect indeed. A bird's eyes are much sharper than ours. It is looking for its dinner ; so it has to be sharp, or it would die. If you didn't have anything to eat until you had gone out by yourself and found something without any help from anybody else, I think that you would soon learn to see.

Some of the insects abroad are even cleverer than our English ones. Many of them pretend to be green leaves, long twigs and sticks, and dead leaves. And some look so like other insects which are dangerous to handle because they can sting, that they are left alone. There are some moths in England, a whole family of them, which are not a bit like



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any other moths. A moth, you know, generally has feathery wings, covered with coloured scales ; but these have transparent wings like bees and wasps, and their bodies are also like them, with bright yellow and black bands. One looks like a bumble-bee, another like a wasp, another big one is just like a hornet, smaller ones are like the ichneumon flies, and they all of them look so very dangerous that you would certainly hesitate before you touched one.

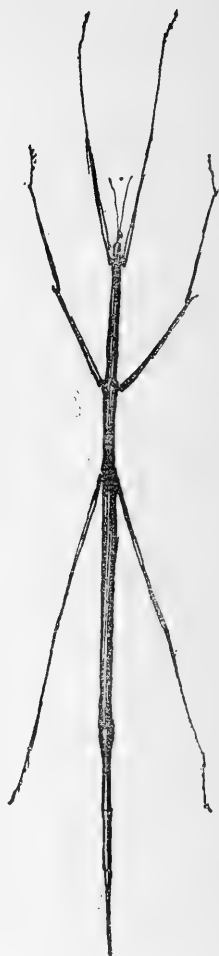
Then some of the caterpillars are hairy, like the common woolly-bear, and most birds refuse to touch them. The cuckoo is the only bird I know which will eat hairy caterpillars. The woolly-bear will eat nettles and docks ; and when it is big and fat and grown up, it wanders about, and then you generally find it



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walking about the roads, looking for a convenient place where it can spin its cocoon. For it makes a silken hammock in the same way as a silkworm, and turns into a shiny chrysalis. Soon after, when it has slept in this hammock for a week or two, it turns into a beautiful, large moth, a tiger-moth. Its upper wings are a creamy colour, with bold markings of chocolate-brown, and its under wings are a lovely brilliant crimson, with big, round, blue - black spots. There are other smaller tiger-moths which are even more gorgeously coloured than this beautiful creature.

Then there are other woolly caterpillars which sting like nettles. Other caterpillars, again, make faces at you if you look at them ; and if they don't put out their tongues at you—because they





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haven't any—they put out long horns and tails, and wave them about and try to look as terrifying as possible. Do you know the puss caterpillar, I wonder? It is really a most extraordinary-looking creature. If you look for it at the right time of year, about July, it may be found feeding on the willows and sallows, or poplar, in the hedges. Its body is green and pointed, like a willow-leaf, but on its back is a dark purplish-brown patch, bordered with white. If it is annoyed, or threatened with any danger, it sticks up its head, draws back its face, and presents a sort of false face, pink in colour, with two large black spots which look like eyes, though they are not, really. At the same time its tail end is stuck up over its back, and two long tails, which look as if they might be stings, are



TWO COLE TITS INVESTIGATING A PUSS CATERPILLAR



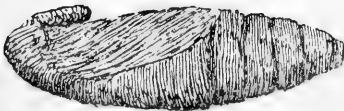
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protruded; altogether it looks a most uncanny creature. It spins a cocoon on the bark of the willow-tree or poplar-tree it has been feeding on, but hides itself in a most clever way while in the defenceless chrysalis state by imitating the willow-bark so marvellously that when the cocoon is finished it looks exactly like the rest of the tree-trunk. I watched one making this cocoon the other day, and it was really most interesting to see. First of all it went into a deep crack in the bark, and gnawed out a hole there big enough for itself. Then it spun all round itself—over its back a cocoon of very loose, coarse silk, and filled up the loose meshes or openings with a sort of gummy liquid. And into this sticky liquid it pushed bits of bitten-up bark from inside, until it was covered with

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a brown sawdust, coarse and rough, and of course the same colour as the rest of the bark. In a day or two the gummy stuff dried quite hard and firm, and the whole thing looked just like a rough lump or knot in the bark of the tree. I have it still; and I expect that in a few months—for it spends the whole winter and spring in this safe retreat—it will turn into a pale-coloured moth with a fluffy body and two beautiful horns like feathers.

Another caterpillar which feeds on the willow is very large—about four inches long, and as thick as a man's finger. It is bright green, with purple stripes on its side, and a horn on its tail. It turns into the privet-hawk moth, one of the largest of our English insects. In the chrysalis state, when it is buried in the



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earth, it is peculiar in having a separate sheath or beak for the tongue, which in the moth is very long and rolled up like a watch-spring. Others nearly as large live also on the willows in hedges. The eyed-hawk caterpillar is green with white stripes, and the poplar-hawk green with yellowish stripes, and they both bear horns on their tails. The willow (and the sallow, which is a form of willow) is such a favourite food for these large and interesting caterpillars that it is worth while searching carefully for them at the end of the summer, about August or September. Perhaps the best way to find them is by shaking the branches hard over an umbrella turned upside-down on the ground beneath. You must shake hard, because they can cling on very tightly, and they

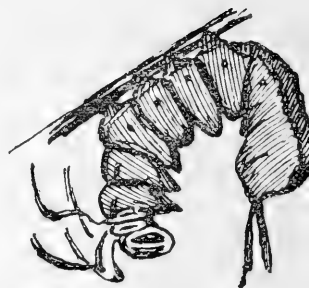
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don't let go very easily; and their green colour is so like the colour of the leaves that it takes a very practised eye to find them by only looking for them. I can remember now, when I was quite a small boy, many years ago, being told to do this if I wanted to find a privet-hawk caterpillar. As I did want one, I went out to the nearest willow (which was in our garden, so I didn't have very far to go), turned my mother's best umbrella upside-down, and shook as hard as ever I could. Much to my delight, down came with a great flop a lovely green caterpillar, with purple stripes on its sides, and a horn. Sure enough, it was a privet-hawk. In due time it turned into a brown chrysalis with a beak, and the following year into a beautiful large moth. Another extra-

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ordinary caterpillar feeds on the beech. It is called a 'lobster'—and really looks something like one. It is reddish, and sits head-downwards, and extends its long fore-legs like the feelers of a lobster. Its tail also hangs down, while it holds fast by its legs in the middle of its body.

As all the moths and butterflies begin from an egg, they have to make three distinct changes. From the egg comes a tiny caterpillar, which very often begins life by eating up its old egg-shell, and then goes on as it has begun, always eating, eating. It eats such a lot, and grows so fast, that its jacket gets too tight for it, and it has to change it or burst. And when the old coat has split, and it crawls out with a brand-new suit on, all ready made, it eats up its old



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coat and goes on with a better appetite than ever. It does this several times in its caterpillar state; and then, when it can't eat any more and has grown as much as it can, it changes into a chrysalis or pupa, and then finally into a moth or butterfly. The chrysalis does not feed at all; the perfect insect has no jaws to eat with as the caterpillar had, but instead is provided with a long tongue, or proboscis. It is, in fact, like the proboscis or trunk of an elephant—a long tube, through which it can suck up liquid. And this liquid food is obtained from flowers, each kind frequenting special flowers in preference to others. These creatures are, in reality, very good judges of botany, and very clever in distinguishing one plant from another, however much they

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may be alike in outside appearance. For the caterpillars will not feed on any leaf they may find themselves near, but restrict themselves to one or two varieties. The parent insects, therefore, are careful only to lay their eggs on the proper plants. The primrose-coloured brimstone butterfly picks out the buckthorn from all the other plants growing in the hedgerow, never by any chance laying an egg on anything else. The silver-washed fritillary, which in the perfect state is fond of sitting on the flowers of the bramble to suck the sweet honey, lays its eggs on the violet and dog-violet, and on these plants alone the caterpillars feed.

This family of fritillaries is an extremely handsome one, the under wings of the butterflies being decorated with



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square plates of burnished silver, and even the chrysalis has metallic spots.

At the end of the summer there are black spiny caterpillars which may be found feeding in numbers on the nettles in the hedges and ditches. These, when ready, hang themselves up by their tails under the shelter of a little tent made of nettle-leaves. In this tent they turn to a chrysalis, -which is also ornamented with spots of what looks like pure gold. These in due time turn into the red admiral butterflies which are so conspicuous in gardens and fields in September; other black caterpillars, also feeding on nettles, turn into the peacock butterflies, whose wings bear 'eyes' like those on the tail-feathers of the peacock.

These larger butterflies are as orna-

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mental and nearly as large as the small birds. What can be more beautiful than a red admiral butterfly slowly opening and shutting its wings of black and scarlet, as it sits on a purple thistle-head ; or some of the lovely blue butterflies, or the coppers? And if we have no humming-birds in England, there is a good substitute in the humming-bird hawk-moth. This moth hovers over the flowers in the garden, and sucks the honey from them with its long proboscis without alighting. Its wings move so rapidly that they make a 'humming' noise, and the action and appearance and habits of this insect so resemble the humming-birds of tropical countries that many people who see them are quite sure that they have seen a humming-bird in England ; and have



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before now written to the newspapers to say so.

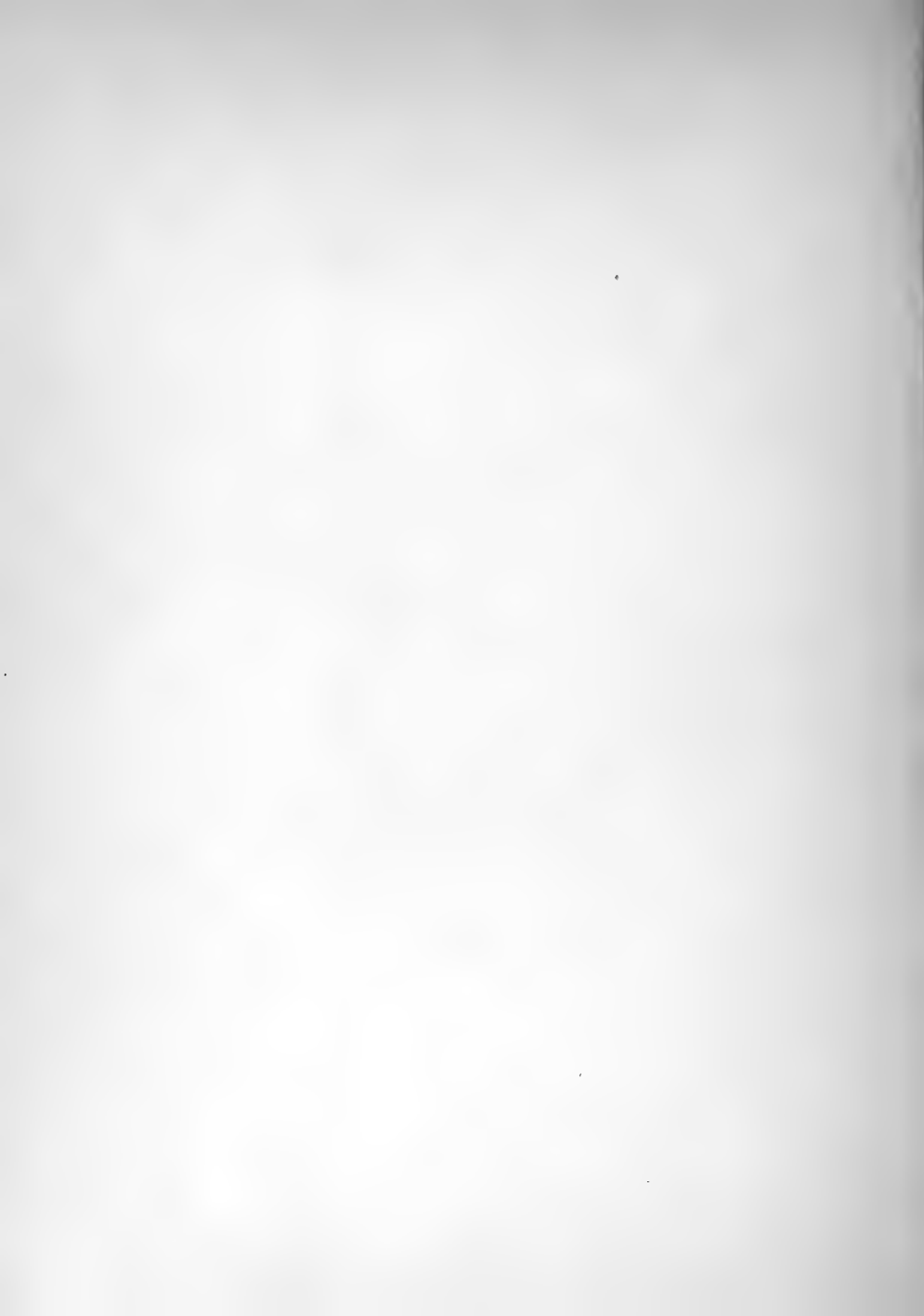
Then there are all sorts of other insects, and their ways and habits are as interesting as those of the moths and butterflies. The yellow-banded and the red-tailed bumble-bees are regular honey-making bees, but they only live in small numbers, and their cells are not so cleverly constructed; and instead of storing up their honey they eat it as fast as they make it. After their long winter sleep, those which are left alive wake up one warm spring day and go buzz-buzz along the fields, poking their heads into all sorts of holes and corners, looking for a nice convenient hole in which to make their nests. Perhaps they choose an old mouse-hole or other small hollow in the ground, or hedge-bank, where they make

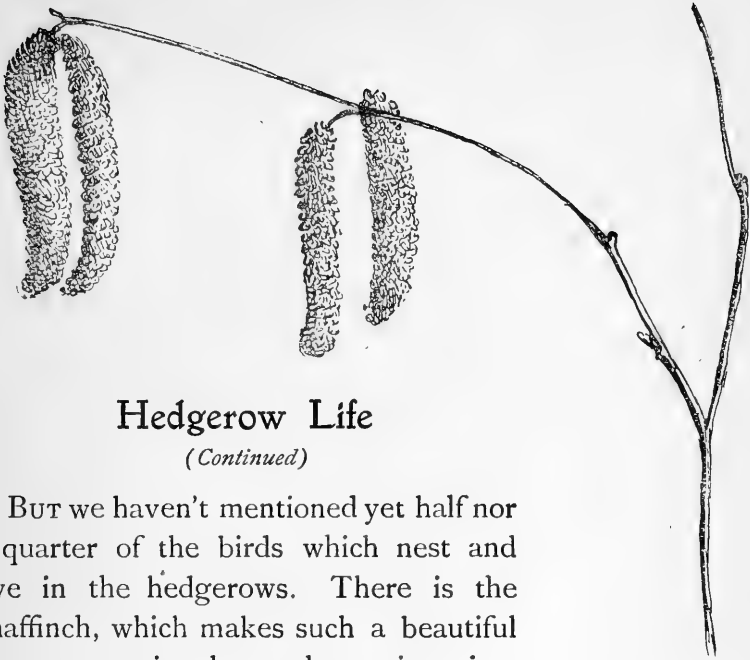


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a small nest of moss. And in this the eggs are first laid, and later on, as they increase in numbers, the round cells of brown wax are stored. The bumblebees visit the flowers for their honey most industriously, and seem to be particularly fond of thistles. On the big purple thistle-heads they sit in a drowsy fashion, as if half stupefied. Clover also has a great attraction for them, and they appear to be especially fitted for fertilizing the flowers of that plant.







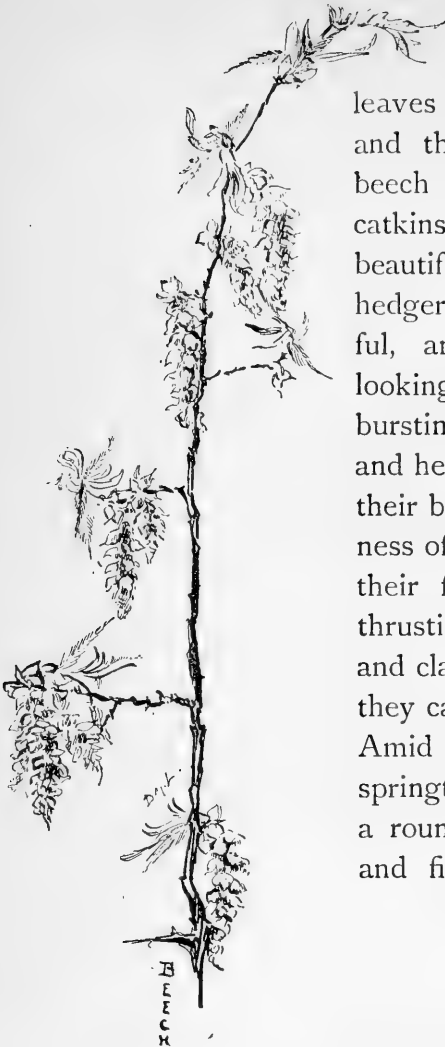
Hedgerow Life

(Continued)

BUT we haven't mentioned yet half nor a quarter of the birds which nest and live in the hedgerows. There is the chaffinch, which makes such a beautiful mossy nest in the early spring, just about the time when everything is looking at its very best and brightest. The hawthorn hedges are now clothed with

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leaves of the richest and tenderest green, and the hanging tassels of hazel and beech begin to be seen. The nut-catkins everybody knows, and very beautiful they are; but those of the hedgerow beech are almost more graceful, and the sycamore also is worth looking for. Everywhere buds are bursting into leaf, and the common weeds and hedgerow plants seem to be trying their best to cover up and hide the bareness of winter with the fresh verdure of their foliage, while long tendrils are thrusting forward their green shoots, and clasp in loving embrace any support they can find in their upward growth. Amid all this luxuriance of the fresh springtide, you may see in some bare fork a round mossy cup most skilfully made and finished. For the chaffinch is a

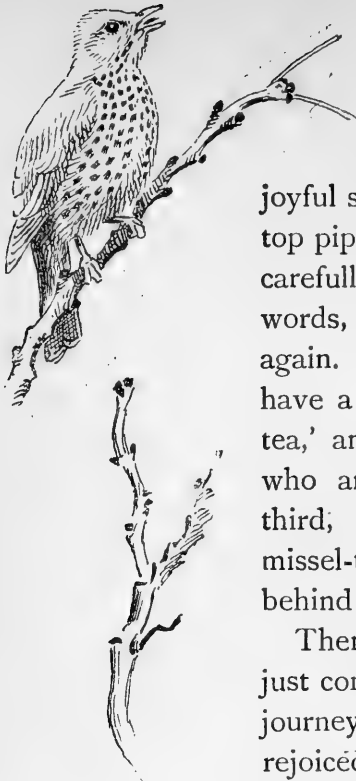


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most clever nest-builder, not only making a nest good to look at, but one which must be very comfortable, it is so warm and soft. But it is a very poor singer. The call-note, 'pink-pink,' is very monotonous, and its song is short and not to be compared with that of other bird-musicians at this joyful season.

The blackcap, for instance, has a most musical song, almost equal to that of the nightingale; but it is no hand at making a nest. A very flimsy open basket of dry grass, lined with black horse-hair, serves to hold its curiously coloured eggs. All the birds are now singing their best. The home birds, which live here always, feel that the winter is over, with the cold and the frost, and are ready to welcome the springtime with their richest and most





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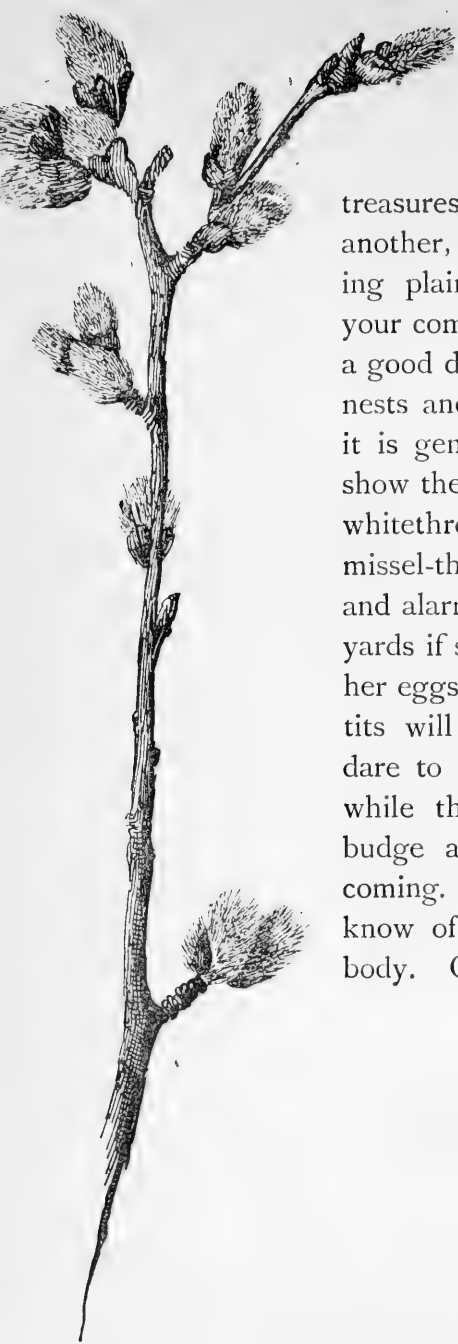
joyful songs. The thrush from the tree-top pipes up merrily. If you listen to it carefully you may make out distinct words, which it repeats over and over again. One bird asks you plainly to have a 'cup of tea, cup of tea, cup of tea,' and another says, 'Who are you? who are you? who are you?' and a third; 'Did you do it?' And the missel-thrush and blackbird are not far behind in musical ability.

Then the summer birds, which have just completed their long and wearisome journey all the way from Africa, are rejoiced to have finished their travels in safety, and to be back in old England once more; and they sing in joy and thankfulness, until they find their partners, and then all the labours and anxieties of bringing up their helpless

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broods make them too busy to have time for singing.

It is truly a wonderful performance, if you think of it, for a small bird like the feeble little chiff-chaff or the slender willow-wren to make its way from Africa to our shores every spring and to return the same way every autumn, with only its wings and its brave spirit to help it. And after it has endured all the toil and weariness, and the many dangers, no wonder it feels inclined to rejoice and be glad. The lesser whitethroat, too, is another tiny traveller, whose nest may be found in the topmost twigs of the tall hedges. It is in the form of a very open shallow cup of dried grasses. Although such a small bird, it has plenty of pluck, and sometimes will scold vigorously if you go too near its



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treasures, flitting from one twig to another, with its crest raised, and showing plainly that it doesn't at all like your coming there. Most birds display a good deal of courage when they have nests and eggs ; and, curiously enough, it is generally the smaller birds which show the most. Some of them, like the whitethroat, will scold harshly. The missel-thrush will make a perfect uproar, and alarm everything within a hundred yards if she thinks any danger threatens her eggs or young. Blue tits or great tits will peck your fingers hard if you dare to put your hand into their nests while they are there, and they won't budge an inch if they see you are coming. There are only two birds I know of that will actually attack anybody. One is the great skua, a large

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sea-bird something like a sea-gull, which flies straight at your head like a bullet out of a gun ; and the other is an owl. The tawny owl, or brown owl, which lives in the woods, has often been known to attack people who are merely passing near the nest in the evening. Perhaps they didn't know there was a nest near at all, but all of a sudden the angry bird has swooped down and given them a smart blow on the head, or perhaps seized their cap and carried it off.

But all the birds, little and big, which remain sitting on their eggs when they could so easily fly away, as they would certainly do at any other time, show a great deal of courage. Some of them will permit you to stroke them, and many will allow you to approach quite close to



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them, if you do so quietly. The larger and stronger eagles and hawks are not nearly so brave, but will always fly off at once as soon as you come near, and generally do not return until you have departed, though some of them fly round in great circles at a respectful distance. Once I had an eagle fly into the tree and sit on the branch on which I was trying to photograph its nest and eggs ; but I feel sure it had no intention of attacking me, and it is possible that, as the tree was a thick pine-tree, it did not even see me until it had flown in. This was a very small kind of eagle, the booted eagle, which nests in the pine-forests in the south of Spain.

The birds which nest regularly in the hedgerow are mostly of small size ; the largest are the wood-pigeon and the

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magpie. The first makes a very rough platform of sticks, so coarsely put together that you can easily see the two white eggs through the bottom as you stand below. The magpie, where it is found at all—and in some places it is very scarce—makes a strong nest of sticks, and over the top a roof or cover of sticks. The whole nest, and the place in which it is made, are matted so thickly together, and generally so prickly, that it is not by any means an easy matter to get at the eggs. I suppose Mrs. Mag knows how good to eat birds' eggs are, for she eats plenty of them herself—all she can find, in fact—and does not mean that any other bird shall eat hers.

About midsummer the dormouse makes its nest—for birds are not the only things





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to do so. The squirrel makes a winter nest to sleep in among the branches of the trees, and also another in the spring, in which her little ones are born. The dormouse, however, is the squirrel of the hedgerow, and makes its nest there amid the interlacing twigs. A round, compact affair it is, without any visible hole for entrance. For the old dormouse opens the walls of dry grass when she wants to come in, and closes the hole up again afterwards. I have found this nest sometimes, and looked at the closely packed family inside. But both the dormouse and the squirrel, if their nests are once touched or handled, will forsake them immediately, and make a new nest in a different place, carrying their little ones to it one by one. I have returned within an hour after finding a nest full

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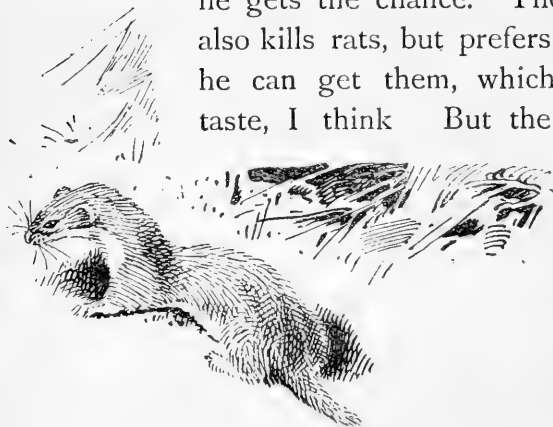
of young dormice, and found it empty and deserted.

Field-mice, too, will make a nest in the hedges, and may often be seen climbing about after the berries, and I have even sometimes seen rats at the top of a high hedge. But the more usual place for them is in the bank of the ditch below. When the bank-side vegetation begins to die down in the autumn, their holes may be easily seen, and the long runs they make along the banks. Regular, well-trodden pathways they make for long distances — high - roads for the members of the rat world—along which they run on their nightly business. This business is mostly robbery. Corn, turnips, carrots, potatoes, and all manner of field crops, are brought along these runs under the cover of the night



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and stored away in holes for future use. It is nothing unusual to find, stowed away in a rat's store-house, a gallon or two of potatoes. And added to this wholesale robbery is the loss caused by smaller members of the family. The short-tailed field-mouse, the long-tailed, and the bank-vole, all take their toll of the crops. But they have their own enemies, which follow them into their holes and along their runs, and pounce on them if they venture into the open. The bloodthirsty little weasel chiefly lives by catching rats and mice, and is really a friend to the farmer, who nevertheless seldom fails to kill him whenever he gets the chance. The bigger stoat also kills rats, but prefers rabbits when he can get them, which shows good taste, I think. But the owls are the



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farmer's best friends, for they eat immense numbers of mice and rats without molesting the rabbits.

The night-loving owls are hardly hedgerow birds, as they don't live in the hedge itself; but in the hollow trees which often grow in the hedgerows they make their homes.

If you were to peep into the hole in which they had chosen to live, you would probably see the old owls; that is, if you were very quiet indeed, for they are not always quite so sleepy as they look, and are quite wide awake enough to fly out of one hole while you are looking in at another; and however quiet you were they certainly wouldn't stay long to be looked at. But their young ones would be there, and they are the fluffiest and the most comical-looking

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young birds to be seen anywhere. The little herons are funny enough, but the baby owls are even fluffier and funnier still. They look like living powder-puffs; for they are clad in the whitest and softest thick down, with funny triangular faces and knocked knees. And when you look at them they sway about and put out their chins, and hiss like a family of snakes. A hungry family it is for the old owls to provide for, and they must have to work very hard when they turn out of their hollow tree to sail on their soft, noiseless wings over the fields and meadows, mouse-hunting. For there are generally six and sometimes eight of these hungry youngsters to provide for, and each of them is quite able to devour two or three mice every night of its life;

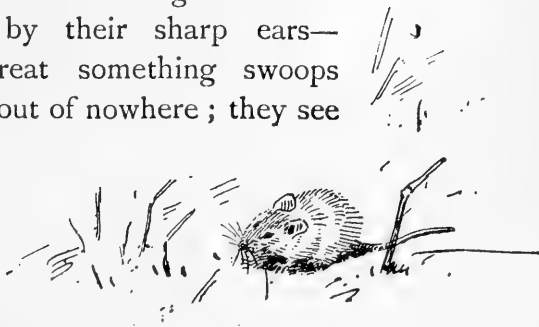


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so that it is quite easy to add up the number of mice which are killed to support only one family of owls. For their chief food is mice and rats, with a few birds, which are mostly sparrows. These are caught when sleeping in ivy and in stacks by the owls, which hover and flutter in front of their nesting-places, and snatch at them whenever they can hear a rustling.

This is rather an unpleasant awakening for the poor sparrows, but owls must live as well as sparrows. It isn't, after all, any worse for them than it is for the mice. While they are nibbling in the fields, and fancying that they are quite safe—for there isn't the slightest noise to be heard by their sharp ears—suddenly a great something swoops down on them out of nowhere ; they see

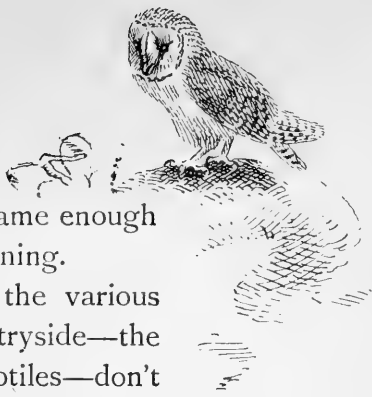
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a pair of flashing, fierce, and hungry eyes, and they are caught in the grip of the owl's sharp claws, which quickly crush the life out of them as they are borne swiftly and silently to the old hollow tree, where the owlet family are hungrily awaiting their supper. Such a hissing and a snapping of beaks there is when the owl is seen at the front door with food, and the unfortunate little beast is soon disposed of. Probably it is swallowed whole by the hungriest and the strongest of the young ones, with frantic gulps, and for some time afterwards the mouse's long tail is left hanging out of the corner of the owlet's beak, as if it were smoking a long pipe. You see, there isn't room for such a long mouthful all at once. The tail will be slowly and gradually stowed

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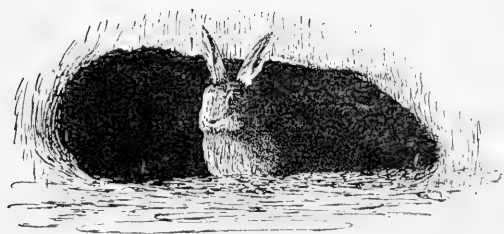
away and the bird be quite game enough to tackle another before morning.

It is to be hoped that the various wild creatures in the countryside—the birds, beasts, insects, and reptiles—don't feel the pain and the fear which we should feel. For they nearly all depend upon killing and eating something weaker than themselves, and they in their turn are always liable to be devoured by something stronger than themselves. And there is no end to this state of things ; by night as well as by day the constant and unending strife goes on between the different members of the animal and insect world. Each and all of them try to put off the evil day as long as possible, and each one has its own ways of evading capture for itself and of obtaining its own food ;

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but, put it off as they may, for all the smaller ones, at any rate, the end must come some day. The chase or the sudden capture, a squeal or a flutter, and one more wild thing has gone the same way as all its ancestors before it.

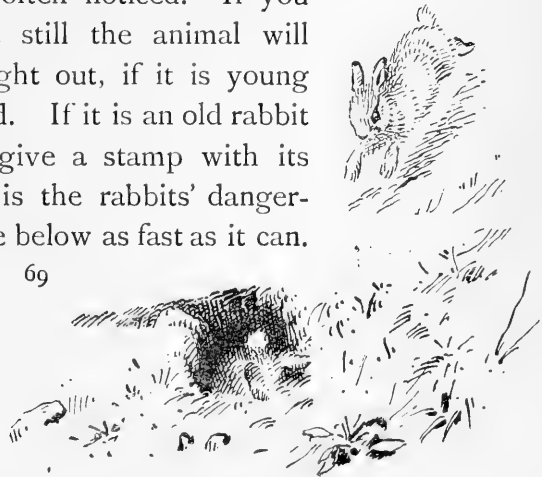
The bank here, where the ground is sandy, is quite honeycombed with rabbit-holes, and their runs can be seen from one to the other, and for long distances out into the fields—regular pathways, as plain and well defined as a path can be. Here the bunnies run about and play and feed. For they are funny, playful little creatures, fond of running after one another, and playing leap-frog, or some such game. There isn't one to be seen, but there are dozens in their underground retreats waiting for us to pass. Our footsteps betrayed our ap-



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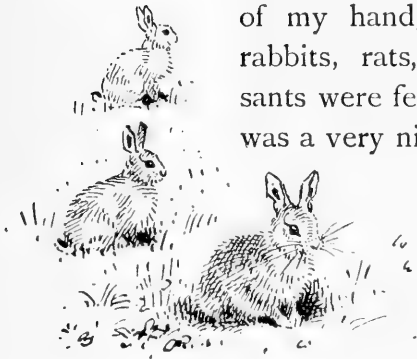
proach to their sensitive ears, and now it will be some time before they will venture to appear in the open again. If you stand quite motionless, taking care not to move, so that the vibration of the ground doesn't tell them that we are still near, we may be able to hear them running about in their galleries below. Presently a pair of ears may be seen rising from the ground. In the sunshine they look quite red from the blood which may be seen through the delicate thin skin. It is a very curious sight, this, and one I have often noticed. If you now stand quite still the animal will perhaps come right out, if it is young and inexperienced. If it is an old rabbit it will probably give a stamp with its hind feet, which is the rabbits' danger-signal, and scuttle below as fast as it can.

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In this case, unless you have a good stock of patience, perhaps we had better move on ; though I once waited four hours to see a rabbit come out which I had seen enter a hole. If there are a lot of young rabbits it is easier, for they will come out much more readily, and if you only stand still they will not take much notice of you. I have had rabbits feeding about quite close to me without any attempt at concealment, merely by standing still and motionless in the open. It is the movement which alarms wild animals more than the sight of a human figure. Squirrels are shy enough, but I have had one sit on a fence within reach of my hand, while at the same time rabbits, rats, wood-pigeons, and pheasants were feeding close to my feet. It was a very nice experience, and anybody



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can have it if they only try. You may even move, if you do so very quietly and slowly. I have walked nearly up to a rabbit before now in the open ; it is true it was a young one. I shouldn't have been able to do so after the shooting season had begun, for they soon learn how necessary it is to be careful. They have very good reason for learning that lesson. Out of the dozens of rabbits here under our feet, not a single one will die a natural death. Those which escape being shot by the keeper or his master will be caught by stoats, foxes, weasels, badgers, or come somehow to a sudden end. They have plenty of enemies, but out of them all stoats and weasels must be the most deadly. The foxes' cunning enables them to catch plenty of rabbits ; but the rabbit is artful,

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too, and very timid, and manages to escape for a while. But from a stoat there is no escape. The burrow is no defence, for the stoat can follow wherever a rat can go, let alone a rabbit, and can crawl into the nursery and help itself to young rabbit whenever it feels inclined. And when in the open the rabbit seems to recognize the impossibility of escape, and hardly tries to do so, hopping sluggishly in front of its bloodthirsty pursuer until it is overtaken and devoured.

Yet, with all their enemies, rabbits increase, until they have to be reduced in numbers by shooting, trapping, and netting. For they have a large number of young several times a year, and this enables them to more than keep pace with the destruction which goes on in



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their ranks. If allowed to increase too far, they can do an immense amount of damage to crops. This has happened in Australia, into which country they have been introduced; and as there were not sufficient natural enemies to keep them in check, they have become a most serious nuisance.

Rabbits are clever enough to provide themselves with a back door to their burrows, so that they can escape by that way when danger knocks at the front entrance. And in this respect animals show themselves to be more intelligent than birds (I should say, perhaps, mammals, not animals, because you should plainly understand that a bird is an animal quite as much as a dog or any other creature); for you will not find a back door to any bird's nesting-hole,

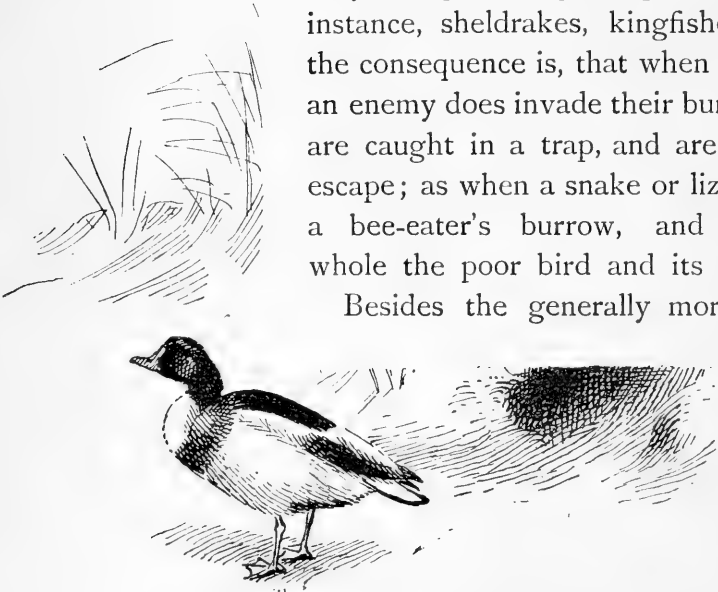


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unless it is already there provided by accident.

Perhaps you may not know that any birds do nest in holes underground, but quite a number of them do so. A retreat underneath the ground, and so completely out of sight, forms a very safe place when a bird is sitting on its eggs, and thereby more exposed to danger; and it is especially taken advantage of by birds which have very brilliant or very conspicuous plumage—puffins, for instance, sheldrakes, kingfishers. But the consequence is, that when by chance an enemy does invade their burrow, they are caught in a trap, and are unable to escape; as when a snake or lizard enters a bee-eater's burrow, and swallows whole the poor bird and its eggs.

Besides the generally more or less



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conspicuous front door of the rabbit, there is, as I have just said, always a smaller hole for safety, called a 'bolt-hole,' and this is often in some inconspicuous place, such as under a spray of bramble, or amid some nettles.

And most other animals do the same thing; they appear to be able to look ahead and provide for the future better than birds. For instance, mice, squirrels, dormice, and many other animals (or mammals) get together a store of food for the winter. But very few birds do this. The butcher-bird—or the red-backed shrike, to give it its full proper name—will hang up birds and insects for next day. The rook will bury acorns—but I never heard of one remembering where it had put them. And the jackdaw and raven will hide things away

Hedgerow Life

which are of no use to them. These last three are about the cleverest of all the birds, and are supposed to be at the top of the tree in the bird world.

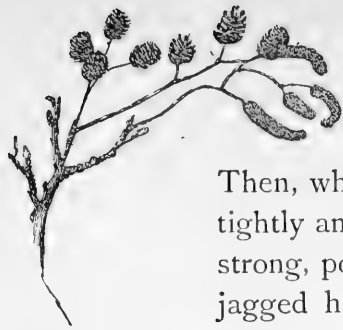
If there is the variety we have noticed in the beginning of the year, as the summer advances we find the utmost profusion of flowers, plants, berries, and fruits. The hedgerow itself is composed of many different kinds. Besides the whitethorn and blackthorn there are oak, beech, maple, sycamore, hazel, service, privet, hornbeam, buckthorn, willow, and many others; and their leaves, fruits, nuts, and berries afford food to a great variety of living creatures each in its own season. And well do all the creatures know where to look and when to look for the particular kind in season.

The dormouse and squirrel know quite

Hedgerow Life

well when to look out for the ripe hazelnuts. These are perhaps the biggest of the hedgerow fruits, except the crab-apple, and provide food also for the field-mouse and the nuthatch, not to mention the grubs and weevils which feed inside the growing nut, reducing it to powder before it can ripen. Have you ever seen a squirrel sitting up nibbling a nut, holding it in its little red paws? If so, you will agree with me in thinking that it would be very difficult to see anything prettier in the whole world of nature. While it holds the nut fast it nibbles the shell with its powerful cutting teeth, like chisels, until it can reach the kernel. The nuthatch is a bird equally fond of nuts; but as it can't hold the nut in its hands, it flies off with it and fixes it in the crevice of the rough bark of a tree.





Hedgerow Life

Then, when it is quite firm, it holds on tightly and hammers at the nut with its strong, pointed beak until it has made a jagged hole, out of which it picks the nut and promptly eats it. The field-mice also eat a great many, but have to work very hard, because their teeth, although they are sharp enough, are still so much smaller than the squirrel's strong teeth that it takes them some little time before they can bite through the hard shell. The other berries and hedge-side fruits each have special birds and beasts ready to come and feast on them at the proper time. When the black privet berries are ripe, the bullfinches with their black velvet caps come for them. The scarlet hips and the ruddy haws feed the home and foreign thrushes, and also the greenfinch and hawfinch. This last

Hedgerow Life

bird possesses such a powerful beak that it can crack a cherry-stone with it. The goldfinches and linnets flock to the thistle harvest, and pull out the feathery arrows and eat the small seeds contained at the end of them. Merrily they flit from thistle to thistle, clinging like gaily coloured acrobats to the bending plants, while the air is full of the feathery particles dislodged by their sharp, pointed beaks. The siskins keep to the brookside, preferring the alder berries ; while the wood-pigeons, chaffinches, and bramblings pick up the beech-nuts fallen from the beech-trees. Flocks of them may be seen searching for their favourite food among the ruddy beech-leaves which strew the ground so thickly. The elder berries, which have succeeded the creamy masses of sweet-scented



Hedgerow Life

flowers, are dearly loved by the starlings, which eat them greedily in the autumn ; and many of the smaller warblers are also very fond of them. Ivy berries, service berries, and the scarlet yew berries are eaten by thrushes and missel-thrushes.

The flowers and blossoms also are great attractions to certain insects. In the early spring, when the golden sallow 'palms' are studding the bare twigs in every hedgeside, many small moths have just been hatched from the chrysalis ; and at the approach of night these night-flying insects flock to the *sallows* for the nectar contained in them. If you examine a sallow bush in full bloom with a lantern on a favourable spring night, about ten o'clock or later, you will see innumerable spots of ruby light in pairs. These are the glowing eyes of



Hedgerow Life

moths, and the insects are drinking their favourite beverage. The same sight may be seen round the beautiful white flowers of the bird-cherry. The bats know this fact in natural history, for they circle round the plants and hedges, and pick off the hapless moths as they feed. They will come quite close to your lantern, and you can see them do it. In the autumn the berries of the ivy have the same attraction for the autumn insects, and the bats again know where the ivy blooms, and also hover round the street lamps in search of moths attracted by the glaring light.

The wild bees, too, know each flower in their season. The may, the wild rose, and the fox-glove with its tall spikes of red flowers, the big white convolvulus with its clinging tendrils, the

Hedgerow Life

honeysuckle scenting the lanes with its perfume—all these are visited by the big velvet - banded bumble - bees, by other smaller bees, and by flies and beetles innumerable. The bramble blossom's sweet store is also appreciated by countless insects, and its blackberries are eagerly sought after by the pheasants. These wander far away from the woods in the autumn mornings in search of acorns, blackberries, and other hedgerow delicacies proper to the season.

What a glow of colour there is now along the hedgeside! The stately pheasant, as it struts in the sun and turns over the fallen leaves, seems to repeat in its burnished plumage all their rich and varied tints ; all the russet and gold and scarlet of the autumn leaves and berries are reflected in its feathers.

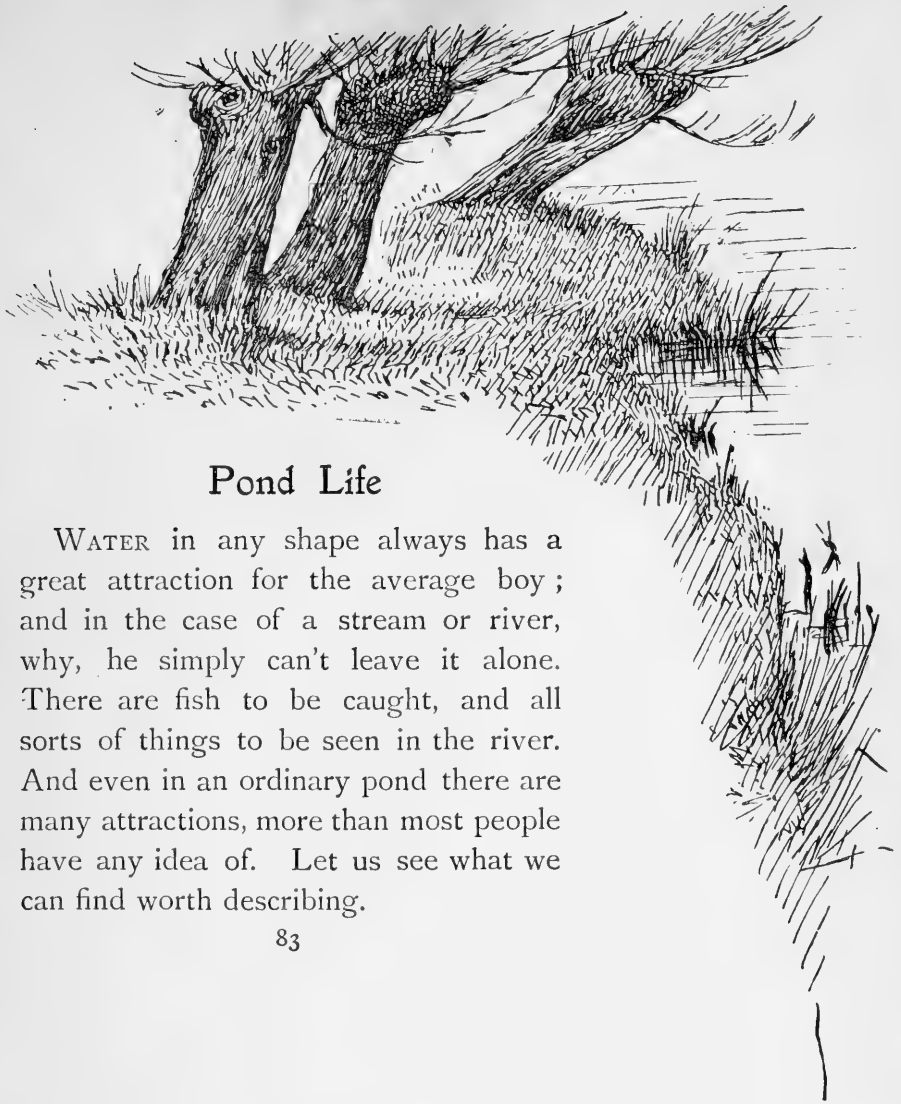




PHEASANT

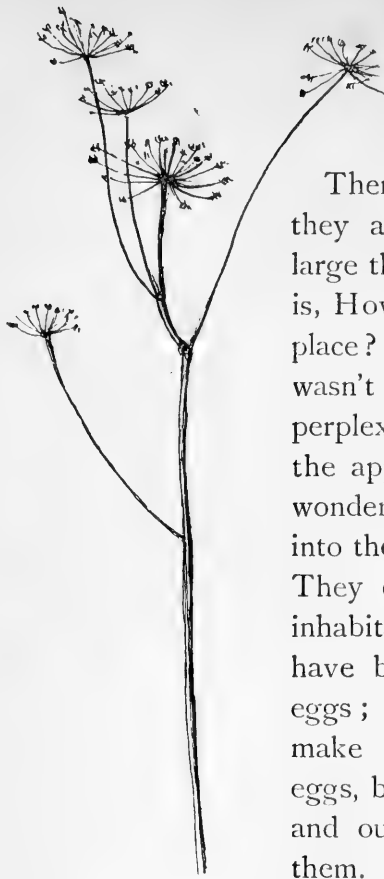
W. H. H. X





Pond Life

WATER in any shape always has a great attraction for the average boy ; and in the case of a stream or river, why, he simply can't leave it alone. There are fish to be caught, and all sorts of things to be seen in the river. And even in an ordinary pond there are many attractions, more than most people have any idea of. Let us see what we can find worth describing.



Pond Life

There are even fish in it ; it is true they are only sticklebacks, not very large things to catch. But the mystery is, How did they get there in the first place? It was George the Third—wasn't it?—who is said to have been so perplexed as to how the apple got into the apple-dumpling. But I have often wondered how the sticklebacks first get into the ponds, and I don't know now. They can't fly like some of the other inhabitants, so I suppose their eggs must have been taken there. For they lay eggs ; and not only lay eggs, but they make nests. Now, all the fishes lay eggs, but very few of them make a nest, and our common stickleback is one of them. And this nest-making makes it even more difficult to understand. Because if they laid their eggs on the

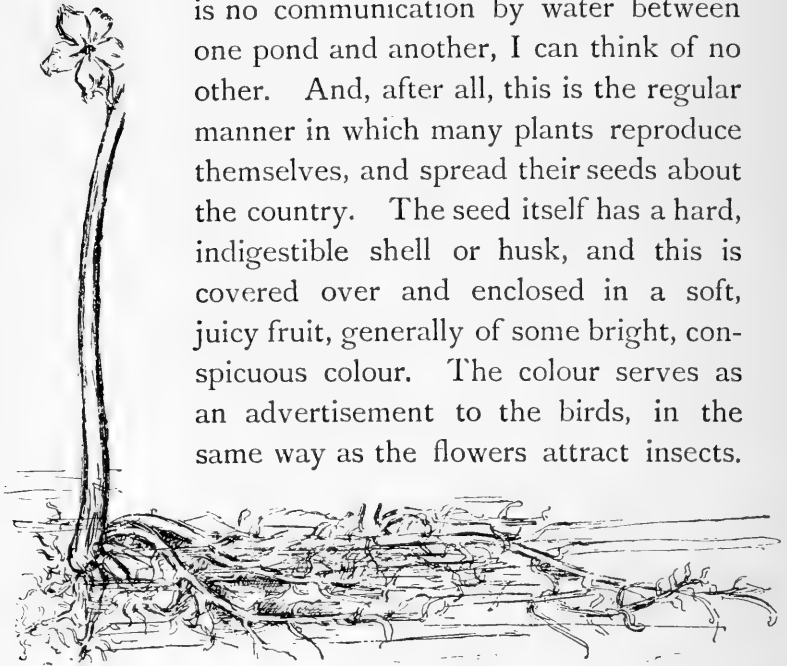
Pond Life

water-weeds, as do some of the other fish, it might be possible that a piece of the weed with the eggs on it might have been brought to the pond by some animal or water-bird accidentally; but they could not very well have brought away the nest. Living things are, it is well known, distributed in this curious fashion all over the world. And there are, in fact, all sorts of these curious puzzles going on around us, and that is one reason why the study of natural history is so extremely interesting. The only possible way I can think of is that the eggs of the stickleback have been brought along with some mud on a bird's foot which had been wading about, or else that they may have been swallowed by a duck while grubbing about at the bottom of some other pond,



as ducks do, and that they have passed through the body of the duck and fallen into the water of this particular pond, still undigested.

If that isn't the right answer I must give it up. It may seem a very far-fetched way of accounting for the presence of this little fish ; but as there is no communication by water between one pond and another, I can think of no other. And, after all, this is the regular manner in which many plants reproduce themselves, and spread their seeds about the country. The seed itself has a hard, indigestible shell or husk, and this is covered over and enclosed in a soft, juicy fruit, generally of some bright, conspicuous colour. The colour serves as an advertisement to the birds, in the same way as the flowers attract insects.



Pond Life

These swallow the fruit, passing the hard indigestible seed, which falls in some other part where it has a chance of taking root and growing. The fruit is supposed to be there for no other purpose than to induce the birds to eat it. If that is the regular method for plants, I don't see why it should not happen with other things. And, as a matter of fact, we know that there are many living things which pass part or all of their existence inside the bodies of other creatures. Some even, curious to say, spend one part of their existence in one animal, and another part in another; and manage to get transferred from one to the other in a perfectly natural way without either of their hosts having its permission asked or knowing anything about it.

Of course, if the whole country was

Pond Life

liable to be flooded, the flood-water could transfer the animals and plants of one pond to another ; but floods could not account for every pond being stocked with sticklebacks. It would be interesting to know whether ponds situated on high ground, which could not possibly be reached by floods, are stocked with them or not. I think that they would be found in such places. I know that many lochs high up in the Scotch and Welsh mountains contain trout, but possibly these may be connected by streams along the valleys.

The stickleback's nest is a very interesting thing to see, and it is easy to do so by keeping a few sticklebacks in a common glass globe. This should have a layer of sand or gravel, and some water-weeds to grow in it ; without these

Pond Life

weeds it will be necessary to change the water every few days. But as long as there are enough weeds *growing*, the same water will last for a long time, because from the growing leaves oxygen is given off, which keeps the water fresh and enables the inmates to live. And to prevent the growth of the green mossy substance which forms on the glass, some water-snails should be introduced, which feed on it and so keep the glass clean and clear. If you bring to this globe some of the creatures you catch in the pond, you will get a rough idea of the amount of life there is, and what a number of events are happening below the surface of the water of which you knew nothing. You will find that your prisoners don't all agree with one another, and it will be as well to keep several



Pond Life

small globes. The fact is that life below water is much the same as that which goes on in the hedgerow, the fields, and the forest. One half of the animals are doing their best to eat up the other half, and a globe of pond animals is something like a cage into which are introduced tigers and deer, or cats and mice.

The early part of the year is the best time to start, because then they are seen at greater advantage. You can watch the male stickleback gradually putting on his wedding-dress. In wild nature, you see, these things are somewhat reversed ; it isn't the bride which wears wedding finery, but the husband. I think he makes the nest too ; and after the eggs are laid, he guards it most courageously, darting out after everything which comes near. And, as he is



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well provided with sharp prickles, which stick out on his back and gill covers, he is not to be despised as an enemy, in spite of his small size. He is now particularly brilliant in colour: his eyes are blue, his stomach bright red, and his back a brilliant glossy green. And he is perfectly brimful of nervous energy, excitement, and pugnacity. So, like most pugnacious, energetic things, he gets his own way as a rule, and neighbours who are anything like his own size give him a wide berth at this season of the year. Of course, a duck would gobble up his nest as soon as not—sooner than not, in fact. But even a duck, if it were wise, would think twice before it swallowed Mr. Stickleback. It might swallow him down all right without any accident, but if one of those spines on

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each side got stuck in its throat it would be uncomfortable, if not dangerous. Many birds have lost their lives in this very same way—kingfishers especially; and other fish sometimes have cause to repent having tried to swallow him. Disagreeable and pugnacious to the last, he erects all his sharp prickles, and sticks half-way down his captor's gullet, obstinately refusing either to be swallowed any further, or to come up again the way he went down.

All the same, I have seen a kingfisher—a young bird, too—catch ever so many sticklebacks in a summer's afternoon and be none the worse. You may perchance see a kingfisher on the watch for one at the pond, especially if there happens to be a post, or bit of railing, or some overhanging branch on which it can

Pond Life

sit. And if you have once seen a kingfisher at any pond, even though all you have seen of it has been a flash of blue flying away with great speed as you came near, you may be sure it is not there by accident, but that it knows that there is something to eat at this spot, and will probably return to it. So if you know this, there will be a chance of seeing it again; for these lovely fish-eating birds have many favourite fishing-places up and down the streams and ponds, and if you have once found out one of the perches where they are in the habit of sitting on the watch for their prey, you have only to hide somewhere near and keep your eyes open, and you will probably see one again. You may perhaps have to wait a long time, and feel inclined to give it up and go some-



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where else; and then, perhaps, just when you least expect it, you will look up and find to your surprise that the kingfisher is just in the place you have been expecting to see it, and looking as if it had been there all the time. Or perhaps while you are looking at something else, there is a shrill cry all of a sudden, and the kingfisher flies straight to the place. Whichever way it is, there is now ample reward for the long waiting in the pleasure of seeing so closely the brightest-coloured bird we have. You can admire its beautiful plumage, which is so much brighter and better for being alive that it hardly looks like the same bird you have seen before only in pictures, or stuffed in a glass case.

For all its beautiful colours, however,



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its shape is not graceful, nor its position and attitude. Sometimes I have seen it thus, and thought that the bird looked quite ungainly and awkward. But it is a most clever fisher. After standing motionless for a long time, and looking intently in the water, it dives off head foremost and plunges under the water, nearly always succeeding in catching whatever it was after. Then it returns to the same perch, or flies off to another, and taking the small fish it has caught by the tail end, it bangs it against the branch or post as hard as it can several times, until it appears to be quite smashed up and limp. It is then jerked upwards, and swallowed head first. If the bird has a nest somewhere in the neighbourhood, it will fly off with its prey to feed its young ones. These are hungrily

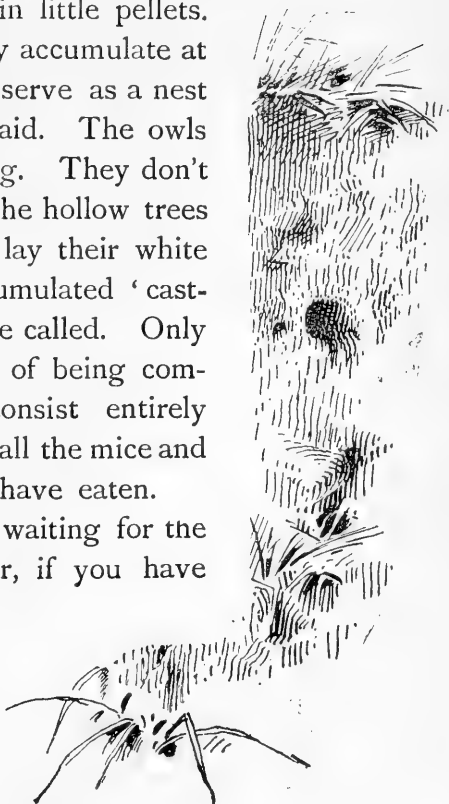
Pond Life

awaiting its arrival in a long burrow under the bank, like a rat's hole. This seems a funny place for a highly coloured bird to choose for a nesting-place. But it is just because the bird is so brilliant in colour that the hole underground suits it so well. Hidden in this safe retreat it can sit on its eggs without any fear of being seen. Its young ones are nearly as bright as their parents when they have got their first feathers, and so they also are safer than they would be if they were reared in a more exposed situation. The eggs are very beautiful ; they are nearly round, and of a pearly whiteness, and the shell is so delicate and transparent that the colour of the yolk shows through, giving them a rosy look. Even the nest of the birds is peculiar to themselves and unlike that of any other bird,

Pond Life

for it is made entirely of fish-bones. Kingfishers, like hawks and owls and many birds which live on other birds, or small mammals or fish, after swallowing their prey, bring up again the bones and other indigestible parts in little pellets. And these pellets, as they accumulate at the end of their burrow, serve as a nest on which the eggs are laid. The owls do exactly the same thing. They don't really make any nest in the hollow trees in which they live, but lay their white eggs on the pile of accumulated 'castings,' as these pellets are called. Only the owl's pellets, instead of being composed of fish-bones, consist entirely of the bones and skin of all the mice and rats and sparrows they have eaten.

While you have been waiting for the coming of the kingfisher, if you have



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kept your eyes open, you have probably seen a good many interesting things and learnt a great deal about the life of the inhabitants of and visitors to the pond. Even if the kingfisher hadn't come at all it wouldn't be wasted time, because waiting thus, hidden away and more or less motionless, is the best way of all to see something of the doings of the wild creatures around us. It is ever so much better than walking about, because then, however slowly and carefully you may go, nearly all the birds and beasts see or hear you first, and if you see them—and half of them you would never see at all—it will be only a glimpse as they are flying away as fast as they can, or scuttling into their holes. You see, the chief aim of all wild things is to escape notice, especially human notice. Their



Pond Life

whole experience, and that of their parents and ancestors before them, shows them that it is safest to avoid human beings. So that timidity becomes a second nature to them. They are always on the watch for enemies, human and otherwise ; and as their eyes and ears are ever so much sharper than ours, they are nearly always the first to see or to hear, and promptly take refuge in flight. You may be perfectly friendly and unwilling to hurt them, but you can't tell them this, and so they are just as much afraid of you as if you had a gun to shoot them with. But if you are well hidden away and don't make a noise, or do anything to let them know you are hiding there, you will see all sorts of things which otherwise would be invisible.

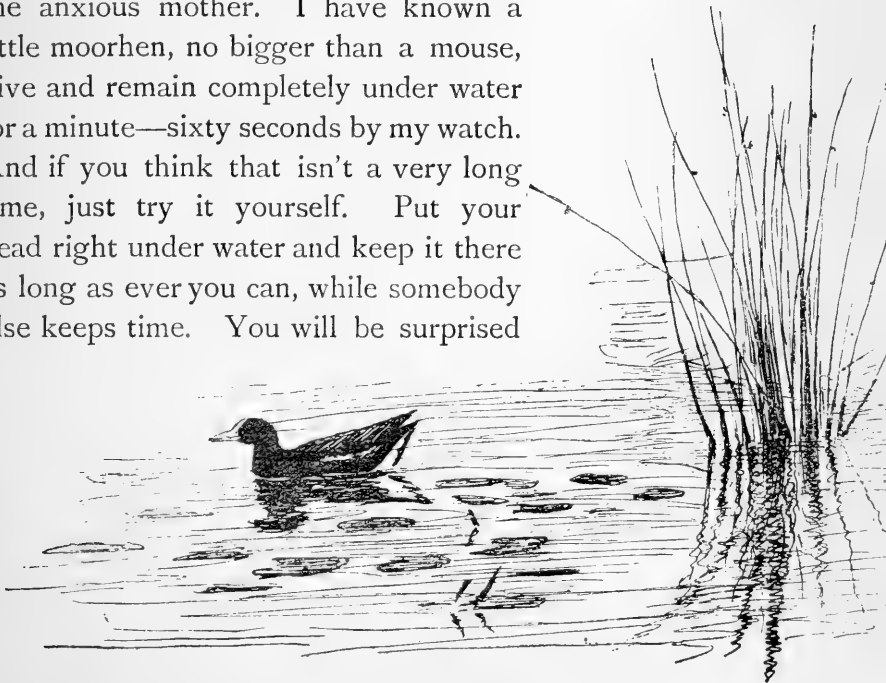


Pond Life

If you have gone up quietly in the first place and settled yourself in some bush, or other convenient spot from which you can see all around, you may be surprised, perhaps, to see a moorhen appear from under the bank close by. You had no idea it was there, and wonder perhaps where it has come from. It has been there all the time, only you never knew it. For its sharp ears heard your footsteps, or its senses told it, from the vibration of the ground, that somebody was coming. Without making the slightest ripple or commotion, the cunning bird dived and took shelter under the bank, perhaps in a water-rat's hole, or even held on to the weeds at the bottom of the water with its long toes, and put up the tip of its beak above the surface to breathe unseen and

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unsuspected. Now all is quiet it has come out of its hiding-place, and after looking warily round in every direction will go on with its own business. Perhaps it has a nest or even a brood of young ones near at hand, for they are as clever as the old ones in hiding away, even when only a day or two old. Now it thinks that the coast is clear, there is a low cluck, and seven or eight small black puff-balls appear from nowhere and join the anxious mother. I have known a little moorhen, no bigger than a mouse, dive and remain completely under water for a minute—sixty seconds by my watch. And if you think that isn't a very long time, just try it yourself. Put your head right under water and keep it there as long as ever you can, while somebody else keeps time. You will be surprised



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to find what a long time a minute can be. To watch an old moorhen or a pair of them and their brood is a very pleasant sight, as good, in a different kind of way, as seeing a kingfisher ; and also a sight much easier to see, for moorhens are to be found in almost every pond. Even a roadside pond often has its pair of moorhens nesting there, and hardly a soul knows anything about them. They place their nest perhaps right underneath the hollow of an overhanging bank among the tree-roots, or in a tuft of rushes or sedge ; and the first sound of a passing footstep sends the wary birds to some safe hiding-place. The nest is often made of dead oak-leaves, on which are seven or eight brown spotted eggs. These shy and timid birds may be best watched in the

Pond Life

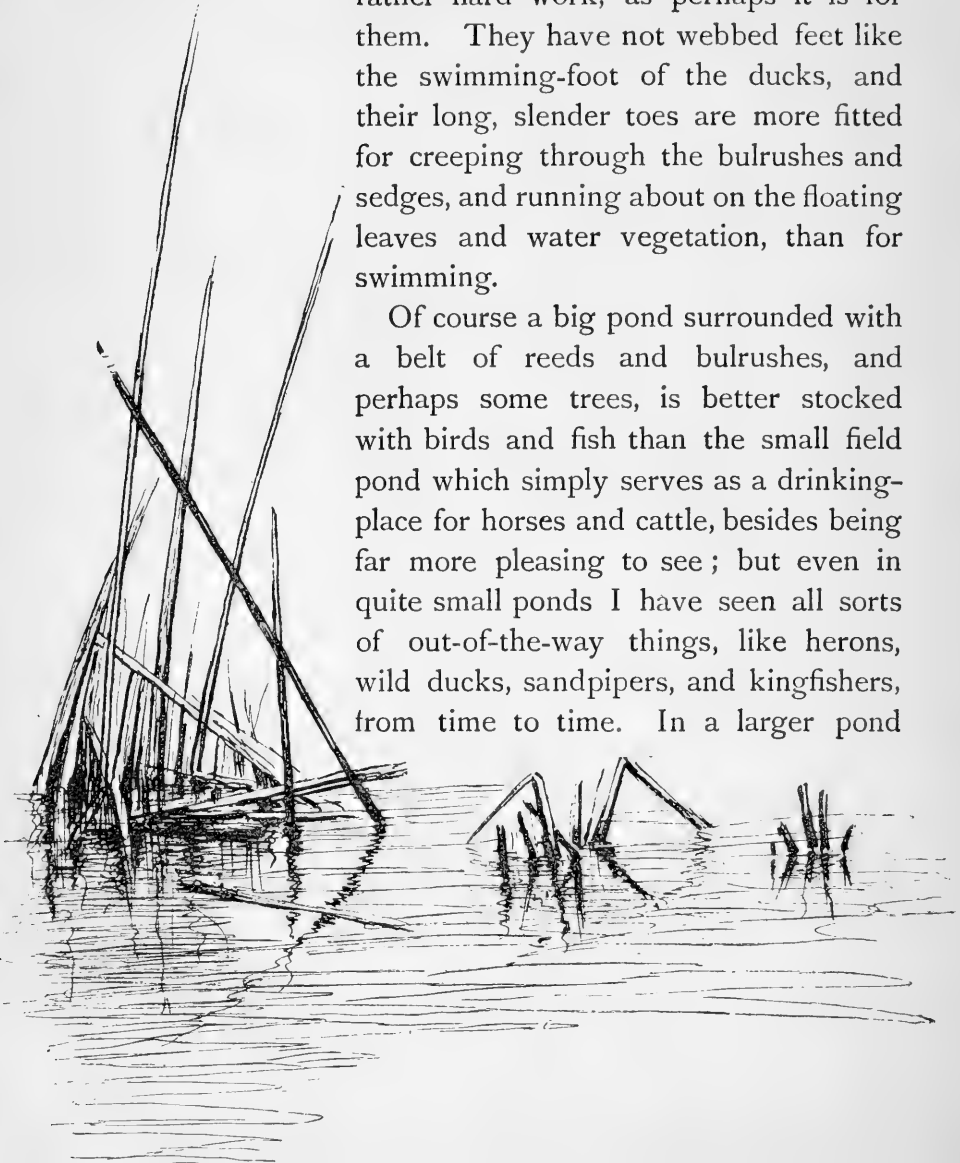
ponds of the London parks, where they feel so safe and protected that they lay aside much of their timidity, so necessary to their very existence in more exposed places. Here you may watch them running over the grass, when you can see the red garters round their green legs, and you may watch the use they make of their long, slender toes, for they are often to be seen running nimbly over the broad floating leaves of the water-lilies, accompanied by their brood, snapping at the gnats and insects, and darting hither and thither in every direction wherever they can spy anything good to eat.

When swimming these birds have a habit of nodding their heads, which are ornamented with a patch of brilliant red on the forehead like sealing wax. With every stroke of their feet they nod their

Pond Life

heads up and down as though it were rather hard work, as perhaps it is for them. They have not webbed feet like the swimming-foot of the ducks, and their long, slender toes are more fitted for creeping through the bulrushes and sedges, and running about on the floating leaves and water vegetation, than for swimming.

Of course a big pond surrounded with a belt of reeds and bulrushes, and perhaps some trees, is better stocked with birds and fish than the small field pond which simply serves as a drinking-place for horses and cattle, besides being far more pleasing to see; but even in quite small ponds I have seen all sorts of out-of-the-way things, like herons, wild ducks, sandpipers, and kingfishers, from time to time. In a larger pond



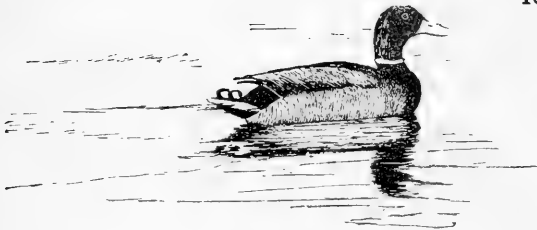
Pond Life

you may depend upon seeing them with more certainty, and if you take the trouble to hide and wait, you are certain of seeing a good many interesting sights.

Last spring I spent a whole day at such a pond not many miles from London in a rough shelter I put together of what boughs and sticks there were to be found near at hand, sheltered by a spreading larch-tree. It was very cold, for it was February, and there had been a sharp frost the night before, and the edge of the water in front of a big bed of bulrushes which faced my hiding-place had a fringe of ice. I hadn't been there many minutes before a pair of wild ducks flew down and settled on the water just in front of me. But my shelter of sticks was rather open, and

Pond Life

they soon saw me, and flew off quacking with fright. After an interval spent in filling up the open spaces with more sticks and dead leaves, another pair settled, and though they carefully looked all round, and seemed rather suspicious, they finally thought it was all right ; and after preening their feathers, they began to swim about and enjoy themselves. They were at this time of year in their brightest plumage. The drake, or mallard, in particular was a perfect picture, with his glossy green head and the white ring round his neck, his brilliant orange feet and mottled grey feathers on his flanks and back. After some time spent in smoothing and cleaning himself up generally, he actually went to sleep on the shelf of ice just in front of me, while his wife stood near him





W. A. R. 1912

WILD DUCKS RESTING ON ICE



Pond Life

among the dead bulrushes. The croaking of a pair of carrion crows, which were busy making their nest in a big oak not far away, made him every now and then raise his head from where he had tucked it under his feathers, and take a good look round; but he soon settled down again. Then a teal dashed up and settled out of sight among the bulrushes, and soon afterwards a dabchick was seen swimming, and diving, and finally it also disappeared in the same place.

In the trees just over my head two or three pairs of herons were building and making their usual curious noises. Presently one of these long-legged birds flew down, and sailed on its great round broad wings, until I thought it was going to pitch down in the water close

Pond Life

to me. But it went on, and also settled among the bulrushes, where I could see its long neck and pointed yellow beak among the dry stems. As it went in, the dabchick I had seen before came out in a great hurry, as if she didn't like the long-legged bird to be such a close neighbour.

And so as the day went on I was constantly seeing fresh sights, all of them interesting and beautiful. The moorhens were also in their most brilliant plumage, and their heads looked as if covered with bright red sealing wax. They were chasing one another over the water, and fighting and splashing, and chattering with excitement. Their fighting is more make-believe and noise than anything else. Each bird puts its head down almost level with the water,

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and then they sail round and round in circles, with their wings and tails elevated, until one bird drives the other away, pursuing it over the water with chattering cries, and a great deal of fuss and commotion.

But when at last the daylight began to fail, and I crawled out of hiding, I was quite cramped with cold and with squatting so long in uncomfortable attitudes. So to take the stiffness out of my bones I climbed up to see how the herons were getting on, finding the nests empty but nearly ready for eggs. On my next visit one nest had five lovely pale-blue eggs lying on the sticks of which it was made.

The dabchicks are the funniest and the smallest water-birds we have in England. They like a river, not too

Pond Life

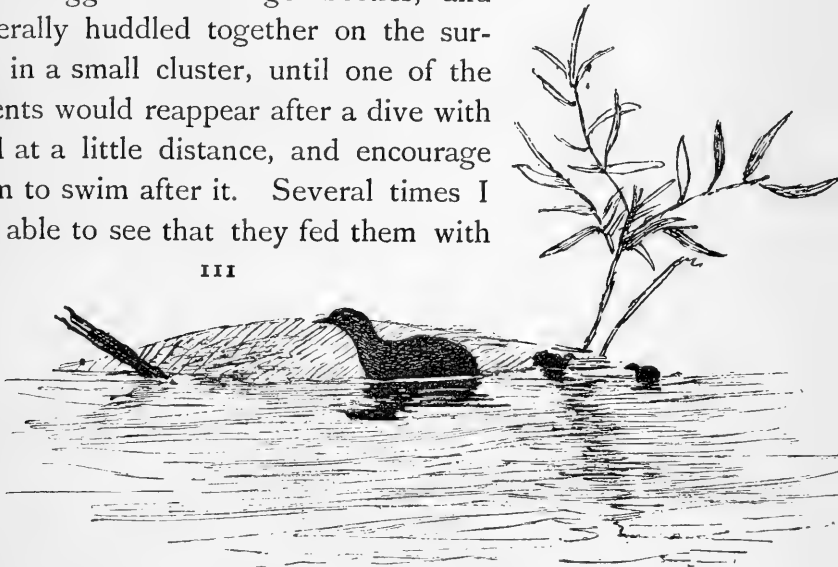
rapid, or a fair-sized pond surrounded with trees or bushes, to live in. Like the water-hens or moorhens, they too have found how safe they are in the London parks, and they nest in several of the ponds there. This nest is as curious as they are, for it is made of weeds pulled up from the bottom of the water, and dead leaves also from the same place, and it floats on the top so that the bird can climb into it in order to sit on her eggs. To prevent it moving about from place to place, they anchor it, by fastening it to some twig or branch if they can find one growing in or hanging over the water. Whenever the little bird leaves her nest she always arranges a covering over the eggs by scratching some of the wet weeds at the side of the nest over them. Having done this she slips in

Pond Life

and disappears below the surface, and doesn't come up again until she is quite a long distance away.

This year I spent several days watching some of these small diving birds, which were nesting in a pond not far from my house. There were three pairs of them, and two of these had hatched two broods of young ones, so that altogether there was quite a number. Very enjoyable it was to sit and watch them diving about and feeding their quaint-looking little ones. These didn't appear to be very much bigger than large beetles, and generally huddled together on the surface in a small cluster, until one of the parents would reappear after a dive with food at a little distance, and encourage them to swim after it. Several times I was able to see that they fed them with

III



Pond Life

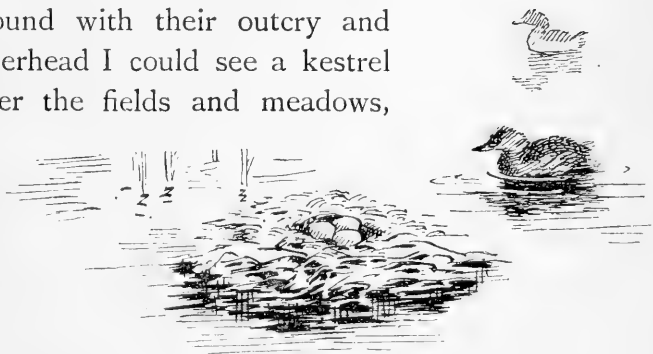
weed, but very small fish and water insects are doubtless eaten as well. Sometimes the parents will dive carrying a pair of youngsters with them, one under each wing, so that they soon learn to be as much at home below the water as above it. To rest these small creatures, the whole family would return to the nest about every hour, and at times the old birds would construct a fresh nest in some other place for the purpose. The building material always seems to be fetched from the bottom of the water, and it is very interesting to see them constantly bringing up lumps of weeds and leaves and pushing this on to the nest, arranging it with their beaks until they get it comfortable and to their satisfaction. Then one of the parents would climb up on her comical short legs, and

Pond Life

the young ones would snooze under her feathers and climb up on her back just like a hen and her chickens. This pond was particularly well situated, and there was plenty to see besides the dabchicks. A kingfisher constantly flew over the water and perched on some of the alders which surrounded it, and the splash made by its plunge after a fish could be distinctly heard even when the bird itself did not happen to be within sight.

A large family of golden-crested wrens and another of wrens were flitting in every direction among the beeches, with shrill cries ; and a family of young jays and their parents made the whole wood—for the pond is in the middle of a wood—resound with their outcry and noise. Overhead I could see a kestrel soaring over the fields and meadows,

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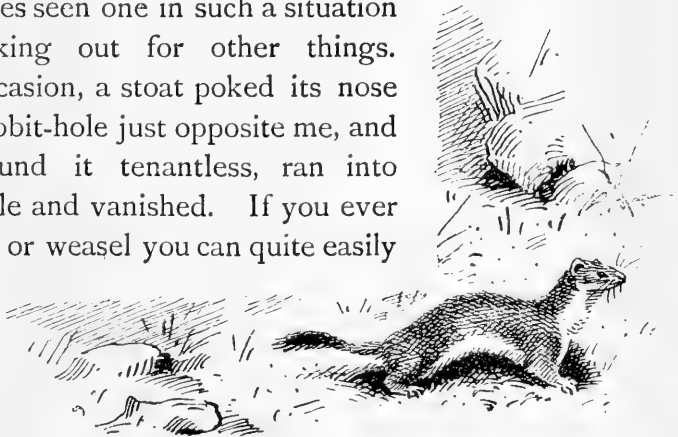
Pond Life

while three of her young ones, evidently just out of the nest, chattered loudly to her, from the summit of a tall spruce fir, to bring them a mouse apiece, as quickly as she could. Then some young crows were trying their wings in the trees over my head, while every now and then I could hear the peculiar laugh of the woodpeckers, or the scratching made by a squirrel's claws as one of these active little creatures scampered up the rough bark of a dead fir-tree. In this same wood one day I saw a squirrel fall from the very topmost branch of a big tree, which, being quite rotten, broke under its weight. They came down together with a tremendous thump, nearly hitting me on the head, and I fully expected the squirrel to be killed. But not a bit ; it was up the next tree before

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I could realize what had happened, scolding and using very bad language, as if it had been my fault. That is the only time I ever saw a squirrel come to grief or have any accident. I have seen one hanging head downwards only holding on with its hind feet, while it held a nut with its fore feet, and deliberately ate it, and this was on the top of a big tree.

A stoat is not a pond animal, but all the same it is one you are quite likely to see on its banks. I remember to have several times seen one in such a situation when looking out for other things. On one occasion, a stoat poked its nose out of a rabbit-hole just opposite me, and having found it tenantless, ran into another hole and vanished. If you ever see a stoat or weasel you can quite easily



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call it almost to your feet. All you have to do is to stand still and squeak or squeal like a rabbit in difficulties. Even if you don't do it very well, it doesn't matter. Any squeaking noise made with the lips will bring them hunting and looking about for the supposed rabbit, and if you stand quite still they will come quite close. Sometimes they seem in a playful mood, and I have known one peep round a tree trunk at me, sit up on its hind legs and run to another tree, and dodge about as if playing 'hide-and-peek,' or 'peep-bo.' And squirrels will often have a game of the same sort, peeping round at you first from one side of the tree and then from the other in quite a friendly fashion.

Perhaps the commonest pond creature is the frog and its young, the tad-

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poles, or pollywogs. These pollywogs wriggling about in swarms in the shallow dirty water of a horse-pond may seem to you only common, uninteresting things, not worth troubling your head about. But that a tadpole, living in the water and breathing like a fish by means of gills, can change in a few days to a land reptile breathing air in its lungs, the same as you do, is in reality one of the most astonishing things in nature, and much more than merely an interesting curiosity. It is an example, and a very striking one, of the power of change possessed by living things. It is rather difficult to find a suitable and simple word to express this power. We may call it elasticity if you like, this power which things have of adapting themselves to their life, when conditions alter, or when

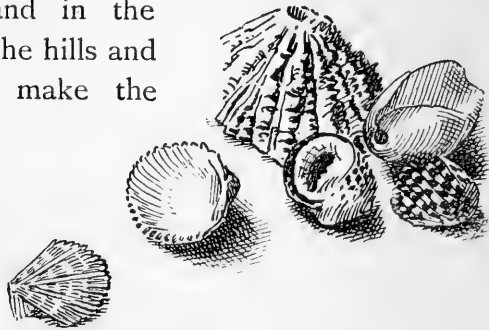


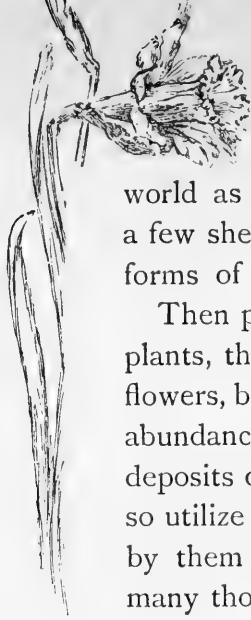
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it is necessary. And it helps us to understand the wonderful progress which living things have made since life first was created on the earth. Originally, of course, there must have been a time when there was no life at all. Then came the creation of life. For it must have been created ; it couldn't start itself. And from that moment life has progressed and advanced. For the living things of to-day did not always exist from the first. The first living creations must have been very different from those which we see around us, which were, in comparison, only made yesterday. If we examine the remains of past ages which have been preserved through untold numbers of years, what do we find? In the very lowest depths, which must be the oldest in point of

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time, only the lowest and most minute forms are found. But we very soon learn that mere size is in itself nothing. All the elephants which have ever existed have done nothing to alter the face of the earth; they have trampled down trees and pulled up plants by the roots, lived and died, leaving the world exactly as they found it. But the lofty limestone and coral rocks and chalk cliffs have been slowly raised by countless millions of creatures, invisible to the naked eye, by the power they have of being able to take the lime and chalk from the water to make their shells with. These shells, long after the animals which once inhabited them have died, have slowly accumulated, and in the course of time have formed the hills and mountains which help to make the





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world as we know it. Then we find a few shells, and, later, some of the early forms of fish.

Then plants began to abound. These plants, though very large, possessed no flowers, but must have been in exceeding abundance, for to them we owe the deposits of coal which now we burn, and so utilize the heat and energy stored up by them from the heat of the sun, so many thousands and thousands of years ago. Plants are, after all, of the greatest importance to the world generally, for on them everything else depends. Every creature lives on plants, either directly by eating them, or indirectly by eating some other animal which eats them. If you don't eat grass directly, you do so indirectly every time you eat a mutton chop, for

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the chop is made by the sheep eating grass, and so building up its body of flesh and blood.

Plants have the power of building up their own substance out of the invisible—a power possessed by nothing else. For they can separate the invisible mixture of the air and water, and take for their own use what they want, and form it into themselves, and so grow out of nothing, as it were, and store up for themselves the heat of the sun. Other things, not being able to do this, have to rob the plants of the fruit of their labours, and by eating them make use of it themselves. So that if we look at it in this way, we see that plants are the root of all life.

There may seem to you to be an enormous gap or division between an

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oak-tree, fixed in the same place for hundreds of years, and a freely moving mammal or flying bird. But the mammal, and the bird, and the oak, can all be traced backwards by means of their earlier forms, through such a space of time that we have no means of counting it, until we arrive at a thing, a living creature, which can hardly be said to be either plant or animal. It seems to have some of the characters of each. It may even resemble at one period of its life a plant, and at another an animal. From some such lowly creature must have sprung other forms, some of them more animal, and others more vegetable, until finally they branched out into quite different directions, one branch ending in plant life, the other in animal life.

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Descendants of some of the first plants exist in Australia and New Zealand, and one plant in England on a small scale reminds us of what then grew in forests of a much greater size. The mare's-tail, a common pond and marsh plant, still survives, though much reduced in size, and is accordingly one of the most ancient of things. For its ancestors grew and throve long before any mammal walked or bird flew over the earth. Many long ages passed before any plants such as we know first appeared, with all their wonderful contrivances and arrangements for the due ripening and planting of their seeds. We have seen how the insects and birds work for the plants, taking their wages in honey and fruit. There are thousands of ways of doing this, besides



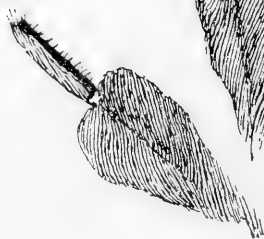
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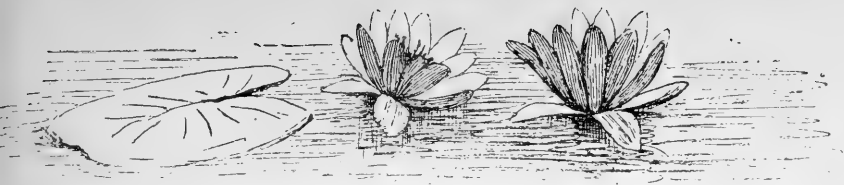


the many other different dodges. The wind is utilized by many plants, whose seeds have a feathery arrow attached to them in order that they may be carried about by the wind and dispersed over the country. Thistles and dandelions spread their seeds in this way; while the hooks with which other seeds are provided catch in the fur of animals and the feathers of birds, and so are carried into fresh regions. Then there are curious plants which have a sweet bait or juice to attract insects in order to eat them. This seems almost impossible, but there are many plants abroad which actually do this. We have in England one which does so. The sundew, a marsh-loving plant, gives out a sweet, sticky juice which has an attraction for small flies. As soon as these

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settle, extremely sensitive hairs on being touched by the insect contract and curve over it so as to imprison it. The plant then, by means of a certain acid, actually digests the fly, absorbing it into its own system. After which, but not before, the hairs spring up in readiness for another victim. The Venus fly-trap is so sensitive that on being touched it shuts up and imprisons any fly or small insect, and also digests it. Other plants which do the same thing are the curious pitcher-plants, which possess deep pitchers full of sweet liquid in which the flies are caught for the benefit of the plant. After this, we can only say that if plants have no minds they seem to do remarkably well without.





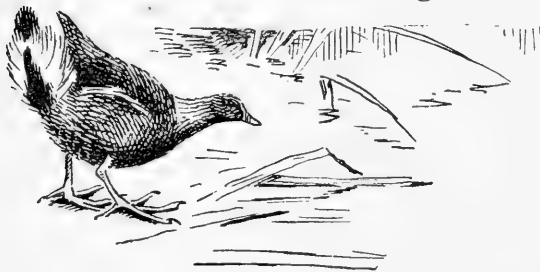
Pond Life

(Continued)

As may be supposed, many plants which live in ponds have special ways of their own suited to a life in the water. One plant is brought up to the surface at the proper time by bladders attached to the leaves. As soon as their work is done the bladders collapse and the whole plant goes to the bottom. Other plants have their below-water leaves long and thin, so as not to hold or obstruct the water and make a drag, while their upper leaves are big and flat, and float on the top to support the flowers.

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The water-lilies, with large floating leaves and big white or yellow flowers, are the most beautiful of all the pond plants, and make a splendid ornament to many a beautiful piece of water. Moorhens and dabchicks, wagtails and dragon-flies love to play about the leaves and sport in the bright sunshine. But long before any of these present-day plants made their appearance, many changes had to be gone through. Not only has the distribution of sea and land been greatly altered, but the climate itself has gone through change after change. And other forms of life—such as the strange and terrible reptiles, which swam in the early seas and even flew about in the air on huge wings, bigger by far than any of the largest birds now living, had their time on the



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earth and died out, leaving their bones preserved in the rocks to tell us what sort of monsters lived in those days of long ago.

Strange as it may seem, the birds appear to be descended from some of these reptiles. There isn't much likeness, at first sight, between a reptile and a bird of the present day ; but from the remains of the earliest known bird, and from certain peculiarities of its bones, it is agreed amongst the scientific people who have worked at this sort of thing, that the present birds originally sprung from some form of reptile.

Curious things they must have been, these early birds, for we know from the fossil skeletons which have been found that they had teeth in their jaws, and further, they had a long tail with many

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joints, like the tail of a lizard, only that each of these joints had a pair of feathers attached to it. Hampered as they must have been with these long, unwieldy tails, their power of flight was most likely very feeble in comparison with that of modern birds. Some probably fluttered from tree to tree, feeding on fruit, while others swam in the rivers and fed on fish. For the remains have been found in America of a large, toothed water-bird, which was unable to fly at all, being without the 'keeled' breast-bone for the support of the wing muscles which are so necessary for the flying birds.

From other branches of the reptile family have come the mammals, in all their different kinds, both the land mammals and those which have taken to the water so completely that they almost

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resemble fishes, such as the whales and seals ; and finally mankind appeared on the scene. At first but little removed from the other animals—for it must not be forgotten that a man is an animal too—men lived in caves and holes in the earth, and under rude shelters of boughs, until by slow degrees they learned to protect themselves from the beasts of prey and to provide for their wants by banding themselves together into tribes, and finally, by practising various arts and manufactures, to arrive at the present state of civilization.

Now we have come a very long way from the 'pollywogs.' But it seemed a good opportunity to glance, in a few words, at the history of what has happened in the world of nature, because, without some such instance of fish-like,



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in every horse-pond, there is no disputing the fact. And as all life began in the water—for the water was peopled with living things long before anything walked on the land—this step of the tadpole out of the water on to dry land as an air-breathing frog is doubly interesting, showing us how this important change was first made. How important it is we may realize for ourselves by considering the abundance and variety of living forms which now inhabit the dry land, *none of which could have existed in their present shape if such a change had never been effected.*

And this also opens up another point of interest ; because it is supposed that each creature in its own life-history goes through the changes which have been made by its far-away ancestors in the

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beginning of the world. So that, if this is true—and it is admitted as true by all scientific men—then the tadpoles must have been tadpoles all their lives at some far-off time, and have lived and died in the water without turning into frogs at all. Then, perhaps, some more adventurous tadpole found itself out of its native water—perhaps its pond dried up gradually, giving it time to make the change into an air-breathing instead of a water-breathing creature. Those which couldn't do this would die, while those which could would pass on the power of doing so to their children; and so a new state of things would arise. It is, of course, impossible to guess at what really happened, but such a thing seems to be likely. They would not turn perhaps into frogs all at once; but



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as their tails would not be wanted to swim with, they would most likely be gradually lost, and the other changes would slowly and gradually be made until the frogs appeared as we know them now. The frogs, though they are now small and insignificant, must at one time have been quite important; and among the various frogs living at the present day in different parts of the world, we find very many most curious ways of living under all sorts of varying circumstances. Some climb trees, others carry their eggs on their own backs until they hatch.

The pond also furnishes us with examples of the changes undergone by insects. If you poke about with a small-meshed net amongst the weeds and mud of any pond you will soon catch a

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whole collection of wriggling and flapping creatures. Many of these are larvae, or caterpillars, of beetles and of dragon-flies, which, when they have completed their under-water existence, turn into beetles and dragon-flies, and fly about in the air. During their larval state under the water they are all of them very voracious, devouring one another as well as anything else smaller and weaker than themselves. And as they are all very active, and furnished with formidable jaws, they must be as much to be feared and dreaded by the smaller vegetable-feeders as is a hungry tiger by the weaker animals of the jungle. Both are equally beasts of prey, which are always seeking to satisfy their hunger by devouring something weaker than themselves.



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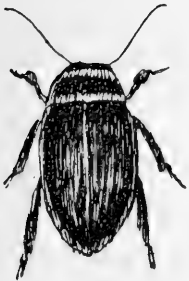
The largest are the larvae of the big water-beetle and the dragon-fly. This latter has a movable hand, which it keeps folded up over its face like a mask. When it is near its prey this hand shoots out and grasps it with a pair of curved claws, and holds it securely until it is devoured. When this voracious creature is full grown, it changes into a pupa ; but, unlike the pupa of a moth or butterfly, it moves about and feeds as freely as it did before. Then, when it is ready for the final change, it crawls out of the water by means of a rush-stem or reed, or some other water-plant, the skin of its shoulders splits, and the dragon-fly appears. Not yet, however, in its full beauty and power of flight, for at first, like the newly born butterfly, its wings are small, limp, and useless. Very



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soon, however, they fill out and become hard and stiff, transparent like gauze, and divided by lines of fine net-work. Its long body is covered with a shiny mail of bright colours, blue, yellow, or brown—for there are many different kinds of dragon-flies—and finally it darts off to fly about in the sunshine, still feeding on flies and flying insects in the same ravenous fashion as it did before. But it is now a much more beautiful creature than when it devoured its fellow grubs below the water.

The beetle larva changes in due time to a large beetle, which lives part of its life in the water ; but it has also a large pair of wings carefully folded up under its wing-cases, with which it is able to fly about at night, and go from one pond to another.



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The larvae of the mayflies may be known by the three whisks at the end of their tails. They turn into the green drake, or mayfly, about the end of May.

This hatching-time of the mayfly is an important event in the world of nature. For these beautiful insects are considered as great delicacies by many fish and birds, and, being utterly defenceless, can only carry on their continued existence by their prodigious numbers and their rapid rate of increase. When the time comes for them to leave the water they crawl out in the same way as do the dragon-flies, and the perfect fly appears, leaving the empty skin of its former state clinging to the rush or whatever other object has served as a support. (If you haven't read Charles



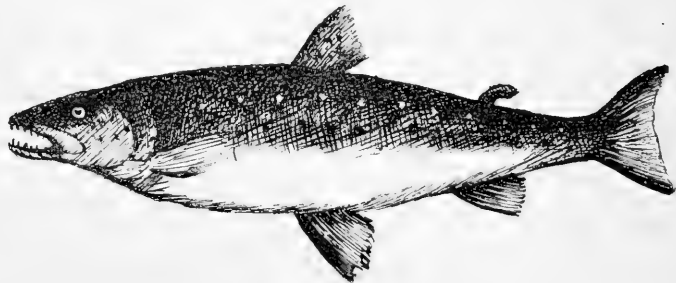
Pond Life

Kingsley's *Water Babies* you should do so as soon as you possibly can, for it will tell you tales of all sorts of things below water and above it in a far more interesting way than any fairy tale—and they are all true.)

Then the surface of the water is dotted with fairy-like forms floating as lightly as gossamer down the stream, and the air is full of crowds of gauzy, fluttering creatures. And there seems to be a quite unusual excitement, and an exceptional number of swallows and martins and other birds at this spot. If you watch any particular swallow you will see that it is circling about just where the mayflies are thickest, and that in its flight it seems to meet mayfly after mayfly, and each time the insect suddenly and mysteriously disappears. Take

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another bird, and it is doing the same ; they are all catching mayflies as fast as they can while the 'rise' is on, for it may stop at any minute, and the birds seem determined to make hay while the sun shines ! They even pick them off the water while floating. Others are suddenly sucked down quietly from below ; the trout are on the watch for them. Taking up its position between two weed-beds, or wherever the set of the current will bring them, a trout will lie, and while the rise is on will suck down every floating mayfly which passes over it, the small fish with a jump and sudden splash, but the big fish quietly, and barely breaking the calm surface of the water. They also eat them under water, catching them as they rise to the top. The wagtails and sparrows,



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starlings and other birds pick them up when they are washed on the banks, and even try to catch them flying. They do succeed in catching a good many in this way, but their more awkward attempts do not compare with the graceful and easy work of the swallows and martins. Even the farmyard ducks and geese flock to the place for their share of the feast. With so many hungry enemies it seems difficult to see how any of them can escape. After this annual feast of the mayfly the trout are plainly fatter and heavier and in better condition than they were before.

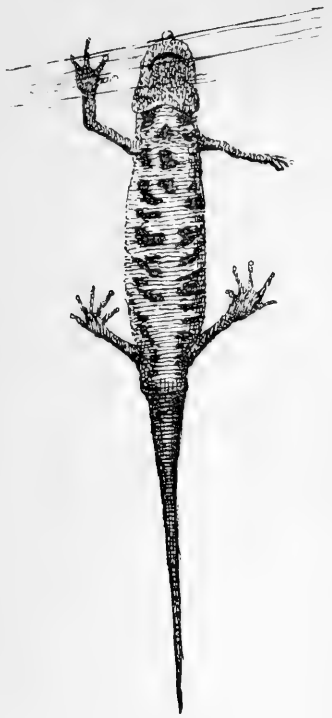
All this should be seen to be thoroughly enjoyed, and a river is really the best place to see it, because trout are not usually to be found in ponds, though mayflies are. But if the pond is a fairly

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big one, and there is a small stream running through it, as is so often the case, and it is stocked with trout, then what I have tried to describe may be seen.

The mayflies and dragon-flies are members of very old families. They can trace their descent back for many, many thousands of years. For there are beautiful impressions of the wings of ancient dragon-flies and mayflies to be found in the lithographic stones, which are the hardened slabs of what was at one time soft mud. These impressions show all the delicate veins in their wings in the plainest way possible, as if they had only been made yesterday.

The newts are prominent members of the pond world, and look quite imposing in the net full of smaller creatures,

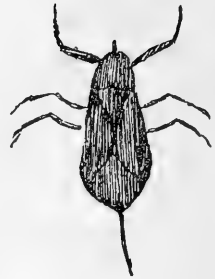


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especially in the spring, when the male newts wear a scalloped crest all down their backs, and are gorgeous with bright orange stomachs. Though they live in the water a great part of their lives, they are air-breathing creatures, and can come out of the water, and in fact do so during the winter months. When in the water they are obliged to come up to the surface every few minutes for a fresh supply of air. Their eggs are laid among the leaves of the water-plants, and at first they go through a tadpole stage, like the frogs. In a globe they will eat worms and small pieces of meat. If kept with sticklebacks, these last have a habit of nibbling off the newts' tails, and a newt without its tail is but a lop-sided sort of creature, unable to balance itself properly in the water.

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In the insect world there are also, among others, the water-boatman, which, turned upside-down on its back, is very much like a boat, and to complete the resemblance it rows itself along with one pair of its legs, which are jointed and exactly resemble oars; the water-scorpion, which has a long and hollow tail, through which it can breathe as it hangs head-downwards, sticking the end of the tube through the water to the surface; and the water-spider, which carries its supply of air in the form of silvery bubbles, and stores them at the bottom in a silken tent. The whirligig beetles play about on the surface, turning themselves into living tee-to-tums as they revolve round and round in circles. The water-cricket is the long thin insect which runs about so nimbly on the top



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of the water, making little darts and then stopping to let the current take it down-stream, and then making another run to regain its lost ground, or rather water.

Crawling on the bottom, and on the stalks and leaves of the water-plants, are moving tubes covered with small stones, bits of stick, and small shells. Inside each of these curious tubes is a whitish grub, a caddis-worm, which when at rest withdraws itself altogether inside the tube, but can stick out its head and legs and walk about when it requires exercise or food. It turns into a chrysalis inside this cleverly constructed shelter, and finally becomes a two-winged fly. The small shells with which its dwelling is adorned are very often alive, or rather contain the living



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snails which live in them, and these are thus carried about by the caddis-worm, and used by it as building materials, without their consent ever having been asked.

Besides these caddis-flies there are many other insects which hatch out into cock-tailed flies, like miniature may-flies. Each tiny fly hatches and floats lightly on the surface like a small winged fairy, with its three tail-whisks stuck jauntily upwards. Its wings are so delicate as to be almost transparent; some are of a slight yellow tinge, others more olive in colour, or blue, or reddish, as the case may be. Though so small and transparent, they are eagerly sought for by the different fish, and have an importance all their own among fishermen.

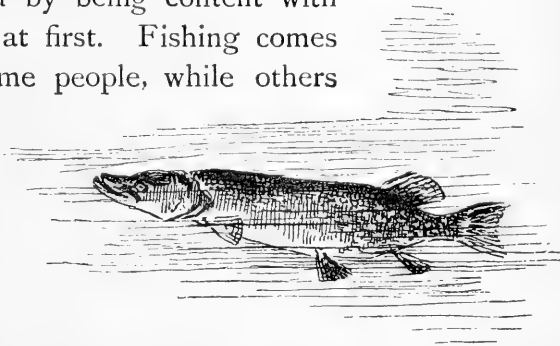
The most important pond-fish is the

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pike, if we leave out the trout, which, as has been stated, belongs more truly to the rivers. But the pike is a true pond-fish, and in large ponds where there is an abundance of food it is often of large size. For it is a voracious fish, and lives chiefly upon other fish. When it can't get these it will eat young moorhens and ducks—old ones, too, if it is big enough. It is like a fresh-water shark or tiger, and those fish which have devoured the vegetarian insects are in their turn devoured by the more powerful pike, which again is liable to be attacked by the otter. The same struggle for existence is going on continually in the water as in the air and on dry land. Indeed, as life originated in the water, it was there that this world-old struggle was commenced.

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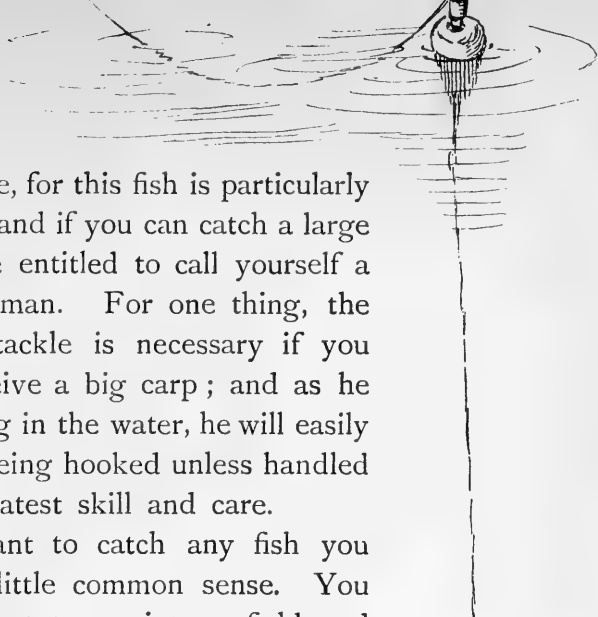
Other true pond-fish are the carp and tench, and on a warm summer's day they may be seen basking among the water-lilies, and swimming lazily between the long, snake-like stalks and the broad, floating leaves. On such a day as this the bank of a pond, under the shadow of a tree, or lying flat in a punt, is a very pleasant place to be in. A fishing-rod will help to spend the time ; but these fish are not readily caught by a beginner, except perhaps the very small ones. The larger ones are only to be taken by those who have learnt all the tricks of the fisherman. These are not to be picked up in a day, or from books ; but must be patiently learnt by actual experience, and by being content with small captures at first. Fishing comes naturally to some people, while others



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seem to see no fun in it. As my first fish, a gudgeon, was caught about forty-five years ago, when I was a small boy in Lincolnshire, and as since then I have caught many thousands of every other fresh-water fish to be found in England, including a trout nearly ten pounds in weight, I suppose I may include myself as one of the former class. But I had nobody to show me the right way to go to work, and so it took me a very long time to know what to do and what not to do. And this latter is more important than the former. There are such numbers of books on fishing that there is hardly room for another ; but if I ever wrote one, it would be on what *not* to do when fishing.

And, when fishing for carp especially, the list of things you *shouldn't* do would



be a long one, for this fish is particularly wide awake, and if you can catch a large carp you are entitled to call yourself a skilful fisherman. For one thing, the very finest tackle is necessary if you want to deceive a big carp ; and as he is very strong in the water, he will easily break it on being hooked unless handled with the greatest skill and care.

If you want to catch any fish you must use a little common sense. You couldn't expect to go into a field and catch birds by offering them a bit of bread on a hook while moving about and throwing your hook about in all directions. Fish are quite as timid as birds, and because you don't see them it doesn't mean that they can't see you. If they can't see you when the water is very deep or muddy, they can feel you

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when you walk about the bank, and know perfectly well that you are there. Then, when they hear a big splash and see a large hook with a wriggling worm on it, or a piece of bread, tied on to a length of coarse string, come down through the water, they either swim away at once to some other place where they will be undisturbed, or they come round and laugh at it among themselves. 'What a duffer that chap up there must be,' they say to one another, 'if he expects to catch *us* with a thing like that!'

I have watched people using a float as big as a small pumpkin, painted a bright red or blue, in water about two feet deep. Then they wonder why they don't catch anything, and declare that there are no fish in the river. Why, their float is enough to frighten a fish a hundred

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yards away. Unless you are fly-fishing, which is the very highest form of fishing, or spinning, it is useless to expect to follow the fish—the more you follow the more you alarm them. You want to sit down, keep quiet, and bring the fish to you. And to do that you must choose a suitable place, and use a bait suitable to the fish, to the time of year, and to the state of the water, or you will do no good. All of which has to be learned by long experience.

But there are other rewards besides catching fish to be got from fishing. Sometimes nobody can catch them, however experienced; and then it is that you can enjoy the sights which the fisherman sees so much more than any one else. For when you are sitting quietly and without moving, the riverside and



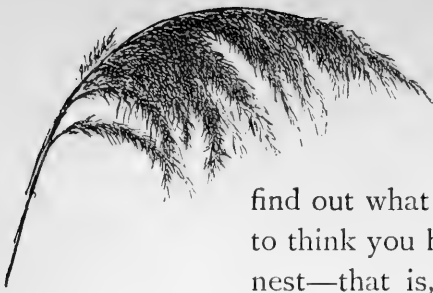
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pondside creatures get used to your presence, and don't take the slightest notice of you. The swallows skim to and fro in their search for the minute flies and midges which are always so much more abundant over water. The moorhens and coots come out of their hiding-places among the reeds, and the kingfisher darts like a living jewel over the water, or sits motionless on some stump or overhanging branch. They have before now been known to perch on a fisherman's rod, while he sat patiently waiting for a bite. Then the water-rats come out of their holes under the banks to nibble the water-crowfoot and other water-plants, or to sit up and wash their faces. Pretty little creatures they are, very much more so than the common rats, which often take to the water-side

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for a change, in the same way as we go to the seaside. You can easily tell them from the water-rats, or water-voles, as they ought to be called ; for these last have rounded blunt noses, instead of the long sharp nose of the rat, and short, flattish tails covered with short hair instead of a long, pointed bare tail, and their fur is very soft and furry instead of coarse and harsh. And their food is, I think, entirely vegetable, while the common rat will eat anything. The water-vole will make a nest like a bird's nest in a clump of sedges sometimes, but I fancy he only does this when it is a long way from a bank of earth into which to burrow. For the only place I have seen them is in the Norfolk Broads, where they may be found a long way from any bank. And until you





Pond Life

find out what they are, you feel inclined to think you have found some rare bird's nest—that is, when they are empty, as I have seen them. If they had been packed full with a young family of water-voles, I think there would be no doubt as to whom the nest belonged. The stately wood-pigeon will walk down the bank, stooping to drink with great deliberation, and then fly off with a noisy rattle of its wings ; and as you sit watching your float many other glimpses of wild life will be enjoyed, so that even if you catch nothing the day will still have been spent well and pleasantly

Waterside and pondside vegetation is always more interesting than that in drier places. The reeds, and bulrushes, and sedges have a peculiar beauty of their own, whether in the summer, when

Pond Life

the feathery reed flowers bend so gracefully before the breeze, or whether the winds of winter rustle the dry and yellow stalks on a cold winter's day. In some parts the beautiful nest of the reed-warbler may be found suspended, with the green-mottled eggs lying so cosily in the deep cradle slung cleverly between the upright stalks.

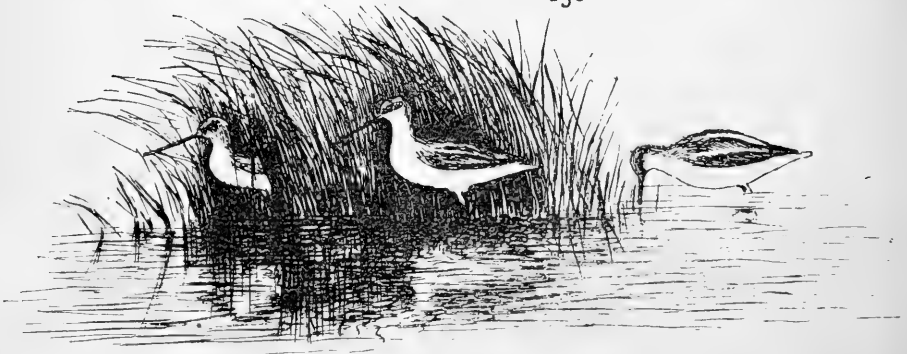
The reed-bunting, with its jet black head and white collar, is to be seen clinging to the rushes and willows, and the pretty little sedge-warbler's chattering song heard from the pondside bushes ; while the pied and yellow wagtails trip nimbly about the muddy banks, and flit with their peculiar dipping flight from one side to the other. A yellow wagtail fluttering upwards after some insect in the air looks like a bright



Pond Life

yellow butterfly hovering; even the plainer-coloured pied wagtail, or Peggy Washtail, is particularly neat and dainty in appearance. The whole family of the wagtails, in fact, is a very elegant one; perhaps the most elegant of all being the grey wagtail, which, however, prefers a rocky stream in the more hilly northern counties to the ordinary pond, where it is seldom seen.

As the seasons change and the year goes round the pond life changes with it. The swallows and the sedge-warblers, mayflies, dragon-flies, and other summer inhabitants disappear and others take their places. The snipe, perhaps, comes to feed on the muddy shores, probing the mud with its long beak for the worms and insects on which it feeds; and coots and some of the rarer ducks



Pond Life

will often visit ponds where they are never seen during the summer months. But at last, perhaps, comes a day when the water is frozen hard, and the ringing of skates is heard instead of the croaking cries of the moorhens. Then the snipe visits the banks of the quickly running streams where it can find unfrozen feeding-places, and the moorhens travel about down the ditches and hedge-sides, and the coots and wild ducks betake themselves elsewhere, perhaps to the coast. The herons, too, can no longer stalk about in the shallows, and they have to find some other place which will afford food, possibly at the nearest river or tidal estuary if there is one within reach, where the ebbing tide, they know, will afford any quantity of food as the mud-banks are left. Here they can

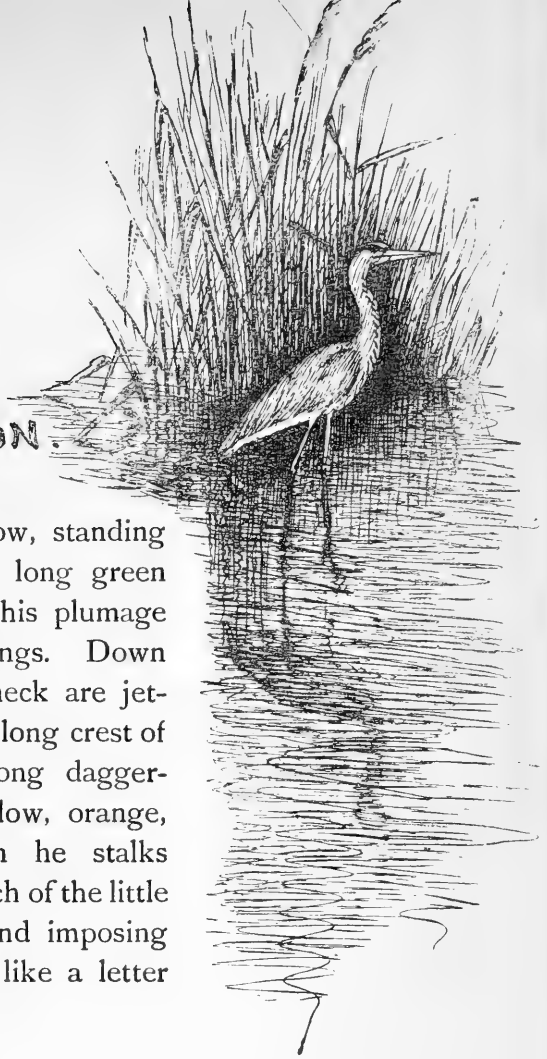
Pond Life

stalk about and pick up crabs and cockles, lug-worms and mussels, and all sorts of delicacies ; and the pond is in the meantime deserted by all its former friends until the thaw enables them to return gladly to their favourite resort.



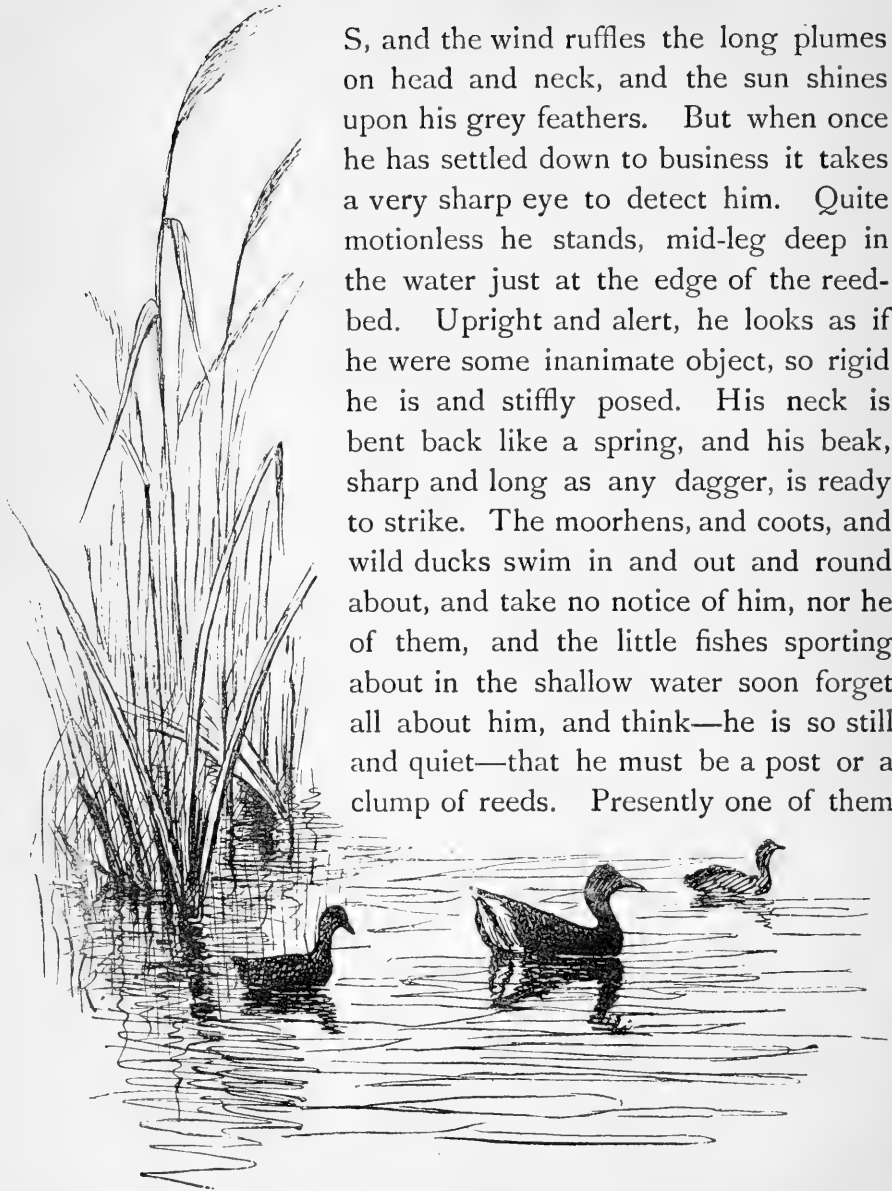
FRANK
THE
HERON.

FRANK is a splendid fellow, standing nearly three feet high, on long green legs ; the general colour of his plumage is slate grey, with black wings. Down the sides of his long thin neck are jet-black stripes ; on his head a long crest of purplish black ; and his long dagger-shaped beak is brilliant yellow, orange, and green, so that when he stalks solemnly over the sandy beach of the little river he makes a striking and imposing figure. His neck is arched like a letter



Frank the Heron

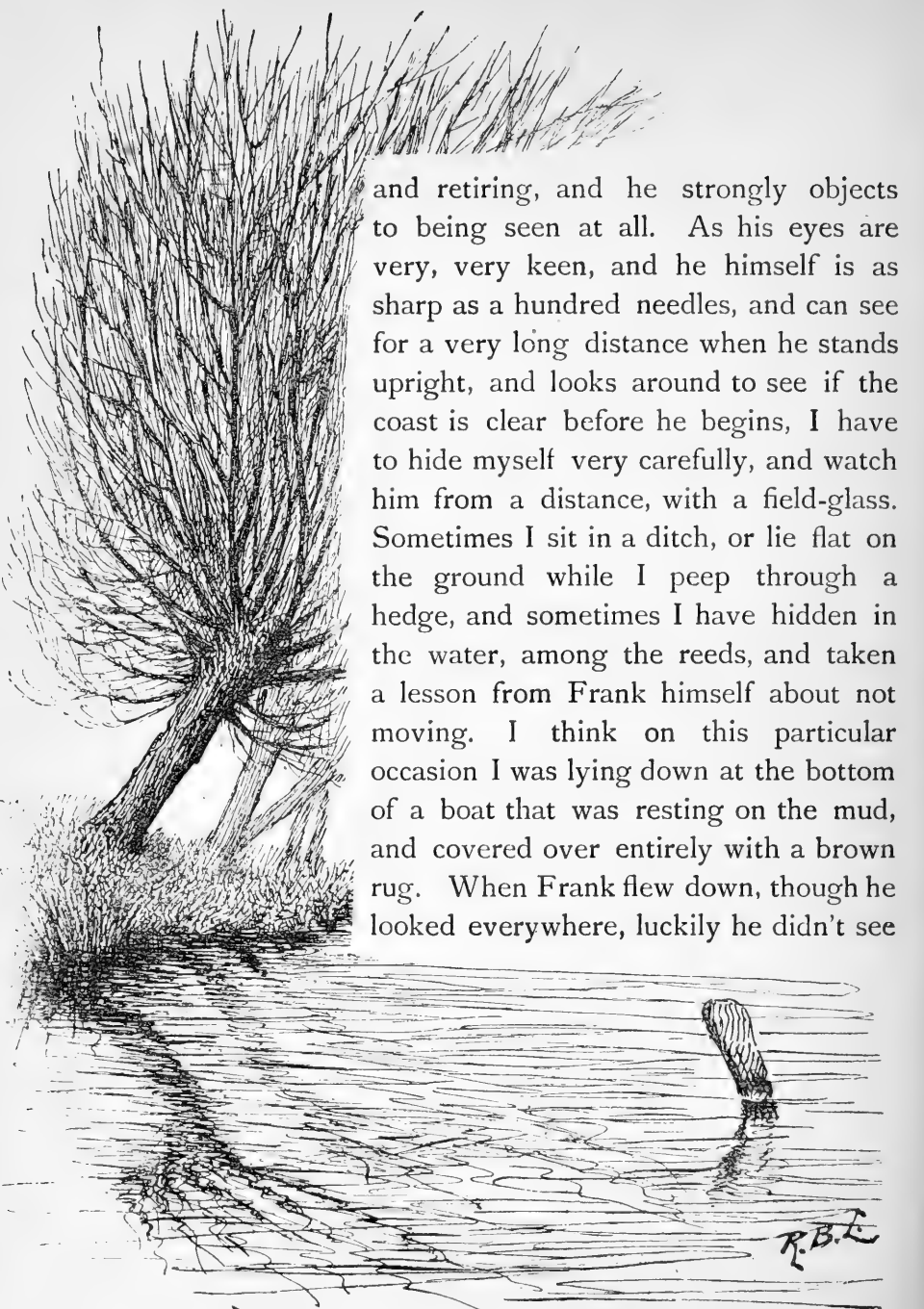
S, and the wind ruffles the long plumes on head and neck, and the sun shines upon his grey feathers. But when once he has settled down to business it takes a very sharp eye to detect him. Quite motionless he stands, mid-leg deep in the water just at the edge of the reed-bed. Upright and alert, he looks as if he were some inanimate object, so rigid he is and stiffly posed. His neck is bent back like a spring, and his beak, sharp and long as any dagger, is ready to strike. The moorhens, and coots, and wild ducks swim in and out and round about, and take no notice of him, nor he of them, and the little fishes sporting about in the shallow water soon forget all about him, and think—he is so still and quiet—that he must be a post or a clump of reeds. Presently one of them



Frank the Heron

swims within reach of that terrible beak. There is a sudden flash, the coiled neck drives the sharp beak like a thrown javelin with unerring aim, and the fish is pierced through and through. No more, little fish, will you sport about in the shallow water and bask in the sunshine on the golden gravel. Frank's head is thrown back, the fish is jerked upwards and disappears head-first down the gaping gullet, whence there is no return.

Sometimes he catches an eel. Frank is very fond of eels, but *they* are not so easily disposed of. Once upon a day, long ago, I watched Master Frank catch an eel. He didn't know I was anywhere near, or looking at him, or he wouldn't have stopped; for, to tell the truth, Frank's disposition is most modest



and retiring, and he strongly objects to being seen at all. As his eyes are very, very keen, and he himself is as sharp as a hundred needles, and can see for a very long distance when he stands upright, and looks around to see if the coast is clear before he begins, I have to hide myself very carefully, and watch him from a distance, with a field-glass. Sometimes I sit in a ditch, or lie flat on the ground while I peep through a hedge, and sometimes I have hidden in the water, among the reeds, and taken a lesson from Frank himself about not moving. I think on this particular occasion I was lying down at the bottom of a boat that was resting on the mud, and covered over entirely with a brown rug. When Frank flew down, though he looked everywhere, luckily he didn't see

R.B.L.

Frank the Heron

me in my hiding-place. After standing still in his usual patient fashion, I saw the beak shoot out like lightning, and up came a squirming, wriggling, twisting eel. Such a comical sight, I think, I never saw. Frank stalked to the shore holding his captive securely, and then banged it on the ground; and after many trials and fruitless attempts on his part, and many frantic struggles on the part of the eel, it was swallowed, still alive and still wriggling and twisting as only an eel can wriggle and twist. Slowly it passed down the long neck on its way to the hungry stomach waiting to receive it, wriggling and twisting all the way down. For I saw it distinctly, and watched its convulsive struggles as it gradually passed lower and lower. It looked a most uncomfortable sort of meal to

Frank the Heron

make; and though I rather like live oysters, still, oysters don't wriggle and kick, which makes all the difference, but submit to their fate with becoming resignation. The eel, however, was by no means resigned, and made a gallant struggle, for it presently began to wriggle *up* the neck again, until presently I saw its tail reappear out of Frank's beak; a second time it was gulped down with much difficulty, and a second time it worked its painful way up again, and it was not finally disposed of until this process had been gone through four times. Even then I thought I could see internal movements which seemed to suggest that the unequal struggle was still going on.

Sometimes, again, Frank will catch the water-rats as they swim past him,

Frank the Heron

and in the summer-time devours a good many young ducklings and moorhens ; but fish and frogs are what he chiefly looks for, and as his appetite is good his presence is not always welcomed. However, he is such an ornament to the landscape, whether standing in statuesque pose on the river's brink, or flapping slowly over the marshes on his big curved wings, that it would be a great pity to be too hard on him. Luckily he can take very good care of himself as a general rule.

Now, you may be wondering all this time why I call him Frank. Well, then, it is because, as he flaps lazily along in the dusk over the fields on his way to the rivers and ponds, he calls out in a loud harsh voice, 'Fra-a-ank, Fra-a-a-ank.'





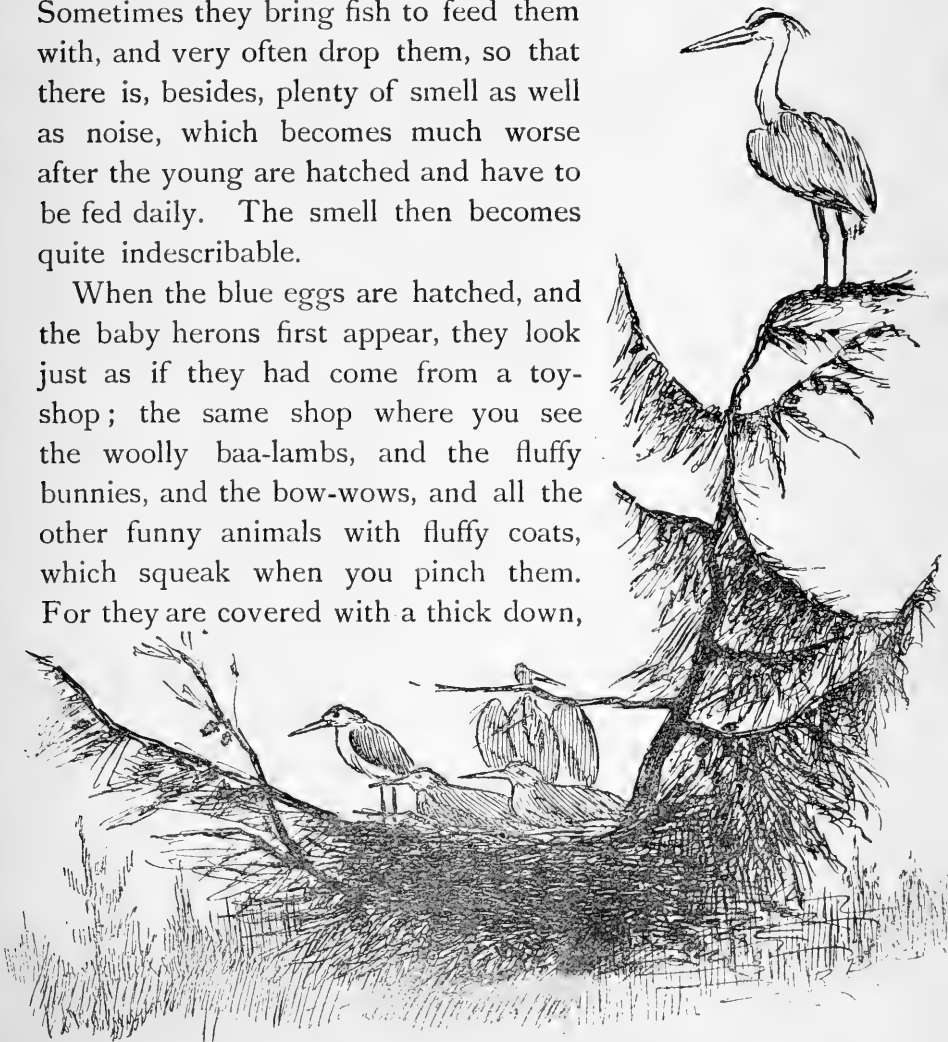
Frank the Heron

Though he is such an imposing figure now, he started life in a very comical and undignified form. First of all, of course, he was enclosed in an egg. This was of a beautiful blue colour all over, and five of these lay in the middle of a great coarse nest made of sticks and dry sedges at the very top of a fir-tree, in a wood. On the neighbouring trees, some firs and others oaks, are more nests, each containing four or five pale-blue eggs, and on the dead boughs near are standing, sometimes on one leg, the parent herons, while others are sitting on their nests, and some are flying off or returning from their fishing excursions. It is quite early in the year, in March, when the oak-trees are still bare, and the cold wind whistles through the leafless branches. Such a commotion there

Frank the Heron

is, and bustle, and such noises! The strangest grunts and croaks and gurglings are to be heard on all sides, as the returning birds greet their partners. Sometimes they bring fish to feed them with, and very often drop them, so that there is, besides, plenty of smell as well as noise, which becomes much worse after the young are hatched and have to be fed daily. The smell then becomes quite indescribable.

When the blue eggs are hatched, and the baby herons first appear, they look just as if they had come from a toy-shop; the same shop where you see the woolly baa-lambs, and the fluffy bunnies, and the bow-wows, and all the other funny animals with fluffy coats, which squeak when you pinch them. For they are covered with a thick down,





Frank the Heron

which stands up on their heads and all over their bodies in the most comical way imaginable. When they grow a little bigger, and can stand erect on their legs instead of having to squat at the bottom of the nest, this down gradually disappears as the feathers grow underneath ; and when the parents appear overhead on their big hollow wings, and drop their long legs ready to alight on the nest, what an outcry there is as all five of them raise themselves up on tip-toe and stretch out their long necks and open their mouths, each one anxious to have its share first ! Very often in their eagerness one or two of them will fall out of their nest.

Except in the nesting-season they are unsociable birds, and the young soon separate after they have left the nest.

Frank the Heron

It is true that you may often see half a dozen herons feeding in the same place. But they came there singly, and each one will leave by itself and go its own way, and they have only found themselves together because the place happens to be a good one for food, and they all know of it.

The mud-banks of a tidal river are favourite feeding-grounds, and it is curious to notice how they know exactly at what time each day the tide will leave them bare. If they all carried watches in their waistcoat pockets, they couldn't hit off the time better. As soon as the first glimpse of mud begins to appear above the brown water racing out to sea so fast, all the shore-feeding birds, big and little, may be seen flying towards it ; the small fry, like dunlins, stints, and

Frank the Heron

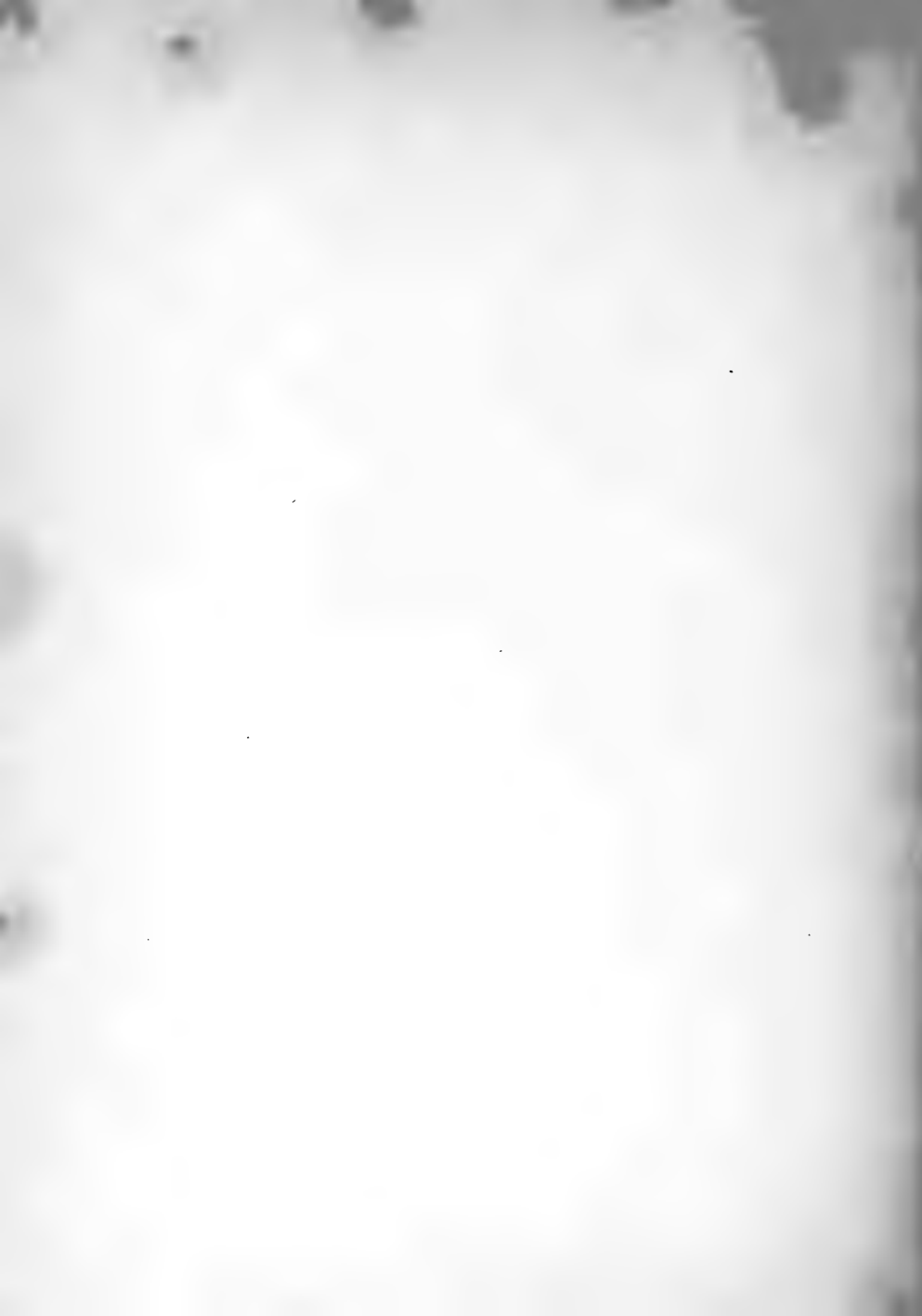
ringed plovers, flitting in tiny flocks just above the surface of the water, the curlews in long strings, and the herons one by one, slowly flapping their way on their big curved wings, and their long green legs stretched out behind. On alighting, these long legs are dropped, and the bird descends slowly ; and then the broad wings, having done their work, are folded up. But before beginning to feed, Master Frank has to satisfy himself that all is right, and that there is nobody hiding about with a gun, or any other danger which is likely to come that way. For some minutes he stands quite still and motionless, with his long neck outstretched, while he carefully looks around in every direction. Then he slowly stalks off, but not to feed—oh no! He looks, it is true, quite satisfied ;





HERON AND SHORE BIRDS ON MUD FLAT

L. S. 1880



Frank the Heron

but every now and then he raises himself suddenly and looks warily about. Then, at last, he proceeds to search for what the tide has left for him. Little crabs scuttling over the soft mud, and trying to bury themselves safely out of reach, are not quick enough to escape his sharp eye and still sharper beak. Dabs and flounders, eels and mussels, are there, with plenty of lug-worms and marine creatures of many sorts which are eagerly sought after by the smaller fry. These run nimbly over the shining surface, picking up plenty of food ; while the curlews are poking their long curved beaks in search of hidden dainties out of reach of the shorter-beaked birds. It is quite an animated scene ; all the birds are so busily engaged, as if they knew—as of course they do know—that the tide will

Frank the Heron

come in again and cover everything up once more. As the water advances, they are driven higher and higher, until, when there is no more standing room, they fly off somewhere else to wait for the ebb. This goes on by night as well as by day. On the darkest nights these mud-banks, and sand-banks, and beds of tidal ooze, are explored thoroughly by hosts of hungry birds, which depend upon the flowing and ebbing tides for their daily food.





Three Feathered Mites and Their Homes

IF you live in the country I am sure you know what a bottle-tit is. If you have to live in London perhaps you can't think what I am talking about. Well, I mean the little bird with a long tail which, in the books, is called a long-tailed tit. If you look for it in any bird book you will see its picture, which will give you some idea of what it is like. But only *some* idea, for no picture can give all the beauty and the grace of a live bird. It is quite a little mite of a thing. If you took away its long tail and its thick coat of fluffy feathers, there

Three Feathered Mites

wouldn't be very much left of it—only a little body not much heavier than a big beetle.

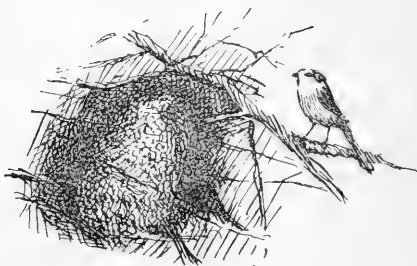
Such an active, restless, fidgety little bird it is, never still for a single moment. It is a distant cousin of little Tommy Titmouse, and quite as clever as he is in hanging head-downwards, while its sharp eyes are busy looking for little insects hidden away in odd corners. But it hasn't Tommy's bright yellow waistcoat and blue cap, and instead of his little short stumpy tail it has a very long one, longer than its whole body.

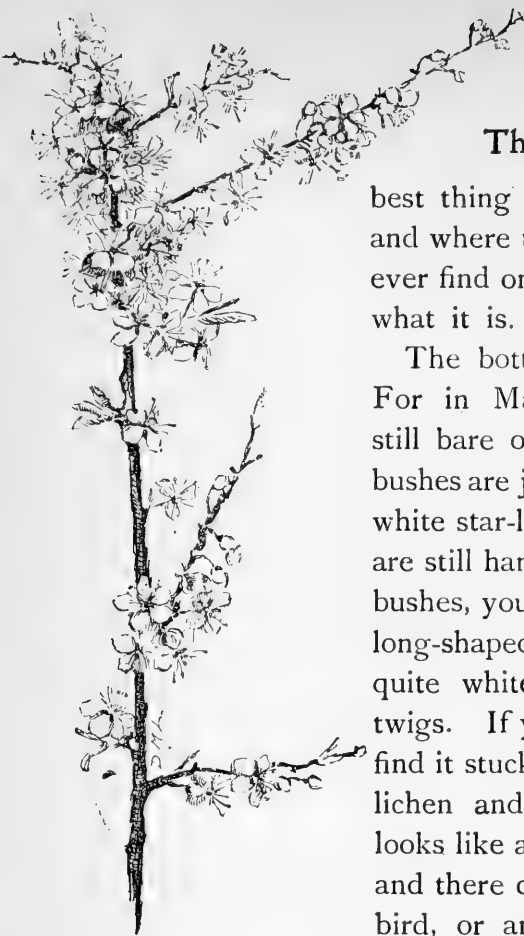
And though it is such a small, feeble creature, it stops here with us all through the coldest winters, instead of leaving us and going to the warm and sunny South, as do all our little summer visitors. The bottle-tits, and the other

and Their Homes

tits, its relations, and the wrens, and golden-crested wrens all stop with us the whole year round, in spite of cold winds, and snow and frost, and scarcity of food. Indeed, I think it is quite worth noticing that these, the smallest birds we have, are real natives, living their whole lives with us here in England, instead of forsaking us when the bad weather comes.

And the bottle-tit, the wren, and the still smaller golden-crested wren are also all worthy of notice because all three of them make very curious and very beautiful nests—such beautiful nests that they are amongst the best made of any that are made here in England, or indeed anywhere else. And I should like to show them to you, but as I cant' do that to you all, I must do the next





Blackthorn

Three Feathered Mites

best thing and tell you all about them, and where they are made, so that if you ever find one for yourself you will know what it is.

The bottle-tit is generally the first. For in March, when the hedges are still bare of leaves, and the blackthorn bushes are just spangled with the delicate white star-like blossoms, and the catkins are still hanging their heads on the nut-bushes, you may perhaps find a curious long-shaped mossy nest, which looks quite white amongst the bare brown twigs. If you look closely at it you will find it stuck all over outside with white lichen and spiders' webs. It hardly looks like a nest, for it is all covered up, and there doesn't seem any room for a bird, or any opening where she could get in. But near the top there is a

and Their Homes

small hole, and if you stand very still perhaps you will see one of the birds creep from twig to twig and slip silently into this hole. Then she turns round inside until her head faces the hole, and the long tail sticks out over her head. Sometimes two of them are in the nest in this curious fashion at the same time. Inside it is all comfortably and thickly lined with feathers, and here they lay several little pointed eggs. There are sometimes eight, nine, or even ten of these eggs; and when they are all hatched and ten little bottle-tits besides the parents all live in it, it is very closely packed, as you may imagine. For the whole nest isn't much larger than a cricket-ball. And then one fine day all the little bottle-tits pop out of their bottle to see the world. Away



Three Feathered Mites

they go, some right-side up, and some upside-down, and all of them cutting all sorts of merry capers, and saying to each other in their bottle-tit language, 'zi-zi—zi-zi.' That means, 'Here I am, follow me,' and they all follow one another through the world, keeping together.

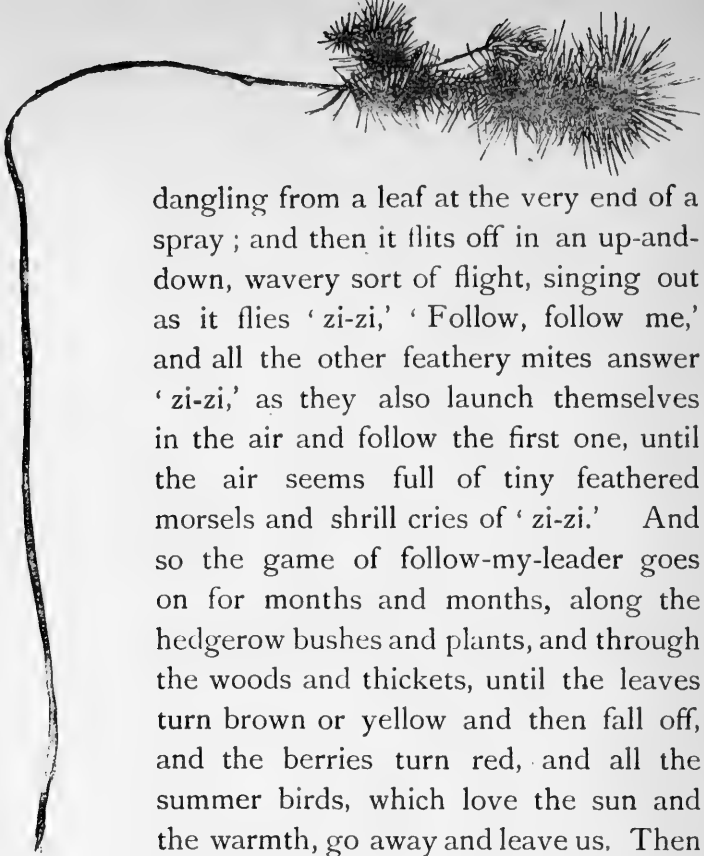
Other birds, when they grow big enough to feed themselves, leave their parents altogether and never see them again, or if they do see them, don't know them any more than if they were strangers. And the parents don't mind a bit, because they very often make a new nest and lay another clutch of eggs, and soon have another family of young ones to feed, and are much too busy to think anything more of the first lot, and don't want to be bothered with them. They have tenderly brought them up

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and taught them to feed themselves, and to fly about and to take care of themselves generally, so they consider they have done all they can for them, and don't bother their heads any more over them. But the bottle-tits don't do this. They only rear one brood throughout the year—true, it is a big enough brood—and they stick to one another all through the summer, and through the long hard winter, until the spring comes once again; and then they all separate, and choose their wives, and all start housekeeping on their own account in just the same way as their parents did.

And a very pleasant sight it is to see this happy family on their travels. Perhaps you first hear a shrill 'zi-zi,' and notice a little purplish grey ball of feathers with a long tail stuck on to it





dangling from a leaf at the very end of a spray ; and then it flits off in an up-and-down, wavery sort of flight, singing out as it flies ' zi-zi,' ' Follow, follow me,' and all the other feathery mites answer ' zi-zi,' as they also launch themselves in the air and follow the first one, until the air seems full of tiny feathered morsels and shrill cries of ' zi-zi.' And so the game of follow-my-leader goes on for months and months, along the hedgerow bushes and plants, and through the woods and thickets, until the leaves turn brown or yellow and then fall off, and the berries turn red, and all the summer birds, which love the sun and the warmth, go away and leave us. Then the snow comes, and the rain and the hail ; but still the merry game of follow-my-leader goes on and on. When the

Three Feathered Mites

twigs are frozen hard and stiff and cold, or covered with a feathery coating of snow, you may still hear the shrill cries, ' Follow me, keep together, all together ', while the active, restless movements of the birds are accompanied by the patter of the snow, or the particles of frozen mist, dislodged even by their fairy weight, on the delicate twigs and branches, in their ceaseless hunt for food. Sometimes I have seen in their company some of the other tits—blue tits, or marsh tits, or cole tits, and sometimes gold-crests, all playing the same game together and following one another from twig to twig, and from bush to bush and tree to tree.

The gold-crests have, too, the same shrill note as they follow one another about through the trees and bushes. They are even smaller than the tits and

Three Feathered Mites

wrens ; the very smallest, wee-est birds we have. And in spite of their being so tiny, many of them cross over the cruel North Sea in the autumn. For though we have many of them living with us all the year round, other countries have them also. Those which live in the forests of Norway and Sweden, where the winter is so much colder than it is with us, are sometimes forced to leave when the cold is too severe for them. Then thousands of them land on our eastern coast, in flocks which cover the sand dunes and bushes with crowds of weary wanderers ; others rest on fishing-boats and ships, and no doubt thousands more fall, exhausted with their long flight, into the pitiless grey seas which heave and tumble so continuously below them. Just think of such a mite, not so

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big as a good many humming-birds, making such a weary, weary journey as the flight over the sea from Norway. What brave little hearts they must have, shut up in their tiny bodies, ever to attempt such a terrible flight! The wonder is that any of them succeed in safely crossing.

Their nest is a most delicate cradle, fit for such a dainty little bird and its family. It is a small mossy cup, so cleverly hung on the under side of a spreading branch of evergreen, spruce, or fir that there is always a thick roof over it, and at the same time it is so hidden in the heavy dark shadow that the green hammock of moss can scarcely be seen amid the green spines of the tree. The eggs are not very much bigger than peas, and there are generally about six





Three Feathered Mites

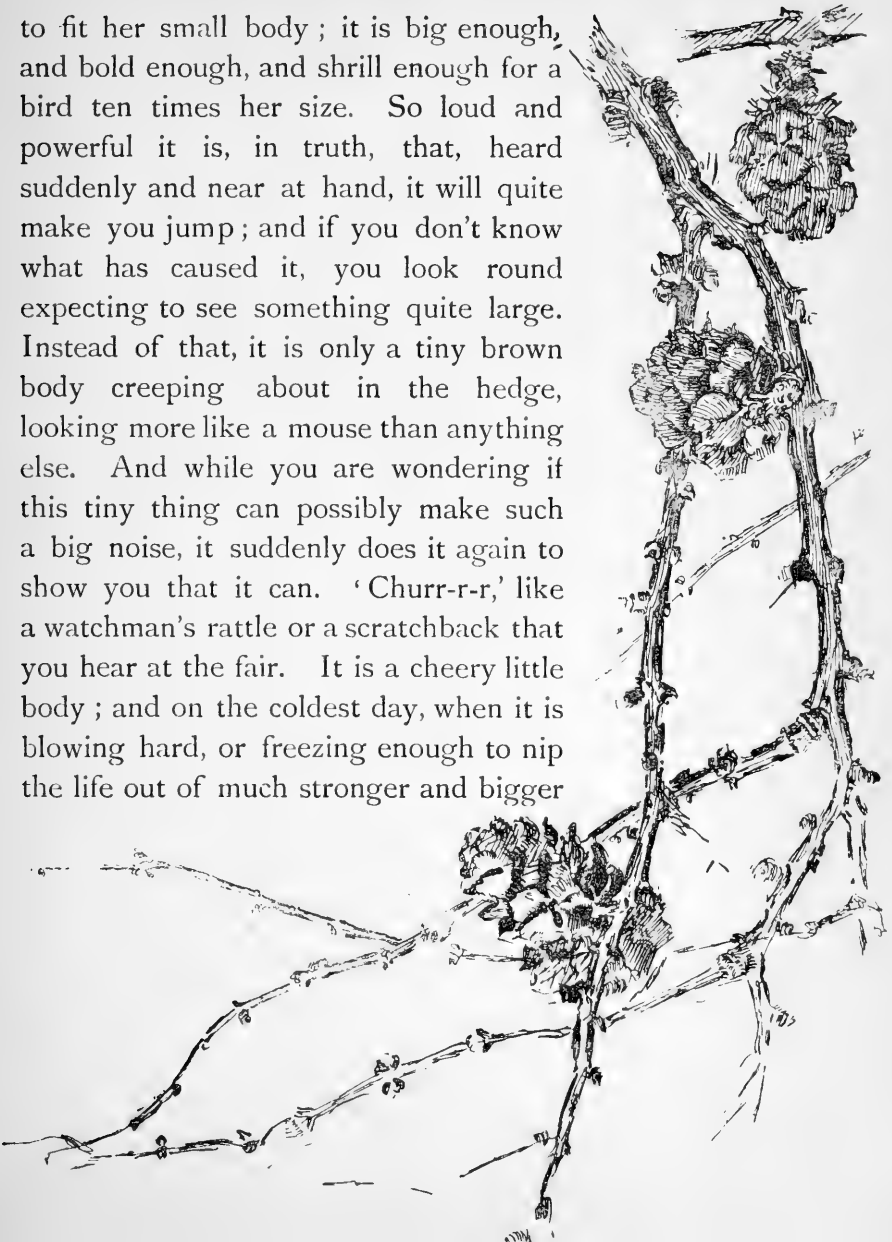
or eight of them. The bird itself is like a little green fairy with a crown of gold, for the top of its head is a beautiful golden yellow, surrounded with a black line, and the general colour of its plumage is greenish.

Their habits are very similar to those of the bottle-tits; both varieties are equally active and restless, and live in more or less the same sort of way, except that the gold-crests have a greater fondness for forests of fir spruce or larch. Sometimes the shrill note can be recognized high up some tree in the forest—so high that the minute green form is invisible, and you can only guess its whereabouts from the sound.

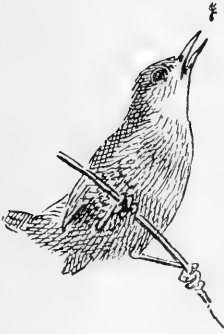
Then there is the wren, little Jenny Wren, with her perky, cocked-up tail and loud voice. For her voice doesn't seem

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to fit her small body ; it is big enough, and bold enough, and shrill enough for a bird ten times her size. So loud and powerful it is, in truth, that, heard suddenly and near at hand, it will quite make you jump ; and if you don't know what has caused it, you look round expecting to see something quite large. Instead of that, it is only a tiny brown body creeping about in the hedge, looking more like a mouse than anything else. And while you are wondering if this tiny thing can possibly make such a big noise, it suddenly does it again to show you that it can. 'Churr-r-r,' like a watchman's rattle or a scratchback that you hear at the fair. It is a cheery little body ; and on the coldest day, when it is blowing hard, or freezing enough to nip the life out of much stronger and bigger



Three Feathered Mites



things—you can hear this cheerful note, and see a tiny brown form creeping about the banks and turning over the dead and withered leaves, and even exploring the holes and hollows of old trees in the hope of finding food. Vainly the insects hope to hide themselves away for the winter, and to lay their eggs in safe corners and snug hiding-places. Jenny Wren's keen eyes and sharp-pointed beak find them out; and so she manages to live and thrive through the long, cold winter months until the spring comes round once more.

And if the spring-time seems a joyful time to us, and a pleasant change after the winter, what a relief it must be to all the wild things in the hedges, fields, and woods! A hard struggle many of

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them have to keep themselves alive at all. Sometimes they fail in the attempt, and, unable to obtain enough food to keep themselves fit and strong, they fall a prey to their enemies. For it is seldom that any wild thing dies a natural death, if you can call a death from cold and starvation natural. They *never* die of old age, because as soon as they become at all feeble, from whatever cause, they are unable any longer to avoid their natural enemies, which also have to live, and are continually, by night as well as by day, on the eager watch for something weaker than themselves to devour. All the cats, rats, weasels, stoats and foxes, owls, hawks, crows, snakes, and the rest, which live on their smaller neighbours, have, too, their young to feed and their own lives to

Three Feathered Mites

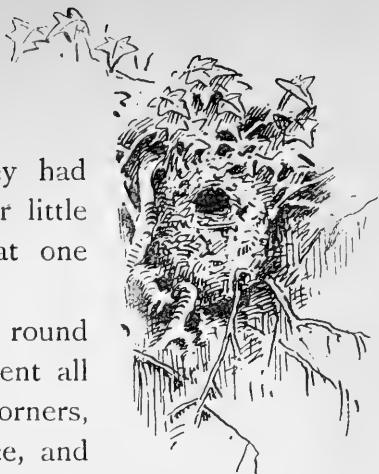
preserve just as much as the little birds which in their turn live on insects and grubs or seeds.

Perhaps that is why the smaller birds have such big families. For they all lay from six to ten eggs, and sometimes even more ; and the bigger birds, many of them, only lay two or three ; but in spite of the larger number of eggs, the little birds don't increase in number, but remain much about the same. Doesn't this make it seem probable that if they didn't have such large families they would not be able to keep up their numbers at all, but would gradually become fewer and fewer until there would be no more left? And if that happened, of course the hawks, cats, and weasels would have to die down too, for there wouldn't be enough food

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for them to eat. For after they had devoured all the mice and other little things, they would have to eat one another or die of starvation.

But when the spring comes round again, the wrens, which have spent all the winter prying into holes and corners, choose the most convenient place, and make their nest there. Sometimes it is hidden away among the roots under a hollow bank, sometimes amid the ivy on a tree-trunk or old wall, or in a hedge or bush ; very often in the side of a haystack. And occasionally Mrs. Jenny chooses still funnier places, where no one would ever expect to find a bird's nest. She has before now built her nest in a scarecrow, or in the dried-up body of a dead bird, hung up by the gamekeepers as a warning to others, in



Three Feathered Mites

coils of rope, and in other out-of-the-way and unexpected situations.

And this nest is quite round, like a ball, with a little round hole in the side for a front door. So firmly made is it that you could take it out and throw it about without destroying its shape. It is made either of dry grass and hay, dead leaves, or green moss, whichever best matches the situation in which it is placed, and is warmly lined with feathers.

You may often find a wren's nest without this feather lining, but these never have any eggs in them. They are supposed to be made by Mrs. Jenny Wren's husband to sleep in at night, but whether this is so I really cannot tell you. I only know that such nests are commonly found, and that very often



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they are placed near to the real nest in which the eggs are laid.

Country boys always tell you that if you put your finger in a wren's nest to feel if there are any eggs, the birds will desert it and go somewhere else. This is hardly true, for I find that if I do so carefully the birds do not mind. Perhaps a boy, as a rule, is not careful enough, and treats the nest so roughly and carelessly as to damage it, and then of course the birds will desert it.

And here I must complain very much of the senseless destruction of birds' nests all over the country by boys and children generally. There may be some excuse for taking eggs if they are carefully and properly kept, only keeping one or two of each kind; but taking them for the sake of destroying them,

Three Feathered Mites



and pulling out all the nests that may be found, whether they contain eggs or not, is only silly and thoughtless cruelty. Hardly a day passes throughout the nesting-season in which I do not find nests pulled out and destroyed out of sheer mischief. And the little birds which nest early in the spring suffer very much, because their nests are so easy to find before the leaves appear. The long-tailed tit's nest in particular is very easily seen in the bare hedges, and they lose as many nests as the early blackbirds and thrushes. After the leaves and all the hedgeside plants grow up, they are not so readily found, and they then have a little chance of escaping notice.

How the First Baby Cuckoo was Put out to Nurse

‘Now, my dear,’ said Mr. Cuckoo to his wife, ‘all the other birds are starting housekeeping and nestbuilding, the flowers are coming out, and it is positively warm: don’t you think we had better begin to think of settling down and making a nest for our eggs? I saw yesterday a place which will suit us capitally. There is a really nice view, and it is quite quiet and hidden away from all cats and boys and other nasty things. Suppose we go and see if it will suit you, and then we can begin to build our house and get it

How the First Baby Cuckoo

ready. "Cuckoo, cuckoo—the summer is coming."

But Mrs. Cuckoo did not appear to be very pleased with the idea. She didn't say anything for a time, but went on preening her feathers, every now and then looking at the reflection of herself in the pool to see if her back plumage was quite nice and smooth. Then she said, with an affected air: 'Really, I am surprised that you should expect your wife to do anything so vulgar as to set up a nest and be bothered with looking after a set of noisy, squalling, hungry little ones, just like any common sparrow. The season is only just beginning, and I do not yet feel recovered from our journey. Ugh! how cold it was crossing those horrid mountains, and how tired I was flying over the sea! A little more

was Put out to Nurse

and I should have fallen exhausted into the waves. I do hate travelling, and now I am just going to enjoy myself. We haven't seen a soul since we arrived, and I must go and see some of our friends, and find out how they are, and how feathers are to be trimmed this year. I declare I am feeling quite old-fashioned.' And away she flew.

Mr. Cuckoo followed her, for in truth he was as fond of society and gossip and pleasure as his wife, and very nearly as vain and as proud as she was. He was a very fine bird indeed, with his bright yellow eyes, beautiful barred breast, and long tail. He bore a striking resemblance to my Lord Sparrow-hawk, and in fact was often mistaken for him. And of this he was rather proud. They both had a very good opinion of



How the First Baby Cuckoo

themselves, and thought it beneath their dignity to do any work, looking down on those who did as quite common folk. So they flew about here and there amid hedgerows covered with hawthorn blossom like newly fallen snow, and trees whose freshly opened leaf-buds expanded more and more each day in the glad sunshine. Sometimes the spring showers dimpled the running streams and the little pools with falling rain-drops, making the fresh leaves and the bright green grass even lovelier and fresher than they appeared before ; but that didn't trouble them much, for there was always the shelter of the woods to fly to, where the rain didn't penetrate.

And all the time Mr. Cuckoo, who was very proud of his voice, kept calling out, 'Cuckoo, cuckoo—summer is coming.'



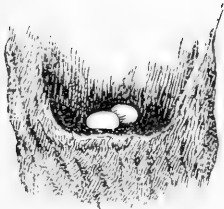
was Put out to Nurse

So that his friends began to call him 'cuckoo,' instead of his own name, which was *Cuculus canorus*. But this, though very fine and grand, was rather long and hard to say, and he was soon known far and wide by the name of 'cuckoo.' Rude boys even tried to imitate his voice, and would sometimes go about the fields and lanes crying out 'cuckoo.' Some of them really imitated him so well that many people were deceived, and wrote to the papers to say that they had heard a cuckoo, though it was only in March perhaps—which, as everybody should know, is far too early for the cuckoo family to come from across the seas, and far too cold and windy for such particular people to venture out. Besides, in March there are not enough caterpillars to eat. Worms and flies and

How the First Baby Cuckoo

such common food are only fit for thrushes and little birds who have been brought up on such lowly fare, and can't be expected to know any better. Worms indeed! Why, to get such creatures one has actually to scratch about in the mud, and Mr. Cuckoo and his wife are most careful not to soil their elegant feet. These were a beautiful pale yellow, and not strong enough for such rough work. But caterpillars, especially the hairy ones—the best flavoured of all—are hardly in season till April at least.

And so the time passed and they had made no nest. They really didn't seem able to spare the time, but as they flew hither and thither they looked about them to see how the birds managed. They were rather interested to see Mrs. Stock-dove's home in a hollow tree ; it



was Put out to Nurse

really was most comfortable and commodious, and then it saved so much trouble—hardly any nest to make, and when it rained it was quite snug and dry. Then in the next field Mrs. Peewit-Lapwing had laid her four eggs on the ground in the middle of a field. It was rather rough ; but they thought it wouldn't take much time to collect four or five grass stems and arrange them round a hollow in the ground. They noticed particularly how it was done, and flew off, thinking there was no hurry : they could easily make as good a home as that in less than no time. But when they passed again some weeks later, still enjoying themselves and doing nothing, they found that Mr. and Mrs. Peewit-Lapwing had four little ones to feed, and were busily running about picking

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The First Baby Cuckoo

up little worms and grubs and seeds, and were in fact too much occupied to do more than say good-morning.

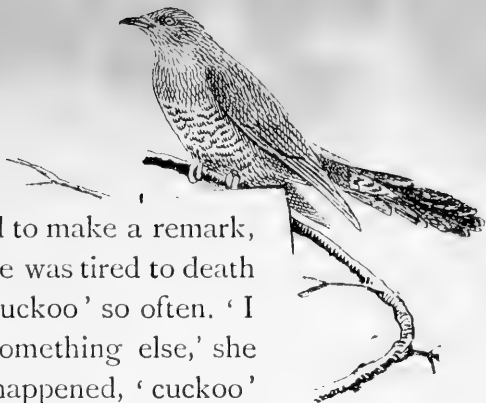
Mrs. Stock-dove had only two babies, it is true; but they couldn't run about and help themselves like the little peewits, and were quite helpless and very, very ugly and uninteresting. Poor Mrs. Stock-dove looked worried out of her life, and confided her troubles to Mrs. Cuckoo. It seemed her babies couldn't pick at all; she actually had to eat the food herself and feed them out of her own mouth, and was getting quite worn out with hard work and anxiety—and in fact sat down and had a good cry and felt ever so much better for it.

That evening Mrs. Cuckoo looked more serious than usual, and was rather cross. She quite bullied her husband



PAIR OF PEEWITS WITH EGGS





whenever he ventured to make a remark, and said peevishly she was tired to death of hearing him cry 'cuckoo' so often. 'I wish you could say something else,' she said at last. As it happened, 'cuckoo' was all the poor bird *could* say, and no doubt it was rather trying to hear him say it so often. Up to now he had been so proud of being able to say it at all—for it was more than any of the other birds could do—that he had never thought of trying to say anything else. But now he was quite upset at the idea of not being considered perfect, and went away by himself to practise. But no, he had said 'cuckoo' so often that it seemed quite impossible to say anything else; all he could do after some weeks' practising was to say 'cuck-cuckoo' instead of only 'cuckoo.'

How the First Baby Cuckoo

But in the meantime it was quite time for Mrs. Cuckoo to lay her eggs ; the matter could not be postponed any longer. All the hedges were in full leaf, and in every direction were families of birds which had already left their homes and were hopping about the twigs and trying awkwardly to fly, every now and then tumbling head over heels in the attempt, while their parents were almost beside themselves in their anxiety not to lose any of the brood. The tiresome little things *would* persist in all straggling different ways, and it was simply impossible to keep their eyes on all of them and see they didn't get into mischief. ' Bobby! Bobby!' an anxious mother would pipe. ' Oh! who has seen my little Bobby?' Nobody had seen him, but somebody *had* seen a weasel

was Put out to Nurse

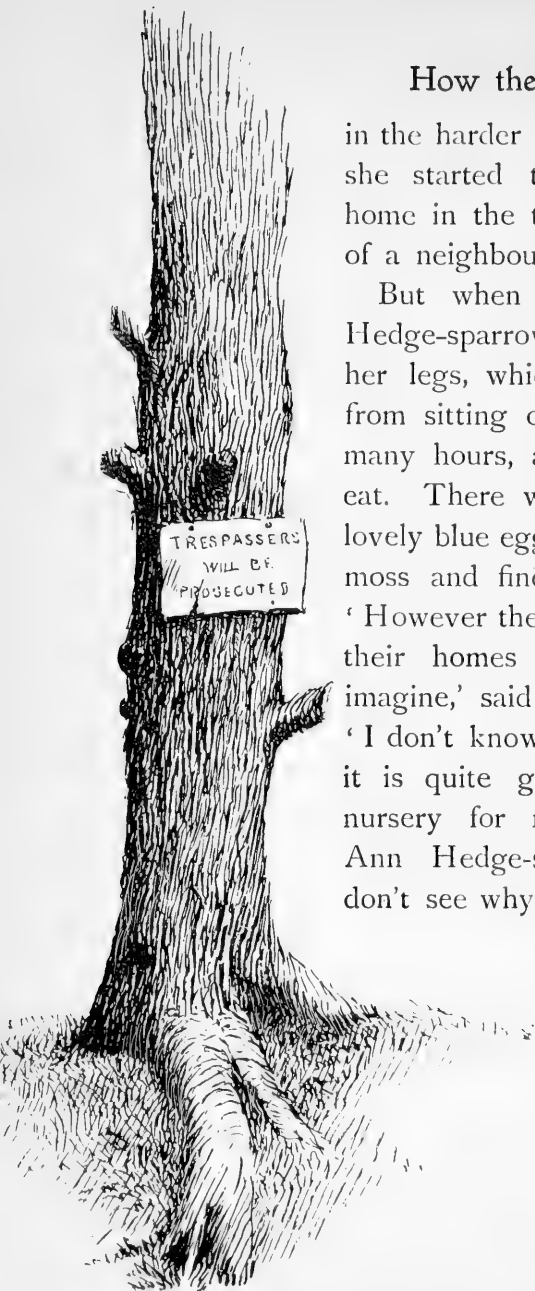
carrying something, a something that fluttered feebly, and poor little Bobby was never seen again ; while the weasel family in the old stump in the corner of the field looked particularly contented that afternoon.

All these domestic troubles had a great effect on Mrs. Cuckoo's nerves. She said she really hadn't been brought up to such things ; that in her state of health it was cruel to expect her to look after a family without any assistance. She knew that everything would be left to her—and in that she was about right, for her husband was far too greedy and lazy to look after anybody but himself. Finally she decided on going to see if she could persuade Ann Hedge-sparrow— 'really a most respectable, hard-working bird, you know'—to give her some help

How the First Baby Cuckoo

in the harder part of the work. So off she started to Mrs. Hedge-sparrow's home in the thick hedge at the bottom of a neighbouring orchard.

But when she arrived there Mrs. Hedge-sparrow had gone out to stretch her legs, which were rather cramped from sitting on her five blue eggs so many hours, and to get something to eat. There were the eggs—five most lovely blue eggs in a soft cup of green moss and fine grasses and horse-hair. 'However these common people furnish their homes so comfortably I can't imagine,' said Mrs. Cuckoo to herself. 'I don't know what we are coming to; it is quite good enough to make a nursery for my children, instead of Ann Hedge-sparrow's little brats. I don't see why I shouldn't lay one of my



was Put out to Nurse

eggs—just one ; and if I take out one of hers perhaps she won't be any wiser.'

No sooner said than done. Her own egg, a speckled brown one, was put into the nest, and one of the pretty blue ones taken out. In her haste, this was broken, for she didn't want to be found out doing it ; and as her own, though not quite a match in colour, was not so very much larger than the others, she hurried away, hoping the change would never be noticed.

And, sure enough, when Mrs. Hedge-sparrow came back to her nest she never noticed that her eggs had been meddled with—it was so dark under the green leaves of the thick hedge that she couldn't see very well—and so she went on sitting on them and keeping them warm night and day, until she could feel

How the First Baby Cuckoo

and hear the little ones stirring inside the shells. Soon they poked out the tips of their beaks, and presently five naked birdlings were nestling under her warm feathers. Her husband was busily creeping about like a little brown mouse in and out of the hedges and bushes all around, looking for small caterpillars, soft and juicy grubs, and all sorts of delicacies fit for baby birds. How they did eat, to be sure! Very soon she had to go and help him, and it was all they could do between them to keep the five hungry stomachs satisfied. Their beaks seemed to be everlastingly open, and they were always clamouring for more food. And the hungriest and greediest of them all was the one which had been hatched out of Mrs. Cuckoo's egg. He was much bigger and stronger than

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poor Mrs. Hedge-sparrow's own little children, and would push himself to the front whenever either of them came to the nest with any food ; and so he grew stronger and stronger, and bigger than ever.

The curious thing was that neither of the hedge-sparrows noticed it. They were really so proud of this great fine baby of theirs, as they thought, that whenever they had time to talk with their neighbours they were always boasting how big and strong he was, how his feathers were coming already, and what an appetite he had ; and away they would go and look for more caterpillars, and all the fattest ones went to the greedy cuckoo. The selfish little monster soon grew so fat and big that there was hardly room enough in the nest for all

How the First Baby Cuckoo

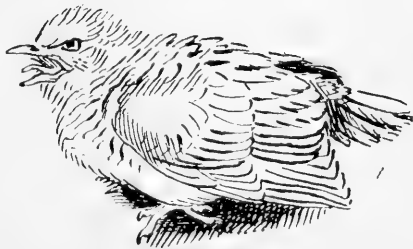
of them ; but he would trample down the weaker ones and sit on them without mercy. And at last, one day when they were struggling for the best place, he got his broad beak under one of the others, and, raising himself on his feet, tipped the unfortunate little bird right out of the nest, so that it fell down to the ground out of sight amid the thick growth of grass and plants of all sorts, where it died miserably.

But the mother hedge-sparrow never missed it, but went on giving all the best bits to this cruel child of Mr. and Mrs. Cuckoo. By-and-by he tipped out another little one, and then another, until he had the whole nest to himself, and so big had he grown by now that he filled it up completely. Mrs. Hedge-sparrow thought there never was such a

was Put out to Nurse

fine baby in the wide world ; her husband was just as foolish as she was, and between them they spoilt him so, and worked so hard to get him enough food, that they were busy hunting caterpillars from the earliest morning until quite late at night, after the bats and nightjars had come out to catch the night-flying moths and other insects.

At first the young cuckoo, though so big, was, in truth, not very handsome, except in the eyes of its foolish foster-parents. It had a great red mouth which was always open wide for something to be put into it, and a round stomach which was always hungry. If anybody had looked at its feet they would soon have known that it was not really a son of Mr. and Mrs. Hedge-sparrow, for they were quite differently



How the First Baby Cuckoo

shaped; instead of one hind toe there were two, and only two front ones instead of three. But when its feathers began to grow it began to improve in appearance, though before they opened out it looked very remarkable, for the sprouting feathers on its head looked more like bristles than feathers; and when it was impatient or bad-tempered, which was pretty often, these stuck up like the quills on a porcupine, so that when it opened its red mouth and hissed with anger it was enough to frighten most things. It hardly looked like a bird at all. Before long, however, it began to look really handsome; its feathers were all grown and were most delicately barred with brown bars, and its wings and tail were quite well feathered. It was able to leave the



was Put out to Nurse

nest now and hunt about for its own food, but was much too lazy to do anything of the kind, and sat there in the nest—which by this time was all flattened out and shapeless with its weight—grumbling and hissing at the two hedge-sparrows because they didn't bring the food fast enough. Even when at last it began to hop about and fly, which it could do very well if it liked, it never attempted to feed itself, but would sit on a twig and open its mouth, shivering its wings and complaining in a peevish, querulous voice, like a little nestling just hatched ; while the two old birds would hurry backwards and forwards all day and drop caterpillars into it as fast as they could.

In the meantime Mrs. Cuckoo was so pleased with her idea of getting rid of her first egg, and so saving herself a lot

How the First Baby Cuckoo

of work and bother, that she just went and disposed of all her eggs in the nests of other little birds, when they were not looking. And her husband tried so hard to say more than 'cuckoo,' or 'cuck-cuckoo,' that he got quite hoarse. Sometimes, when he thought of all his children being fed and brought up at the expense of his smaller neighbours, while they knew nothing about it and thought they were bringing up their own children, he would burst out into a hoarse, chuckling laugh.

And so the summer passed. The fresh green leaves became by degrees darker and darker, and no longer looked fresh and bright; the primroses and violets were followed by wild roses and foxgloves, and many other flowers. The meadow-sweet and elder diffused



was Put out to Nurse

their sweet scent throughout the fields, and the long grass was all cut and turned into hay. Presently the berries and hedgeside fruits began to appear, and the cuckoos felt it was time to think about travelling again over the sea to the sunny land where they had always spent the winter. So away they flew, without troubling their heads in the slightest about their children, who might find their own way, or get lost and fall into the sea for all they cared.

Now, when it came to this, and the young cuckoos found that they would have to make a long journey, they had at last to depend upon themselves. Their parents had gone off and left them. The hedge-sparrows couldn't do anything to help them in this difficulty, for they were quite stay-at-home folks, and had never

How the First Baby Cuckoo

travelled out of England in their lives, and never meant to try ; and so the cuckoos were obliged to wake up and exert themselves. How they succeeded in finding their way, I am sure I can't tell you. I only know that at least some of them did succeed in crossing the sea, and also in coming back again the following year.

And a terribly long journey it was, for they had to cross the sea twice, and pass several high mountains ; and they met with many dangers of all sorts, and many difficulties, and many hardships. First of all they had to cross the English Channel, and then, when they had reached France, they had the whole length of that country to pass until they reached the high mountains called the Pyrenees, which separate France and



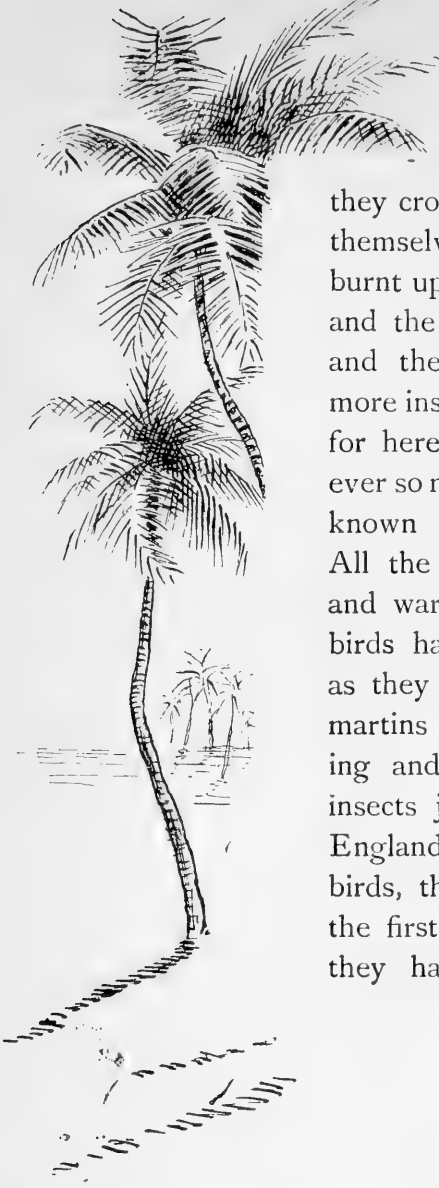
was Put out to Nurse

Spain. Here it was so cold, and the winds were so rough and keen, that it was all they could do to cross them; but once on the other side, it became warmer and warmer every day. There were now none of the green fields and leafy hedges with big trees growing from them, such as they had known in England. The fields were bigger than any they had ever seen, and were divided by rows of prickly cactus and curious fleshy aloes, and the ground looked quite burnt up and scorched with the fiery heat of the sun. But there was plenty of insect food whenever they stopped for a rest, and so they took their time, keeping always to the southwards until they reached the sea once more.

It was quite narrow, however, and

The First Baby Cuckoo

they crossed over easily enough, finding themselves in Africa. Here it was more burnt up even than it had been in Spain, and the people they saw were blacker, and there were more palm-trees, and more insects. More birds also were met; for here they found, to their surprise, ever so many birds that they had seen and known in English fields and hedges. All the nightingales, and willow-wrens, and warblers, and the host of summer birds had also made the same journey as they had themselves. Swallows and martins were rushing past them, wheeling and soaring in pursuit of flying insects just as they had seen them in England. And besides these familiar birds, they now made acquaintance for the first time with many others which they had never seen before. Bee-



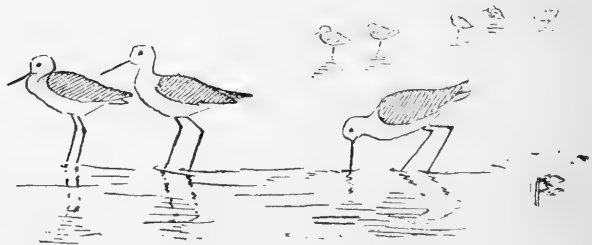
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eaters were sitting on palm-trees and cork-trees, their brilliant plumage shining in the sunshine with the loveliest colours, blue and green and bright yellow; and rollers, almost as brightly coloured, flew past them. Shrikes with bright red heads, and others all grey and black, perched on the bushes, ready to pounce unawares on beetle or grub. Snakes and lizards rustled in the dry herbage, or stretched themselves out to bask on the sand or on the hard rocks in the sun; while overhead soared hundreds of hawks, kites, and eagles, ready to swoop down on the basking snakes, or on any bird or animal they could catch. The lakes, which were so vast as to stretch to the horizon, looked all pinky white, from the thousands of flamingoes which stood in long lines, each bird supported by two

How the First Baby Cuckoo

slender, long red legs, as it fed in the shallow water ; while hundreds and thousands of other smaller birds ran about over the shining muddy banks, and waded about at the edge of the water. Pelicans were there in numbers, fishing, with their curious pouch-nets under their big beaks, or sitting in rows at the water's edge, digesting solemnly their last meal.

Everything was so different from the scenes they had left behind them, and so fresh, that they enjoyed it all immensely. There was nothing to do but to fly about and feed, and have a good holiday. And thus they spent several months ; until presently they began to have strangely dissatisfied feelings, and to be rather tired of the hot sun, getting hotter and hotter every day, and they



was Put out to Nurse

made up their minds to go back all the long way they had come, and visit once more the green fields of the land of their birth. And one fine May morning the welcome cry of 'cuckoo' was heard from the very same hedge, in the same orchard, where the two hedge-sparrows had made their nest—that same nest into which Mrs. Cuckoo nearly a year ago had so slyly placed one of her own eggs.

And these young cuckoos, not knowing how to make any nest of their own, each did the very same thing that its mother had done. Some of them looked out for the nests of the hedge-sparrows, and others chose those of wagtails and robins, redstarts, willow-wrens, or other small birds. And so they and their children and their

The First Baby Cuckoo

children's children have gone on doing this year after year until the present day. And they haven't changed a bit, but are just as vain and as greedy and as lazy as their parents. They have not even learnt to say anything but 'cuckoo,' and by the time that the young cuckoos are being fed by their foster-mothers you may still hear the hoarse, chuckling laugh of their parents when they think what a joke it is, and how clever they are in getting other people to have all the labour and bother of looking after and bringing up their children.



The Lame Stork

A FRIEND of mine once related how he had seen one of the City pigeons in the Guildhall yard in London with a wooden leg. I wonder if any of you have ever seen a bird with a wooden leg. It would look very curious, I think. I have never seen such a sight myself, but I was once told this tale of a lame stork which lived in Denmark. Denmark is the country where, as you know, Hans Christian Andersen lived. And in Denmark there are great numbers of storks. They are seldom to be seen in England, though they are so common in other countries, where the people like to see



The Lame Stork

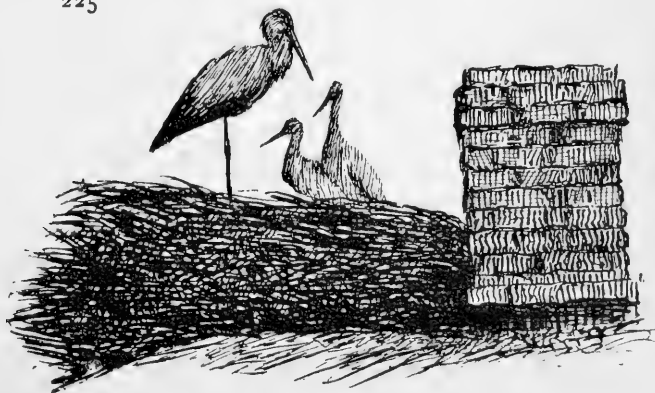
them standing in the fields and on the house-tops ; and when the storks choose the roofs of their houses on which to make their nest, they are very pleased. Anybody who molested a stork in any way would most certainly get into trouble. Now, if they lived in England they would not be thought so much of. Instead of being protected and encouraged, every boy who saw a great white stork, with its red beak and long red legs, standing on the roof on one leg, would want to throw a stone at it, and bigger boys who ought to know better would come out and shoot it, and put it in a glass case, where it wouldn't look half so well as when flying about and feeding in the fields and meadows.

So the storks, who know very well when they are well off, very wisely stop

The Lamé Stork

away, and only go to those countries where they can live in peace and comfort.

In Denmark the people like birds. They put up little houses for the starlings to live in. Sometimes in the gardens you see, perched up on a post, a tiny house painted red, with windows and doors and chimney all complete, with a little round hole and a perch outside. The larger houses provide a box three or four feet long, divided into fifty or a hundred compartments, each of which is provided with a hole for a front door, and a perch. It is very funny to see rows of starlings sitting on these perches, and looking out of their front doors, and all jabbering away like a lot of parrots. And on the ends of the thatched roofs of their own houses the



The Lame Stork

people leave a flat place for the storks to build their nest on.

This seems to me much more sensible than trying to kill all the birds within sight, with stones, catapults, slings, bows and arrows, crossbows, pistols, air-guns, traps, guns, rifles, and other weapons, and never letting any living thing have a moment's peace. For after all a bird not only does a great deal of good, but looks ever so much prettier alive than stuffed and stuck up in a lopsided fashion in a box with a glass front, in a position it never put itself into when alive. The feathers are all disarranged and rough, covered with dust and moth-eaten, and the horrible glass eyes glare in an unnatural fashion. Who would look twice at such a monstrosity when they could see the living grace and beauty of a live bird?

The Lame Stork

You remember, perhaps, Hans Andersen's tale of the storks; the father stork stood on one leg on the house-roof, standing sentry, while the mother stork tended her four young ones in the nest. Such a sight must have been a common experience with Hans Andersen, strange as it would seem in your eyes. Well, in such a nest on a farmhouse in Denmark lived four young storks, carefully looked after by the father and mother stork, and objects of the greatest interest in the eyes of the good people of the house. But, in spite of every care, in the best-regulated families accidents will happen, and it befell one day that one of these young storks broke its leg. How it happened I don't know. Very likely while they were at lessons, learning to fly, so that they might pass



The Lame Stork

muster at the autumnal inspection, as Andersen describes, one of them fell down through inexperience or awkwardness. Bump! Anyhow, its leg was broken. What was to be done? The parents flew round and round in great distress, but that didn't help matters, and there is no doubt the young bird would have died from the accident if it had been left alone. Luckily the farmer saw what had happened, and picked up the unfortunate youngster, and did his best to mend up the broken parts. But the damage was too serious for splints to be fixed until the broken leg-bone grew together again. Amputation had to be carefully performed, and to the part that was left a wooden leg was lashed. A broomstick happened to be at hand, and provided a

The Lame Stork



suitable material after being trimmed a little to the right thickness. The invalid was carefully tended in the house, and fed until it was able to hop about the ground. It could even fly a few yards at a time, but was never able to circle up, up, into the blue sky until out of human sight, as its brothers and sisters delighted to do on a warm day. And when the time came for the storks to depart for the winter, and travel to warmer countries, poor Peter, for that was what they called it, had to remain behind.

Dismally it 'klappered' when it saw all the other storks fly off in a great company one day. 'Klappering' is the storks' language. They have no voice, but they clatter their great red horny beaks together and make a loud noise, which can be heard a long way. It

The Lame Stork

was all he could do, and so he 'klappered' so that his friends heard him until they had flown quite a long distance. Then he was left alone.

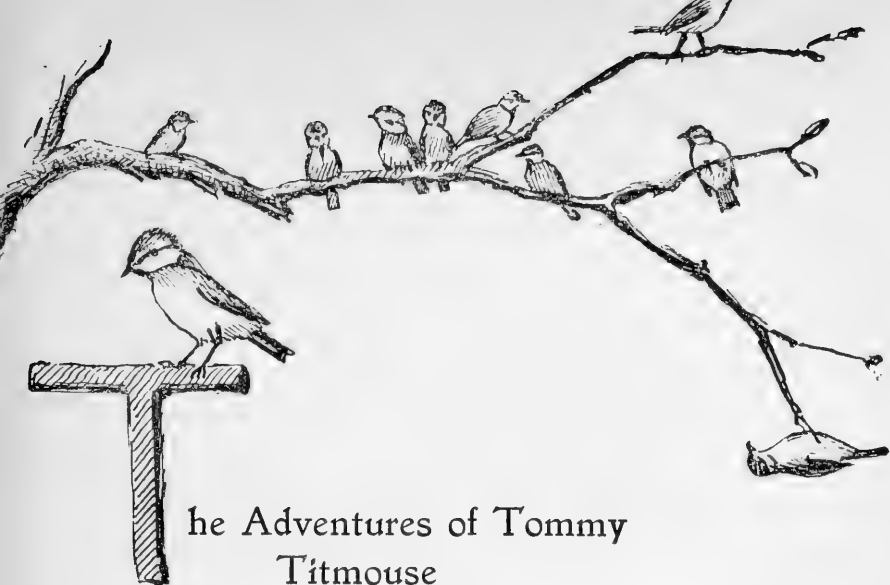
In Denmark the winters are very cold, with much frost and snow. And all through the winter Peter lived in the stable with the cattle and horses, and so kept warm. And you may be sure that the friendly farmer and his family saw that he had enough to eat, and looked after him until all the rest of the stork family returned in the spring. What a 'klappering' there was to be sure when, from the stable door, he saw them alight once more on the thatched roof of the farmhouse!

And if he hasn't died since, he is still alive and hopping about on his wooden leg, catching frogs in the

The Lame Stork

ditches, and grasshoppers and mice in the meadows. Whether he ever married, and whether his children had wooden legs, I can't tell you, for I never heard.

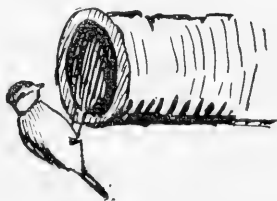




The Adventures of Tommy Titmouse

TOMMY was one of a large family. There were ten of them, all as like one another as peas in a pod, and packed together nearly as closely, for they were born inside a pump. The inside of the pump was very dark and cramped, and as all the little tits grew bigger and bigger there was no room to spare at all—in fact, they were

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The Adventures of Tommy Titmouse

continually squabbling as to who should be at the top and sit on the rest of his brothers and sisters, instead of being bottom tit and having them sitting on the top of him. Tommy was the cheekiest and the most impudent of all the tits. I think it was the fault of the pump. Because really the space inside was very cramped indeed for ten, without the parents, Mr. and Mrs. Blue-tit, and you can have no idea how uncomfortable it is to be underneath.

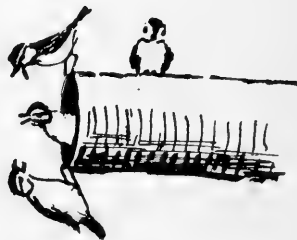
Now, suppose you had nine brothers and sisters, and that you all lived in a barrel, and that you were at the bottom and all the rest sitting on you. You wouldn't like it, you know, a little bit. Tommy didn't. And besides, the bottom one doesn't get his share of the food when it comes, so he doesn't grow



The Adventures of Tommy Titmouse

big and strong, and has to stop at the bottom all the time. Tommy soon found this out, and made up his mind very early that he would be at the top and sit on the rest and get as much food as he could. That is what made him grow up so cheeky, and so I can't help thinking it was all the fault of the pump. Because if there had been more room, there would have been no reason for his always sticking up for number one, and thinking of himself so much.

At last one day there was simply not room in the pump to hold them, and they all scrambled and fluttered until they came out through the mouth—quite a little stream of tits. And then there was such a commotion, and such a flutteration as you never saw. The poor parents



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tried to follow all of them and help them to get food and to look after them, but they very soon had to give it up as a bad job; because they were all so pleased at having at last a little elbow-room that the world wasn't big enough for them, and they scattered in all directions, and gave themselves airs, for each one thought itself quite grown up and capable of looking after itself. You see they were all cheeky, as cheeky as cheeky could be. But Tommy was cheekier than all his cheeky brothers and sisters put together.

He really was quite handsome, too. His eyes were just like little black beads—only they were living beads, you know, and sparkling with fun and mischief and the delight of being alive. He thought the world was a very fine

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place, and that he himself was a very fine bird. And so he was. And why shouldn't he have a jolly fine time?


He had a very bright yellow waist-coat, a greeny-blue back, blue wings, and a blue tail, and the top of his head was also bright blue. He had a black stripe between the eyes, and his cheeks were white, a lovely silky white, and he had a little black bib under his chin. So that he was quite right in being pleased with himself. Even his feet and toes were blue—not so bright as his feathers, but a dull blue lead-colour. And he didn't care a bit whether he stood upright on his feet, or hung by his toes head-downwards swinging at the end of a branch. It was all the same to Tommy. His sharp eyes, as he hopped about the trees and bushes and hedges, spied out



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all sorts of good things to eat. Little green caterpillars, you know, and tiny earwiggy things, and spiders, and eggs of insects, and little grubs, very fat and juicy. And they could hide themselves in all sorts of curious out-of-the-way places, under the bark of trees, and rolled up in leaves, and inside blossoms and fruit; but he could generally tell there was something there good to eat, and his sharp-pointed beak would give a peck or two, and there was his breakfast or dinner all ready to eat without having to be cooked.

And so he hopped about, and when he was tired of one place all he had to do was to open his wings and fly off in any direction he liked, which is a very nice way of seeing the world—much better than having to walk. And though the



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world, he soon found, was full of bad folk, he was sharp enough to avoid them. Once when he was young he had a terrible fright. For when he flew down to a bone he saw in a farmyard that still had a good many pickings on it, a hungry cat pounced out from where she had been hiding and very nearly caught him ; but he was so small and so quick that he just managed to dodge between her cruel paws and fly up out of reach.

Then there were weasels, and owls, and all kinds of hungry birds and beasts that he had to dodge, and worse than all there were boys. They were really more dangerous than any of the other things, which were only likely to do him harm when they were hungry, and he knew what it was to be hungry himself ; but boys were always dangerous—



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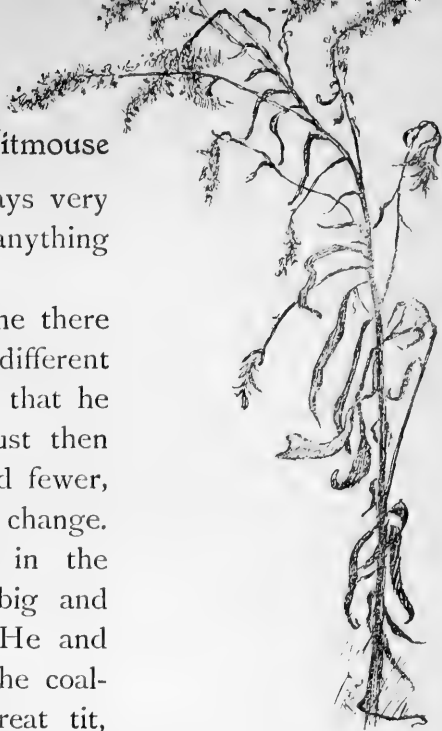
not because they were hungry, but out of mischief, without thinking of what they were doing. They often threw stones at him, but luckily didn't hit him, because a little blue-tit, dodging about in a hedge, is not an easy thing to hit with a stone; but catapults were no joke. One of his brothers, he knew, had had a wing broken with one. And traps were worse still. Once, seeing a piece of bread lying on the ground, he flew down to give it a peck; but as it happened a sparrow was nearer, and got there first, and tried to pick the bread up and fly off with it before Tommy could get to him; when all of a sudden there was a spring and a click, and the sparrow was caught fast by the leg in a horrid trap with sharp teeth, and Tommy flew away in a fright, thinking he had had a very narrow



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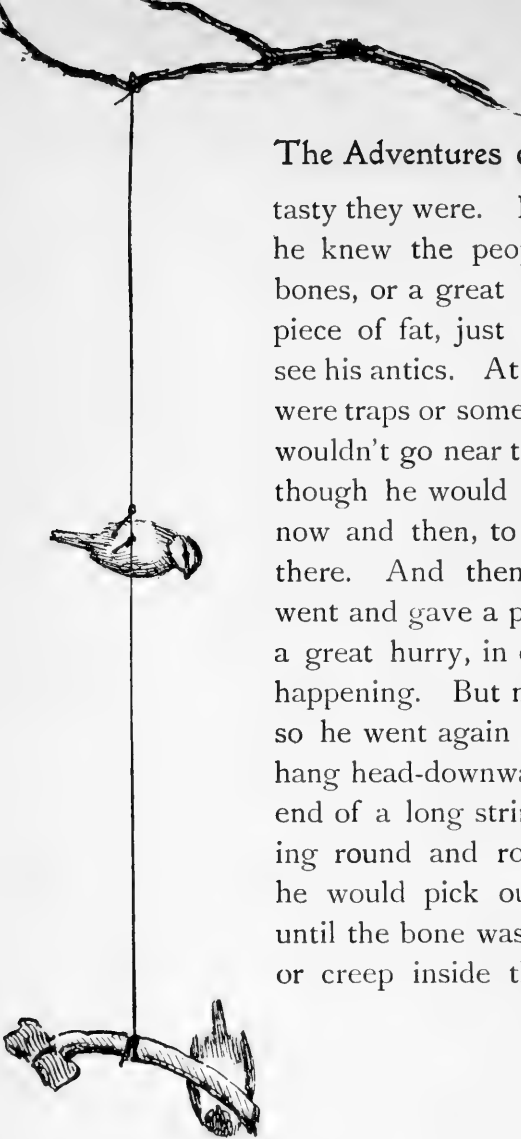
escape. After that he was always very careful to examine carefully anything lying about.

When the summer had gone there were ever so many seeds on the different plants in the fields and gardens that he found were very good; and just then insects were getting fewer and fewer, and so he was very glad of a change. The great yellow sunflowers in the gardens had beautiful seeds, big and nice to taste, just like nuts. He and his cousins, the marsh-tits and the coal-tits, and his big uncle the great tit, would fly from garden to garden and pick out these big fat seeds from the yellow flowers, which looked like great golden suns, and, cracking the husks by hammering them with their sharp beaks, would then eat the kernels—and very



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tasty they were. In one or two gardens he knew the people used to hang up bones, or a great round cocoa-nut, or a piece of fat, just because they liked to see his antics. At first he thought these were traps or something of that sort, and wouldn't go near them for a day or two, though he would come and look every now and then, to see if they were still there. And then at last one day he went and gave a peck and flew away in a great hurry, in case of something bad happening. But nothing happened, and so he went again and again, and would hang head-downwards on a bone at the end of a long string; and while swinging round and round like a pendulum he would pick out all the meaty bits, until the bone was quite bare and clean, or creep inside the cocoa-nut and peg



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away at the firm white flesh until he couldn't hold any more.

Then the weather grew colder and colder, and one day he awoke and found that the ground was covered with snow. And it took him quite a long time to find spiders' eggs and other things to eat, and there were hardly any grubs at all; so that if it had not been for the bones and fat put out for him in the gardens he would have fared badly. As it was he had to wait sometimes, because there were a lot of other hungry birds, and he was such a little chap. Sometimes a hungry starling would sit on *his* fat and gobble away at a great rate, and then two or three more would squabble and jabber away and fight for it. All the time he *knew* it was *his* fat, and it was really most greedy and inconsiderate

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of them to go on like that. He told them so too, but they didn't care; and sometimes his uncle, the great tit, would come and drive him off and eat it nearly all himself, and then he knew he had to go without making too much fuss about it. Because once he had seen his uncle split open a little bird's head, and eat its brains, when they had a little difference of opinion. He wished he was big enough and strong enough to do the same. Wouldn't he do it, that's all!



As it was, I am sorry to say that when he found, as he did sometimes, a little ball of feathers lying on the ground still and cold and stiff, where some little bird had perished with cold and hunger, he would fly down, not to cover it over with leaves and bury it—oh, no! but to eat it.

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But at last the winter passed. It seems sometimes that the cold winter-time is very, very long, and will never pass away. But it always does, if you only have patience. In fact, it does whether you have patience or not, only without the patience the winter seems twice as long as it would otherwise. Then the grubs began to be plentiful, and the hedges to be covered with a thin foliage of tender green leaves, slowly unrolling and getting thicker and bigger, and the little insects began to come out of the eggs—those at least that had not been found out by those sharp eyes of his and other birds which had been hunting up and down for them. Jenny Wren and Peggy Wagtail, for instance, were as clever at finding them as he was. And the sun began to be



warm once more, and he felt himself to be getting perkier and perkier, and cheekier and cheekier, every day. And then one day he felt so happy that he began to sing. And a very pretty little song it was, just like a little chime of silvery bells tinkling in the trees. And so he rang his chime of bells merrily up and down the trees and hedges; and one day he met the prettiest little blue-tit he had ever seen. At least he thought she was the prettiest, so of course she was; and she thought he was very fine too, and had a very nice voice.

And so they were married, and began to look about for a comfortable house to live in. He remembered the old pump he had been born in; and though it hadn't been very comfortable, he thought it was the right sort of place to live in,

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and they hunted up and down everywhere for a nice pump to let. But they couldn't find one. They were either already occupied, or else, while they were looking at one, and wondering if it was dry, somebody would come and work the handle up and down until the water would pour out of the hole they had considered to be the front door. That wouldn't do at all. Then Mrs. Tommy remembered that she and all her brothers and sisters had been born inside a lamp-post; and she knew, too, that sometimes their friends and relations lived in holes in trees. So they had another look round, and at last settled on such a cosy hole in an old mossy apple-tree in an orchard. Into this they carried little bits of soft moss and hairs and feathers, and made it quite warm

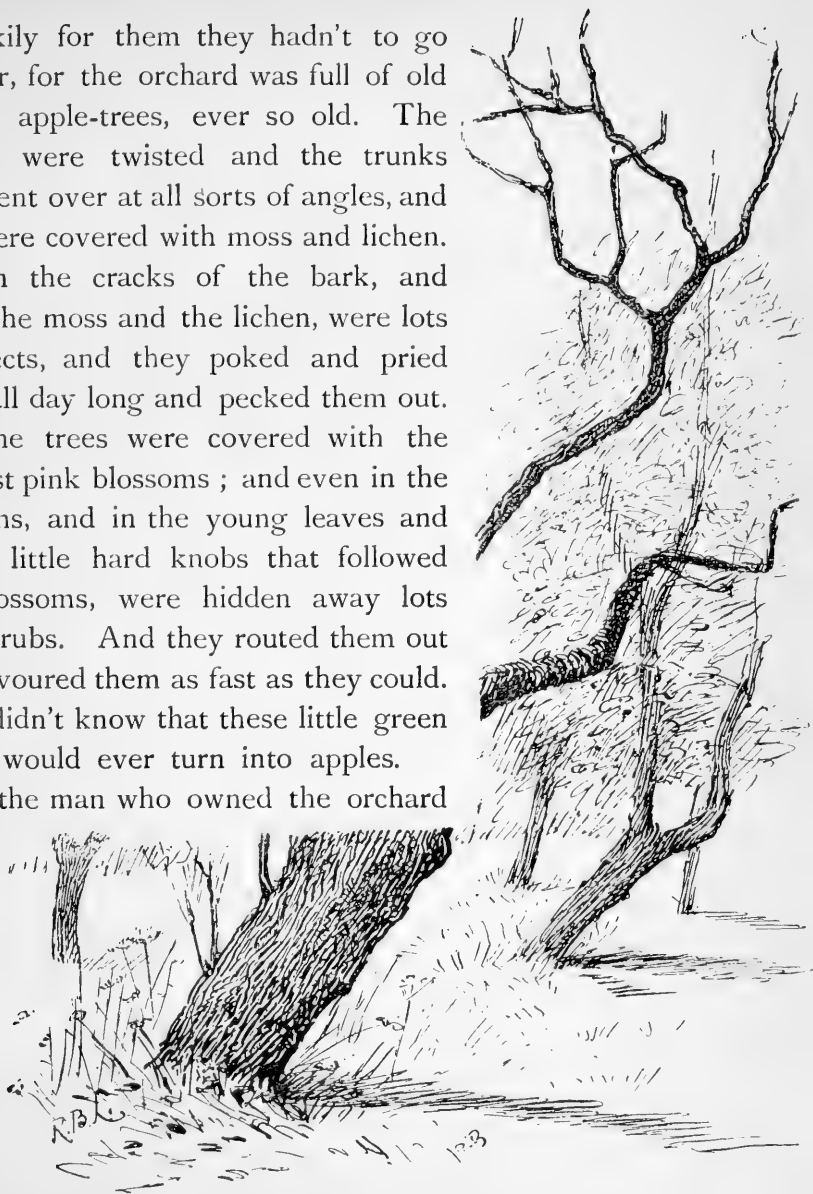
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and comfortable. And in this nest Mrs. Tommy laid nine little round pinky eggs, all freckled with red spots, and sat on them for days and days, until one day one by one the eggs cracked open, and there appeared a nestful of funny little objects, with no feathers, and great black eyes, and beaks that always seemed to be open for food, and small fat round stomachs that always seemed to be empty. And as there were nine of these open beaks, and nine little hungry stomachs to be satisfied, Tommy and his wife had to bustle round and work hard all day long looking for grubs and little caterpillars to feed them with as well as for themselves. They worked harder than they had ever done in their lives, and their smart feathers began to look quite worn and ragged and frayed.

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Luckily for them they hadn't to go very far, for the orchard was full of old twisted apple-trees, ever so old. The boughs were twisted and the trunks were bent over at all sorts of angles, and they were covered with moss and lichen. And in the cracks of the bark, and under the moss and the lichen, were lots of insects, and they poked and pried about all day long and pecked them out. And the trees were covered with the loveliest pink blossoms ; and even in the blossoms, and in the young leaves and in the little hard knobs that followed the blossoms, were hidden away lots more grubs. And they routed them out and devoured them as fast as they could. They didn't know that these little green knobs would ever turn into apples.

But the man who owned the orchard





grumbled when he saw them pecking at the buds and blossoms, and declared he wouldn't have any apples at all. He didn't know they were really doing a lot of good by eating the grubs which were spoiling his apple-trees. Once he went and brought out his gun, and when Tommy was busy catching caterpillars he heard a loud 'bang,' and the shot whistled past him and all round him, but luckily didn't touch him, so he flew to the other end of the orchard in a fright. And the shot tore up the branches and knocked down more buds and fruit than Tommy would have touched in a week. And the man didn't know how silly and ungrateful he was, and that it was his own fault there were so many grubs, which were doing the real damage, and not Tommy and

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his wife at all. Because if he hadn't let all the moss and lichen grow on the trees there would not have been so many hiding-places for the insects, and places where they could lay their eggs.

And when I saw Tommy last—it was this morning, in the hedge at the bottom of the garden, while he was waiting for me to put out a piece of fat for him—he was just as cheeky and as lively as ever, though he was a little older than when he first popped out through the hole in the pump.

A Tale of Two Martins

ONCE upon a time there lived two martins. Their home was in a pretty cottage, all covered with roses and clematis, which stood in a leafy lane not far from a big town. You all know the martins, of course, and can tell them from the swallows, their cousins. The swallows have long double-pointed tails, with red bibs under their chins, and glossy purple plumage on the back. They make their nests in stables and cowsheds, and under bridges and inside chimneys, and in such places. These nests are cup-shaped, made of mud, and

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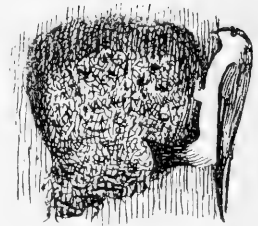
they rest on a beam, or projection of some kind, and their eggs are white, speckled with dark red spots. The martins have not got the long points to their tails, and they are not so glossy, a duller black, with quite white breasts, and another broad white band round the lower part of their backs. They are both of them so beautiful that it is difficult to say which is the prettier. And instead of making their nests inside stables and buildings they make them under the eaves of houses, outside, and only leave a small hole by which they can squeeze in and out.

All through the long summer day they were wheeling and darting hither and thither, catching flies and little gnats—sometimes over the fields, and sometimes over the ponds and streams ;

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sometimes low down, swooping to and fro, almost touching the surface of the water, or the taller grasses of the fields, and at other times soaring high up in the blue sky.

Their nest was made of mud—a little round mud affair fixed close up under the overhanging eaves. It seems a funny material for a bird's nest, but inside it was all made warm and comfortable with a lining of feathers. First of all they brought pellets of soft mud in their beaks from the sides of the horse-pond across the road, and from the road itself after it had been raining, and fixed them up against the wall, so as to make a kind of mud support. After this had well dried, they began the walls in a circular shape, and carried them right up to the under side of the eaves,



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only leaving a little narrow slit at the top for a front door. All the time they were at work at it, they were twittering to one another so happily and joyfully that it was quite nice to listen to them. And so thought old Mr. and Mrs. Jones, who lived in the cottage. The nest was quite close to their bedroom window, and in the early morning, as soon as ever it was light, when the martins woke up, and began work, and sang their little song of joy and happiness, they thought they had never heard anything so pretty in their lives.

As soon as the mud walls were finished they began to look out for feathers. Sometimes they picked up the curly white ducks' feathers from the pond, and sometimes they chased them as they were being blown about by the

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wind. What fun it was! You might have thought the wind was having a game with them. First the feather would shoot up into the air and dart round the corner of a house, the martins after it at full speed; then just when the first one had almost caught it, the wind would drop suddenly and the feather fall down a foot or two, and be caught up again by another gust and whirled round in the other direction, as if it too was alive. And so the game would go on for several minutes, until one of the birds succeeded in catching it, and bore it off in triumph to the nest. This was now all ready, and Mrs. Martin laid one small, pointed white egg the very next day. How pleased they were! All day long they would fly up and peep in just to make sure it was all right, and every



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morning there would be another, until five little pointed eggs were lying on the feather lining. And after a while there were five little martins, which had to be fed ever so many times. The old martins would catch a whole lot of tiny flies, keeping them in their mouths until they had enough to feed them all round. When the youngsters were bigger and their feathers began to grow, they used to watch for their parents at the opening of the nest ; then first one and then the other would fly up, and, clinging to the rough mud with their little white feet and sharp claws, feed them in turn and fly off for another batch of flies.

At last they themselves were ready to fly, and left the nest one by one for short flights, coming back to the nest when they were tired. Then by degrees



they ventured farther and farther, resting now and then on the bare branches of apple-trees and such-like perches until they got stronger and stronger and could wheel and soar nearly as well as their parents. By this time the old ones were just as busy as ever with a fresh family, so that by the end of the summer there were quite a number of them. Then the flies began to get fewer and fewer, and the nights sometimes were quite cold, and they began to get ready for their long journey over the seas.

Every day strange parties of martins would arrive, and then more and more until they were quite thick, resting on the roofs of houses and in long rows on the telegraph wires. For some of them were tired, having already come a long way. Every day, as fast as

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some of them left, fresh parties of birds would fly up, until the telegraph wires were quite crowded with long strings of birds, and bent down with their weight. For these lovers of the sun had already begun to feel the cold nip in the air, and no longer felt so joyous and so strong as they had done all the summer when the sunshine cheered them with its warmth and brightness, and when their food was so much more plentiful. They were now glad to rest every now and then, and day by day small parties of them would move off, always to the south, for they felt in some mysterious way that that was the only direction which would lead them to warmth and plenty. Presently our two martins and their two broods, and many others, flying ever southwards, and resting and feeding



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as they went, found themselves with hundreds of other birds on the sands and bushes on the sea-shore, waiting for a favourable wind to cross over.

The waves, which broke in heavy grey masses on the shore, looked very cold and dreadful; but they knew they must cross, for life and food lay on the other side, while behind them they knew was death. They had chosen a narrow place, too, for the crossing; and so one day they all tried the passage, and, except a few young birds still rather feeble on the wing, which fell exhausted and were drowned, they all managed to cross in safety. After a rest they continued working to the south, finding it warmer and warmer every day. But sometimes they had to cross high mountains to reach the sunny plains beyond. Then,



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although they chose the lowest passes, they found it bitterly cold, with snow on the highest peaks, where the wind and mist chilled them to the bone. Here some more of the weaker birds perished with cold. Others were caught and devoured on the way by fierce birds and animals, or were taken in nets and traps by the people over whose land they were passing. So when, after many weary, weary days, they felt that they had come far enough, they were sadly few in number compared with the hosts which had started. There was now no lack of food, however, and so they flew about and enjoyed themselves in the bright hot sun until it was time for them to start on the journey back. Although there was here all they wanted, yet

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they felt as if they must leave it and go back to the country where they had themselves been born. So they left behind them the strange, hot, tropical country, with its palm-trees, and cacti, and its queer people and strange scenes, pressing onwards and northwards once again. Through all that long journey, and through all its difficulties and dangers, they thought always of the peaceful country lane, and the pond, and the cottage, *their* cottage. They had almost forgotten it all, but as they flew northwards memory returned, and they felt that all would be well, if only they could see it again once more.

At last they reached the spot, but they couldn't make out what was the matter. At first they thought they must have come to the wrong place ; but there was





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the pond and the cottage. But what made it all look so different? It seemed to their astonished eyes as if the town, the great noisy, dirty town, had grown since they had been away—as if it had stretched out great arms of bricks and mortar, with which it had swallowed up the green fields and leafy lanes that they remembered so well. The pleasant orchards had gone, and the fields, so quiet and peaceful, had also gone. And in their place were rows and rows of new houses. Instead of the quiet lane bordered with hawthorn, among which the bees droned and buzzed, and where the gnats danced in the sunshine, there was a hideous street of bright red-brick houses all exactly alike. At the corner stood a staring public-house; and outside were two

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dirty, greasy-looking men grinding away at a piano-organ, the hideous noise of which drove them away in a fright.

However, the cottage was there, that was a consolation. And they flew to the well-known eaves, twittering with delight at being there once more. But somehow it looked different. And it *was* different, though they didn't know in what way. Old Mr. and Mrs. Jones had left in disgust at the change for the worse which had taken place, and there were now new people living there, very different from their old friends, as they were soon to find out.

After some days spent in flying about and seeing how many of their neighbours had returned, they began to build. To their surprise there were no signs of their old nests, but they thought it





wouldn't take long to build them up again, and they worked hard every morning to get it done, and then began to hunt about for feathers for their feather-bed. But one day, when it was almost ready for eggs, the window opened, and a red, angry face appeared, then an arm flourishing a broom. The next moment it went crash through their beautiful new nest, on which they had laboured so happily and with such hopes. Soon they saw the whole of it demolished and lying in fragments on the ground below.

The woman who now lived there was too ignorant to see the beauty of the little industrious couple, or to recognize the good services they were doing by catching gnats and flies and all the winged pests of summer. Her ears were

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too much accustomed to the coarse and uncouth noises of the unsavoury streets in which she had spent her whole life to be able to appreciate the music of their happy voices. Her idea of music was a rattling rowdy music-hall tune, thumped and banged on the cheap piano in the parlour, purchased on the instalment system ; but she ' didn't think nothink of them dirty swallers, dropping mud all over the window-sills ; she wasn't going to have them about her place, that she wasn't.'

The poor martins were inconsolable, and for days they had no enjoyment in anything ; then they turned to and began to build again. They thought there must be some mistake ; it couldn't have been done on purpose ; such a thing had never happened to them before. But

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they were soon to find out that it was no accident ; for as fast as they built, the hateful broom knocked down all their patient work, until at last they had to go elsewhere.



A new nest was now begun on another house, and presently, after some interruption from boys throwing stones at them as they worked, they had it ready. But, alas! another disappointment awaited them of quite a new nature. One fine morning, when they came back after a short hunt for feathers, they found the nest—their nest—occupied by a sparrow. For some days they had noticed him sitting on the gutter overhead as they worked, and had been annoyed with his impudent chirpings, but had been too busy to think much about him, or to dream that he intended

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to do anything so outrageous as to take possession of their nest.

Despairingly they circled round and clung to the nest, attempting to enter, but again and again they were driven away by the sparrow and his wife inside. The sparrows' strong, hard beaks were such terrible weapons compared with their own short and feeble ones that they were quite helpless against them, and felt that once more all their toil and labour had been in vain.

There was no help for it : the sparrows had to be left in their unlawful possession of the nest, while the martins had to begin all over again. They felt that misfortunes never came singly, and it was quite late in the summer, after many similar attempts and failures, that they at last succeeded in hatching a brood of

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young ones. By this time the flies were getting scarce ; and in spite of their hard work, from the very first awaking of dawn till quite late at night, the young birds did not grow strong and big as they should have done. And now the time drew near for them to go southwards ; many of their friends had already departed, and hundreds were daily arriving and departing on their long journey, and their young were not yet out of the nest. How would they be able to fly the long distances, and keep up with the others, without any previous practice ? Daily they strove hard to obtain food for them ; but the days went by, until at last they abandoned the hopeless task, and with sad hearts followed their friends and kindred to the warm and sunny south. The struggle had been too hard for them,

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and they had to give in to save their own lives. And the helpless young, abandoned in the nest—what of them? A week afterwards their dead bodies were found on the ground below. They had perished miserably of cold and starvation.¹

¹ A fact. For three years running young birds have been picked up dead in the same place after having been left by their parents in consequence of delays such as described.

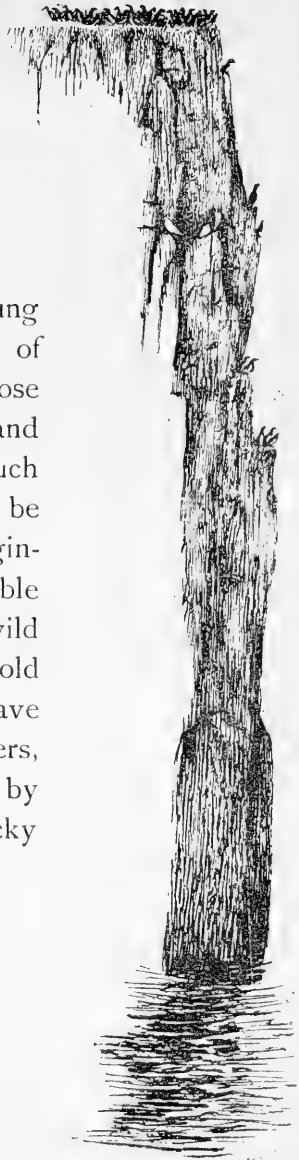


The Sea-birds' Nursery

THE scenes amid which the young sea-birds have their first experience of the world are very different from those enjoyed by the birds of the hedges and woods. Their future life is to be much rougher, and they themselves have to be strong and hardy from the very beginning or they would never grow up able to get their own living from the wild sea-waves and to withstand the cold and the storms of winter. They have no warm nests of moss and feathers, and very many of them begin life by finding themselves on a bare, rocky

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ledge without any nest at all, while below them the restless sea is constantly breaking upon their island home.

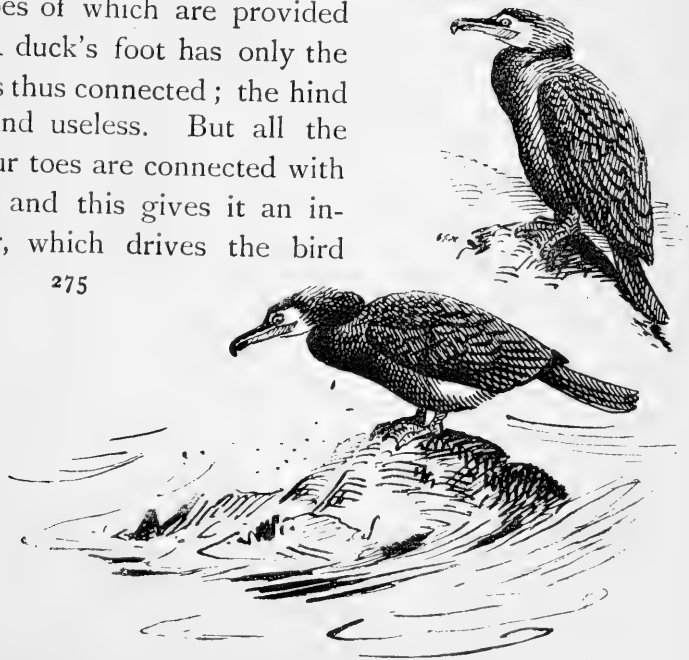
There is no approaching this home of theirs, except by boat. Long before you are near enough to land—if you can land at all, which is very often quite impossible—you can hear the screaming of the various sea-fowl, and see their forms sitting on every rocky pinnacle, and flying in headlong fashion into the sea. Mingled with their cries is the noise made by the dashing of the heavy green waves on the base of their rocky abode, while the snowy foam scatters up the face of the precipitous sides, and falls back hissing into the water, then gathers up its strength for a fresh attack.

On the lowest rocks, which jut out into the sea, sit rows of black figures in

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striking attitudes and positions. Many of them hold their wings out-stretched as if to dry. This is just what they are doing. For they are cormorants, and have just come out of the sea, where they have been pursuing the fish under water, diving through the waves and chasing the active fish in their own element, where they are so much at home, and so well fitted to live. To enable the cormorants to perform such a difficult task as this, the bird is of course a very powerful one, with large feet, all the toes of which are provided with webs. A duck's foot has only the three front toes thus connected; the hind toe is small and useless. But all the cormorant's four toes are connected with a strong web, and this gives it an increased power, which drives the bird

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through the water at a great pace, and enables it to catch the slippery, active fish in great numbers. When they are thus drying themselves in the sun they look very curious. Those yellow patches on their throats are a sort of pouch. Though not able to hold such a quantity of fish as the pouch of the pelican, which is as big as a small portmanteau and can hold half a pailful of fish, the cormorants are able to pack away a few fish at a time in them when they have made a long journey out to sea, perhaps in rough weather, and have to bring back the daily provisions for their young ones.

These young ones are at first most ungainly, uncanny-looking little wretches, quite bare, and sooty-black ; they look very curious creatures, and for a long

The Sea-birds' Nursery

time are quite helpless. It is true they have a nest, such as it is, in which to spend their early days. But it is not what we should consider at all a comfortable home. It is merely a huge pile of seaweed and great stalks thrown upon the beach, placed on some rocky height. On the top of this pile, which soon becomes very foul and filthy, and stinks most abominably, the birds lay their four or five chalky white eggs, presently to be hatched into young cormorants. The feeding of these young ones is a funny performance, for when the parents return with food, they open their capacious hooked beak, and the young birds, one by one, thrust themselves into it and help themselves to the half-digested food contained in the pouch. In their eagerness they look as if they were doing their



The Sea-birds' Nursery

best to crawl inside bodily. And as cormorants from the very first are most voracious eaters, the number of fish required to keep alive a whole family must be enormous.

And the numbers of other fish-eating birds, though of smaller size and less hungry in appetite, must cause great destruction among the smaller fishes. Exactly the same struggle goes on in the sea as among the inhabitants of the ponds and the hedges, and wherever there is life at all. I am not at all sure that there is not more of a struggle among the sea-creatures than there is anywhere else. They devour one another with great diligence whenever they have the chance, the big ones eating the small ones, even though they may be members of the same kind, or even of the same



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family. A fish father, for instance, with a few exceptions, will eat his own children with as much pleasure as those of another. Many fish number their young ones by the hundred thousand, and therefore he probably considers a few more or less do not matter much. And it is only by having such an enormous number of young that they can keep pace with the constant destruction which takes place. For besides their eating one another, and those destroyed by fish-eating birds, there are the quantities taken by fishermen for our own eating, as well as those devoured by the fish-eating mammals, such as the whales and seals.

On the tops of the higher rocks, and sitting in rows on every ledge, are hundreds of guillemots. Every few



The Sea-birds' Nursery

minutes dozens of them plunge downwards into the sea, until it is quickly dotted with their forms.

Their young ones don't even have such a roughly made nursery as the young cormorants are provided with ; for these birds make no nest at all, but lay their large single eggs on the bare rock. And on this hard bed their young are brought up, being fed with small fish until they are big enough to go down to the sea themselves.

The razor-bills, somewhat similar birds, but with blacker plumage, and with white lines and marks on their powerful beaks, like to make use of a hollow or a hole among the rocks, but except for this slight shelter they are as much exposed to the weather as the guillemots. The razor-bill is the nearest



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approach to the great auk, which has now ceased to exist anywhere on the face of the earth. It is extinct. For though it was a very much larger bird than the razor-bill, and possessed splendid swimming powers while in the water, it was quite helpless when it came out of the water for the purpose of laying its egg, and feeding its young. It was unable to fly, thus resembling the penguins, those curious inhabitants of far-distant seas. Like them it had advanced in one special direction, that of swimming and diving, at the expense of the power of flight. By degrees the wings had slowly become more and more fitted for under-water life, until they almost resembled the fins of a fish. To make them more useful in this direction they became smaller and smaller, until they

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were quite unable to support the heavy body of the bird in the air even for a single moment. Then, of course, when the birds came ashore to lay, they were unable to reach the high rocks where they would have been comparatively safe, but had to resort to low islands on to which they could walk—or waddle, for their legs, right at the end of the long body, did not permit of a very elegant motion on land. So the great auks came to a sad end by being knocked on the head by the sailors of those days, who packed them into barrels and salted them down for food.

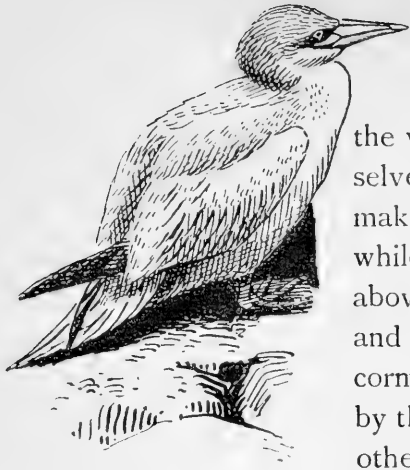
The smaller razor-bill is alive and kicking at the present day, because, though it isn't half so powerful as its big cousin, the great auk, it can swim and dive quite sufficiently to catch

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enough fish to support it, and at the same time it has not lost the power of being able to fly up to the heights of the precipitous rocks all round the coast, where it is not by any means an easy matter to get at it, or its egg.

But diving and pursuing fish under water is not the only method of catching them used by birds. The gannets or solan-geese fly overhead, soaring high up in the blue sky, constantly looking out with their keen eyes, and watching the waves below for the signs of a shoal of herrings or other similar fish. Then they fold their long white wings and plunge downwards head-first, like arrows; down, down through the waves they drive, until the fish is transfixed by the sharp-pointed beak. Again and again





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the white forms of the birds hurl themselves into the sea with tremendous force, making the salt water spurt upwards; while the terrified fish, attacked from above by such deadly enemies as these, and from below by the no less deadly cormorants, guillemots, puffins, and also by their scaly devourers the dog-fish and other foes, hardly know which way to turn or where to go for safety.

These gannets have their own special breeding-rocks, where thousands of white forms up and down the perpendicular heights give the rocks an appearance of snow. They make, wherever they can find room, a bulky nest something like a cormorant's, equally rough and equally smelly, but only lay one egg. The young bird, when it makes its appearance, soon becomes tremendously

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fat, and covered with a thick coat of yellowish-white down. When the first feathers appear the birds are brown, spotted with white, and do not get the snow-white plumage of their parents for some years. They are largely used as food by the people who live in the rocky islands in the North Sea, and when pickled or salted or smoked are stored away for the winter, when no fishing can be carried on, while the feathers are also used to keep them warm during the long, cold nights.

The same use is made of the multitude of puffins which live together in such numbers, and these birds are caught in a very curious fashion. You do not often hear of people going fishing for birds. But the natives of St. Kilda, who depend upon the sea-fowl for their living, catch

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them with a loop at the end of a fishing-rod, while the birds are sitting about in groups on the rocks as they are so fond of doing. The noose is then dropped quietly over the head of first one bird and then another, and their bodies soon fill a large bag carried by the bird fisherman. The deed is done so quietly and cleverly that the birds are not alarmed as they would be at the report of a gun. The curious part of it is that they allow the man to approach closely enough. But I know from my own experience that it is quite possible to creep up to within a few yards of them without causing any alarm.

They are, I should say, the most comical-looking of all our native birds, and have the most curious beaks, very large, very thin, and very brilliantly coloured; but with these funny beaks



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the birds catch enormous numbers of small fish and bring them home five or six at a time, with their tails hanging out. They look as if they were smoking a lot of cigarettes all at once, and when they pop up to the surface of the sea, with this row of silvery fish in their blue and yellow and red beaks, with their little black eyes, and tubby little black-and-white bodies, they really do look very funny. Rising to the top of a wave, they fly off with their catch, which is to feed their solitary young one. They lay their eggs in an underground burrow like a rabbit-hole.

As there are numbers of rabbits living in the same places, it is very likely that they use the holes the rabbits have made for themselves in the loose soil on the top of their island home. But whether

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they do so, or make them for themselves, I have never been able to satisfy myself. All I know is that if there was any little difference of opinion between Mr. or Mrs. Puffin and the rabbit as to whom the hole belonged, I should be very sorry for that rabbit. For though they are no bigger, their great beaks make good weapons, and they well understand how to use them, as I know by experience, having caught them by putting my hand and arm down their burrows. You can soon tell if Mrs. Puffin is at home, for she will lay hold of your fingers, and if you haven't gloves on will nearly take a piece out.

Walking along the top of the cliffs in which the sea-birds are nesting, there will be seen, especially in certain places, little heaps of blood-stained feathers,

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with bones and feet. A puffin's brightly painted beak is a common sight, together with a lot of the bird's black-and-white feathers scattered about, and its orange-coloured feet. This is the work of the peregrines, which have their eyry in the cliffs at a little distance, from whence they can harry the sea-fowl with impunity. For they are the masters of the coast, with none to dispute their sway, not even the lordly eagle. Their home is on some rocky shelf on the steepest part of the cliff, where it can only be reached by means of a rope. And on this shelf are first laid four richly marked red eggs. The young birds are clad in dirty white down, and soon grow apace, while the rocks around are strewn with the feathers and remains of their prey. Puffins and kittiwakes from the cliffs



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are struck down by the marauding birds, and carried off to feed their young. Grouse and plovers from the inland moors fare no better, but are caught in fair flight with perfect ease. When the young are able to fly, they accompany the parent birds, and watch them pursue and strike their prey, and so soon learn to follow their example. And by the time they are strong enough, and quick enough, to catch and strike down their own food, they are driven away from the district altogether by the old birds. This is what always happens with all the birds of prey. And though it seems a curious thing for them to do, because, while the young are helpless, these birds, however fierce they may be, are quite as devoted parents as any others, yet there is some reason for this behaviour. Too



PEREGRINE



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many birds of prey living near to one another would soon make the smaller and weaker birds either too scarce, or else too timid, so that it would be difficult for them all to live. So as soon as young eagles or hawks, or any of this class of birds, are able to look after themselves and procure their own food, they are bundled out into the world to get their own living, and to find a fresh place for themselves; where they will not interfere with the living of other and older birds.

Some of the bigger gulls are almost as dangerous neighbours as the peregrines. In some respects they are worse, for the peregrines only kill fairly in the open by means of their greater speed and strength. But the larger gulls have a bad habit of going bird-nesting



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on their own account whenever they are hungry, which is nearly always. Instead of catching fish for themselves like honest birds, they hunt about and devour the eggs of their neighbours, and swallow their helpless young ones whole like so many pills. Sometimes, however, a flock of terns will combine and drive the robber away from their breeding-ground.

Then there are the robber gulls, the skuas, which not only devour the smaller sea-fowl in the same way as the peregrines, but sometimes watch them industriously fishing and then swoop down on them and compel them to disgorge what they have caught, and promptly eat it themselves. They are as bad as the pirates which used to infest the seas in former times, before they were hunted down.



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Perhaps the most graceful of all the sea-birds are the beautiful terns, or sea-swallows as they are often called, from their long, pointed wings and forked tails. But instead of possessing the glossy purple plumage of the swallow, they are pure white with grey backs, and generally have black heads and wings. They nest together in large numbers on the shingle and sand at the edge of the sea.

If anybody approaches their nests, a great multitude of snowy forms rise into the air, and drift about in a confused mass, from which proceeds a babel of hoarse, harsh cries. For in spite of their graceful forms and lovely plumage, the terns do not possess very melodious voices.

Their eggs are laid on the shingle ;

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sometimes there is no nest at all, and at the most there is nothing more than a few stalks scraped together in a little hollow among the stones. Here their young are born and fed with small fish until they are able to join their parents on the wing. The fish are caught from the surface of the sea, as they swim about in shoals, by the birds darting down on them from above and catching them in their beaks.



It is a lovely sight to see a flock of terns fishing in a narrow arm of the sea. The birds are beating slowly all head to wind, with their heads and pointed beaks bent downwards, and they scan with quick, bright eyes the rippled surface of the water beneath. The moment a bird perceives a small fish it plunges headlong into the water and

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generally succeeds in catching it. Then it either eats it by swallowing it whole, or if it has young in the nest at home it flies off with the fish hanging from its beak.

I once saw an arctic tern catch a small fish, and instead of eating it—it was too early in the year for it to have any young ones—it flew to the shore where its wife was standing and put the fish into her beak in the most polite manner. They were evidently a newly married couple, and the bride wanted a great deal of waiting on, and gave herself a good many airs. Instead of going fishing for herself, she simply sat on the sand and screamed to her husband to go and catch something, for she felt so hungry. Like an obedient husband he went and did as he was told, but I thought that in a

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short time she would not only have to catch her own meals, but would have to help in providing for three hungry young ones as well.

The young of these birds, as long as the weather is fine and warm, do not feel the want of a snug nest. But when the weather is bad, and cold winds and driving rain beat down on to the unsheltered beach, they suffer very much. One morning after a fierce gale and heavy rain I found hundreds of young terns dead in their nests, having been killed by the cold and wet, in spite of the protection afforded by the old birds brooding over them, and doing their best to keep them warm.

The young kittiwakes sometimes begin the world on the face of a precipice which rises from the sea, and only

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just out of reach of the breaking waves in ordinary weather. But if a gale comes on many of them must be swept out of their nests and drowned.

The storm petrels, which flit over the huge waves many miles from land, looking like web-footed martins, come ashore to lay their eggs in the holes among the stones and rocks ; and where the sea has hollowed out great caves in the sides of the cliffs they are inhabited by the rock-pigeons and the shags. So that on the whole the rocky cliffs and islands off the coast are more thickly inhabited during the summer months than are the leafy hedges and woods and fields of the country. There are no songsters among them. Compared with the nightingale and thrush their voices sound hoarse and rude,



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yet their shrill cries seem quite appropriate to the place they choose to live in, and mingle well with the dashing of the waves and the whistle of the wind, where the sweeter but feebler voices of the inland birds would be quite lost amid the noise and hurly-burly of the sea.

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