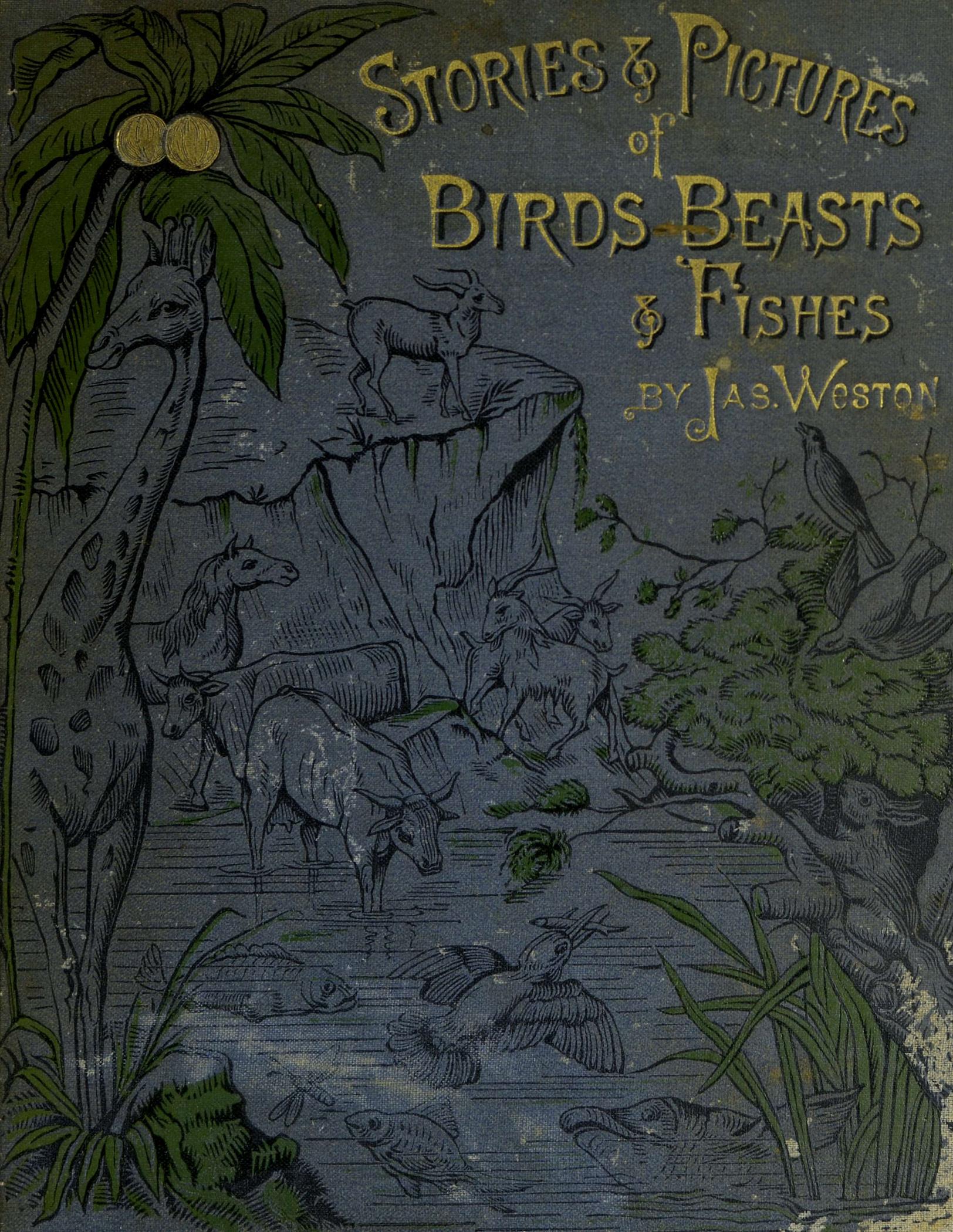


STORIES & PICTURES
of
BIRDS BEASTS
& FISHES
BY JAS. WESTON



Rh
60

Helena Mansou,

From Father

Wishing her many happy

reunions of the day.

Peterboro

6th September 1896

Attest My Hand

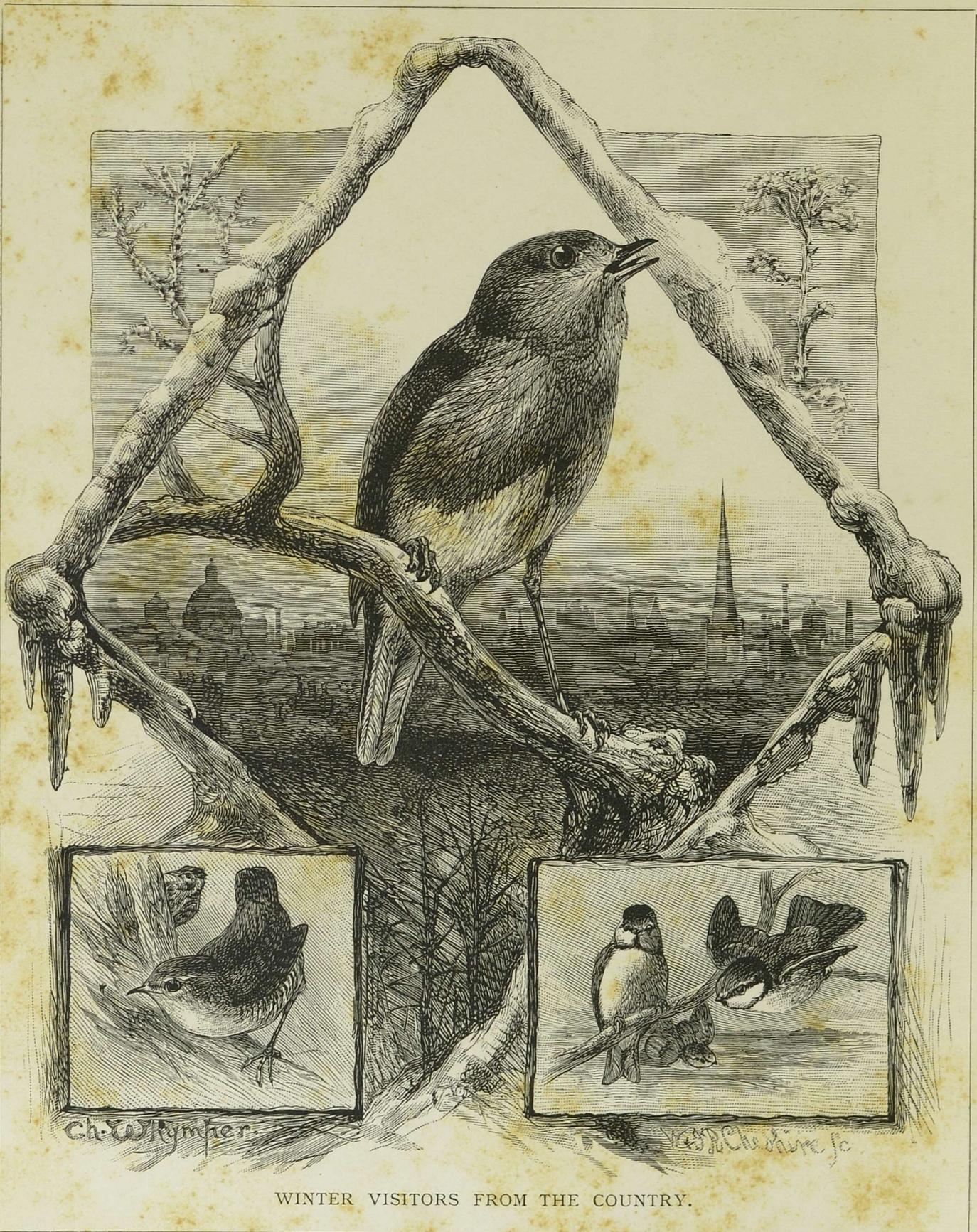
Thomas Paine

Secretary for Foreign Affairs

Philadelphia

the 1st of September 1776

STORIES AND PICTURES OF
BIRDS, BEASTS, AND FISHES.



WINTER VISITORS FROM THE COUNTRY.

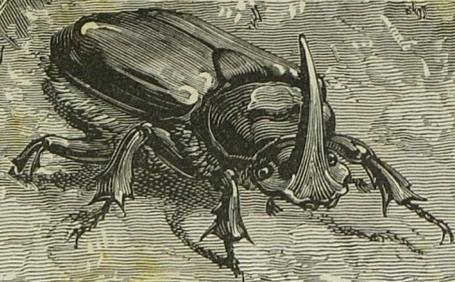


STORIES AND PICTURES
OF
BIRDS, BEASTS,
FISHES,
AND OTHER CREATURES.

THE STORIES BY
JAMES WESTON,
Author of "The Young Folks' Picture Book,"
"Bible Stories and Pictures," etc.

ILLUSTRATED
By J. GIACOMELLI, W. RAINEY, HARRISON
WEIR, R. KRETCHMER, and others.

London
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STORIES AND PICTURES OF
BIRDS, BEASTS, AND FISHES.

NELLIE'S STAR-FISH.



WERE you ever down at Sandyside?

It is only a fishing village, but such a bonny place for a holiday. Along to the east there are great cliffs where the sea-birds build their nests, and perched at the top is the white hut where the coast-guard watches. If you have a mind to sit beside him, whilst he looks out to sea through his spy-glass, he will spin you some fine yarns. But below the cliffs are the low, rugged rocks, all covered with seaweed, with their surface broken up into stone basins, where you may see many wonderful things, if you will only stoop down to look.

I have spent hours at low-tide peering through the crystal water of these pools and watching the anemones, the sea-snails, and the tiny crabs at the bottom. If you sit quite

still, with your eyes fixed on one of these pools, you will presently see first one and then another strange creature come from the fine green weed which lines this natural aquarium. There are pale, beautiful-limbed shrimps and prawns—so pale and clear you may almost see through them—and perhaps a few pretty fishes, gobies and wrasse, will swim across.

But if you do not care about this kind of thing, you can turn in the opposite direction where the land runs down almost to a level with the sea, and the shore is edged with a wide stretch of fine white sand where you can bathe, and wade up to your knees, and build sand castles all the day.

This is the part that Nellie Page likes best. Here she builds her castles, and goes roving along the sands, turning over the masses of seaweeds with her wooden spade, for the mere pleasure of seeing an occasional crab scuttle out and hurry along, sideways, to the water. There are many things she does not understand, to be found on the sands and under the weeds, and these she shovels into her pail and carries away to little Harry Monroe, who seems to know all about them. He is a nice gentle boy, the son of a fisherman who lives in the cottage close to the one Nellie's father has hired for a month. He is often upon the shore looking after the nets and lobster-traps, so that Nellie usually finds him near when she wants to ask his advice.

One day Nellie was walking along the shore, when she came upon a strange object, such as she had never noticed before. It was what we call "star-shaped," although I am told that stars are really round. Picking it up and putting it in her bucket, Nellie hurried off to her friend Harry, who happened to be near.



"DO LOOK, HARRY, AT THIS STRANGE THING I HAVE FOUND."

Birds, Beasts, and Fishes.

B

“Do look, Harry, at this strange thing I have found,” she cried, excitedly; “whatever can it be?”

“Oh,” replied Harry, “that is only a star-fish; did you never see one like that before?” Nellie confessed that she had not, and added, “But what a queer fish it is!”

Then Harry told her that though people call it a star-*fish*, it is no fish at all. It cannot swim, it has no tail or fins, but it can walk. He explained to her all about this strange creature, but I cannot tell you one-half of what he told Nellie. He said that on its underside the star-fish has hundreds of little suckers which serve it as feet, and enable it to move from place to place. Its mouth is in the centre, on the underside, and when it comes across a small crab or a mussel, it will curl its five arms under, put out its suckers, open its mouth, and *swallow its victim whole*. It is very destructive to oysters; for though it cannot swallow *their* shells, it can so affect the animal within, by pouring a poisonous fluid into the shell, that he cannot keep it closed, and then Mr. Star-fish walks in and swallows the poor oyster. But still, it does much good by eating up all the dead and decaying substances which get washed close to the shore, and so prevents these things becoming offensive and injurious to us. So we may regard it as a seaside scavenger.

Harry told her also about other kinds of star-fish he had found, especially one called the Brittle Star, which snaps off its arms when you touch it; and about baby star-fishes, which differ very much in form from their parents. But, as I said before, I cannot tell you all he said, and here I must stop.



STAR-FISHES.

HEDGEHOGS.



FRANK had declared several times that late in the evenings he had seen a hedgehog on our lawn, grubbing up the plantain roots that had no business there, and seeking for worms and snails. One evening we had been sitting out until the daylight had almost gone, when I saw something moving out from the hedge towards the lawn. Without speaking, I called the attention of the others, and soon it had come so near that we could see it was a hedgehog, and that it was followed pretty closely by five little ones. This was the one Frank had seen, and she had brought her family with her to teach them how to find worms and snails. They were such funny, pretty little creatures with their sharp noses and bright eyes, that we determined to pet them, if they would let us. They were very shy, but as we did not move or make a noise, they did not run away when they saw us. Next evening, which was still and warm, we placed a saucer of milk on the grass not far away, and after our friends had been for some time busy eating, they sniffed the milk and came to it, eagerly lapping it up. So we did on other nights, gradually lessening the distance between our seats and the milk, until at last we put it just by our feet. The hoggies had lost all fear and had learned to trust us.

Now they will allow us to stroke them and take them up, without their rolling up into a prickly ball.



HEDGEHOGS.

THE LINNET'S NEST.

FULL oft I watched the Lintie on her
quest

For moss and hay, and wool and
lichen grey ;

Until it chanced upon a fair May-
day,

I saw her fly unto her dainty nest.

Hid deep within a bush of prickly
gorse,

There lay a charming basket deftly
wove,

Lined soft with wool of lamb and
down of dove,

And eke* with hair from friendly cow
and horse.

Within the rounded hollow of this
home,

Lay five white eggs, tenderly tinged
with blue,

And dappled o'er with spots of pur-
plish hue ;

And over all the bright green prickly
dome

Of furze, that kept intruders well
away.

The mother sat upon a neighb'ring
tree

And sweetly twittered, as though
sure from me

Her treasures would not meet with
harm that day.

* * * * *

Another day, as wandering o'er the
heath

I thought of that dear Lintie's nest
again,

I sought the furze-clump, and could
not refrain

From peering softly, cautiously beneath.
And there five callow young with
gaping bills

And outstretched necks reached up
to me for food ;

The parents had but lately left the
brood,

To bring them insects from the sunny
hills.

* * * * *

Once more I came. The nest was
empty now,

But soon I knew no harm to it had
come,

For twittering soft, and fluttering
round the home,

Were five young Linties ; whilst upon
the bough

Above them sat their parents, and full oft
Called to them in the sweet tones of
bird-lore,

To fly into the branches and explore
The leafy regions they could see aloft.
And I was glad. My heart was filled
with joy

To find the Lintie's love and care re-
paid ;

To know the five eggs that the
Lintie laid

Had not been found by any cruel boy.

* Also.

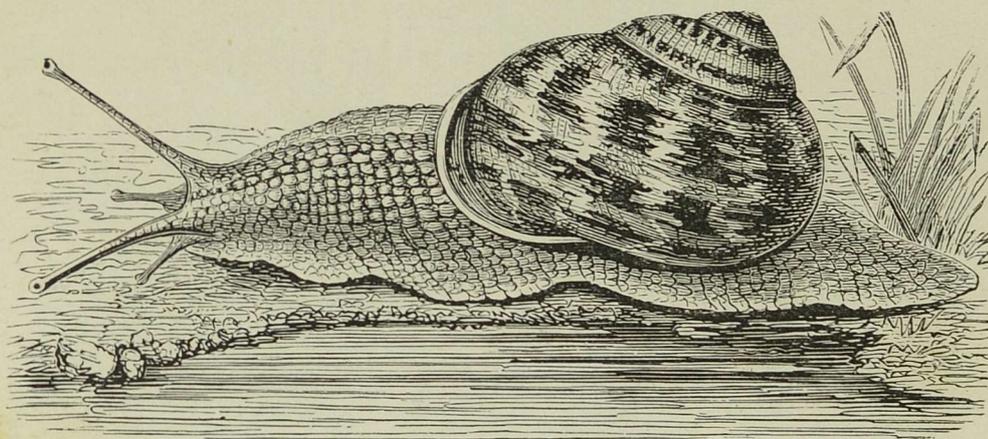


THE LINNET'S NEST.

MR. SNAIL AND HIS HOUSE.

“**H**I, Mister Snail! where are you going in such a hurry?”

A gentle summer shower had just ceased, and



a small boy, with an inquiring mind, had strolled into the garden. It was he who spoke, and his remark was ad-

ressed to the snail whose portrait you see here. Mr. Snail had just come out of the ivy on the wall, where he had been staying, shut up in his house, during the dry weather. We think it is best to go out during the dry weather, and stay at home when it rains; but if you were to ask Mr. Snail his opinion, and he could give it to you in your own language, he would tell you that, so far as he is concerned, a nice warm shower is the most desirable thing. “You see,” he would say, “if we snails could only go jumping about the country in the unpleasant manner that men and boys do, there might be something to say in favour of dry weather; but when one goes in for the graceful method of sliding practised by snails and slugs, and has to moisten the dusty paths before one glides over them, it becomes a different matter entirely. Besides, in such weather it is hard to find a decent meal.”

What, though a snail has got thousands of teeth? * He does not want to be wearing them out by rasping at tough, woody stems and dry leaves. He likes to feed on the fresh and juicy leaves that the rain has plumped up and softened.

Yes! and what a havoc he will make among the tender young seedlings that the gardener has been tending so carefully! He is a destructive creature, but a very wonderful one, too. A few minutes ago he was packed tightly into his house, and if you had looked in at the door you would have seen nothing but a pasty-looking substance, without any form. He feels the warmth of your fingers through his shell, and pops his head out to see what you want. He does this very cautiously, lest it should be his enemy, Mistress Thrush, who would make short work of him. Feeling that all is safe, he pushes out a pair of long horns, which seemed to have been packed away in his head somewhere. They were also turned inside out, but now they unroll, and we find that Mr. Snail keeps his eyes at the end of them. The horns are so long that, by gently turning them about, he can see either behind or before him without moving his body a bit.

I am afraid that you were inclined to smile when I said that he had thousands of teeth; but what will you say when I tell you that he keeps all these teeth fixed to his tongue, and that his tongue is so long that he has to keep it rolled up like a watch-spring, and only use a little of it at one time? This tongue is like a tiny ribbon, and these thousands of teeth are in fine orderly rows on the flat side. When the snail presses his tongue against a nice juicy leaf all these sharp-edged teeth tear it up, and the snail makes a hearty meal of the fragments.

* A fact.

So he behaves himself whilst the air is moist, but when the sun shines he gets back to his haunt under the ivy, or in the bed of nettles at the foot of the old wall, tucks himself tightly into his shell, and, probably, goes off to sleep.

And if the weather keeps bad—bad, that is, from his point of view, not ours—he does not trouble. He will keep to the house for a month or more, if necessary, without any audible murmuring of discontent with his lot. I know folks who would consider it a great hardship should they have to forego one of their regular three or four meals a day. But Mr. Snail seldom gets more than one meal a day, and very often he has to wait days and weeks—sometimes months—before he gets a good meal.

Not the least wonderful thing about Mr. Snail is his house, which, as you know, he can never be induced to leave behind him when he goes out. When I see him popping his head outside his house it always reminds me of a dog looking out of his kennel; but it is a more wonderful thing than a dog-kennel. When Mr. Snail was quite a baby snail, about as big as a pin's head, his house was so tiny and so thin and clear that such clumsy folks as we are could scarcely dare to lift it up, for fear of crushing it between our fingers. But as Master Snail grew, so his house grew as well, and always kept just large enough for his soft little body; and so it will keep growing until, perhaps, some hard winter morning Mistress Thrush will come looking under the ivy for a nice breakfast. She will drag poor Mr. Snail out in her beak, and, taking him to a favourite stone, she will hammer away with him until the walls of his house are broken, when she will drag him out and gobble him up in a trice.



SNAILS AND SLUG.

There are many other matters concerning Mr. Snail which I ought to talk to you about, but there are a host of other creatures waiting their turn. If this book does not get filled up too quickly, we may talk of him again later on.

OUR MARTINS.

ON the shady side of our house some martins have built a nest. Martins, as you know, leave England in the autumn for a warmer climate, and come back to the dear old country in the spring. They usually arrive about the third week in April. By the middle of May they had fixed upon our wall as the nicest place for building a nest. It was only early in the morning that we could see them at work. The rest of the day they seemed to give up to catching flies. It was wonderful the way in which they attached their nest to the straight wall without the aid of any supports. This is how they did it:—

They brought mud, mixed with fine bits of hay, straw, and feathers, and worked it into the face of the bricks, until they got a little of it to stick. This they would leave for a day in order that it might dry well. Next morning they would add a little more, and so on, each morning adding a little, until a rough, roundish house was made with a hole at the top.

But no sooner had our little martins, with much labour, finished their house, than some impudent rogues of sparrows set upon them and turned them out of their house, in which they made *their* nest. So our poor martin friends had to start



OUR MARTINS.

working again, a few yards away, and build another house. This time we were glad to see that they remained undisturbed by their dishonest neighbours. One day I put a ladder against the wall and climbed up, looking into the nest, and there I saw five or six eggs of a pure white colour. After a time we heard peculiar little cries from the nest, and we judged that the eggs had hatched, for the old birds seemed very busy, making many journeys to and fro. They were evidently bringing food for their family. The young birds flew away in due course, and their parents reared another brood.

We have now a number of nests on our wall, to which the old birds come back every spring. After repairing the injuries done by the storms of winter, they furnish the old houses afresh and rear new broods.

FISHES THAT BUILD NESTS.

“OH, come now, Mr. Weston,” I fancy I hear some of my readers exclaiming, “you really cannot expect us to believe that! Why, you will be telling us next that fishes climb up trees in order to make their nests; but you must not ask us to listen seriously.”

Well, my dear young friends, I really am quite serious, and am only about to tell you what is strictly true. Fishes *do* make nests; and as regards that matter of their climbing trees, I *could* tell you about more than one fish that deliberately leaves the water and climbs trees! But my present purpose



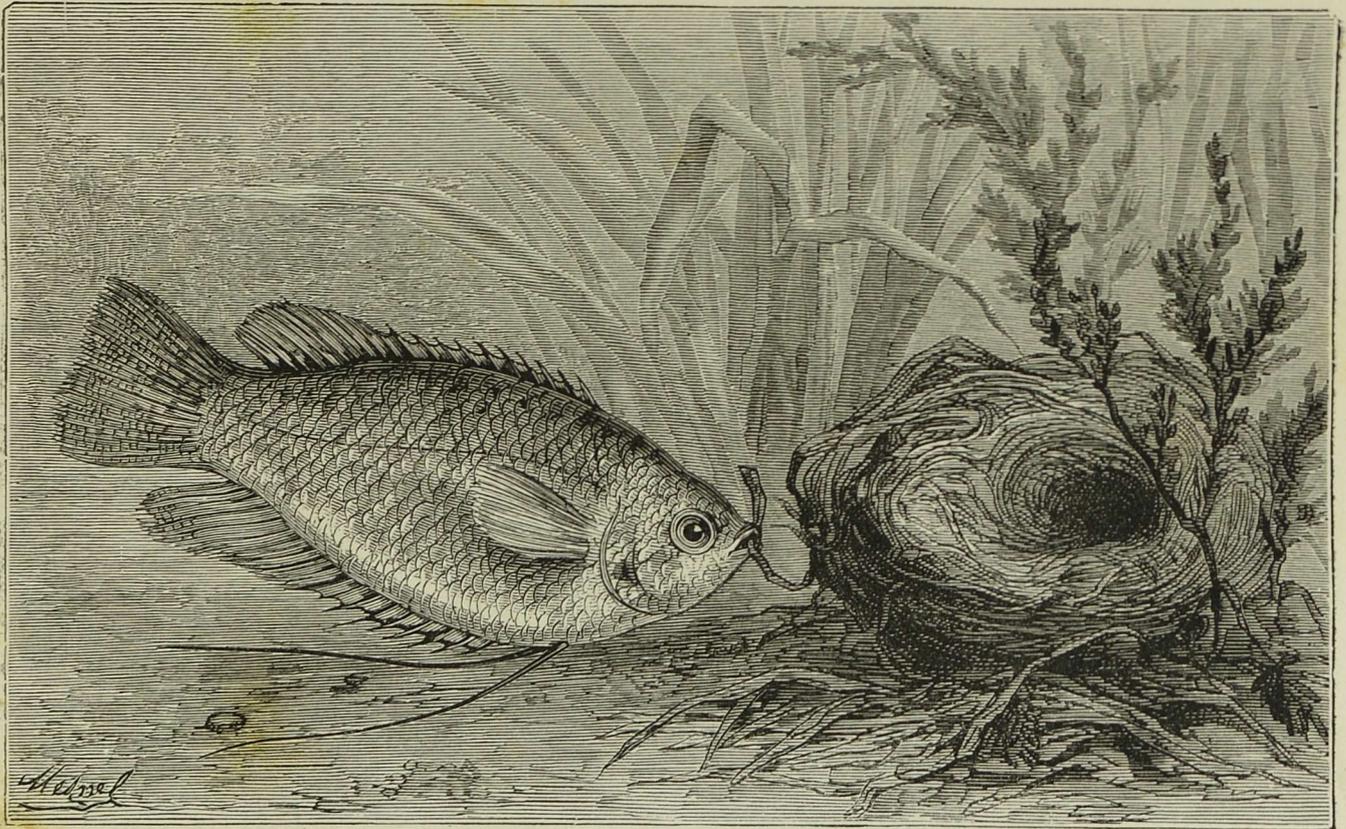
THE STICKLEBACK AT HOME

is to tell you of some fishes that build nests if you will give me a patient hearing without smiling so much.

Here is a beautiful picture representing the home of an old acquaintance of yours, the Stickleback. Perhaps you know it better by the name of Tittlebat, Tiddler, or Redthroat—they all belong to the same fish, though the last is only applied to old *Daddy* Stickleback. You all know the ponds and streams where the Sticklebacks dart about among the weeds, and you also know how easily they are tempted by means of a small red worm. Well, if you were to go in summer-time, and sit on the bank where the water is very clear, and peer among the weeds, you would probably be sufficiently fortunate to see the Stickleback's nest. But it wants looking for, because it is made of small pieces of water-weeds, and, therefore, is the same colour as the water-plants to which it is fixed. It is a curious little house, and it strikes you as having been made by a builder who was rather short of materials. You know that the Sticklebacks (there are several kinds) are all long, thin fishes, always looking as though a substantial meal would be acceptable to them. Well, they make their nests sufficiently roomy for their own *thickness*, but not for their length. So when a Stickleback is actually at home he looks as though he is so cold that he has been compelled to wear a muff, from one end of which his tail sticks out, and at the other his sharp nose and bright eyes protrude.

This muff-like house, as I have said, is made of little bits of weed and grass, all bound together by a long, sticky thread, which is made by the fish itself. When this has been carefully finished off, a large number of eggs are placed inside, and *Daddy* Stickleback takes charge of the whole. And a very

good nurse he is, too! Only let another Stickleback come prowling about in search of new-laid eggs for breakfast, of which they are very fond, this faithful nurse will do his best to drive the robber off. But should the wicked one prove too strong for him, then Daddy Stickleback will part with his life before he will give up his charge.



THE GOURAMI AND ITS NEST.

Any of you who have got an aquarium will find the Stickleback a most entertaining fish to keep in it, but you must not put other kinds of fish with him, because he is always inclined to regard them as egg-stealers, and he treats them accordingly.

But I promised to tell you about some other fishes that build nests, and I must try to do so.

In many of the streams of the United States there is a

common fish called the Sun-fish, which makes a beautiful home, like the nest of the Bower-bird, by sweeping out a little pit in the sand or gravel, and only allowing weeds to grow round the edge of it. When this pretty nest is made—will you believe it?—another fish, the Pirate Perch, tries to creep in and lay its eggs there! Now this is all wonderfully like the habit of the lazy Cuckoo among birds, who will not build a nest of its own, but lays its eggs in the nests of other birds. Our English Perch is more honourable, and makes its own nest, though, from its building in mid-winter, this is not well known.

Another American fish, the Lamprey-eel, makes a sort of grotto, using many large stones, which it carries with its sucker-mouth. This nest, we are told by an American naturalist, is two or three feet in height and four feet across. The length of the fish that builds it is about three feet.

In some maps of the world you will see certain portions of the Southern oceans marked "Seaweed" or "Sargasso Sea"; vast tracts of floating seaweed, hundreds of thousands of miles in extent. There are many wonderful creatures that inhabit this great mass of weed, and among them is a most remarkable fish called *Antennarias*. It is impossible to fairly describe this odd-looking creature, but you may some day come across a picture of it, and if you try to recollect its long name you will be interested in it. This, too, is a nest-builder, but it does not fix its nest to the weeds or stones. It hangs the round basket of weeds to some of its own curious projections, and so carries its young about with it.

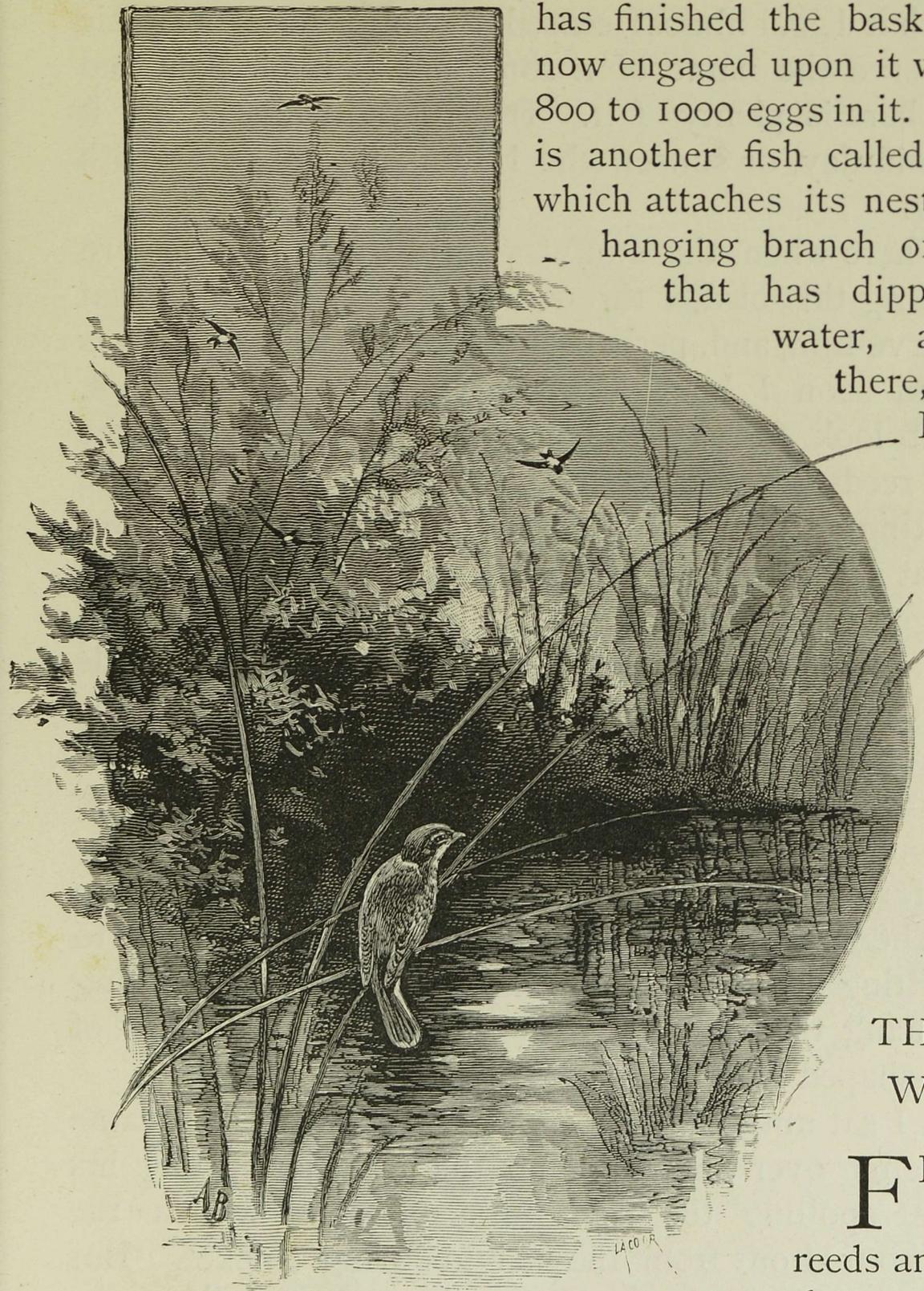
The fish shown in the picture over leaf is found in China and the Indian Archipelago. It is called the Gourami; and when it

has finished the basket-nest it is now engaged upon it will lay from 800 to 1000 eggs in it. Then there is another fish called the Perai, which attaches its nest to the long hanging branch of some tree that has dipped into the water, and—— But there, I feel sure I have said sufficient to show you that there are fishes that build nests; don't you?

THE SEDGE
WARBLER.

FLITTING about the reeds and sedges by the moorland pool

was a bird that had been keeping up so incessant a chatter during



all my stay that I had almost ceased to notice it. Its music may not deserve the name of a song, but it is pleasant and varied, and there is plenty of it. It matters little whether it be sunrise, mid-day, or sunset, the bird is always ready with its little song.

I came here when the sun was still high in the western sky, and, seeing this bird, I threw myself upon the bank that I might observe him, and, perhaps, find out where his nest was hidden. And soon I knew the exact spot, within a foot, where I must look for the warbler's nest. There, where the sedges and reeds grow thick upon the bank, I found the massive-looking structure, built amid a tuft of rushes. But how the great size of the nest differed from the small cavity in which the eggs were laid! Leaves and moss, and blades and stems of grass and sedge, woven with hair and wool, made up the fabric, and in the top was a shallow hollow, like the inside of a saucer, where the eggs reposed. There were five of these light-brown eggs, mottled with spots of a darker tint.

I saw, but did not touch them; instead, I walked quietly back to my former seat, where I waited the return of my little friends, for there were two of them. Soon they were back to the pond, flitting about and alighting on the slender, bending reeds, balancing themselves by well-directed movements of their wedge-shaped tails.

And so I sat until the sun went down, and the bat came silently wheeling over the pond, and the night-jar sprung his weird rattle, spoiling the rich burst of song which the nightingale poured out from the neighbouring thicket. But still the little warbler was prattling on when I turned into the dark, leafy lane and left the common behind me.

The Sedge Warbler is not one of those birds which stay with us all the year, but one which, like the swallow, leaves this country in autumn, and returns in spring to build its nest



THE SEDGE WARBLER.

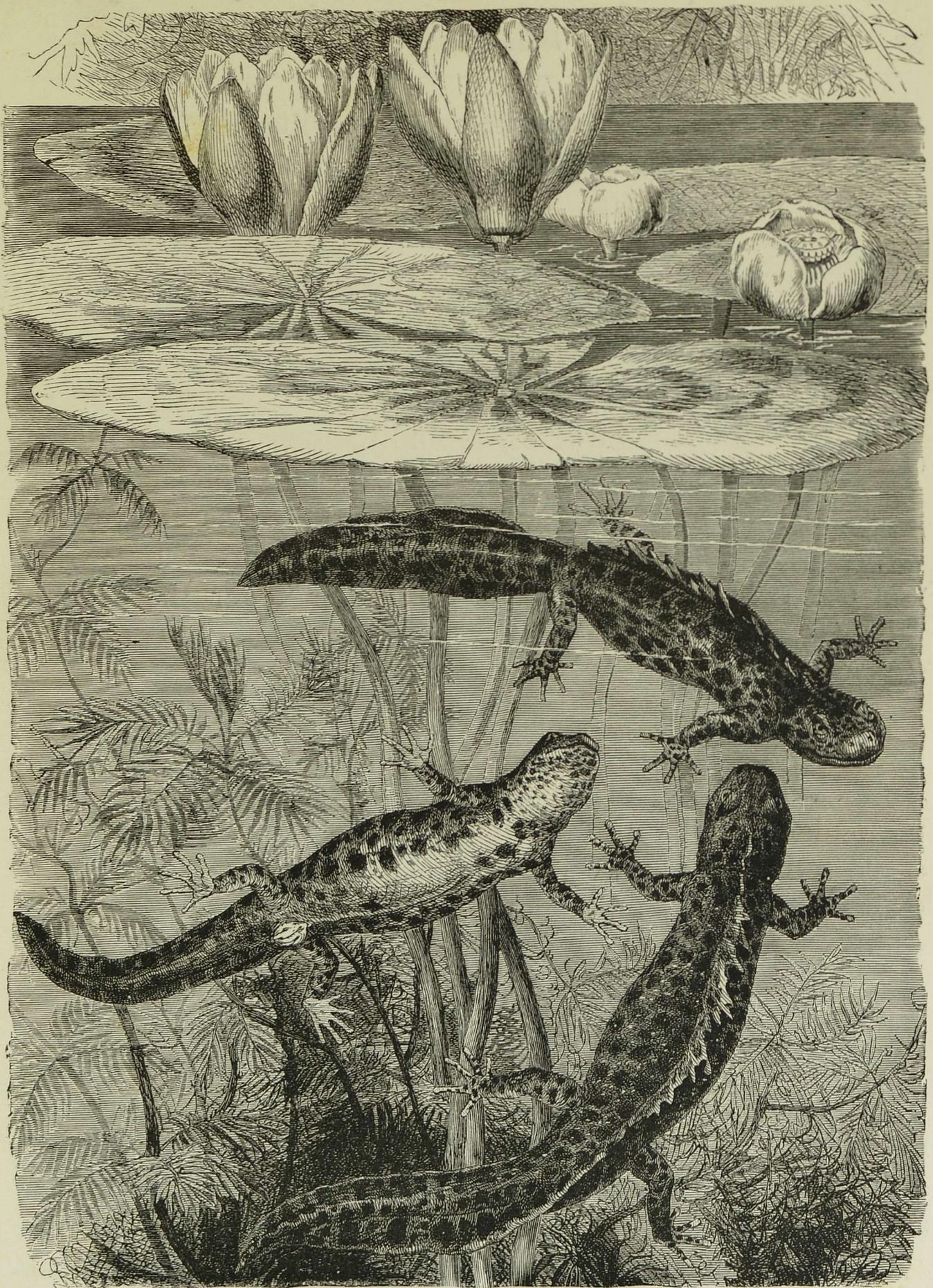
and rear its young. Whoever desires to see this bird must be content to sit quietly by the side of a river or pool where there is plenty of rushes and reeds, and a few willow trees. It does not care to make itself too public.

NEWTs.

ALL the boys who read this book will know what newts are. Probably the girls will not ; but if they will look at the picture they will get a good idea of what these creatures are like.

You will hear some people say that the newt's bite is poisonous, but this is something like the saying that if you hold a guinea-pig up by its tail its eyes will drop out. The guinea-pig has got no tail, and therefore it is impossible to try the experiment ; for a similar reason it is difficult to tell whether the newt's bite would prove poisonous because, having no teeth, it cannot bite. Such stories are idle and wicked, whether applied to the newt, the frog, or the toad, because all these creatures are quite unable to hurt any one, even if they wished to.

Most of you know that frogs and toads begin life as tadpoles or pollywogs, which are so abundant in every pond during early summer. But do you know that the baby-newts are very similar in form to tadpoles? They have not got such big heads as the frog-tadpoles, but in other respects they are very like them. Each of these baby-newts comes from a tiny egg, which the mother-newt has taken care to pack away in a leaf of water-weed. When hatched, the little fellow is like a wee fish. The gills by which its blood is kept pure are carried outside, just behind the head. It now feeds on the green, scum-like plants that cover stones in ponds. When it gets larger and its legs have grown, it leaves the water and glides about among the grass and weeds in damp places,



THE LARGE NEWT.

where it catches flies, worms, and caterpillars. I have kept many of these in the aquarium and fern-case, and very charming little pets they are.

WATER-SPIDERS.

IN the same ponds where you find the newts, you will often see spiders on the floating leaves of frog-bit and water-lily. You perhaps think they are out of place there, and begin to wonder how they will get back to shore, when you observe one of them take "a header" over the edge of the leaf, and dive through the water, glistening like a ball of silver.

That is the Water-spider, and down at the bottom of the pond, moored by fine silken cables to the weeds, is her home. And a very wonderful home it is, in a wonderful place. Most people have seen or heard of the diving-bell, which is considered to be a great invention of man. And yet, long before man thought of his diving-bell, the water-spider had hers, in which she reared her numerous family. There are several remarkable things about this nest, and one of them is the manner in which it is made.

Man makes a great deal of fuss when he wants a diving-bell; there is metal to be got and melted down, casting and riveting to be done, and then the great bell has to be swung down through the water. Mrs. Water-spider makes no fuss at all, and asks for no help, not even her husband's.

In that business-like manner which characterises all

spiders, she boldly plunges into the water and walks down the stem of a pond-weed. When she has selected a suitable



THE WATER-SPIDER AND HER HOME.

position for her silken palace, she fixes a number of strong lines in all directions, for anchorage. Then, in the midst of these, she constructs a beautiful web, somewhat in the shape of a thimble, but not quite so large. It is full of water and,

therefore, *not* like a diving-bell. How is the water to be got out and replaced with air?

She carries the whole of the air required from the surface. Now, look at this spider resting on the leaf before us. You see that its body and legs are covered with greyish hairs. When I touch it, note the rapidity with which it plunges into the water. The movement is so quick that the air has not time to escape from her hairy coat, and she goes down surrounded by a globule of air. When across the threshold of her own home she carefully dislodges this air by rubbing herself with her legs. The liberated bubble immediately rises to the roof of her house and there remains. In this way she at length fills the whole bell, and takes up her position in it, always head downwards. Here she passes the winter, keeping snug and quiet until the warm days of spring invite her to the surface in quest of flies and other small insects. About this time Mr. Water-spider comes to inspect the house, and, finding it is hardly large enough for two, they bring down more air, which expands the elastic walls, and gives the requisite space.

Soon the lady of the house constructs a neat and comfortable little cocoon, which she fixes in the roof of her nest and deposits about a hundred eggs in it. In due time they hatch, and the swarm of tiny spiders make themselves happy until they are each large enough to set up a separate establishment. This interesting little creature is very common on most ponds, running over the surface, or among the stones and grass on the margin. It usually ascends and descends by means of a strong thread which is constructed for that purpose, and is stretched from the nest to some floating leaf.

Dr. Johnston has described another species of water-spider, which does not trouble to build a sub-aquatic house, but takes possession of an empty snail-shell. After making a silken door for the mouth of the shell she brings down air to fill it, and thus rendered buoyant, it rises to the surface.

A CHAT ABOUT PARROTS.

OUR artist has drawn a beautiful group of these birds upon the branches of a tree ; but I think you will understand that you could only see such a group in an aviary, or bird-house. Those shown in the picture are all different, and are not all found in the same country. When you go to the Zoological Gardens in London, and visit the parrot-house there, you will know how great is their variety, and what noisy birds they are. If you have been there, or if you have only watched the parrots in a bird-dealer's shop, you will know as well as I do that they are climbing-birds. Of course you have often seen them climb up the wires of their cages, and hang down from the top.

We have several English birds that are climbers, such as the woodpeckers and the wryneck, and if you look at the feet of any of these birds you will see that two of the four toes are turned to the front, and two towards the back. This gives them great power for grasping anything. Give a parrot a plum, a nut, or a small apple, and you may see him take hold of it with his claws, and so convey it to his mouth.

Their beaks are very strong, and so formed that the short

lower jaw fits into the upper, and the action of the two is something like that of a pair of scissors. This beak serves them as a third foot in climbing, and with it they are able to crack nuts. Unlike the beaks of most birds, the upper half of this organ is jointed to the skull, and is therefore movable.

In place of the thin tongue so general in birds, the parrots possess one that is thick and fleshy, and which enables them to suck and taste. It is probable that this kind of tongue also helps them in their wonderful imitations of the human voice. The colours of their feathers, though so varied, are always brilliant and clear, and range through every tint, from pure white to black.

In proportion to the size and weight of their bodies, the wings are not well adapted for flight, and they have, in consequence, some difficulty in rising high into the air. But having attained the proper height, they fly rapidly and well, and sometimes to great distances. As a rule they confine themselves to high forest-trees in the neighbourhood of plantations, and live in large flocks. Some kinds migrate at certain seasons of the year; but this is not the general rule. One of these is the African parrot. When the rainy season is coming, they assemble in great flocks, and fly so high that, it is said, they are lost to sight, though their calls still reach the ear.

In a wild state their food consists chiefly of seeds and fruits, and they are very fond of clear water, both to drink and to bathe in. It has frequently been stated that parrots never drink, and some parrot-keepers and dealers have made it a practice not to supply them with water. This is a cruelty,



PARROTS AND COCKATOOS.

founded upon untruth. It is true that they can go without water for long intervals, but in a natural state they are in the habit of dwelling near streams and pools, and drink frequently, though sparingly.

Parrots live to a considerable age, and in captivity instances are on record of their having attained a hundred years; but the average length of life among the true parrots is about forty, among the parrakeets twenty-five years. If you are possessed of one of these beautiful and interesting birds, try, by care and kindness, how long you can keep it in healthy existence.

SEA ANEMONES.

AMONG the many curious things we find at the seaside, when we go for our annual holiday, are the Sea Anemones. We see them in the rock-pools, clinging to the sides, and waving their feelers constantly. Here is one which seems to be only a rounded mass of a fleshy substance, with a slight hollow in the upper surface. Let us watch it for a minute or two, and we shall see the hollow deepen and widen into an opening, and a number of feelers protruded from it. This is the Rosy Anemone. Gradually all the tentacles expand and overhang the broad fleshy base. Now watch that pale shrimp coming through the water. Ah! I thought so. He has ventured too near; a few feelers touch him, and he is sucked down into the crater-like mouth, from which the empty skin of the shrimp will be cast out by-and-by.

Here, in the same pool, are other kinds, such as the

the bright-hued Scallops flit through the sea, like butterflies, and Sea-urchins of forbidding appearance crawl over the rocks, protected at all points from such fishes as the Father Lasher. Here, too, come various sea-snails and tiny crabs, including the Hermit-crab, who, to protect his own soft and queer-shaped body, has twisted it into a winkle's shell. The stately anemones that rear their shaggy heads upon tall, thick columns, broad based, are known as the Plumose Anemones. You will note that in this kind the feelers are very short and closely set, so as to give the creature the appearance of being a double flower by contrast with others. But there is a kind perched on a still taller column, though a more slender one. Its feelers are long and more scanty, and its name is the Medusa Anemone.

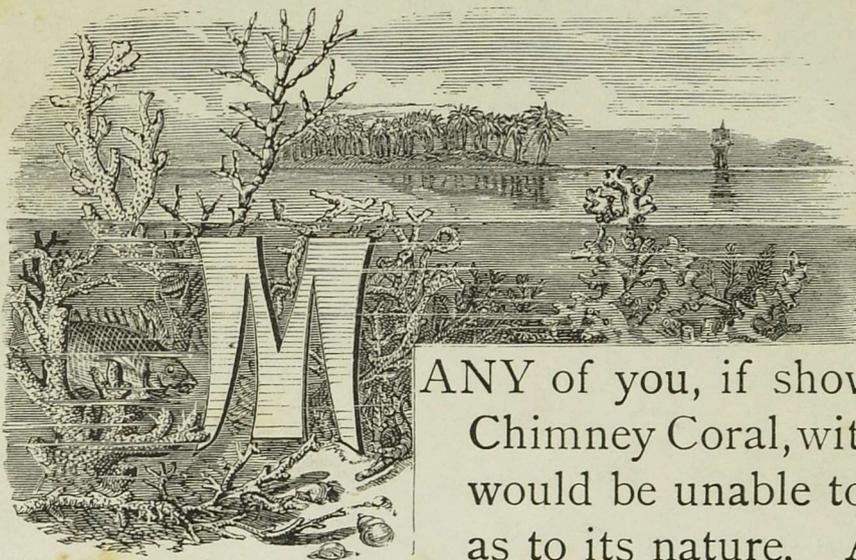
As we have seen, they all consist of a soft, fleshy substance, which is capable of much change of form. When the creature is at rest, or exposed to any special danger, the feelers are drawn in, the mouth is closed, and our anemone has hidden all its beauty. Some of the shore-inhabiting species disguise themselves by covering their bodies with sand, shell fragments, bits of weed, etc., and these adhere so tightly as to withstand the washing of the waves. I should more properly have said that the anemone sticks to these substances, and in the same manner they cling tightly to the rocks. But they can move about from place to place, and some even quit their anchorage and go floating through the water or along the surface.

The feelers and portions of the body contain tiny cells, in which are coiled very fine barbed threads, which the creature is enabled to shoot out suddenly to a great length and with much force. A small fish darts through the water and touches



SEA ANEMONES.

against one of the feelers as he passes over an anemone. The instant contact is sufficient; these barbed lassoes at once entwine the poor fish, their wiry points enter his flesh, and he quickly dies, even if rescued from this fatal grasp. But perhaps the most remarkable character of these anemones is their power of reproducing lost parts, and of being propagated by cuttings. Supposing a large fish to make a meal off one of these anemones and leave a portion of the column or base adhering to the rock; in a short time the bitten part would become rounded off, and soon a new set of feelers would appear. Sometimes when an anemone is shifting its quarters, small portions of the base are torn off and left clinging to the rock; in the same manner these become new creatures.

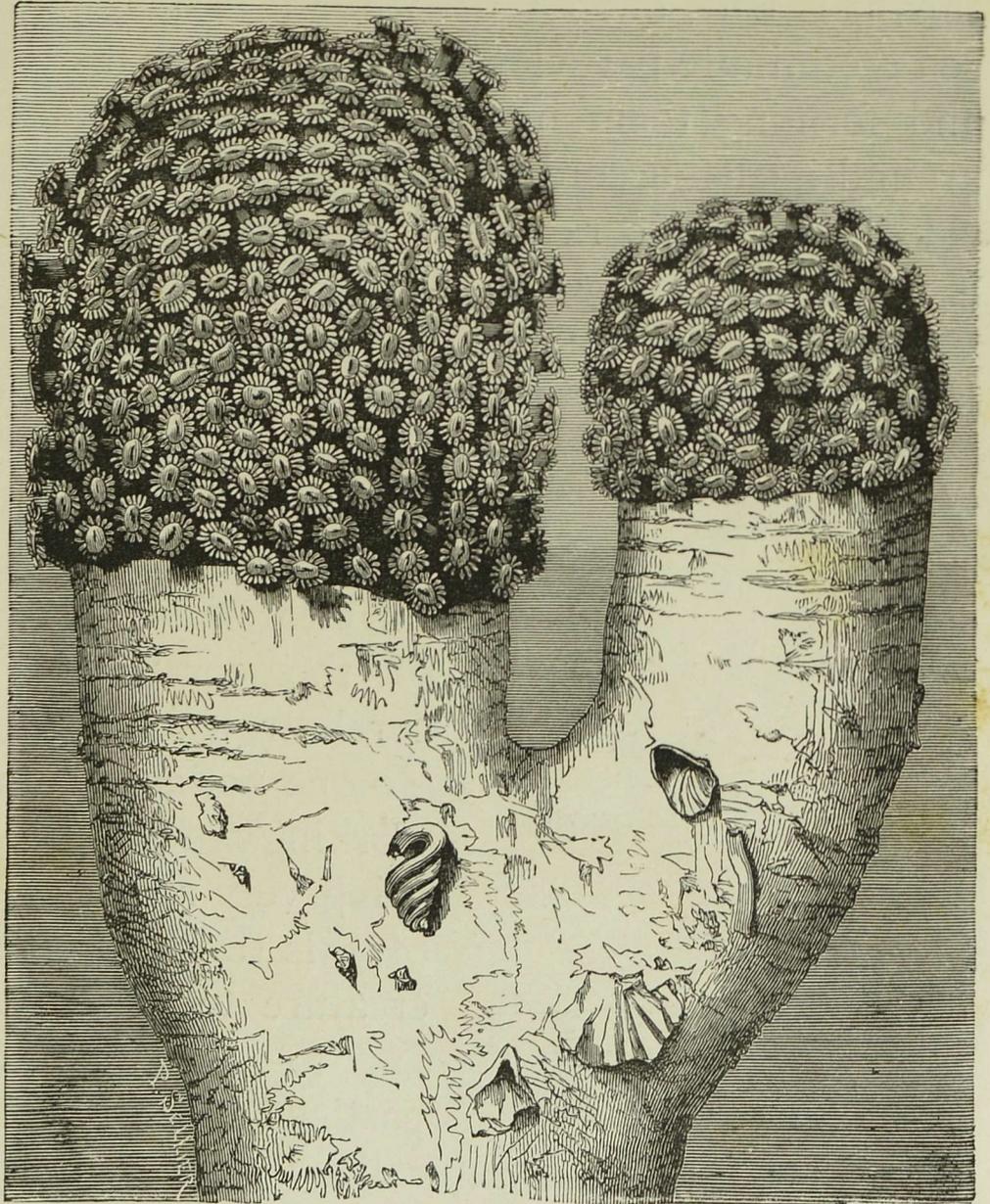


CORAL AND ITS MAKERS.

ANY of you, if shown the picture of the Chimney Coral, without any description, would be unable to make a good guess as to its nature. At first sight it looks like some plant of the daisy tribe in full bloom, growing from a new-fangled flower-pot. As a fact, however, it is the portrait of a colony of animals, one of the many forms for

ever busy making coral. I have already told you something of the structure and habits of sea anemones, and to a great extent that description applies to the coral-makers. Looking at our pic-

ture, we may suppose that each of the daisy-like portions is a sea anemone, and that they are all joined together beneath, so that the compound creature quite covers the top of the column. We may find groups of sea anemones on the rocks, but each one will be separate from its fel-



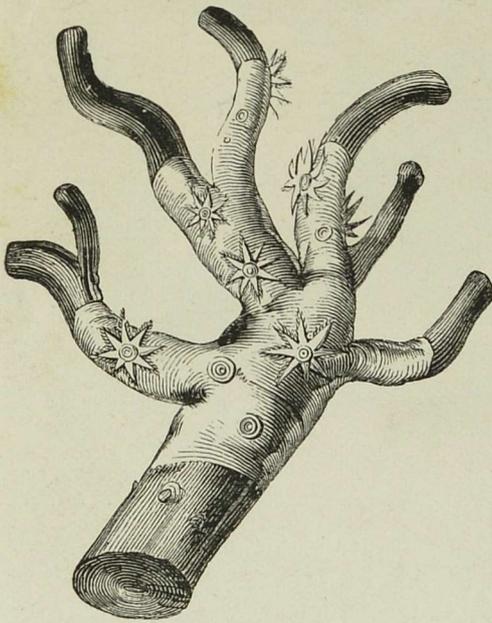
THE CHIMNEY CORAL.

lows—except where one is dividing into two. The coral-makers are always joined together in this way—sometimes in small colonies of a few hundreds, at other times in vast expanses extending for hundreds of miles, and numbering count-

less millions of little workers. For the coral-maker does not, like the anemone, spend its days merely in spreading its feelers to catch and devour the small fry of the ocean. It does this, it is true, but all the while it is busy gathering from the sea the minute particles of lime that are floating in the water, and forming them into more or less solid coral within or around itself—according to its kind.

The title of coral-*insect* formerly applied to these creatures, is not correct; they are not insects.

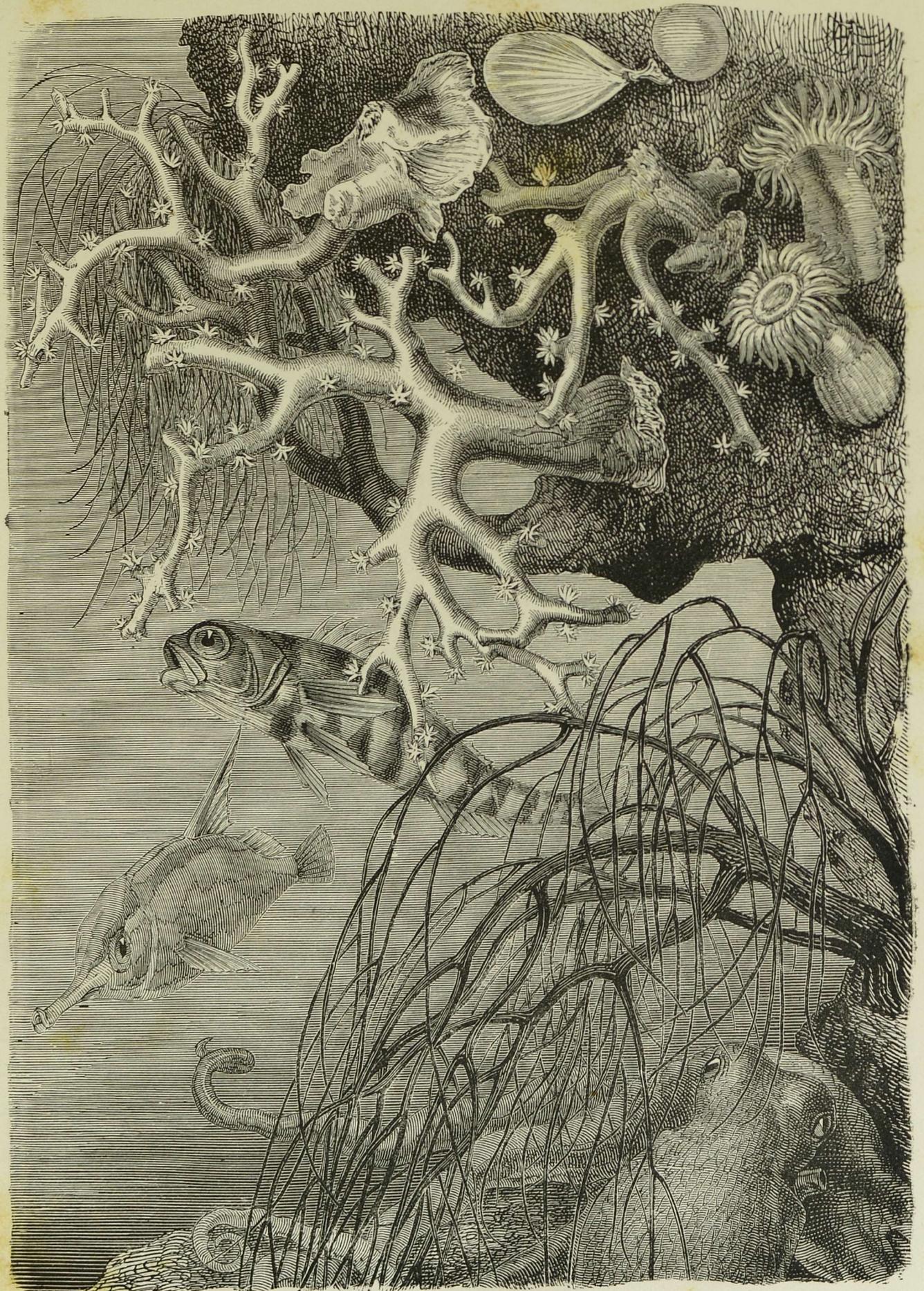
Like the anemones, the coral-animal exhibits the most beautiful and varied tints, and many voyagers to the southern seas have painted for us glowing pictures of the beauties that reveal themselves when one gazes, through the clear water, down the living face of the coral-reefs, and upon the coral-strown floor, forty feet below. To one not accustomed to mark the workings of Nature, there is something very remarkable in the power of this tiny and utterly defenceless creature to raise up large islands, and to form them, too, of the tiny particles of earth that float through



RED CORAL.

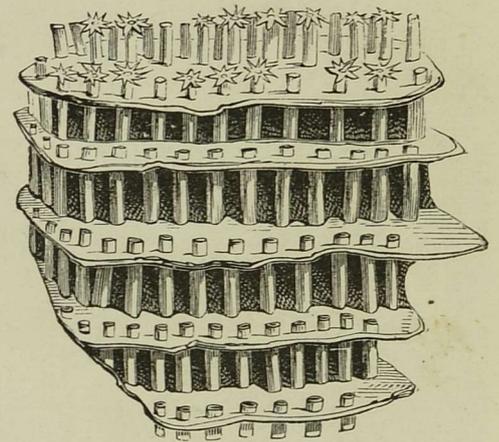
the water. But the naturalist knows that it is to the most mean and minute agents that the greatest works of nature are committed.

Some of these coral-makers so construct their stony skeleton that the surface is all pitted with tiny holes into which one can withdraw itself when necessary, and the



CORALS.

mouth of such an orifice, seen through the microscope, is found to have a most regular and artistic form. The madrepores of which the coral-islands are formed belong to this group; but the red-coral is free from such pits, the surface being marked with raised lines instead.



ORGAN-PIPE CORAL.

The well-known and beautiful species styled the Organ-pipe coral, is different in structure. It wears its "skeleton" outside itself. This takes the form of dark crimson tubes, large numbers of them being united at intervals. The little builder of this remarkable house is bright green, and when he puts his head out of doors and flaunts his eight green, feathery feelers, the effect is very striking.

ABOUT A BUTTERFLY.

AFTER our talk about Mr. Snail, my little friend Fred took a walk down the garden and out through the back gate, where he knew a bed of stinging-nettles grew by the wall. He wanted to see some more of snail-life, but his attention was arrested by something else. Soon, he came running to me with a long piece of nettle, on which were feeding a number of black caterpillars. These were sprinkled with fine white dots, and bristling with long, sharp thorns.

"Look! Mr. Weston," said he; "what strange caterpillars!"



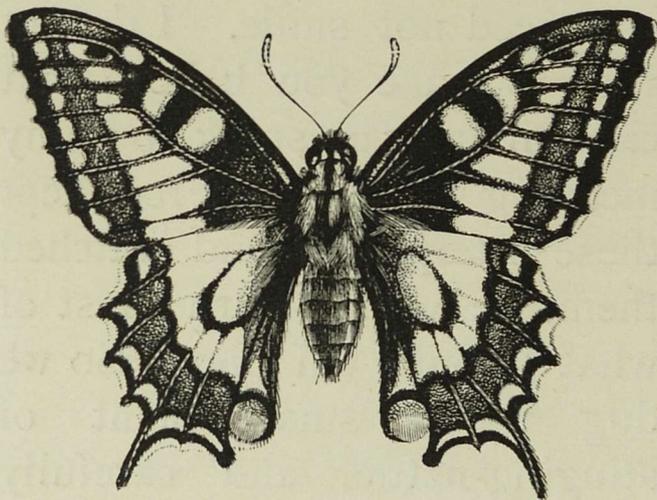
PEACOCK BUTTERFLY.
MEADOW-BROWN BUTTERFLY.

Can you tell me anything about them?"

I could tell him a little about his captives, but I preferred that they should tell him something about themselves. Now, you need not smile. I do not wish to make you believe that caterpillars can speak, but my meaning is, that if Fred kept these caterpillars and watched them, he would learn most of what I could tell him. So we dug up a small plant of stinging-nettle, and carefully potted it, as though it had been a rare flower. Then we got two pieces of split cane, and bent them to form half hoops. We pushed the ends into the mould

of the flower-pot, in such a way that the canes crossed each other over the top of the plant. Then we put our caterpillars on the nettle, and threw over the canes a piece of muslin, tying it tight round the rim of the flower-pot. Now, by holding the flower-pot up to the light we could see through the muslin almost as well as if it had been glass. Fred and I watched the caterpillars every day, and this is what we saw:—They were mostly feeding, and occasionally they got too big for their skins, which split across the head and down the back. Fred was greatly excited when he first saw this

occur. "Whatever will the poor thing do?" said he. But there did not seem to be much cause for anxiety, for under the shabby old skin the caterpillar had a brighter new one. At last, to Fred's great surprise, the caterpillars cast their last skins, as caterpillars, and became chrysalids—queer-shaped



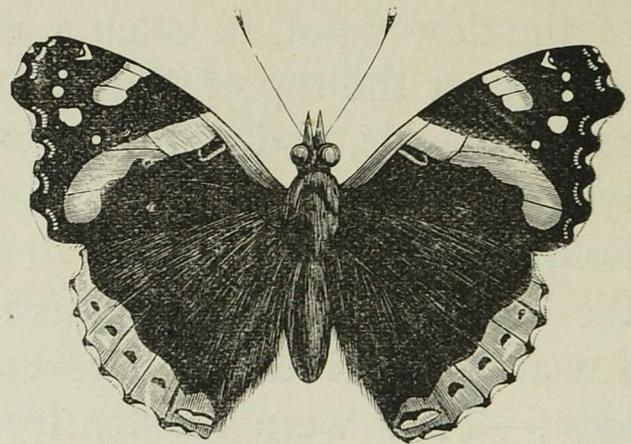
SWALLOW-TAIL BUTTERFLY.

creatures that hung head downwards, hooked to a little patch of silk. You may better realise the form of the chrysalis by looking at the small picture which begins this story, but its colour was a greenish-grey, beautifully marked with gold.

Fred was very impatient with this strange object, be-

cause I had told him that the best change of all was still to come. Every day I had to take off the muslin cover and let him see the chrysalis closely, so that he could make out the creature's eyes, and legs, and

wings beneath its golden skin. Then, one day, when we looked in we saw that the chrysalis skin was hanging there broken and empty, and at the top of the cover there hung a butterfly, with wings all limp and crumpled. We did not disturb it, but let it



RED ADMIRAL BUTTERFLY.

hang, and when next we looked the wings had expanded,

BUTTERFLIES AND MOTHS.

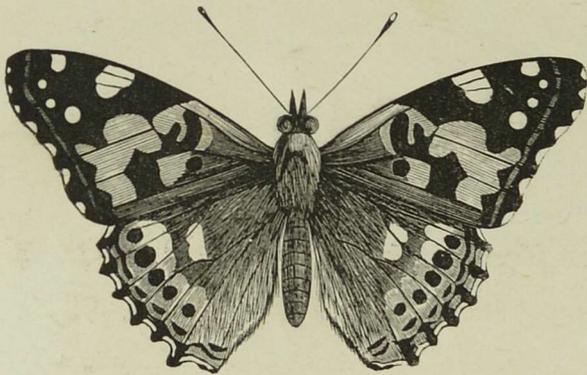


and it had become at length a beautiful Peacock Butterfly.

Fred was wonderfully interested in the whole subject, and asked many questions. He wanted to know if all butterflies were once caterpillars, and whether all our chrysalids would become Peacock butterflies, or various kinds.

I had, of course, to tell him that when a butterfly lays a batch of eggs they all turn to caterpillars of one kind, and that when these at last become butterflies, they are exactly like the butterfly that laid the eggs.

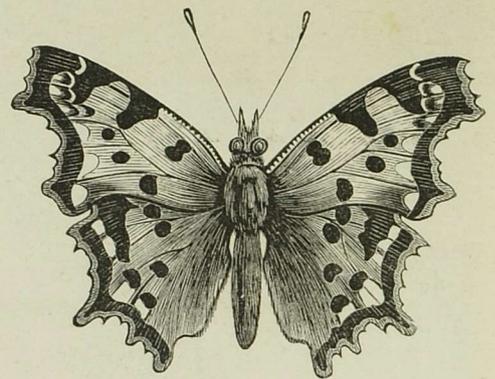
The Meadow Brown Butterfly, shown in the same picture with



PAINTED LADY BUTTERFLY.

the Peacock Butterfly, has a caterpillar very unlike the thorny creatures we had been rearing. The same may be said of the other butterflies shown in our illustrations, and of much larger numbers that are not shown.

Each of these kinds has its special food-plant upon which the caterpillar feeds. I further explained to Freddie that what I had said about butterflies was equally true of moths, for these pass through the same forms of egg, caterpillar, and chrysalis, before coming to the perfect



COMMA BUTTERFLY.

condition. Then, as I had quite expected, he wished to know what was the difference between butterflies and moths. As I happened just then to have a specimen of the Tiger-moth, which had that day emerged from the chrysalis state, I was

able to show him several points in which most of the moths differ from the butterflies.

Look, said I, at the thick body of the moth, and then at the slender, pinched-in waist of the butterfly. Though all moths have not got thick bodies, yet none of them are pinched in the middle as all butterflies are. Then, again, turn to that picture on page forty-seven, and you will see that the



BURNET MOTHS.

TIGER MOTH.

Meadow Brown Butterfly has got its wings simply raised over its back. That is the position of butterflies' wings when they are at rest; but if you will look at the full-page picture of butterflies and moths, you will see, near the centre of the bottom, a figure of the beautiful, but destructive, Silver Y-moth. This, you see, folds the front wings over the hinder ones, and keeps them closely to its side. This is the usual position of a moth's wings when it is at rest.

Another difference is found in the feelers, which adorn

the heads of butterflies and moths equally. In the butterflies these each end in a knob, or club ; in the moths they are very fine, and without this club, but often they are feathered instead. All butterflies fly by day, most moths fly at night, or at twilight.

THE DORMOUSE.

DOWN in the meadows where the great beeches stand in a row, there is one tree with a small hole in the trunk. My young friends in the village tell me there is what they term a "sleep-mouse" living inside, and they try to wake him up by putting a withy into the hole and stirring it about. To-day Mr. Dormouse is not at home, for they have been stirring the withy about without any effect. As it is early spring we conclude that he has gone out to visit one of his private nut stores, of which, very likely, he has several about. For you see the Dormouse is one of those creatures which make themselves very comfortable as the winter comes on, and sleep all through the cold weather. They only wake up now and again, when a mild day comes, and then they start off to the store of nuts and acorns which they had put away in the autumn, and after having a good meal they get back to bed and go to sleep again.

The Dormouse is an exceedingly pretty creature, and is frequently adopted as a pet. It is an interesting sight to see it feeding. It sits on its hinder legs, and with its two fore-paws holds the food tightly whilst it nibbles away at it.



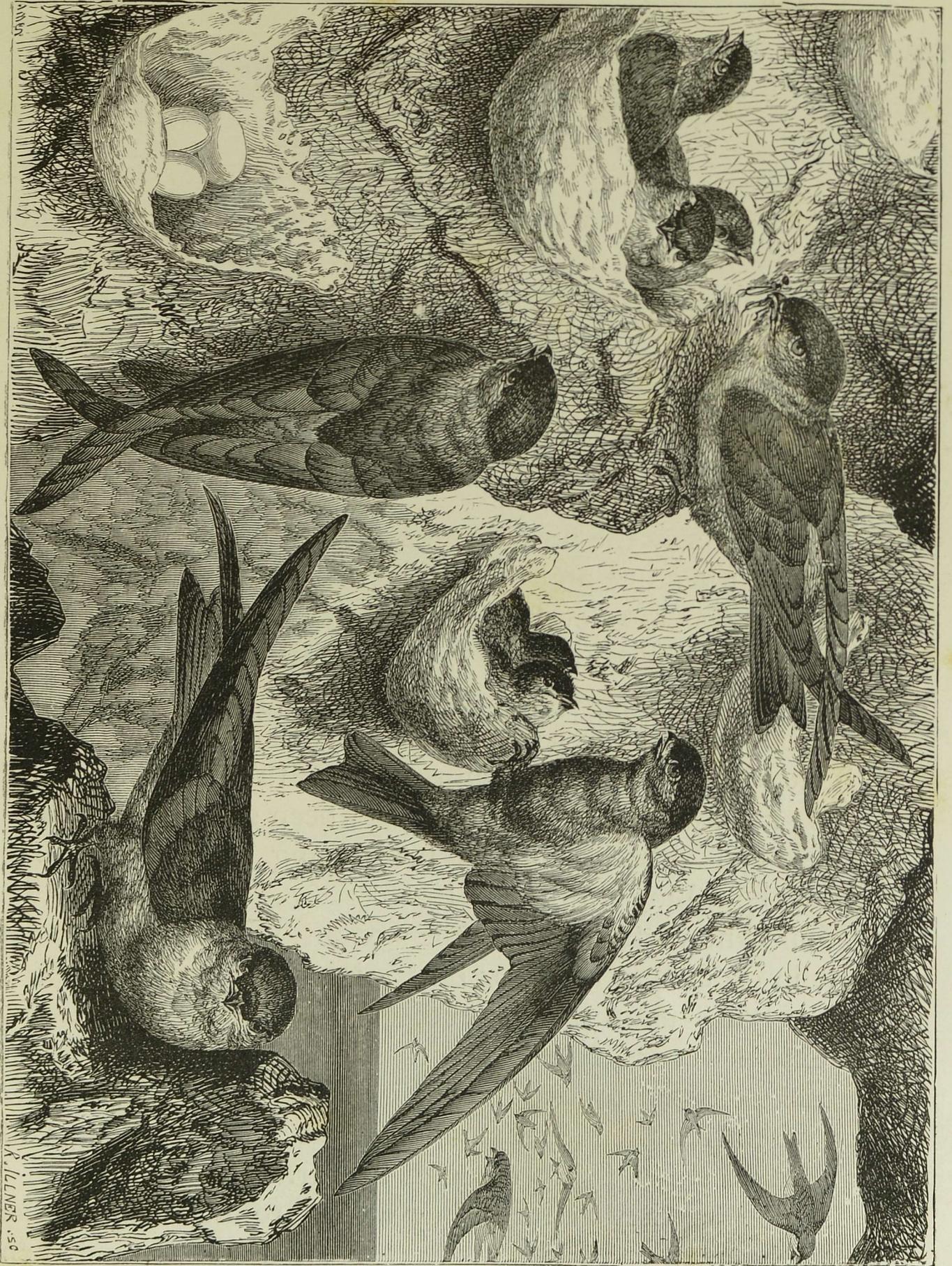
THE DORMOUSE.

BIRD'S-NEST SOUP.

A WAY to the far East, on the rocky coasts of Java, there is a bird somewhat like a swallow. This bird, which is called the Salangane, builds its nest differently from the nests of other birds. Others fly about hither and thither in search for hay, wool, moss, and feathers, to make and line their nests, but the Salangane gets all the material from its own mouth. This is a gummy substance, which hardens by contact with the air; and of it the bird makes curious little pockets, stuck on the rocky cliffs. The picture will give you a good idea of the form of these nests, and of the eggs and young ones, as well as of the old birds. It is very difficult to get at these nests, because they are usually built on the rocks above the sea, or in caves high up on the face of the cliffs. But men make a business of seeking for these nests, and they take them down very carefully, but without regard to the rights of the poor birds that built them with such pains. It is said to take the bird about two months to build its nest, but the reason why men collect them is that they may sell them, which they do by weight. They are bought by the Chinese, who pay a very high price for them—about three guineas a pound for the best quality. They make them into a soup, which they consider a great luxury. Would you like a little of it?

There seems to be no end to the strange dishes which the Chinese make. The stranger, and more difficult of attainment a thing may be, the more they prize it.

THE SALANGANE.



R. LLNER .50

THE BIRD'S FUNERAL.

A PRETTY bird sat upon the branch of an oak tree, one bright morning in July, and sang so sweetly that the dewdrops still lingered on the wild rose, though it was time they hurried away. A fine Camberwell Beauty butterfly, too, sat listening to the song, when he ought to have been flying far away. The harebells gently swung in the air, as though they were ringing an accompaniment to the bird. But in a moment all this was changed. A bad boy who passed that way heard and saw the bird. It at once occurred to the bad boy to pick up a stone and throw it at the poor bird.

Ah! He was too clever a marksman. The poor little bird, that had never injured anybody, was struck with such force that its tiny heart ceased to beat, and it fell to the ground. The bad boy went away feeling proud of what he had done. But the leaves all shivered and rustled with horror, and the dewdrops ran away as though they had been great tears which the roses had shed. The harebells hung their heads and seemed to be tolling a funeral dirge.

I don't know who went for the sextons, but they came very quickly, in order that the poor bird might be decently buried, instead of lying upon the ground. And what do you think these sextons were? None other than good-sized beetles, with black backs crossed by two orange bands. There were some others, much like them, but smaller in size. They seemed to come from all parts, flying through the air.

As soon as they arrived, they walked round and over the body, and seemed to be talking to each other a little, and then



THE BIRD'S FUNERAL.

they commenced to scrape and dig out the earth from under the dead bird; and before long I saw that the bird was sinking into the ground. Next day I passed the spot and saw that the bird was half buried, and in a few days more it was hidden altogether, though I could see where. You may think two or three days is a long time for a funeral to last; but remember that these little sextons had only their tiny legs and feet with which to shovel the earth out, and that for one of these small beetles to bury a large bird is pretty much as though a man had to bury an elephant.

But I must not lead you to suppose that the beetles did this simply out of love for the poor bird. When the bird was nicely buried, they laid their eggs on it and covered it up. These eggs will hatch very soon, and a peculiar little grub will come from each, and commence eating up the dead. By-and-by the grubs will turn to beetles like those that buried the bird. The beetles are known as Sexton-beetles or Burying-beetles. Were they not to do this work of burying and eating dead birds and other creatures, the air we breathe would become poisoned by the bad odours which come from such bodies.

PITCHER-PLANTS.

W E have been paying a visit to Kew Gardens, and seeing no end of wonderful things in the houses there, besides those we saw in the gardens out-of-doors. You must



SOME TROPICAL ORCHIDS.

not think that I am about to attempt to tell you all about the things we saw. That would be well-nigh a hopeless task; but in one range of houses we saw some remarkable plants called Orchids, with large and beautiful flowers, but a funny thing about them was that some of them grew from blocks of wood hung from the roof, and their long roots swung in the air. I daresay you have seen some of these strange flowers—for which people pay enormous sums of money—but in case you have not I have given a picture of a few of them.

Passing into the next compartment of the greenhouse, we saw large numbers of Pitcher-Plants—that is, plants of which the leaves, or parts of the leaves, are hollow, and partly filled with a clear fluid. Some of these pitchers, as they are termed, hung down from the tops of long leaves. You will see from the picture what strange forms they assume. Some were trumpet-shaped, and stood quite erect. They had all got hoods, or covers, to the tops. On looking into some that were not so high up as the others, we found that they were half-filled with water, in which were the dead bodies of many flies, and other small insects, such as beetles and earwigs.

If you look at that picture again, you will see that the artist has shown some flies and beetles crawling over the pitchers. One of the beetles is our old friend the ladybird. Many insects are fond of a drink of water, and others seek the inside of the pitcher because it is cool and shady. But when once they have got down to the water, it is not very easy to get back again; for the inside walls are smoothly polished, and it is difficult for the poor insects to obtain foothold.



PITCHER-PLANTS.

Then some of the pitchers are so formed that, should an insect succeed in climbing nearly to the top, it then finds a projecting ridge which is so very smooth that, in trying to get over it, it falls back into the water and gets drowned. In some others there is a fringe of long hairs pointing downwards.

It is very easy to get over these hairs when going down, but when coming up it is almost impossible. So many of these poor creatures are caught in this way that travellers tell us they have been greatly disappointed when, seeking these pitchers for a drink of water, they have found them half-filled with dead insects.

The long, trumpet-shaped pitchers to the right of the picture are known as the Huntsman's-horn Pitcher-plant, and are natives of North America. Now this kind actually invites the insects to come in, for just inside the mouth it secretes a sweet fluid like honey, which induces them to swarm in, and most of them get drowned.

You will, perhaps, be wondering why the pitcher-plant should kill so many insects, and have their dead bodies decaying in its leaves. The reason seems to be that these dead insects are absorbed by the leaves, and serve as food to the plant.

Mr. Burbidge, who has travelled a good deal after rare plants, tells us of a species of pitcher-plant which grows in Borneo, that, owing to the ridges near the mouth of the pitcher, it is a perfect trap for creeping insects. So plentiful are the prisoners that a species of black ant finds it is worth its while to visit the pitchers and feed upon the dead insects. But to prevent the possibility of themselves being caught, they have devised an artful way inside. They get on the leaf and

bore a tunnel right through the length of the stalk, and so provide a way in and out without having to pass the slippery ridge. Then there is a peculiar kind of monkey, called the Tarsier, which feeds largely upon insects, and likes to ransack these pitchers of Borneo for its meals. But one species of



THE TARSIER.

pitcher there seems specially designed to prevent this, for the lid is so covered with sharp spines that the Tarsier gets a severe pricking if he attempts to meddle with it.

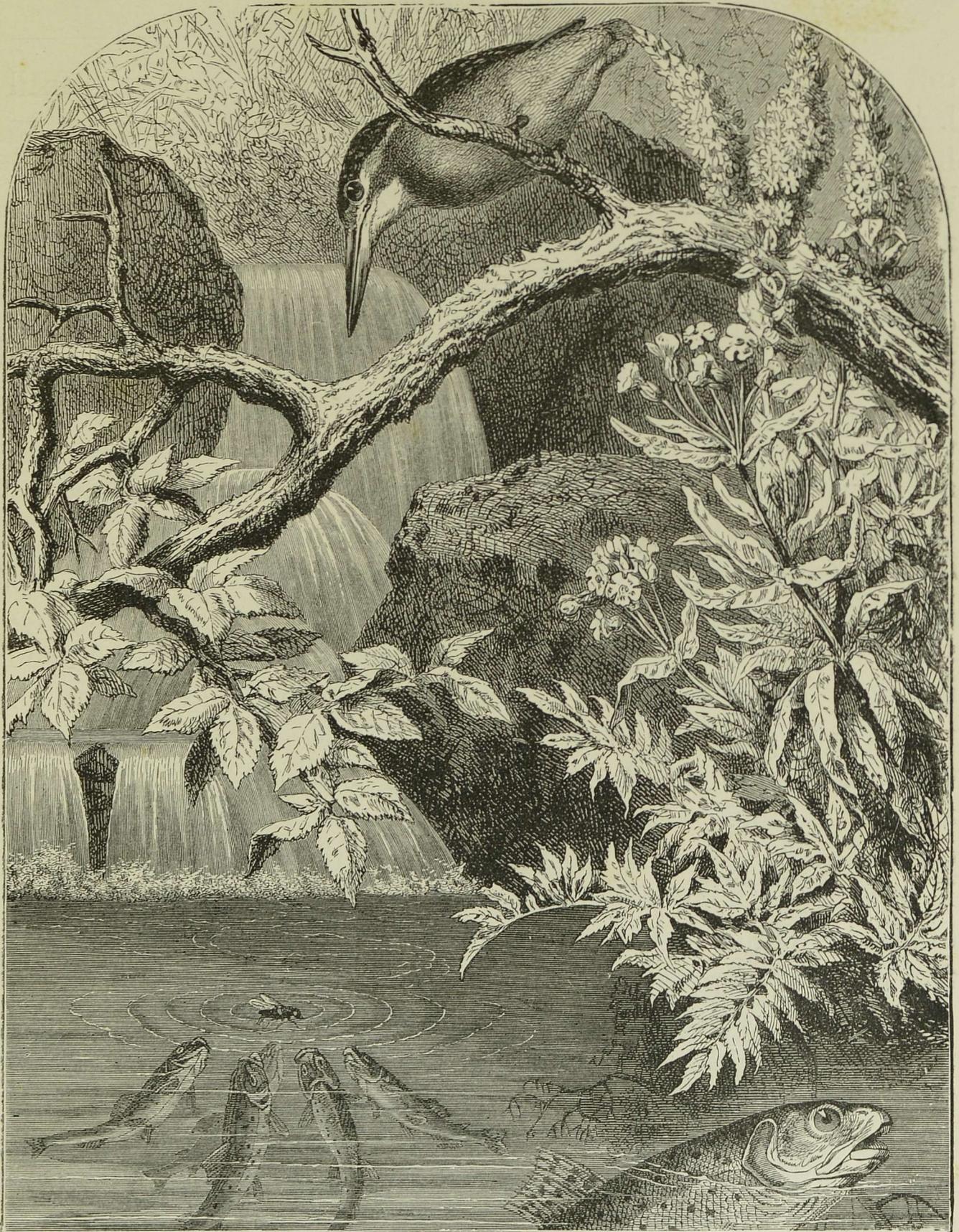
We have no proper pitcher-plants growing wild in our own country, but there is a tall plant, called the Teazle, which has the leaves formed into a kind of basin, in which the rain and dew collect and adventurous insects get drowned.

THE KINGFISHER.

WHICH of those tiny trout shall have that fly? The old trout is very cautious, and has turned his back upon it, for he has seen many of his friends mysteriously disappear from the water after swallowing a fly very like the one that is kicking on the surface of the stream. No, he won't have anything to do with it! Those careless youngsters can struggle for it if they please; he is not going to be caught so easily.

He imagined that the fly was fastened to a fine, strong line, artfully thrown out by an angler who was holding a rod to which the line was attached; but the old fellow was wrong on this occasion. However, had those young trout been a trifle more cautious, it would have fared better with one of them; for they were being watched. Yes, watched by an enemy that was very patient and did not mind waiting until there could be no doubt about his opportunity. Upon a bare branch just above that cluster of young trout, sits a beautiful bird, whose wings and head, and back and breast, seem painted with all the brightest and richest colours of the rainbow: blue, green, orange, brown, black, and white are all found on the same bird.

One of the young trout has just decided that he will have the choice morsel he and his companions have been so seriously considering. He has succeeded in catching it, but is not allowed to enjoy it, for with a swift sudden dart the Kingfisher has dropped from his perch and is in the water. He is quickly



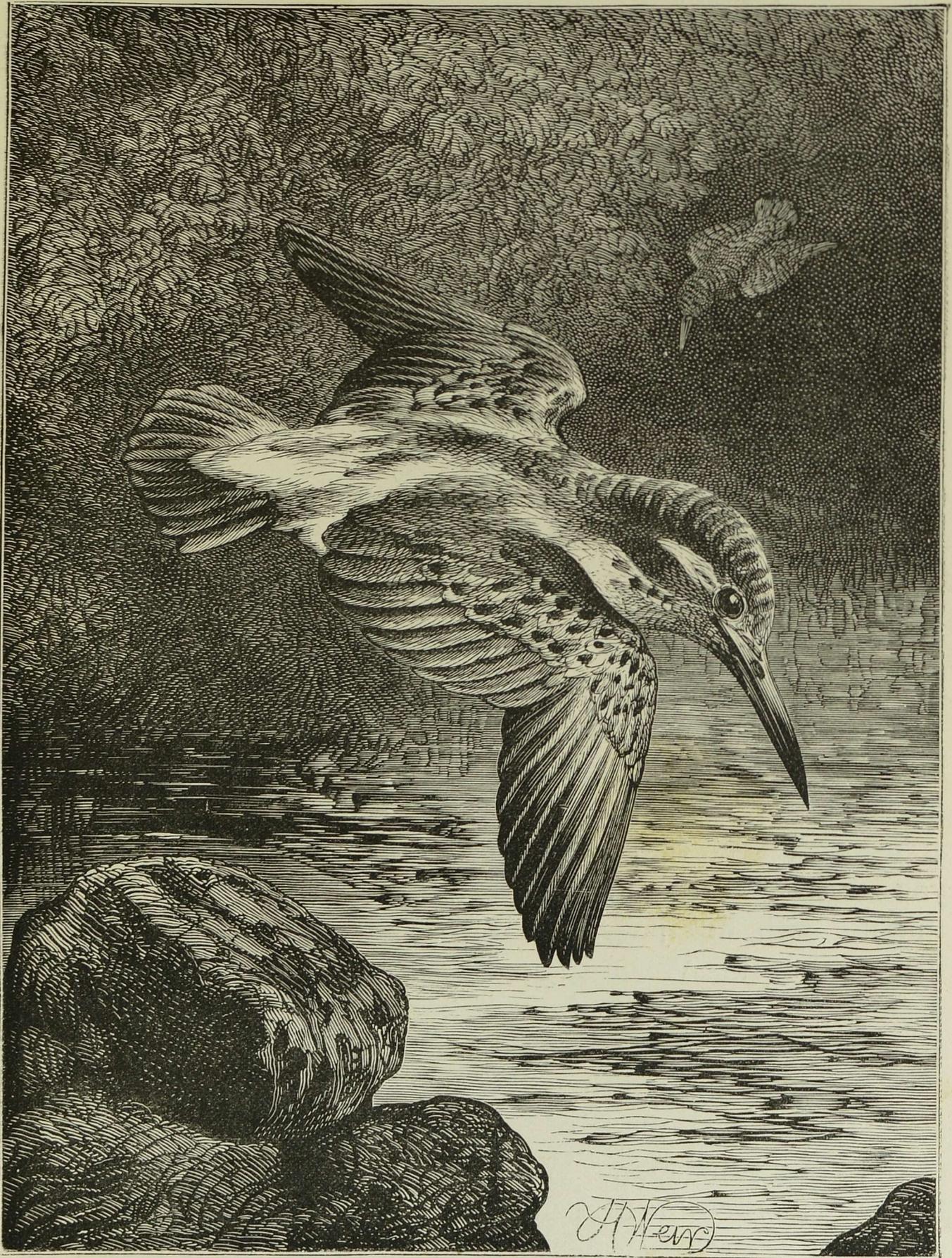
THE KINGFISHER AND THE TROUT.

out again, and he holds the silly trout safe in his beak, until he has regained the branch, when he kills it by banging its head against the tree. Now he flies off with his prey, and if we in fancy were to follow him we should see what kind of a home he has.

In olden times no one seems to have noticed what kind of place the Kingfisher selects for nesting purposes, so they invented tales about it. This is what they said: The Kingfisher is different from other birds. It has to be always watching by the water, so that it is too busy to be building nests in trees, as most other birds do. Therefore it builds, on the surface of the river or the sea, a floating nest, in which it lays its eggs and sits to hatch them.

They also said, it had the wonderful power of preventing storms and of keeping the surface of the sea calm all the time it was hatching its eggs; so that if mariners would only watch which was the right time they might then proceed to sea without danger of shipwreck, or of being driven back by adverse winds. One of the names by which the Kingfisher was known was that of Halcyon, so these days when the Kingfisher was supposed to be quieting the sea came to be known as Halcyon Days, and you may have heard periods of fine weather or prosperous times spoken of as Halcyon Days.

Now if we could have followed the Kingfisher and the trout, we should have found that these old tales were wrong; for the Kingfisher's nest—if such it can be called—is in a hole, sloping upward, in a river-bank. Here it brings a heap of small fish-bones and spreads them out to form a soft cushion, upon which the five or six white eggs are laid. That is all the nest it has.



THE KINGFISHER.

WASPS' NESTS.

HERE is a wonderful many-roomed house, made by a very little builder, out of simple materials. It is a wasp's nest, and the wasp that makes it is known as the Polistes. Before I say anything further about it, I wish to explain that the picture does not give a quite accurate idea of the manner in which the nest hangs from a plant. But if the artist had sketched it just as he found it, you would not have been able to see its structure, for the openings are naturally on the under surface. It is all made of a roughish kind of paper. I do not mean paper which the wasp has found, as birds find hay and wool and weave them into nests, but paper which the wasp herself has made.

How does she make it? you ask. Well, first of all she looks about for suitable material. She is not very particular, for you can make paper from many things. She may come across a decayed tree-stump, where the wood is so soft that you might pull it to pieces with your fingers. She will grind this up with her jaws, mix it with saliva, and carry away a little ball of it. When she comes to the place where she has decided to fix her nest, she will knead up her wood-pulp and spread it out thinly upon the branch selected. She will constantly add to this, until at last she has got a number of little six-sided cells, all made of this pulp, and protected by a roof of the same substance. When by a slight exposure to the air this pulp has become firm and dry, it is found to be just like very coarse paper. Sometimes it is made of the skin peeled off



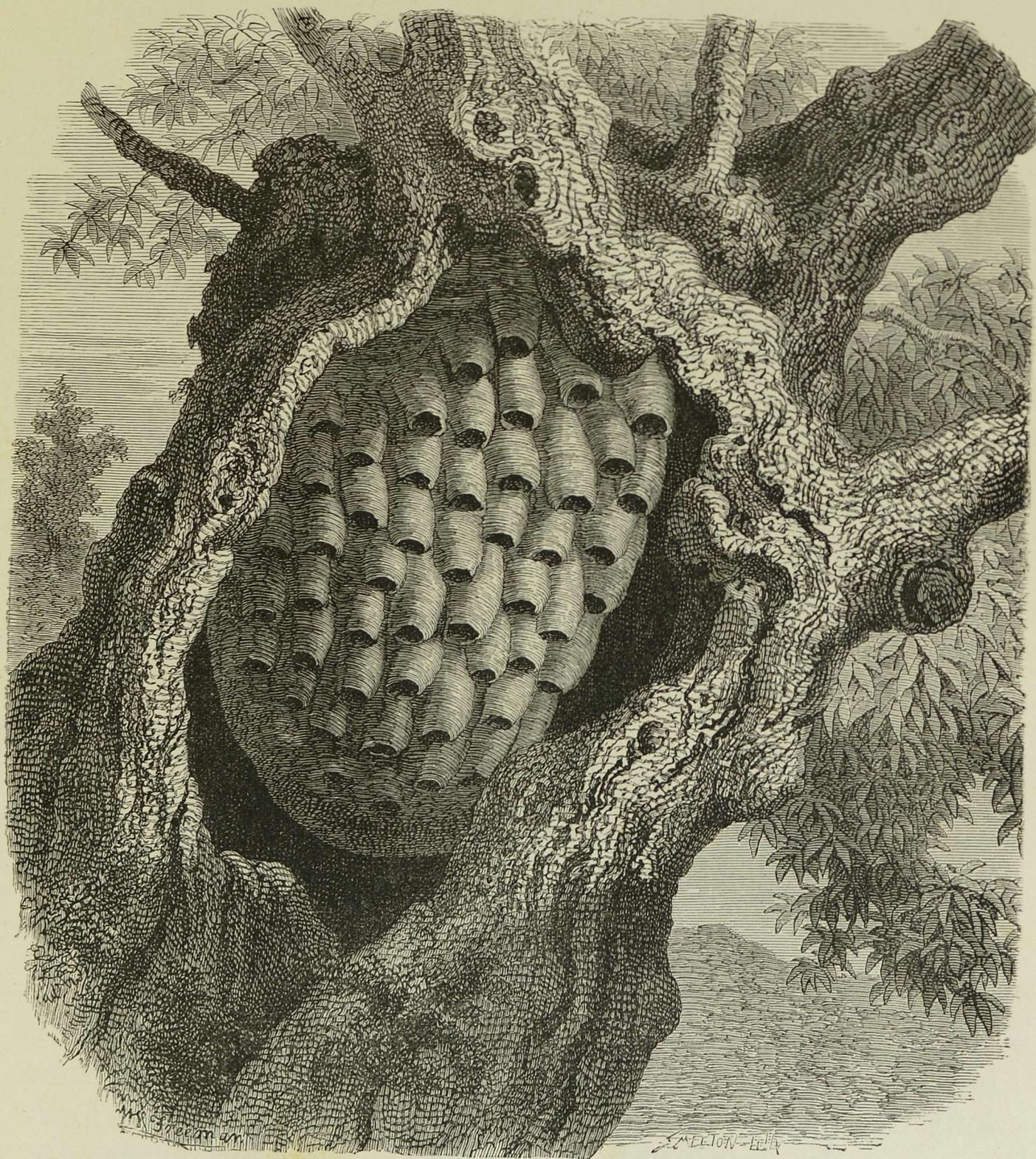
NEST OF A WASP (POLISTES).

from rushes and grasses, and occasionally the wasp will tear up bits of real paper and mix with her pulp.

Other kinds of wasps make their nests differently. Some of them look like tiny full-grown cabbages, the leaves being represented by the folds of paper, which completely hide the cells. Another kind forms her nests like little jars, and makes them of mud, which the sun bakes. The hornet, which is only a large wasp, usually builds her nest in the hollow trunk of a decayed tree or in the roof of some outhouse. The paper which she uses is of a thicker and coarser character; but there is a wasp in Central America with more refined tastes, and she makes a hard, smooth, and thick cardboard, of a white colour. This particular nest is in shape somewhat like a sugar-loaf.

Oh no! certainly not. The mother-wasp does not build the whole of these large nests. The original founder of the colony only makes a few cells, and in each of these she lays an egg. When the eggs hatch there is in each cell a little white grub. Now the mother-wasp has to leave off building, and seek for food for her little ones, for she does not abandon her eggs, as butterflies do theirs. She flies about here and there, and finds various insects, which she takes home for her young. With such care and attention the little grubs become chrysalids, and soon turn into perfect wasps.

Now they, in their turn, have to do some building, and so the nest is enlarged, more cells are built and more eggs laid, till soon there is quite a large swarm of wasps at work on the nest. Such a large family make great inroads upon the insects of our fields and gardens, and so help the gardener and the fruit-grower very much. It is, therefore, rather mean of the fruit-grower to denounce the poor wasp who takes



HORNET'S NEST.

partial payment for his work by feeding upon ripe plums.

SQUIRRELS.

WE had been out blackberrying, Dick and I, one day last autumn, and whilst gathering the juicy fruit had not passed by the nut-trees without notice. Entering the wood on the common, we had come across a tree laden with fine cob-nuts, and, of course, we set to work to fill our pockets. But no sooner had we started doing so than we heard a sharp, angry barking overhead, and looking up saw a pert little squirrel, with the brightest of eyes and the bushiest of tails, upon a branch above. We were not to be frightened by such an exhibition of anger, but went on gathering nuts until our pockets bulged—and still we left as many as the squirrel could possibly require for his winter store.

I have little doubt that a couple of these pretty creatures had got a nest very near the spot, and had set their eyes upon that cob-tree as a store of food. Our little gathering was regarded as an impertinent trespass upon their preserve. It was very amusing to observe the manner in which that squirrel leaped from branch to branch, and from tree to tree, as if in pursuit of us great marauders who couldn't let a poor little squirrel's fruit-crops alone.

Did you ever see a squirrel's nest?—"squaggie's jug" it is called in parts of Surrey. High up in the branches of some lofty tree the squirrel selects a part where a large branch forks out from the main trunk, and in the angle she builds her nest. The chief object she has in choosing this position seems to be to make the nest invisible to any one walking beneath. Then



SQUIRRELS AND NEST.

she seeks about for nice flexible twigs that will easily bend into a circular form, and grass, and moss, and leaves. All these she weaves together in a wonderful way, until she has made a very comfortable house, wind- and water-proof, and firmly fixed. In this pretty house she rears her family of three or four merry little bushy-tails, who remain there until they are nearly a year old, when they begin to think about building houses of their own.

When the acorns, nuts, and beech-mast are ripe in the autumn the squirrel selects a nice dry spot and lays up a store of them there. When winter comes and fresh food is scarce, it remembers these places, and brings out its stored-up provisions.

It is not at all difficult to tame a squirrel and make a pet of him, but it is a needless cruelty to shut up in a small cage, a creature that is in nature accustomed to scamper freely to the topmost boughs of the highest trees, and to take flying leaps from one tree to another. Men may sometimes be seen in the streets with a very docile squirrel sitting upon their hands and offering it for sale. Do not be tempted to purchase any of these, for what looks like tameness is in reality only a want of life and spirit. The poor creatures have been poisoned—not sufficiently to kill them at once, for that would not suit the dealer's purpose. As a rule they die a few days after they have been purchased. I remember many years ago my brother purchased one of these very "tame" squirrels, which seemed to be the perfection of docility. But in a few days its natural health enabled it to overcome the effects of the poison, and at night it gnawed through the bars of its roomy hutch, and was loose about the house. I well remember catching it



THE SQUIRREL.

the next day—aye, and I did catch it! Though this happened more than twenty years ago, I still bear the mark upon my thumb where its front teeth met in my flesh. We caught it several times with difficulty, but it regularly made its escape at night. It seemed to be perfectly mad. This went on for more than a week, when one evening a strange cat got into the house. In the dead of the night the two creatures met and quarrelled. There was a terrible uproar up and down stairs, and much scattering of fur. In the morning we found them both dead; and so ended my first and last experience of “tame” squirrels.

MR. FROG.

WE have been sitting down by the large pond on the common, watching the fish leaping up after the flies, which were also being chased from above by the swift-flying dragon-flies. We have seen the sticklebacks darting among the weeds, and the newts basking on the surface. Will has been particularly struck by the great number of tadpoles which swarm round the margin of the pool, and by the multitude of small frogs that creep and jump among the grass on its banks. But there were also some frogs that were not at all small—great podgy fellows, that looked quite gay in their dresses of yellow and black. There they sat, some of them half in the water, blinking their large round eyes, and opening their wonderfully wide mouths to catch the insects.

One of these frogs was a big, wise-looking creature, who

seemed as though he could not catch enough flies to satisfy his appetite, and Will addressed him as "Mr. Frog," and got



MR. FROG.

putting a lot of questions to him, which, of course, Mr. Frog did not answer ; so I had to, as well as I could.

"Tell me, Mr. Frog," said Will, "why your throat keeps swelling out as though you were choking? Why do you sit

in so uncomfortable a place? and what has become of your tail?—all the very tiny frogs have got tails.”

Will had appointed me to the honourable position of Frog's Advocate, so I had to reply on Mr. Frog's behalf, and this is what he was supposed to say:—“Well, Master William, I really was not aware that I was sitting in anything but a very *comfortable* place. What more could I desire on this hot sunny day than to have my feet and legs covered by the cool water, which also keeps my back nice and moist? It's all very well for *you* to pick out the driest spots on which to sit down, but your skin does not dry up as mine does. If my skin were not kept very moist and soft I should soon die, because I should be unable to breathe, for I have not movable ribs like yours, which you use as a pair of bellows, to force air into your lungs. My ribs are so small that they are scarcely deserving of the name, so when I breathe I have to shut my mouth and force a mouthful of air down by swallowing it, as though it were a nice fly. That is why you think I am going to choke. If I were to stand with my mouth wide open, like some of the boys that come looking at me, I should soon die of suffocation.

“Respecting my tail, I have heard some of the boys that come fishing here say that we bite one another's tails off, but that is not true; and if you were to look inside our mouths you would find that we have not got any teeth, so we can't do much biting. Now, if you will listen I will tell you a little of our family history, which will explain to you all about our tails.

“If you have come along here in spring you will have seen this pond nearly covered with great floating masses of jelly, which your people call frogs'-spawn. If you look closely at it,



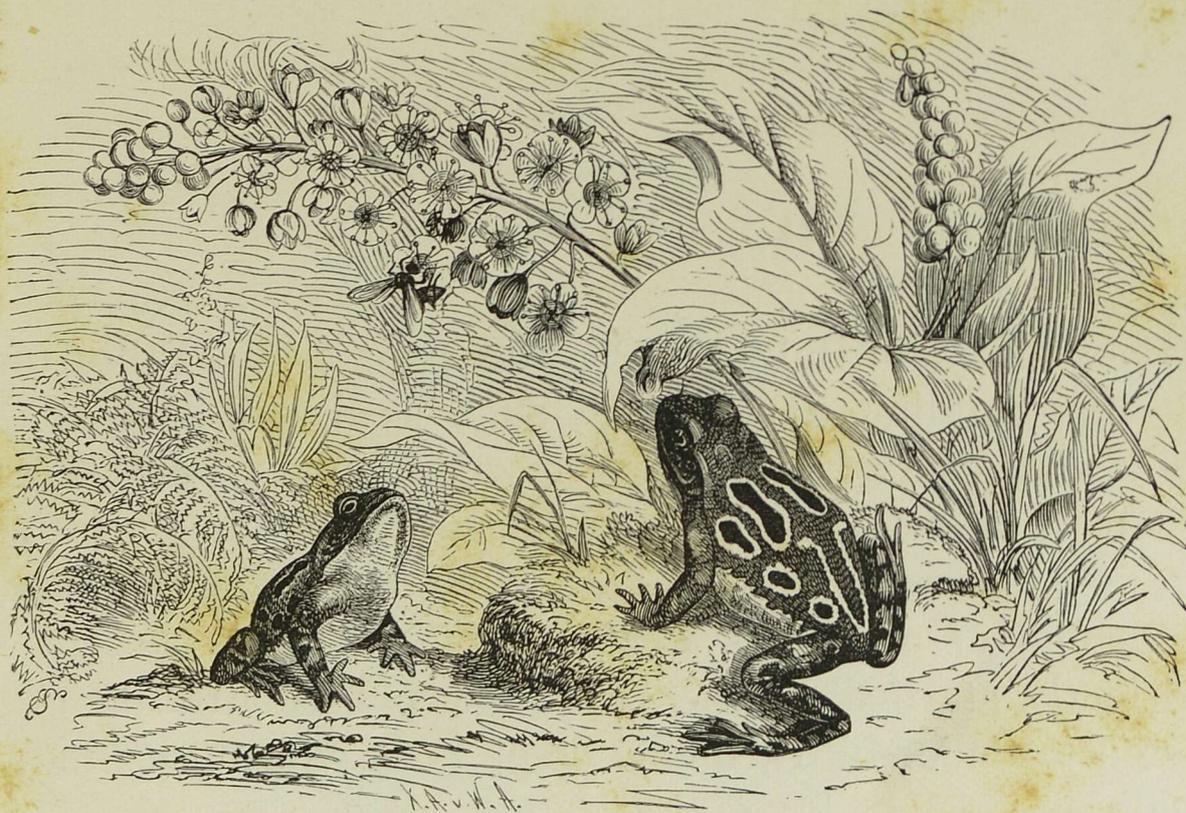
THE ESCULENT FROG AND ITS TADPOLES.

you will see that it consists of an immense number of crystal globules, each one about as big as a pea, all clinging together. Well, these are our eggs. By-and-by, when the days begin to get warmer, these eggs hatch, and what do you think comes out? 'Frogs,' you say; but that is not so. Instead of a frog there comes from each egg a strange creature that seems all head and tail. You call that a tadpole, and you can see thousands of them in the pool here, just now. A tadpole is just like a little fish. It swims by wagging its tail from side to side, and it breathes by means of gills placed outside the head, not by lungs inside the chest, as yours and mine are.

"When the tadpole has grown a little, a pair of tiny legs sprout out near the tail, the gills begin to vanish, and the tail gets smaller. Then another pair of legs comes from below the throat, the gills disappear altogether, being taken inside and changed into lungs; and the tadpole gets out of water and hops about—a little frog with a tail. It used to feed upon soft green weeds in the water, but now it catches very small insects among the grass. After a time the tail, which has been continually getting smaller, disappears altogether, without needing to be bitten off. In future the little frog is more upon land than in the water, but it takes care to keep in moist shady places, where it is not likely to get its beautiful soft skin dried up.

"I had almost forgotten to tell you about our tongues, and I am sure you will be interested in those. You know that the root of your own tongue is near your throat, and the tip of it against your front teeth. Ours are arranged just the reverse way of yours. The root of ours is nearer the front of our mouth, and the tip of it lies in our throat. Oh, dear, no!

you are quite mistaken ; that is not at all inconvenient for us. You see our tongues are long and sticky, and whenever we see an insect upon the move, we just open our mouth, double our tongue over quick, and the insect sticking to it, soon finds itself down our throat. It could not be done quicker and neater than the way we do it.



DISTINGUISHED FOREIGNERS.

“ That, Master William, is the outline of our family history, but a good deal has been written about us by clever men, which I have not time to tell you just now. We are very respectably connected ; the toads and the newts are first cousins of ours, and one well-known member of our family, the Bull-frog, is celebrated for its fine voice. Another is a

wonderful climber, who can scale the most slippery walls, and walk along the ceiling. The distinguished foreigners shown in this picture bear the honourable name of *Cistignathus ornatus*, and come from North America. Then there is the Esculent Frog, of the large picture, of which the hinder legs are used for food in France."

THE TAILOR BIRD.

IS not this a pitiful sight? The poor little Tailor-birds, after building a nest with such skill, and rearing their family with such great care, are startled by the loud screams of their little ones, and hasten back to their home. But alas! there is only one little one left, and they are just in time to see the end of another. Let us hope that the serpent was sufficiently startled by the bold and plucky attitude of the brave little tailor-birds, that it crept away without killing the remaining chick.

This wonderful little bird is not found in England. It is a native of India. I call it a wonderful bird, and I am sure you will agree with me when I tell you that those curious stitches in the front of its nest were made by the bird without any assistance from man, woman, or child. It is in fact what its name suggests—a little feathered tailor.

It wants its nest to hang from the branch, so that its little ones may be gently rocked as though in a cradle; it also

wishes that its nest may be seen by as few creatures as



THE TAILOR BIRD.

possible. It looks about, therefore, for a nice large leaf—one that does not seem likely to fall soon—and with its beak it bores a number of holes along each edge. Its beak is shaped

much like a cobbler's awl and, therefore, it is very suitable for the purpose. It next looks about for its thread, and this it finds in the fibres of some decaying leaf of large size. Having secured this necessary article, it passes the thread through the holes, and so draws the two sides of the leaf together, until it forms a cone-shaped bag. This it fills up with soft white down, hollowed out at the top, and thus completes a most comfortable home for its little ones.

MAY-FLIES.

LIGHT is a great attraction for most insects, and in summer time many of them—moths especially—may be seen flying round street-lamps. But the creatures shown in this picture are not moths; they are May-flies. They live for two years, without wings, at the bottom of streams, where they catch smaller insects and eat them. When they at last get their wings they live only for a few hours, and then drop back into the water, dead.

A friend of mine was greatly startled once by this insect. He had managed to trap a May-fly in a little box, thinking I should be interested in it. Happening to look into his box a little while after, he found that instead of there being one May-fly there, there were seemingly two. He came to me and declared that he was positive he had only captured one. Where, then, had the second one come from? It was a matter of great mystery

to him, but I was able to explain it to him, very simply. The



MAY-FLIES.

fact is, the May-fly, after it has taken its first short flight, casts its skin, and it was this cast-off skin which my friend took to be another fly.

THE LONG-TAILED TIT.

'T WAS in the early spring ; the branches were all bare,
There was no sound of cuckoo yet,
No daffodil, nor violet ;
But Long-tailed Mag* began her mansion to prepare.

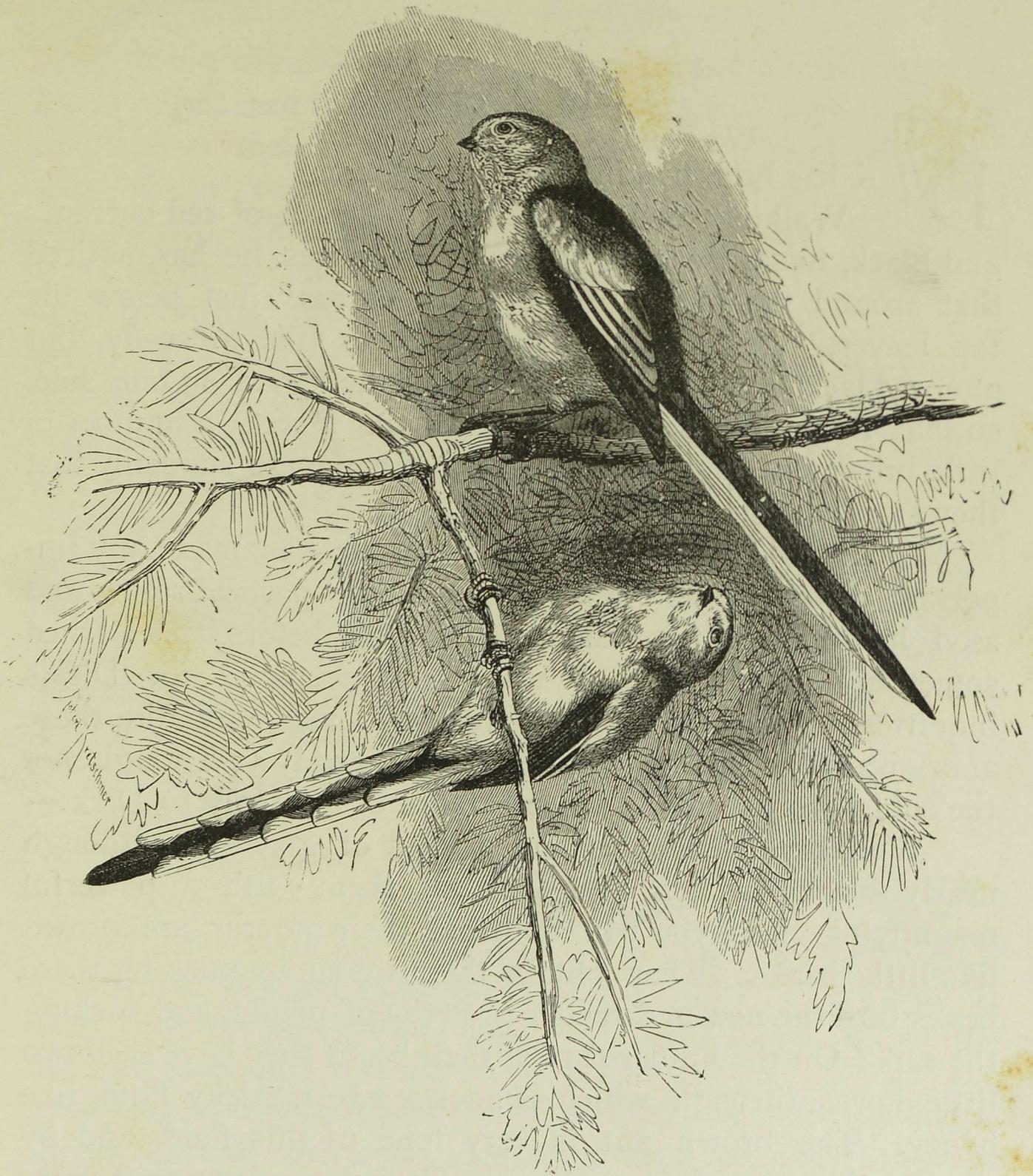
Safe in a quickset hedge, where yet no leaves were seen,
She brought her moss, and wool, and hair,
And wove them all with tender care ;
And spiders'-webs, and stuck them o'er with lichens green.

And thus at last she made a dainty woven nest
With rounded roof and, near the top,
A tiny hole through which to pop ;
A feather-bed within, on which her twelve eggs rest.

No other bird could make more cosy nest than hers ;
Nor show of eggs a finer clutch
(All white, with just the faintest touch
Of red), a fact well known to schoolboy pillagers.

The eggs are hatched at last ; twelve little tits are there.
With dainties Mag her young regales ;
But where they put their twelve long tails
I cannot tell—I'm sure they've little room to spare.

* One of the many names by which the Long-tailed Tit is known to country lads.



THE LONG-TAILED TIT.

MY ANTS.

DICK has been making discoveries again.

Walking round my garden in search of red currants and black, to say nothing of the gooseberries, he has noticed that around the stems of the black currant, just below the top leaves, were a lot of little creatures like green-fly, but almost black. Whilst he was moving the leaves on one side, so that he might the better observe the insects, a number of little brown ants swarmed up over his hands, so suddenly that they startled him.

Dick always comes to me when he has made any important discovery, so I was soon on the spot with him, and as I had often noticed the same insects before, and learned something about them, I was quite prepared for Dick's inquiries. Were they really green-fly? and why did those ants swarm over him so, and bite so fiercely? Though not the actual words, this is the substance of my reply to Dick:—

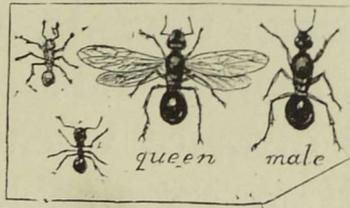
Well, my friend, they are a kind of green-fly, although nearly black; and if you look at them with a powerful magnifying-glass, you will find that their mouths are formed like little beaks. They obtain their living by pushing these beaks into the new and tender growths of plants, and sucking the sap. On the hinder-part of their backs they have each two little horns, through which exudes a sweet, sticky fluid, like honey. The brown ant is very fond of this fluid, and by coaxing the green-fly and caressing it, induces it to eject more of the honey-dew, as it is called, which the ant quickly licks up. These green-fly are really the ant's cows, and the ant takes as

great care of his cattle as the dairyman does of his. If the green-fly is threatened with danger, the ants will take them up tenderly in their jaws, and carry them to a place of safety. That is the reason why, when you turned aside the leaves of the currant, the ants came swarming over your hand, and tried to drive you

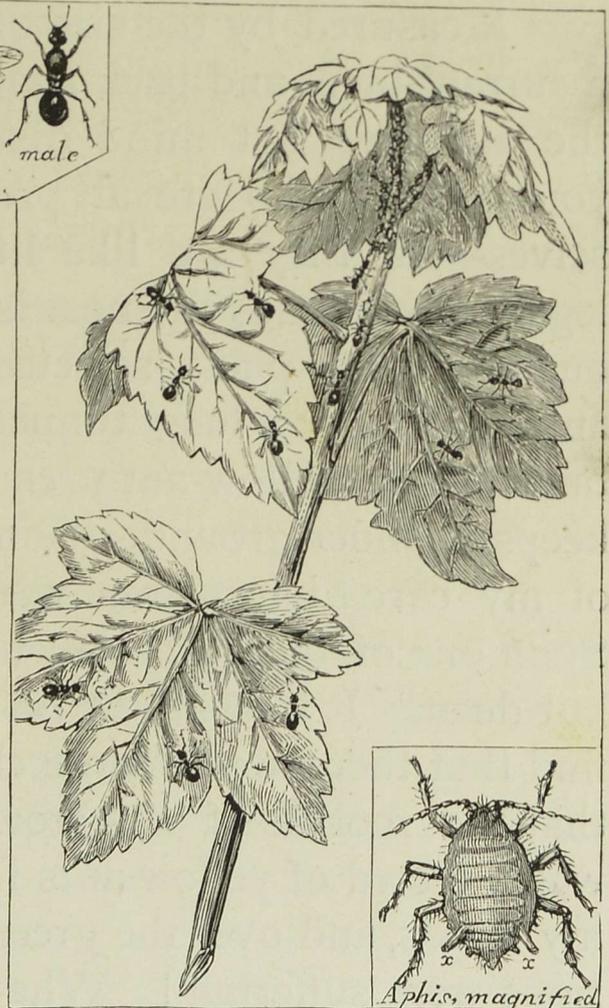
away by biting you. Now, look here, my friend. Here is a colony on this bush; and I wish you to observe the way in which the green-fly is protected. You see that a number of the topmost leaves bend down, and are so far curled that together they form a sort of tent within which the green-fly are safe from rain or wind.

But you do not quite see what connection the bending over of the leaves has with the ants. You think it looks more like the currant-bush's care for the green-fly. I also have wondered at it, but I believe the reason why those particular leaves and no others curl in that peculiar manner, is that the ant has carefully bitten the leaves and leaf-stalks on the under-surface, and caused them to grow over in that manner. Mind you, I have not seen this done, and do not know that any one

Yellow Ant. Wood Ants.



Brown Ant.



THE BROWN ANTS' DAIRY FARM.

else has, but I believe this to be the correct explanation.

You know that when a hive-bee has been gathering honey from the flowers, she returns to the hive and empties her honey-bag into the cells where it is stored. In a similar manner the ant carries the honey-dew down to the ant-nest, and empties it for the benefit of the baby-ants.

Measured by the size of the ants, a climb up the stem of a currant-bush and back again would seem a long journey, but the ant does not mind distance when getting food for the young ones, who are at present unable to find it for themselves—for they are like little white maggots, and have no legs. Sometimes the nest is some distance from the currant-bush, or other plant selected as the dairy-farm, and then the ants will make a long tunnel from the nest to the root of the bush. The yellow-ant uses a greyish green-fly for a cow, but keeps it under-ground. Some time ago I noticed that several of my carnation plants were looking very sickly and weak. Soon one of them showed unmistakable signs that it was all but dead. I took it out of the earth, and was astonished to find that there was a large clear space all round the root, and that the root itself was crowded with these green-fly. There was a crowd of yellow-ants in the space, and they ran up over my hands, and over the green-fly. No wonder my poor carnations were suffering! What with having all the earth cleared away from their roots, and then having a crowd of greedy blood-suckers feeding upon them, it would have been wonderful if they had got on.

I was greatly amused the other day by watching some of my brown ants. This year one of my apple-trees has been affected by a green-fly, which causes the attacked leaves to

curl up and turn crimson. The ants had evidently arranged with these green-fly for a constant supply of honey-dew—just as some of the water-companies profess to give us a constant supply of water. But the ants have not yet learned to lay down pipes from the trees to their nests, so the honey-dew had all to be carried down. Now this particular apple-tree is an old one, and rather tall, so that the ants had to climb up a very long way, and then run along a good length of branch, before they could reach their dairy-farm. What chiefly amused me was this: I found there were two long processions of ants reaching right away from the roots up the trunk as far as I could see, one lot going up and the other line coming down. There was this difference between them: those that went up were very thin and hungry-looking—those that came down were as round and comfortable-looking as possible. The two lines were within a couple of inches of each other, and the contrast between them was therefore more striking.

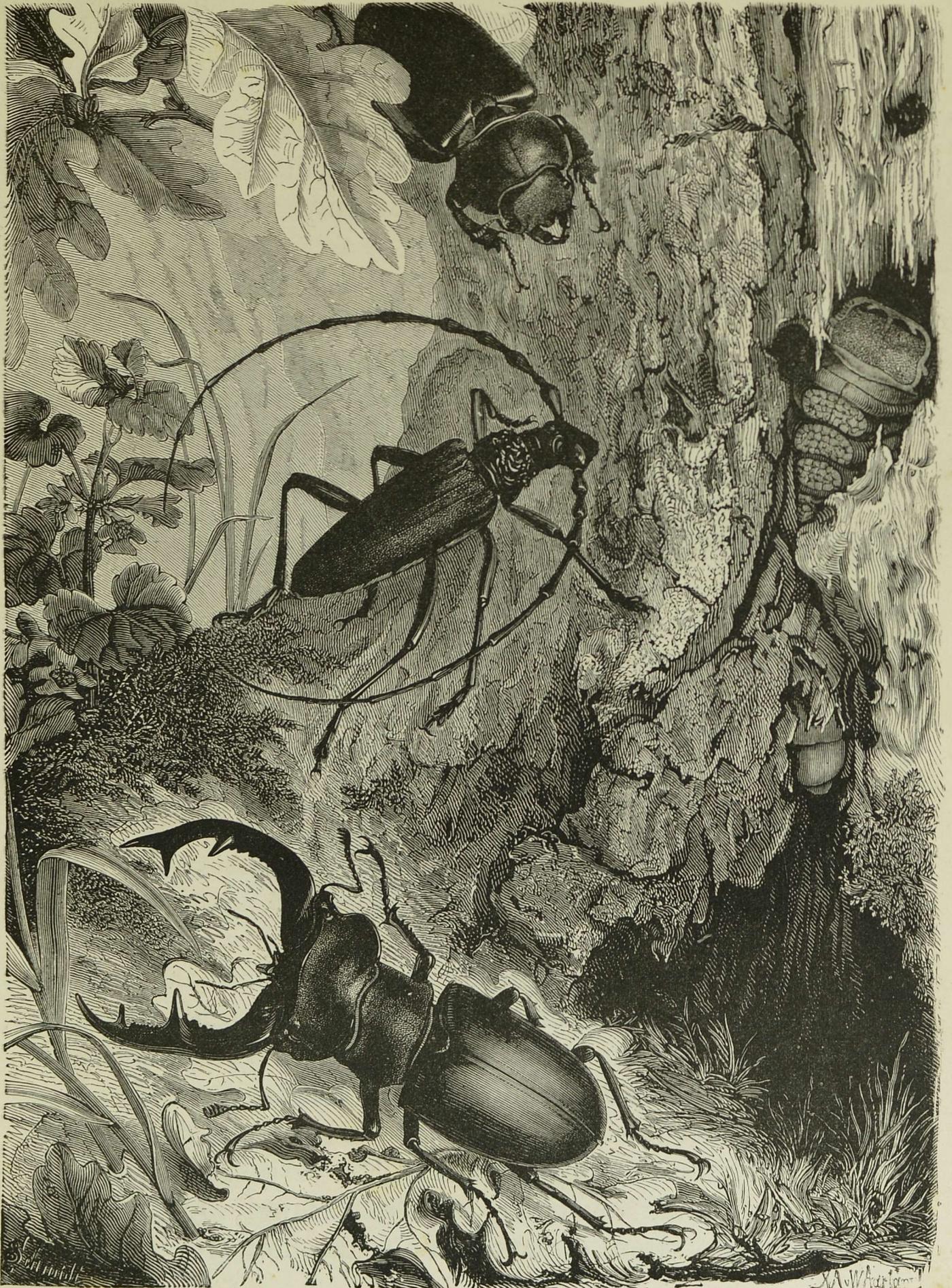
When one begins to write about ants, he does not know where to stop, and here I have nearly filled four pages, and have only told you a little about their dairy-farms; so I had better reserve the rest of my tale until the next time.

A FEW BEETLES.

STROLLING down the lane leading to our village, the other evening, I was startled by something coming with great force against my face. Looking on the ground, to which

the "something" had dropped, I discovered a great beetle, with fine branched antlers like those of the stag. I knew, at once, it was my old friend the Stag-beetle. Probably you know him, also, and you may have declined a close acquaintance with him on account of his warlike appearance. But I can assure you that he is by no means an unpleasant fellow, and would not think of attacking anybody. In fact, he is not at all a bad pet. I have not kept him as such myself, but a lady friend once kept one for a long time, feeding him upon a piece of loaf sugar moistened with water, until his life was cut short by his being accidentally trodden upon.

Here is a portrait of Mr. Stag-beetle (at the foot of the picture), and the head and shoulders of his wife (at the top of picture). You will have noticed already that Mrs. Stag-beetle has not got grand horns like those of her husband, and so great a difference does this make in their appearance that you might be pardoned for considering them as different species. At the right-hand side of the same picture you will see the grub of the Stag-beetle, a large, soft, fleshy creature with a hard, reddish head. It feeds on rotten wood, and lives in this condition for four or five years. Then it makes a cocoon of the chips, and changes into a chrysalis, from which it soon emerges as a *full-grown* Stag-beetle. Bear that in mind, please ; for you will often hear people speak of small flies, or small beetles as *young* flies or *young* beetles. This is a mistake. When once an insect has reached that stage of its existence when it acquires wings, it has also attained its full size, and will never grow larger. So, if you see a large insect and a small one, don't conclude that the first is older than the second, for it may happen to be the



THE STAG-BEETLE AND THE MUSK-BEETLE.

reverse—that the little one is older than the large one. But this rule does not apply to caterpillars, or any other incomplete insects, for *until* they acquire wings size is a very good guide as to age.

Well now, we have at last got back to the full-grown Stag-beetle, whose back is protected by two hard, polished armour-plates. These really correspond with the front pair of wings in butterflies and moths, which in beetles are hardened in order that they may protect the finer wings beneath them. Many beetles burrow into the earth, or decayed wood, whilst some get into dead birds, etc., as you will recollect I explained to you when telling you of the bird's funeral; others live in the water. All these beetles have to keep their delicate under-wings in good condition for flying in the evening, and these hard upper-wings protect them splendidly.

Our Stag-beetle, then, uses its wings for the purpose of flying, and this one that rushed so blindly in my face was probably on his way to yonder lime trees, where he would now have been busy crushing the young leaves and shoots, and brushing up the juice with his pair of brushes. Do you see those brushes?

There they are, one on each side of the head just below the "horns," which are really the jaws. Perhaps the brushes look to you more like combs, but they are actually used as brushes. The sap from the crushed leaves is sucked up by the tiny bundle of reddish hairs, which constitutes its tongue.

About the centre of our first picture there is the portrait of a very different sort of beetle. He is distinguished by having a long, narrow body, and exceedingly long feelers. These—though often called horns—are not of the same

nature as the antlers of the Stag-beetle. This Musk-beetle represents the Long-horn beetles. The grub of it feeds in old willow-trees, and if the beetles are about the trees, their presence is made known by the strong smell of roses—some people call it musk. It is a beautiful creature; its



FIRE-FLIES.

colouring being a golden-green, which sparkles finely when the sun is on it.

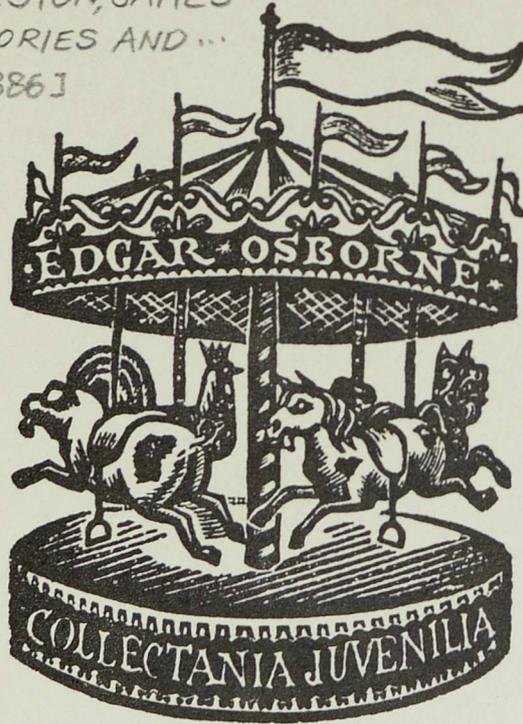
Here is another kind again, and this one I daresay you have often heard of. It is the far-famed Fire-fly of Central and South America; though you will understand that it is not a real fly, but a beetle. Just behind the head there are two large bright spots which, at night, give out a brilliant

light. Of course, you have seen our English Glow-worms (beetles, not worms) in the hedge-banks. Well, the Fire-fly gives a light something like that of the Glow-worm, but being larger, it gives more light. The ladies of Cuba catch these beetles and sew them up in little lace bags, which they fasten on their dresses, and in their hair, and so they gleam in the dark where no precious stones would show. If one is put on the pages of a book, the light is sufficient to enable a person to read small type by it, but many of the accounts of its power are exaggerated.

Your old friends the Lady-birds are beetles, and very useful insects, too, for they live entirely upon the Green-fly, which is so destructive to many plants. Then there are the bright coppery Sunshiners, which run so quickly across the garden-path, and even over the city pavements. This is the beetle of which children have somehow been taught to believe that if one is killed, it will cause rain to fall. It is right not to kill this beetle, for it does harm to nobody, but it is silly to believe that the death of a beetle produces rain.

The beetles are of almost endless variety, and in Great Britain alone there are more than three thousand different kinds. I daresay you will be able to recollect the names of many you yourself know, but you must not include the Cockroach, which perhaps you call a Black-beetle, for that is not a beetle at all. But I must not stay now to tell you about that. My little book is full, and will hold no more; but some day, if you like this, I may write you another, and then I will remember the Cockroach and his cousins, the Grasshoppers and Crickets. Good-bye!

(NS)
WESTON, JAMES
STORIES AND ...
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