

The most curious of the aquatic spiders is the one which dives below the surface, carrying with it a supply of air with which it fills a silken bag it has woven amongst the weeds growing at the bottom of the pond. In this small balloon it lives its hidden life, preying upon small water insects, only going up to the surface now and again in order to renew its supply of needful air.

In summer we may see thousands of dark brown wolf spiders, each carrying a snow-white ball of eggs beneath its body as it threads its way amongst the grass stubble where the hay has been cut and carried.

Even the air has its tenants from this ubiquitous tribe, for in autumn we may often see the tiny gossamer spider being wafted along with its trail of silken web floating past in the soft breeze.

All these creatures doubtless have their uses and each performs some needful part in the economy of nature.

#### LEPISMAE.

There is a tiny dweller in our houses, not often seen because of its nocturnal habits, but yet for several reasons it is worth a little careful study.

I paid a visit to my kitchen hearth last night when the lights had been put out and all was quiet.

There I saw small silvery creatures, shaped like fishes flitting rapidly about within the kitchen fender. These were lepidismæ, but when I endeavoured to catch them I found it by no means an easy task.



*Lepisma Saccharina.* (Magnified.)

I managed it at last by means of a small dusting brush and a basin. With a rapid sweep of the brush I secured a few specimens which I felt could only be safely retained in a glass globe, their small size and agility enabling them to escape from almost any kind of box.

When I examined them by daylight I saw that these singular little atoms possess six legs, two antennae and three long hairs in the tail. They glisten as if formed of silver, and their scales are so fine and delicate as to be used as a test for microscopic glasses.

I have kept lepidismæ for months, feeding them on cake and sugar until they became tame enough to bear being looked at without fear. Their Latin name, *Lepisma saccharina*, implies their preference for sugar, although they indulge in other rather diverse articles of diet, such as sweet cake, wall-paper, book bindings and furniture coverings.

They are often to be seen in damp libraries running over books and papers, but they are so small that I do not think much injury can be laid to their charge.

The Germans call these little creatures silver fishes, a name which accurately describes their appearance.

#### TREE CATKINS.

I see to-day one of the earliest signs of approaching spring! Even before the snow-drop can be found, the little hanging blossoms of the hazel, called by country children "lambs' tails," are to be discovered on the bare sprays. They have been there since last autumn all unobserved, but now they are daily lengthening and growing more conspicuous,



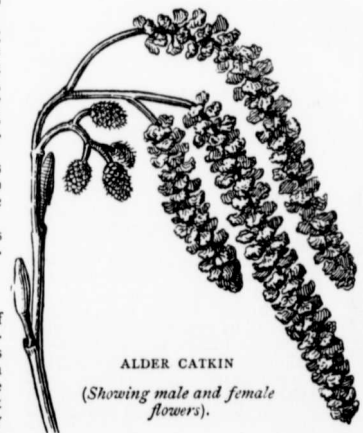
HAZEL CATKIN  
(Showing male and female flowers).

and will soon be shedding out their pale yellow pollen as a passing wind shakes the branches.

From this time onward we shall find much interest in the study of tree blossoms, and I will endeavour to speak of them in the order in which they appear.

The essential thing in all flowers, in fact the very reason for the existence of a flower is, that its seed should be rendered fertile so that when sown it should produce a plant like itself. In the greater number of plants we find stamens and pistils, which are the male and female organs, contained in the same flower. In tree blossoms there is sometimes a different arrangement.

When the willow blossom is out (which we call palm) we shall find one tree bearing the pretty silvery buds which develop later on into the golden powdery blossoms; these are the male trees, and near by we shall find other willows with pale green flowers; these after receiving a shower of pollen will eventually bear an abundance of fluffy willow seed. Next month I shall be able to show an illustration of both these trees. In our hazel



ALDER CATKIN  
(Showing male and female flowers).

tree the female flower is at present a small brown bud, having at the apex a little bunch of crimson threads, and on the same twig hangs the male catkin with which we are so familiar. As soon as this hazel flower is fully expanded its anthers containing the pollen will split open, and the first passing breeze will scatter an abundance of the light powder into the air; some of it is sure to fall upon the crimson stigmas projecting from the brown buds; thus the future nut is fertilised and is enabled to grow and mature into those welcome nut-clusters which we look for in the autumn hedges. Towards the end of this month we shall find the alder catkins (*Alnus glutinosa*) beginning to ripen and shed out their pollen. They somewhat resemble the hazel, only they are of a brownish red, and the future cones appear in the form of a small spray of dark crimson buds usually found close to the hanging catkin, and it too is fertilised in the same manner as the hazel.

#### SCALE INSECTS.

I have made an acquaintance, more curious than agreeable, in the shape of the destructive orange-scale insect. I find it constantly appearing upon the stem and leaves of a small seedling orange-tree which I have been growing from a pip. Every few weeks brown oval



COCHINEAL INSECT ON CACTUS.

scales have to be scraped off the small tree, else its health would be impaired, for these apparently insignificant things are really live creatures each of them possessing six minute legs and a kind of beak with which it bores into the stem and sucks the sap of the plant. These scale insects are a serious annoyance to gardeners and give rise to an immense amount of trouble, for they multiply rapidly, and when once a plant is infested with them there seems no remedy but washing carefully each individual leaf, or else syringing the entire plant with some poisonous liquid.

The life-history of the various scale-insects is not fully known, but in most cases the male insect is a minute fly; the small tortoise-like brown atom which adheres to the stem and leaves being the female.

There are many English species, and unfortunately in importing foreign plants we are apt also to import new kinds of scale-insects which find a congenial home in our hothouses. The palm-scale is one of the most conspicuous, and if we remove one of these from the under side of a palm-leaf in autumn we may, with a lens, discern about fifty white eggs within the brown shell, left there by the dead scale-insect ready to hatch in due time and perpetuate her species. On the fruit of both oranges and apples we may often find the mussel-scales (*Aspidiotus conchiformis*). At the first glance we should take them to be mere brown specks, but the