

A collection of oak-galls would therefore show a great variety of forms, and might profitably occupy our attention this autumn.

I have been picking up leaves entirely covered with bright crimson spangle-galls. Such leaves lie on the ground all through the winter whilst the grubs are maturing, and if we find some of these leaves about the end of February, and keep them in a bottle, slightly moistening them from day to day, the flies will hatch and we can see for ourselves *Cynips longipennis*, the exact species that has caused the spangle-gall.

The large round gall shown in the illustration is the product of a species of *Cynips*, and is beautifully coloured with a pinkish crimson on one side.

FLIES KILLED BY FUNGUS.

A very miserable fate is now overtaking some of our common house-flies. If they happen to come in contact with a very minute fungus known as *Empusa musci*, one of the spores throws out a tube and penetrates the body of the fly, where it will grow and multiply its cells until it has gradually eaten out the interior of the insect.



FLY KILLED BY FUNGUS.

I found a specimen of one of these victims on the window-pane to-day. The fly's body was swollen and fixed to the glass; the wretched insect was dead, the fungus was showing on the outside of its body, and all around it the white spores lay like a misty halo upon the glass.

The fungus has the power of throwing its spores some little distance off, and if one of them falls upon a living fly the same process is again repeated, and before long the victim dies this miserable death.

The caterpillar of the common white butterfly is frequently attacked, and dies in the same way when seized upon by a species of minute fungus.



TURKEY OAK.

ENGLISH OAKS.

The oak foliage has now turned into a soft golden brown, which sheds a kind of sunlight glow over the landscape.

The squirrels are extremely busy collecting and storing acorns for their winter food, and so carefully do they secure not only acorns but nuts and beechmast, that in a week or two it will be almost impossible to find any woodland fruits beneath the trees.

This is the best season of the year to study our native oaks, because we can easily identify them by their acorns.

We possess in reality but one indigenous species, known as *Quercus robur*, but there are two varieties, *Quercus pedunculata*, which has acorns on much longer stalks than *Quercus robur*, and *Quercus sessiliflora*, which produces its acorns clustered together upon the twigs without any stalks. Its leaves are also broader and more closely grouped together.

The deeply-cut leaves of the imported Turkey oak, *Quercus cerris*, and its charmingly mossy-cupped acorns readily distinguish it from our English species.



COMMON ENGLISH OAK.

A tree of this kind stands on my lawn, and every autumn, for some years past, on a special day, when the rooks by instinct have found out that the fruit is ripe, they come from my rookery in flocks to feast upon the acorns and carry them away, as I believe, to some hiding-places of their own.

All day long the great birds are winging their way to and fro, cawing and rejoicing over the spoil, until they leave the tree entirely stripped, with only a carpet of empty acorn-cups strewn the ground beneath.

In times of scarcity we should do well to imitate the squirrels and store up our acorn-crop, for when dried, roasted, and ground into flour a not unpalatable kind of coffee can be made of acorn kernels. I can speak from experience, for some years ago I had this coffee made, and used it as a tonic beverage. I cannot say it had the aroma or flavour of true coffee, but it made a fair substitute for it, and it is believed to be wholesome and strengthening.

THE CEDAR OF LEBANON (*Cedrus Libani*).

Towards the close of this month I always find my great cedars covered with their cone-shaped male catkins. I see now that they are just ready to shed clouds of pollen, but plentiful as these blossoms are, it is the rarest thing to be able to discover any but male catkins; the female ones appear almost invariably to

grow upon the upper branches, where they are quite inaccessible.

For fifteen years I carefully watched for these small cones, wishing to observe them in their early stage, but failed to find a specimen until a few years ago, when one of my cedars



LONG-STALKED OAK.

obligingly produced some fruit on the lower branches.

The drawing will show my readers the two kinds of blossom.

The yellow pollen-bearing catkins drop off in a few weeks, whilst the fertilised cones remain and gradually increase in size until they are easily to be discerned upon the branches, and are of an exquisite pale tint like shaded sea-green velvet.

Cedar catkins are fertilised only by the wind, which carries the pollen from one blossom to the other.

The buoyancy of the pollen-grains is much aided by two little bladders with which each



SESSILE OAK.