grain is furnished, and which can be easily

Seen by the aid of a microscope. The cones are borne on the upper side of the horizontal branches, and are not fully ripe until the autumn of the third year. They do not then fall off like other fir-cones, but the scales and seeds become loosened, and drop to the ground.

Of these grand mountain trees there are three species, the *Deodar* of the Himalayas, the Cedrus atlantica of the Atlas range in North Africa, and the cedar of Scripture, of which, besides many smaller ones, twelve patriarchal specimens may shaller ones, twelve patriarchal specimens may still be seen on Mount Lebanon.

These grow at an elevation of about 6,000 feet above the sea, their trunks measuring from 40 to 47 feet in circumference at the base.

base. It is said that many years ago a Frenchman, who was travelling in the Holy Land, found a little seedling among the cedars of Lebanon, which he wished to bring away as a memorial of his travels. He took it up carefully, and for want of a better flower-pot he planted it in his hat, where he kept and tended it. The voyage was stormy and tedious, so that the



CEDAR CATKINS.

supply of fresh water fell short, and only half a glass a day could be spared for each traveller. The little tree was allowed its share of even this scanty allowance, and although the traveller suffered from his self-denial, the little tree flourished, and had attained the height of six inches when the vessel arrived in port.

At the custom-house the officers thought the hat must surely contain some valuables on which duty ought to be paid, and it needed much earnest pleading on the part of the traveller to induce them to spare the cherished seedling.

Eventually it was allowed to pass through unharmed. It was then taken to Paris, and found a place in the Jardin des Plantes. In the course of years it grew into a noble tree. It lived on for over a century until, sad to relate, the beautiful tree had to be cut down

to make way for a railroad. It would be quite possible to grow our own cedars with the exercise of patience.

A seed I planted out of a cone from Lebanon remained dormant for twelve months in the earth before the young plant made its appearance.

Probably if the seeds were soaked in water for a few days before they are planted, it might tend to hasten the process of germination.

THE LIBERATION OF SEEDS.

The capsules of the cyclamen are now opening; they are curiously spotted inside, and look like small brown flowers. The twisted stem is coiled around the capsule, and keeps it closed until the seed is perfectly ripe. Then it



VELLOW IRIS.

uncoils, the segments curl backwards, and the seeds are allowed to drop out and sow themselves.

The iris, the stramonium, and a large number of other plants produce capsules which open their valves when ripe and allow their seeds to escape, and this is perhaps the simplest mode of liberating ripe seed; but at this season, when so many plants are producing their fruit, we shall find it quite interesting to note some of the many other curious modes by which seeds are dispersed.

We observed in the spring the fruit of the sycamore, maple, and hornbeam, which are furnished with a samara, or thin membrane, so that the autumn breezes may bear them flying through the air, and sow them far away from

the parent tree. The wild balsam affords a good example of The wild balsam affords. The valves curl up and jerk the seeds in all directions.



STRAMONIUM.

Heartease, woodsorrel, wild geranium, and many other plants scatter their seeds in the same manner

The wild pimpernel has a special way of sowing itself by dropping half of its cup-shaped capsule. This, being a common field-flower, can easily be found and examined.

Almost all such flowers as the dandelion, goatsbeard, succory, belonging to the extensive order of compositæ, have seeds more or less feathered, so that they may be wind-dispersed; but, being so common, I need not describe these in detail.

A tree which grows on a mountain in the Cape Colony is known as the silver tree (Leucaden-dron argenteum) from its leaves and cone being so thickly covered with shining white hairs that they look as if they were made of silver. The leaves hang vertically, exposing only their edges to the sun ; consequently the trees afford but little shade, only a criss-cross of fine lines of shadow is thrown upon the ground. I mention this tree because its cone produces a remarkable kind of seed. Reference to the plate will show the four feathery plumes by which the wind wafts the seed through the air. They rise out of the dry capsule, and from it the heavy seed hangs at the end of a slender thread, the whole arrangement being somewhat like a small parachute. The silvery cone is a beautiful object in itself,



SEED. COLUMBINE.



CYCLAMEN CAPSULES.

and, when fully ripe, one of these curious seeds emerges from under each of the over-

seeds emerges from under each of the over-lapping scales. The capsules of the poppy, campanula, and snapdragon allow their seeds to escape through small porces which, being highly sensitive to dryness and moisture, open and shut according to the changes in the weather. We can easily observe these small trap-doors under the upper rim of the poppy-head, and in the other plants I have mentioned the openings are in the upper part of each segment of the capsule.

The columbine has a five-pouched seed-pod opening at one end when ripe, and bending down to sow its contents.

Space will not allow me to notice the many other modes by which plants perpetuate their species, some by hooked seeds which cling to passing animals, some, like the cotton-grass, by very long silky hairs. Others, and perhaps the most curious of all, are those highly sensitive to moisture and dryness, which by expanding and contracting, are enabled to creep along the ground. All these will afford pleasant hours of study to those who like to investigate nature's secrets, as seen in the commonest things which lie about our daily path.



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