

Kalmia that if they are secured from the visits of insects they will not mature their seeds. Numerous other instances might be brought forward to show that the pistil is very rarely fertilized by the stamens of the same flower; and that where such hermaphrodite flowers do exist, the plants reproduced from them are few and insignificant.

It is not desirable therefore, and we may add that generally it is impossible that flowers should be fertilized by pollen from their own stamens. When the pistil is fertilized by pollen from a neighboring blossom it sends forth stronger and hardier seedlings. There are two ways by which this distribution of pollen is effected, first, by the agency of the wind, second, by means of insects. In the first named, the flowers as may naturally be supposed, produce little or no nectar, have abundance of pollen and are inconspicuous and without showy colors. These *anemophilous* flowers as they are called, shed their pollen sometimes in such masses as to cover the surface of the water in the adjacent pools or streams. The flowers of the coniferae are examples; and the inconspicuous flowers of grasses and the common plantago belong to this class. By far the larger number of flowers belong, however, to the second division, *Entomophilous* flowers, or those fertilized by the agency of insects. They have more or less showy and conspicuous corollas, which secrete nectar. This nectar is in many instances so difficult of access that none but the most highly organized insects, as butterflies and bees, can reach it, and in doing so their bodies are placed in such a variety of postures that they go from the flower as well laden with pollen as with nectar. The insect with its body covered with pollen dust comes in the course of his flight to another flower of the same species and repeats the same process. Rubbing

against the stigma, some of the pollen from its body adheres to the stigma and fertilization ensues. Of course such pollen can only fertilize pistils of the same species, but the pollen which the insect has carried away is so abundant and adhesive that it may be carried about by the bee for some time before it be brought in contact with a pistil which it can fertilize. But the fact is insects in quest of nectar visit successively plants of the same species, not to deposit the pollen, but for the more selfish purpose of abstracting juices from similar flowers, to which it is led by an unerring instinct.

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PRACTICAL ENTOMOLOGY

IV.

The interruption in the issue of this Journal consequent upon the changes required in its enlarged sphere of usefulness, has not left this department the opportunity of giving one or two papers intended for the instruction of those who, this spring, wish to enter into the pleasure of making a collection. We will, having to omit these, now proceed to give the status of Insects in the animal kingdom as briefly as possible, merely to guide the student on to the right path towards a proper comprehension of their position, and of their near relations above and below.

In the first place the animal kingdom is divided into two great series:

First—Those having no true egg, and no cellular tissues—Protozoa.

Second—Those which are reproduced by true eggs, and which have cellular tissue—Metazoa.

Of the Protozoa, it is not the pro-