THE HONEY BEE IN RELATION TO PLANT LIFE.

IT seems almost remarkable that we appear to strive after that which is not within reach, and that which is ours, if we but nod our head, is spurned as unworthy of our notice and of our attention.

What more interesting study can those of us who live in rural districts desire than the study of plant and animal life. How many years did I and many others pass in the country, and the things about us were a closed book. And how the first glance astonishes, dazzles and yet delights. Youth can have no greater safeguard except the divine be it in the country or city, than to become interested in the study of the habits of plants and insects, and the relation the one bears to the other. One so interested would, without doubt, appreciate to a greater extent the advantages, yes, with all its drudgery, the beauties of rural occupations. And youeh need not be interested alone; those of us who have reached a mature age will find this a study well worthy of our attention during our hours of comparative leisure, and withal, we can derive from this study solid financial benefits. I propose to just lightly touch upon the honey bee and its relation to plant life.

To many of us the characteristic of the bee essentially valuable is that we can, in a manner, domesticate it and turn it to the gathering of surplus honey. But is this the reoson we have the honey bee reation, or is the storing of honey only a secondary matter. There is every evidence to show that as in our own lives working for our daily bread is only a secondary matter, and the object of our existence is far above and beyond that, so the object of the existence of the honey bee is primarily not to store honey, but to assist plant life in reproduction. Darwin and a host of others have shown that the honey bee plays no mean part in the reproduction of plant life. Some plants are only partially dependent on insect life for fertilization, others are entirely so. A peep as it were into the plan of nature will be of interest, and perhaps lead to further research.

The parts of a flower are calyx, corolla, stamens and pistils. The calyx is the cup or outer covering of the blossom, and is usually green and leaf-like. The corolla is the inner set of leaves of the flower. It is very seldom green as the calyx commonly is, but is "colored" other than green, and of a delicate texture. It is the most showy part of the blossom. The stamens constitute the male portion of the flower, and are divided into filament and anther. The filament is the stalk, the anther is a little case or hollow body, borne on top of the filament. It is filled with a powdery matter called pollen. The pistils are the bodies in which the seeds are found. They belong to the centre of the flower. A pistil has three parts, at the bottom is the ovary which becomes the seed vessel. This is prolonged upward into a slender body called the style. And this bears a moist, generally somewhat enlarged portion, with a naked, roug... h surface (called the stigma) Upon this stigma some of the pollen, or powder from the anthers, falls and sticks fast, and thus somehow enables the pistils to ripen seeds that will grow. A perfect flower contains both stamens and pistils, but we find some plants with stamens only and others with pistils only, and then two may be borne by the same plant snd blossom. Sometimes a plant bearing both stamens and pistils cannot fertilize itself, as the two mature at different times, preventing self fertilization.

FIG. 548.

I am largely indebted to Cheshire Cowan and others in the remarks about to be made on this subject.

Sometimes the stamens and pistils are arranged in different positions in the flower. The stamens and pistils always being different in length in each flower, the honey bee, when taking the nectar, gets dusted with pollen on the head, thorax or abdomen, according to the height of the stamens, and when the bee visits other flowers in which the relative position of the pistil is similar, the pollen comes in contact with the stigma, thus bringing about cross-fertilization. The same effect is brought about by many other devices. This is an excellent provision of nature, just as the queen is not fertilized in the hive, but flies out on the

FIG. 549.