

and deposited at a distance, has sometimes been taken for showers of powdered sulphur. One remarkable instance as illustrating the extreme lightness of these pollen grains was the occurrence of one of these so called sulphur-showers on the deck of a ship nearly 200 miles from land. The doctor of the ship happening to be a botanist detected at once by putting some of the material under his microscope, the true nature of the yellow deposit, by recognizing the peculiar shape of the pine pollen. Some of the patterns on the surfaces of pollen grains are remarkably beautiful.

Mouth parts of the honey bee and wasp were shown. The difference in the mandibles of these insects were pointed out and explained. The mandibles of the honey bee are provided for the working of wax, and this only when softened at a high temperature. Those of a wasp for gnawing wood for the manufacture of the paper with which they surround their nests.

Flowers of plants of the pea family were illustrated by figures of the broad bean, sweet pea, and broom; and the different structures explained in their bearing on the question of cross fertilization, attention being drawn to the brush like stigma and the elastic keel.

Flowers of the sunflower family present many points of interest; the showy ray flowers which attract insects from a distance, as well as the more perfect disk flowers in which the anthers are joined into a tube shedding the pollen inwardly. This is pushed out by the unopened pistil, and the pistil itself does not open until it is raised well above the pollen of its own flower, and then its viscid disk is its upper surface which comes in contact with the under surface of any insect crawling over it.

Figures were shown of the two forms of Primrose flowers already referred to, one having a long pistil and low seated anthers, the other a short pistil but anthers at the mouth of the tube of the corolla. It was pointed out that a moth in sacking the nectar from these flowers would convey the pollen from one kind of flower to the pistil of the other, and that experiment had shown that more vigorous plants were produced as a consequence.

Attention was drawn to the markings and tufts of hair in the throat of the garden flower known as the Nasturtium, which acted as path finders to insects of a proper size and shape to secure the fertilization of the seeds.

The necessity of a large strong insect such as a bee to open the Snapdragon flower and reach the nectar was evident, but it was stated that the bees sometimes gnawed a more direct entrance to the nectary at the base of the flowers. After this entrance was made the speaker had frequently seen honey bees rifling the flowers instead of entering by the proper opening. This he believed was an analogous case to these insects sucking the juice from injured fruit.

One chart which was of special interest showed the flowers of the Night Flowering Catchfly, which belongs to the Pink family. In this there are ten stamens, and the flowers open after sundown, when they are white and conspicuous, sweet perfume is emitted, and during the first evening of the three in which each flower expands five of the anthers are pushed out of the tube of the flower and shed their pollen; then they dry up and fall away. The next morning the petals curl up and present the appearance of a faded flower. During the day there is no perfume, but in the evening the petals again unfold, the scent returns, and the other five anthers appear. It is not until the third evening, when all the pollen is exhausted that the pistil lengthens out and exposes itself to receive pollen from other flowers.

In bringing this interesting address to a close, Dr. Fletcher urged the bee-keepers to strive and put themselves in the position of being able to give definite opinions on such important questions as this one, which had now come up for consideration, and pointed out that it was one which concerned every one of them; that as a society they should band themselves together for mutual protection, not against fruit growers or anyone else, but simply to be able to speak positively and give the actual truth with regard to these and similar matters. For his part he was quite sure that bees did not injure fruit, however ripe it might be unless the skin was actually cracked beforehand, or had been injured by birds or other insects. Many enlightened fruit-growers know only too well the enormous advantage of having bees near their orchards, and some actually keep bees simply for the benefit to be derived from these useful little insects in fertilizing the flowers. The study of insect life was full of fascination, and no one could appreciate this more keenly