

INSECTIVOROUS PLANTS. By CHARLES DARWIN, M. A., F. R. S., etc. With illustrations. New York: D. Appleton & Co. Chicago: Jansen, McClurg & Co. Price, \$1.75.

A new book by Mr. Darwin is of course a literary event, and curiosity is naturally on tip-toe to hear the latest result of his painstaking researches. The fact that there are insectivorous plants, plants which feed on insects, subsisting and deriving their nourishment from them, will prove news to many excellent naturalists.

In some parts of England there grows in great abundance a weed, which botanists call *Drosera rotundifolia*, but of which the popular name is sun-dew. This plant bears from two or three to four or six leaves, generally extended more or less horizontally; but sometimes standing vertically upward. The whole upper surface of each of the leaves is covered with filaments, each having at the end a gland. A single leaf has on it from 150 to 250 of these gland-bearing filaments, which are of various lengths, the longest being nearly one-quarter of an inch in length. The glands are each surrounded by large drops of an extremely viscid secretion, which, glittering in the sun, have given rise to the plant's popular and poetical name of sun-dew.

In 1860 Mr. Darwin's attention was attracted by the immense number of insects caught in these viscid glands. He conceived the idea that the insects must have some intimate connection with the life and economy of the plant, and commenced a series of observations and experiments extending over all these years.

The first result of his observations was to show that these gland-bearing filaments have the power of self-

motion. After studying their movements for some time, Mr. Darwin began to experiment, by placing on the glands a great variety of substances, solutions of gum arabic, sugar, starch, oil, etc. The effect of these experiments was to demonstrate positively that when the filaments of a leaf fold inwardly to the center, the leaf becomes a sort of stomach, and that the glands thereupon secrete gastric juice, which dissolves and digests the substances liked by the plant. This is the discovery which Mr. Darwin justly calls "a new and wonderful fact in physiology."

Having established this point in regard to *Drosera rotundifolia*, our author made like experiments on other species of *Drosera*—of which the *filiformis* grows in such abundance in parts of New Jersey as almost to cover the ground—and on the other genera of the family, *Droseraceæ*, to which belongs that curious plant found only in the eastern part of North Carolina, the *Dienaea muscipula*, commonly called Venus' fly-trap, from the rapidity and force of its movements, and the rare *Drosophyllum*, known only in Portugal and Morocco. He even went beyond the *Droseraceæ*, and experimented on some species of *Pinguicula* and *Utricularia*. The result was to establish that these plants possess, in a minor degree, the power of digestion belonging to the *Droseraceæ*, and that they, too, are insectivorous plants.

As a work for naturalists this book will be duly studied and appreciated. In its clearness and simplicity, perfect order and method, wonderful revelations in the beautiful mechanism of nature, it will commend itself to the intelligent reader in every land.