

The following *Scirpus* Hall, in collecting Mr. Darwin's new book, *Insectivorous Plants*, glances through some interesting facts, some of which will here be quoted:—

There is no longer any doubt that there are many plants which capture insects, kill them, and digest and finally absorb a portion of the animal matter in their bodies. Two genera of such plants, comprising numerous species, have been studied by Mr. Darwin. Six of these belong to the small family of plants known as the Droseraceae, which includes the *Strophocaulon* plant commonly called Venus's Fly-trap, as well as the genus *Drosera*, in which there are probably 100 species. This genus is most fully treated of in the volume before us, of which 275 pages are devoted to one of its species alone—the *Utricularia*, which is described as growing in parts of New Jersey as abundantly as almost to cover the ground. Mrs. Mary H. Tamm, a resident of that State, and correspondent of Mr. Darwin, by whose far observations are frequently mentioned with emphasis approval, says that this plant catches an extraordinary number of small and large insects, even butterflies.

A list of the facts observed by Mr. Darwin concerning *Drosera* will best show the characteristics of insectivorous plants. The prey is caught by means of the leaves, of which there are from two to six, placed more or less horizontally on each stalk, but as thick and upward in length, and usually somewhat broader than they are long. Each leaf is covered with little filaments or tentacles, the shortest in the middle, and the longest around the margin of the leaf. The average number of these tentacles is 100, and at the end of each is a little gland which secretes a viscid fluid that glues in the tentacles, and has earned the name to be called by its proper name of mucilage.

Now, when the insect alights on this peculiarly-curved plant, the trap is fixed. The viscid secretion entangles him, and the tentacles then are felt the tentacles begin to close about him. In a quarter of an hour he is fixed. The tentacles, or prongs through which he breathes, have been closed by the glutinous secretion, and he is closely grasped by the surrounding filaments, which shut the edges of the leaf inward as if to form a temporary stomach, wherein he may be digested.

Not according with food in the stomach is requisite for the process of digestion. There must be an agent to hold the functions performed by the gastric juice in animals. The plant is provided with just such a substance in that viscid fluid already mentioned, which is secreted by the glands of the leaf-tentacles. The gastric juice of animals contains, as is well known, an acid and a ferment, both of which are indispensable for digestion; and

with a stomach—of this plant is an indispensable for the prey, and the viscid fluid which acts as the agent in this creature, which guides the movements and adapts them so admirably to the circumstances, is evidently of the same order, and is an evidently indication to the thinking of this wise in the Author of all life, that Man shares all which. But there are plants which still more advanced:—

A plant, in some respects even more remarkable than the one in Venus's Fly-trap (*Drosera muscipula*), already mentioned, which Mr. Darwin says, from the regularity and force of its movements, is one of the most wonderful in the world. The leaf, as thick as steel in length, consists of two lobes, placed at somewhat less than right angles to one another. The position of the lobes may be roughly sketched as a person's hands placed together as if to clasp one of them at a hand or spring. From the upper surface of each of these lobes—corresponding to the handle of each hand in the illustration we have supposed—project three filaments. When touched by an insect the sensitive projections do not themselves move independently, but the tentacles of *Drosera*, but they cause the lobes to close over the creature with astonishing quickness and so tightly that the motion of the spider, if he is large enough, can be distinctly seen on the exterior of the leaf. The lobes are covered with glands, which possess power of digestion and absorption similar to those of *Drosera*. This interesting plant grows only in the western part of North America, where it is considered a very local plant.

To the same family belongs the genus *Adiantum*, which also has tentacles, furnished with magnified sensitive hairs, causing the lobes to close when touched. The glands which coat the surface of the leaf secrete a viscid digestive fluid, and subsequently absorb the captured prey. The plant is chiefly noteworthy as being purely aquatic. It is a miniature Venus's Fly-trap, according to the author, in wholly destitute of roots, and floats freely in the water, looking largely upon aquatic insects and minute crustaceans.

The volume ends with an account of a very curious genus of plants known as *Utricularia*, most species of which are also aquatic. Each leaf habitually so frequently as to prevent from twenty to thirty points, and near its base have two or three little translucent green bladder-like, filled or nearly filled with water. The length of one of these bladders is about a tenth of an inch. It is furnished with an aperture affording ingress and egress, and being in fact a trap-door to catch insects, which never it said do, since they pass on. It is impossible to doubt, says Mr. Darwin, that the plant has been specially adapted for catching prey. Nevertheless, he is satisfied himself that in *Utricularia*, the *Drosera* and the other plants already mentioned, truly digest the animals which it takes.

Mr. Darwin finds it difficult to conjecture what attraction causes insects so readily to prey on plants. In the case of *Drosera* he thinks the secret may be intellectual, but he attempts no explanation of the attractiveness of Venus's Fly-trap, which captures prodigious numbers of insects, and as to *Utricularia*, he merely suggests that the animals which they take are worth of food or protection. Overlooking in the volume is with facts, the frequent arrival of most of knowledge which it contains, arising from the greatest of living naturalists, show how much is yet to be learned of the highly interesting subject of which it treats.

From all this we may learn, that all recent observations tend to prove that there is a real and close connection between the plant and animal worlds; and the researches of Huxley and many others have shown that the boundary between the plant and animal worlds is quite as obscure as that between plants and animals. There is in fact no real total inter-world of being from man down to the mineral form which he originally springs, and in view of the observed gradual improvement, physical and mental, of all the vegetable and animal, we can only come to this one conclusion that the human mind has arrived at its present mental growth by an ascent through all the forms of life we see around us, especially as we know that mind, or "force," under present cellular laws, can never pass away out of the earth, but must therefore be re-created. It is the law, succession and abiding through repeated individualities of the individuality of mind under present laws which gives rise to all beliefs of a future life, and Resurrection and Theology, working upon this basis, have produced the spiritual and unscriptural representations of a future life in some regions, mainly from the north. But it is here we have to lament die, and live again, until the end; and heaven is only to be obtained through the death of our individualities, and hence the origin of all evil and misdeeds.

Maryknapp J
 Lady Carter
 Australia
 Feb. 11. 1876