CARNIVOROUS PLANTS AND DARWINISM.

MR. CHARLES DARWIN has lately published a new work on his theory of the Species, entitled "Insectivorous plants," about which he has been engaged these three or four years. This time our illustrious naturalist has expounded his theory by treating of those plants which, through the perfection of their organs, he considers as the link between the vegetable and animal kingdoms. There are different species of such plants, although by no means numerous. The principal are:—Drosera (sundew), Dionae muscipula (Venus' fly-trap), Aldrovanda vesiculosa, Utricularia vulgaris and neglecta, Mimosa sensitiva, etc. The last is abundantly found in Central America, the others are rather rare, but can be met with by careful search in the centre of the tropics over marshy and swampy lands chiefly of Borneo, and, as Mr. Darwin two years ago told me in a visit to the said plants in Kew Gardens, most likely also in the extreme north of Queensland. It would, therefore, be indeed desirable that this Colonial Government should have better explored the northern districts, and that the exploring expedition about to be sent in the extreme north-west should be directed to carefully report on this point. The said plants grow on muddy soil, or in the cavity of decayed trees, or form at the surface of swamps not very far from salt water or the sea shore. To know something further than what we know now about these animal plants would certainly be a great advantage to natural history, and a very desirable thing to have some specimens in these Botanical Gardens. In offering now a hearty welcome to Darwin's new book, I think it would not be uninteresting to say something about the process of nutrition of the so-called insect-eating plants, hoping to give soon some special remarks on the Darwinian theory.

The plant botanically called drosera, and commonly known as sundew, has small leaves covered on the upper side with many tentacles or bristles, at the end of each one of them being a small gland full of a viscid matter, consisting of acid juices similar to our saliva and gastric liquid, through which the phenomena of digestion and assimilation are effected. As soon as the animal prey happens to touch, fall, or rest upon the leaf, it closes itself, and the captive is soon stifled amid the said juices, which little by little macerate, digest, inject, and assimilate the

macerate, digest, inject, and assimilate the animal food with the lymph of the plant. When this process is accomplished, the leaf opens again, and is ready for a new meal! The Dioneae treats its prey nearly in the same way, has filaments instead of tentacles, and its leaf, instead of revolving its margins round, shuts its two semi disc-like lobes. These plants, like the sensitive, shut their leaves on being touched, but they soon re-expand them if there is no prey to be digested.

The Utricularias digest and assimilate only small prey, and usually animal substances formed from the decomposition of marshes and thrown in the air in microscopic particles. They possess many little bladders full of acid liquids through which they assimilate the food. The same process is accomplished by the Aldrovanda Visiculosa. Now, if these carnivorous plants could be had more easily, it would be very useful to make the analysis of their lymph and fibres, and to investigate the process of their inhalation and respiration in the open air. It is, no doubt, an interesting fact to see animal food converted into vegetable substance, while in the stomach of animals a perfectly contrary phenomenon takes place.

This proves that a linking chain exists between the animal and vegetable kingdoms, in conformity with the Darwinian theory.

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