THUJA AUREA—AS A ROCK PLANT.

THE Thujas, it is understood, delight to grow, and always succeed best, upon what are called moist soils. Such, in fact, has been the inference in the past, and without intending to do more than suggest the probability that we err somewhat in this respect, I would draw attention to a simple fact which has occurred here, and the evidence of which, indeed, exists here at this moment. The only seedling-plant that has come forth spontaneously, and from seeds produced upon a somewhat aged plant, and nature-sown—nature-sown, that is, if what I surmise to have been the work of a bird-sower may be considered as such—has germinated and formed a thrifty young plant of two or three seasons' age, upon the top of an old brick wall, the said brick wall, being under the branches of a lofty elm, whose bole, being within a dozen feet of it, sends forth such an abundance of roots as invariably maintains the site and its surroundings in the driest possible state. *Thuja aurea* is known to produce seeds freely amongst us, but it is somewhat remarkable that the only seedling that has grown up should exist on the apex of an arid wall. Taking into consideration the fact that we enjoy on the hill here in Essex a maximum annual rainfall of 19 in. to 20 in. only, I hold the above-named fact to be important, since it seems to me to prove that we have here a rockery-plant of the first order, whether planted in clefts or upon exposed positions, with the main stem at any conceivable angle, where it will yield us much original and pleasing effect.—WILLIAM EARLEY, *Valentines.*

INSECTIVOROUS PLANTS.*

THIS extremely interesting work deals in many cases with the habits and manners of plants after a fresh fashion. Thus we have 277 pages of closely-printed matter—of itself a nice-sized volume—on the structure and habits of the Sundew, *Drosera rotundifolia*, a plant of the size of one's thumb-nail. The author says that *Drosera* can flourish in extremely poor peaty soil,—in some cases, where nothing but Sphagnum moss grows (p. 17). Now this admission is important, in view of the flesh-eating character given to the Sundew. We know, indeed, that in moist moss *Drosera* grows flowers and fruits, and if we are asked where it gets its supplies from, we can show its roots feeding on the decaying portion of the moss, so that in fact the rotten moss is its food, and the green moss its support. Surely there need be no mystery about a tiny herb getting its support from rich peat, that is capable of supporting Calluna by the acre a yard or more in depth.

Our author has, however, created a want, and must needs supply it. Nitrogen must be had, and where is it to come from but by the plant baiting its trap for winged game? Strange to say, no bloated specimen flesh-fed to double the normal size has ever been observed. The heaths around Manchester abound with this plant, but they are all small; and in the case of *Drosera* in an Orchid-house,

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* *Insectivorous Plants.* By C. Darwin, Esq., M.A., F.R.S. London: Murray.

where the peat has carried the seed, the plants are exceedingly beautiful, but are no bigger than their brethren of the bog.

Our author blames the *Drosera* for having few roots, and says that they serve only to imbibe water. The roots of Drosera are by no means out of proportion to so small a plant, and if it is growing in moist moss, its abundant hairs would imbibe, and do actually imbibe, water enough for its service; but what kind of water does it drink? Certainy not clear water, like that in which Watercresses grow, but peat-water in one case when growing in peat, and water steeped in rotten moss in the other case, for a bed of Sphagnum has its lower leaves always rotten, and therefore in a thoroughly fit condition to serve as manure to an aquatic plant growing in its midst.

The beauty of the Sundew depends entirely upon its globules, and the bait is highly tempting to winged insects that sip nectar for their sustenance. At this point the author's views and mine diverge, for whilst he would make us believe that all the beauty of this elegant plant is sacrificed to get some rotten flies, gnats, midges, &c., on its fair face, to outrage all the laws of order and beauty by forming a paunch out of its tiny leaves, and hence getting its supplies from the wrong end of the plant—a source hitherto unneeded, and for aught proved to the contrary, hitherto unknown, since this feeding by the leaves is a theory as yet on its trial, and far from being settled—I have a theory, founded on clear observation, that may be put into the opposite scale. It is no invention of my brain, but has come down from trustworthy sources, and it is on the very face of it like the fiat of God. Whenever anything mars the beauty of the works of God, we usually see it hurried off the stage long before its appointed time: "Wheresoever the carcass is, there will the eagles be gathered together." There is a sentence in Holy Writ very appropriate to this subject,—"Dead flies cause the ointment of the apothecary to send forth a stinking savour." I am prepared to show the pitchers of *Nepenthes* and *Sarracenia* half full of dead flies, ants, &c., as stinking as need be; and although the sacred penman may not have known the merits of litmus-paper as a test for acidity, his account of the flies and the ointment is graphic, and cannot be misunderstood.

Now if dead flies, wine, beef-tea, &c., are so effective with *Drosera*, why idle time away with experiments on trying to feed the plant from the wrong end? Why not plant, or rather, sow, the *Drosera* in rich compost, and give it its fill of flesh, and water it with any liquor it can enjoy? But no one seems to push its fortunes in this way, although all agree that it absorbs freely what is offered to it at the root-end. When *Drosera rotundifolia* dies a natural death, it leaves its bulk—be it more or less—to feed its successors, and they, if in moss, will get rotten Sphagnum of, say, the last seven years to draw their supplies from, while the seeds which have fallen on peat-soil will feed on just the same kind of food, for the peat will be Sphagnum of ages long gone by. It hath been sagely said that "time has wings when time has need," and the power of *Drosera* to move is made much of, as if Creation had no parallel to throw off what might be in the way of its progress. I maintain that the great work of the *Drosera* is to propagate its species, and the thousands of clean plants to be seen on moss and moor testify that that important work is well done without the aid of dead flies. Now although the light weight of a moth on the glands of a *Drosera* disturbs the whole equilibrium of the plant, a heavy rain only rinses the tiny herb clean from stem to stern, without taking aay other action, and strange to say, that after 101 experiments with food, drugs, poisons, &c., the glands resume their beauty and place on the plant, all parts doing their duty towards its flowering and fruiting.

In this work on Carnivorous Plants there is nothing, strictly speaking, botanical; it is quite a microscopic inquiry, and if it was legitimate in Byron to joke about the time that it took light to travel, when, as he expressed it, "it was packed up for its journey," surely plebeians might make wry faces at such mites of matter experimented with as cubes of cheese 1-20th of an inch on the side. Nobody, however, can doubt the author's honesty, for he has given chapter and verse for what he has borrowed, and weight and measure for the experiments he has made; but the conclusions arrived at will be scanned differently by persons more or less acquainted with the subject. The wonder is that so much could be said, all on one side, of a thing so small, and that never has been, nor is ever likely to be, of any service to either man or beast—for we cannot counsel the thirsty fly to shun the bait, nor warn the midge of danger.—ALEX. FORSYTH, *Safford.*

*** It may be noted in reference to this subject, that in Drosera dichotoma, which grows freely in orchid-houses, the lobes of the leaves, instead of advancing in growth, rapidly decay, though previously in apparently perfect health, after an insect has been caught by the viscid secretions, and commences to decay. This fact was pointed out to us by Mr. Stevens, of Trentham, on plants cultivated by him, and as having been often observed, and does not at all support the theory of animal-nutrition taken in through the leaves.—ED.

PLUMBAGO CAPENSIS FOR AUTUMN AND WINTER.

WHEN large quantities of flowers are required in autumn and early winter, this plant, from the distinct colour of its blossoms, and the easy way in which it can be had in great beauty, should be grown largely. In March, put in a quantity of cuttings, which will root freely in a frame amongst other spring things that are being struck. When well rooted, pot off singly into small pots, using rather a free compost, and replacing them in a close, warm frame or pit, until they have taken with the soil, when they ought to be removed to a house where the temperature ranges about 45° at night, with a rise during the day; as spring advances they will stand in a cold frame (say all May), keeping frost from them, and never letting them suffer either from want of water or of pot-room.

When all danger from frost is past, select a good piece of ground, sheltered from rough winds, but fully exposed to the sun, and plant them out of their pots, 18 in. apart. Here they will require little or no attention until near the end of September, except an occasional pinching, and if dry weather sets in, a few copious waterings. They should then be lifted carefully and potted into as small pots as the roots can be got into, watering them well, and standing them in a cold frame, kept close and shaded, if bright sun occurs, for about ten days, giving them an occasional sprinkle overhead with the syringe in the morning. If these plants are put into a gentle heat, they will soon open their blooms, when, by transferring them to the greenhouse, they will be found very useful for mixing amongst other things, and will stand for a long time, if knife or scissors is kept off them.

We had a lot of *Libonias* treated in the same way which flowered beautifully