

— M. CASIMIR DE CANDOLLE has lately published a memoir on the structure and movements of the leaves of *DIONÆA MUSCIPULA* (Venus' Fly-trap), in which, after alluding to what has been done by other observers, he describes the minute structure of the plant and mode of development of the leaf, and he alludes to the explanations which have been proposed to account for the movements of the leaves in question, and gives the results of his own observations. It must suffice here to give the general conclusions at which M. DE CANDOLLE has arrived:—1. The animal matters absorbed by the leaves are not directly made use of by them, and are not necessary to the development of the *Dionæa*. 2. The marginal appendages form with the margin itself a "member" distinct from the rest of the leaf, and hence the reason why their movements do not take place simultaneously with those of the two halves of the blade of the leaf. 3. The star-shaped hairs, like the glands, are epidermal productions only, while the parenchyma of the leaf has a share in the development of the sensitive hairs. 4. Stomata exist on both sides of the winged petiole, while on the blade of the leaf they occur on the lower surface only. 5. The anatomical structure, like the development of the different parts of the leaf, favour the hypothesis that the movements of the two halves of the leaf result from variations in the degree of turgescence of the cellular portion of the upper surface of the leaf. 6. The sensitive hairs are conductors, which permit the impressions they receive to act directly on the cellular tissue of the leaf beneath the epidermis.

DECEMBER 28, 1878.]

No. 7
THE GARDENERS'

— CARNIVOROUS PLANTS.—MR. PETER HENDERSON, according to the *Gardeners' Monthly*, has been repeating Mr. DARWIN's experiments on feeding the leaves of *Dionæa Muscipula* with flies. The most careful examination and comparison failed to show the slightest difference between one hundred plants that had been fed and one hundred that had not been fed. Mr. HENDERSON, however, does not tell us in what his most careful examination consisted. It seems probable from the opening paragraph of his letter that he has only read a brief abstract of Mr. F. DARWIN's observations, and has not seen the record of facts and figures which to our thinking prove very conclusively that a benefit does result, although it is not obvious to the mere casual observation. Meanwhile it is certain that the function of digestion does not conduce to the long life of the particular leaf or pitcher. In going through a nursery the other day we noticed several pitchers of *Darlingtonia* rotten from the decay engendered by an accumulation of dead insects.

— M. CAMERO DE CAMEROA has lately published a memoir on the structure and movements of the leaves of *Ipomoea pes-caprae* (Yucca) Pflanzg. In which, after alluding to what has been done by other observers, he describes the various positions of the plant and mode of development of the leaf, and he alludes to the explanations which have been proposed to account for the movements of the leaves in question, and gives the results of his own observations. It must suffice here to give the general conclusions at which M. DE CAMEROA has arrived—1. The animal motion described by the leaves are not directly made use of by them, and are not necessary to the development of the *Ipomoea*. 2. The marginal appendages form with the margin itself a "margin" distinct from the rest of the leaf, and hence the reason why their movements do not take place simultaneously with those of the two halves of the blade of the leaf.

3. The star-shaped hairs, like the glands, are epidermal productions only, while the parenchyma of the leaf has a share in the development of the sensitive hairs. 4. Stomata exist on both sides of the winged petiole, while on the blade of the leaf they occur on the lower surface only. 5. The anatomical structure, like the development of the different parts of the leaf, favour the hypothesis that the movements of the two halves of the leaf result from variations in the degree of turgescence of the cellular portion of the upper surface of the leaf. 6. The sensitive hairs are conductive, which permits the impressions they receive to act directly on the cellular tissue of the leaf beneath the epidermis.

DECEMBER 26, 1894.]

No. 7
THE GARDENERS'

— **CAMPANULA FLAVIDA.**—Mr. PETER HERRINGTON, according to the *Gardener's Monthly*, has been repeating Mr. DARWIN's experiments on feeding the leaves of *Ipomoea pes-caprae* with flies. The most careful examination and comparison failed to show the slightest difference between one hatched plant that had been fed and one hatched that had not been fed. Mr. HERRINGTON, however, does not tell us in what his most careful examination consisted. It seems probable from the opening paragraph of his letter that he has only read a brief abstract of Mr. P. DARWIN's observations, and has not seen the record of facts and figures which to our thinking prove very conclusively that a benefit does result, although it is not obvious to the more casual observation. *Manantholium* writes that the location of digestion does not confine to the long life of the particular leaf or petiole. In going through a nursery the other day we noticed several plants of *Durragonia* eaten from the stem, unperceived by an accumulation of dead leaves.

