

CARNIVOROUS PLANTS EXHIBIT A UNIQUE TROPISM

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Certain genera of carnivorous plants exhibit a tropism unique in plants. When liquid or solid protein is gently placed on the surface of the traps without stimulating the receptors for movement, the area around the object begins to move towards it. A name is proposed for this unique tropism.

Plants are known to move towards certain stimuli (water, light, gravity) which are beneficial and these movements have been labeled hydrotropism, phototropism, geotropism.

Three genera of carnivorous plants are well known for their rapid movements in capturing prey. The Venus' flytrap (*Dionaea muscipula*), waterwheel (*Aldrovanda vesiculosa*), and bladderworts (*Utricularia*, about 240 species) employ a mechanical trap.

Two other genera, *Drosera* (more than 230 species) and butterworts (*Pinguicula*, more than 100 species), ensnare prey with tiny sticky tentacles which, upon stimulation, bend towards the captive. If a tiny piece of meat or a drop of meat broth is placed on the traps without triggering movement, the tissues around the object begins move towards it, accompanied by the production of enzymes around the area. If broth or meat is placed on the leaves outside the trap, this reaction does not occur. This is also the case with *Dionaea*.

Although this phenomenon has been known for over a century (Darwin 1875; Lloyd 1942), this reaction by the plants as such has not been recognized as a tropism. I propose that this unique reaction be considered as a tropism unique to these genera and that it be named carnitropism.

References

Darwin, C. 1875. *Insectivorous Plants*. London: John Murray.

Lloyd, F.E. 1942. *Carnivorous Plants*. Waltham: Chronica Botanica Company.

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