

Carnivorous plants rely on the services and wastes of a symbiotic ant for nutrition

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In a mutualistic relationship between an ant species and a carnivorous plant, the ants contribute to both prey capture and prey digestion of their host-plant and provide significant amounts of nutrients derived from their wastes. This offers the plant distinct growth advantages, according to research published May 9 in the open access journal *PLoS ONE*.

The carnivorous plant *Nepenthes bicalcarata* grows in the nutrient-poor peat-swamp forests of Borneo but bears insect-trapping pitchers with poor retentive and digestive abilities. However it has a [symbiotic relationship](#) with the [ant species](#) *Camponotus schmitzi*, shown in the current study to act as the "gizzard" of its carnivorous host by recycling nitrogen from insects it preys upon in the trap.

Vincent Bazile and researchers from University Montpellier 2, CNRS, INRA (UMR AMAP in France) and from the Universities of Brunei and Royal Roads (Canada), also found that plants inhabited by the ants produced more, larger leaves, and that the ants provided a striking increase in the nitrogen available to the plants. On the other hand, plants without ants were determined to be nutrient stressed.

More information: Bazile V, Moran JA, Le Mogue´dec G, Marshall DJ, Gaume L (2012) A Carnivorous Plant Fed by Its Ant Symbiont: A Unique Multi-Faceted Nutritional Mutualism. *PLoS ONE* 7(5): e36179. [doi:10.1371/journal.pone.0036179](https://doi.org/10.1371/journal.pone.0036179)

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