

THE AMERICAN BIOLOGY TEACHER



About Our Cover

The cover photo is of a Roundleaf Sundew (*Drosera rotundifolia*) taken at Sphagnum bog in central Wisconsin by Bob Remedi. The Roundleaf Sundew is an example of a carnivorous plant that was mentioned by Charles Darwin in a monograph in 1875. This small (3–5 cm tall) plant is widely distributed in temperate regions of the northern hemisphere and has leaves with stalked glands tipped by sticky red drops of mucilage. The mucilage resembles dew drops, which is responsible for both for the common name (sundew) and the genus name (*droserus* is Greek for “dewy”).

Arthropods that come in contact with the mucilage become stuck and stimulate receptors on the stalked gland when they attempt to free themselves. This causes other stalked glands to bend, further entrapping the animal. Acids and protease enzymes in the mucilage then digest the animal, releasing nitrogen to the plant. One recent study showed that this species may receive up to 60 percent of its nitrogen from captured arthropods.

Carnivorous plants including the Venus flytraps (*Dionaea muscipula*), pitcher plants (*Sarracenia* spp.), and sundews (*Drosera* spp.) are autotrophs that evolved to catch small animals as a way to increase nitrogen absorption. The bogs where these plants are usually found have low nitrogen availability in the upper layers of peat, requiring a supplemental nitrogen source.

The cover photo was taken using a Canon 7D Mark II and an EF100mm f/2.8L macro lens. The exposure was 1/100 second at f/11 with the ISO set at 400, and the camera was hand-held.

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