Diet of contaminated insects harms endangered meat-eating plants

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Scientists in the United Kingdom are reporting evidence that consumption of insects contaminated with a toxic metal may be a factor in the mysterious global decline of meat-eating, or carnivorous, plants. Their study describes how meals of contaminated insects have adverse effects on the plants. It appears in ACS' semi-monthly journal

Environmental Science & Technology.

Iain Green and Christopher Moody note that many species of carnivorous plants — which have the amazing ability to lure, trap and digest insects — have become endangered through habitat loss, illegal poaching, and pollution.

One potential threat to these meat-eating plants is exposure to insect prey contaminated with certain metals, which can harm plants by interfering with water and nutrient uptake. However, scientists know little about how such metals actually affect the plants. Two metals of particular concern are copper, a nutrient important for plant health, and cadmium, a toxic metal found in fertilizers, metal coatings, and other products. It can accumulate in the environment through improper waste disposal.

They fed contaminated house fly maggots to a group of endangered white-topped pitcher plants (Sarracenia leucophylla) and found that cadmium accumulated in the plants' stems in a way that can be toxic and disrupt growth. By contrast, the plants easily processed and controlled copper intake and the metal did not appear to cause any toxic effects, the scientists say. The findings emphasize the importance of limiting carnivorous plants' exposure to cadmium, they suggest.

More information: "Assimilation of Cd and Cu by the Carnivorous Plant Sarracenia leucophylla Raf. fed Contaminated Prey", *Environmental Science & Technology*.

Provided by American Chemical Society

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