

Conservation Corner

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Last week we looked at the many colorful asters now blooming across Iowa. This week I thought it would be fun to take a closer look at another wildflower now in bloom. The color of this woodland wildflower is not bright purple but rather a pale white with perhaps a touch of pink. According to one Indian legend, the plant always appears on the exact spot where an Indian had knocked the white ashes of his pipe on the forest floor.

Perhaps several of you recognize today's wildflower as the Indian Pipe, *Monotropa uniflora*, also known as the ghost or corpse plant. Found throughout Iowa in shady mature woods with moist humus-rich soils, it is often mistaken for a fungus or mushroom. Like fungi, they spend most of their lives underground and only come above ground to flower and disperse. Nonetheless, the Indian Pipe is a true flowering plant, albeit an unusual one, and a member of the wintergreen family along with blueberries, cranberries, and heathers.

The Indian Pipe has small, scale-like leaves on fleshy stems that grow up to a foot tall and arise from a mat of brittle fibrous roots. Its namesake flower resembles the calumet or peace pipe of several North American Indian tribes and serves as a nectar source for pollinators which include small bumble bees. Its fruit is a five-celled seed capsule that contains many dust-like seeds that are dispersed by the wind.

Unlike most flowering plants, Indian Pipes do not contain chlorophyll. Botanists first thought the plants absorbed energy and nutrients from decaying organic matter but have now identified it as a parasite that lives off mycorrhizal fungi that in turn enjoy a symbiotic relationship with photosynthetic trees. In other words, sunlight is converted into sugars in the tree's green leaves. In exchange for helping the tree roots absorb minerals and water, the tree provides sugars to the fungi living in the soil. The Indian Pipe then siphons off some of these sugars in the fungi. These relationships appear to be host and species specific, namely with *Russula* and *Lactarius* mushrooms and American Beech and pine trees.

Native Americans used the Indian Pipe to treat sore eyes by dropping its clear stem juice directly into the eye. They also used dried plants as a sedative, pain reliever, and to treat epilepsy and other convulsions.

Indian Pipes demonstrate what is known as disjunct distribution in which growing regions are separated by great distances. They are found across North America and into Central and South America but also in China, Japan, and the Himalayans. This unusual pattern may be the result of long distance wind dispersal or the original contiguous distribution at the time of the Bering Land Bridge.

Despite their widespread geographical distribution, Indian Pipes are rare plants to come across in the wild and are nearly impossible to transplant, cultivate, or propagate. Even a touch will turn them black. Have you seen an Indian Pipe Plant?

