



Pinedrops

Pterospora andromedae

By Lori Micken

One day while hiking in a coniferous forest in northwestern Montana, I came across some strange, tall plants. They looked like stout, reddish-brown “sticks,” and stood out against the green underbrush. At first I thought they were dead saplings, but the tops were ornate, with dozens of yellowish balls hanging on curved brown stalks, looking like old-fashioned streetlights.

I later learned that what I’d seen were pinedrops, one of the strangest plants in all of Montana.

Classification

Though pinedrops are a flowering plant, they have almost no chlorophyll, instead obtaining their food from dead plant material. Pinedrops are in the Monotropaceae

family, along with two other saprophytes (plants living off dead plant material): indian-pipe and pinesap. So abnormal are pinedrops that some botanists have also put them in the Wintergreen and Heath families.

Description

Since that first encounter, I have seen many pinedrops. The plants generally grow from 1 to 4 feet tall, though I have seen them up

to 5 feet (at my eye level). Those were like encountering creatures from another planet. The unbranched stems, rose to brick-red colored, are sticky and hairy. The leaves are reduced to narrow, brown scales on the lower stem. The cream-colored balls are actually flowers, which look like inverted vases. The five-pointed sepals appear to be clutching the flowers and seedpods like claws.

Reproduction

A hand lens is required to see the beautiful pale yellowish petals tipped in light pink, ¼ to ⅜ inch long. The petals almost completely close over the reproductive parts. Only the knoblike yellow stigma on a heavy style (the upper part of the female pistil, or ovary) shows. A cluster of ten tiny stamens folds across the nearly round pistil. These sit below the stigma, so the plant probably can’t self-pollinate.

Pinedrops flower from June to August, depending on elevation. In late summer tiny, pollen-sized seeds form in the ovaries. Only the wing of the seed can be seen with the naked eye.

Range

Pinedrops are found from British Columbia and Alberta south to California, and from Alaska to Labrador then south to Pennsylvania and Michigan. They grow in coniferous forests that have abundant decaying plant material, at elevations up to 8,500 feet. They are considered threatened or endangered in some eastern states.

Ecological function

Pinedrops take part in the final breakdown of nutrients in soil. The fleshy roots grow in irregular masses that obtain nutrients from soil fungi, which obtain their nutrients from tree roots. Technically, pinedrops are parasites on the fungi they feed on, rather than true saprophytes. Stalks do not grow from the roots every year, but several may emerge from the same mass at the same time.

I once observed a bumblebee hanging from the tip of a flower, gathering pollen and nectar. Other insects also probably pollinate the flowers. I’ve seen no insect or other parasite damage on any of the pinedrops I’ve observed, probably because of the sticky-hairy nature of the plant. 🐝

Scientific name

Pterospora means winged seed, referring to the narrow flaps of tissue on the sides of the seeds. *Andromedae* refers to the Greek story of the princess Andromeda, who was rescued from a sea monster by the hero Perseus. The plant reminded the Swedish scientist Carl Linnaeus, who named it, of a princess standing on a rock by the sea.

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