Messages in aspen bark

Aspen tree showing eyes where limbs once formed

Most people enjoy quaking aspen groves. The distinctive white bark of this iconic tree is so different than other native trees, it is hard not to rub a hand across it. Especially in fall, people enjoy the contrast of white trunks and golden leaves.

This white bark is often used as a sketch pad. Basque sheepherders carved messages and artwork into aspen bark. Called arborglyphs, these carvings reveal what it was like to lead solitary, lonely lives with the sheep.

I have not spent much time searching aspen groves in the Ruby Mountains but have found carved trees in various canyons, where sheep once roamed. I have found inscriptions by Domingo Erlax in 1941 and 1944, along with Albert Aarambel in '18 Julio 1930'. My favorite inscription, arranged down a trunk, is "Juan Oleaga, 1966, 1967, 1968, 1969, 1970, 1971, Fin". That marked the end of his time in the

mountains. Unfortunately, these inscriptions are disappearing since aspen trees live only about 80-100 years.

Quaking aspens have smooth, white bark because the tree bark performs photosynthesis. The amount of sugars produced by bark is not great, about 2% of the total production. But more important, photosynthetic bark allows the tree to produce sugars in early spring and late fall. This is when no other photosynthesis is occurring since leaves are absent.

All tree species have a periderm, or growth layer. In most trees this layer is buried deep beneath spongy bark. Cottonwoods and pine periderms are surrounded by a thick bark that constantly cracks and splits as the tree expands. In aspens, the periderm is covered only by a thin white bark, allowing the periderm to expand along with the tree trunk and stay smooth. Sunlight penetrates the thin bark to reach the periderm and conduct photosynthesis. Dead bark cells come off as a dry, white powder you can see on your hands after rubbing the trunk. Only low on aspen trunks does thick, black bark form, incapable of photosynthesis.

Due to photosynthesis, the bark has a faint green tinge. This faint green is more pronounced on the side of trees away from the sun and toward the middle of aspen groves. As you walk around an aspen tree grove, you can make out differing shades of greenish-white.

The problem is this thin bark provides very little protection. Aspens are very susceptible to fire, insects and disease. Knife cuts through the thin bark remain thin and hard to see for several months, but the tree does try to protect itself. These cuts gradually heal by filling in with black scar tissue. The names and drawings carved by these Basque sheepherders now stand out as bold black characters on white.

Aspen trunks also carry black ‘eyes’. As limbs grow out from the trunk, black scar tissue drapes over the growing limb. When the branches later die and break off, a process called ‘self-pruning’, they leave a round, black scar beneath the draped scar tissue, looking like a black eye beneath an eyebrow. Various bark infections can also be seen as black cankers, blisters, galls and warts.

The red-naped sapsucker is a local species of woodpecker. It moves horizontally around an aspen trunk, drilling a series of holes. A few days later, it returns to the tree to find the tree has tried to heal these wounds by filling them with sap. The sapsucker then eats the edible sap along with any insects stuck in the sap. Later, these holes heal as a series of black dots encircling the bark. Trees can be found with multiple rows of these holes circling the trunk.

Sapsuckers also chisel nesting holes into aspens. From an exterior opening about 1.5” across, they tunnel in and down into the tree to create a hole about 4” across. Nesting holes weaken the trunk and it is common to find trees broken off at a nest hole.

Elk eat aspen bark by bending their heads to the side and scraping off bark with their lower front teeth. This leaves double black scars running diagonally down the trunk, located about elk-head high. Elk and deer rub their antlers on aspens, leaving broad, vertical black scars. Voles chew on aspen bark from beneath the safety of snow, leaving black, scaly marks at the trunk’s base.

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