

Get Wild: How cold is too cold for pine beetles?

Opinion [FOLLOW OPINION](#) | Feb 10, 2023

Stasia Stockwell
Get Wild



Eagle Summit Wilderness Alliance sawyers clear beetle-killed logs from the trail above Lilly Pad Lake.
Eagle Summit Wilderness Alliance/Courtesy photo

Take a walk in the woods in Summit County and study the bark in the pines. Chances are high that you'll spot some divots and channels carved out by none other than the infamous pine beetle. We know these little insects have a knack for wreaking havoc on our forests when the right conditions are present, and that has happened in many areas of Colorado. But, one might wonder where these beetles go once the snow flies and temperatures plummet. What happens to the pine beetle during winter?

There are many different types of pine beetles that burrow in the bark of forests across the west, including the mountain pine beetle, spruce beetle, and the less common lodgepole pine beetle.

The mountain pine beetle is one of the more common in Colorado. It's native to our state and most often finds its home in ponderosa, lodgepole and limber pine trees. We often pay more attention to these Coleopteran insects in the summer, as we tend to do with most sorts of bugs, and they unfortunately have garnered more attention in recent decades because of their destructive forces in our forests. Pine beetles like to burrow into the bark of pine trees and lay eggs within the bark of the tree.

When enough beetles do this to a tree, the tiny creatures suck up all the nutrients without leaving any for the tree. Eventually, this kills the tree. Climate change doesn't help. When warmer temperatures linger for longer, it gives the beetles more time to do their destructive work. And, according to recent climate studies, Colorado is getting both warmer and drier.

But, of course, winter still hits hard in Colorado's High Country. So, what happens to those beetles in the cold and snowy months of the year? Insects and winter don't usually get along, but pine beetles are surprisingly hearty creatures. They don't flee in winter; instead, they stay hidden inside the trees, usually in their larval stage. Like many insects, pine beetles have a sort of antifreeze system to get them through the winter. Alcohol accumulates in their bodies to keep them from freezing. Cold will eventually kill any insect, but not all of them will succumb at the same temperatures. According to the U.S. Forest Service, studies have indicated that temperatures from minus 13 to minus 31 degrees in midwinter can kill mountain pine beetles, but that's not a set number. It depends on many factors, including the stage of life the beetle is in.

Tucked away under flakes of bark, these beetles often survive the winter and continue their burrowing as spring melts into summer.

threaten our natural environment.

While preventative treatments exist that can help trees fend off pine beetle infestations, the only real cure is nature herself – and it'll take one heck of a cold snap to do that. This winter, don't just pray for snow; pray for cold, too.

Stasia Stockwell.

Jon Stockwell/Courtesy photo

Stasia Stockwell is a Breckenridge local and avid backcountry skier. A true mountain dweller, she feels most at home in the alpine. Stasia writes primarily for the outdoor adventure realm, with the desire to connect readers from all backgrounds with nature in a meaningful way.

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