

Mountain Pine Beetle Lifecycle

MID AUGUST

Beetle flies to new host tree, female bores thru the bark to create nuptial chamber. The pitch tube forms at the point of entry. Frass is visible on bark and on ground. After mating the female constructs vertical egg gallery and lays eggs on both sides.

Blue Stain fungus is introduced into the wound in the tree.

MID SEPTEMBER

Eggs hatch and larvae begin to feed outward away from egg gallery. Each larvae moves parallel to its siblings, independently. Adult beetles may mate more than once to extend egg laying. The pitch tube is still goeey. The frass has been blown or washed away.

Blue Satin fungus is visible in the wood in vicinity of the beetle activity.

MID OCTOBER

Larvae have extended their feeding tunnel away from egg gallery. The feeding tunnel grows in diameter as the larvae grow. The surface of the pitch tube begins to dry.

Blue Satin fungus moves up and down the tree and deeper into the sapwood.

MID NOVEMBER

Larvae begin to replace water with glycol to prevent cell rupture when temperatures fall below freezing. Feeding slows, and then stops as temperatures drop.

DECEMBER THROUGH MARCH

No activity. Larvae can withstand temperatures down to -39° (F = C at -40).

APRIL THROUGH JUNE

Larvae replace glycol with water and resume feeding. Some adult beetles may survive in the egg galleries. Most are just shells. Pitch tubes are firming up.

Blue Satin fungus continues to move up, down and around the tree and deeper into the sapwood.

The foliage, which has been green so far,

JULY THROUGH MID AUGUST

Larvae are transformed into adult (callow) beetles by going through the pupae phase. Pupae do not feed. The callow adults are reddish brown, then darken to black. They are thought to feed on blue stain mycelium to gain energy for their flight to the next host tree.

The bark is now loose from the wood due to the feeding of the larvae, blue stain fungi and assorted secondary insect and fungal activity. Pitch tubes are firm to hard.

Blue Satin fungus usually occupies most or all of the sapwood.

Small # of beetles remain.