Bark Beetles
By Marian Chambers

Red Turpentine Beetle

By now, everyone has probably noticed the impact of the bark beetles in our county. There is no miracle cure as we see our trees slowly die off and whole swatches of the forest turn brown. The University of California Pest Note7421 discusses the life cycle of the bark beetles and the damage caused by them (http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7421.html). It was written in 2008 and I am sure it will be updated soon to reflect the current plight of the trees in the Sierra Nevada.

Bark beetles are affiliated with each species of conifer and when their populations soar, as we are seeing now, we just have to deal with the consequences: dead and dying trees. I own property in Leisure Pines, close by some of the worst die off. This past year I have had to deal with the removal of dead and dying Ponderosa pines, white fir, incense cedars and sugar pines. I have never seen beetle populations like this in my more than 43 years of living in Tuolumne County. There are several town hall meetings set up for the month of April, 2016. You can look up the place and times on www.mymotherlode.com.

Bark beetles are always present and usually are controlled by "normal" winters. Rainfall that brings enough water into the cambium layer (the layer just under the bark that brings water up to the leaves or needles of a tree) drowns out the beetle larvae. With four years of drought, their population has grown to extreme levels and there is no hope of bringing the dead and dying trees back to life.

Western pine beetles (*Dendroctonus brevicomis)* attack mid-trunk, then spread up and down the tree. Larvae of western pine beetles feed on the inner bark, complete development on the outer bark and attack in conjunction with other pests. This is the main culprit of the extreme die off of the Ponderosa pines. These beetles can have multiple generations per year.

The fir engraver beetles (*Scolytus ventralis)* attack white and red fir trees, and overwinter as larvae. The adults excavate deep and long two-armed galleries (tunnels chewed by adult and larvae) across the grain of the sapwood.

Mountain pine beetles (*Dendroctonus ponderosae)* are frequently found on lodgepole and sugar pine. These also attack the mid-trunk of large trees. They make long J-shaped galleries and overwinter as larvae in the inner bark.

Cedar and cypress bark beetles (*Phloeosinus* species) attack arborvitae, cypress, false cypress, junipers and redwood. The tunnels resemble centipedes on the wood surface and inner bark. The adult feeds on and kills twigs. The egg-laying female is attracted to the trunk of dead or dying trees.

All I can say is hang on for the ride since our forest ecosystem will be changing. There is no magic bullet or magic cure for what is happening to our forest.

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