



Fear Not The Beetle....

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Tree mortality is a rising concern throughout California and the finger has been pointed at the dreaded bark beetle. But not all beetles are created equal and cannot be held entirely accountable for the mortality of conifers in the state.

Did you know that beetles are the largest order of insects with an estimated 400,000 species... 6,000 of which are bark beetles? Bark beetles have coexisted within our forests for thousands of years. Many years of drought and human influence have compromised the healthiest of trees, offering the opportunistic bark beetle a smorgasbord of food and habitat. Bark beetles are small (less than ¼ inch) hard bodied insects that bore through the protective bark of trees in distress. The beetle and larvae feed on the living tissue, cutting off the trees' ability to transport nutrients.

The beetles are not invasive, but native to North America. Fortunately, these beetles are tree species specific... In some cases, a single beetle will attack only one type of tree and in other cases a single beetle species may infest a variety of similar tree species.

- The Mountain Pine beetle (*Dendroctonus ponderosae*) attacks Lodgepole, Ponderosa and Sugar pines.
- Ponderosa pines and Coulter pines are attacked by the Western Pine beetle (*Dendroctonus brevicomis*).
- The Jeffrey pine is attacked by the Jeffrey Pine beetle (*Dendroctonus jeffreyi*).
- White and Red Fir trees are primarily attacked by the Fir Engraver beetle (*Scolytus ventralis*).
- The Red Turpentine beetles (*Dendroctonus valens*) are common in pine trees that are infested with Mountain, Western and Jeffrey pine beetles and primarily attack fire damaged trees or trees with unhealthy root systems and poor soil conditions. Fortunately, the Red Turpentine beetle is not the direct cause of pine mortality.

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While some beetles are agricultural pests, most are an essential part of the decomposition of organic and animal waste. Over 300 beetle species are used as a food source for humans, but usually in the larvae stage. Of the many thousand beetle species, some are commonly seen in our back yards. For instance –

- The lady beetle is a beneficial predatory insect that preys on aphids and other soft bodied insects. Lady beetles in the garden are an indication of other pests.
- The dung beetle plays an integral role in agriculture. By burying and consuming dung, this beetle improves soil structure and replenishes nutrients.
- The pine sawyer beetle is found within coniferous forests and communities. The adult and larvae feed on dead or decaying trees assisting with decomposition.
- The rain beetle is a subterranean beetle that surfaces during the onset of fall/winters first rain. Rain beetles feed on deep plant roots, but are not considered a pest.
- Ground beetles are another common species of beetle and are a predator of invertebrates and feeds on grass and weed seeds as well as organic waste. Predaceous ground beetles are considered beneficial organisms.

Unfortunately, except for the lady and dung beetles, beetles have a less positive image than other insect groups such as butterflies. Some are indeed pests, and others - possibly creepy, but the benefits and the biodiversity of the beetle must not be overlooked. In short, beetles are vital to the Earth, contributing to a sustainable ecosystem.

Should you have a beetle that needs identification, place it in a container and bring it to the Master Gardener office. Master Gardeners are eager to identify insects. For more information on bark beetles and tree mortality please refer to the following resource links.

<http://cecentralsierra.ucanr.edu/files/230152.pdf>
<http://cecentralsierra.ucanr.edu/files/230149.pdf>
<http://ipm.ucanr.edu/PMG/PESTNOTES/pn7421.html>

UCCE Master Gardeners of El Dorado County are available to answer home gardening questions Tuesday through Friday, 9:00 a.m. to noon, by calling (530) 621-5512. Walk-ins are welcome at our office, located at 311 Fair Lane in Placerville. For more information about our public education classes and activities, go to our UCCE Master Gardeners of El Dorado County website at <http://mgeldorado.ucanr.edu>. Sign up to receive our online notices and e-newsletter at <http://ucanr.edu/mastergardener-e-news>. You can also find us on Facebook.