

Prionus Longhorned Beetles

Scientific Name: *Prionus* spp.

Order: Coleoptera (Beetles)

Family: Cerambycidae (Longhorned Beetles)

Identification and Descriptive Features:

Eight species of *Prionus* longhorned beetles are known to occur in Colorado. All are brown, but variation among and within species is considerable from light, reddish browns to ones that are nearly black. Overall, they are among the largest of all beetles, but there is considerable range of size. Among the largest is *P. californicus*, which typically ranges from 35-50 mm in length. *Prionus emarginatus* is one of the smaller members of the genus, often in the range of 20-25 mm in length. Within species males tend to be smaller than females, but possess much larger and more elaborate antennae. Larvae of all species are large, cream-colored “roundheaded borers”, with an elongated body and a small head area comprised almost entirely of their powerful, dark jaws.

Distribution in Colorado: Representatives of the genus occur throughout the state. Known county records for the eight *Prionus* species known from Colorado are listed in Table 1.



Figure 1. Male (right) and female (left) of the California prionus, *Prionus californicus*.



Figure 2. *Prionus* longhorned beetle larva, a type of roundheaded borer. Photograph by Frank Peairs.



Figure 3. Pupa of the California prionus, in a soil cell. Photograph courtesy Ken Gray Collection, Oregon State University.

Table 1. *Prionus* species known from Colorado

Species	County Records
¹ <i>Prionus californicus</i> Motschulsky	Moffat, Rio Blanco, Garfield, Mesa, Delta, San Miguel, Montezuma, LaPlata, Alamosa, Weld, Larimer, Denver, Jefferson, Boulder, El Paso, Chaffee, Elbert, Huerfano, Las Animas, Prowers, Baca
<i>Prionus heroicus</i> Semenov	Moffat
<i>Prionus integer</i> LeConte	Larimer, El Paso, Denver, Boulder, Pueblo, Otero, Las Animas, LaPlata, Alamosa, Huerfano
² <i>Prionus imbricornis</i> (L.)	Boulder, Weld
<i>Prionus rhodocerus</i> Linsley	Moffat, Delta, Montrose, Costilla
<i>Prionus palparis</i> Say	Larimer, Weld, Logan, Boulder, Cheyenne, Pueblo, Las Animas, Delta
<i>Prionus fissicornis</i> Haldeman	Larimer, Weld, Yuma, Washington, Morgan, Douglas
<i>Prionus emarginatus</i> Say	Larimer, Weld, Jefferson, Boulder, Douglas, El Paso, Kiowa, El Paso, Otero, Alamosa, Montrose, Montezuma, Archuleta, Mineral

¹ Common name is **California prionus**. Its is also sometimes also called the **giant root borer**.

² Common name is **tilehorned prionus**.



Figure 4. *Prionus emarginatus*, a grassland species. Photograph by Brian Heinold.



Figure 5. *Prionus palparis*, a grassland species found in areas of sandy soil. Photograph by Brian Heinold.

Life History and Habits: All *Prionus* longhorned beetle species develop in the larval stage as root borers. However, there is a considerable range in the host plants that are used. Some are grassland species that develop on roots of grasses, such as *P. palparis*, *P. fissicornis*, and *P. emarginatus*. Rangeland shrubs such as rabbitbrush and sage appear to be the hosts for *P.*

integer. The widest range of plant hosts occurs with *P. californicus* (**California prionus**), which feeds on roots of woody plants including serviceberry, sumac, pines, fir, Douglas-fir, stone fruits, oak, willows and poplars/cottonwoods.

Adults can occur during the most of the warmer months of the year. However, at least some of the grassland species may show sharp spikes in adult abundance, with heavy rainfall events triggering adult emergence. After mating females insert eggs into soil, using the extensible ovipositor at the tip of her abdomen, depositing the eggs in small groups a few centimeters below ground. Upon egg hatch the larvae move to plant roots where they feed and grow for a period of 3 to 5 years before becoming full grown. Pupation occurs within a soil chamber dug out near the roots.



Figure 6. A very large female of the California prionus. Photograph courtesy of Donald Owen and BugWood/IPM Images.



Figure 7. Root tunneling produced by a *Prionus* sp. larva. Photograph courtesy Jerry Payne and BugWood/IPM Images.