

Valley Elderberry Longhorn Beetle

(*Desmoceros californicus dimorphus*)



Photo: Tad Gantenbein

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California Department of Pesticide Regulation Endangered Species Project

California Department of Fish and Game

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Valley Elderberry Longhorn Beetle

Characteristics

- Body length: approx. 3/4 in. (2 cm.). Females are larger than males.
- Both sexes usually have a bright red color on their wings.
- Forewings of females are dark metallic green with flame trimmings.
- In males, the forewings can be similar to those of the female, or red black with dark green spots.
- Long, segmented antennae give it its name.



Photos: Larry Eng, CDFG



Photo: Richard A. Arnold

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Habitat



- The valley elderberry longhorn beetle is endemic to the Central Valley of California, and is found in riparian habitats and associated upland habitats where elderberry (*Sambucus spp.*), the beetle's foodplant grows.

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Habitat loses

- The clearing of riparian vegetation for agricultural and urban development during the last 150 years impacted the beetle's distribution significantly.
- Over 90 percent of riparian habitat in the Central Valley has been lost to agricultural and urban development, and the remaining habitat is fragmented.

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Distribution



- Current records from the Dept. of Fish and Game's Natural Diversity Data Base show scattered locations throughout its historical range (light green on map), from Redding in Shasta Co. to Bakersfield in Kern Co.
- In surveys conducted from 1984 through 1991, only 12 patches of natural riparian forests along the Sacramento, American, and San Joaquin rivers and their tributaries yielded either beetles or emergence holes indicating their presence (dark green marks on map)

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Reproduction and Habitat Selection

- The valley elderberry longhorn beetle depends on the elderberry tree in every phase of its life cycle.
- As elderberry trees begin flowering in spring, these beetles begin to emerge from their tunnels bored through the tree's pith; roaming the trees until late June, eating foliage and possibly flowers; until they mate.



Photos: Tad Gantenbein

Elderberry Shrubs as Habitat

- It appears that in order to serve as habitat, the shrubs must have stems that are 1.0 inch or greater in diameter at ground level.
- Use of the plants by the beetle is rarely apparent. Frequently, the only exterior evidence of the shrub's use by the beetle is an exit hole created by the larva just before the pupal stage.



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Development



Photos: Tad Gantenbein



Photo: Larry Eng, CDFG

After mating, females lay their eggs in crevices in the elderberry bark. In about 10 days, when the eggs hatch, the larvae bore into the pith, where they feed and mature for 1 or 2 years by tunneling through the spongy pith of the large stems, trunks and roots of the elderberry.

After pupation, they emerge as brightly-colored adults, through distinctive, oval-shaped exit holes they chew through the bark. Exit holes are 7-10 mm wide and bored through the bark not far above ground level.

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- Larval galleries can be found in elderberry stems with no evidence of exit holes. The larvae either succumb before constructing an exit hole or are not far enough along in the developmental process to construct an exit hole.



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Perspectives for Recovery

- The biggest problem is continued loss or riparian and associated habitats that support, or have potential to support, colonies of the beetle in the Central Valley.
- Recovery of this species depends on protection of known populations, location and protection of additional populations, further research on life history and habitat requirements of the beetle, and the restoration of remnant riparian forests by transplanting additional trees and beetles within its range.