

USACE Natural Resource Management

Insects



Inner Space Cavern Mold, Valley Elderberry Longhorn, & American Burying Beetles

Inner Space Cavern Mold Beetle (*Batrissodes texanus*): Also known as the Coffin Cave Mold Beetle, this species is a troglomorphic beetle. It exhibits troglomorphic traits such as absent or reduced eyes, elongated antennae and legs, and elongated sensory setae. The Inner Space Cavern mold beetle does not have eyes. (USFWS)

Status: *Endangered, listed 1988*

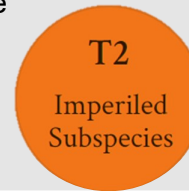
NatureServe: *Critically Imperiled*



Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*): Adult males range in length from around half an inch to an inch, measured from the front of the head to the end of the abdomen. The antennae are about as long as the body. Adult males have red-orange wing covers with four elongate spots. Females have dark wing covers. (USFWS)

Status: *Threatened, listed 1980*

NatureServe: *Imperiled Subspecies*



American Burying Beetle (*Nicrophorus americanus*): This is the largest carrion beetle in North America. Adult length ranges from about 1 inch to 1.4 inches. The body of the ABB is shiny black. The wing covers are also shiny black and smooth. Each side of the wing cover has two scalloped orange-red markings. There is a large orange-red marking on the raised portion of the pronotum. (USFWS)

Status: *Threatened, listed 1989*

NatureServe: *Vulnerable*



Order: The order *Co-leptera* consists of beetles and weevils. It is the largest order of insects and contains about 40% of the known insects species. Beetles can be recognized by their standard characteristics: two pairs of wings, one pair of which is a hardened cover for the second pair. (Britannica Encyclopedia)

Photos Left to Right:
Coffin Cave mold beetle (USFWS)
VELB (USFWS),
Female ABB (left) &
Male ABB (right)
(Saint Louis Zoo)

Management and Protection:

- The Coffin Cave mold beetle is endemic to the Balcones Canyonlands ecoregion of Texas, specifically Williamson County. (USFWS)
- The Coffin Cave mold beetle has been negatively impacted by habitat destruction, degradation, and fragmentation stemming from urbanization. (USFWS)
- The valley elderberry longhorn beetle (VELB) is endemic to the Central Valley of California. It is found only in association with its host plant, elderberry (*Sambucus* spp.), typically along rivers and streams. (USFWS)
- The VELB has been negatively impacted by the destruction of California's Central Valley riparian forests that has resulted from agricultural and urban development. Insecticide and herbicide use in agricultural areas and along road right-of-ways may be factors limiting the beetle's distribution. (USFWS)
 - The American burying beetle (ABB) was originally listed as Endangered in 1989. However, it was down listed in 2020 to Threatened.
 - Historically, the ABB was found in 35 states, covering most of temperate eastern North America. The ABB has disappeared from 90% of its historical range. (USFWS)



USACE ROLE: As stated on the front page, beetles are an incredibly diverse group of insects. Some of the more than 300,000 species beetles are actually pollinators, including the valley elderberry longhorn beetle. For these species, the USACE's Pollinator Protection Plan outlines a commitment to improving their health on lands and waters stewarded by USACE. Other beetle species which are federally listed, like the Coffin Cave mold beetle and American burying beetle are given increased vigilance from USACE land managers as a result of their federal listing status. The USACE works closely with other agencies, like the U.S. Fish and Wildlife Service to ensure that these species are not negatively impacted by USACE projects and operations.

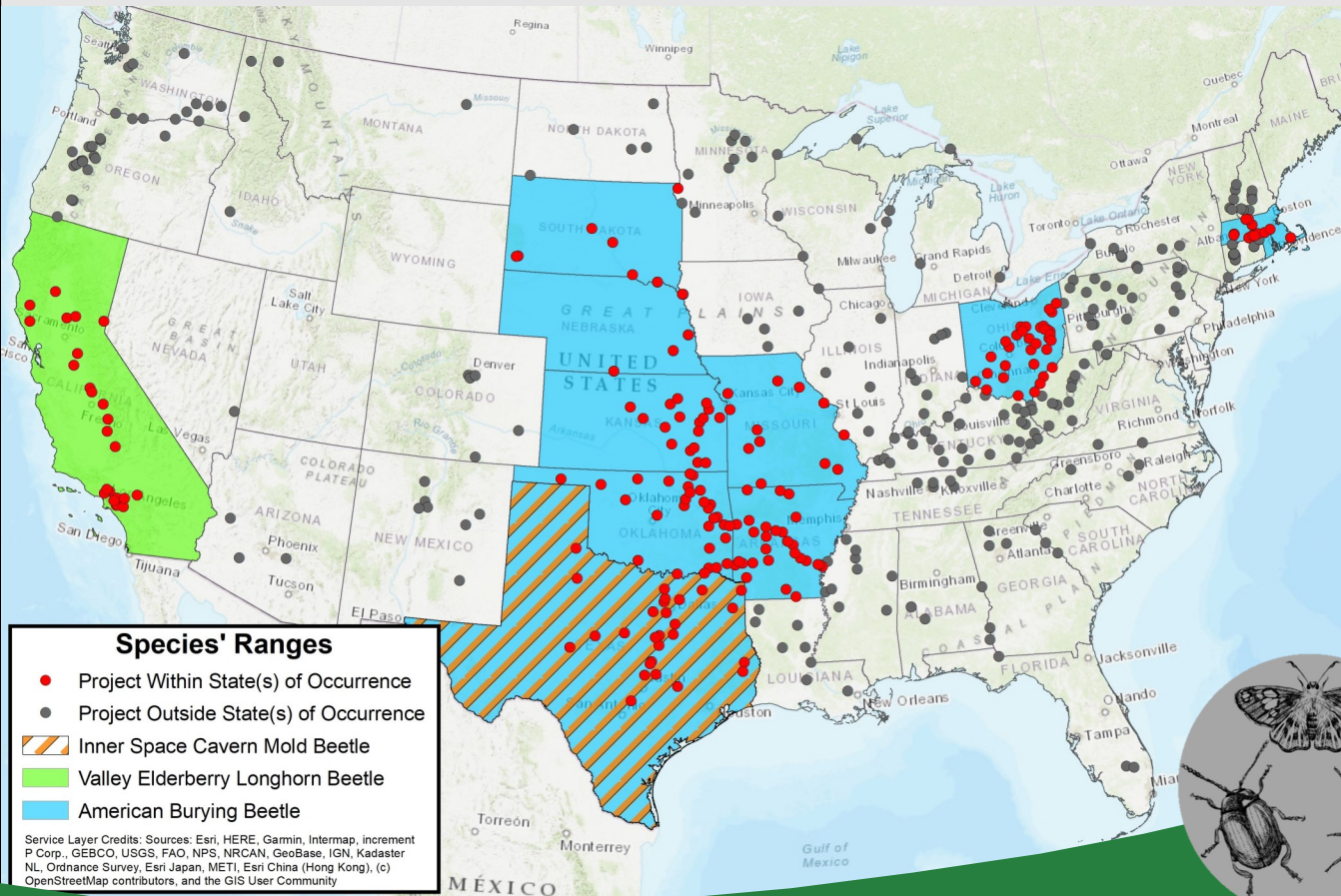
What is USACE NRM Doing: Tulsa District Corps of Engineers, in partnership with the Oklahoma Department of Wildlife Conservation, conducts two surveys each year to track the relative abundance of the American burying beetle. Members of the environmental staff trap the beetles using large buckets, baited with rotten meat. Each trap can attract beetles over a 570 acre area. Survey results note fluctuations in the beetle's population over the years, but overall beetle numbers are increasing.

The 2019 surveys netted a total of 18 beetles. The beetles are measured, checked for sex, photographed and the photographs are further analyzed by a computer program. "The program gives us the ability to measure difference in size and color patterns and even identify individuals" said Kevin Stubbs, fish and wildlife biologist with USFWS. In Oklahoma, there is a 2,000 acre mitigation offset area dedicated to the beetle's survival near Wagoner and Cherokee counties. In addition to the surveys conducted each year, the district also conducts a prescribed fire burn on this property.



Photo: A natural resource specialist from Little Rock District, baits a burying beetle trap. The trap is set with rotten meat to attract burying beetles. Once collected, the team will count, catalogue, record and measure the beetles for size, sex and maturity.

This fact sheet has been prepared as an unofficial publication of the U.S. Army Corps of Engineers (USACE). This online publication is produced to provide its readers information about best management practices related to special status species. Editorial views and opinions expressed are not necessarily those of the Department of the Army. Mention of specific vendors does not constitute endorsement by the Department of the Army or any element thereof.



Insects
 Source: Map provided by Ashleigh Boss, ORISE Fellowship, Institute for Water

Species' Ranges

- Project Within State(s) of Occurrence
- Project Outside State(s) of Occurrence
- ▨ Inner Space Cavern Mold Beetle
- Valley Elderberry Longhorn Beetle
- American Burying Beetle

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

