American burying beetle

*Nicrophorus americanus*

(Photo courtesy of the U.S. Forest Service)

**Taxonomic Classification**

Kingdom: Animalia  
Phylum: Arthropoda  
Class: Insecta  
Order: Coleoptera  
Family: Silphidae  
Genus/Species: *Nicrophorus americanus*  
Common Name: American burying beetle

**Listing Status**

Federal Status: Endangered  
FL Status: Federally-designated Endangered  
FNAI Ranks: Not ranked  
IUCN Status: CR (Critically Endangered)

**Physical Description**

The American burying beetle is the largest species of the genus *Nicrophorus*. This species can reach a length of 1.5 inches (3.8 centimeters). It has a black body with two protective wing covers. The smooth protective wing covers (elytra) meet in the middle of the back and have two
dark orange-red scalloped shaped marks on each cover. The most distinct feature of the American burying beetle is the dark orange marking on the raised portion of its circular exoskeletal back plate (pronotum) of the prothorax (first segment of the body that holds the first pair of legs) (U.S. Fish and Wildlife Service 2011). American burying beetles also have an easily seen antenna with expanded orange tips.

**Life History**

American burying beetles are scavengers – they feed on dead carcasses.

American burying beetles appear out of the ground when the temperature is above 60°F (15°C) to begin breeding (U.S. Fish and Wildlife Service 1991). Potential breeding pairs meet at a carcass to begin mating. If the male arrives at the carcass and no female arrives, he will release pheromones (airborne sex attractant chemicals) to attract a female. Once a female arrives, the pair will move the carcass and bury it under a couple of inches of soil, and remove the carcass’ hair or feathers and form it into a ball. American burying beetles breed once in their lifetime, which occurs in June or July (Ratcliffe 1997, Khetani and Parker 2011). After mating, the female digs out a chamber near the carcass where she lays 10-30 eggs (Ratcliffe 1997). The parents preserve the carcass by lathering it with special secretions, and regurgitate meat from it to their young until the young are able to feed themselves. Such parental care is very rare in non-social insects. Sexual maturity is reached at 48-68 days old.

**Habitat & Distribution**

The specific habitat specification for the burying beetle is not known, but they may prefer old-hickory forests and grass lands. Dead carcasses are the key for the survival of this species, so the availability of carcasses might determine its distribution (Ohio Department of Natural Resources, n.d.). There are historic records for this species across most of the U.S. east of the Rockies, but since its Federal listing in 1989, it has been confirmed only in South Dakota, Nebraska, Kansas, Oklahoma, Texas, Missouri, Arkansas, Ohio, Massachusetts, and Rhode Island. There are no recent records for Florida; the one, undated record for the species in Florida was from Marion County.

**Threats**

The threats of the American burying beetle are not well understood. The fragmentation and loss of habitat has presumably caused the reduction in dead carcasses, which are needed for food and reproduction (Khetani and Parker 2011). Habitat fragmentation also brought an increase in edge
habitat favored by vertebrate predators such as foxes, opossums, and crows that would out-compete the beetles for carcasses. The formerly abundant passenger pigeon may have been a significant food source; its extinction could have contributed to the decline and local extinction of American burying beetle populations (U.S. Fish and Wildlife Service 2011). Research on a related beetle species implies that the abundance of red imported fire ants may be a significant threat to any attempts to reestablish American burying beetles in the southern part of their historic range, including Florida (U.S. Fish and Wildlife Service 2008).

**Conservation & Management**

The American burying beetle is protected as an Endangered species by the Federal Endangered Species Act and as a Federally-designated Endangered species by [Florida’s Endangered and Threatened Species Rule](http://www.dnr.state.fl.us). A [Federal Recovery Plan](http://animaldiversity.ummz.umich.edu) was published in 1991, and a “5-year review” was printed in 2008. The Recovery Plan includes a long-term objective to reclassify the species from Endangered to Threatened when at least three self-sustaining populations of 500 or more beetles are established (or discovered) in each of four geographic regions (northeast, southeast, Midwest, Great Lakes states) (U.S. Fish and Wildlife Service 1991). The 5-year review greatly updated the Recovery Plan with new distribution and life history information based on extensive surveys, research, and ongoing conservation initiatives (U.S. Fish & Wildlife Service 2008).

**Other Informative Links**

- [Animal Diversity Web](http://animaldiversity.ummz.umich.edu)
- [International Union for Conservation of Nature](http://www.iucn.org)
- [Michigan Department of Natural Resources](http://www.dnr.state.mi.us)
- [Ohio Department of Natural Resources](http://www.dnr.state.oh.us)
- [Saint Louis Zoo](http://www.stlz.org)
- [University of Nebraska-Lincoln](http://www.unl.edu)
- [U.S. Fish and Wildlife Service Fact Sheet](http://www.fws.gov)

**References**


