

Bess Beetle



Species: *disjunctus*
Genus: *Odontotaenius*
Family: Passalidae
Order: Coleoptera
Class: Insecta
Phylum: Arthropoda
Kingdom: Animalia

Conditions for Customer Ownership

We hold permits allowing us to transport these organisms. To access permit conditions, [click here](#).

Never purchase living specimens without having a disposition strategy in place.

There are currently no USDA permits required for this organism. In order to protect our environment, never release a live laboratory organism into the wild.

Primary Hazard Considerations

- Always wash your hands after handling the beetles.
- Bess beetles are considered docile. They may give a little pinch if handled roughly or threatened. Bess beetles sometimes harbor mites. These don't bite and are considered harmless to humans.

Availability

- Bess beetles are available year around, but they are a collected specimen so shortages may occur due to dry conditions. Always contact us before placing an order.
- The beetles will arrive in a 32 oz. jar filled with sphagnum and some feces/soil mix.. Adults are dark brown, about an inch and a half long with large mandibles. The beetles should be placed in their habitat as soon as possible. Healthy beetles will move, though not quickly, when handled. They have fused wings, so they can't fly.

Captive Care

Habitat:

- Use a 2–10 gallon [Plastic Terrarium 21 W 2101](#) or [Glass Aquarium 21 W 5240](#) with a screen top or closed top container with small air holes. For substrate, use 2–3" of [Sphagnum Peat 20 W 3921](#), grass, and pieces of [Decaying Wood 87 W 6281](#) from deciduous trees such as elms, oaks, or maple. Add the feces/soil mix that came with your beetles. We recommend placing an inch or two of organic soil in the bottom of the container to let the beetles burrow and to help maintain a steady humidity level. You can put six beetles per gallon of space. Bess beetles do not require specialized lighting. They prefer cooler, darker areas. Holding the habitat at room temperature and out of direct sunlight is sufficient.

Care:

- Food: Bess beetles ingest rotting, decaying wood, and moist sphagnum moss. They can't extract nutrition from this first feeding, so will re-ingest their own feces that harbors microflora to break down fibers into a digestible form. This feces mix is also fed to their young, who are unable to feed themselves.
- Water: Mist Bess beetles once a day with de-chlorinated water. Tap water can be de-chlorified by letting sit out for 48 hours or by adding a de-chlorinating solution such as [Stress Coat 21 W 2338](#). This provides moisture for the wood and moss. It also helps maintains a moderate humidity level in the enclosure. Do not soak or over moisten.
- Care: Do not remove or clean the habitat's contents, just add more wood or moss. As noted above, the beetles need their own feces for food.



Information

- Method of Reproduction: Sexual, egg-laying.
- Determining sex: It is difficult to distinguish male and female Bess beetles by external characteristics, although females tend to be a bit larger.

Life Cycle

Complete metamorphosis. Bess beetles develop through the following stages: egg, larva, pupa and adult. Larvae take about one year to reach adulthood. Adults typically live for about another year. Bess beetles are difficult to breed in captivity. They are mildly social insects and need to build undisturbed burrows or “galleries” among a small colony where larvae and pupae are maintained by the adults.

Wild Habitat

Bess beetles are found throughout the south central and eastern United States. They are found in sub-tropical forest habitats inside or under decaying wood or plant material. They are important as scavengers and decomposers.

Special Notes

- Bess beetles spend most of their life in the dark.
- Bess beetles rarely reproduce in captivity. It is not clear why, but it is thought they are too sensitive to any slight disturbance in air movement or lighting.
- There are only two species of Passalidae in the United States, though a couple more have occasionally shown up from across the Mexican border. There are over 500 species in the tropics.
- Bess beetles are sub-social insects and colonize decaying stumps, caring for their young. The adults feed the larvae, referred to as “grubs,” and help them construct their pupal cases. Bess beetles communicate with each other through strange squeaking and clicking noises, made by rubbing the plectrum on the undersurface of their wings against a brush-like structure called the pars stridens on the 6th abdominal segment. This is called stridulation. The larvae can also make sounds by rubbing the stridulatory pegs of the third leg against ridges, called the stridulatory file, on the second leg. They have distinct sounds that communicate different messages such as aggression or courtship signals.
- Other common names for a Bess beetle are Bess Bug (though it isn’t a true bug), Patent Leather beetle, Passalid beetle and Betsy beetle.

Disposition

- We do not recommend releasing any laboratory animal into the wild, and especially not insects that are considered to be pests or not native to the environment.
- Adoption is the preferred disposition for any living animal.
- If the insects must be euthanized at the end of study, follow one of these procedures:
 - Put them into a container or bag and freeze for 48 hours.
 - Place the organism in 70% isopropyl alcohol for 24 hours.
 - Autoclave the organism @ 121°C for 15 minutes.
- A deceased specimen should be disposed of as soon as possible. Consult your school’s recommended procedures for disposal. In general, dead insects should be handled as little as possible or with gloves, wrapped in an opaque plastic bag that is sealed (tied tightly) before being placed in a general garbage container away from students.