

# Superworms

**Species:** morio  
**Genus:** Zophobas  
**Family:** Tenebrionidae  
**Order:** Coleoptera  
**Class:** Insecta  
**Phylum:** Arthropoda  
**Kingdom:** Animalia



## **Conditions for Customer Ownership (per USDA Permits)**

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 requirements for this organism. However, superworms are a non-native species and a pest. While it is permitted to keep them for study and to raise them as a food source for other animals, they should never be released into the wild.

## **Primary Hazard Considerations**

- Wash your hands thoroughly after handling superworms and/or beetles.
- Superworms and superworm beetles are docile and do not pose a threat to humans.

## **Availability**

- Our superworms and superworm beetles are bred in our labs and are available year-round.

## **How Will Animals Arrive and Immediate Requirements**

- Your superworms and beetles will arrive in a waxed paperboard container with bran and/or a damp paper towel and a piece of carrot or potato.
- We over-pack each order of superworms. It is normal to have some deceased superworms in the container. You will receive at least the quantity of live superworms stated on the container.
- The superworms eat bran and can live in the shipping container for up to a week, but the beetles should be transferred to their new habitat as soon as possible so they can receive moisture-containing food.
- Superworm larvae resemble very large mealworms and are about 1-1/2 to 2-1/4" long. Superworm beetles are large, black beetles.

## **Captive Care**

### **Habitat:**

- Floor space is more important than height when choosing a habitat for superworms. Superworms will burrow down into the bran and hide from light, so preventing escape usually is not an issue. A wide, flat plastic container with side at least 5" high is sufficient. A 10 gallon bin will hold 300 superworms comfortably. You should house superworm larvae separate from the beetles.
- Fill the habitat 1-4" deep with [bran nutrient](#). This serves as both substrate and food for the superworms. The beetles will also lay eggs in the bran.
- Special lighting is not needed since superworms are photonegative. Optimal temperature for superworms is 75-82°F. Very hot or cold temperatures can be detrimental to the health of your superworms.
- The habitat should be cleaned on a monthly basis. Check the bran for mold weekly.
- To induce pupation of your superworms, you will need to isolate them individually. Wait until they are full grown (at least 2" long) and place individual larvae into a holding container. Divided storage boxes and 35 mm film containers work well for holding pupating superworms. Be sure to poke air holes in the container. Place a small amount of meal in each cell with the pupating superworms. Place the container holding pupating superworms in a warm, dark place. Check the container weekly and remove any deceased superworms.
- Once the larvae have pupated, you can place them into the beetle habitat.

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### Care:

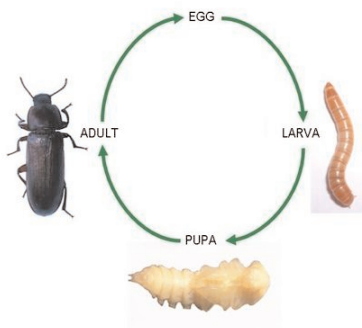
- Provide carrots as a source of food and water for both the superworm larvae and beetles. One large carrot, cut up, will feed several hundred larvae or beetles for about 3 days. Discard the food if it becomes dried out or mushy.

### Information

- Method of reproduction: Sexual. When it is time for the beetles to mate, the male will transfer enough sperm into the female to fertilize all of her future eggs. The female can lay as many as 500 eggs.
- Determining sex: The female beetle is larger than the male beetle.

### Life Cycle

- Complete metamorphosis.
- **Egg.** Tiny and white. After several days, the larvae hatch.
- **Larvae.** Also known as superworms. If allowed to remain with other superworms, they will live for six months to a year. Only when isolated from other superworms will their bodies begin to pupate.
- **Pupae:** When ready to pupate, superworms curl inward, head to tail, and create cocoons from silk that harden to form a protective shell. The metamorphic process of larva to pupa takes about 10 to 14 days, and from pupa to emerging adult beetle, about another two weeks.
- **Beetles:** Also known as *Zophobas* Beetles or Darkling Beetles. When it first emerges, the beetle will be very light yellow in color, before turning black when its exoskeleton hardens. As an adult, a darkling beetle can live from 3 to 15 years.



### Wild Habitat

- Superworms are native to Central and South America. Superworm larvae spend a lot of time eating decaying vegetation, leaves and tree bark. When they are ready to pupate, they do so in the soil. When the beetle emerges, its diet will remain much the same as it was when it was a larva; it will dwell on the ground, keeping busy both night and day. Darkling beetles seek out cool, damp places when it is hot, and prefer dark, damp, humid areas in general.

### Special Notes

- There are over 19,000 species of darkling beetles.
- Superworms are a popular diet to feed to exotic pets. They are also used to attract wild birds.

### 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 min.
- 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, and wrapped in an opaque plastic bag that is sealed (tied tightly) before being placed in a general garbage container away from students.