

# Darkling Beetles (*Zophobas morio*)

## CARE INSTRUCTIONS

### KIT INCLUDES

- 12 “superworms” (darkling beetle larvae) of varying sizes
- Bag of grain bedding (which **doubles as a food** for the larvae)
- 2 containers: one for larvae, one for your eventual beetles
- 6 Pupation chambers (small containers with lids)
- Egg carton as a habitat surface

### THINGS YOU WILL NEED (not included)

- Hydration source/supplementary food for the larvae (chunks of potato, apple, broccoli, or other veg/fruit)
- Habitat decorations for the adults (if you want to get fancy)



### WHEN THEY ARRIVE

**Check them over:** the larvae will be in a 8oz shipping deli container, in substrate. Make sure they are alive and wiggling around! A good way to check on them is to dump the shipping container with the larvae into one of the larger containers we sent, which will lower risk of escape while you inspect.

**Setup your larvae habitat:** we've included starter bedding for your larvae: it is grain, usually with a wheat bran base.

1. **BEDDING/FOOD:** Dump at least half of the bag of grain bedding into one of your provided large containers. You CAN add the whole thing, but we suggest keeping some sealed for later in case you need it. This bedding is the primary food source.
2. **Shelter:** Add one of the pieces of egg carton on top of the bedding. This provides a nice hide for the larvae.
3. **Hydration:** Add a chunk of potato, apple, carrot, or another piece of dense, moisture-rich fruit/vegetable as a hydration source and supplemental food source for your larvae. Keep an eye on it: you will need to replace it *no less than once a week* to ensure it is always fresh, moist, and mold-free.
4. **Don't put the lids on.** We send the lids so you can re-use the containers, but lidding the setup will cause mold.

### GENERAL CARE:

- **Superworms can eat polystyrene (Styrofoam!)** without any adverse effects, and in fact they seem to prefer it to many other foods. You can add pieces of Styrofoam in the larvae habitat, and observe if they prefer it to the other food sources. They break it down into the single molecule Styrene, which is an organic compound and more degradable than its poly form. If you are using your larvae as feeders, ensure they have not eaten any polystyrene 48hrs in advance of when you feed them out.
- **Experiment with foods!** Superworms are omnivorous and have a very broad diet. Offer small pieces of different food and see what they like. *Never leave items in long enough to mould:* replace with fresh. Items of interest to try could be various firm fruits and veggies (potato, apple, carrot: but no citrus, no onion), dry dog/cat food, hardwood (not cedar or pine).
- **Be cautious of mould.** It can form as your added food items get old: remove food before this happens.
- **The larvae are cannibals** and will eat the pupae and adults of their own kind. Ensure you keep the larvae separate from the pupae and the adults.

**LIFE CYCLE AND SPAN:** They will complete metamorphosis in around a month, if the larvae live alone. However, your larvae are in a group! So they will need to be prompted, because they will never pupate if left communally. Some of your larvae are already large and ready to pupate, and just need to be prompted. Once they become adults, they will live up to 6 months.

### PROMPTING METAMORPHOSIS

Superworms are very afraid of pupating around each other, because they are cannibals. To convince a mature larvae to pupate, you must isolate it for about 7-10 days.

- Try this with one or two of the biggest larvae we have sent you. Using the little vials, setup a micro-habitat with some grain, or some dirt, and some wood or a tiny corner of potato in a little vial. Add one larvae, and put the lid on. In 7-10 days you

should have a little pupae that looks exactly like Cocoon from Pokemon. Keep an eye on it: eventually the legs will turn brown, which is how you know it's about to emerge as a beetle.

- Repeat this by isolating the larvae as they get bigger. If you don't isolate them, they can stay as larvae for up to 8 months.

### ADULT BEETLES!

The adults are pretty, matte black beetles that don't bite, fly, or climb plastic or glass. Lots of people like to make naturalistic habitats for them: similar to the shipping cup they came in, with dirt, wood, leaves, or other nature items such as what they were shipped in (feel free to re-use that material). Adult beetles have a broad diet as well, but are not cannibals nor do they eat polystyrene (Styrofoam). They will live up to 6 months, and if you have a few of them, they will begin to pair and lay eggs in the substrate. Those eggs will hatch: keep an eye out for new larvae in the substrate if you have adult beetles. Colonies last indefinitely if properly cared for!

**WATER:** Keep a little water dish with the adults, such as a milk cap. Make sure it's shallow, because they can drown, but also make sure they always have access to it.

**FOOD:** Adult beetles like diversity. Feed them a variety of foods such as bran meal, apples, oranges, potatoes, cucumber, romaine lettuce, pears, etc. Try different things: and switch it out often.

### COOL FACTS

**Superworms are neat.** They can delay their maturity while larvae if conditions are bad (like competition from others). They can eat polystyrene and break it down, which opens a lot of doors for human application. The adults are pretty, gentle, and can hang upside down. Their only defense as adults is making themselves slightly stinky: try it, it's not gross. You'll notice it when you startle them.

**Can my beetles be released?** NO. These are **not** native beetles. If you find yourself overwhelmed by beetles, either call us for assistance or find someone who has a pet lizard who will eat your beetles.

*We guarantee alive arrival in shipping: however, once the larvae arrive, be ready to take care of them. These are living creatures and have needs of their own you'll have to meet. We can't control what happens past the point of shipping, but we can help you on your beetle adventure. Should you encounter any problems with your beetles, call us right away so that we can help.*

Butterfly Wings N' Wishes respectfully acknowledges that we operate on Treaty 6 territory, a traditional gathering place for diverse Indigenous peoples whose histories, languages, and cultures continue to influence our business, our way of life, and our community.