

Lumbriculus

Carolina™ CareSheet

Lumbriculus variegatus, commonly known as blackworms or California blackworms, resemble miniature earthworms but are aquatic, living in the sediment and silt of freshwater ponds and lakes. Their transparent bodies reveal many of their internal organs.

Immediate care and handling

We ship *Lumbriculus* in a plastic bag with water. Be prepared to transfer them into a 1-L wide-mouthed holding container of glass, plastic, or stainless steel. Have on hand springwater (preferred) or conditioned tap water. **Note:** *Many city water systems now treat tap water with chloramines. These compounds do not dissipate by aging the water, so removing them requires a dechlorinator (such as our item #671939 ACE® Aquarium Treatment). For details about conditioning water, see our "General Guidelines on Living Materials from Carolina Biological Supply Company Care Sheet" at www.carolina.com/caresheets. Do **not** use deionized or distilled water.*

Upon arrival of your shipment, open the container and inspect your order. Cut open the top of the bag. If the water is clear, simply decant (pour off) most of the water into your holding container. Then use a pipet to transfer the worms. If the water in the shipping bag is cloudy, decant and discard the water and transfer the worms into fresh springwater in your holding container. Place the container in an area away from direct sunlight. Check the holding container after 30 minutes and replace the water as needed until it remains clear. If the temperature in your classroom or lab remains above 21° C (70° F) for extended periods, plan to change the water every 2 to 3 days. If you are using the worms within a few days, little additional care is needed.

Habitat setup and maintenance

To keep *Lumbriculus* for a period of weeks or longer, you should set up a habitat for them. *Lumbriculus* are among the easiest organisms to culture. They are hardy, have simple needs, and thrive on neglect. A suitable habitat is a plastic, glass, or stainless steel pan or tank with a cover to control evaporation. You will also need springwater (preferred) or conditioned tap water, a plastic pipette, brown paper towel, and flake or pellet fish food. Fill the pan with 2 to 3" of springwater. Transfer the worms into the water with a plastic pipette or, if the water is clear, simply pour the water and worms directly into the pan. Do not handle or transfer worms with forceps as this might injure them. Cover the bottom of the pan with strips of folded brown paper towel. This provides hiding places for the worms. As the towels decompose, they provide food for the worms and numerous microscopic organisms—such as bacteria and rotifers—that may inhabit the culture. Use fish-food pellets or flakes as an additional food source. Add 1 or 2 pellets or flakes at each feeding. Add more after the worms consume these. Do **not** overfeed; decomposing food can contaminate the culture, causing masses of worms to die. Irregular feedings, even weeks between feedings, will not harm them.

Add springwater to replace water lost to evaporation. If the water begins to cloud, replace it until it remains clear. Eventually the paper towels disintegrate and waste residues accumulate. To clean the habitat, decant the water, being careful not to pour out the paper and worms that remain at the bottom. After rinsing the paper and worms with springwater, refill the pan to the original level and add new pieces of towel. The frequency of cleaning depends on population density, temperature, etc., but it is unlikely that the habitat will need cleaning more than once per month, and you probably can go several months between cleanings. Occasionally "harvest" the surplus worms and use them for classroom experiments, live fish food, or starting duplicate cultures. Maintenance of at least 1 duplicate culture is recommended for sustained culturing.

Under these conditions, the worms will reproduce asexually and the cultures will thrive for years.

FAQs

Will our *Lumbriculus* reproduce?

In a culture, *Lumbriculus* reproduce readily by asexual fragmentation and regeneration. Sexual reproduction is unlikely to occur in culture, although it is common in natural populations.

Do *Lumbriculus* have eyes?

No, but their sensory cells can detect shadows, and they often contract in response to changes in light. They are also sensitive to pressure changes and vibrations.

Why did our *Lumbriculus* disappear?

Did you use tap water? If so, you may have to switch to springwater. If the temperature is above 21° C (70° F), find a cooler location or change the water more often.

What are some classroom uses of *Lumbriculus*?

Lumbriculus are great for studies of regeneration. See our item #141702 Heads or Tails?—Regeneration in Lumbriculus kit. The pulsation of the dorsal aorta is clearly visible, and the rate of pulsation responds to temperature and various chemicals. *Lumbriculus* respond to a number of stimuli including light and touch, making them useful in introductory behavioral studies.

Problems?

We hope not, but if so, contact us. We want you to have a good experience.

Orders and replacements: Call 800.334.5551, then select Customer Service.

Technical support and questions: E-mail caresheets@carolina.com.



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