Silkworm Eggs

pecies: *mori*
Genus: *Bombyx*
Family: Bombycidae
Order: Lepidoptera
Class: Insecta
Phylum: Arthropoda
Kingdom: Animalia

Conditions for Customer Ownership

We are a USDA compliant facility and hold all necessary permits to transport our organisms. Each state is assisted by the USDA to determine which organisms can be transported across state lines. Some organisms may require end-user permits. Please contact your local regulatory authorities with questions or concerns. To access permit conditions, click here.

Never purchase living specimens without having a disposition strategy in place. Live specimens should not be released into the wild! Please dispose of any unwanted organisms using the guidelines below.

Primary Hazard Considerations

Always wash your hands thoroughly after you handle your organism. Silkworms do not bite, sting, or do anything harmful if held.

Availability

- Silkworm eggs are available year-round as they are farm raised. In the past, silkworm eggs could only be used in classrooms in the spring or fall when live mulberry leaves, a silkworms' main diet, was available. Nowadays, an artificial media (470180-382) can be used, making raising silkworms a year-round activity.
- Silkworm eggs will arrive lightly glued to a Petri dish. We over-pack each order of silkworm eggs. It is normal to have some deceased silkworm eggs in the container. You will receive at least the quantity of live silkworm eggs stated on the container. They will look like little black dots about 1 mm in diameter. The eggs can be stored in the refrigerator for up to three months to delay hatching if desired. Silkworm media is packaged in a sealed bag and appears green in color. Directions for making media are located on the outside of the bag.

Captive Care

Habitat:

- Silkworm eggs (470180-380) can be left in the petri dish they were shipped in until larvae hatch. The eggs could also be transferred into a plastic container or shoebox that is approximately one foot long by six inches wide and six inches deep. The container should be lined with paper towel and have holes in the lid that allow for air exchange. This container can be used for the entire life span.
- Eggs should be kept at a relatively warm temperature (75–85°F) and will hatch in 7–14 days. If a warm environment can not be created, eggs will hatch at temperatures above 65°F, but it will take longer.
- Upon hatching, silkworm larvae are only 2–3 mm in length and are very delicate. If your eggs were hatched in the Petri dish, now transfer them into a plastic or shoebox container. Larvae can be transferred using a fine tip paintbrush (470153-178). When the larvae are four weeks old and about 2" long, place some tree branches or an egg carton into the habitat so that the larvae can start to spin cocoons.

Care:

- **Food:** Larvae—Mulberry leaves are a natural food for silkworms and can be found in deciduous forests or can be bought in nurseries throughout the U.S. About five leaves can be consumed by 50 larvae in about 2–3 days. artificial silkworm diet (470180-382) is an easier food choice because it can be made in the classroom and does not require searching the forest for mulberry trees. Hydrated silkworm food can be stored in the refrigerator for a month. Once the larvae hatch, place a spoonful of media into one side the habitat, and spread it to a thickest of about ½ inch. Silkworm larvae can get sufficient moisture from food prepared as directed on the package or from mulberry leaves so do not require a separate water dish. Once the food is gone or dried up (about 2–4 days), replace it with fresh media. Continue to add fresh food every 2–4 days until the larvae turn into pupae. The paper towel bedding will also need to be changed when the media is changed.
- Once the cocoons are spun, no care is required. Leave them in place while they undergo metamorphosis. Handling at this time could disrupt development.
- Upon emerging from the cocoon after 2–3 weeks, adult moths require no special care. Adult moths have no functioning mouthparts; therefore they do not eat nor drink. From years of domestication and selective breeding, these moths have lost their ability to fly and are generally a motionless, defenseless insect. The moths can live in the same box they were raised in. Moths will live about 1–2 weeks, during which point their only function is to mate and the female lay eggs.

Information

- **Method of Reproduction:** Sexual. Females deposit 1 mm yellow fertile eggs that darken to gray/black.
- **Determining sex:** Male moths have larger, brushier antennae than females. Males also have a flap of skin at the rear and vibrate their wings rapidly to attract females. Females are overall larger in body size, especially the abdomen.

Life Cycle

- Silkworms are an example of complete metamorphosis.
- Egg stage is 7–10 days until hatching. In the larval stage, the silkworm begins as 2 mm long and develops over the course of 26–32 days to an end size of 4–6 cm. During this time, the larvae will go through four molts. Before pupation, a silk cocoon is spun by the larvae in order to encase itself for metamorphosis. The pupa is white/cream in color. The adult moth will emerge after about 14 days as full grown, flightless adults. Adults will live about 1–2 weeks during which time they mate and lay more eggs.

Wild Habitat

Bombyx mori originated in Asia, but is no longer found in the wild. The silkworm has been domesticated in China for silk production since about 3000 BC. It is believed that this long domestication has contributed to the evolution of this flightless moth from *Bombyx mandarina*, a related wild silk moth whose larvae also feed on mulberry leaves in China.

Disposition

We do not recommend releasing any laboratory animal into the wild, and especially not insects that are 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.

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