

Vinegar Eels

Species: *aceti*
Genus: *Turbatrix*
Family: Panagrolaimidae
Order: Rhabditida
Class: Secernentea
Phylum: Nematoda
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

Wear gloves when handling and wash your hands thoroughly afterwards. The cider vinegar in the jars may cause skin irritation.

Availability

Vinegar eels are available year-round. The majority of free-living nematodes are about 1 mm in length. We over-pack each order of vinegar eels. It is normal to have some deceased vinegar eels in the container. You will receive at least the quantity of live vinegar eels stated on the container. Immediately upon arrival, loosen the cap on the jar to allow gas exchange. If keeping your vinegar eels for longer than a week, you should move them to a separate container.

Captive Care

Habitat/Subculturing:

Fill a 2000 mL flask (470190-854) $\frac{3}{4}$ full with a 50/50 solution of apple cider vinegar and spring or deionized water. Add a few pieces of peeled apple and pour in the rest of your vinegar eel culture. Cover loosely to reduce evaporation yet allow air exchange. Students can draw off the specimens they need from near the surface of the medium. Do not remove the debris that collects on the bottom of the container since this provides a food source for the bacteria. As the culture is depleted, add more vinegar and pieces of apple. If kept for longer than a year, create a new subculture every year by adding 2 oz. of the existing culture to a fresh flask with fresh solution and apples.

Information

- **Method of reproduction:** Sexual reproduction. The male transfers sperm to the female and the ova are then fertilized. The female can also store the sperm in the seminal receptacle for future fertilization.
- **Determining sex:** Nematodes have sexes and the males are smaller than females. A curved posterior end also identifies the male nematode. The copulatory spicules are found at this part of the body.

Life Cycle

The nematode will go through six stages of development: egg, four larval stages, and adult. In *Turbatrix aceti*, this cycle will occur completely in the vinegar medium; it takes five weeks to reach the adult stage. The total life span is about 10 months.

Wild Habitat

The vinegar eel is a free-living nematode which inhabits the byproducts of fermentation and feeds on bacteria. In the past, it was commonly found in commercial vinegar. It is adapted to acidic environments and can be found in acidic lakes. They are preyed upon by fish.

Special Notes

- Nematodes make interesting study specimens because they are among the lowest group of animals to possess a complete digestive tract, including mouth and anus. The long cylindrical body of the nematode is unsegmented and covered by a thin cuticle. *Turbatrix acetii*, commonly known as the vinegar eel, is one of the thousands of species belonging to the phylum Nematoda. Nematodes are widely distributed and found in all climates. They occur in freshwater, marine, and terrestrial environments and have been found in extreme conditions such as hot springs and arctic pools.
- Unlike the free-living vinegar eel, there are many parasitic species of nematodes, including *Trichinella spiralis* which causes the disease Trichinosis. *Ascaris*, known as the roundworm, can be found in the intestines of humans and other mammals. Parasitic nematodes can also be found in insects, amphibians, reptiles, fish, birds, fungi, and plants. Parasitic species are usually 1–10 mm long, but can be longer. One species of nematode parasitic to the sperm whales reaches 9 meters in length. Nematodes parasitic to animals usually have part of their life cycle occur outside of their host, or in different hosts.

Disposition

If you no longer want your vinegar eels, you may:

- Feed them to fish.
- Autoclave them in a beaker at 121°C for 15 minutes.
- With plenty of tap water running, pour them down the drain.