

Protozoa

Immediate care and handling

When your protozoa culture arrives, immediately open the shipping container, remove the culture jars, and inspect them for any signs of damage. Once you have verified that the shipment is intact and not damaged, loosen the lids on the jars. Aerate the cultures using the plastic pipet supplied with each individual culture. Use a different pipet for each culture, and write the name of the culture on each to avoid contamination. Aerating helps replace the oxygen depleted during shipment. To aerate, place the top of a pipet into the culture water and squeeze the bulb, bubbling air into the water. Withdraw the pipet and release the bulb, allowing it to refill with air. Repeat the above process 4 more times.

Sampling and observation

Allow 15 to 20 minutes after aeration for the organisms to settle. Inspect the culture using a stereomicroscope and low illumination. Using the stereoscope will allow you pinpoint the areas where the organisms are concentrated. In preparing slides for viewing, students should obtain their samples from those areas. Using the stereoscope and designated pipet for that culture, students can pick out a single organism (or group of organisms) for their individual slides.

Many protozoans (such as *Paramecia*) concentrate in areas where food particles are abundant. These areas are visible as fuzzy debris within the culture. *Amoeba* can be difficult to locate at first because they move slowly and lack a constant shape. To find them, focus on the bottom of the jar after it has been sitting undisturbed for at least 15 minutes. Watch through the stereomicroscope for a few seconds and you should begin to see dozens of *Amoeba* as they creep slowly across the bottom. You will also see a faster moving organism called *Chilomonas* (a tiny flagellate) moving about the *Amoeba* culture. *Chilomonas* serves as a food source for the *Amoeba*. *Stentor* tends to attach to the sides of the culture jar. Other varieties may concentrate near the surface of the water.

To pick up an organism (or organisms), squeeze the pipet bulb before inserting the pipet into the culture. Release the bulb when the pipet's tip is close to the concentration of protozoans. Keep the pipet vertical as you are drawing the sample to avoid stirring up the culture and scattering the organisms. Do not squirt the pipet water back into the culture.

One drop should contain more than enough organisms for a slide mount. After adding a coverslip, examine the slide using the microscope's lowest magnification. After protozoans have been located, high magnification can be used to observe the organisms in greater detail. Some protozoans, mainly ciliates, move so rapidly that it can be difficult to keep them in the field of view under high-power magnification. A quieting solution, such as Protoslo® ([item #885141](#)), slows the ciliates' movement without killing them. Add 1 drop of Protoslo® to a drop of culture on a slide, mix well, add a coverslip, and observe.

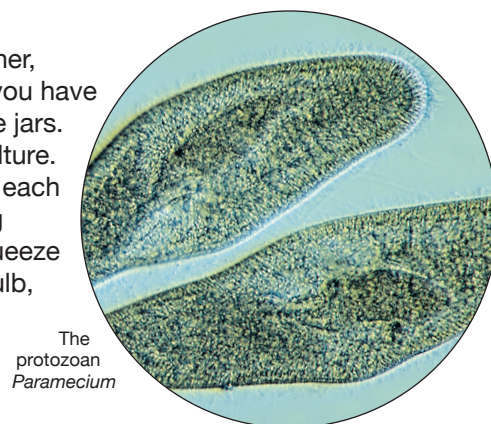
Care and culturing

Photosynthetic protozoans (*Euglena* and *Volvox*) need light to manufacture their own food. Use either indirect natural light or a light bank (such as our [item #158999](#)) to provide light for these organisms.

Never place protozoa cultures in a refrigerator or in direct sunlight. Maintain cultures between 20 and 22° C (68 and 72° F), with the lid placed lightly over the mouth of the jar. Plan to use the culture as soon after receipt as possible.

Many protozoans are easily cultured. For further instructions on how to culture protozoa, refer to the [Carolina™ Protozoa and Invertebrates Manual](#).

(continued)



FAQs

How long can I keep my cultures before using them?

If possible, use them within 2 to 3 days of receipt; however, most protozoan cultures will remain usable for a week or longer.

Will the cultures last longer if kept in the refrigerator?

We do not recommend refrigeration or rapid temperature changes of any kind for our cultures.

Are these protozoans dangerous?

No, the protozoans in our collection are for general classroom use. They are not parasitic or pathogenic in any way.

My cultures arrived on a Friday. Can I keep them over the weekend and use them for class on Monday?

Remove the cultures from their shipping container and care for them as directed in the “Immediate care and handling” section. Do not leave them in the unopened shipping container. Photosynthetic forms need light. Heterotrophic forms are shipped with enough food in their jar to maintain the culture for an extended period of time. You may even find that the cultures improve when left over the weekend because they have had time to recover from the shipping process.

My students are not finding any protozoans. What should I do?

Ensure students are following the sampling procedures described in the “Sampling and observation” section. Protozoan species differ greatly in size. If students have previously observed larger protozoa, such as *Paramecium*, remind them to look for smaller organisms when searching for *Euglena*. Finally, examine the culture under a stereomicroscope to locate areas where protozoans are concentrated and direct students to collect samples from those areas.

We used Protoslo[®], but now the protozoans are all at the edge of the coverslip and some have even been squeezed out completely from under the coverslip. What can I do?

If the Protoslo[®] and culture water are not thoroughly mixed, the thicker Protoslo[®] will displace the water and protozoans when the coverslip is added. If this occurred, clean the slide and start over, being sure to thoroughly mix the Protoslo[®] and culture water before adding the coverslip to the slide.

Problems?

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

- Orders and replacements: 800.334.5551, then select Customer Service.
- Technical support and questions: caresheets@carolina.com