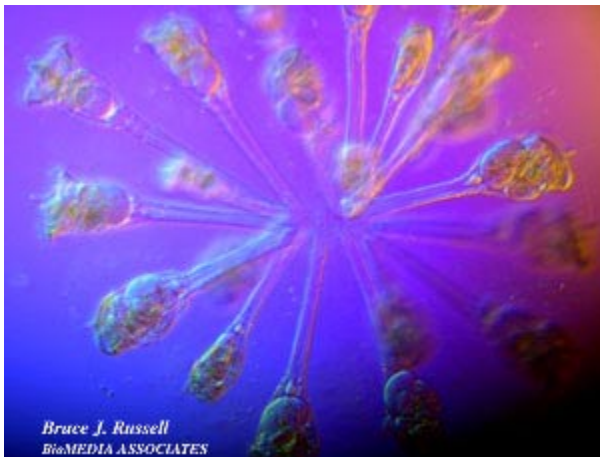




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common name	Rotifers
scientific name	many different species
phylum	Rotifera
habitat	vernal pools and other aquatic habitats
size	microscopic, 100 to 500 microns (0.1 to 0.5 mm)
description	Rotifers are the smallest animals. Their outer coat looks like clear glass. Sometimes this glassy coat is covered with spines or spikes. Rotifers have a ring of cilia (hairs) at their head end. The cilia beat in a wave, making currents to bring in food particles. Rotifers have real organs, including a brain, stomach and intestines. Rotifers are usually transparent , so you can see their organs. You can also see the color of the food they just ate!

fun facts

A vernal pool is a great place to see Rotifers. You can easily find 20 different species. Some are attached to plant stems. Others swim through the water. One Rotifer is a [parasite](#)! It lives inside of a beautiful algae called *Volvox*. The *Volvox* is a colony of algae cells that live together in a sphere. It looks like a green globe spinning slowly through the water. It is macroscopic, so you can see it with a hand lens. (You can see a picture of *Volvox* on the Critter Card for Algae.)

The parasitic Rotifer lives inside the *Volvox*. It munches away on the colony and lays its eggs. The damage slowly destroys the perfect globe shape of *Volvox*. When the Rotifer has eaten enough of its host, it escapes and swims off to find another victim.

life cycle

A vernal pool Rotifer can survive the hot, dry Sacramento summer. When its vernal pool dries up, so does the Rotifer! The Rotifer becomes very wrinkled and dry. It is smaller than a piece of dust. When the pool fills with water, the dried up Rotifer returns to its normal shape and its normal life. Scientists have seen Rotifers come back to life that were kept dry for 27 years!

Most of the Rotifers in vernal pools are females. Each female can reproduce all by herself, without the help of a male. She makes fertile eggs. The young Rotifers are exact copies of their mother. This kind of reproduction is called [parthenogenesis](#).

ecology

Many different species of Rotifers live in vernal pools. Some species live alone. Others live in colonies. Some attach themselves to plants. Others swim freely through the water. As you know, at least one is a parasite.

A Rotifer beats its cilia to suck detritus, Algae, Bacteria and Protozoa into its stomach. Many critters eat Rotifers including: Clam Shrimp, Fairy Shrimp, Tadpole Shrimp, Water Fleas, tadpoles, aquatic insects, Mallards and other ducks, and Great Egrets and other wading birds.

investigate

When you visit vernal pools, look for the bright green Volvox colonies floating in the water. Ask your guide to put one under a microscope, so you can look for the parasitic Rotifer inside. If the parasites are around, some of the Volvox colonies will look a bit ragged or torn. See if you can find other Rotifers under the microscope.

Now you know that Rotifers live in vernal pools. So, where else do Rotifers live? If you can use a microscope, you can solve the mystery. Even the lowest power of a compound microscope will help you to spot Rotifers. Ask your teacher if a microscope can be brought into your classroom.

You can collect a water sample from any kind of water or wet place such as a wetland, bird bath, dog's water bowl, roadside puddle, clump of moss or wet sand. Do not worry if the "wet" habitat has dried up. Just take a sample of the dry material from the bottom and add bottled water. Any dried Rotifers will come back to life within an hour.

Put your water sample on a glass slide or in a Petri dish. You can even put some water in a clean, zipper-lock sandwich bag. (When you lay the bag on its side, the water should be less than 1 cm deep, with no air bubbles. With some help from your teacher, slide the sample under the microscope lens and search for Rotifers. You can find out more about Rotifers on the web and in books.