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common name	Vernal Pool Tadpole Shrimp
scientific name	<i>Lepidurus packardii</i>
phylum	Arthropoda
subphylum	Crustacea
class	Branchiopoda
order	Notostraca
habitat	vernal pools
size	up to 5 cm long

description Vernal Pool Tadpole Shrimp have a shield-like cover called a carapace. They can be mottled olive-green, brown or gray. Their **abdomen** sticks out behind the carapace and ends in two long, thin tails. The endangered Vernal Pool Tadpole Shrimp has a short paddle between the tails. It's more common relative *Triops* does not.

fun facts Fossilized Tadpole Shrimp that lived millions of years ago look almost exactly like the ones we see today. The shrimp lived on Earth before there were fish and they never evolved defenses against fish predators. So, like Fairy Shrimp, Tadpole Shrimp now can live only where fish do not – in temporary pools.

life cycle The eggs of Vernal Pool Tadpole Shrimp are drought-tolerant **cysts**. When winter rains fill vernal pools and swales, some of the cysts will hatch. Others may not hatch for many years. As the Vernal Pool Tadpole Shrimp grows it sheds its carapace whenever it gets too small. Tadpole Shrimp are large (about the size of a half dollar coin). It takes them weeks to mature, so they tend to live in deeper vernal pools which last longer.

Female Tadpole Shrimp produce hundreds of encysted eggs which are deposited in the mud of the pool bottom. The cysts will rest there as the vernal pool evaporates and the bottom becomes hot and dry. The cysts can last for more than 10 years, until conditions are right to hatch.

ecology Vernal Pool Tadpole Shrimp are one of the largest invertebrate morsels an animal can find for dinner in a vernal pool. They are eaten by wading birds such as egrets and herons and migratory waterfowl including ducks. Frogs eat them too. Bullfrogs (a non-native frog) can come from their breeding areas in

nearby permanent water (streams, lakes, and wetlands) to eat the Tadpole Shrimp.

Vernal Pool Tadpole Shrimp burrow or creep along the muddy bottom of the vernal pools. They eat (and swim) by beating their leaf-like feet in a wavelike motion from front to back. They catch food with the feet. Their feet then move food up a groove that runs up the middle of their underside toward their mouth. They are very aggressive omnivores. They eat algae, bacteria, protozoa, rotifers, aquatic earthworms, insects, Fairy Shrimp, frog eggs and tadpoles.

conservation The Vernal Pool Tadpole Shrimp is listed as an endangered species. It is restricted to the Central Valley and the San Francisco Bay area. It occurs only in certain vernal pools. Due to its very limited range and the continuing loss of vernal pools due to new development and agriculture, Vernal Pool Tadpole Shrimp are Endangered. A species is listed as endangered when protection is needed to prevent the species from becoming extinct in the near future.

investigate Most vernal pools do not have Vernal Pool Tadpole Shrimp living in them. What are some of the characteristics of vernal pools where you find Vernal Pool Tadpole Shrimp? Can you think of any reasons why the *Lepidurus packardii* would prefer such pools?

What's in a name?

Ever wonder why scientists bother to assign a unique scientific name to each species? Why not just use a common name that's easier to say and understand than Latin? Well, here's an example of the problems with common names:

- Few people know about the endangered Tadpole Shrimp species which lives in vernal pools. Rice farmers think that the Tadpole Shrimp is a common animal and a pest in their rice fields because the shrimp eat their rice. They'd think you were crazy wanting to save Tadpole Shrimp from extinction!

- It turns out that two different species share the same common name "Tadpole Shrimp." One species is a summer pest in rice fields. Its scientific name is *Triops longicaudatus*. When we call the pest species *Triops longicaudatus* and the endangered species *Lepidurus packardii*, the confusion is avoided. People who speak different languages can even understand one another if they all use the scientific name.