

# Fish proficient at desert survival



## a desert place

Natural beauty  
through preservation

Presented by:  
CONSERVATION COMMITTEE of the  
Cave Creek Improvement Association

"Fish in the desert? Ridiculous!" And so it would seem: deserts and fish appear to be polar opposites. Yet the fact is that there are many kinds of fish inhabiting the North American deserts. They live in marshy backwaters of desert streams and springs; in lakes and ponds; in rainpools left in washes; in the waters over sand and gravel deposits; and in other wet spots of the desert. Believe it or not, such wet spots do exist.

Here are a few of the fish that survive in our Sonoran Desert.

First is the well-known Desert Pupfish, one variety of which was the subject of a famous U.S. Supreme Court water rights case. A survivor from the ice age that somehow managed to hang on in scattered pools and salty streamlets, the Pupfish is a tiny, silvery-backed creature seldom longer than two-and-a-half inches. Yet it can grow at the phenomenal rate of as much as two inches in a single year if conditions are right.

The Pupfish inhabits marshy backwaters of desert springs and streams in Southern Arizona, Southern California and Northwest Mexico. It can live and flourish in water with six times the salinity of the ocean, salty enough to kill a mackerel or tuna. It can survive temperatures ranging from almost simmering to nearly freezing. Mosquito fish, implanted by pest control agencies for the control of mosquito larvae, take a high toll of Desert Pupfish, hangs on tenaciously in a dozen or more Sonoran wet spots; a living lesson in evolutionary history.

The Gila Topminnow is another Sonoran Desert native. This tiny olive-tan-colored fish lives in springs, pools, edges, and backwaters of streams, usually where there is debris and aquatic vegetation. Once one of the most common fish in the area, it was added to the endangered species list in 1967. Its numbers are now thought to have stabilized.

The Speckled Dace is one of the most widespread minnows in the Western desert. It is an important forage fish which is also used for bait. Up to four inches in length, it generally has a dusky to dark-olive back, with grey-green sides. However, this species may appear in a variety of different shades and colors.

Last upon our list of native desert fish is the Spikeace, which grows to three inches in length. It is common in the Gila River system in Central and Southeastern Arizona. The fish has an olive-brown back with dark mottles, the sides silvery with scattered black specks. The Spikeace tends to choose its home in pools over sand and gravel. Once wide spread in the Gila River drainage, the Spikeace has been displaced in many areas by the newly introduced Red Shiner.

So far we have referred only to fish which are natives of the desert. There are, however, at least two introduced varieties which have become extremely wide spread in the desert - to the detriment of native species. These are the Mosquito fish and the Golden Shiner. Because it eats vast quantities of aquatic mosquito larvae, the Mosquito fish has been introduced into many desert areas for mosquito control.

Unfortunately, it competes successfully for food and habitat with natural desert fish. The same is true of the Golder Shiner, another fish which has been introduced widely into arid regions. Like the Mosquito fish, the Shiner is more efficient than the native species and tends to drive them out. A handsome clean-lined fish up to twelve inches in length, the Golder Shiner is the most common bait fish sold in the United States.

So there are fish in the desert, or at least in some of the numerous wet spots in the desert. Those who can make a personal visit to the

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The Longfin Dace, another Sonoran Desert native, is found mostly in warm desert streams. A robust specimen, it can grow to three and a half inches. Dark olive-grey above, whitish below, the Longfin Dace is omnivorous, feeding on detritus, aquatic invertebrates and algae.

homesites of these interesting creatures will not be disappointed. Those who cannot view the homesites can see most of these fish "live" (as television puts it) at the Arizona-Sonoran Desert Museum in Tucson. Unfortunately, there is no adequate aquarium in the Phoenix area.