



VIRGIN SPINEDACE

SCIENTIFIC NAME: *Lepidomeda mollispinis mollispinis*. From the Greek *lepi* meaning scale and *dom* meaning house. *Mollispinis* is from the Latin root *molli* meaning soft, and *spinis* meaning spine. The name is derived from the characteristic feature of the fusion of the two hardened spiny rays on the dorsal and pectoral fins.

DESCRIPTION: The Virgin spinedace is a member of an endemic group of western minnows that share the modified dorsal fin trait. This small stream fish ranges between 2 and 4 inches in length. Its sides are silvery with speckles and a touch of brassy coloration. Sexual dimorphism is only apparent during the breeding season. Males are typically streamlined, while females are more robust.

HABITAT: Virgin spinedace live in cooler, clear tributaries and in moderately swift areas with scattered pools. Extensive research on the species found that they will migrate more than half a mile and often frequent pools with some form of protection, such as overhangs, boulders, or debris.

DISTRIBUTION: Historic distribution is not well documented. Virgin spinedace are believed to have occupied (historically) most of the perennial streams and rivers within the Virgin River Basin. Today, they are found in portions of the Santa Clara and Virgin rivers and several of their tributaries in Utah, Nevada, and Arizona. In Arizona, Virgin spinedace are restricted to limited portions of Beaver Dam Wash and the Virgin River.

BIOLOGY: Virgin spinedace, like many other southwestern fish, mainly eat aquatic insect larvae, but also eat algae when other foods are scarce. They feed on the bottom, in the midwater column, and on the surface. Virgin spinedace usu-

ally do, however, maintain an equilibrium in the midwater column and will dart to the surface to capture prey.

Virgin spinedace typically live three years and reach sexual maturity in about one year. During breeding, the vent of the female becomes swollen, and both sexes develop reddish-orange coloration at the bases of the paired fins. Spawning generally occurs from April to June; approximately 90 percent of the spawning population consists of one-year-old fish. Females move to a group of congregating males near the lower ends of pools to spawn at or near the bottom.

STATUS: Virgin spinedace occur in approximately 60 to 63 percent of their historic range. In addition, about 24 percent of their current habitat has been adversely modified.

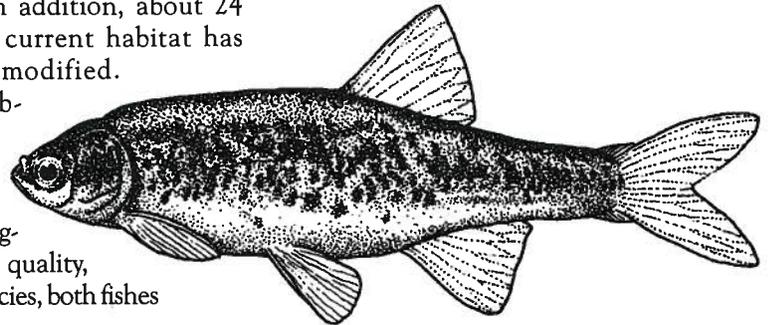
Declines are attributed to effects of water diversion, impoundment, channelization, degradation of water quality, and introduced species, both fishes and crayfish.

The Virgin spinedace is included on the Department's draft list of *Wildlife of Special Concern in Arizona* (AGFD in prep.). It was proposed by the U.S. Fish and Wildlife Service in May 1994 for listing as a threatened species, but the proposal was withdrawn in lieu of implementation of the multi-agency *Virgin Spinedace Conservation Agreement and Strategy*, which will ensure the conservation needs of the fish are met. The agreement's goal is to reestablish and maintain water flows, enhance and maintain spinedace habitats, maintain genetic viability, and monitor populations.

MANAGEMENT NEEDS: Several objectives aimed at eliminating or reducing threats must be addressed to ensure con-

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tinued existence of the species. Habitats must be protected and managed through establishment of instream flows that maintain the pattern of historic flows. Non-native fishes and crayfish should be removed or reduced from selected reaches of streams. In addition, populations must be reestablished into historical habitat and maintained at adequate numbers to ensure genetic viability. The Virgin spinedace is only one of several Arizona native fishes that seem to be on a course toward extinction. Progressive management of the spinedace in particular, and native fishes in general, is therefore extremely critical. 🐟