

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Animal Abstract

Element Code: AFCJB33010

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Plagopterus argentissimus*

COMMON NAME: Woundfin

SYNONYMS: *Meda argentissimus*

FAMILY: Cyprinidae

AUTHOR, PLACE OF PUBLICATION: Cope, 1874. Proc. Am. Philos. Soc. 14:129-39.

TYPE LOCALITY: San Luis Valley, western Colorado [sic]; Virgin River, Washington County, southwestern Utah (Miller and Hubbs, 1960).

TYPE SPECIMEN:

TAXONOMIC UNIQUENESS: Monotypic genus. Tribe of 6 species endemic to the Lower Colorado River basin. As referenced in Minckley (1973): Miller and Hubbs (1960) reviewed the tribe Plagopterini and concluded that *Plagopterus* is the most advanced genus among the three represented, and that it and *Meda* are the most closely related. Uyeno and Miller (1973) reached the same conclusions based upon karyotypes, as did Coad (1976 in Lee et al. 1980) based on a study of 28 characteristics. No described subspecies.

DESCRIPTION: A small slender, silvery, scaleless minnow. Head and belly flattened, and mouth small and nearly horizontal. According to Minckley (1973), "Rarely exceeds 75.0 mm (2.95 in.)....Body thicker anteriorly, thinner posteriorly, flattened beneath. Scales represented by dermal plates supporting low ridges on antero-dorsal portion of body, deeply embedded. First spinous ray strong, sharp-pointed. Barbels present. Dorsal fin-rays 8 or 9. Anal fin-rays usually 10. Pharyngeal teeth typically 1, 5-4, 1.... Coloration silvery over-all; sometimes with watery-yellow at bases of pectoral fins, and developing ventro-lateral, pinkish coloration in exceedingly "high," reproductive males."

AIDS TO IDENTIFICATION: As with the Virgin spinedace and the spikedace, the woundfin has two large spines in dorsal fin and bright silver sides. They have no scales, and their long snout has barbels located at the corner of the mouth. They can be distinguished from spikedace and spinedace by the presence of barbels. Woundfin has wider, flatter head than spikedace and lacks the scales seen in spinedace. In its present range, the woundfin is unlikely to be confused with sympatric species.

ILLUSTRATIONS:

B&W photo (Minckley 1973:115)

Color drawing (Page and Burr 1991)

TOTAL RANGE: Historic range includes the lower Colorado River basin including the Virgin, Moapa, Salt and Gila River systems. At present, the woundfin are restricted to approximately 50 miles of perennial reaches of the Virgin River in the states of Utah, Arizona, and Nevada.

RANGE WITHIN ARIZONA: Found sporadically throughout the Arizona portion of the Virgin River mainstem (Mohave County). Has been documented recently by the Virgin River Fishes Recovery Team near Cedar Pockets in the Virgin River gorge, and near the confluence of the Virgin River and Beaver Dam Wash (both locations are permanent survey sites for the team's biannual monitoring program).

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: This species is able to exist in heavily mineralized waters and can tolerate extremely high turbidity. Found in association with Virgin chub, *Gila seminuda*. They appear to undertake relatively long downstream migrations within present habitat.

REPRODUCTION: Fry generally appear by June, but continue to be produced throughout summer. Maturation appears to occur in second summer, and few if any individuals live more than four years. They have been successfully spawned at Dexter National Fish Hatchery and Technology Center in New Mexico.

FOOD HABITS: Omnivorous; eats algae, detritus, seeds and aquatic insects.

HABITAT: The species lives in swift parts of silty streams, seemingly avoiding clear waters and very seldom found in quieter pools. They occupy the main channel of seasonally swift, highly turbid, and extremely warm streams, with constantly shifting sandy bottoms. Current velocities and depths preferred by adults are one or two feet per second and eight to 18 inches. Young seek quiet backwaters with sandy substrates.

ELEVATION: The Virgin River reaches its lowest elevation in Littlefield, Arizona at approximately 1,900 ft. (580 m) and its highest elevation in the headwaters in Zion National Park, Utah at approximately 10,000 ft. (3,050 m). The woundfin is currently distributed from the lowermost elevations of the Virgin River, to approximately 3,000 ft. (915 m) near the confluence with La Verkin Creek.

PLANT COMMUNITY: Presently, the Virgin River riparian community consists primarily of *Tamarix* spp. Biotic communities along the Virgin River include the Great Basin and Mohave desert scrub.

POPULATION TRENDS: Population trends are declining. Historical habitat has been lost due to human impacts including habitat fragmentation, introduction of nonnative species and dewatering due to agriculture, mining and urbanization. Damming and drying have caused the disappearance of the woundfin throughout most of its historic range and continue to impact it in the Virgin River. Flows there, have been depleted by municipal and agricultural withdrawals. Growth of the town of St. George, Utah, on the Virgin River and in the center of the woundfin's present range will further limit water availability in the area. Additionally nonnative fish, have been brought in to the system, carrying with them parasites previously unknown to woundfin, but now occasionally infesting them. Red shiner, a baitfish, is rapidly expanding its range upstream in the Virgin River and, by still uncertain mechanisms, causing declines in the remaining woundfin populations.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: LE, XN (USDI, FWS 1970)
Experimental nonessential in portions of the Gila River
Listed Critical Habitat (USDI, FWS 2000)

STATE STATUS: 1A (AGFD SWAP 2012)
[WSC, AGFD, WSCA in prep]
[State Endangered AGFD, TNW 1988]

OTHER STATUS: No Forest Service Status (USDA, FS Region 3 1999)
[Forest Service Sensitive (USDA, FS Region 3 1988)]
Endangered, American Fisheries Society.

MANAGEMENT FACTORS: Preservation of the last remaining habitat and populations of this species in the Virgin River will require the following: 1) close monitoring of abundance and distribution; 2) guarantees of minimum flows at critical times through critical reaches; 3) control of nonnative fish populations and of parasites introduced with them; 4) refinement of hatchery techniques to produce large numbers for reintroduction; and 5) studies of the species' critical requirements for use in prioritizing management needs in the Virgin River and for evaluating potential reintroduction sites.

PROTECTIVE MEASURES TAKEN: Legal statutes that help protect the woundfin include Section 404 of the Clean Water Act and the Endangered Species Act. Virgin River Fishes Recovery Team conducts biannual monitoring and maintains a database of sampling results. Plans are in process for the construction of fish barriers and eradication of nonnative fish species. Unsuccessful reintroductions have occurred into four historically occupied areas in Arizona (Sycamore Creek on the Prescott N.F., Hassayampa River near Wickenburg, and the Salt and Paria rivers).

SUGGESTED PROJECTS: The Virgin River Recovery Team is charged with the mission of restoring the woundfin throughout its former range. The longterm goal of the team is the downlisting of the species. Downlisting strategies include the following: restoration and enhancement of existing habitat; establishing and monitoring minimum and channel maintaining flows; eradication of predatory and competitive nonnative species; reestablishment into and protection of formerly occupied range; critical habitat designation; on-going population monitoring, and other activities as described in the Virgin River Fishes Recovery Plan. Continue to conduct both laboratory and field studies on woundfin genetics, biology, and ecology. Continue to conduct stream surveys to determine the suitability of reintroduction sites.

LAND MANAGEMENT/OWNERSHIP: Zion National Park, Bureau of Land Management, U.S. Forest Service, States of Utah, Arizona and Nevada, Washington County Water Conservation District, private, and possibly others.

SOURCES OF FURTHER INFORMATION

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ADDITIONAL INFORMATION: As of July 1994, the Arizona Game and Fish Department, Nongame Branch, Native Fish Program is pursuing the reintroduction of the woundfin into the Hassayampa River.

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