

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

Animal Abstract

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CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Catostomus clarkii*

COMMON NAME: Desert Sucker, Gila Mountain Sucker, White River Sucker

SYNONYMS: *Catostomus clarki*, *Pantosteus clarkii*, *Pantosteus clarki*, *Minomus clarki*

FAMILY: Catostomidae

AUTHOR, PLACE OF PUBLICATION: Baird and Girard, 1854. Descriptions of new species of fishes collected in Texas, New Mexico, and Sonora, by Mr. John H. Clark on the United States and Mexico boundary survey, and in Texas, by Capt. Van Vliet, U.S.A., second part. Proc. Acad. Nat. Sci. Phila. 7:27.

TYPE LOCALITY: "Rio Santa Cruz, Gila" (Basin, Arizona); Jordan (1885).

TYPE SPECIMEN:

TAXONOMIC UNIQUENESS: Nine fish varieties from Arizona are included in this genus. Is a member of the subgenus *Pantosteus*. *C. clarki* can be separated from other members of the subgenus by a much lower number of predorsal scales 23(15-30) and lower number of scales, 71(64-81), in the lateral line. Three forms exist in Arizona in the Gila, Bill Williams and the Virgin River drainages.

DESCRIPTION: "Medium-sized catostomid fish, attaining adult size of 100.0 to 280.0 mm (3.9 to 11.0 in.)(or more, to 325.0 mm (12.8 in.)) in standard length; lips large with small papillae evenly dispersed over lower lip" (Minckley 1973). "Jaws with cartilaginous scraping edges" (Sublette et al. 1990). "Scales in the lateral line, 61 to 104, usually 65 to 80 in the Gila drainage, and 80 to 100 in the Virgin River and Bill Williams River drainage. Dorsal rays, 8 to 12, usually 10 or 11; pelvic rays, 8 to 12, usually 9 or 10" (Minckley 1973). Usually a small flap of skin present at the base of each pelvic fin. Coloration silvery tan to dark greenish above, silvery to yellowish below.

AIDS TO IDENTIFICATION: Similar in appearance to other Catostomids inhabiting the same waters except the desert sucker has the cartilaginous edges on the inside of the lips. Hybrids have been reported by Clarkson and Minckley (1988) between *C. clarki* and *C. insignis*.

ILLUSTRATIONS:

- B&W photo (Minckley 1973:165)
- Color drawing (Page and Burr 1991)
- Color photo (Rinne and Minckley 1991:20)
- B&W photo (Rinne and Minckley 1991:20)
- Line drawing (Sigler 1987: 18)
- Line drawings (Sublette et al. 1990:205)

B&W photos (Sublette et al. 1990:205)

TOTAL RANGE: Occurs in the lower Colorado River downstream from the Grand Canyon, generally including the Bill Williams, Salt, Gila, and San Francisco River drainages. "The Gila basin and San Francisco drainage in extreme headwater situations" (Sublette et al. 1990). The tributary streams of the Gila River drainage upstream of the Gila, Arizona, along with the Virgin River basin of Utah, Arizona, and Nevada including the pluvial White River and Meadow Valley Wash.

RANGE WITHIN ARIZONA: Occurs throughout the entire Gila River basin, and in the Bill Williams tributaries (Minckley 1973). Has decreased rapidly in southern part of range (AGFD Native Fish Diversity Review 1995).

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: These suckers feed by scraping stones using their cartilage-sheathed jaws. Some studies have indicated that desert suckers exhibit little seasonal movement and are resistant to downstream displacement despite floods. Preferred temperature is believed to be 17.5° C within modal bounds ranging from 10.0-21.0° C, although they have been found to survive temperatures exceeding 32.0° C. Experimental studies on oxygen deprivation suggest that it has a lower tolerance to reduced oxygen than other native stream fishes. Shows resistance to displacement during flood events.

REPRODUCTION: Spawning is generally in late winter and early spring where adults congregate in large numbers on riffles, in a manner similar to other species of *Catostomus*. Actual act of spawning generally consists of one large female and several smaller males. Adhesive eggs are deposited in a shallow depression made in the gravel. Eggs hatch in a few days. Young tend to congregate along the banks in quiet water in tremendous numbers, then progressively move into the mainstream as they increase in size. Juveniles are mature by their second year of life at a length of about 10.2-12.7 cm (4-5 in).

FOOD HABITS: Chironomid larvae are the primary food of juveniles. As an adult, this species is primarily herbivorous, scraping aufwuchs (diatoms and algae) from stones as well as ingesting plant detritus.

HABITAT: Found in rapids and flowing pools of streams and rivers primarily over bottoms of gravel-rubble with sandy silt in the interstices. Adults live in pools, moving at night to swift riffles and runs to feed. Young inhabit riffles throughout the day, feeding on midge larvae.

ELEVATION: 146 to 2,696 meters (480 to 8,840 feet).

PLANT COMMUNITY:

POPULATION TRENDS:

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: SC (USDI, FWS 1996)
[C2 USDI, FWS 1994]

STATE STATUS: 2 (AZGFD, AWCS 2022)
[1B (AGFD SWAP 2012)]

OTHER STATUS: Bureau of Land Management Sensitive
(USDI, BLM AZ 2000, 2005, 2008,
2010, 2017)
Forest Service Sensitive, (USDA FS Region
3 2013).

MANAGEMENT FACTORS: Alteration of historic flow regimes and construction of reservoirs have diminished available habitat. In addition, the stocking of non-native fishes has increased competition and or introduced hybridization. A winter snagging season for anglers currently (1994) exists for this sucker and the Sonora sucker, below Stewart Mountain Dam on the Lower Salt River. This management action was taken as a measure to encourage harvest of the species, as many die during the extremely low winter water flows.

PROTECTIVE MEASURES TAKEN: Two studies are underway which will document current population dynamics of the desert sucker in reaches of two central Arizona rivers: "Effects of Fish Snagging on the Lower Salt River" and "Roundtail Chub Study on the Lower Salt/Verde Rivers." Both Enhancement Fund studies will be conducted in FY 94-95.

SUGGESTED PROJECTS: Distribution and population studies within known range.

LAND MANAGEMENT/OWNERSHIP: BIA - Fort Apache, Fort McDowell, Salt River Pima and San Carlos Reservations; BLM - Arizona Strip, Kingman, Phoenix, Safford and Tucson Field Offices; BOR - Phoenix Area; NPS - Montezuma Castle National Monument; USFS - Apache-Sitgreaves, Coconino, Coronado, Prescott and Tonto National Forests; State Land Department; AGFD Black River Lands; Dead Horse Ranch and Red Rock State Parks; Sonoita Creek State Natural Area; TNC - Cascabel Community Management Area, Patagonia-Sonoita Creek, and Aravaipa Canyon and Muleshoe Ranch Preserves; Private.

SOURCES OF FURTHER INFORMATION**REFERENCES:**

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

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- John N. Rinne - USFS Rocky Mountain Forest and Range Experiment Station, Flagstaff, Arizona.

ADDITIONAL INFORMATION:

This species has been actively pursued by archery enthusiasts in tributaries of the Gila River drainage.

Revised: 1994-07-01 (JJW)
1995-01-29 (KLY)
1997-03-04 (SMS)
2001-10-10 (SMS)
2002-12-04 (RHB)
2023-01-09 (MBL)

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