

ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM

Animal Abstract

Element Code: AFCJB37050  
Data Sensitivity: No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Rhinichthys osculus*  
**COMMON NAME:** Speckled Dace  
**SYNONYMS:** *Rhinichthys nubilus*, *Apocope oscula oscula*, *Agosia couesii*, *Argyreus osculus*  
**FAMILY:** Cyprinidae

**AUTHOR, PLACE OF PUBLICATION:** Girard, 1856, Proceedings of the Academy of Natural Sciences of Philadelphia, 8:165-213.

**TYPE LOCALITY:** Species was described from Babocomari Creek, flood tributary of San Pedro River, just north of Fort Huachuca, Cochise County, Arizona (Lowe 1964).

**TYPE SPECIMEN:**

**TAXONOMIC UNIQUENESS:** Eight species of this genus in United States. *R. osculus* is the only species of *Rhinichthys* found in Arizona. Two subspecies of *R. osculus* found in Arizona; *R.o. osculus* inhabits the southern part of the Gila River System, and *R.o. yarrowi* in larger rivers and creeks to the north.

**DESCRIPTION:** Small minnow, rarely exceeding 7.6 cm (3.0 in.) in length. Body chunky, rounded, somewhat flattened ventrally; body depth usually about equal to length of head. Upper jaw protractile, or if a frenum is present, it is very small. Barbels usually present at sides of upper lips. Fins generally rounded, dorsal fin origin above or just behind pelvic-fin insertion. Moderately small scales, 60 to 90 along lateral line. Dorsal fin with 6 to 9 rays, usually 8. Anal fin with 7 rays (rarely 6). Pharyngeal teeth in two rows, 1, 4-4, or 2, 4-4, 2, or a combination there of.

Coloration highly variable, drab olivaceous with patterns ranging from large black blotches on body, through a single or double lateral band, to almost unicolored. Breeding males vivid red on bases of paired fins and on body near those fins, on and near anal fin base, the lower caudal lobe, the mouth, and near the upper part of gill cleft (Minckley 1973).

**AIDS TO IDENTIFICATION:** Small eye; a broad, blackish mid dorsal stripe; a conspicuous black spot at base of the caudal fin. *Rhinichthys osculus* differs from *Agosia chrysogaster*, longfin dace, in that *A. chrysogaster* has nearly terminal mouth, white spots at front and rear of dorsal fin, white bar on caudal peduncle, no scales on breast, belly and part of back; lacks barbel, groove on snout. Differs from *R. cataractae*, longnose dace, in that *R. cataractae* has a long fleshy snout in front of mouth, no groove separating snout from upper lip (Page and Burr 1991).

**ILLUSTRATIONS:**

B&W photo (Minckley 1973:129)

Color line drawing (Page and Burr 1991:100).

Photo (USDA, Forest Service Rocky Mtn Forest and Range Experiment Station 1991:17)

B&W photo (Wildlife Habitat Management Staff Group 1975:147).

**TOTAL RANGE:** Native to all major western drainages from the Columbia and Colorado rivers south to Sonora, Mexico (Lee et al. 1980).

**RANGE WITHIN ARIZONA:** In Arizona, found in Colorado, Bill Williams, and Gila River drainages, except slower and warmer portions of Colorado River mainstream. Minckley (AGFD Native Fish Diversity Review. 1995. Tempe, Arizona) states that there are 4 populations in the southern part of its range.

**SPECIES BIOLOGY AND POPULATION TRENDS**

**BIOLOGY:** Where this species has been more thoroughly studied, as in the Great Basin, high levels of morphological and genetic variability have been found. In many cases, individual springs and isolated basins have been found to have unique species or subspecies (Simons 1987). In Arizona there are at least two major body forms, a small, highly speckled or blotched, chubby-bodied form found in the southern part of the Gila River system, and a larger, banded or unicolored, more streamlined form found north of the Mogollon Rim. Can persist for long periods in intermittent pool even though they are crowded, diseased and starving. Relatively low tolerance for water with high temperature or low oxygen content.

**REPRODUCTION:** Two breeding periods, one in spring and the other in late summer. Spawn over coarse substrate using broadcast spawning method. Congregate in large groups and release many eggs.

**FOOD HABITS:** Omnivorous feeder, subsists on algae and other plant material, small crustaceans, insect larvae, and small snails (McClane 1974).

**HABITAT:** A bottom dweller, found in rocky riffles, runs, and pools of headwaters, creeks, and small to medium rivers: rarely in lakes (Page and Burr 1991). Reside in water less than 0.5 m (1.6 ft.) deep, with current averaging about 0.4m/sec (1.3ft/sec). Often congregate below riffles and eddies. Breeding adults prefer swift water.

**ELEVATION:** Peak abundance found 2,000 to 3,000 m (6,562 – 9,843 ft.), rarely below 1,500 m (4,921 ft.). Based on records in the Heritage Data Management System (HDMS), which does not include the entire range in Arizona, elevation ranges from 1,550 - 8,920 ft. (473 – 2,721 m) (AGFD, unpublished data accessed 2001).

**PLANT COMMUNITY:**

**POPULATION TRENDS:** Stable

**SPECIES PROTECTION AND CONSERVATION**

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

**STATE STATUS:** None (AZGFD, AWCS 2022)  
[1B (AGFD SWAP 2012)]

**OTHER STATUS:** Not Forest Service Sensitive (USDA, FS  
Region 3 1999, 2013)  
[Forest Service Sensitive (USDA, FS  
Region 3 1988)]  
Bureau of Land Management Sensitive  
(USDI, BLM AZ 2000, 2005, 2008,  
2010, 2017)  
No NNDFW Status (NNDFW, NESL 2000)  
[Group 4, NNDFW, NESL 1994]  
E, probably Extinct in the wilds of Mexico  
(NORMA Oficial Mexicana NOM-059-  
SEMARNAT-2010).  
Listed Endangered (Secretaría de Medio  
Ambiente 2000)  
[Listed Endangered Secretaría de Desarrollo  
Social 1994]

**MANAGEMENT FACTORS:** Speckled dace are widespread, abundant, and not in danger of extinction. Little management needed except to promote land use practices which maintain natural aquatic habitats. This species does not fare well in the presence of non-native predatory fish; introductions of these fishes should be prevented (Simons 1987).

**PROTECTIVE MEASURES TAKEN:**

**SUGGESTED PROJECTS:**

**LAND MANAGEMENT/OWNERSHIP:** BIA - Hualapai and San Carlos Reservations, and Navajo Nation; BLM - Arizona Strip, Kingman, Phoenix and Safford Field Offices; NPS - Grand Canyon National Park and Montezuma Castle National Monument; USFS - Apache-Sitgreaves, Coconino, Coronado, Prescott and Tonto National Forests; State Land Department; AGFD Black River Lands; Sonoita Creek State Natural Area; TNC - Aravaipa Canyon and Muleshoe Ranch Preserves, and Patagonia-Sonoita Creek; Private.

**SOURCES OF FURTHER INFORMATION****REFERENCES:**

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**MAJOR KNOWLEDGEABLE INDIVIDUALS:**

**ADDITIONAL INFORMATION:**

**Revised:** 1994-07-19 (LOC)  
1994-07-25 (SMS)  
1995-01-29 (KLY)  
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