scientific name | **Common name**

Agosia chrysogaster | **Longfin dace**

Bison code 010170

Official status | **Endemism**

no listed status | **Gila River, New Mexico**

Status/threats

Longfin is very likely the most common and highly adapted native southwester cyprinid, occupying waters in low hot deserts through mid elevation, canyon-bound streams to upper elevation, clear cool creeks in the conifer zone. Recent declines in the upper Verde River Arizona appear to result from a combination of habitat change, lack of flooding and introduced, predatory fishes such as smallmouth bass. The primary physical threats are drought and diversion and pumping of stream aquifers resulting in loss of surface flow.

Distribution

The species is widespread in the Gila River basin, Arizona and New Mexico, in the Bill Williams River, Arizona, and in the Yaqui, Magdelena, and Sonoyta basins of northern Mexico. It has been introduce into the Mimbres and Zuni rivers in southwestern New Mexico, and Virgin River in Arizona.
Although widely distributed and present in all habitable waters in the Southwest, it becomes reduced in abundance in larger streams and above 1500 m elevation.

Habitat

Longfin dace frequent shallow, sandy-bottom glide and run habitats in velocities of less than 50 cm/sec.

Life history and ecology

The longfin dace is a small (< 60-70 mm adult size), pelagic, normally occurring in schools in open waters. The species is highly adapted to the rigors of southwestern streams and rivers. It is reported to survive in algae mats during midday loss of surface flow in small streams because of excessive evapotranspiration. Aquatic macrophytes along stream margins also are commonly inhabited to reduce exposure to extreme thermal conditions (> 30 C). Agosia feed on detrital material, filamentous algae, and microscopic crustaceans.

Breeding

Longfin spawn over a long period of time (December through July-September in low elevation desert streams and rivers. Spates from summer monsoon rains may stimulate multiple spawning during a year. Saucer shaped depressions are excavated in fine sand typically along stream margis. These nests, often concentrated in clusters, are 15-20 cm wide, 4-5 cm deep with margins above surrounding stream substrates. Spawning occurs over these nests, eggs are deposited, young hatch in 4 days, young remain

in nests until yolk-sacs are absorbed. Growth is rapid, with young spawned in the spring reaching 45-50 mm and capable of spawning.

Key Habitat Components: sand substrate, shallow water, low velocity (< 40-50 cm/sec)

Breeding season

Expanded over a half year at low elevations, spring to early summer at upper (> 1000 m) elevations.

Grazing effects

No specific studies are available. Aside from direct trampling of nests and the indirect effect of removal of aquatic macrophytes at stream margins or of terrestrial vegetation that potentially provide thermal cover, the impact of grazing is low. In the upper Verde River, Arizona, the species has become reduced markedly in distribution and abunance during grazing removal. Stream channels narrowing and deepening and increasing in velocity may reduce sandy spawning substrates with low velocity waters.

Selected references

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