
New Geographic Distribution Record for Quillback, *Carpoides cyprinus* (Cypriniformes: Catostomidae) in the Verdigris River (Arkansas River Drainage) of Northern Oklahoma

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Abstract: A single adult quillback, *Carpoides cyprinus* was collected on 22 May 2022 by boat electrofisher from the Verdigris River, Wagoner County, Oklahoma (Arkansas River Drainage). Interestingly, few records exist for *C. carpiodes* in Oklahoma. The current discovery represents a new geographic distributional record for *C. cyprinus* in the state.

Introduction

The overall range of the quillback, *Carpoides cyprinus* (Lesueur) includes the Great Lakes-St. Lawrence River, Hudson Bay, and Mississippi River basins from Québec and Alberta, Canada, south to the Gulf Slope drainages of Louisiana, Mississippi, and Alabama, and west to Wyoming (Platania and Jenkins 1980; Page and Burr 2011). In Oklahoma, this sucker is relatively uncommon but has been collected from the Salt Fork of the Arkansas River and possibly some eastern reservoirs (Miller and Robison 2004). The quillback prefers large permanent pools, backwaters, and main channels of clear to turbid watersheds, with firm gravel bottoms (Pflieger 1997). It feeds by indiscriminately consuming

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bottom materials (ooze) but also ingests insect larvae, bivalve molluscs, and small crustaceans, as well as algae and plant material (Becker 1983; Ross 2001). Here, we document a new geographic distribution for *C. cyprinus* in northern Oklahoma.

Methods

On 25 May 2022, a single adult *C. cyprinus* (265 mm total length [TL]) was collected with a boat electrofisher from the Verdigris River (Fig. 1), Wagoner County, at the Tullahassee Loop Recreation Area (35°53'31.56"N, -95°26'55.76"W) (Arkansas River drainage). It was immediately placed on ice, photographed, and examined for myxozoan parasites (see McAllister et al. 2024). We follow the common and scientific names for *Carpoides* spp. in Page



Figure 1. Habitus of *Carpiodes cyprinus* from off the Tullahassee Loop Recreation Area on the Verdigris River, Oklahoma.

et al. (2023).

Results and Discussion

The carpsucker was confirmed as *C. cyprinus* based on the morphological characteristics outlined in Pflieger (1997, see his couplet 6a), including the lack of a nipple-like projection or median knob at the center of the lower lip (Fig. 2A) compared to the presence of that structure (Fig. 2B) in river carpsucker, *Carpiodes carpio* (Rafinesque) collected from same locality and date. The quillback further differs from two other *Carpiodes* spp. in Oklahoma as follows: (1) it possesses larger scales in the lateral line as well as the upper jaw not extending backward beyond the front of eye *vs.* those in *C. carpio* (Rafinesque) and highfin carpsucker, *Carpiodes velifer* (Rafinesque), (3) from *C. carpio* by having elongate dorsal rays which are as long as the dorsal base, (4) and by its head being more slender and the snout more blunter than both (Miller and Robison 2004).

Just to the north in extreme southcentral Kansas, *C. carpiodes* has been collected from the Little Arkansas River (Eberle 2014). Additional

collecting using boat electrofishers as well as hoop nets in some of the other major Oklahoma rivers and their tributaries may reveal a larger distribution for *C. cyprinus*.

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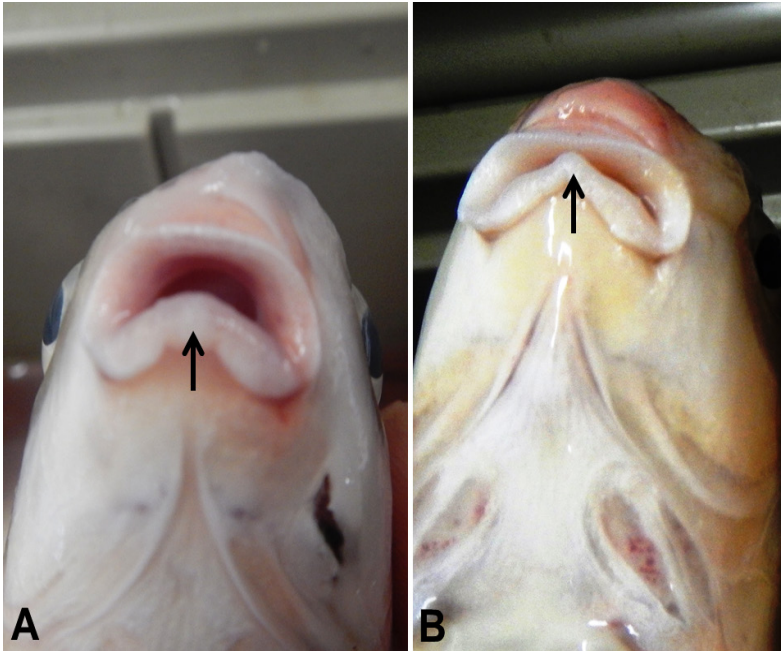


Figure 2. Comparison of lower lips of two *Carpiodes* spp. collected from the Verdigris River. (A) *Carpiodes cyprinus*; note absence of nipple-like projection on middle of lower lip (arrow). (B) *Carpiodes carpio*; note presence of nipple-like structure on middle of lower lip (arrow).

References

- Becker GC. 1983. Fishes of Wisconsin. Madison (WI): University of Wisconsin Press. 1052 p.
- Eberle ME. 2014. Quillback, *Carpiodes cyprinus* (Lesueur 1817). In: Kansas Fishes Committee, editors. Kansas Fishes. Lawrence (KS): University Press of Kansas. p 253-255.
- McAllister CT, Cloutman DG, Leis EM, Camus AC, Woiak Z, Robison HW. 2024. A new species of *Thelohanellus* (Cnidaria: Myxosporae: Myxobolidae) from gill of quillback, *Carpiodes cyprinus* (Cypriniformes: Catostomidae), from the Arkansas River drainage of Oklahoma. *J Parasitol* 110:(In press).
- Miller RJ, Robison HW. 2004. Fishes of Oklahoma. Norman (OK): University of Oklahoma Press. 450 p.
- Page LM, Bemis KE, Dowling TE, Espinosa-Pérez H, Findley LT, Gilbert CR, Hartel KE, Lea RN, Mandrak NE, Neighbors MA, Schmitter-Soto JJ, Walker HJ Jr. 2023. Common and scientific names of fishes from the United States, Canada, and Mexico, 8th edition. Bethesda (MD): American Fisheries Society, Special Publication 37. 439 p.
- Page LM, Burr BM. 2011. Peterson field guide to freshwater fishes of North America north of Mexico, 2nd ed. New York (NY): Houghton Mifflin Harcourt. 663 p.
- Pflieger WL. 1997. The fishes of Missouri. 2nd ed. Jefferson City (MO): Missouri Department of Conservation. 372 p.
- Platania SP, Jenkins RE. 1980. *Carpiodes cyprinus* (Lesueur). In: Atlas of North American Freshwater Fishes. Lee DS, Gilbert CR, Hocutt CH, Jenkins RE, McAllister DE, Stauffer JR Jr, editors. Raleigh (NC): North Carolina State Museum of Natural History. p 368.

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