

## The Distribution of the Suckermouth Minnow, *Phenacobius mirabilis*, in Texas

by **CLARK HUBBS** AND **WILLIAM F. HERZOG**

The University of Texas

THE suckermouth minnow, *Phenacobius mirabilis* (Girard), has been known to occur in the coastal streams of Texas since Jordan and Gilbert's (1886) records from the Sabine River at Longview and the Trinity River at Dallas. Although many subsequent authors have mentioned the occurrence of this fish in the state, only Evermann (1892) has listed a supplementary locality, i.e., the Trinity River at Magnolia Point, ten miles southwest of Palestine.\*

Three records of the suckermouth minnow are now available from the Colorado River System: Texas Natural History Collection No. 1263 from the Pedernales River at Ranch Road 93 crossing 22 miles west of Austin, by John D. Riggs and R. D. Stephens on March 4, 1951; T.N.H.C. No. 3815 from the Colorado River at the mouth of Shoal Creek in Austin, by Herzog and Thomas E. Kennerly, Jr., on October 14, 1954; and T.N.H.C. No. 3816 from the same locality, by Herzog and John R. Hilliard, Jr., on October 15, 1954. No detailed ecologic information was made on the single specimen collected by Riggs and Stephens. The three specimens collected by Herzog et al. were from very swift water with a heavy growth of *Potamogeton*. During the fall of 1954 seven additional specimens have been collected from under boulders in this riffle.

Many collections have been made in the Colorado River rapids at the mouth of Shoal Creek by the authors and various students at The University of Texas since 1950 without catching any suckermouth minnows. It is possible that this fish has been introduced into the Colorado River System by bait release. However, if so, Riggs and Stephens' 1951 record would require that the introduction occurred early in the period of intensive collections in the vicinity of Austin. Only Jordan and Gilbert's collection from this locality reported in 1886 is available to check on fish distribution prior to 1950. Obviously one collection will not suffice for negative evidence.

\* Jordan (1878) recorded the suckermouth minnow from the Rio Grande at Brownsville. Hubbs (1954b) indicated that the locality data for the fish reported by Jordan were in error.

We feel that the two collections of the suckermouth minnow from the same riffle on consecutive days is not a coincidence. It is likely that this species is more abundant there than at any time since 1950. Many of the riffle fishes appear to be more abundant than in the past. Hubbs (1954a) had only twelve specimens from the entire Colorado River System for his study of variation of *Hadropterus scierus*. During the four-year period less than ten specimens of *Hadropterus* have been collected from this riffle. The two collections containing *Phenacobius* had eleven *Hadropterus*. We suspect a similar increase in the abundance of suckermouth minnows.

Recently four other cyprinids have been added to the known fauna of the Colorado River by Jurgens (1954), who felt that all four had been recently introduced as bait. Although some or all of those minnows may have been introduced, we feel that of these only *Semotilus* is not native to the Colorado River System. All of the others have established populations in the river. During prehistoric floods the various rivers of central and eastern Texas must have been connected by floodwaters and any of the pelagic fishes which normally inhabit the main streams would have been transported to other systems. Those that could survive the ecologic conditions in the new river established populations at that time, which would only be supplemented by released bait. The suckermouth minnow supports this hypothesis. It is rare over its entire range. Moore and Paden (1950) stated that it was nowhere abundant in Oklahoma. In addition to the three Colorado River records from Texas, only the following two can be added to those known from Texas: T.N.H.C. No. 3202 from the Sabine River 12 miles south-southwest of Marshall, by Hubbs and Kirk Strawn on July 9, 1953; and T.N.H.C. No. 3817 from Owens Creek nine miles south of Henderson, by Hubbs and Strawn on July 10, 1953.\* Although few of over one hundred collections from eastern Texas, which we have examined, were from streams as large as the Sabine, many were from creeks very similar to Owens Creek. As in Oklahoma, its occurrence in eastern Texas must be considered to be rare. It is unlikely that bait fishermen would capture them in numbers.

The suckermouth minnow is believed to have a natural distribution typical of many fresh-water fishes. The southwestern limit to its range is along the Balcones Escarpment. Thus water chemistry rather than stream divides appears to be the major barrier to its southwestern distribution.

\* These collections were made during a field trip supported by The National Science Foundation.

The collections from which adequate ecologic data are available have only clear water and rapid current in common. Vegetation is nil in the Sabine and Owens localities and heavy in that from the Colorado. The bottom was boulders in the Colorado locality, clay in the Owens locality, and coal boulders scattered over sand in the Sabine locality. With the exception of Owens Creek, each collection is from a large stream. Unfortunately too few large stream collections are available to be sure if the suckermouth minnow is more common in large streams than small streams in Texas.

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