

REDISCOVERY OF THE SUCKERMOUTH MINNOW, *PHENACOBIOUS MIRABILIS* (GIRARD), IN ARKANSAS

The suckermouth minnow, *Phenacobius mirabilis* (Girard), is primarily a northern and western prairie stream species and is quite common in sand and gravel-bottomed riffles of permanent streams throughout much of Indiana, Illinois, Iowa, Missouri, Kansas, and Oklahoma. It is known to occur today in every state bordering Arkansas. Although *P. mirabilis* was originally described from the Arkansas River at Fort Smith (Girard, Proc. Acad. Nat. Sci. Phila., 8:165-213, 1856) it has always been rare in this state, and the lack of any recent records, despite numerous collecting attempts, suggested the possibility of its extirpation from Arkansas waters.

Until now, the only verified records of *P. mirabilis* from Arkansas were five pre-1940 collections, all from western Arkansas (Black, Ph.D. Dissertation, Univ. Michigan, Ann Arbor, 500 pp., 1940). However, on 16 July 1986, a single adult specimen of *P. mirabilis* was collected from Little Bay Ditch (St. Francis River drainage), 3 miles southeast of Jonesboro, Craighead County, Arkansas (R5E, T13N, Sec 18) by William E. Keith, Roland McDaniel, Bob Singleton, Mark Brady, and Bo Smith of the ADPC&E. The specimen, 73 mm in standard length, which will be deposited in the Arkansas State University Museum of Zoology in Jonesboro, possessed the following meristics: 46 lateral line scales, 8 dorsal rays, 7 anal rays, and 14 pectoral rays.

Little Bay Ditch is a channelized stream with a drainage area of approximately 45 square miles. Land use within this watershed is about 60% agricultural and 40% suburban. Habitat at the collecting site consisted of 70% shallow, slow-flowing pools and 30% shallow, fast-flowing riffles. The substrate consisted of 78.3% sand and 21.7% mud and silt. Brush, logs, and debris comprised the instream cover (17.5% of mean stream width). Other physical habitat features were: a stream gradient of 0.9 ft/mi, a mean stream width of 41.4 ft, a mean stream velocity of 1.01 ft/sec, an observed flow of 27.4 cfs, a mean depth of 0.9 ft, and a maximum depth of 2.5 ft. The following water quality data were recorded: water temperature 27°C, dissolved oxygen 5.1 mg/l, pH 7.99, turbidity 90 NTU, Total suspended solids 142 mg/l, Total dissolved solids 302 mg/l, BOD₅ 3.8 mg/l, BOD₂₀ 12.4 mg/l, Total phosphate 0.3 mg/l, NO₃ + NO₂-nitrogen 0.29 mg/l, NH₃-nitrogen 0.38 mg/l, chloride 9.0 mg/l, sulfate 18.0 mg/l, conductivity 426 µmho, Total hardness 166 mg/l, alkalinity 174 mg/l, chlorophyll-a 13.4 µg/l, fecal coliform 700 counts/100ml. A substantial summer rain had occurred 2-3 days previously resulting in above normal stream flow.

The single *P. mirabilis* specimen was collected in a shallow sandy-bottomed riffle in swift current with a 110 volt AC backpack electric shocker. The most abundant fishes by number at the collecting site were: *Gambusia affinis* (83), *Ictalurus punctatus* (76), *Lepomis cyanellus* (70), *Lepomis megalotis* (22), and *Notropis venustus* (22). Other fishes collected at this site were: *Amia calva* (1), *Lepisosteus oculatus* (6), *Dorosoma cepedianum* (11), *Cyprinus carpio* (10), *Notropis atherinoides* (2), *Fundulus notatus* (1), *Ictalurus natalis* (5), *Lepomis macrochirus* (1), and *Aplodinotus grunniens* (10).

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