

## Status and Distribution of the Longnose Darter, *Percina Nasuta*, and the Neosho Madtom, *Noturus Placidus*, in Oklahoma

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Two fishes of the Arkansas River drainage in northeastern Oklahoma, the longnose darter, *Percina nasuta*, and the Neosho madtom, *Noturus placidus*, are among the rarer fishes in the state (1). The last known collections of the two species, prior to the records we report here, were made in 1974 and 1976, respectively. In Missouri, *P. nasuta* has a very restricted range (2) and in Arkansas the species is very sparsely distributed (3). Generally, *P. nasuta* is considered a species of special concern. *N. placidus* is known from one locality on the Spring River in Missouri (2) and from the Neosho, Cottonwood, and Spring rivers in Kansas; in both states the species is listed as endangered (4).

The first report of *P. nasuta* in Oklahoma was the record given by Jordan and Gilbert (5) of a collection from a direct tributary of the Arkansas River, Lee Creek (= Lee's Creek in some accounts), Sequoyah County. In 1939 and 1941 the species was taken from the Poteau River, proper, and a tributary, Brazil Creek (6), and in 1959 it was re-collected from Lee Creek (7). H.L. Lindsay and W. Adams (pers. comm.) have, on several occasions, collected the species in Lee Creek—most recently in 1974. Prior to 1983, only 37 specimens of *P. nasuta* had been taken from Oklahoma waters: 23, 13, and 1, from Poteau River, Lee Creek, and Brazil Creek, respectively (8).

The first Oklahoma specimens of *N. placidus* were taken in 1946 from near the mouth of the Illinois River, Sequoyah County (9). Subsequent collections by A.P. Blair in 1948 and 1950 confirmed the persistence of the species in the lower Illinois River, and, in 1951, Blair also collected the species in the Neosho River near Miami, Ottawa County (4). Since 1951, H.L. Lindsay (pers. comm.) has made numerous collections of the species from the Neosho River near Miami, and prior to 1983 the last known collection of *N. placidus* from Oklahoma was made in 1976 in that area (8). Before our collection, a total of 6 specimens of *N. placidus* were known from the Illinois River and 137 were known from the single locality on the Neosho River.

On 3 September 1983, we collected 3 specimens of *P. nasuta* from Lee Creek. One specimen (Oklahoma State University Museum of Natural and Cultural History catalogue number: OKSU 11773) was taken by seining (seine = 1.8 × 9.2 m × length, 6 - mm mesh) a rubble-bottomed pool (1.5 m deep) 3.2 km N of the town of Short and upstream from the Oklahoma State Highway 101 bridge (S23, T13N, R26E). Riffles were dry and surface flow was minimal. The other two specimens (OKSU 11774) were taken approximately 12.8 km downstream from the locality just described and just downstream from where Weber Creek enters Lee Creek (S17, T12N, R27E). Water was restricted to shallow (< 1 m) pools; the specimens were taken by electroshocking (220 - V, 12 - A, AC generator with hand-held electrodes) in water 0.5 m deep over rubble substrate. These were the only two places where we undertook to collect in Lee Creek. Although present at both sites, *P. nasuta* was among the rarest of species present. Collection of the three specimens required about 1.5 hr of seining and approximately 1.25 hr of electroshocking.

On 25 September 1984, we collected three specimens of *N. placidus* (OKSU 11758) from the Neosho River approximately 0.8 km S of the Stepps Ford Bridge, 7.2 km W of the town of Commerce, Ottawa County, Oklahoma (S8,

T28N, R22E). The specimens were taken by electroshocking (apparatus described above) in a 5 - m stretch of riffle downstream to a seine (1.8 × 4.6 m long, 6 - mm mesh) set at the tail of the riffle. The specimens were collected from a gravel riffle in water 5 - 25 cm deep. Substrate at the locality otherwise consisted primarily of bedrock with scattered gravel patches. Approximately 45 min of electroshocking effort was required to collect the three specimens.

Our collections in 1983 confirm the continued existence of *P. nasuta* in Lee Creek and of *N. placidus* in the Neosho River. However, recent collecting efforts indicate that, elsewhere in Oklahoma, both *P. nasuta* and *N. placidus* have declined in occurrence. In 1974, Lindsay *et al.* (10) failed to collect *P. nasuta* during a general ichthyological survey of the Poteau River drainage, including Brazil Creek. The apparent decline of the species in this drainage may be due to environmental alterations caused by Wister Reservoir, construction of which was completed in 1949, and the construction of the navigation system on the Arkansas River, which backs water up the Poteau River. Species collected by Lindsay *et al.* (10) that were previously unreported in the Poteau River drainage include white bass (*Morone chrysops*) and threadfin shad (*Dorosoma petenense*) indicators of a fish fauna adapted to large riverine and lacustrine situations. Despite recent attempts (4) *N. placidus* has not been taken from the Illinois River in Oklahoma since Tenkiller Reservoir was completed in 1952. Habitat previously occupied by the species is located downstream from the dam where hypolimnetic discharge creates temperatures too low for survival and reproduction.

#### REFERENCES

1. H.W. Robison, G.A. Moore, and R.J. Miller, Proc. Okla. Acad. Sci. 54:139-146 (1974).
2. W.L. Pflieger, *The Fishes of Missouri*. Missouri Dept. of Conserv., Jefferson City, Missouri, 1975.
3. B.A. Thompson, *An analysis of three subgenera (Hypohomus Odontopholis and Swania) of the genus Percina (Tribe Etheostomatini, family PercidaeQ)*, Ph.D. Dissertation, Tulane University, Louisiana, 1981.
4. R. Moss, *Life history information for the neosho madtom, Noturus placidus*, Kansas Fish and Game Commission Publication, Contract No. 38, 1981.
5. D.S. Jordan and C.H. Gilbert, Proc. U.S. Nat. Mus. 9:1-25 (1886).
6. F.B. Cross and G.A. Moore, Am. Mid. Nat. 47:396-412 (1952).
7. A.P. Blair, Southwest. Nat. 4:1-13 (1959).
8. B.A. Wagner, A.A. Echelle, and O.E. Maughan, *Status of three species of Oklahoma fishes*. Completion Report to U.S. Fish and Wildlife Serv., 141 pp., 1984.
9. G.A. Moore and J.M. Paden, Am. Mid. Nat. 44:76-95 (1950).
10. H.L. Lindsay, S.G. Bellovich, E. Dale, and E. Smith, *An environmental inventory and assessment of the Poteau River basin*, Contract No. DACW56-74-C-0220, Dept. of the Army, 1974.