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NEW DISTRIBUTIONAL RECORDS OF ILLINOIS FISHES WITH ADDITIONS TO THE KNOWN FAUNA

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ABSTRACT

Through recent Illinois fish surveys and examination of fish collections made in the late 1930s and early 1940s, two fishes, the taillight shiner (*Notropis maculatus*) and inland silverside (*Menidia beryllina*), are added to the faunal list of the state; in addition, new localities are reported for nine other species. A record of the Atlantic salmon (*Salmo salar*) from the Mississippi River is also reported. In light of these new records, the taillight shiner, inland silverside, and spotted sunfish (*Lepomis punctatus*) require conservation status evaluations by the Endangered Species Protection Board and its Technical Advisory Committee on Fishes.

INTRODUCTION

Nearly ten years have passed since Smith (1979) published his comprehensive work on the fishes of Illinois. His review of the state fish fauna revealed 199 species (the discovery of *Menidia beryllina* after the book was completed is mentioned in a footnote on p. 211). Since then, collectors have rediscovered the greater redhorse, *Moxostoma valenciennesi* (Seegert 1986), a species thought to have been extirpated from Illinois. Examinations of collections made prior to Smith's survey have documented previously unreported records for the cypress minnow, *Hybognathus hayi* (Burr and Mayden 1982), bluehead shiner, *Notropis hubbsi* (Burr and Warren 1986a), and pallid shiner, *Notropis amnis* (Warren and Burr 1988). An introduced fish, the rainbow smelt, *Osmerus mordax*, has recently and rapidly extended its range in Illinois (Burr and Mayden 1980).

Recent field work, particularly in southern Illinois waters, has revealed the presence of one alien and two native species not previously reported. Several new distributional records for nine rare or uncommonly encountered fishes also were discovered through field work and examination of Illinois fish collections at the University of Michigan Museum of Zoology.

The purpose of this paper is to report records of 12 fishes, all of which have limited or unusual ranges in Illinois, so that informed evaluations of their conservation status can be made by the Illinois Endangered Species Protection Board and its Technical Advisory Committee on Fishes.

ACCOUNTS OF SPECIES

Records are based on several collections made by the authors and collections deposited at the Illinois Natural History Survey (INHS), Southern Illinois University at Carbondale (SIUC), University of Michigan Museum of Zoology (UMMZ), and Illinois Department of Conservation (IDOC). Species accounts include catalog number, locality, major drainage, county, date of collection, and in parentheses, the number of specimens. Genera and species are treated alphabetically within the general phylogenetic scheme presented by Robins et al. (1980).

Acipenser fulvescens Rafinesque
Lake Sturgeon

SIUC 15529, Mississippi River (Gulf of Mexico dr.) in Pool 14 below tailwaters of Lock and Dam 13, Whiteside County, 29 September 1978 (1); IDOC uncat., Mississippi River (Gulf of Mexico dr.) at Chain of Rocks, Madison County, 7 or 8 November 1987 (1).

Remarks: The lake sturgeon is rare in Illinois and is represented in collections by few extant specimens. To our knowledge the species has not been reported from the Mississippi River of Illinois since 1966 (Smith 1979), although a recent (1977) record is available from the Mississippi River of Kentucky (Warren et al. 1986). The Illinois specimens weighed approximately 18 and 50 lbs.; the SIUC specimen was tagged on the right side of the dorsal fin, but the tag was partially destroyed and illegible. Given the mobility of the species, we presume these individuals are waifs from populations in the upper Mississippi River or possibly the Missouri River (Pflieger 1975). The lake sturgeon is presently recognized as a state threatened species.

Lepisosteus oculatus (Winchell)
Spotted Gar

SIUC 12766, Rend Lake (Big Muddy R. dr.), Franklin/Jefferson counties, 13 September 1983 (4); SIUC 14697, Black Lake (Ohio R. dr.), 4.8 km. NE Old Shawneetown, Gallatin County, 22 May 1986 (1); SIUC 15313, Loon Lake (Ohio R. dr.), 2.75 km. SSE Brookport, Massac County, 13-14 July 1987 (1); SIUC 14470, Big Grande Pierre Creek (Ohio R. dr.), ca. 1.6 km. upstream from mouth, 8 km. NE Golconda, Pope County, 7 October 1986 (1); SIUC 14469, Lusk Creek (Ohio R. dr.), near Golconda, Pope County, 22 April 1987 (2); SIUC 15416, Barren Creek (Ohio R.

dr.), 2.4 km. upstream from mouth, ca. 1.6 km. W Bay City, Pope County, 17 October 1986 (1); SIUC 15333, Old River (Wabash R. dr.), 7 km. SE Emma, White County, 22 July 1987 (1).

Remarks: Records reported here extend the range of the spotted gar to southeastern Illinois and the Big Muddy River drainage. Smith (1979) reported no records from the southeastern borders of the state, including the Wabash River drainage, although the species is known from adjacent southwestern Indiana (Lee and Wiley 1980) and western Kentucky (Burr and Warren 1986b).

Salmo salar Linnaeus
Atlantic Salmon

SIUC 12967, Mississippi River (Gulf of Mexico dr.), near Chester, Randolph County, February 1986 (1).

Remarks: Previously unreported and not known to be legally stocked anywhere in the main Mississippi River, this species is native to the North Atlantic Ocean and adjacent coastal streams and was stocked on several occasions in the 1970s in Lakes Superior and Michigan (Becker 1983); however, Smith (1979) did not report the species from the Illinois portion of Lake Michigan. Over 30 Atlantic salmon were captured by commercial fisherman Roger Norfolk and one was frozen by Illinois Department of Conservation Biologist Francis Imboden and later transferred to SIUC. The specimen, a female, 555 mm in standard length, contains mature ova. The provenance and potential survival of this species in Mississippi River waters is unknown.

Nocomis micropogon (Cope)
River Chub

SIUC 15043, Little Vermilion River (Wabash R. dr.), 8 km. SE Georgetown, Vermilion County, 28 June 1987 (3); INHS 63435, Little Vermilion River (Wabash R. dr.), 3.2 km. N Hamrick, Vermilion County, 6 August 1987 (2).

Remarks: Smith (1979) recorded only two localities of the river chub in Illinois: the Wabash River proper in Clark and Lawrence counties. The locality reported here is the third record of the river chub for the state but more importantly also represents the only potential breeding population known in Illinois. The Little Vermilion River contains abundant nesting habitat for the species. The river chub recently was recommended for inclusion on the state watch list.

Notropis emiliae (Hay)
Pugnose Minnow

SIUC 15305, Beaver Pond (Wabash R. dr.), 3.7 km. SE New Haven, Gallatin County, 21 July 1987 (1); SIUC 15236, Long Pond (Ohio R. dr.), 7 km. NE Old Shawneetown, Gallatin County, 16 July 1987 (7); SIUC 15249, Big Lake (Ohio R. dr.), 4.5 km. NE Old Shawneetown, Gallatin County, 16 July 1987 (13); SIUC 14701, Black Lake (Ohio R. dr.), 4.8 km. NE Old Shawneetown, Gallatin County, 22 May 1986 (2); SIUC 15277, unnamed wetland between Big Lake and Fish Lake, 4.5 km. NE Old Shawneetown, Gallatin County, 16 July 1987 (1); SIUC 14416, Peters

Creek (Ohio R. dr.), 2.4 km. upstream from mouth, 2.4 km. SW (town of) Peters Creek, Hardin County, 14 October 1986 (1); SIUC 15273, Allard Lake (Ohio R. dr.), 2.5 km. N Paducah, Kentucky, Massac County, 14 July 1987 (2); SIUC 15357, unnamed wetland (Ohio R. dr.), 2.25 km. S Unionville at Devil's Washboard, Massac County, 31 July 1987 (3); SIUC 15315, Loon Lake (Ohio R. dr.), 2.75 km. SSE Brookport, Massac County, 13-14 July 1987 (12); SIUC 15229, Beaverdam Lake (Ohio R. dr.), 6.75 km. ESE Unionville, Massac County, 15 July 1987 (26); SIUC 15293, unnamed lake (Ohio R. dr.), near mouth of Bay Creek, 7 km. SSE Homberg, Pope County, 13 July 1987 (40); SIUC 14574, Three Mile Creek (Ohio R. dr.), 1.6 km. upstream from mouth, ca. 4.0 km. W Rosiclaire, Pope County, 27 October 1986 (2); SIUC 14549, Big Grande Pierre Creek (Ohio R. dr.), 3.2 km. upstream from mouth, 2.4 km. W Shetlerville, Pope County, 7 October 1986 (3); SIUC 13006, Limekiln Slough (Cache R. dr.), 3.2 km. SSW Perks, Pulaski County, 2 July 1986 (38); SIUC 13118, Long Reach (Cache R. dr.), 2 km. SSE Perks, Pulaski County, 13 May 1986 (1); SIUC 15322, Brushy Slough (Wabash R. dr.), 3.25 km. ENE New Haven, White County, 21 July 1987 (10); SIUC 14077, Lake of Egypt (S. Fk. Saline-Ohio R. dr.), Williamson/Johnson counties, 29 April 1980 (5).

Remarks: Smith (1979) regarded the pugnose minnow as extremely sporadic and rare in much of Illinois and noted its decline in the face of drainage and siltation in the southern third of the state. The collections cited above include the first records for the Cache River system and indicate that the species is common in streams, lakes, and wetlands along the Ohio and extreme lower Wabash rivers.

Notropis maculatus (Hay)
Taillight Shiner

SIUC 15282, unnamed wetland (Ohio R. dr.), 2.25 km. S Unionville at Devil's Washboard, Massac County, 15 July 1987 (1); SIUC 15356, same locality, 31 July 1987 (6).

Remarks: This locality represents the first record of this fish from Illinois, the most upstream record of the species in the Ohio River basin, and the northernmost limit of its range. The taillight shiner is a Coastal Plain species, and its northern distributional limits were believed to be in northwestern Kentucky, where its range abuts the Ohio River (Burr and Warren 1986b). In a recent ichthyofaunal survey (Burr and Warren 1987) of 22 lakes or wetlands along the lower Ohio and Wabash rivers, the taillight shiner was captured only at the locality cited above. The presence of young-of-the-year individuals at the site indicates that recent reproduction has taken place. The possibility exists that the taillight shiner persists in one of several of the lakes in the area but was missed in our sampling, or it has recently expanded its range. Alternatively and ironically, the taillight shiner may have been discovered in Illinois on the brink of extirpation. The species should be recognized as a state endangered species, and this population given highest priority for protection.

Erimyzon sucetta (Lacepède)
Lake Chubsucker

SIUC 15263, Yellowbank Slough (Wabash R. dr.), 4.8 km. S New Haven, Gallatin

County, 17 July 1987 (13); SIUC 8268, slough at Oakwood Bottoms (Big Muddy R. dr.), 8 km. NE Grand Tower, Jackson County, 29 November 1978 (1); SIUC 8267, LaRue-Pine Hills Swamp (Clear Cr.-Mississippi R. dr.), Union County, 9 June 1952 (1).

Remarks: No modern records for the lake chubsucker have been reported from the southern half of Illinois (Smith 1979). Gunning and Lewis (1956) reported it from a strip-mine pond in Perry County; this record is probably the result of introduction. Wall and Gilbert (1980) mapped numerous Illinois locations for the species in their account in the *Atlas of North American Freshwater Fishes*. Unfortunately, the localities plotted on their distribution map represent a composite of both the lake chubsucker and its close and widespread relative the creek chubsucker, *Erimyzon oblongus*. Smith (1979) mentioned records at UMMZ from various localities in southern Illinois. To the best of our knowledge, the only records from Illinois of the genus *Erimyzon* at the UMMZ are based on the creek chubsucker. Despite having made many collections in presumably suitable habitat in southern Illinois, we were unable to document other localities of occurrence for the species. Specimens from Yellowbank Slough were young-of-the-year, a finding that indicates successful reproduction has recently occurred.

Percopsis omiscomaycus (Walbaum)
Trout-perch

UMMZ 130274, Little Kincaid Creek (Big Muddy R. dr.), 9.6 km. S Oraville, Jackson County, 20 September 1939 (2); UMMZ 130321, Big Kincaid Creek (Big Muddy R. dr.), 16 km. S Oraville, Jackson County, 20 September 1939 (15).

Remarks: According to Smith's (1979) data, the trout-perch does not occur south of the Illinois River in Illinois. The localities reported here indicate that the species occurred in the past at least as far south as the Big Muddy River drainage. Both Kincaid Creek sites are now impounded by Lake Kincaid, and the species probably no longer occurs there. One of the above records is shown on the trout-perch distribution map in the *Atlas of North American Freshwater Fishes* (Gilbert and Lee 1980a).

Menidia beryllina (Cope)
Inland Silverside

INHS 26962, Mississippi River (Gulf of Mexico dr.), at Grand Tower near Devil's Backbone State Park, Jackson County, 8 April 1978 (1).

Remarks: This is the first record of this fish from Illinois waters and represents the northernmost locality of occurrence in the Mississippi River. Prior to this record the inland silverside was known only as far north in the Mississippi River as near Cairo (Pflieger 1975, Gilbert and Lee 1980b). Beginning in 1980 this fish has been stocked as a forage species in Baldwin Lake, Randolph/St. Clair counties; Lake of Egypt, Jackson/Williamson counties; and Rend Lake, Franklin/Jefferson counties (Stoeckel 1984, Roy C. Heidinger, pers. comm.). We presume the Mississippi River record is not the result of introduction, especially because the species is known to occur naturally in the river, and the collection was made prior to any known

introduction in Illinois. In ten years of intermittent sampling at Grand Tower, no additional specimens of the inland silverside have been captured.

Lepomis punctatus (Valenciennes)
Spotted Sunfish

SIUC 15266, Yellowbank Slough (Wabash R. dr.), 4.8 km. S New Haven, Gallatin County, 17 July 1987 (1); SIUC 14435, Goose Pond (Wabash R. dr.), 4.8 km. S New Haven, Gallatin County, 25 June 1986 (2); SIUC 15309, Beaver Pond (Wabash R. dr.), 3.7 km. SE New Haven, Gallatin County, 21 July 1987 (1); SIUC 14434, Black Lake (Ohio R. dr.), 4.8 km. NE Old Shawneetown, Gallatin County, 22 May 1986 (1); SIUC 15257, Big Lake (Ohio R. dr.), 4.5 km. NE Old Shawneetown, Gallatin County, 16 July 1987 (1); SIUC 15241, Long Pond (Ohio R. dr.), 7 km. NE Old Shawneetown, Gallatin County, 16 July 1987 (1); SIUC 15234, Beaverdam Lake (Ohio R. dr.), 6.75 km. ESE Unionville, Massac County, 15 July 1987 (6); SIUC 15321, Loon Lake (Ohio R. dr.), 2.75 km. SSE Brookport, Massac County, 13-14 July 1987 (5); SIUC 2609, Long Reach (Cache R. dr.), 2.4 km. S Perks, Pulaski County, 27 October 1979 (1); SIUC 15328, Brushy Slough (Wabash R. dr.), 3.25 km. ENE New Haven, White County, 21 July 1987 (4).

Remarks: Smith (1979) depicted few modern records for the spotted sunfish in the state and specifically noted declines in abundance in the Wabash River drainage. The localities cited here include the first record of the spotted sunfish for the Cache River and indicate that the species persists in several lakes and wetlands of the Ohio and lower Wabash rivers. This species was recently recommended for state threatened status, but in light of the records reported here, its status should be reconsidered.

Lepomis symmetricus Forbes
Bantam Sunfish

SIUC 5209, Horseshoe Lake (Cache R. dr.), at the spillway, ca. 4.8 km. SW Unity, Alexander County, 10 April 1982 (3); SIUC 5094, same locality, 17 April 1982 (4); SIUC 5128, same locality, 28 April 1982 (1); SIUC 5108, same locality, 1 May 1982 (1); SIUC 5290, Running Lake Ditch (Clear Cr.-Mississippi R. dr.), 3.2 km. S Ware, Union County, 3 April 1982 (6); SIUC 5028, Clear Creek (Mississippi R. dr.), 3.2 km. E Reynoldsville, Union County, 30 April 1982 (2).

Remarks: These records extend the Illinois range of the bantam sunfish south through the Clear Creek drainage to Horseshoe Lake. Previous to this report, modern Illinois records of the species included only Pine Hills and Wolf Lake in Union County (Smith 1979). The records from Horseshoe Lake are surprising in light of the numerous collections made at the spillway for many years by several independent investigators. The bantam sunfish is presently considered a state threatened species. The banded pygmy sunfish, *Elassoma zonatum*, was taken syntopically with the bantam sunfish on several occasions in Horseshoe Lake, a new Illinois locality for *E. zonatum*.

Percina sciera (Swain)
Dusky Darter

UMMZ 214130, Cache River (Ohio R. dr.), 2.4 km. S Unity, Alexander/Pulaski County lines, 5 October 1940 (1); UMMZ 214131, 3.2-4.8 km. NE Unity, Alexander/Pulaski County lines, 5 October 1940 (7); SIUC 14462, Ohio River (Mississippi R. dr.), 2.4-5.6 km. downstream from Golconda, Pope County, 20 October 1986 (1); SIUC 14502, Bay Creek (Ohio R. dr.), 2.4 km. upstream from mouth, 3.2-4.8 km. NW Bay City, Pope County, 24 September 1986 (1); UMMZ 214129, Post Creek Cut Off (Cache-Ohio R. dr.), 1.6 km. E Karnak, Pulaski County, 1 September 1940 (1).

Remarks: The dusky darter was previously believed to be restricted to the Vermilion, Embarras, and Little Wabash rivers in Illinois (Smith 1979). The records reported here extend its range to the southern third of the state in the Cache and Ohio rivers and some of their tributaries. Given the distribution of the species across the Ohio River in western Kentucky (Burr and Warren 1986b), these additional records were predictable. Recent records (1986) show that dusky darters are still present in Pope County streams, but recent attempts to collect this species from the Cache River were unsuccessful (Phillippi et al. 1986).

DISCUSSION

The discovery of the taillight shiner, inland silverside, and Atlantic salmon in Illinois waters brings the total number of species known from the state to 202. The presence of young-of-the-year taillight shiners in our collections demonstrates that recent reproduction has occurred. The inland silverside does not appear to have maintained a viable natural population in Illinois waters, but introductions into Baldwin Lake and Lake of Egypt are judged successful because of evidence of overwintering in these thermally enriched environments (Roy C. Heidinger, pers. comm.). The provenance and potential survival of the Atlantic salmon in the Mississippi River is unknown, and unless the introduced Lake Michigan stock shows evidence of reproduction and recruitment, the species should probably not be considered part of the Illinois fauna.

In light of the new records reported here, we recommend that the taillight shiner be recognized as endangered in Illinois and that the proposed threatened status of the spotted sunfish be reconsidered. Because we do not know of a viable native population of the inland silverside in Illinois, we recommend that it not be included on state conservation lists.

Important new records for otherwise poorly known Illinois fish species (e.g., cypress minnow [Burr and Mayden 1982], bluehead shiner [Burr and Warren 1986a], pallid shiner [Warren and Burr 1988], greater redhorse [Seegert 1986]) have materialized recently as a result of intensive collecting and examination of historical collections excluded from Smith's (1979) study. While many Illinois fishes show clear-cut evidence of range reduction, others are expanding their ranges, and still others are being introduced into Illinois waters. Because of the dynamic nature of the Illinois fish fauna (Smith 1979), we urge continued collection of fishes even in presumably well-surveyed areas.

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