

The Rediscovery of the Ohio Shrimp, *Macrobrachium ohione*, in Illinois

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ABSTRACT

The Ohio shrimp *Macrobrachium ohione* was once found commonly in the Mississippi River bordering southern Illinois. The last known Illinois collection of this species was made near Cairo in 1962. Two specimens taken on 16 July 1991 from the Mississippi River, Grand Tower, Jackson Co., Illinois, represent the first known collection of *M. ohione* in the upper Mississippi River basin since 1962.

"If undue pollution of the rivers does not arise, the present fishery for freshwater shrimp will probably be maintained indefinitely, for the present method of trapping captures only the larger animals and leaves the smaller ones to carry on." Gordon Gunter 1937.

The Ohio shrimp *Macrobrachium ohione* (Smith) is one of several species of shrimp that occurs in freshwater habitats of the United States. It is found in large rivers from Alabama to Texas with the northern limit of its range reaching into Illinois and Ohio. Populations also occur along the Atlantic Coastal Plain from Virginia to northern Florida. *M. ohione* is the only species of the genus *Macrobrachium* endemic to the United States and is the only member of the genus found in the Mississippi River drainage.

Macrobrachium ohione was once found in abundance in the Mississippi River bordering Illinois from St. Louis, Missouri, to Cairo. Because this species reaches a rather large size, with females attaining a total length (tip of telson to tip of rostrum) of 100 mm (Holthuis 1952), it was commercially harvested for human consumption and as bait for sport fishing (Forbes 1876; McCormick 1934).

Commercial fishermen from Kentucky, Missouri, and Illinois once reported collecting this species in large numbers (pers. comm. B. M. Burr). However, these same fishermen claim to have not seen or collected the Ohio shrimp since the mid 1940s. A statewide survey of Illinois decapods conducted from March 1972 to September 1982 did not reveal any specimens of *M. ohione* in Illinois waters (Page 1985). The last known collection of the species is a single specimen taken from the Mississippi River, 1.6 km south of

Cairo, Alexander Co., Illinois, on 11 September 1962 (specimen at Illinois Natural History Survey). Page (1985) attributed the disappearance of the Ohio shrimp to the loss of suitable habitats resulting from channelization, impoundment of rivers, and drainage of bottomland lakes.

On 16 July 1991 two specimens of *M. ohione* (TL 46.4, 55.5 mm) were collected from the Mississippi River at Devil's Backbone State Park, 1.2 km north of Grand Tower, Jackson Co., Illinois, using a 9.1 m bag seine. These specimens represent the first known collection of the Ohio shrimp in the upper Mississippi River valley since 1962 and are now deposited at the Illinois Natural History Survey.

Curiously, seasonal seine collections made in the Mississippi River at Grand Tower, Jackson Co., Illinois, for fourteen years (1977-1991) have not yielded a single specimen of *M. ohione*. I speculate that the low water levels in the Mississippi River over the past three years created water quality conditions (e.g., high dissolved solids and higher average water temperatures) favorable for *M. ohione* and allowed it to reach the upper Mississippi River basin from more southerly locations for the first time in many years.

The rediscovery of *Macrobrachium ohione* in Illinois demonstrates the need for continued monitoring of our aquatic habitats. Additional surveys will be required to determine if the Ohio shrimp is reproducing in Illinois waters.

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LITERATURE CITED

- Forbes, S. A. 1876. List of Illinois Crustacea, with descriptions of new species. Illinois Museum of Natural History Bulletin 1 (1): 3-25.
- Holthuis, L. B. 1952. A general revision of the *Palaemonidae* (Crustacea Decapoda Natania) of the Americas. II. The subfamily *Palaemoninae*. Allan Hancock Foundation Occasional Paper 12.
- Gunter, G. 1937. Observations on the river shrimp, *Macrobrachium ohionis* (Smith). American Midland Naturalist 18: 1038-1042.
- McCormick, R. N. 1934. *Macrobrachium ohionis*, the large freshwater shrimp. Indiana Academy of Science Proceedings 34: 218-224.
- Page, I. M. 1985. The crayfishes and shrimps (Decapoda) of Illinois. Illinois Natural History Survey Bulletin 33 (4): 335-448.