

BROOD SIZE IN A WESTERN MOSQUITOFISH (*GAMBUSIA AFFINIS*) FROM WISCONSIN



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INTRODUCTION

The Western Mosquitofish (*Gambusia affinis*) is a live-bearer native to the south-central United States from southern Iowa and Illinois southward, but it has been widely introduced in other areas (e.g., Courtenay and Meffe 1989). Although it is limited by cold temperatures (Courtenay and Meffe 1989), populations have been established in northern Illinois (Krumholz 1948) and northern Indiana (Clem and Whitaker 1995). More recently, Western Mosquitofish have successfully overwintered in southern Wisconsin (Lyons 2010). The purpose of this note is to report a large brood produced by a female mosquitofish collected in Wisconsin.

METHODS

On 24 June 2010, I collected a large, obviously gravid female mosquitofish in McCartney Branch at the boat landing near its confluence with the Mississippi River, Grant County, Wisconsin. I held this female in isolation in the laboratory until it gave birth.

RESULTS

By 28 June 2012, the female mosquitofish had given birth to 214 young. This is a minimum estimate of brood size because the mother could have cannibalized some of her off-

spring (Meffe and Snelson 1989). She died two days later and measured 52 mm in total length.

DISCUSSION

The female mosquitofish observed during this study was relatively large and probably in its second summer. Krumholz (1948) found only three females greater than 50 mm in total length (53, 54, and 57 mm) in a sample of 746 females from five ponds in Cook County, Illinois, all collected during the period 18-25 August, and based on analysis of scales, these were the only individuals that had overwintered from the previous summer. The largest individual he ever collected was a 63-mm female from an artificial pond in Michigan.

Brood size increases with female body size, but also varies among water bodies and is affected by the age of the female and how many broods she has already produced (Krumholz 1948). Krumholz (1948) found 315 embryos in a 59-mm female that had overwintered and 218 embryos in a 47-mm young-of-the-year female. In a sample collected from one pond on 9 June, five females 52 mm long (the same length as the female observed during the present study) contained an average of 232 embryos, whereas 54 females of the same length on 13 July contained an average of 156 embryos. Barney and Anson (1921) reported a max-

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Gravid female. (Photo by Brian Zimmerman)



Gravid female. (Photo by Nate Tessler)

Western Mosquitofish (continued from page 17)

imum brood size of 226 young produced by a female of 43 mm standard length (approximately 51 mm total length) in Louisiana. Bonham (1946) reported a single brood of 354 young produced by a female of unspecified size from a Texas pond.

The brood size recorded for the one female observed during the present study indicates that even in a northern location with a relatively short growing season, it is possible for Western Mosquitofish to produce large broods of similar magnitude to those produced in more southern latitudes. However, reproductive rates for this species in Wisconsin will also depend on such factors as the growth rates of individual females and the number of broods they produce.

ACKNOWLEDGMENTS

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