Abstract

Most studies on Eugerres mexicanus mainly consider biogeographic and systematic aspects and rarely address reproductive characteristics, which are useful for fishery population management plans. This study aimed at evaluating the ontogeny of E. mexicanus, based on 30 embryos and 30 larvae sampled by induced spawning of breeders, taken in February 2009 from the Usumacinta River in Tenosique, Tabasco, Mexico. All descriptions of the embryonic development were based on morphometric and meristic data and followed standard methods. Eggs, recovered at the gastrula stage, had an average diameter of 1.17mm (SD=0.08). The bud stage appeared during the first three hours of development, in which the posterior side was adhered to the vitellus; Kupffer’s vesicle was visible. Yolk-sac larvae hatched 18 hours after fertilization, exhibiting a light brown color and an average total length of 2.94mm (SD=0.70); the preflexion stage was reached eight days after hatching, with a total average length of 4.67mm (SD=0.50) and a total notochord length of 4.45mm (SD=0.50). The flexion stage was reached on the 16th day, with an average total length of 6.66mm (SD=1.53), while postflexion was reached on the 24th day, with 10.33mm (SD=1.45). The pre-juvenile stage was reached on the 33rd day, with a total length of 14.30mm (SD=0.93), showing IX spines and 10 rays and III spines and eight rays in the dorsal and anal fins, respectively. The juvenile stage was reached by the 45th day, with an average length of 28.16mm (SD=1.93) and average weight of 4.75g (SD=1.49). Prejuveniles showed an initial pigmentation with dark colored dots in the superior and inferior jaw and dispersed on the head, while juveniles presented the same pigmentation pattern, decreasing towards the margin of the caudal peduncle. In conclusion, the embryonic developmental stages of E. mexicanus were typical for the Gerreidae group. However, their morphometric characters were slightly different since the diameter and size of the drop of oil were bigger than those reported for marine species. In addition, regarding pigmentation, the yolk-sac larvae of E. mexicanus were olive and yellow on the margin of the notochord, which differs from those reported for other species. This is the first recorded report on the reproductive biology and early life development of this species.

Keywords

Reproduction, induction, embryo, larva, Eugerres mexicanus, Tabasco.