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Sustainable Aquaculture for a Secure Future

Title: Reproductive variability of the common snook, *Centropomus undecimalis*, in environments of contrasting salinities interconnected by the Grijalva–Usumacinta fluvial system

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Abstract: The common snook, *Centropomus undecimalis*, is a migratory euryhaline fish. In the southern Gulf of Mexico, fishing of large snooks occurs mainly in the marine environment (MA), while medium-size adults and juveniles are caught in freshwater environments (FW); however, large-size adults can also be found in FW far away from the sea, and the effect of different environments on their reproductive cycle is unknown. To describe the reproductive cycle of this species in different salinity habitats, we analyzed macroscopic reproductive characteristics during one annual cycle in FW and MA interconnected by the Grijalva-Usumacinta basin. Specimens with full-grown gonads and capable of spawning were found in FW, an unusual condition not reported for this habitat, but active spawning was observed only in MA. *Centropomus undecimalis* has a biological strategy that allows the use of FW as a juvenile until it reaches sexual maturity as a male and joins the reproductive stock in MA. Adults of both sexes can remain in both FW and MA without affecting their reproductive cycle, suggesting that those that mature in FW migrate to the sea during the spawning season.

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