

Potential of the First Dorsal Fin Spine for Estimating the Age of Wahoo, *Acanthocybium solandri*, from the Northern Gulf of Mexico, with Comments on Specimens from Bimini, Bahamas

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ABSTRACT

The wahoo, *Acanthocybium solandri*, is an oceanic, migratory, pelagic fish that occurs in most tropical and subtropical seas of the world. In the western Atlantic Ocean wahoo occur from New Jersey to Columbia, including Bermuda, the Bahamas, the Caribbean Sea and the Gulf of Mexico (Gulf). Wahoo support recreational and commercial fisheries in the northern Gulf, however, life history data for stock assessment are lacking. Dorsal fin spines #1-5 removed from wahoo caught in the northern Gulf during June - September 1997 and May - June 1998, and at Bimini, Bahamas in November 1997 were assessed to determine their potential for age estimation. Transverse thin-sections of spines were viewed under transmitted light at 25 - 40x magnification. Spines #2-5 generally revealed a substantially eroded central matrix surrounded by ambiguous markings, which fundamentally rendered them ineffective as ageing structures. First dorsal spines (the largest of the spines examined) exhibited a partially eroded and/or vascularized central matrix with a succession of alternating, reasonably well-defined opaque and translucent bands. Though not yet validated as annuli, we speculated that translucent bands (typically comprised of multiple small rings) on first dorsal spine sections were probable indicators of age and enumerated them for 38 males (935 - 1,390 mm FL) and 48 females (875 - 1,773 mm FL). Extensive vascularization of the central matrix in spines from three females >1,725 mm FL obscured the innermost translucent bands, which required their statistical replacement. Band counts for the spines examined ranged from 1 - 6. Mean length-at-estimated age data were derived separately for Gulf and Bimini specimens.

KEY WORDS: *Acanthocybium solandri*, wahoo, age estimation, dorsal spine