Spawning and Development of Nassau Grouper at Grand Cayman

Progress Report

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During the 1988 – 1989 spawning season, 84 male and 179 female Nassau groupers (*Epinephelus striatus*) from three spawning aggregations near Grand Cayman were examined. Locations were Coxswain Bank, south of Sand Cay, and Twelve-Mile Bank. The smallest mature males and females weighed 2 kg and were about 50 cm total length. The largest male weighed 8.7 kg and was 85 cm TL. The largest female weighed 11.0 kg and was 80 cm TL.

Several days before the full moon in January and February, groupers began aggregating at a depth of 27 m on prominent portions of the reef. Just after the full moon, hydration of oocytes began and the fish moved farther out to 35 m depth. Spawning occurred a few days later—6 to 9 days after the full moon—around the last quarter. Within 10 days after the full moon, spawning was finished and the aggregations had dispersed.

Egg and larval development (reared specimens) was similar to that described for other epinephelines. Eggs were 900 µm in diameter, with a 240 µm oil globule. The yolk was homogeneous. The chorion was smooth and the perivitelline space narrow. No melanophores appeared until after hatching. Eggs were neutrally buoyant in water of 32 ppt salinity. Normal salinity near Grand Cayman is 35 – 37 ppt. Hatching occurred 27 – 29 h after fertilization at 25°C, and 23 – 25 h at 28°C. At hatching, larvae were 1.7 – 1.8 mm NL; the oil globule was posterior. Important characteristics that developed during the larval phase were well-developed dorsal, pelvic, and preopercular spines with spinelets, and a dense caudal pigment patch.