EFFECTS OF SALINITY ON OSMOTIC STRESS RESPONSES OF COBIA *Rachycentron canadum* JUVENILES

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Cobia (*Rachycentron canadum)* is considered a species with great potential for aquaculture due to its rapid growth and relatively good market price. Studies on different aspects of its physiology may be useful in improving growth performance of the species under different environmental conditions. The present study evaluated the osmotic stress responses of *R. canadum* juveniles exposed to different salinity levels under laboratory conditions.

A total of 72 fishes (mean weight of 105.35 g and length of 25.12 cm) were distributed in 12 tanks (500 L), corresponding to three salinity treatments of 14, 26 and 34 (control) with four replicates each. Blood samples (1.5 ml) were collected daily at 07:00 and 17:00, and placed in eppendorf tubes with 0.1 ml of EDTA solution (3%) at 4 ºC for osmolality analysis. Water samples from each replicate tank were also collected for osmolality analysis. The osmotic concentration of blood and water were determined in a vapor pressure osmometer (Vapro, Wescor®). Water quality variables (temperature, dissolved oxygen, ammonia and pH) were recorded daily (07:00 and 17:00 h). A commercial diet (48% crude protein) was offered twice a day. The experiment lasted 72 h.

Water quality variables presented no significant differences between the treatments and remained within acceptable levels for growth and survival of *R. canadum.* There were no significant differences in the blood osmolality of fish exposed to the different salinity treatments during the experimental period (Table 1).

Results suggest that cobia juveniles at this size range present an efficient hyperosmotic regulation in salinities ranging from 14 and 26. However, the growth performance of cobia under such conditions must be further investigated.

Table 1. Mean (± SD) values of blood osmolality of cobia (*Rachycentron canadum)* juveniles exposed to different salinities (14, 26 and 34) during 72 hours.

	Time (h)					
Salinity	12	24	36	48	60	72
14	428.2 ± 96.0	405.2 ± 29.0	374.0 ± 19.9	370.5 ± 14.2	375.5 ± 22.5	418.5 ± 17.2
26	456.0 ± 100.6	380.0 ± 8.2	392.0 ± 33.9	370.2 ± 13.1	370.5 ± 26.7	400.7 ± 13.6
34	410.0 ± 69.8	405.0 ± 30.9	389.0 ± 5.9	412.5 ± 36.7	376.2 ± 23.5	390.5 ± 12.0