

The 2nd international sustainable marine fish culture conference, 2005 at
Harbor Branch Oceanographic Institution (HBOI), Florida, USA

PROGRESS IN HATCHERY TECHNOLOGY OF COBIA *Rachycentron canadum*
AT THE UNIVERSITY OF MIAMI EXPERIMENTAL HATCHERY (UMEH).

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As part of continuing research projects on cobia aquaculture funded by the Florida Sea Grant, NOAA National Marine Aquaculture Initiative and the Florida Dept. of Agriculture/Aquaculture Research Council, broodstock cobia captured off the Florida Keys were transported and acclimated to a new maturation system at the UMEH began spawning naturally within two months of stocking following environmental conditioning using temperature as triggering cue and producing millions of eggs and larvae.

Experimental 18h shipping trials were conducted with 1.7 – 5.1g cobia fingerlings at temperatures of 17-20°C. Fish were treated with Formalin prior to shipping, and ammonia control, a buffer, and probiotic bacteria were added to the shipment water. High survival rates (97-100%) were achieved at fingerling biomass densities up to 5.7kg/m³.

A first "extensive" fingerling production trial of cobia was conducted in a 1/4 acre, 250,000 gallon pond filled with seawater passing through a 150 micron filter mesh and fertilized with Sodium Nitrate (1mg/l of NO₃-N), Sodium Phosphate, and Sodium-meta-silicate at molar ratios of N:P:Si of 10:1:0.5. About 500,000 two-day old cobia larvae were stocked into the pond two days after fertilization when already a diatom bloom, dominated by *Nitzschia sp.* with at least 4 other diatom species, was present. Cobia larvae successfully commenced first feeding on tintinnids and other naked ciliates, 50-100 micron in size. Beginning two days after stocking of late stage yolk-sac larvae, 24 million newly hatched *Artemia* nauplii were added daily to the pond and 6 days post hatch (dph) cobia larvae had their guts full of *Artemia* nauplii. A week later, cobia post-larvae and early juveniles were feeding on a combination of copepods and *Artemia* nauplii, and shortly after began preying on large quantities of aquatic insects, such as water boatman and mosquito larvae.

Due to the high temperature of the pond (29-32°C) throughout the trial, growth rates of cobia larvae and post-larvae were very fast and weaning onto pellets was initiated 16 dph. Three weeks after hatching, an estimated 50,000 postlarvae and early juveniles (0.5-1" in total length) were alive, with a survival rate of approximately 10%. At 24 dph, we roughly estimated the number of early juveniles to over 20,000. About 10,000 juveniles about 45mm in length and 0.2gm in weight were shipped in two 1000L containers from UM to ACFK.