INGESTION OF THE COPEPOD *Tisbe biminiensis* BY COBIA (*Rachycentron canadum*) LARVAE AS A FUNCTION OF PREY CONCENTRATION

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Harpacticoid copepods may be used as live food for fish larvae as they present a high reproductive potential, short turnover time, fast population growth, flexible diet, tolerance to a wide range of environmental factors (temperature and salinity) and an appropriate size. The aim of this study were to determine the ingestion rate (IR) of *Rachycentron canadum* larvae fed on different concentrations of *Tisbe biminiensis* offspring (nauplii and copepodites), and to estimate the optimal food concentration. The trials were conducted in 20 L cylindro-conical tanks with constant aeration. Larvae were stocked at a density of 5/L. The tanks were maintained at 29–31°C, salinity 30-35 and natural photoperiod of 13 h light/11 h dark. Three treatments with 3 replicates each were tested with different copepod offspring concentration as well as controls with no larvae. After 5 hours of exposure to the copepods, samples of the tank contents were preserved in formalin 4% v/v and stained with Bengal Rose for copepod counting. The IR (cop.larvae^{-1}.h^{-1}) was calculated by the formula: IR = (final copepod number in controls with no larvae - final food number in each replicate)/number of larva. The number of copepods was determined by counting five sub-samples of 250 mL for each replicate. Results are shown in the Table below.

The optimal copepod concentration for cobia larvae at 3, 5, 7 10 and 13 DPH was estimated at 2.4 copepod/mL, 3.3 copepod/mL, 5.3 copepod/mL, 8.5 copepod/mL, and 14.2 copepod/mL. In conclusion, the harpacticoid copepod *T. biminiensis* was ingested by cobia larvae from 3 to 13 DPH and IR increased with larval development. Thus, the offspring of *T. biminiensis* may be considered a suitable live prey for *R. canadum* larviculture.

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Mean (± SD) ingestion rate (IR; cop.larva^{-1}.h^{-1}) of 3, 5, 7, 10 and 13 days post hatch (DPH) cobia larvae fed on different *T. biminiensis* concentrations (C). Similar superscript letters indicate that IR were not significantly different (ANOVA and Tukey P<0.05).

3 DPH		5 DPH		7 DPH		10 DPH		13 DPH	
C	IR	C	IR	C	IR	C	IR	C	IR
1.0	26.2 ± 8^{a}	1.0	6.8 ± 5^{a}	2.4	24.2 ± 4^{a}	4.5	48.2 ± 6 ^{a}	5.3	93.8 ± 17 ^{a}
2.4	45.2 ± 5^{b}	3.3	29. 9 ± 17^{ab}	5.3	88.7 ± 31^{b}	8.5	122.9 ± 28^{ab}	11.0	157.2 ± 20^{a}
3.2	53.0 ± 5^{b}	5.6	40.1 ± 6^{b}	7.4	98.7 ± 6 ^{b}	11.5	156.7 ± 66^{b}	14.2	231.4 ± 45^{b}