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Effects of Light Shock and Handling Shock on Striped Bass Fry

Light shock and handling shock have been postulated as possible causes of fry mortality in striped bass, *Morone saxatilis* (Humphries and Cumming 1973). Since a review of the literature reveals a lack of documentation on these subjects, we undertook studies to better define the effects of these shocks on young striped bass; Table 1 presents our observations.

We obtained 3-day-old fry from the Louisiana Wildlife and Fisheries Commission and held them in a 150-liter aquarium at a water temperature of 20°C. In the light shock procedure, groups of 10 fish were collected at random from the aquarium, placed in a 750-ml jar, and the jar was placed in a dark room. The fish were transferred from the aquarium to the jar with a tablespoon, so that they never left the water. The fish appeared to be unaffected by the transfer. After 3 h the lights were turned on (1,238 lux), and the reactions of the fish observed for 1 h. This procedure was repeated, using additional fish selected at random from the aquarium on alternate days, while the fry advanced in age from 5 to 33 days.

In the handling shock procedure, 10 fish were removed from the aquarium with a small net (0.48-mm mesh), held above the water in the net for 10 s, and placed in a 750-ml jar. Their reactions to this handling stress were then observed for 1 h. This procedure was repeated, using additional fish selected at random from the aquarium on alternate days, again from ages 5 to 33 days.

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Table 1. Observed effects of light and handling shocks on striped bass fry 5 to 33 days old.

Type of shock and age of fry (days)	Number of fry	Reactions of fry during 1-h post-shock observation period	
		Mortality (no.)	Other responses
Light			
5 - 9	30	2	Dove to bottom, swam rapidly 1-2 min.
11 - 23	70	0	Hyperactive < 1 min.
15 - 33	50	0	No discernible reaction.
Handling			
5 - 13	50	1	Lost equilibrium; apparent spinal curvature; 45 fully recovered after 1 h.
15 - 21	40	1	Some loss of equilibrium and erratic swimming.
23 - 33	60	3	Loss of activity; fry seemed lifeless, but most recovered in 5-10 min.

Reference

Humphries, E. T., and K. B. Cumming. 1973. An evaluation of striped bass fingerling culture. *Trans. Am. Fish. Soc.* 102(1):13-20.

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