

WHEN CAVE FISH SEE THE LIGHT: REACTION NORM TO LIGHT EXPOSURE DURING DEVELOPMENT IN EPIGEAN, TROGLOMORPHIC, AND HYBRIDS OF *ASTYANAX FASCIATUS* (CHARACIDAE)

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The study of phenotypic plasticity among hypogean fauna has been virtually ignored. Anecdotal accounts suggested that the development of troglomorphic features such as blindness and depigmentation could be epigenetically influenced by exposure to light. We conducted a series of experiments to ascertain the reaction norm to light on eyes, pigmentation, and behavior among epigean (eyed, pigmented), troglomorphic (blind, depigmented), and hybrids (epigean X troglomorphic) individuals of *Astyanax fasciatus* (Pisces: Characidae). Results show that light (or its absence) can strongly influence the development of pigmentation in the regressed eye and swimming behavior of different stocks of this fish species. These results may have important implications in the understanding of the reduction or loss of features during evolution. The ability to respond to changes in light regimes may explain the different phenotypes among many taxa that can be found in the hypogean environment. Further, this phenotypic plasticity may be an adaptive feature on which natural selection acts to determine survivability in the cave environment.