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Does a nonlinear mating preference predict nonlinear benefits to offspring?: Avoiding bad mates to obtain good genes

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Female *Hyla versicolor* (gray tree frogs) strongly prefer choosing mates with long or medium call lengths, avoiding the shorter callers. The development of their offspring is hypothesized to mirror this nonlinear preference, in that the long and medium caller progeny will develop at a similar rate that is faster than that of the short callers. Using past data, twenty-seven males with long, medium, and short call lengths were chosen and mated (in vitro) with random field-caught females. Five hundred and forty tadpoles were raised in individual containers. The tadpoles were subjected to high and low food treatments to test an environmental effect on their development. At three weeks, the tadpoles were weighed. These data were compared for the offspring of the long, medium, and short father's call according to food treatment as well as tadpole growth according to food treatment. Both the long calling and the medium calling progeny developed at a faster rate than the short calling progeny, but at a similar rate compared to each other. Tadpoles subjected to high food treatments developed at a faster rate than the low food treatment tadpoles. The dates of metamorphosis will also be recorded and later compared in the future. As the tadpoles of shorter calling fathers develop at a slower rate than the longer calling progeny, they are more at risk for environmental dangers and predation before they undergo metamorphosis. By researching female choices regarding length of calls and its effect on offspring development, we can examine how natural selection affects the evolution of female mating behavior.