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Does genetics play a role in feeding behavior of gray tree frogs?

Colleen Hayes and Allison Welch

Models of sexual selection suggest that, in some animals, females choose mates of genetically superior quality. In the gray tree frog *Hyla versicolor*, it has been shown that females prefer male advertisement calls of long duration. Studies have also found that offspring of long-calling males have a performance advantage over the offspring of short-calling males. This research focuses on the feeding habits of *H. versicolor* tadpoles in an attempt to understand the contribution of paternal genetic quality to tadpole behavior. The tadpoles used in this study were offspring from long-calling males and short-calling males, reared individually in the lab. Tadpoles were individually weighed and then observed on three different occasions over the course of a week: one day after food administration, immediately after food administration, and one day after a subsequent food administration. Tadpole behavior was classified as either feeding, resting, or swimming. Results reveal that feeding behavior did not change with age, though feeding behavior was significantly higher immediately after food administration. In addition, larger tadpoles spent more time feeding than smaller tadpoles. Preliminary analyses indicate that the offspring of short-calling males were, on average, larger in size than offspring of long-calling males and, probably as a consequence of their larger size, spent more time feeding. In summary, paternal genetic quality appears to affect feeding behavior of their offspring, although further investigation is needed to determine whether tadpole feeding behavior affects performance later in life.