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Factors determining terrestrial habitat use by the treefrog *Hyla versicolor*: Evidence from experimental arboreal refugia

Amphibians need both aquatic and terrestrial habitat to complete their life histories. However, terrestrial activities have not been adequately studied, leading to poor understanding of factors influencing habitat selection. For treefrogs (Hylidae), the size (age) or species of tree may be important as a source for prey items. Also, old growth trees may provide treeholes which can prevent desiccation and provide foraging grounds. We conducted two studies and made observations to understand the foraging behavior and retreat site usage of the gray treefrog (*Hyla versicolor*). Food habits were determined via a mark-and-recapture study involving animals caught at breeding choruses and those found in experimental arboreal refugia (made of acrylonitril butadiene styrene (ABS) and used to simulate natural treeholes). A subset of individuals was stomach-flushed in both habitat types, aquatic and terrestrial, to infer activities. Species and size of trees used by treefrogs were analyzed to elucidate correlations with food habits. In addition, a water-loss study was conducted using experimental arboreal ABS refugia and refugia made of plastic screening. Of 179 treefrogs flushed, 409 prey items were obtained. Hymenopterans and Coleopterans comprised 31.6% and 30.0% of stomach contents, respectively. The absence of aquatic prey items indicates that *H. versicolor* forages exclusively in terrestrial habitat. However, we did not find a preference for size or species of tree. The water-loss study in ABS refugia resulted in a constant body weight; however, in screened refugia, we observed a decrease in body weight of 15.4% indicating that *H. versicolor* may seek natural treeholes to prevent desiccation.

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