

Brice Grunert, Biological Sciences

University: University of Missouri

Year in School: Junior

Hometown: Menomonee Falls, Wisconsin

Faculty Mentor: Dr. Sarah Humfeld and Dr. H. Carl Gerhardt, Biological Sciences

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Temperature-dependent preferences for advertisement-call frequency in females of *Hyla versicolor*

Brice Grunert, Sarah Humfeld, and H. Carl Gerhardt

Male treefrogs produce loud and persistent acoustic signals called advertisement calls to attract mates. Ectothermic animals like frogs face an interesting challenge, in that temperature can significantly impact characteristics of the species-specific advertisement call. The mate-choice preferences of female gray treefrogs (*H. versicolor*) have been extensively studied (reviewed by Gerhardt & Huber 2002). It has been found that females prefer calls with standard frequency peaks of 1.1 kHz + 2.2 kHz over calls with higher and lower frequencies at 20° C. However, it is not known how this preference is affected by temperature. To determine whether acoustic preferences based on frequency are temperature-dependent, I collected female frogs during their breeding season and tested them in a temperature-controlled anechoic testing chamber. I generated ten different computer-synthesized advertisement calls that ranged in frequency between 0.55 + 1.1 kHz to 1.5 + 3.0 kHz. In two-speaker choice tests conducted at three different temperatures (15° C, 20° C and 25° C), females "chose" (moved within 10 cm of a speaker) between a call with standard frequency peaks of 1.1 + 2.2 kHz and one of the nine alternative calls. Preliminary results indicate the preferred frequencies appeared to remain 1.1 + 2.2 kHz at lower temperatures. However, at higher temperatures, female frogs were more likely to approach high-frequency calls. These results will be discussed in the context of known temperature-dependent physiological processes in the inner ear of frogs.