

Abstract **593**, Date **1:00 pm, Tuesday, February 19, 2008 (48 hours)**

Session **O27: Poster**

Brainstem Evoked Potentials in Lizards

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Tokay geckos (*Gekko gecko*) are nocturnal animals found in Southeast Asia and known for their loud vocalizations. This aim of this study was to determine hearing sensitivity in the Tokay gecko and to compare hearing sensitivity of a vocal lizard to a non-vocal lizard, the green anole (*Anolis carolinensis*). Hearing sensitivity was measured in 5 geckos and 7 anoles using the auditory brainstem response (ABR). Animals were sedated with isoflurane and ABRs were measured at levels of 1 and 3% isoflurane. Platinum electrodes were inserted just under the skin at the vertex, behind the stimulated ear and grounded at the other side of the head. Responses to brief tone bursts emitted through a coupler sealed over the eardrum were evoked at frequencies between 0.1-10 kHz and intensity levels of 5 to 90 dB SPL. The typical ABR waveform showed two to three prominent peaks occurring within 6 ms of the stimulus onset. Based on the ABR, geckos and anoles were most sensitive between 1.6-2 kHz and had similar hearing sensitivity up to about 5 kHz (thresholds typically 20-50 dB SPL). Above 5 kHz, anoles were about 20 dB more sensitive than geckos based on ABR thresholds. As far as we know, this is the first comparative study of the ABR in lizards. Generally, absolute thresholds from ABR audiograms were comparable to what has been found in small birds. Best hearing sensitivity, however, extended over a larger frequency range in the lizards than most bird species, with lizards showing better low frequency (below 500 Hz) hearing. This work was supported in part by training grant DC-00046 to RJD and by DC-000436 to CEC from the National Institute of Deafness and Communicative Disorders of the National Institutes of Health.