

Abstract **1420**, Date **1:00 PM Monday, February 23, 2004 (24 hours)**

Session **J2:Animal Psychophysics**

Temporal Resolution in Hearing-Impaired Belgian Waterslager Canaries

Amanda M. Lauer, Robert J. Dooling

Belgian Waterslager (BWS) canaries have a permanent hereditary hearing loss that is associated with hair cell abnormalities. Previous work showed that discrimination of temporal fine structure may be slightly enhanced in BWS compared to normal-hearing canaries of other strains (nonBWS). Here we further investigate temporal resolution in BWS and non-BWS canaries by measuring the minimum detectible time interval between two sounds. Thresholds for detecting brief gaps in 300 ms bursts of noise were measured at several sound levels using operant conditioning and the Method of Constant Stimuli. Average gap detection thresholds ranged from approximately 2 ms at 5 dB SPL to 11ms at 60 dB SPL in BWS, and from 4 ms at 5 dB SPL to 5 ms at 60 dB SPL in nonBWS. At higher SPLs, gap detection thresholds for BWS were as good as or better than nonBWS; however, thresholds were much higher in BWS at the lowest SPL (60 dB). This SPL corresponds to a sensation level of only 10 dB in BWS. These results confirm that temporal resolving power is unusually good in BWS canaries at least at high sensations levels, but may be compromised at low SLs. [Supported by NIH DC0132 to RJD and DC05450 to AML]