Abstract **1414**, Date **1:00 PM Monday, February 23, 2004 (24 hours)**
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Measures of Acoustic Variation in Directed Budgerigar Vocal Production

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The contact calls of budgerigars are short (~150 msec), frequency modulated, learned vocalizations that are used to maintain social bonds and flock cohesion. Normal budgerigar vocal production, like birdsong and human speech, depends on auditory feedback. The stereotypy with which budgerigars produce contact calls in natural situations suggests a pressure to maintain precision in the acoustic structure of these calls. This study sought to determine the range of variation in contact calls produced in a controlled operant environment under situations of selective and non-selective reinforcement. Four budgerigars were trained to produce a specific contact call by matching a stored template in order to obtain a brief food reward. Each budgerigar produced 50-0 contact calls per test session and the coefficent of variation for various acoustic characteristics were determined both within and across sessions. The birds were then trained to produce higher or lower frequency vocalizations falling outside the range of variability of their initial contact calls. The coefficient of variation for the same acoustic characteristics as before were measured for the altered calls. Results indicate that budgerigars can maintain a high degree of precision in the production of contact calls, even when induced to alter the average frequency range of those calls. [This work supported by NIH grant DC-00198 to RJD and NIDCD training grant DC-00046].