

1998, 399, Session K8, Poster**The temporal resolution of avian auditory**

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Recent work suggests that the avian auditory system may be specialized for temporal resolution. For instance, budgerigars (*Melopsittacus undulatus*) tested on gap detection with two tonal markers show no effect of frequency change in the tonal marker following the gap while humans show a large effect (Amagai, et al, J. Acoust. Soc. Am., 101(5), 1997). Here, temporal resolution in budgerigars and zebra finches (*Taeniopygia guttata*) was measured using the temporal window approach of a short tone as a probe in the gap between two bursts of noise as described by Moore and his colleagues (Moore, et al, J. Acoust. Soc. Am., 83(3), 1988). Three budgerigars and three zebra finches were trained by operant conditioning to detect a 10 ms tone burst in a gap between two 100 ms noise bursts. Thresholds were obtained for several gap durations: 0ms (no gap), 6ms (noise intrudes 2ms into the beginning and end of the probe tone), 10ms, 20ms, 30ms, and 40ms. As expected, for both humans and birds, thresholds improved as gap duration increased. However, the rate at which thresholds improved for birds was much greater than for humans. At a gap duration of 20ms, the threshold for our birds was 15dB lower than for humans. These results add to other evidence suggesting that the avian auditory system may indeed have much better temporal resolution than the human auditory system.

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