

Narrowband masking in birds (A)

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Hearing studies show that zebra finches, *Taeniopygia guttata*, small song birds that produce broadband, harmonic vocalizations are unusually sensitive to the mistuning of a single component in a harmonic complex [Lohr and Dooling, J. Comput. Psychol. **112**, 36–47 (1998)]. Such a change in a harmonic stimulus creates both spectral and temporal cues. Previously it has been reported that these birds have very good temporal resolution of fine detail within harmonic complexes [Dooling *et al.*, Hear. Res. **152**, 159–172 (2001)]. Here the spectral resolving power is examined by measuring auditory patterns of masking by narrowband noises. Masking patterns were measured in zebra finches using operant conditioning and the method of constant stimuli for a 100-Hz band noise masker centered at the birds frequency of best hearing, 2860 Hz. Probe frequencies were tones between 1000 Hz and 5700 Hz. Results demonstrate a symmetrical masking pattern with less upward spread of masking and a narrower resolution bandwidth in zebra finches than has been observed in humans. These findings are consistent with other measures of avian spectral resolution. [Work supported by NIH Grant DC-00198 to RJD.]