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**Hearing and vocalizations in the Spanish timbrados canary (Serinus canaria)**

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Canaries (*Serinus canaria*) have been bred for hundreds of years for both their song and their plumage. Recent studies have shown that a particular strain, the Belgian Waterslager, which has been bred for loud, low-pitched song, also has a hearing loss at high frequencies. Audiograms from Belgian Waterslager canaries show normal sensitivity at low frequencies but poor sensitivity at high frequencies compared to mixed-breed canaries. This deficit is correlated with missing and damaged hair cells on the basilar papilla. In the present experiments, we measured absolute thresholds in a strain of canary, the Spanish Timbrados, which has been bred for its high-pitched song. The purpose of this experiment was to see whether auditory sensitivity of the Timbrados paralleled the spectral distributions of energy in the vocalizations. Four Spanish Timbrados canaries were trained to detect pure tones using operant conditioning with food reward, and tested using the method of constant stimuli. Results show that Spanish Timbrados canaries have exceptional absolute sensitivity at high frequencies, exceeding that of Belgian Waterslager canaries, but also of mixed-breed canaries. Analysis of the contact calls of Spanish Timbrados canaries also shows that their vocalizations have more energy at high frequencies than do those of the Belgian Waterslager or mixed-breed canaries.

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