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ZENK expression in the auditory pathway of black-capped chickadees (*Poecile atricapillus*) as a function of D note number and duty cycle of *chick-a-dee* calls

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Highlights

- Black-capped chickadees were exposed to *chick-a-dee* call stimuli with either high duty cycles or low duty cycles and ZENK immediate early gene expression (IEG) was assessed
- ZENK IEG expression did not differ significantly between groups
- Our result of ZENK expression as a function of duty cycle is inconsistent with previous behavioral data

Abstract

Black-capped chickadees (*Poecile atricapillus*) use their namesake *chick-a-dee* call for multiple functions, altering the features of the call depending on context. For example, duty cycle (the