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Using videos and animations to study zebra finch social behaviors

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Abstract

Animals socially interact with each other using complex behavioral displays. To better understand the dynamics of these interactions, videos and animations on computer screens have been used as one of the interactive animals. While both of these offer more control, whether responses to such stimuli are similar to responses to live animals remains poorly understood. Here, using the song of the male zebra finch, a songbird, as an example of a complex behavioral display, we examine responses to videos and animations of female zebra finches. We show that male zebra finches sing to videos and animations of female zebra finches, and the properties of these songs are similar to songs directed towards live female zebra finches, especially for longer videos. Overall, these results highlight the potential of using videos and animations to better understand social interactions involved in the production of complex behavioral displays, like birdsong.