**Can automated recording be used to discriminate among male ovenbird songs?**

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Many species of birds produce individually distinctive vocalizations. Birds can recognize other individuals based on the distinctive features of their songs and researchers can use bioacoustics tools to discriminate among individuals. Typically, bioacoustics analyses use recordings made with highly directional microphones that are free of background noise and spectral overlap. However, recent technological advances in automated recording have made it possible to record remotely and cover larger areas simultaneously. However, whether individually distinctive features of songs can be used to discriminate among individuals from automated recordings has not been tested. We test whether spectrogram cross-correlation can be used to discriminate among songs of 19 ovenbirds (*Seiurus aurocapilla*). We used two microphone types: directional microphones and omni-directional microphones of automated recorders. Because birds may vary in their distance from the recorder, we selected songs that were either loud (close to the recorder) or quiet (further from the recorder). We found that all recording types could be used to discriminate the songs of individual male ovenbirds from other males in the population. We found that the discrimination among directional recordings was significantly better than among omni-directional recordings. Additionally, we show that louder recordings from song meters can be used to discriminate among individuals significantly better than quiet recordings. Our results suggest that automated omnidirectional could be valuable for future behavioural research allowing individuals to be followed over an entire breeding season. In addition, our results suggest that acoustic surveys of communities could provide information about abundance as well as presence/absence of species.