

The song doesn't remain the same in fragmented bird populations

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The song of passerine birds is a conspicuous and exaggerated display shaped by sexual selection in the context of male-male competition or mate attraction. At the level of the individual, song is considered an indicator of male 'quality'.

Paola Laiolo and colleagues at the Spanish Council of Research (CSIC) studied the metapopulation system of the Dupont's lark in north-eastern Spain and found an association between individual song diversity and the viability of the population as a whole, as measured by the annual rate of population change. This association arises because males from the most numerous and productive populations, i.e. those less prone to extinction, sang songs with greater complexity. The findings are published in this week's *PLoS ONE*.

Birds from smaller populations sang less complex songs as they experienced a poor cultural milieu (as songs are learned), and had possibly a lower mating success. Cultural attributes may therefore reflect not only individual-level characteristics, but also emergent population-level properties. This finding opens the way to the study of animal cultural diversity in the increasingly common human-altered landscapes.

More than 500 songbird species are globally threatened, most of them because of habitat loss and fragmentation in a variety of ecosystems and remote regions. In these conditions, traditional long-term population monitoring is a difficult if not unaffordable task. Given its easily quantifiable nature, this study suggests that birdsong could become an

early warning signal of populations in trouble.

Citation: Laiolo P, Vögeli M, Serrano D, Tella JL (2008) Song Diversity Predicts the Viability of Fragmented Bird Populations. PLoS ONE 3(3): e1822. doi:10.1371/journal.pone.0001822

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