

Human Music Universals Derived Index Suggests Adult Primates Learn Their Songs

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Singing has evolved independently in several different taxa of vertebrates. In primates, the ultimate co-evolutionary influences on song evolution include social signaling and habitat acoustic effects. Proximate mechanisms such as how these songs are learned, however, are less well understood. Vocal learning species include birds (songbirds, parrots, and hummingbirds) and mammals (bats, elephants, seals/sea lions, whales/dolphins, and humans). Primates, however, are not typically considered vocal/song learners. Here we test this notion by comparing adult with non-adult calls sampled from 59 primate species' spectrographic vocal repertoires (n=823) scored according to a recently developed song index. Adult calls had significantly higher diversity of reappearing syllables than non-adults ($p=0.025$). These results suggest that we should reconsider the established null hypothesis that the structure of adult primate songs are innate.