

Gammon, D.E. and \*C.E. Altizer. 2011. Northern mockingbirds (*Mimus polyglottos*) produce syntactical patterns of vocal mimicry that reflect taxonomy of imitated species. *Journal of Field Ornithology* 82(2):158-164

Detailed studies of the patterns and processes associated with avian vocal mimicry are rare. Some vocal mimics, such as Northern Mockingbirds (*Mimus polyglottos*), often produce song types in rapid succession, but no published data exist concerning the syntactical organization of this behavior. We follow up on an undocumented assertion from the literature that mockingbirds cluster temporally their imitations of the same species. We examined long bouts of singing by 18 male mockingbirds and classified all songs as either mockingbird-specific song or one of 55 mimetic types defined by the species mimicked and the song or call type of that species. Temporal pairs consisting of two exemplars of a single mimetic type were found at 2.6 times the level predicted by ordering songs by chance. Temporal pairs consisting of two mimetic types from the same species were found at 4.2 times chance levels. Temporal pairs consisting of mimetic types from two different species in the same family were found at 1.7 times chance levels, though this pattern was just above the significance threshold. We examined two functional hypotheses to explain these patterns, one involving female preferences and one involving interspecies communication, but found no support for either hypothesis. Detailed field observations of the social contexts in which temporal pairs are used by mockingbirds will be needed to better understand their function.