

Bird vocal mimicry on Öland

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Even though a highly controversial topic, song in most birds is claimed to be partly learned and partly inherited. This means that all birds inherit a song template from their parents, that is unique for each species and shared across all members of the species, but at the same time they can get influenced by acoustic stimuli that they receive during the sensitive learning period of their life.

My study species are the pied flycatcher and the collared flycatcher, two songbirds that co-occur on the Baltic island of Öland. There, they compete over similar resources and often hybridize. What is even more interesting than hybridization, however, is ‘mixed singing’.

Mixed singing occurs when one species copies elements from another species’ song and incorporates them into its own song, thus producing a mixed song, partly consisting of its own species’ elements and partly of another species’ elements. In our study area, young pied flycatchers, are surrounded by high density collared flycatchers, and inevitably get exposed to their song. This exposure is responsible for the mixed singing that is observed in this species. The individuals that perform mixed singing are called ‘mixed singers’, thus we can divide pied flycatchers into mixed singing and pure singing individuals.

The aim of this project was to look at the mechanisms that control mixed singing in pied flycatchers. Given that birdsong is partly learned and partly inherited, I wanted to look at the relative contribution of those two factors in the process of song learning in pied flycatchers.

That I did by comparing notes across the three singer types (collared flycatchers, pure singing and mixed singing pied flycatchers). First, I found that there is great variation across mixed singing individuals: While some mixed singers incorporate a big amount of collared notes in their repertoire, some others sing mostly pied and only a few collared notes. This indicates that there are different levels of mixed singing; in other words, all mixed singers are not mixed singers at the same extent. Another pattern that was seen was a distinct ordering pattern: mixed singers tend to emit the collared notes in the beginning of their song, while for the rest of the song they choose pied notes.

The results also showed that overall, mixed singers sing more pied than collared notes. However, when they do sing collared notes, they do so with high accuracy. Most of the note features of collared song are accurately being copied by mixed singing pied flycatchers. This suggests that this species is very susceptible to influences from other species’ song performances and not too limited by the inherited song template. This ‘flexibility’ in song production is striking and is not so commonly seen in other bird species.