

## **Social factors as a major influence on vocal communication: song learning in European starlings**

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Amongst the several parallels found between human language and birdsong development (Marler 1967), the importance of learning from conspecifics has taken an increasing part in recent findings. In particular, the nature and intensity of social influences on vocal development remain an intriguing question. In the present study, we report observational data on vocal learning and sharing in social groups of European starlings as well as results of an experiment aiming at investigating the importance of social bonds versus auditory information on song acquisition.. In this study, hand raised starlings were kept in different social conditions (socially housed with peers and adults, pair-isolated, single isolated) all receiving the same auditory information with live interactions between adults.

Results of this experiment confirm:

- 1) that song acquisition is higher with live tutoring,
- 2) that in starlings song learning follows sexual lines: socially housed females learned little from the adult male model,
- 3) that social experience can override auditory information: pair raised animals did not learn from the adult models heard through the loudspeaker but developed as shared improvised repertoire whereas the socially raised animals learned more, as a result of their preferred social bonds, from each other than from the adult models.

The results will be discussed in terms of social preferences and attention. They raised interesting general questions about the role of social constraints on the evolution of vocal communication.