

FEATURE ARTICLES

FEMALE SONG IN EUROPEAN STARLINGS: SEX DIFFERENCES, COMPLEXITY, AND COMPOSITION

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Abstract. While male song and its functions have been well studied, female song has often been overlooked. In this study, we provide a detailed description of the spontaneous female song in a well-studied northern temperate songbird, the European Starling (*Sturnus vulgaris*). We compared the song organization, complexity, and composition of female and male starlings housed in large outdoor aviaries. Overall, the general organization was similar in both sexes, and some females sang complex song bouts of more than 30 seconds of uninterrupted song. Although some females were capable of singing the four phrase-type categories typically found in male song bouts (whistle, variable, rattle, and high-frequency phrase types), a significantly lower proportion of females sang all four categories of phrase type as compared to males. Our results also revealed large individual variation in song characteristics among females: repertoire size varied between 11 and 36 phrase types, while average song bout length ranged between 10 and 26 seconds. All song parameters (total repertoire size, song bout length, and repertoire size within the four different phrase categories) were significantly lower in females than in males. Nevertheless, except for the number of rattle phrase types, song parameters overlapped between the sexes demonstrating that some females produced a more complex song than some males.

Key words: European Starling, female song, repertoire size, sex differences, songbird.