

FEATURE ARTICLES

**THE DUET CODE OF THE FEMALE BLACK-BELLIED WREN**

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*Abstract.* In many duet-singing songbirds, paired birds combine their song types nonrandomly to form duet songs. Several different behavioral mechanisms could generate nonrandom song type associations in duets. I tested female Black-bellied Wrens (*Thryothorus fasciatoventris*) for one such mechanism: adherence to a set of rules linking female response songs to male stimulus songs. I call this set of rules a “duet code.” Duets of free-living Black-bellied Wrens were recorded in 2001 and 2002. In 2003 I returned to the same territories and played the male song types from the recorded duets. Females answered male song stimuli as if duetting with the playback speaker. Although the known repertoires of females averaged 8.4 song types, each female sang only a single song type in response to each male song type. Random answering could not account for this pattern, supporting the hypothesis that females abide by duet codes. Females that were still paired with their mates from 2001–2002 answered 100% of their mate’s songs with the same song types they had used previously, demonstrating that codes are stable over time. In contrast, females that were new to a territory answered an average of only 18% of their mate’s song types with the same song type as the previous female, indicating that duet codes are individually distinctive. Duet participation by female Black-bellied Wrens represents a special kind of animal communication, in which discrete vocal signals consistently elicit discrete vocal responses according to an individually distinctive set of rules.

*Key words:* behavioral mechanism, duet structure, female song, interactive playback, mapping function, song type, vocal communication.