♫57. As this female leaves the night roost, she initially calls with sharp *chip* notes, and then sings (first at 0:19). Beginning at 1:33, I focus the microphone on her mate, who is using the same song that the female is singing; they match each other’s songs by choosing appropriately from their shared repertoire of a dozen or so different songs. April 9, 2017. Hatfield, Massachusetts. (2:28)

Play-57

♫58. Later the same morning, she calls and sings again, the male nearby (beginning at 1:23) offering the same song. April 9, 2017. Hatfield, Massachusetts. (1:54)

Play-58

♫59. Seven examples of the female cardinal singing from the nest, with examples separated by fades. A stereo microphone is used, so both relative loudness (nearby female is always much louder than the more distant male) and location in the stereo field can help to identify who is singing. In examples 1 through 4, the female matches the male’s song; in examples 5-6, no matching; example 7 seems to be an isolated song from the female (though she could, of course, have heard the male in the distance). May 2018. Hatfield, Massachusetts. (4:07)

Play-59

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| Example | Beginning time in recording | Content (female loud and near, male more distant) |
| 1 | 0:00 | 6 male songs, 1 female song |
| 2 | 0:44 | 4 male songs, 1 female song |
| 3 | 1:13 | 6 male songs, 1 female song |
| 4 | 2:05 | 7 male songs (some partial), 2 female songs |
| 5 | 3:02 | 1 male song (distant), 1 female song |
| 6 | 3:13 | 7 male songs, 2 female songs |
| 7 | 3:59 | 1 female song with no audible male |

♫60. Ten examples of the female singing from the nest. Now a monaural microphone is used (SWIFT—on the home page for this website, click on LEARN MORE, then RECORDING BIRDSONG), so only relative loudness of the songs can identify the individual; again, the loud, near bird is the female. In examples 1 through 4, the female matches the male’s song; examples 5 through 8, no matching; examples 9 and 10, isolated female songs with no male audible. May 2018. Hatfield, Massachusetts. (2:01)

Play-60

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| Example | Beginning time in recording | Content (female loud and near, male more distant) |
| 1 | 0:00 | 2 male songs, 1 female song |
| 2 | 0:13 | 1 male song, 1 female song |
| 3 | 0:24 | 2 male songs, 1 female song |
| 4 | 0:39 | 1 male song, 1 female song. Listen carefully: at 0:45 the female matches the male with a single note, but then she switches to another song type. |
| 5 | 0:50 | 1 partial male song, 1 female song |
| 6 | 1:00 | 1 male song, 1 female song |
| 7 | 1:11 | 2 male songs, 1 female song |
| 8 | 1:24 | 2 male songs, 1 female song |
| 9 | 1:40 | 1 female song |
| 10 | 1:50 | 1 female song |

See also Explore 9: Singing from the nest by cardinals and grosbeaks.