

By Tom Anderson

# What's in a Bird Song?

As the **spring chorus** begins, listen to learn which birds are singing and why.

**S**inging. Everyone can do it. People most often sing when happy. Sometimes we sing to make our work easier. Some of us sing in school or church choirs. Some sing best in the shower. A few fine singers get paid to sing.

If someone says, "You sing like a bird," it is meant as the highest of compliments. Melodious bird song can be soothing and restful. It can be cheerful and inspiring.

A chorus of bird songs signals

the arrival of spring in Minnesota. Suddenly, the woods, marshes, and grasslands come alive with song. Around April, I pencil a note on my calendar when I hear my first cardinal. A month or so later, I pencil in another favorite songster, the brown thrasher.

Why are they singing? Does the cardinal sing because winter is past? Does the brown thrasher sing because it has safely arrived here after a long migration from the southeastern United States? If we could translate bird songs, what messages would we hear?

The primary reason birds sing is to



Can you name the birds?

See the key on page 35.

ILLUSTRATION BY BILL REYNOLDS

communicate among their kind. A song sparrow, for example, sings to song sparrows. By listening to birds as they sing to each other, we can learn more about their lives.

## Who Sings?

In nearly all bird species that sing in Minnesota, males perform the songs. Females sing only occasionally. On a sunny day, we can easily imagine birds are singing because they are happy. But *ornithologists* (scientists who study birds) have learned they sing for two main reasons: to warn and to invite. A singing male bird could be sending a direct message to other males: Keep out of my territory! Or the male could be calling for a female bird to come to his territory.



Red-winged blackbird —Michael Furtman

**WARNINGS.** Male birds are very competitive when trying to find a mate. To set up his spring breeding territory, a male bird sings from the boundaries. In other words, he puts up a kind of vocal “no trespassing” message to mark his turf.

Watch a red-winged blackbird near a wetland. As he sings, he lifts his shoulders to display his bright red-orange shoulder patches. He sings for a while from the tip of a cattail, then flies to a nearby shrub and repeats the song. He is laying out the boundary of his territory.

If you watch him long enough, you’ll see he has favorite perches. You might see another male red-winged blackbird fly into his territory. Right on his tail, the first bird chases the intruder out.

**INVITATIONS.** A male bird sings to invite a female bird to breed and nest. To get a female’s attention, he shows off his brightest plumage. Have you ever noticed a bright red cardinal singing from his high perch on a branch? Like a teacher talking at the front of the class or an actor speaking on a stage, the bird wants to be seen and heard.



BILL REYNOLDS

## A Call, Not a Song

A bird song is different from a bird call. Just as you sing, you also have calls. For example, you could call out, “I’m hungry!” or “Watch out!” Birds have hunger and warning calls too. To call, they usually make sharp chirps and chirrs. Calls are much simpler than a song, with far fewer notes.

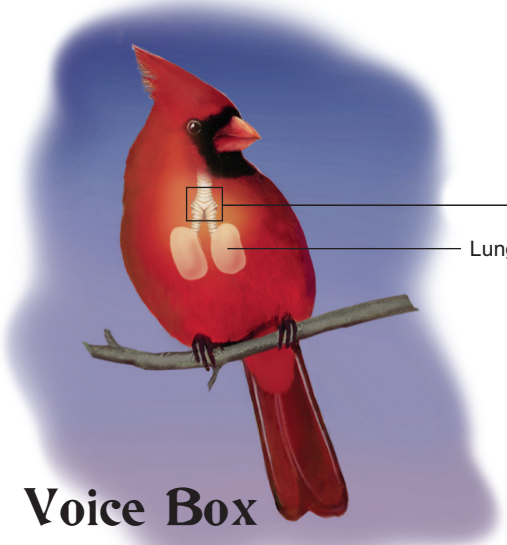
When you hear a black-capped chickadee call *chick-a-dee-dee-dee*, you are listening to a call and not a song. This call gives the chickadee its common name.

Like many birds, chickadees call for others of their kind to flock together and drive a predator away. Christopher Templeton, a biology student at the University of Washington, determined that the

more *dees* called by a chickadee, the greater the threat. Red-tailed hawks and other large birds usually do not bother quick little chickadees. But when a sharp-shinned hawk or other small hungry predator appears, chickadees call *chick-a-dee-dee-dee*.



Black-capped chickadee —Michael Furtman



Lungs

## Voice Box

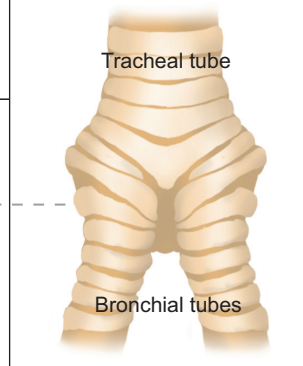
Birds have a voice box called a *syrinx*. This inside view of a male cardinal shows the syrinx. Shaped like an upside-down Y, it is between the tracheal tube (windpipe) and the two bronchial tubes to the lungs.

The cardinal sings or calls by exhaling air to make the syrinx's tympanic membranes vibrate. Like the covering on a drum, the vibrating membranes produce the tone of the song. As the bronchial rings tighten, air pressure increases in the clavicular air sac. Flexing the bronchial rings produces the song's pitch.

The cardinal can flex his bronchial rings independently, so a sound coming out of one bronchial tube can have a different pitch, higher or lower, than the sound coming out of the other tube. That means a cardinal can sing his own duet—simultaneously singing the same song at different pitches.

A trumpeter swan can make a very loud call with its exceptionally long syrinx. A hummingbird has a very small syrinx and a very high-pitched song. (Hummingbirds do not hum. Their beating wings make the humming sound.)

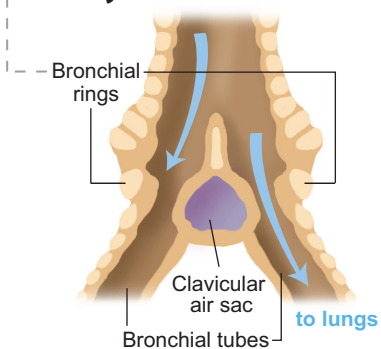
### Syrinx *external view*



Tracheal tube

Bronchial tubes

### Syrinx *internal view*

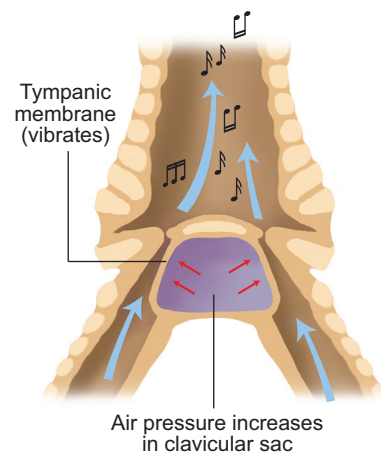


Bronchial rings

Clavicular air sac

Bronchial tubes

to lungs



Tympanic membrane (vibrates)

Air pressure increases in clavicular sac

## How to Sing

**B**irds of some species are born with the ability to sing their unique song. Eastern phoebes, for example, can sing their raspy two-noted *fee-bee*, even if they have never heard another phoebe sing.

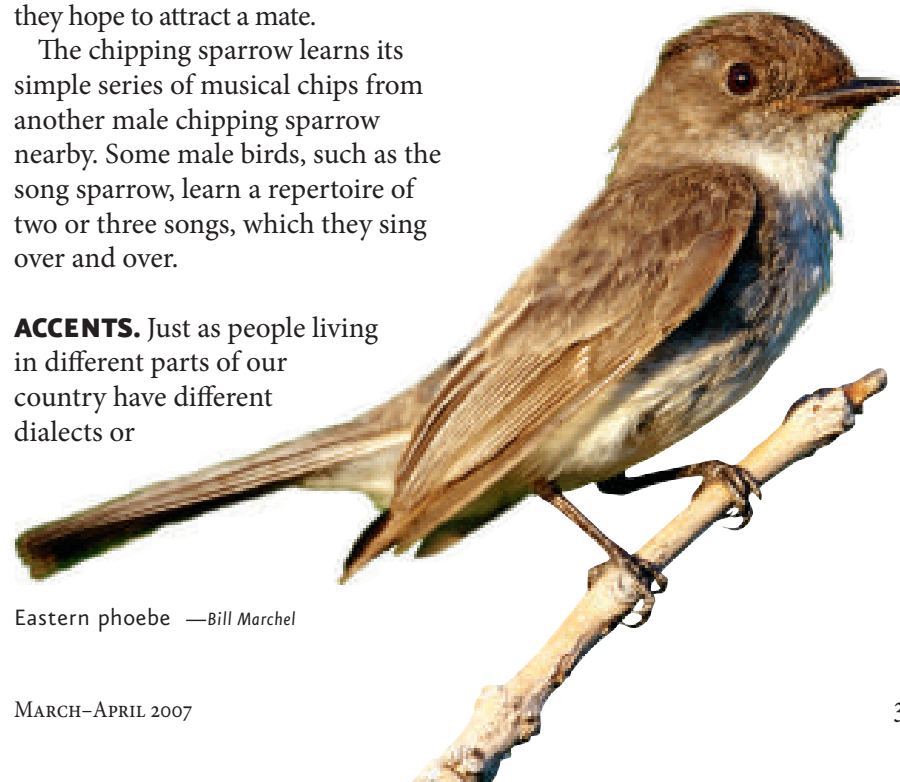
However, most young birds learn songs from their father or other adult males of their kind. Just as we might hear our parents repeatedly sing a favorite song and then try it ourselves, the young male birds will learn by imitating. Practicing all summer, some young birds can sing their first songs by fall. By the following spring, all the males need to perform the song well if they hope to attract a mate.

The chipping sparrow learns its simple series of musical chips from another male chipping sparrow nearby. Some male birds, such as the song sparrow, learn a repertoire of two or three songs, which they sing over and over.

**ACCENTS.** Just as people living in different parts of our country have different dialects or

accents, birds of the same species also have different accents depending on where they live. White-crowned sparrows in Canada have a slightly different song than those in California.

**COPYCAT BIRDS.** Some birds copy the songs of other birds. In Minnesota the best-known copycat is the gray catbird—so called because its call sounds like a cat's meow. One spring I watched a catbird sing the two-noted whistle of the bobwhite quail: *Bob-white!* Because bobwhite quail are rarely found in Minnesota, I guessed the catbird had come from another part of the country where quails live.



Eastern phoebe —Bill Marchel

ILLUSTRATIONS BY TAINA LITVAK



American robin —Dudley Edmondson

*cheerup, cheerily, cheerily*



Blackburnian warbler —Dudley Edmondson

*see-say, teetsa-teetsa-teetsa-zee-zee-zee*



Indigo bunting —Dudley Edmondson

*fire, fire. where? where? here, here. see it? see it?*



Rose-breasted grosbeak —Bill Marchel

*cheer-up—cheer-a-lee—cheer-ee-o*



American goldfinch —Michael Furtman

*potato chips—potato chips—potato chips*

## Mnemonics

Bird songs or calls sometimes might all sound alike. One way to make it easier to tell them apart is to think of simple, sometimes silly, phrases that sound like the bird's song. For example, a northern cardinal's spring song sounds like *cheer-cheer-cheer!* Phrases or words that help people memorize things are called *mnemonics*.



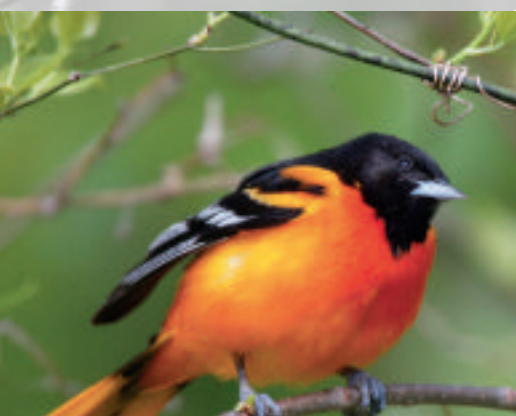
Raven —Stephen B. Antus Jr.

*kronk! kronk! kronk!*



Chestnut-sided warbler —Dudley Edmondson

*see-see-see-Miss-Beecher*



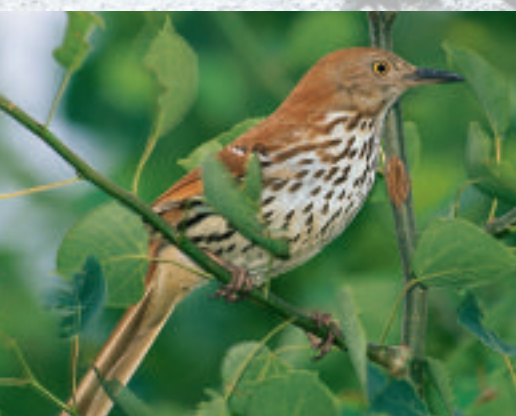
Baltimore oriole —Dudley Edmondson

*here, here—come right here, dear*



Western meadowlark —Bill Marchel

*hip! hip! hurrah, boys! three cheers!*



Brown thrasher —Bill Marchel

*drop-it, drop-it, cover-it-up, cover-it-up*



Eastern bluebird —Bill Marchel

*pew*



Gray catbird —Bill Marchel



Bobolink —Allen Blake Sheldon

## Favorite Singers

**P**am Perry, Department of Natural Resources wildlife biologist, likes many bird songs. One that really puts a smile on her face is the gray catbird singing outside her bedroom window early in the morning.

“Get a tape or CD, and study the songs for birds that are around your house,” she says. “Learn a few first, and then try to add a few more every year. Go out birding with other birders, and don’t be afraid to ask, ‘What is that bird?’ And practice!”

In 2005, Perry received the

Minnesota Ornithologists’ Union award for excellence in ornithology.

Another expert birder, John Fitzpatrick grew up in Minnesota and then became the director of the Cornell Lab of Ornithology, which has North America’s largest collection of bird sound recordings.


His favorite of all Minnesota bird songs is the bubbly song of the bobolink. Heard only in grasslands, bobolinks sound almost like high-pitched musical bells. Look for a grassy field or meadow, then listen for this once-plentiful bird.

## Note the Song

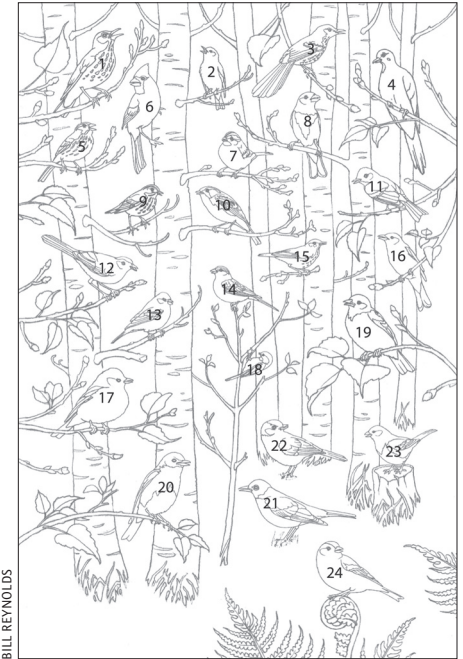
**B** iologists, ornithologists, birders—and you—can use bird songs to find out which birds are in the woods, near a wetland, or in a grassy field. Though the woods might seem noisy with birds that you cannot see, you can identify the unseen birds if you know their songs.

The easiest way to learn bird songs is to spend time outside watching and listening to birds. Try copying the bird’s song by whistling or humming it repeatedly.

Carry a field notebook so you can make notes about the songs. Ask yourself about its cadence or rhythm: Is it fast or slow? Is the song high-pitched or low? Do the notes rise and fall? And where in the song phrase do the notes rise and fall?

Make notes about the tone of the song. Is it clear, like a melodious whistle? Or does it slur, chip, chirr, buzz, or growl? Try drawing a picture of the song by making dashes, lines, waves, dots, or other marks that show the pace and pitch. 

*Tom Anderson is a freelance writer and former director of the Lee and Rose Warner Nature Center, associated with the Science Museum of Minnesota.*



BILL REYNOLDS

- |                            |                            |
|----------------------------|----------------------------|
| 1. wood thrush             | 13. indigo bunting         |
| 2. yellow warbler          | 14. chipping sparrow       |
| 3. brown thrasher          | 15. veery                  |
| 4. mourning dove           | 16. summer tanager         |
| 5. song sparrow            | 17. scarlet tanager        |
| 6. northern cardinal       | 18. black-capped chickadee |
| 7. white-throated sparrow  | 19. baltimore oriole       |
| 8. rose-breasted grosbeak  | 20. eastern bluebird       |
| 9. ovenbird                | 21. American robin         |
| 10. chestnut-sided warbler | 22. gray jay               |
| 11. eastern phoebe         | 23. eastern towhee         |
| 12. gray catbird           | 24. American goldfinch     |

### A NOTE TO TEACHERS

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