

## A Birding Interview with Donald Kroodsma



Additional Donald Kroodsma content available online: [aba.org/birding/v41n3p18w1.pdf](http://aba.org/birding/v41n3p18w1.pdf)

A singing wren in his backyard started Donald Kroodsma on a career of listening to birds. In the past 40 years, Kroodsma has published widely in the scientific literature, but more recently has focused on books for the layperson. Those books include *The Singing Life of Birds: The Art and Science of Listening to Birds* (Houghton Mifflin Harcourt, 2005; winner of the John Burroughs Medal), *The Backyard Birdsong Guides* (Chronicle Books, 2008), and most recently *Birdsong by the Seasons: A Year of Listening to Birds* (Houghton Mifflin Harcourt, 2009). Kroodsma is professor emeritus at the University of Massachusetts, and he was the 2006 recipient of the ABA's Robert Ridgway Award for excellence in publications pertaining to field ornithology. He was also the 2003 recipient of the Elliot Coues Award from the American Ornithologists' Union, by which he was cited as the reigning authority on the biology of avian vocal behavior.

In this lively *Birding* interview, Kroodsma encourages birders to find a deeper connection with birds through their songs, explains why he prefers birding by bicycle, and talks frankly about birdsong and sex.

— Noah K. Strycker

**Birding:** Besides puffing air through a voice box (or two), how does a bird sing?

**Donald Kroodsma:** In songbirds, big interconnected hunks of the brain are dedicated to singing, and these “song control centers” are much larger in birds with bigger song repertoires (for example, a Brown Thrasher with thousands of songs) than in birds with smaller song repertoires (for example, a Chipping Sparrow with one song per male). Beginning at about two weeks of age, the young bird (usually a male) begins to memorize the song(s) of an adult and somehow stores those memories in his brain. Then he starts his practice singing. He works and works on his singing routine, practicing by babbling to get all of the neurons firing in just the

right way so that the dozen or more tiny muscles controlling his *two* voice boxes get it just right. His perfected songs are masterpieces of precision breathing that are then announced for all the world to hear. Birdsong is truly one of the wonders of the natural world.

**Birding:** What do birds say in their songs? Why do they keep repeating themselves?

**DK:** I like to think of the non-singing female (non-singing in most species, anyway) as the silent architect of the male's song. Over evolutionary time, she has “designed” the male so that his songs tell her whether he is worthy to be the father of her offspring. By the mating choices she makes, she perpetuates the genes of “good singers,” with “good” being defined by something that lies deep in the female psyche of each species. He continues to sing and sing because she is listening, whether “she” is his mate or the female next door. In essence, the singing is mostly about sex. When I'm “off the record,” I tell people to think of birdsong as foreplay, but you can't print that, of course.

**Birding:** How do birds learn to sing? Once they know their repertoire, do birds improvise or change their tune?

**DK:** Young songbirds of many species imitate songs rather precisely, so that the song(s) of the tutor and “pupil” are essentially identical. Consider dialects of White-crowned Sparrows, for example, in which all males within the dialect have much the same song; five or six such dialects might occur within in an area as small as, say, Point Reyes National Seashore, just north of San Francisco. In other species, such as the Sedge Wren or Gray Catbird, young males improvise songs, with each singer acquiring a unique repertoire of a hundred or more different songs. For most songbirds, adult males don't seem to change their tune from one year to the next (a Florida Red-winged Blackbird I recorded in 1987 was singing the same six songs in 1992, for example). A noteworthy exception is the North-

ern Mockingbird, males of which add to their song repertoires from one year to the next.

**Birding:** What happens to birds that are not very good singers?

**DK:** I think that “good” is defined in each species by the female, and if he’s not singing “the right stuff,” she won’t choose him to father her offspring. The process of weeding out poor singers is thus pretty simple, as those birds leave few to no offspring. Some of the most interesting current research on birdsong is aiming to understand how the female “thinks” about male song, but so far we know little about the inner workings of her mind. (Some of my male human friends have said that about our species, too.)

**Birding:** What’s your favorite North American birdsong?

**DK:** That’s an especially tough question, because every species is special in its own way. In its relative simplicity, I love the song of a Henslow’s Sparrow, partly because I know when it is slowed down it is a most beautiful series of sliding whistled notes (and in slowing the song down to a fraction of normal speed, I like to believe I’m hearing the song more like the birds hear it, given their superior hearing ability). I love the magic in the Wood Thrush’s song, especially how he coordinates his two voices in the last part of the song (again, heard by us only when the song is slowed down). Or how a Hermit Thrush leaps from one song to the next, singing the next song so that it is especially different from the one he just sang. Or the wonderful complexity of a Winter Wren song. And what joy to hear Marsh Wrens argue, especially the western “species,” as males have 100 or more songs in their repertoire and often hurl identical songs back and forth at each other.

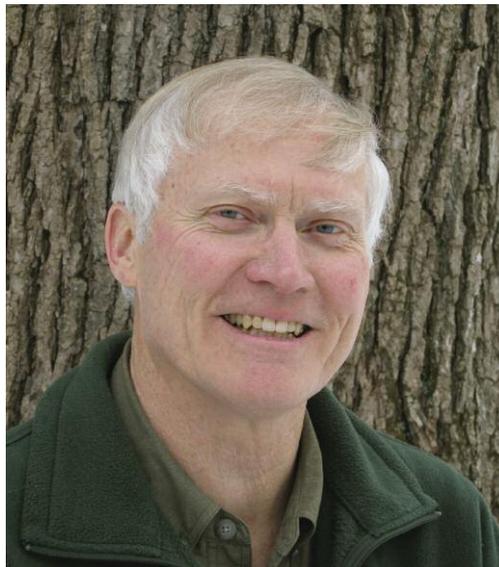
**Birding:** What strategies do you use as a scientist to document and interpret the meaning of bird songs? Can birders use your methods?

**DK:** What I do as a scientist is pretty simple. I go outside and listen (usually beginning well before sunrise). I ask (simple) questions, usually about individual birds, such as “How many songs does that Hermit Thrush have?” I record him and take the recordings back to my computer, where I use

Raven software to graph the songs; you can get your free Raven-lite software online <[birds.cornell.edu/brp/raven/Raven.html](http://birds.cornell.edu/brp/raven/Raven.html)>. One question leads to another, such as “Does the neighboring Hermit Thrush have the same songs?” or “How does he use his songs?” What about Hermits at other locations, or other thrushes? I often collect numbers because science is, after all, the art of collecting interesting numbers. Anyone with an inquisitive mind can have the same fun I do.

**Birding:** How did you get in the habit of listening to birds by bicycle? What were the best and worst parts of biking across the nation in 2003 to record bird songs?

**DK:** I can’t hear enough birds standing in one place, and biking allows me to cover so much more ground. In 2003, to hear this North American continent sing, I biked from Virginia to Oregon with my son David (see his website <[www.rideforclimate.com](http://www.rideforclimate.com)> about biking to raise awareness of global warming), listening every inch of the 4,500 miles along the way. It was 10 weeks of heaven, 70 days on the road and up before sunrise every day, just listening to all the birds had to say. On the best days I’d start biking an hour or two before sunrise, energized by the symphony of light and song as it swept by during the dawn chorus. Or I’d prowl around our campsite, listening and recording during the dawn hours. So good was life on the road just listening to birds



**Donald Kroodsmma.** Photo by © Melissa Kroodsmma.

speak their minds that I returned to the University of Massachusetts that fall and told them, “I’m outta here.” I needed to listen and write about birdsong full-time, sharing the magic with all who would pay attention.

The worst parts? None come to mind. Even the dogs through Kentucky were fun. (You should hear my stereo recordings of dogs chasing cyclists!)

**Birding:** As with acquiring human languages, do people have a special capacity in youth to learn bird vocalizations?

**DK:** I wouldn’t doubt it, but I know of no data to help answer the question. I didn’t start listening until I graduated from college, and what really helped my listening was making sonograms (“musical scores for birdsong”) of the songs, so that I could see what I was hearing. Now I think I listen with my eyes as much as my ears, as I see these sonograms dance across the sky as the birds sing.

**Birding:** You write about using song to identify *with* birds, not just to identify birds. What do you mean by that?

**DK:** When I read accounts of “big days,” on which bird song is used merely to identify birds and check them off on a list, I am sad. The phrase “birding by ear” has this same connotation to me. I think of how impoverished our lives would be if we treated people the same way, checking our friends off on a list as soon as we saw or heard them at a hundred yards and then rushing on to find the next.

What I so cherish about birdsong is that, when a bird sings, he offers a window into his mind, and I want to hear what he has to say. It is the most common of birds that catches my ear, too. What is the robin doing now, or the vireo, or the Chipping Sparrow, or the Song Sparrow? How is he using his songs, or how rapidly does he move through his repertoire? I linger with individuals or revisit them from day to day through a season. By truly listening, I can know a bit of what the singer is “thinking,” and I’m a little bit closer to understanding what it is like to be the bird. And that, after all, is my ultimate goal, to try to imagine what it is like to be the bird in that moment.

**Birding:** Where is your research leading you next?

**DK:** Wherever the birds take me, and what a wonderful journey it is. When I recently encountered a Ruffed Grouse drumming in October, I spent a week with him, trying to understand what he was up to. I followed Cedar Waxwings over a year, trying to understand whether these songbirds really do lack a song. And what a joy to listen to the singing conversations between a male and female Baltimore Oriole as she sits on the nest. And did you know that the first day of spring is in fact our winter solstice? Just listen to the birds, and they’ll tell you.