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By Robert Gillespie

A man studying turkey vultures lies next to a dead calf in the desert for days, waiting for the birds to land on him. Is this scientific research, asks a newspaper reporter in an e-mail that reaches Colby's resident bird expert, or nutty obsession?

"He isn't going to have any success until he gives off ethyl mercaptan—that's the smelly stuff, sulfur and mercury in one," Herb Wilson answered with amiable matter-of-factness—explaining that vultures locate their prey not by sight but by smell. In other words, the fellow has to be dead to study vultures this way. But if he's *really* close to the calf, might they land on him, too? "I suppose it's possible," Wilson said, sounding like an expert witness admitting it's *possible* a bird can ride a bicycle. "But it's pretty darn peculiar."

Associate Professor of Biology, ecologist and ornithologist Herb Wilson is careful not to sound elitist, but roosting in his office in Olin 216 is some decidedly sophisticated equipment for *his* study of birds. The room looks like the office of a scientist in a movie: prominent computer screen, spotting scopes, a video camera, directional tape recorders and floor to ceiling bookshelves crammed with hardback books, texts, binders of course materials and virtually complete sets of all four major ornithology journals. A side door opens into his laboratory.

"Most of what I do relies on statistical analysis, so it's based on a combination of things accumulated over time," Wilson said, disclaiming any sudden new wrinkle or bee in the bonnet like turkey vultures and a dead calf.

To demonstrate, he swivels to his computer screen, which glows with what looks like a series of deep blue bar graphs in the shape of horizontal hourglasses separated by snowflakes. As a white-throated sparrow sings out, the computer program graphically represents the vocalizations as sonograms, those hourglass and snowflake patterns on the screen. Wilson sings a translation of the bird's song—"Poor Sam Peabody Peabody Peabody," the first two syllables slowly, then speeding up: Pooor Sammm *Pea*buddy*Pea*buddy*Pea*buddy. Then, moving his cursor on the screen, he transposes Poor Sam and the Peabodys. The bird sings, "*Pea*buddy*pea*buddy*pea*buddy pooorsammm." Canary—the name of this program from the Cornell Laboratory of Ornithology—enables him to dissect syllables to try to understand what they mean to the birds. He can tape the song and play an endless loop to learn how birds in the wild will respond to the made-up sound.

Maybe different syllables mean different things, he says, or it may be the song itself that's important and not the individual syllables in a particular order. Or certain birds "might hold a syllable longer; they might drawl; they might have a different pitch," he explained, making the birds sound like plain folk who understand each other despite different regional dialects. It's possible, he says, that the sound may be made for a mate alone rather than a non-mate. It's even possible that the birds may not be interested in the made-up sound at all.

Whether he's teaching his ornithology course at Colby, leading a group of local amateur birders to Togus Pond to spot osprey and bald eagles or attending a talk at a meeting of professional ornithologists in Montana on the function of song in the red-eyed vireo, W. Herbert Wilson Jr. is whole-heartedly taken with feathered creatures—their vocalizations, their structures and differences within species, their feeding habits. A member of all four major ornithological societies, he attends at least one meeting of each every year to check out research similar to his own or to happen across an interesting talk on, say, the DNA of crows. "That's serendipity," he said. "But most important, it's a meeting ground for ornithologists—just talking to someone over coffee about chickadees."

Wilson was in charge last June of lining up the speakers for a meeting of the Wilson Ornithological Society (named for famous birder Alexander Wilson but no relation). One of the enlistees, Rachel Zierzow Jennings '96, who presented her research on hummingbirds in the Sonora Desert, began studying the birds in Sidney Bog after she took Wilson's Jan Plan course in winter ecology and his ornithology course the following spring. "I loved it," said Jennings, now in a Ph.D. program at the University of Texas at Austin. "I spent the next few summers working with him and others. He's really the person who sparked my interest."

The laboratory adjoining Wilson's office is his own dedicated research lab. Each of the students doing independent research with him has a key to enter at any time, and equipment does not have to be dismantled for classes. Wilson gives high marks generally to the space and equipment of the new F.W. Olin Science Building and to the research software and assistants the College has made available to him, all important in his teaching.

He turns back to his computer to check an e-mail from Erin Vogel '95. Did he mention, he asks, the six published papers written in collaboration with students who were summer or academic-year research assistants? One of those former fledglings, Vogel is currently at SUNY-Stony Brook studying . . . monkeys? Yes, Wilson says, birds and monkeys share enough similarities in foraging behavior to be of interest. In fact, he says, he's done more research on winter foraging and the ecology of chickadees and nuthatches than he has with vocalization.

MARC GLASS

Professor Herb Wilson confers with students. Some students say Wilson inspired their own careers in science.

A birder who talks turkey at professional meetings about the effect of food supplementation on chickadees in the Maine woods and publishes papers with titles such as "The Foraging Behavior of Semipalpated Sandpipers in the Upper Bay of Fundy: Stereotyped or Prey-Sensitive?" Wilson communicates just as well with people who don't know biology from biomass. He has given talks and led outings for area birders since he arrived at Colby in 1990. A column he began writing for the local Audubon Society newsletter evolved to "For the Birds," a bi-weekly Waterville *Morning Sentinel* and Augusta *Kennebec Journal* column that has offered timely information for area birders since 1993.

One article last fall explained how the pine siskin, an infrequent winter visitor in Maine, showed up in 1999 because seed crops to the north were poor, forcing the pine siskins, which feed on seeds from spruce, hemlock and other trees, to migrate into Maine and points south. Even rookie birders could recognize this little finch (brown on top with white underparts and yellow wing bars), its personality ("highly social") or its call ("a buzzy 'zreeeeee' note") and distinguish the male from the female. The column topped off with the e-mail addresses of a couple of Web sites showing pictures of the pine siskin.

Sometimes Wilson touches on subjects of general interest—the effect of wind-power turbines on migrating birds, for instance—and sometimes on specific issues, such as why turkeys have both light and dark meat. "I try to mix it up," he said, "to make the column interesting and to help people learn more about birds." He usually ends either with a "bird bulletin" of sightings reported by readers or with a request for questions.

And flock in they do, two to 10 letters or e-mails after every column. From all over the state he hears about sightings of 40 sharp-shinned hawks, a northern shrike, a peregrine falcon, a few merlins. And however many e-mail or snail mail questions come winging his way, Wilson says he always takes the time to respond.

He also gets phone queries. What *was* it, one mystified caller wanted to know—a bird flew up out of the snow literally between his shuffling snowshoes during a moonlight trek in the woods the night before. Did he hurt the bird? Was it already injured or freezing? No, no, the bird buries itself in the snow, explained Wilson, describing the behavior of the ruffed grouse. Sometimes, he says, strangers recognize him from his picture in the column and chat him up. "It's fun," he said, a scientist gladly instructing novices.

Wilson, who grew up in North Carolina, says his mother claims that his first word was "bird"; he says he was 12 or 13 when the family vacationed on the coast and he and his four siblings walked along the beach to see an osprey nest. "That got me excited about birds," he said. It may have taken something like Big Bird to catch his eye, but over his undergraduate years at the University of North Carolina and Ph.D. work at Johns Hopkins Wilson's interests tended toward smaller species—such as the song sparrows on Colby's Runnals Hill—a prime site for the sparrows, he adds, because they like a little woody vegetation.

Below the main campus in observation blinds in Colby's Perkins Arboretum and Bird Sanctuary, Wilson and his students watch chickadees cluster around nearby feeders. Sometimes the birds are captured in mist nets, then banded with color bands. When a particular bird returns to feed, visit or vocalize, the bird watcher usually needs only binoculars, but the microphone and

FOR THE BIRDS

Black Oil Sunflower Seed

Attracts blue jays, black-capped chickadees, tufted titmice, red-breasted nuthatches, white-breasted nuthatches, northern cardinals, indigo buntings (summmer only), rose-breasted grosbeaks (summmer only), red-winged blackbirds, purple finches, house finches, evening grosbeaks, American goldfinches, pine siskins, common redpolls.

Millet seed

Often mixed with sunflower seeds and sometimes peanut hearts. Good for ground-feeding birds like mourning doves, song sparrows, American tree sparrows, chipping sparrows, dark-eyed juncos.

directional tape recorder or the video camera also may be up and running—mechanical eyes and ears helping take stock of the frequency of the bird's returns, variations between it and other birds coming to the feeder, the bird's aggressiveness or other foraging behavior. "The banding allows you to identify an individual. Otherwise you're just looking at chickadees," Wilson said.

As the result of a Northeast Educational Services grant, which included funds for the blinds and for faculty who use the arboretum as a resource, his ornithology course will visit the area more frequently than in the past, Wilson says. "We're seeking increased use of the arboretum," he said, explaining the overall theme of the grant. Although the ecology and animal behavior courses have always used the place, and the introductory biology course goes in for a day, he thinks new courses in humanities may be devised around the sanctuary and that the humanities will profit most from the stipends.

Perkins Arboretum is home to barred owls, downy and hairy and pileated woodpeckers, bluejays, American crows, American goldfinches, white and red-breasted nuthatches (they descend trees headfirst) and brown creepers (they climb trees using tails as well as feet, like a lineman with cleats and belt going up a utility pole). The numbers of these year-round residents swell in the summertime. "You can find fifty species in a few hours," Wilson said. "What's interesting is the diversity of the feeding types. They feed on flying insects. Nectar. You see them boring into deadwood. All sorts of things."

"The joy is to see them in their natural habitat," said Bets Brown, who shares her husband's interest in birds. When Brown was getting a Ph.D. in marine biology at the College of Marine Studies at the University of Delaware, Wilson came over one day from Johns Hopkins to conduct a seminar for graduate students, and they got talking about birds. "Did you know about the errant white-fronted goose in Rehoboth Beach?" she asked. Always monitoring bird hot lines, of course, he did know, and off they went to take a gander at the errant (i.e., out of its normal range) goose at a pond near the coast. "That's how we discovered we were both birders," said Brown, who has taught marine biology and a women's biology Jan Plan at Colby and serves as associate director of corporate and foundation relations. "Real serious birders chase birds all over the place."

Real serious birders also go to great lengths to attract birds, although most stop short of dead calves. Kestrels have bred for three years in a box in the barn of the couple's three-acre South China, Maine, home—"a pretty spot to perch," said Brown—and pairs of bluebirds and tree swallows nest in some 25 or 30 boxes located around the property and an adjacent farm. Wilson fills eight feeders once or twice a week, and in a year goes through 300-400 pounds of sunflower seed, 30 pounds of thistle seed and some suet. (He still hasn't had time to repair two feeders that were damaged

Birds at Your Fingertips

"The World Wide Web is for the birds," according to Herb Wilson. He says that anybody, amateur birder or professional ornithologist, can find information on the Web, from Christmas Bird Count data to trackings of warbler migrations to updates on Project Feeder Watch and other volunteer bird research programs.

www.birdsource.com/
This site is run by two venerable organizations for the study of birds, the Cornell Laboratory of Ornithology and the National Audubon Society.

www.mp2-pwrc.usgs.gov/bbs/index.htm
Wilson recommends this site for its part in a continent-wide effort to assess the population changes of North American breeding birds. The Breeding Bird Survey offers information on how various species are faring as well as identification tips and quizzes.

www.virtualbirder.com/vbirder/
This is the site for those who don't have the time for birding. Each month The Virtual Birder offers a virtual tour of an interesting birding area and tests identification skills. Recent tours have included Down East Maine, says Wilson, who praises the site's beautiful bird photography.

www.mainebirding.net/puffin.shtml
This is the site for puffins. The Maine Birding page, The Stanton Bird Club page and the Maine Audubon Society page all deal with birding in Maine.

www.ntic.qc.ca/~nellus/links.html
Want links to bird sites? Wilson suggests this site, Bird Links to the World, where hundreds of URLs are arranged in a clear, logical fashion.

Thistle or Niger Seed
From an Ethiopian plant unrelated to our local thistles. Excellent food for the smaller finches (American goldfinches, pine siskins, common redpolls). Niger seed will not germinate in our climate so there is no danger of introducing African plants beneath a feeder.

Suet
Excellent source of energy for many birds. Readily taken by downy woodpeckers, hairy woodpeckers, black-capped chickadees, red-breasted nuthatches, white-breasted nuthatches.

in the ice storm in January 1998. "After all, he's chair of the department," Brown joked.) Brown and Wilson also planted mountain ash and highbush cranberry bushes, which retain berries all winter, to attract Bohemian and cedar waxwings and pine grosbeaks. Fruit trees on the property entice orioles. It's all simple, they agree; when you know what each kind feeds on, you can bring in an array of birds.


BRIAN SPEER

Wilson fills a thistle feeder frequented by finches. Birds eat 300-400 pounds of seed a year at Wilson's South China home.

Just as simple is their home equipment: binoculars kept handy to watch what's going on outside, and a spotting scope, a tripod with high-powered lens, to see farther and in more detail. From the house they have identified 91 species, including bald eagles, hawks and owls. Although birding is Wilson's vocation, at such moments at home it remains his avocation. "He's relaxed," Brown said, "You just drop what you're doing. It's being outside, the educational side, that's important."

Together Wilson and Brown are coordinators of the Christmas Bird count in Waterville, and both participate in the U.S. Breeding Bird Survey for the U.S. Fish and Wildlife Service, tracking migrant and over-wintering birds. It's important to do the survey for a number of years, Brown says, because the count, monitoring which birds are breeding and which are declining, is a barometer of environmental health. Each year for the last eight or nine years she and Wilson each have completed three of Maine's 43 routes in the survey. You begin a route at dawn, she explains, counting the numbers of each species you see and hear in three minutes, then drive a half mile down the road and count again for three minutes and so on until you've made 50 stops in 24 1/2 miles. "The more advanced birders like Herb do the count by hearing rather than sight," she said.

Colby lore includes a treasured example of birding by ear by world-renowned birder Roger Tory Peterson, who received an honorary degree from Colby in 1974. After the commencement ceremony, Dean of Faculty Paul Jenson leaned over and politely inquired of Peterson how many birds he'd identified during the proceedings. "Eight," Peterson said without a moment's hesitation, pegging them by both calls and contours.

Reminded of this anecdote, Wilson nodded; he understands another pro perfectly. "We're always listening and comparing notes on any outdoor activity," he said. "We do it subconsciously."

Peterson told Jenson that his record, set when he was the speaker at a university commencement, was 12. Wilson nods at that, too, as if the bird in the bush—or the chickadee in the arboretum, the waterfowl below the dam near Fort Halifax, the osprey or bald eagle at Togus Pond—is worth just as much as the bird in hand. If it hasn't already been sized up and pored over, maybe—like the white-fronted goose in Rehoboth—it's worth even more.

Tower Kills

The following is an excerpt from Herb Wilson's column, "For the Birds," published in the Waterville Morning Sentinel *and* Kennebec Journal.

Human activities greatly influence bird populations. You can find birds that profit and those that suffer from almost any human alteration of our landscape.

Window kills are a threat to birds that frequent feeders, as most readers of this column will know. A less appreciated threat to birds is communication towers.

Consider the following examples of tower-related mortality. Beneath a 1,482-foot-tall tower in central Florida, 1,592 dead birds of 37 species were found shortly after dawn on September 29, 1970. On the morning of October 8, 1955, approximately 4,000 birds of 62 species were found dead below the base of a 673-foot TV tower at the Tall Timbers Research Station some 20 miles north of Tallahassee, Florida. On Jan. 22, 1998, an estimated 10,000 Lapland Longspurs died one foggy, snowy night in western Kansas from collisions with a television tower that was "only" 420 feet high. Recent estimates indicate that about four million birds a year in North America die from collisions with human-made structures.

Why do towers cause such bird mortality? Most of the tower mortality occurs during migration. Most songbirds as well as a number of other birds migrate at night when the risk of predation is lower and the cool air helps keep the birds from overheating due to the awesome exertion required in migratory flight.

On overcast or stormy nights, the lights on communications towers become a lethally disorienting signal. The birds apparently mistake the lights on the tower for the moon. The birds fly around the tower, sometimes flying into the tower, sometimes into the guy wires that help support the tower, and sometimes into other birds circling the tower. Some birds die from exhaustion as they fly round and round the tower.

The radio signals these towers transmit may interfere with the ability of migrating birds to detect the earth's magnetic field. This effect may explain why birds fly continuously around the towers.

What can be done to decrease bird-tower deaths?

First, towers should be clustered. Towers for transmitting radio signals, TV signals, telephone calls and other electronic signals should be located in the same area to minimize risk to migrating birds. No permits should be issued for tower construction in areas of known high migratory bird concentrations.

The type of lighting can reduce bird mortality. When Ontario Hydro replaced the continuously shining spotlights on its emission stacks at six electricity generating plants, bird collisions declined dramatically.

Deaths from tower collisions are likely to increase in the coming years. Television stations converting to the digital broadcast format intend to erect more than 1,000 towers in the next few years, each at least 1,000 feet tall. Prudent location of these towers will help to temper their effects on birds.

An interesting Web site showing the locations of communications towers in the 50 states can be found at www.towerkill.com