Ornithology. Birdwatching. Wings of Discovery—A Beginner's Guide to Birds
Faculty: Sarah Wagner, PhD, Public Information Specialist, Lab of Ornithology
Week Two: July 12 – 18, 2026
Schedule: Monday - Thursday, 7:00 a.m. - 12:00 p.m. Friday, 7:30 a.m. - 1:00 p.m.
NOTE: Early morning bird watching times are essential to this course and will not be adjusted.
Location: The Cornell Lab of Ornithology Sapsucker Woods Sanctuary, classroom, one field trip

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Shotgun Ornithology

On a spring morning in 1872, Charles Bendire was riding along Rillito Creek, a cottonwood-lined stream that came down from the Santa Rita Mountains north of Tucson, then a dusty town of ramshackle adobe buildings and a few thousand souls.

It was a pretty day to be out, the mesquite green and the cottonwood leaves flickering in the warm breeze, but the early 1870s were, frankly, an otherwise rather miserable time to live on the Arizona frontier. The economy was in the tank, and as a troublesome former Confederate hotbed, Arizona Territory wasn't high on Washington's list of priorities. The scandal-plagued federal government of President Ulysses S. Grant was in turmoil, anyway, the army was stretched thin across the Southwest, and the result was a power vacuum in Arizona, into which stepped vigilantes, outlaws, and scoundrels of all description.

Indian wars had been simmering for decades—Apache against their longtime enemies, the Navajo and Tohono O'odham (Pagago); Anglos against the Yumans; Apache and the newly arrived Americans against the Mexicans; and then later, as Anglos began flooding into the territory, Apaches against the Anglos and Hispanics both. By the late 1860s and early 1870s, the raids, counterraids, kidnappings, and murders stoked the fires on both sides as never before. One of the worst atrocities had occurred the year before, in April 1871, when a large band of Anglos, Hispanics, and O'odham crept north of Tucson to Arivaipa Canyon, to attack a sleeping camp of Apache who thought they were under the army's protection. The attackers massacred as many as 150 men, women, and children, and took alive twenty-eight babies to sell into slavery in Mexico. President Grant threatened martial law and ordered a trial for the vigilantes, but all 104 defendants were acquitted within minutes, and one of them was later elected mayor of Tucson.

It was against this messy, murderous backdrop, in April 1872, that Charles Bendire—a cavalry officer posted at nearby Camp Lowell—was riding along Rillito Creek, and it explains why he was keeping a sharp lookout for trouble as he did. But when movement caught his eye down in the creek bed, it was a bird he saw, not an Indian—a large, all-black raptor that flew up through the dappled shade of the cottonwoods. Had it been soaring overhead, it would have been all but indistinguishable from a turkey vulture, for this was a zone-tailed hawk, a rare species of the Mexican borderlands that mimics the shape, color, and lazy, drifting flight of a vulture, to fool its prey.

Bendire pulled up his horse, and when the hawk flew off, Bendire shook his reins and followed it, picking his way excitedly along the stream, which the dry season had shrunk to a few stag-

nant pools. He managed to keep the hawk in sight until, about five miles from camp, it perched on the dead limb of a massive cottonwood, close to a bulky nest. For the young officer, just a few days shy of his thirty-fifth birthday, it must have seemed like an early present, because Charles Bendire was mad about birds.

Not that "Charles Bendire" was really his name. Karl Emil Bender had been born in Hesse-Darmstadt, one of the jumble of principalities that made up what is now Germany. He had some home tutoring, and then spent five years in a theological school before being bounced out for a prank in 1853 at age seventeen. Turning his back on Germany, he and his younger brother Wilhelm quickly emigrated to America, though the brother, homesick, turned around and headed back to Europe shortly after their arrival. (Sadly, he never made it, being washed overboard on the return trip.) Karl, on the other hand, embraced his new home, anglicizing his first name to Charles, dropping his middle name and altering his surname. He also answered a recruiting poster for the First U.S. Dragoons, the only mounted unit in the army, which was looking for "able-bodied men between the ages of 18 and 35 years, being above 5 feet 3 inches, of good character, and of respectable standing among their fellow citizens."

His unit may well have sounded a bit like home, since German immigrants had been joining the Dragoons for years; in 1847 more than a quarter of the privates in another company were German, and officers complained about having to command men whose English was all but nonexistent. Whatever the incentive—the promise of three meals a day, the chance to serve with fellow Germans, or the eight dollars a month a private earned—Bendire joined for a five-year stint, and for most of the next thirty-two years, the cavalry would be his home.

Bendire spent his time in New Mexico and Arizona, for the Dragoons were the mobile army units that patrolled the Southwest, broiling in their hot wool uniforms beneath the desert sun, trying to chase Comanche or Apache warriors while riding horses one observer described as little better than carrion, weighted down with a hundred pounds of gear. The work was frustrating, the frontier postings a nightmare of boredom and physical hardship, and the risk of death from hostile fire very real. Yet after his first enlistment ended, Bendire, now a corporal, signed up again—just in time for the Civil War. This time he rose quickly through the ranks, brevetted to first lieutenant "for gallant and meritorious service" at the Battle of Trevilian Station, in Virginia in 1864, the largest all-cavalry engagement of the war.

When peace finally returned, Bendire was again sent west with the cavalry, to California, then to Fort Lapwai, in Idaho, in 1868, where he stayed for the next three years. He was growing into the solid, balding, round-faced man shown in later photographs, a startlingly long mustache forming a stiff inverted V. Life on a frontier outpost hadn't changed much, and boredom was still a daily challenge. It appears it was partly to combat this that he began to study birds, a natural outgrowth of his interest in hunting. In particular, Bendire collected bird eggs while he was posted in Idaho, and threw himself into this new hobby with abandon—and with scientific precision, becoming intimately familiar with western birdlife. In fact, he collected almost everything natural, from mammals and reptiles to fish and fossils. Transferred to Arizona, he stepped up the pace, sampling the Mexican-flavored fauna of the Southwest.

Many of these specimens Bendire shipped to Washington, to Audubon's old protégé Spencer Fullerton Baird. Though as a young man Baird missed out on that trip up the Missouri, he'd come to sit

Having almost single-handedly created the National Museum of Natural History at the Smithsonian, Spencer Fullerton Baird used his connections to forge a network of military officers across the western frontier that collected birds and other specimens from distant outposts. *Courtesy of the Smithsonian Institution Archives*

at the center of a far-flung web of collectors and ornithologists, many of them, like Bendire, U.S. Army officers. (It didn't hurt that Baird's father-in-law was General Sylvester Churchill, the inspector-general for the army.) Baird, who came to the Smithsonian only four years after it was founded, had almost single-handedly created the National Museum of Natural History, taking charge of

the moldering specimens already on hand, and augmenting them with his own extraordinary collection, which filled two railway boxcars.

Now, every week, new specimens flowed into Washington from the far corners of the continent, gathered by smart field scientists like Charles Bendire, who were constantly nudged, congratulated, encouraged, and chivvied by Baird. Prospective collectors were issued precise, written instructions on what to gather, how to acquire and prepare their specimens, and how to ship them back to Washington. Baird never spared the pen in advancing his cause; he sent an average of thirty-five hundred letters a year to his many collectors. Some of the names on the specimen labels would be famous for other reasons, like George B. McClellan, who (a decade before he would become commander of Union forces in the Civil War) collected twenty-five new species of mammals and ten new reptiles while searching for the source of the Red River in Texas.

Little wonder, then, that Bendire wanted the zone-tailed hawk for Baird and the Smithsonian. He thought about shooting it, but he wanted a peek in that nest even more, since no one had yet described the eggs of this species, and he was interested in observing their behavior. Tying off the horse, he shinnied up the tree as the hawk and its mate flew about, shrilly calling. In the cup of the nest, he found "but a single pale bluish white unspotted egg," which he pocketed. But because most hawks lay two or three eggs, he knew the clutch wasn't complete, and decided to come back in a week or two and collect the rest of the set, along with one of the parents.

In early May, Bendire's duties finally allowed him to return to the nest, where one of the adults sat tight on the eggs until he rapped the trunk of the tree with the butt of his shotgun. He was going to shoot, but because the hawk seemed tame, only flying a

short distance away, he decided to wait until he'd checked on the eggs, then collect the adult. Leaving his shotgun in its scabbard, he started up the tree.

"Climbing to the nest I found another egg, and at the same instant saw from my elevated perch something else which could not have been observed from the ground, namely, several Apaché Indians crouched down on the side of a little cañon which opened into the creek bed about 80 yards farther up," Bendire wrote some years later. "In those days Apaché Indians were not the most desirable neighbors, especially when one was up a tree and unarmed; I therefore descended as leisurely as possible, knowing that if I showed any especial haste they would suspect me of having seen them."

The problem was, what to do with the eggs? Bendire hated to abandon them, so in the scant seconds he had to think, he popped one into his mouth ("and a rather uncomfortably large mouthful it was, too"). Sliding down the cottonwood, forty feet to the ground, he got on his horse and rode hell-for-leather the five miles back to camp, expecting an attack at any moment, cradling the egg against the jolts and jars of the ride, his jaw muscles swelling, trying to breathe, trying not to gag. And then, safely at camp, trying to remove the precious egg without breaking it, his breath coming in labored gasps.

"I returned to that place within an hour and a half looking for the Indians, but what followed has no bearing on my subject," he reported laconically, saying that he mentioned his near brush with the Apache only "to account for not having secured one of the parents of these eggs." His jaws ached for days thereafter, and when he "blew" the egg, removing the contents to prepare it for his collecting, he found it slightly incubated—in part by his own body heat.

A German immigrant who joined the army and changed his name, Charles Bendire began collecting bird skins and eggs to stave off boredom on lonely frontier postings. His hobby sometimes came close to killing him—he once escaped pursuing Apaches with a rare hawk egg tucked in his mouth. *Courtesy of the Library of Congress*

Although his zeal for ornithology was unmatched—and would later bring him to wide recognition—in a sense, Bendire was a bit of an anomaly among Baird's network of collectors because he was a cavalry officer. Most of Baird's best collaborators were members of the Army Medical Corps—highly educated men with scientific training and a bent for natural history, traveling on the army's nickel to places that were too remote (and frequently too dangerous) for civilians to reach, joining military expeditions or tagging along on federal railroad and boundary surveys.

Some were solid professionals, while others were cut from more colorful cloth. Adolphus Heermann was the son of an army doctor, elected to the Academy of Natural Sciences when he was just eighteen; he made two trips to California, the second in 1853 with the army crew surveying railroad routes along the thirty-second parallel. He discovered several new species of birds, including the gull that now bears his name, an honor bestowed by his friend John Cassin. Heermann sent back east crates full of skins and eggs (and

appears to have coined the term *oology*, for the collection and study of eggs) but he always traveled with trunks of luxury items, including a decorated incense burner that raised more than a few eyebrows on the frontier. Suffering from the debilitating effects of syphilis, Heermann died, in 1865, of a gunshot wound while hunting—perhaps as a result of a stumble brought about by his illness.

Yet Heermann seems positively drab when compared with John Xantus, for whom a number of western birds were named, including Xantus's murrelet and Xantus's hummingbird. He was a Hungarian émigré whose life is shrouded in mystery, most of it a smoke screen generated by Xantus himself, who appears to have been born Xántus János—or perhaps Louis Jonas Xántus de Vesey, L. X. de Vesey or one of several other variations he used. He claimed to have been an officer in the Hungarian army, with ties to nobility, a political prisoner who escaped to England, and to have held a succession of jobs in the United States after emigrating there in 1850 (or '51), including canal digger, bordello piano player, and university professor—though, as is usually the case with him, there is evidence for virtually none of this.

What is known is that by 1855 he joined the U.S. Army as a hospital steward, where he came under William Hammond's wing. Hammond was as different from Xantus as could be imagined—the scion of an old, respected Maryland family, he would later rise from his frontier postings in Indian country to become Surgeon-General of the United States at age thirty-four, survive political backstabbing that resulted in his court-martial on trumped-up charges, and see his name later cleared by Congress even as he did pioneering work in the field of neurology. But in the 1850s, he was assigned to the cavalry as a surgeon, fighting the Sioux at Fort Riley, Kansas—and collecting birds for Baird.

Xantus was unhappy as a steward, but under Hammond's guidance, he blossomed as a collector; between the two of them, they sent back dozens of species. With Hammond's patronage, Xantus was able to join a variety of western expeditions and postings, including a railroad survey through the southern Plains and a coastal survey of California. (He later claimed to have also taken part in a naval exploration of the south Pacific, discovering dozens of new islands, and even had his portrait painted in the uniform of a navy captain—a trim, dashing fellow, with dark goatee and mustache, the gold epaulets flashing on his shoulders. In fact, he was at the time an enlisted man at Fort Tejon in the southern Sierras of California, where his claim to fame was discovering a flycatcher he named for Hammond.)

Xantus left a great deal to be desired from a military standpoint—his commander on the coast survey called him "the most unreliable man ever"—but Baird valued his collections of birds, fish, and a great deal more. Despite his many shortcomings, Xantus was skilled at parlaying his connections into employment, eventually becoming U.S. Consul in Colima, Mexico, before returning to Hungary to work with the national museum there—and continuing to spin stories about his fictitious American adventures.

However, the most important ornithologist to come out of the Army Medical Corps was Elliott Coues,* whom Baird (and Baird's close associate John Cassin) had befriended when Coues was a young man growing up in Washington, DC. He had a classics-heavy education, but was even then more interested in birds than anything else: "The inflection of the Prairie Warbler's notes was a

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*Although most birders pronounce it *coos,* he and his family pronounced their surname *cows.*

much more agreeable theme than that of a Greek verb, and I am still uncertain whether it was not quite as profitable," he later wrote.

The winter of 1858, he began collecting bird skins (and harvesting wild flax by hand to use to stuff them), starting with a field sparrow he shot in February, and spent all of his free time at the National Museum under Baird's tutelage. It paid off; two years later, Baird secured for him a berth on a cruise to Labrador, where he collected puffins, murres, and other subarctic birds for the museum. While he was completing school, Coues produced a flurry of papers on birds, including the description of a new species of shorebird he'd discovered in the museum's collection and which he named Baird's sandpiper, for his mentor. It was a foretaste of his remarkable productivity in the years to come.

At nineteen he was in medical school, shortly thereafter participating in a (presumably illegal) body-snatching to obtain a cadaver for study, and by 1862, at age twenty, he was a medical cadet in the Union Army, pulling hospital duty in Washington. In 1864, however, Baird tugged the strings that would set Assistant Surgeon Coues firmly on his career—an appointment to Fort Whipple, near Prescott, Arizona. Another collector was heading to the field, but maybe Baird recognized even then that Coues was of a different caliber; the man who came back from the frontier would eventually eclipse even Baird as the leading ornithologist of his day.

Next to Audubon, Coues is probably the most complex and interesting character in American ornithology and, as with Audubon, not always the easiest one to like. He was enormously talented and hugely energetic, producing a body of work all but unsurpassed—not only in ornithology, where he became one of the giants of its golden age, but mammalogy, history, and other fields as well. He

wrote voluminously, not just for scientists but for the general public, and was one of the first popularizers of science for the average reader.

He spent much of his later life editing a succession of journals by early western explorers, fifteen volumes in all, from Lewis and Clark to Rocky Mountain trappers, hunting down old manuscripts, even as his health faltered, and bringing their often forgotten narratives to wide attention. Coues had a healthy (at times smug) opinion of his own abilities, although as his biographers have written, "To those who would charge that Coues' lack of modesty was unbecoming, we will . . . say that he had little to be modest about."

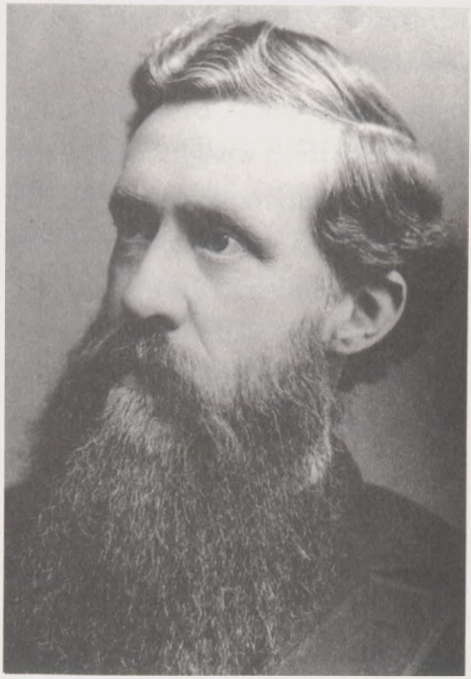
But Coues could also be a petty and hectoring man, merciless in attacking those with whom he disagreed. His disdain for "the opera-glass fiends," as he called the first birders (especially women involved with the young Audubon movement), was bottomless, yet he was also an early and vocal champion of women's rights, a position that eventually cost him his faculty position at the National Medical College. He was generous with his time and influence on behalf of those just entering the field; Coues's patronage would prove instrumental in launching the career of the young bird artist Louis Agassiz Fuertes in the 1890s, and he collaborated with some of the first important women ornithologists and bird writers, like Florence Merriam Bailey and Mabel Osgood Wright.

His personal life was a mess. He was married three times, the first through a dalliance that resulted in pregnancy. The young lady lost the baby in a miscarriage, but Coues, under pressure from her brother, went ahead with the marriage for appearance's sake; he departed for his first army post the following day, then had the union annulled six months later by a special act of the Arizona territorial

legislature. His second marriage, which lasted almost twenty years, devolved into a bitter, hateful conflict perhaps triggered, and certainly made worse, by his prodigious womanizing. He shared with his third wife, a wealthy widow named Mary Emily Bates, not only a commitment to women's rights but an interest in spiritualism and the occult, to which he lent his considerable prestige as a leading scientist—much to the dismay of his colleagues. Although he later broke publicly with one branch of spiritualists, the Theosophists, whose presidency he had once held, he remained interested in occult subjects his entire life.

Most of that was yet to come, however, when Coues set off for the Southwest in 1864, his Army commission and his orders tucked in his bag along with his collecting gear. Coues described himself in those days as a "slender, pale-faced, lantern-jawed, girlish-looking youth without a hair on lip or chin," a description reinforced by a photo taken that same year, showing the newly commissioned assistant surgeon in his uniform, a shock of hair curling up over one ear and brushed back from his forehead, eyes wide-spaced and his mouth slightly open as though about to speak. Clean-shaven in the portrait, he soon grew a beard in the fashion of most cavalry soldiers, and in later years it flowed down over his chest.

For the next two years, Coues roamed across New Mexico and Arizona, then west to the coast of southern California. He amassed a large collection for Baird, including a new warbler Baird named for Coues's sister Grace. In what by now was an almost obligatory episode for naturalists, he accumulated a rum keg full of reptiles and amphibians that was, predictably, drunk dry by thirsty soldiers. But he was an army officer in hostile country, and much of his time was spent chasing, or being chased by, Indians. His discovery of



A complex, often bitter and difficult man, Elliott Coues was also a brilliant scientist, one of Baird's military collectors who rose to become the one of the leading ornithologists of the late nineteenth century. *Courtesy of the Smithsonian Institution Archives*

the least Bell's vireo came during a raid on the Apache, and on another occasion, Coues quickly stripped off the skin of a rare subspecies of rattlesnake and wrapped it around the barrel of his rifle for safekeeping, all while he and his companions were being chased on horseback by pursuing warriors.

It was dangerous work; as his biographers note, among Coues's most poignant memories was hearing the song of a phainopepla during the burial of a comrade who had been killed, dismembered, and burned by the Apache. Back-and-forth raids between whites and Indians were as ceaseless as they were bloody, but despite this, Coues eventually developed a respect and sympathy for his former enemies, regretting his part in what had at times been little more than massacres by the soldiers.

Perhaps not surprisingly, then, given the violence, Coues wasn't especially fond of the Southwest. Not just the bloodshed but the aridity and starkness of the desert landscape bothered him; he didn't like Hispanics much at all, and even the incessant howling of coyotes annoyed him. But the scientific novelty of it all was a constant joy. To be "thousands of miles from home and friends, hot, tired, dirty, breathless with pursuit, but holding in my hand and gloating over some new and rare bird, I feel a sort of charitable pity for the rest of the world."

For the next sixteen years, Coues bounced back and forth between frontier assignments and periods in the East. He traveled to the Dakotas in 1872, then the next year joined a party surveying the American/Canadian border, traveling up the Missouri to the Rockies. In 1876, as naturalist for the U.S. Geological Survey, he was back in the mountains again, this time in Colorado. When not in the field, he was cranking out publications like his landmark *Key to North American Birds* in 1872, *Birds of the Northwest* in 1874, and *Birds of the Colorado Valley* in 1878 (as well as such medical treatises as "Aneurism of Aorta, Innominnate and Carotid Arteries"). Though still in his mid-thirties, he was rapidly gaining a reputation as one of the most important naturalists in the country—which makes his 1880 assignment back to Fort Whipple, Arizona, a puzzling one. Coues blamed his by now embittered wife, and there is evidence to suggest the move may have been prompted by another of his illicit affairs. In any event, even Baird couldn't help him this time, and after a year of protests from the wilderness, Coues resigned his commission and left the army in disgust.

Out of the military, Coues landed on his feet. He began to write about natural history for the popular press and lectured

widely, while drafting forty thousand zoological and anatomical definitions for the *Century Dictionary,* a task that took eight years. He brought out new editions of his two most important books, and he helped to create the first professional ornithological organization in the country. His work, and that of other writers (many of them women) he mentored and encouraged, helped stoke the emerging popularity of birding and nature study in the general public—though, contradictory to the end, he was by no means always well-inclined to bird-watchers.

ONE OF THE WOMEN with whom Coues corresponded, and whose ornithological work he aided, was the only female collector active on the Western frontier—Martha Maxwell, a remarkable, self-made woman who carved out a national reputation despite her gender and the considerable odds that fate stacked against her.

Born, in 1831, in the steep-sided mountains of northern Pennsylvania, Martha Ann Dartt got a love of nature—and her self-reliant, sharply feminist streak—from her unusually independent grandmother, while her steadfast belief in the value of education came from her scholarly stepfather. She moved with her family to Wisconsin, then attended Oberlin College, in Ohio, the first coeducational institute of higher learning in the country. Yet even there she bristled at the disparity between the privileges enjoyed by male students and the constraints placed on women.

A lack of funds, however, brought her college career to an end after little more than a year. Therefore, she jumped at the offer from a successful Wisconsin businessman, James Maxwell, to chaperone two of his children to Lawrence University in Appleton, Wisconsin—and to continue her own education at the same time.

Not long after, she learned that Maxwell, a widower twenty years her senior, had even more serious interests in mind; he proposed to her, a fairly brusque, businesslike offer made by letter. She, after long consideration, accepted in an equally no-nonsense manner.

It's hard to say what she later thought of the bargain; she was responsible for six children, the youngest of whom had been living in deplorable conditions despite their father's relative affluence. A few years later, Maxwell's businesses collapsed in a financial panic, and he lost everything. Leaving the children—including a new daughter of their own—in 1860 Martha and James joined the hordes headed to the newly discovered gold fields of Colorado.

It wasn't what they'd hoped. James didn't strike it rich mining, though Martha made a decent living for them by building and managing a boardinghouse in Denver. After three years, the distance widening in their marriage and her daughter growing up without her, Martha left James to return to Wisconsin—where, in a stroke of luck, she was offered a job doing taxidermy for a local professor.

Martha Maxwell had no experience with stuffing animals, but she'd become curious about the process in Colorado and now found she was naturally adept at it. When in 1868 she allowed James to persuade her and their daughter to join him again in Colorado, she threw herself into collecting and mounting specimens. She must have been a dervish of activity; that fall at the Agricultural Society fair in Denver, she exhibited more than one hundred specimens, from hummingbirds to eagles, arrayed on cottonwood branches in lifelike poses. The public reception was ecstatic, in large part because Maxwell had struck on a variety of techniques that made her mounts far more lifelike and artistic than was typical of the day. The following year, she wrote to the Smithsonian for advice on how to identify the unknown birds she was collecting,

and began a correspondence with Spencer Baird. In 1873 she opened the Rocky Mountain Museum in Boulder (moving it later to Denver)—confiding to Baird that she hoped it would become "a kind of academy of science, perhaps an adjunct to the State university." In 1876 she was asked to represent Colorado at the Centennial Exposition in Philadelphia, with an enormous display of her work.

The exhibit was a smash—the idea of a petite woman (Maxwell was less than five feet tall) toting a gun through the wild mountains, shooting birds and beasts and then mounting them in such fluid ways, mesmerized many of the estimated ten million fairgoers who attended. Cougars leapt from cliffs of fake rock onto the backs of running deer, heavy-antlered elk stood among trees full of birds, and turtles lay next to a flowing stream. There were buffalo, pronghorn, bears, and bighorns. And in case anyone missed the point, Maxwell posted a sign in front of the display that read simply, "Woman's Work."

The display won Maxwell a bronze medal, and turned her into an instant national celebrity. When the expo ended, she took her exhibit to Washington, where Elliott Coues first encountered her. He was mightily impressed by her work; many of the birds and mammals had been collected in the same part of Colorado he'd just explored, and Maxwell was not only able to show him specimens of the rare black-footed ferret he'd sought unsuccessfully, but she was able, for the first time, to explain the previously unknown details of this rare weasel's habits. Coues eagerly agreed to prepare an annotated catalog of the mammals in her collection, and Smithsonian researcher Robert Ridgway was already at work on one for the birds. In it, Ridgway named for Maxwell a subspecies of eastern screech-owl that she had collected—the first time a woman had been so honored for a bird she had discovered.

All but lost amid the mounted Rocky Mountain wildlife she brought to the Centennial Exposition in Philadelphia in 1876, Martha Maxwell sits in a display she slyly titled "Woman's Work." (The image is a detail from a stereo photograph; for full image see www.hsp.org.) *Courtesy of the Historical Society of Pennsylvania*

That tribute aside, it may be stretching the term to call Martha Maxwell an ornithologist, at least in the word's meaning by the late nineteenth century—a trained scientist pursuing the serious, academic study of birds. Unlike her contemporary Graceanna Lewis, John Cassin's female protégé in Philadelphia, Martha Maxwell lacked an accomplished mentor at her elbow and a respected institution in which to flourish, or she might well have gone on to scientific success. But she was an unusually accomplished naturalist in her own right, supplying Ridgway, Baird, and others with specimens, and warmly acknowledged for her assistance in their publications. And she did it all on her own, managing to overcome the handicap of living and working thousands of miles from the East Coast centers of science.

It's also worth noting that even though both Maxwell and "real" ornithologists collected birds, what they did with them was radically different. When Elliott Coues or one of his colleagues made a bird skin, it was a stiff pole of a specimen—beak sticking straight ahead, cotton in the eyes, wings closed, legs neatly folded and a label tied on with thread—easy to store with dozens of others in a shallow drawer. There was no attempt to make the thing look alive, since the purpose was simply to serve as a permanent museum record.

Martha Maxwell's mounted birds and mammals, on the other hand, were primarily a form of entertainment, but with the implicit idea of inspiring and educating those who came to see them. As her biographer, Maxine Benson, has pointed out, this put Maxwell in the vanguard of museum development, although she was then and still remains overlooked as a pioneer in the use of large habitat groups. (She also had to support herself and her family, so some of her work was wholly commercial and, at least to modern eyes, of

questionable taste—like her tableaus of monkeys sitting around a table, playing cards.)

Although the eastern exhibits brought her fame, as did the publication of an 1879 biography, *On the Plains*, by her half-sister Mary Dartt, they did not bring Martha Maxwell much in the way of income, and her final years were difficult. She made yet another attempt to finish her education, briefly attending a women's program at the Massachusetts Institute of Technology, but money grew increasingly tight. When she was not yet fifty, her health began to fail, and ovarian cancer killed her, in 1881. Her daughter wrote to Coues for advice on having the Smithsonian procure her mother's collection, but instead the specimens were trundled off to storage, entrusted to a man who proved to be a cheat. Many were sold off piecemeal, and those remaining were allowed to deteriorate beyond salvage, many of them sitting outside in the snow through a long, wet winter until they fell to bits—a sad legacy for a groundbreaking naturalist.

ORNITHOLOGY HAD once been the province of inspired amateurs; now it had solidified into a profession, and professional institutions were growing up around it, although their genesis was sometimes humble. A group of bird-crazy young men in Cambridge, Massachusetts, started gathering on Monday evenings in the early 1870s in the home of a twenty-year-old named William Brewster, to discuss birds and read from Brewster's treasured octavo edition of Audubon. Within two years, the gathering had grown into a formal society, which the members named after Thomas Nuttall, the former Harvard scientist who had accompanied the Wyeth expedition to Oregon half a century earlier.

The Nuttall Ornithological Club was the first of its kind in the country, and its roster was a future who's who of ornithology and natural history, including Brewster and Theodore Roosevelt, who joined while a sophomore at Harvard.* "Resident" members lived near Cambridge and met weekly, but the club also invited from around the country "corresponding" members like Coues, taking advantage of the first real opportunity to create a collegial association, and to debate (in person, and in the pages of the club's journal) the issues of the day.

One surprisingly divisive issue, which pitted many noted ornithologists against one another, became known as the "Sparrow Wars." North Americans in the late nineteenth century were infatuated with the idea of bringing to the New World foreign birds, especially those from Europe, like the nightingale and skylark, that were famed in art and literature. The fad was global; so-called acclimatization societies sprang up not only in North America but Australia, New Zealand, South America, Europe, and elsewhere, moving around game birds, songbirds, big game and small game mammals, fish, garden flowers, crops—a worldwide game of biotic shuffleboard.

The vast majority of introductions fizzled completely, or almost so. Hundreds of species, from exotic game birds to tropical finches, were stocked, but only a handful managed to hang on. Eurasian tree sparrows, brought to Saint Louis in 1870 among dozens of European birds imported from Germany, were the only ones to survive—and just barely, remaining restricted to the same

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*Not everyone was impressed with the future president. Charles Batchelder, a founding Nuttall member, wrote later that T.R. "seemed a bit too cocksure and lacking in the self-criticism that, in our eyes, went with a truly scientific spirit."

stretch of Mississippi Valley to this day. Skylarks, released on Vancouver Island in British Columbia in 1903 with support from the provincial government, have maintained a low (and declining) population ever since, while across the channel on the mainland, Asian crested mynahs, which initially numbered in the thousands and spread as far south as Seattle, appear to be dwindling away to nothing. Would that the same fate had befallen the mynah's relative, the European starling—the most notorious success (if that is the word) of the acclimatization movement. Introduced to New York in the 1890s, it was the benefactor of a society whose goal was to bring to North America every species of bird mentioned in the works of Shakespeare. (Lucky us, the Bard referred to a starling in a single line in *Henry IV*.)

The house (or English) sparrow was a darling of the acclimatization crowd, promoted as a natural control on agricultural pests like cankerworm. The first were released in Brooklyn in the 1850s, where they thrived, and by the 1870s, people were happily shipping crates of them all over the country. In Boston, the city was providing them with nest boxes on Boston Common, while the city forester was employed to kill predators that might harm the imports, including eighty-nine northern shrikes—an astonishing number of this rare northern migrant—shot in the winter of 1876–77.

Many ornithologists were aghast, seeing the aggressive sparrows displace once-common yard birds like eastern bluebirds and tree swallows. But others, notably Nuttall Club member Thomas M. Brewer, loudly advocated for the sparrows, and when a majority of club members took a position against the introductions, Brewer shot back, lambasting them in print as "overmodest young gentlemen." Coues entered the fray on the side of the club (and

against the sparrow), and the argument roiled newspapers across the East. With time, the sparrow opponents were proven sadly correct, but by then the genie was out of the bottle. The house sparrow spread like a prairie fire, blanketing the East in just a few decades and (with the help of additional introductions in San Francisco, Salt Lake City, and elsewhere in the West) reaching from coast to coast by 1900.

Another issue of debate was a more fundamental one—how to classify North American birds, and what to call them. It had been a thorn since Catesby's day, and while Baird had done much to smooth the wrinkles, there was still plenty of disagreement among the experts. The matter came to a head in the early 1880s with the publication of dueling bird lists—a new edition of Coues's *Check List of North American Birds*, and *Nomenclature of North American Birds* by Robert Ridgway at the Smithsonian, who did much to popularize Coues's idea of adding a third Latinized name to the old two-name Linnaean system, for describing subspecies like Martha Maxwell's screech-owl.

Ridgway had grown up in the Midwest during the Civil War, besotted with birds from his earliest recollection, and with a talent for painting them that was evident even in his teens. When he was fourteen, and puzzled by the identity of a bird, he sent a drawing of the mystery species to the federal director of patents in Washington, DC—a man whom, as Ridgway later observed, "did not 'know a hawk from a handsaw,'" but who gave the letter to Baird over at the Smithsonian. Baird in turn identified it as a purple finch and struck up an encouraging correspondence with the boy. In typical Bairdian fashion, the older man soon finagled Ridgway—not yet seventeen years old but clearly a prodigy—a position as natu-

ralist on a survey of the fortieth parallel from Colorado to California, and by the time Ridgway was twenty-two, he was working for Baird at the Smithsonian.

Ridgway and Coues got crossways of each other fairly soon thereafter; Ridgway had published an article on color variation in birds, and Coues, characteristically pricklish, felt his own work on the subject had been slighted. The breach never really healed, and the two men remained professional rivals for decades, even as their reputations grew to dominate the field. With the publication of their competing checklists, ornithologists could now choose from four versions of ornithological reality—Baird's original list, one by Ridgway, and two by Coues, one from 1873 and his latest effort. Each differed in significant ways in taxonomic order and how species, subspecies, and their corresponding names were handled, and rifts began to develop throughout the ornithological world along these multiple fault lines.*

To break the logjam, Coues proposed convening a congress of ornithologists, who would by common consent thrash out the differences and come up with a single, official inventory of North America's birds. In fact, he said, while they were at it, why not create a truly national professional organization? The Nuttall Club was the jumping-off point for the new entity, its leadership and invited members largely drawn from the Massachusetts group's rolls.

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*Nor are such disagreements a thing of the past. While taxonomy was once based almost entirely on physical structure, the advent of DNA analysis has brought revolutionary change to the field, as scientists reassess—and continue to argue over—the relationships between groups of birds. For birders, this upheaval is most evident in the constantly changing order in which species appear in their field guides. For example, loons were long considered the most primitive of North American birds, and came first on both the checklist and in field guides. But recently they were bumped back, now coming behind waterfowl (ducks, geese, and swans) and gallinaceous birds like pheasants, turkey, and quail.

For three days in September 1883, twenty-one of the country's leading ornithologists gathered in the American Museum of Natural History in New York and created what they dubbed the American Ornithologists' Union, modeling it on the British Ornithologists' Union, which had been founded in 1858.

One of the main tasks of the fledgling AOU was settling the discrepancies between Coues's and Ridgway's lists, and in 1886, the first official checklist of North American birds was published, covering the area north of the Mexican border along with Baja, Greenland, and Bermuda. (The checklist has since gone through seven editions and forty-seven supplements and now covers more than two thousand species from Colombia to the North Pole, including the Caribbean and Hawaii.) Gone was the welter of local, colloquial names; now the only official name for a bird, be it in English or Latin, was the AOU name. Likewise, the AOU ruled on the evidence for whether a bird was a full species or merely a subspecies—a responsibility it holds today, with an immediate impact on birders who keep close watch on their life lists. Finally, the AOU also began publishing a journal, *The Auk*, which replaced the Nuttall *Bulletin*, though naming it after the great auk—a flightless, extinct seabird of the North Atlantic—caused a fair bit of harrumphing among some members.*

Ornithology was still overwhelmingly a boys' club, but some cracks were beginning to show. Unlike the Nuttall Club, which refused to allow women (and which continued to do so for the better part of a century), the AOU elected its first female member only

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*Naming ornithological journals after birds living and extinct was and is popular; the British Ornithologists' Union started the trend with *Ibis*, and today there are *The Condor*, *Cotinga*, *Babbler*, *Emu*, and *Sandgrouse*, to name but a few around the world, as well as an even larger number that draw their titles from Latin bird names, including *Strix*, *Hirundo*, *Picoides*, *Ardea*, and *Buteo*.

two years after its founding—though it's hard to imagine how any ornithological organization could have refused Florence Merriam. Her brother, C. Hart Merriam, was chief of the federal Biological Survey and one of the AOU's founders, but his sister's election wasn't a case of nepotism—both siblings had a passion for nature, especially birds, that was encouraged from an early age. Born in upstate New York and educated at all-women's Smith College, Florence spent as much time outside as she could, leading bird walks while in college and, later, focusing on nature study as an antidote to "that most abhorred and abhorrable occupation of plain sewing, with housekeeping and bookkeeping."

While still in college Merriam began to write—not scientific papers, but articles for popular magazines like *Bird-Lore*, about the excitement of watching birds rather than collecting them. Birds were not her only interest; she spent time in Chicago, working on behalf of women's issues, and there contracted tuberculosis. One

Not long out of college, twenty-six-year-old Florence Merriam published *Birds Through an Opera-Glass* in 1889—a breezy, informal book that showed readers how to identify live birds in the field, instead of specimens shot for collections. It was, in a sense, the first field guide to American birds. *Courtesy of the Smith College Archives*

common treatment for the disease was the dry western air, and she headed to California, Arizona, and Utah, penning a frank book about Mormons, before she turned her attention to western birds.

In 1896 she published *A-Birding on a Bronco,* which was warmly received by both the public and the ornithological community, then followed it up with *Birds of Village and Field* two years later, after moving back east. In 1896 she married Vernon Bailey, a biologist who worked for her brother at the Biological Survey; the Baileys spent decades traveling in remote parts of the West and Southwest, equal partners in field research. She wrote the authoritative *Handbook of Western Birds* in 1902, and *Birds of New Mexico* in 1928, for which the AOU gave her its Brewster Medal, its highest prize for ornithological research and the first ever bestowed on a woman.

But Florence Merriam Bailey's most lasting contribution to bird study may have been her first book, published when she was just twenty-six and not long out of college—a collection of her *Bird-Lore* articles, titled *Birds Through an Opera-Glass,* which appeared in 1889. Chatty, informal, and funny, its purpose was to catch the imaginations of readers and make them curious enough about birds to go outside and find them—not with a shotgun, but with a pair of opera glasses, the only useful (though barely) optics available in the 1880s.

"Focus your glass on the meadow, and listen carefully for the direction of the sound. As the lark is very much the color of the dead grass that covers the ground when he first comes north, and of the dry stubble left after the summer mowing, he is somewhat hard to see. When you have found him, it is a delightful surprise to see that the brownish yellow disguise of his back is relieved . . . by a throat of brilliant yellow, set off by a large black crescent."

And so it went for seventy species—how the birds lived, where to find them, how to identify them, with woodcut illustrations to help the process along. While Coues and Ridgway had been battling it out for primacy in the arcane world of ornithology and taxonomy, young Florence Merriam had invented the first popular field guide—and the study of birds would never be the same.

In the 1880s the idea of birds as objects of simple observation was still a fairly revolutionary one—growing in acceptance, certainly, as the popularity of Merriam's book shows, but very much a minority view. To the general public, birds were usually seen through a strictly utilitarian lens—either as valuable for sport, food, or pest control, or viewed as vermin to be stamped out when their behavior conflicted with human interests. "Economic ornithology," which tried to justify the existence of birds by tallying their positive or negative impact (mostly on agriculture) was all the rage; Foster Beal, who worked for many years at the Biological Survey, examined the stomach contents of more than thirty-seven *thousand* birds, which led him to calculate, among other things, that a single species, the American tree sparrow, destroyed 196,000 bushels of weed seeds every year in Iowa.

That may seem a trifle silly to us, but birds needed all the help they could get. Until federal legislation protecting native wild birds passed following World War I, oversight was limited to the state and local levels, and there was precious little of it. With few exceptions, if it flew, it was considered fair game. What constituted a game bird in those days was radically more inclusive than today—not only waterfowl and gallinaceous birds like quail and pheasants,

but shorebirds, waders, and many songbirds. Robins, red-winged blackbirds, and "ricebirds" (bobolinks) were as likely to appear on the menus of upscale urban hotels as pork chops and roast beef. A stroll through a busy market square in New York, Chicago, or Baltimore would reveal "calico snipe" (ruddy turnstones), "robin snipe" (red knots), "grass-birds" (buff-breasted sandpipers) and "doughbirds" (Eskimo curlews, today probably extinct).

Market shooting for the table and to supply the millinery trade, which used bird skins and feathers as hat decorations, was exploding in the late nineteenth century. While many—including some ornithologists—saw the supply of wild birds as inexhaustible, others were starting to sound a warning. George Bird Grinnell, Lucy Audubon's old pupil and a founding member of the AOU, was using his pulpit in the pages of *Forest and Stream* magazine to raise the alarm. The astonishingly swift collapse of the passenger pigeon population added impetus to the calls for conservation, as did the near extermination of the great bison herds, an issue that J. A. Allen, one of the founders of the Nuttall Club and the AOU, hammered away at in the popular press. It was the first time most Americans read about a new and disturbing concept: extinction.

But ornithology itself did not escape the lash of public condemnation. The growing number of bird-watchers and nature lovers looked at the scientific types, with their shotguns and drawerfuls of skins and eggs, and were increasingly horrified. Even worse, in many eyes, were the professionals who made a living collecting birds and their eggs. John Burroughs, probably the most influential nature writer of the late nineteenth century, had qualms about how much scientific collecting was justified, but he saved his real anger for the ones who did it for money.

> Every town of any considerable size is infested with one or more of these bird highwaymen, . . . I have heard of a collector who boasted of having taken one hundred sets of the eggs of the marsh wren in a single day; of another who took, in the same time, thirty nests of the yellow-breasted chat; and of still another who claimed to have taken one thousand sets of eggs of different birds in one season . . . I can pardon a man who wishes to make a collection of eggs and birds for his own private use . . . but he needs but one bird and one egg of a kind; but the professional nest-robber and skin-collector should be put down, either by legislation or with dogs and shotguns.

Burroughs's hated professionals were filling an enormous demand. The late nineteenth century saw a mania for natural history collections, not only among professional ornithologists and museums but at all layers of society. Victorian households were commonly decorated with "glass bird cages," which ranged from little tableaus of a couple dozen stuffed songbirds, mounted on branches and displayed under a glass dome that sat on the family mantel, to enormous mahogany cases jammed with hundreds of specimens, including hawks, herons, and waterfowl. Infancy was no protection; many displays included nests full of stuffed baby birds. Taxidermy shops cranked out these collections to meet the growing demand, usually using whatever local species they could find, but there was a lively import business as well; for a handsome price, you could buy a case filled with dozens of species of glittering South American hummingbirds.

Eggs were the focus of the most extreme form of collecting fever, however. Oology, the study and collection of eggs carefully

blown clean of their contents, was a genuine rage in North America and Europe during the late nineteenth and early twentieth centuries, with tremendous competition to assemble the most complete collections of eggs, usually taken not one at a time but in entire clutches from the nest. The excess was extraordinary; one "oologist" boasted of owning a hundred and eighty peregrine falcon clutches comprising more than seven hundred eggs, out of a collection totaling twenty thousand of many species. Magazines like *Ornithologist and Oologist* facilitated the sale of eggs around the world, and a single blown egg of a California condor might fetch $350, at a time when that sum would buy a small house. (Interestingly, although egg-collecting is a long-gone fad in North America, it remains all too alive in Great Britain, despite its illegality. Even today, the nests of rare raptors, like ospreys and eagles, must be guarded twenty-four hours a day in the UK, lest egg thieves strike.)

Ornithologists kept their noses in the air when the subject of private collectors and suppliers came up—perhaps to avoid the odor of hypocrisy, since few had much compunction about dealing with professional suppliers. The AOU pushed what became known as the model law, which urged municipalities to ban the killing of birds, or the collection of their eggs and nests, except for those who could demonstrate a "scientific" reason for doing so. In 1886, for example, a young Harvard student named Arthur C. Bent, who had begun his own collections some years earlier, applied to the Boston Society of Natural History for a permit to take birds and their eggs, having first pledged not to break state laws prohibiting "wanton destruction of birds or birds' eggs, or killing birds for merely ornamental purposes." The following year, when he applied directly to the state for his permit, he noted that he had a "small collection,

consisting of slightly more than 100 eggs and between 50 and 60 species of birds."

Although Bent would go on to make an extraordinary contribution to our understanding of birds, the country was awash with hobbyists like him who had cabinets full of eggs and skins. And even the most august of academic ornithologists got hopelessly caught up in the chase. Although they could, with complete validity, argue that the number of birds collected for museums was as nothing compared with the vast amount of natural mortality (to say nothing of human carnage at the hands of market-gunners), that line of reasoning only worked for common species—and ornithologists in the late nineteenth and early twentieth centuries were rabidly interested in acquiring the rarest specimens they could.

Among some of the worst examples are the Carolina parakeet and ivory-billed woodpecker, two species which by the 1890s were clearly in desperate straits. The rarer they became, the greater the frenzy to get them for museum collections. Roughly 660 parakeets from Florida were shot and stuffed for collections in the last two decades of the nineteenth century. William Brewster, in whose attic the Nuttall Club had begun, made trips to Florida hunting for parakeets and ivorybills, as did Ridgway, C. Hart Merriam, Frank M. Chapman, and many other top ornithologists.

Birds they couldn't get themselves, they paid for; over the years, Brewster bought sixty-one ivorybill skins, many of them from people like South Carolina collector Arthur Wayne, who even advertised ivorybills for sale in the AOU's journal, *The Auk*. In just three years, from 1892 through 1894, Wayne and his workers killed forty-four of the huge woodpeckers in Florida, and he's

blamed for wiping out the species entirely along the Suwannee River, where it had once been fairly common.

There was no excuse for this bloodbath, and accounts like this make it hard to take a balanced view of collecting overall. In most cases, however, the scientists were right—collecting had no effect on bird populations at all, and was a vital, unavoidable step in studying them. (And it remains so today, though to a much more limited degree.) This was especially true in the nineteenth century, when ornithologists were encountering hundreds of new species in a confusion of morphs, geographic races, and plumages, and without any published material like field guides to help them sort out everything. Optics were primitive at best, and the only way to sift through the confusion was to collect and scrutinize specimens.

Consider the red-tailed hawk, one of the most variable raptors in North America. Almost everyone, birder or not, can recognize this big, chunky buteo, with its brick-orange tail, brown back, and dark bellyband, right? Except that there are fourteen subspecies of redtails, ranging from the extremely pale "Fuertes" redtail of southwest Texas and Mexico to the richly colored birds of the north. They come in light and dark morphs unrelated to age or gender, and in the West there is a striking rufous morph, to boot, not to mention plumage differences between adults and immatures. Figuring out how all these redtails fit into the larger scheme of things took the better part of two centuries, and the puzzling still isn't over. Audubon described Harlan's hawk, the often chocolate-colored redtail of Alaska, which winters on the Great Plains, as a new species, although it was later downgraded to a subspecies. But some specialists, basing their argument in part on an examination of study skins, believe Audubon was right in the

first place and maintain that Harlan's hawk is a full species in its own right.*

Sparrows are even worse. There are eighteen recognized subspecies of fox sparrows, and an ongoing argument about whether they make up one single species, or four closely related ones. Depending on which expert you believe, there are between two dozen and thirty-nine distinguishable subspecies of the song sparrow, but early ornithologists named *fifty-two* different varieties. All have the trademark streaky breast with a dark central spot that birders rely upon for identification, but those from the Southwest are pale, lightly streaked and rusty, while song sparrows from the Pacific Northwest are gray and sooty, and those just down the coast in California have dramatically black streaks. The first time I saw an Aleutian song sparrow I mistook it for a fox sparrow, so large, heavy-billed, and dark was it. Only by gathering specimens from across the song sparrow's range, and patiently comparing sizes, colors, and shapes (along with details of the birds' life histories, songs, and behaviors) were scientists able to make sense of this profusion of variation on a single theme.

The bloodless sport of field identification, as birders practice it today, wouldn't have been possible without the underpinnings of museum collections—not only the enormous task of bringing order to a continent's worth of species and subspecies, but also the creation of the field guides on which we all depend. From the earliest

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*Actually, it's even more complicated than that. Judging from the painting of the bird that Audubon collected in Louisiana in 1829 and named "Black Warrior *harlani*" for his friend Dr. Richard Harlan, the bird was apparently not, in fact, what we now call a Harlan's hawk at all, but rather a juvenile dark-morph western redtail. The actual type specimen from which the written description was made, however, now in the British Museum, does appear to be a "Harlan's" redtail.

guides to the most recent, the experts still rely to a significant degree on museum collections. The result was that as collection-based ornithology progressed in the mothball-scented corridors of museums, it permitted wider and more accurate identification of birds in the field—often by people with little scientific background who looked askance at the collectors. As the number of bird-*watchers* increased, there was an increasing demand for better means of protecting birds, and the tension over this issue became palpable by the end of the nineteenth century. It was simply no longer necessary for anyone interested in birds to shoot them in order to study them.

Even as the world was changing and the rationale for universal collection waning, Elliott Coues remained firm in his belief that the path to ornithological wisdom issued from the muzzle of a shotgun. Collecting wasn't just the best way to study birds, it was the only way. How many birds should a beginning ornithologist collect? Coues asked rhetorically. "*All you can get*—with some reasonable limitation," was his answer—though modern birders would gasp at what he meant by "reasonable."

> Say fifty or a hundred of any but the most abundant and widespread species . . . Your own "series" of skins is incomplete until it contains at least one example of each sex, of every normal state of plumage, and every normal transition stage of plumage, and further illustrates at least the principal abnormal variations in size, form, and color to which the species may be subject; I will even add that every different faunal area the bird is known to inhabit should be represented by a specimen, particularly if there be anything exceptional in the geographic distribution of the species. . . . Begin by shooting every bird you can, coupling this sad de-

> struction, however, with the closest observation upon habits . . . Fifty birds shot, their skins preserved, and observations recorded, is a *very* good day's work.

Nor was it merely to better know the local birds that one was encouraged to shoot. "Birdskins are a medium of exchange among ornithologists the world over," Coues observed; "they represent value—money value and scientific value. If you have more of one kind than you can use, exchange one for species your lack; both parties to the transaction are equally benefited." If you didn't use a shotgun, you weren't an ornithologist, and Coues had little use for the "Audubonians," as he called them. "There are too many inspired idiots among them, who fancy they have a God-given mission not to hide their light under a bushel," he fumed in 1899, just a few months before his death.

> The shotgun people are mostly made of sterner stuff; they are realistic and can be cultivated, educated, and really helped in various ways. But the opera glass fiends! They always live too near the great heart of nature to know anything of her head or hands, or do a stroke of sensible work, even to protect the birds. . . . One woman wrote to say she was so unhappy because the cats in her neighborhood killed birds. We were going to write back and suggest that she collect the murderous felines and read the Audubon circular to them; but we restrained ourselves and advised her to feed the cats.

Such snide comments were far from rare. Charles B. Cory—the incoming president of AOU, a wealthy Boston Brahmin who

used his money to amass a collection of nineteen thousand bird skins from the Caribbean and the Gulf of Mexico—was asked in 1902 to address an Audubon meeting. He declined, sniffing, "I do not protect birds. I kill them."

No doubt Cory's witty little retort drew chuckles and backslaps at the next AOU meeting. But the "Audubonians" weren't amused. Yes, it was a movement largely born of, and propelled by, women of means and leisure. But whatever the old boys in the AOU thought, the Audubonians were poised to become one of the most potent forces for bird protection the continent would ever see, and to change permanently the way most Americans thought about birds.