Vol. 50 No. 4 Fall 2016

Colorado Birds

The Colorado Field Ornithologists' Quarterly

Stealthy Streptopelias

The Hungry Bird—Sun Spiders

Separating Brown Creepers

Colorado Field Ornithologists
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White-tailed Ptarmigan, Mt. Audubon, Boulder County, 8 August 2016. ***Photo by Christian Nunes***

It is change, continuing change, inevitable change, that is the dominant factor in society today. – Isaac Asimov

Dr. Ronald A. Ryder passed away on 2 August 2016 in Fort Collins, Colorado. I did not know Dr. Ryder personally, but his many contributions to Colorado ornithology can be found throughout CFO's journal, major ornithological publications, and the achievements of the students he mentored at Colorado State University. Among his many contributions, he initiated the Breeding Bird Survey in Colorado, was a charter member of CFO, and founded the Fort Collins Bird Club (now an Audubon Society chapter). David Leatherman's interview with Dr. Ryder in the April 1995 issue of the *C.F.O. Journal* provides wonderful insight into Dr. Ryder as a person and as an ornithologist; that interview is reprinted in this issue.

Doug Faulkner

In February 1995, to recognize Dr. Ryder's contribution to Colorado field ornithology, the CFO Board of Directors established the Ronald A. Ryder Award for Distinguished Service to Colorado Field Ornithology. Dr. Ryder was the inaugural recipient. The award is given to individuals who share their accumulation of knowledge with others—most notably Colorado birders, but also students and the general public—beyond their scholarly colleagues or circle of friends. This list of 14 recipients includes many current contributors to this journal, including Bob Righter, Tony Leukering, and David Leatherman, and others, like Harold Holt and Hugh Kingery, whose work broadened our understanding of Colorado's avifaunal demographics. Like Dr. Ryder, several other award recipients made their contributions as college and university professors. Colorado is blessed to have so many academic scholars, self-taught field ornithologists, and passionate birders willing to share their knowledge with the rest of us. It is truly an honor for CFO to have Dr. Ryder's

name associated with its distinguished service award to recognize those individuals.

To further recognize Dr. Ryder's contributions and to provide support for future ornithologists, Colorado State University has established an endowed memorial scholarship in the Department of Fish, Wildlife, and Conservation Biology for students studying birds. Dr. Ryder made many contributions to Colorado ornithology. Honoring Dr. Ryder by naming CFO's distinguished service award after him was one way of showing our respect, our admiration, and our thanks. I believe we can take that one step further now by supporting fledgling ornithologists at CSU through contributions to the memorial scholarship. Please consider making a contribution by sending a check to the CSU Foundation with "Dr. Ronald A. Ryder Memorial Scholarship Fund" written in the memo line.

In David Leatherman's interview, he summarized Dr. Ryder's outlook on the natural world as "things change"—the "great faith in the ability of birds and other organisms to cope and adapt" while recognizing the inherent challenges faced by this ever-changing world. With Dr. Ryder's passing, the world continues to change and CFO will cope and adapt. But it is because of the strong foundation that Dr. Ryder helped build that we are able to move forward. On behalf of CFO, I express our heartfelt sorrow to his family and friends, and our utmost gratitude to Dr. Ryder for sharing his love of birds with us.

Photo Editor Needed

If you are knowledgeable about Colorado's birds, have experience with digital photos (including the skills and software to do basic editing: cropping, resizing, etc.), and have a few hours to spare for each quarterly issue, please consider volunteering as the *Colorado Birds* Photo Editor. If you are interested, please contact Scott Gillihan, Editor (editor@cobirds.org).

7 May 2016
Elks Lodge, Lamar, CO

Chris Owens, CFO Secretary

President Doug Faulkner called to order the 2016 Annual Meeting at the Convention banquet site, the Elks Lodge, in Lamar, Colorado, at 7:45 P.M. Doug thanked CFO Directors and all the other CFO members who worked on this Convention. The 228 attendees easily surpassed last year's record-setting convention in Salida. He thanked Directors whose board service ended during the year—Director Mike Henwood and Secretary Larry Modesitt. Doug also thanked Bill Kaempfer for his years of service to CFO, most recently as Past President.

Awards were given to Karen Downey of the Corps of Engineers for her support for conservation actions at John Martin Reservoir. Gale Tempel received a Landowner Award for his welcome to birders for many years at the Melody Tempel Grove, honoring his late wife, Melody. The grove's welcome even included snacks and beverages! Jane and John Stulp received a Landowners Award for opening their ranch as a special treat for attendees. Well over 400 visits occurred over the four days, excluding people who didn't sign on multiple trips, meaning the average person visited the ranch 2½ times! Many saw the Convention Highlight Bird, the Golden-winged Warbler, a bird that is becoming hard to see even in its range. Janeal Thompson received an award for the many hours of volunteer work she contributed, along with Jane Stulp, to plan the excellent picnic. Duane Nelson was also honored with an Appreciation Award, given for his many years of tireless and devoted attention to providing safe nesting habitat for Piping Plovers and Least Terns, who are surviving despite contending with drought, flood, dogs, and other egg-eating and bird-eating varmints.

Doug announced the officers for the next year: Doug Faulkner, President; David Gillilan, Vice President; Chris Owens, Secretary; and Michael Kiessig, Treasurer. The membership also welcomed Gloria Nikolai and Amber Carver to the Board, with Christy Carello and Christian Nunes signing on for additional three-year terms as board members.

Pass the Hat proceeds of $1,052 will go directly to a fund for grants.

Doug announced that the 2017 CFO Annual Convention will be held in Steamboat Springs, to loud acclamation from attendees.

Doug announced that Larry Modesitt's swan song was to introduce the keynote speaker. In his introduction, Larry pointed out that Dr. Garth

Spellman set a new standard for keynoters: in addition to delivering the evening's address, he participated as a Trip Leader, Workshop Teacher, and Paper Presenter.

Dr. Spellman spoke on "The Past, Present, and Future of Ornithology at the Denver Museum of Nature & Science," describing the illustrious past that resulted in 53,000 bird specimens and many firsts. The collaboration of Alfred Bailey and Bob Niedrach produced *Birds of Colorado*, and 40 trips to collect specimens, many of which are exhibited in dioramas. He spoke of Alexander Wetmore, who developed the first Colorado bird checklist, then went on to become the Director of the Smithsonian Institute, where he published information about fossil birds. Frederick Lincoln, after a stint at the museum (DMNS), helped win World War II, working as a pigeon expert for the Signal Corps. Lincoln led the banding program that converted it into a federal program and developed the first flyway map. Garth asked the crowd, "At the beginning, which was the most frequently banded bird?" Answer: the Mallard. "What was the most frequently banded songbird?" Answer: Gray Catbird. Given DMNS's illustrious past, Dr. Spellman was pointing out how valuable the ornithology role is, and, incidentally, how much he is expecting of himself.

Presently, he is studying the coevolution of hosts and parasites. Partnering with Bird Conservancy of the Rockies in the west and the Smithsonian Institution in the east, he is collecting poop from banding bags. By extracting DNA from parasites, Dr. Spellman is studying how parasites are related to each other. Are parasites coevolving with their hosts? Stay tuned.

He is also studying climate-related science. Using spectrographic analysis of cortisol levels in current vs. 100-year-old feathers, it is possible to correlate climate data with nesting success. It appears that warm years correlate with more stress and less successful nesting.

He suggested that CFO members could help. White-breasted Nuthatches consist of four different genetic groups. Nathan Pieplow has noted the vocal differences. CFO members could pay close attention to which of the four subspecies are being viewed and note them in their records. Steller's Jays and Bushtits also have subspecies that can hybridize. Will some of the hybridization result in fusion? Stay tuned.

Clearly, the future at the Denver Museum of Nature and Science also will have interesting news to report.

With applause for all, the evening concluded at 9:10 P.M.

Respectfully submitted,
Larry Modesitt, Secretary

Thomas Say (1787–1834)

Thomas Say. Artist unknown

Bob Righter

In 1812 at the age of twenty-five, Thomas Say became a cofounder of the Philadelphia Academy of Natural Sciences. Under Say's leadership the Academy blossomed, becoming the leading natural history institution in North America during the early half of the nineteenth century. If anyone had a bent for natural history during that era there would be no place more exciting than the Academy. The place could crackle with anticipation when naturalists returned from distant expeditions to the West. What new species had they discovered? What did those species look like? It was a heady experience to hang around with these natural history rock stars and hear first-hand what it was like to be exploring in, say, the newly acquired lands of the Louisiana Purchase: what was the climate like, what did the Pacific Ocean look like, what were the Native Americans like, were there times you were ever scared for your life? Maybe the day would end going to the pub with one of these naturalists, having a mug, and hearing more. One never knew who was going to show up: one day it could be Meriwether Lewis traipsing by for some chit-chat about what it was like getting lost in Indian country while trekking through the Rocky Mountains, or another day Alexander Wilson could drop by, checking the specimens for his upcoming book, *American Ornithology*, or even later John James Audubon might make an entrance, dressed up in his backwoods deerskin clothing, accompanied by his favorite dog, Juno, checking for the arrival of any new bird specimens from the West that he could paint for his forthcoming book, *Birds of America*.

Thomas Say was about six feet tall, which was tall for an individual of that era. He demonstrated no interest whatsoever in making money—he was a naturalist through and through. The items he cherished the most

were his natural history books. He was greatly influenced in the subject by his great-uncle, William Bartram, who was known amongst European scientists as being the United States' most distinguished naturalist, particularly in botany. Say would later became America's first distinguished entomologist (bug specialist), and would become an internationally recognized naturalist.

With the acquisition of the Louisiana Purchase in 1803, John C. Calhoun, Secretary of War under President James Monroe, wanted to send a scientific expedition to explore the land between the Mississippi River and the Rocky Mountains. The mission's goal was to map, evaluate the land for agricultural potential, sketch the topographic features so everyone could see what the new land was like, and collect as many natural history items as possible. Calhoun was also concerned about the control the British were exerting from the north on the new territory and wanted to create a presence in the region as a way of disrupting their trade with the local Native American tribes.

Major Stephen Long graduated from Dartmouth College in 1809. In December 1814 he was commissioned a second lieutenant in the Corps of Engineers, taught mathematics at West Point, then joined the Topographic Engineers in 1816. In 1817 he led several expeditions, one to the north and another to the south where he gained the attention of Calhoun, who chose Long to lead an 1819–1820 expedition to the Rocky Mountains. Long would later be immortalized by having a 14,259-foot mountain named in his honor: Longs Peak, Boulder County, Colorado.

Long had to look no further than the Academy of Natural Sciences to find the best naturalists of the day. Including naturalists Thomas Say, Edwin James, and Titian Peale, the expedition consisted of about 25 members, including military personal, general crew members, and landscape artist Samuel Seymour. His depictions of major topographic features are still remarkably definitive nearly 200 years later.

Thomas Say was the lead naturalist for the expedition. He described seven new bird species from territory that is now known as the state of Colorado. These new species had previously not been described to science. Describing the locations and circumstance of their discovery will be a focus of this paper.

Edwin James graduated from Middlebury College, trained as a botanist, and was the first one in North America to collect floral specimens above timberline. He also was responsible for compiling the official report for the expedition. James' 1821 map of the region was hailed by the historian William Goetzmann as being a landmark in American cartography. He was later immortalized by having several flowers named in his honor as well as a 13,301-foot mountain, James Peak, in Gilpin County, Colorado.

Titian Peale was an assistant naturalist, focusing on mammals. Titian was the sixteenth child and youngest son of the famed Charles Willson Peale who was an exquisite portrait painter of all the illustrious folks who were famous during that era. His paintings have hung in the White House as well as other capital buildings and museums. He also was the originator of the notable Peale's Natural History Museum in Philadelphia. Titian's sketches from the expedition vividly portrayed the region's birds, insects, and mammals, as well as adding intriguing topographic information.

The Long Expedition left Pittsburgh, Pennsylvania, on board the steamboat *Western Engineer* on 5 May 1819. On 6 June 1820 they left their Nebraska winter campsite, Engineer Cantonment, which was near the confluence of the Platte and Missouri Rivers, and followed the Platte River west into new territory. While camped at Engineer Cantonment, Say collected the type specimen of the Orange-crowned Warbler.

On 26 June the expedition entered land that today is known as the state of Colorado. They followed the South Platte River stopping at what is now Julesburg, Sedgwick County. On 2 July they camped near the confluence of Crow Creek and the South Platte that today would be near the town of Kuner, Weld County. The next campground was near what is now Platteville, Weld County. The Expedition then rode past Brighton in Adams County and followed the South Platte all the way to the foothills of the Rocky Mountains where they camped at the confluence of Clear Creek and the South Platte in Arapahoe County on 5 July.

On 6–7 July from their campground at the mouth of Waterton Canyon, Jefferson/Douglas Counties, on a nearby Dakota sandstone hogback (39°N, 105°05'W), the type

specimen for the Rock Wren was discovered and described by Say.

On 9 July, instead of following the South Platte westward into the mountains, the expedition stayed close to the hogbacks adjacent to the foothills until they arrived at a location now known as Parry Park, Douglas County. As the naturalists ascended the adjacent foothills through the scrub oak, the Band-tailed Pigeon's type specimen was collected. Not long afterwards, traveling higher into ponderosa and Douglas fir, the Blue Grouse type specimen was encountered (39°14'N, 104°60'W).

Say's Phoebe, whose name honors Thomas Say. Photo by Basar/Wikimedia Commons

On 12–15 July the expedition traveled south, following Fountain Creek, and camped at a location just south of Fountain in El Paso County. With Pikes Peak due west in the distance, Say collected a Lesser Goldfinch flitting about the campground. Edwin James, intrigued by the towering peak to the west, set off to climb to the top to see what the flora was like. While ascending the mountain James became the first person to describe the blue columbine *(Aquilegia caerules)*. Upon reaching the summit, James and his party became the first nonnative folks to have climbed Pikes Peak.

From 16 to 18 July the expedition traveled overland toward the Arkansas River and camped at the confluence of Turkey Creek and the Arkansas, which today would be within the vicinity of Pueblo Reservoir, Pueblo County (38°17'N, 104°50'W). On 17 July Titian Peale collected and then described an odd-looking flycatcher. At a later date Charles Bonaparte (nephew of the emperor Napoleon Bonaparte) reclassified the previous *Phoebe* genus and renamed it *Sayornis* honoring Say, and thus Say's Phoebe.

On 17 July Edwin James and a small crew traveled west, following the Arkansas River to the mountains. At a location near the foothills that today would be known as Cañon City, Fremont County (38°25'N, 105°13'W), someone in the crew collected a colorful little

blue and white bird with white wing bars. Upon returning to the campsite Say described this new species as the Lazuli Bunting.

On 20 July the expedition was traveling east along the Arkansas River a few miles southwest of Olney Springs, Crowley County (38°08'N, 103°58'W). Toward dusk Say discovered another new species, the Western Kingbird.

On 13 September 1820 the expedition ended in Fort Smith, Arkansas.

Other interesting animals first described to science by Say while he was assigned to the Long Expedition were the coyote, swift fox, golden-mantled ground squirrel, and Colorado chipmunk.

ACKNOWLEDGMENTS

This paper is dedicated to Richard Beidleman for instilling in me an appreciation for contributions our early naturalists made toward our understanding of our country's natural history.

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Correction
Yellow-rumped Warblers: An Under-Appreciated Field Identification Problem

Scott W. Gillihan

Due to an unfortunate error on my part during the editorial process, the photographs for the Summer issue's "In the Scope" feature (Leukering 2016) were shuffled such that none were associated with their proper caption. A corrected version of the full article has been posted to the CFO website, and the following photos and captions show the correct placement. My apologies to our readers and to Tony Leukering for the error.

LITERATURE CITED

Leukering, T. 2016. Yellow-rumped Warblers: An under-appreciated field identification problem. *Colorado Birds* 50:158–165, back cover.

Fig. 2. This alternate-plumaged adult male Myrtle Warbler is typical in exhibiting fairly extensive white on the head—superciliary, ear surround (arrow), and throat—and a streaky chest. Franklin County, Maine, 20 May 2012 (http://ebird.org/ebird/view/checklist?subID=S10802095). Photo by Ian Davies

Fig. 3. This alternate-plumaged adult male Yellow-rumped Warbler shows the characters typical of Audubon's: dearth of white on the face (lacking a contrasting superciliary and ear surround; compare latter to bird in Fig. 1); solid black chest; and large, white wing panel. Chatfield S.P., Douglas County, CO, 27 April 2009. Photo by Loch Kilpatrick

Fig. 4. In basic plumage, the age and sex of Yellow-rumped Warblers, such as this adult male Myrtle Warbler, can be difficult to determine in the field. However, note the bit of gray on the upper scapulars and at the wrist. Particularly note the upper tail coverts, which are mostly black (arrow). Immature Yellow-rumped Warblers exhibit only narrow black shaft streaks on otherwise brownish upper tail coverts, while adult females of such show an intermediate pattern. The subspecies is readily determined, with assistance of the known age and sex, by the obvious superciliary (despite its non-white color), noticeable ear surround, and whitish throat. Cape May Point S.P., Cape May County, NJ, 31 October 2010. Photo by Tony Leukering

Fig. 5. This Yellow-rumped Warbler's dearth of white on the head (excepting eye arcs) and bright yellow throat, but otherwise dullish plumage identify it as a female Audubon's Warbler. Note the wide, white fringes to the greater coverts (arrow). San Diego, San Diego County, CA, 4 April 2014. Photo by Glenn Giroir

Fig. 6. Representing about the dullest of plumage of the subspecies, this immature female Audubon's Warbler has only a suggestion of yellow on the throat and sides. Note also the lack of white on the head, except for the eye arcs and that some immature female Myrtle Warblers can approach this appearance, though generally lack the suggestion of yellow on the throat. As the observer noted, "The call note was helpful!" Boston, Suffolk County, MA, 3 December 2012 (http://ebird.org/ebird/view/checklist?subID=S12212408). Photo by Marshall J. Iliff

Fig. 7. The strong ear surround, streaky chest, and well-separated wing bars on this adult male Yellow-rumped Warbler suggest the Myrtle subspecies. However, note that the supercilium is reduced relative to that of typical Myrtle Warblers and that even a quick glance at this bird's mix of yellow and white on the throat would enable the determination of this bird as a hybrid Myrtle × Audubon's Warbler. Flagler S.W.A., Kit Carson County, CO, 27 April 2013. Photo by Steve Mlodinow

Fig. 8. With its extensively white throat, streaky chest and, at-least-partial ear surround, this male Yellow-rumped Warbler might readily be identified in the field as a Myrtle Warbler. However, note that the supercilium is nearly absent, there is some yellow in the throat, the ear surround is reduced, and the greater coverts have fairly wide white fringes, all features pointing to the correct identification as a Myrtle × Audubon's Warbler hybrid. Stulp Farm, Prowers County, CO, 14 April 2016 (http://ebird.org/ebird/view/checklist?subID=S28939674). Photo by Tony Leukering

Fig. 9. This yellow-throated Yellow-rumped Warbler might very well be identified as an Audubon's in the field, but note the extensive supercilium and the suggestion of an ear surround on this Myrtle × Audubon's Warbler hybrid. Longmont, Boulder Co., CO, 20 October 2011. Photo by Steve Mlodinow

Fig. 10. This bird's mostly white throat might suggest Myrtle Warbler to many. However, note the lack of a supercilium, nearly no ear surround, and the bit of yellow on the throat on this Myrtle × Audubon's Warbler hybrid. Estero San Jose, Baja California Sur, Mexico, 11 January 2016. Photo by Steve Mlodinow

A Brief Biography and Interview with Dr. Ronald A. Ryder—1995

Dave Leatherman

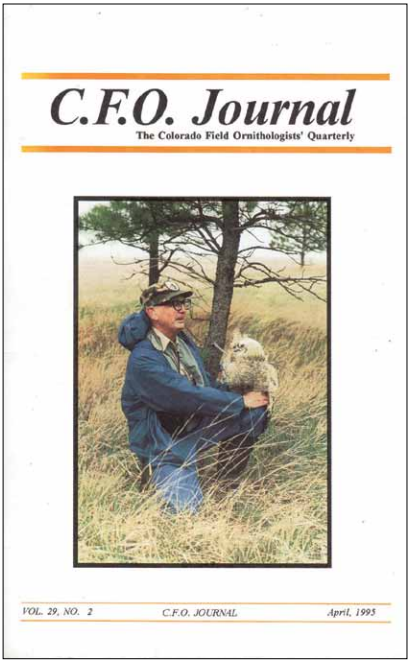
Author's note: Ronald A. Ryder, a giant of Colorado ornithology, passed away at the age of 88 on 2 August 2016. At his memorial service on 11 August, in accordance with his military service in the U.S. Army, U.S. Navy, and U.S. Naval Reserves from 1945 to 1974, he was given a 21-gun salute. His final resting place will be the Columbarium beside his beloved wife Audrey at the 1st Methodist Church, 1005 Stover Street, Fort Collins, Colorado. However, if souls travel in the afterlife, I have no doubt his will visit many favorite places and birds including the pelican colony at Riverside Reservoir, geese on the Arctic tundra, Boreal Owls on Cameron Pass, and, of course, the American Coots at Hamilton Reservoir next to the Rawhide Power Plant. And he will live in the form of his influence, mostly with former students but also coworkers and those of us with whom he shared his vast knowledge of birds and many other subjects. As Dr. Dale Hein, longtime CSU colleague aptly stated in tribute at Dr. Ryder's memorial, "Before Google, there was Ron." Amen.

Also at the memorial, Dr. Clait Braun, a former grad student of Dr. Ryder's and principal person responsible for Gunnison Sage-Grouse being recognized as a full species, urged all of us who knew him to contribute to the Ronald A. Ryder Scholarship Fund in hopes of endowing this memorial award in the Department of Fish and Wildlife Conservation Biology. Please make checks payable to the CSU Foundation at P.O. Box 1870, Colorado State University Foundation, Fort Collins CO, 80522 and specify Ron A. Ryder scholarship on the memo line.

The following is an edited version of a biography/interview with Dr. Ryder that appeared in the April 1995 issue of this journal (volume 29, no. 2), which at that time was called *C.F.O. Journal.*

He could have been an oceanographer, engineer, photo interpreter, museum curator, forester, or herpetologist. He could have ended up in Utah, Arizona, the Arctic, or beyond. Fortunately for the field of ornithology and us, the various fickle forks in his road led Dr. Ronald A. Ryder to a career centered on Colorado birds. For over 40 years he has waded and hiked, waited and climbed for knowledge about birds. What he has learned from these pursuits is extraordinary and places him solidly in the center of scientific circles. But what

has earned him a special place in our hearts and history is what he does with the earnings on his investment. Simply, he shares them. He shares them with an energy second only in strength and endurance to the energy he applies to learning They say that knowledge is power. Dr. Ryder's command of knowledge is Herculean, but the man and word "power" do not even sound right in the same sentence. It is as if he is embarrassed by being thought of as powerful or important—as if by sharing his knowledge he will not be forced to view that time as stolen from his first love, the Field. Make no mistake. Despite myriad indoor responsibilities, commitments, and duties, Dr. Ryder always has at least one foot rooted firmly outdoors. And you can bet the planting site is bird habitat.



Cover of our April 1995 issue, featuring Ron Ryder and a Great Horned Owl nestling. Photo by Dave Leatherman

On 4 and 12 April 1995 I had the privilege of interviewing Dr. Ryder. The following are excerpts from those sessions, mixed with information obtained from various sources.

Ronald Arch Ryder was born in 1928 to Florence and Wendell Ryder and raised in the Kansas City area. Music was prominent in the Ryder family, with his mother playing piano and his father teaching band and orchestra for many years at local high schools. Of note, Mr. Ryder once played in a military band directed by John Philip Sousa. As a boy, Ron spent summers on the farms of relatives near Colby Kansas. When asked how this came about, he replied, "It was the Depression and in retrospect, there was more food out on the farm." It was on these wheat and cattle lands, too, that a preoccupation with wildlife and birds began.

Other interests of the young Ryder were art, reading, the clarinet, anthropology ("everybody in Kansas collected arrowheads") and athletics. It should surprise no one that, although smallish of build for football, he made Second Team All-Star in Kansas City, Missouri, as an offensive "pocket guard." The seeds of this Renaissance Man were sown early.

Upon graduation from high school a storm cloud of being draft-

Ron Ryder, ca. 1972. Photographer unknown

ed into World War II loomed. Facing duty head-on, he enlisted at 17 in the Army. Military sponsored, intensive schooling at both the University of Wyoming and University of Illinois had him slated for an engineering career, but the war soon ended and he was discharged. Following a summer with the U.S. Forest Service, he came to Colorado A&M College, intent upon forestry. "But I worked in a lookout tower that first summer and marked timber and decided it wasn't for me. They had a game management major here and I liked birds and all, so I decided, 'I'll take game management.'" Ron Ryder earned his bachelor's degree from A&M in 1949 and immediately launched into a master's program in waterfowl production. Living along the "Gunbarrel Highway" south of Saguache, it was here he began his remarkable bird-banding efforts ("I suppose I've banded somewhere between 20 and 30 thousand birds") and his personal ties to the San Luis Valley. He earned his Master's Degree in 1951 and continued employment with the Colorado Game & Fish Department.

But like it did with so many other personal lives of the day, war intervened, specifically the conflict in Korea. To improve his options he enlisted again, this time in the Navy. After a brief immersion in Officer Candidate School, "I became a '120-Day Wonder' and went to sea as an ensign." It was on the decks of the USS Algol, an attack cargo ship, and the USS Burton Island, an icebreaker, that he cemented his love of seabirds. While in the cold waters off Alaska he organized shipmate surveys of walruses, polar bears, and other northern animals.

His 32 months of shipboard duty completed, he retuned to Denver. On a snowshoeing trip with the Colorado Mountain Club he met Audrey Teele, who would shortly become his wife and companion for life. The GI Bill afforded opportunity for more schooling and the next year it was off to Utah State for field work and classes in pursuit of a Ph.D. "Then I taught one year at Wartburg College in Iowa in 1957–58. That was a very interesting, exciting time while I wrote my dissertation and

taught three classes: General Biology, Nature Study, and Conservation. But I had a chance to come here [Colorado State University] to fill in for a former classmate, Doug Gilbert." During that one-year assignment at Colorado State he "taught a little bit of everything. Then I was offered an appointment at Northern Arizona University in forestry. Even though that wasn't really my bag I had a ticket and everything, when Department Head John Vernon Knox Wagar offered a special appointment: half-time with the Dean's Office and half-time in wildlife." JVK Wagar is honored for his development of wildlife studies and service to Colorado State by having the current Fishery and Wildlife Biology Department building bear his name. Looking back, we should also thank Professor Wagar for his recognition of talent and decision to lure a certain budding educator from his imminent exodus to Flagstaff.

Ron Ryder at Warren AFB in Cheyenne, Wyoming, where he was conducting a bird survey in May 1994. He had placed the young owl on the sign as a joke (because of the wording on the sign about "no pets"). This image reveals a lot about Ron: he was very proud of his military service, committed to periodic surveys of key habitats, a steadfast bander, fond of owls as a group, and he had a sense of humor. Photo by Dave Leatherman

In a distinguished Colorado State University teaching and research career (1958–1985), which earned him "Emeritus" status and which still has not really ended, Dr. Ryder has taught about every course offered in wildlife biology. When asked which were his favorites, he responded, "Wildlife Management Techniques and Waterfowl, the hands-on courses where you handled the critters." He put together the first non-game wildlife management course in the nation. He has helped author over 100 scientific and popular papers, many of which have appeared in this journal. And he has overseen the scholarship of 49 Master's and 7 Doctoral students. While proud of them all, and uncomfortable with singling any out, he considers

Dr. Clait Braun (upland gamebird biologist with the Colorado Division of Wildlife, President-elect of The Wildlife Society, and former President of The Wilson Ornithological Society) and Dr. Carl Marti, Professor of Zoology at Weber State College, among those who have gone on to high distinction.

Knowing that his general inters in birds an other wild things came naturally while working and watching on the farm, I asked Dr. Ryder for specifics. He remembered hawks catching ground-squirrels, a captive Burrowing Owl "that would never tame," and all manner of other pets. He chuckled about catching snakes near Kansas City and "selling them to my buddies so they could chase girls." Tolerant parents and relatives recognized his affection for the natural world and did not interfere. He also found a peer with a liking for birds, a fellow footballer named Bob Werning. This helped make it seem OK. "So, I got where I never went to church. My family always went to church. I had been an Episcopal choirboy, but when my voice changed I used that as an excuse to go birding. I'd ride the streetcar for 10 cents out to Swope Park in Kansas City, which was a wonderful park at the end of the line. Bared Owls and Green Herons nested there, and it had deer and foxes. I'd do things like that about every weekend with the Burrough's Club, an Audubon Chapter in KC."

I imagine many of us feel influenced and guided by Dr. Ryder and look to him as a mentor and idol of sorts. Who were similar influences in his life, I asked? Over several minutes he easily came up with many names, prominent names like the prolific nature writer Frank M. Chapman, Gifford Pinchot ("Father of Forestry" in the U.S.), the late Gustav Swanson (world-respected conservationist, and in his later years, frequent contributor to *Bird Watcher's Digest*), and Ira M. Gabrielson (former Head of the U.S. Fish & Wildlife Service). Of the latter he said, "He's the one who taught me to make bird study skins. He'd come to the San Luis Valley and shoot swallows on the wing with .38 dust and sit there and drink bourbon and tear up furniture to get little sticks to use [as back supports] in the skins. He could make one up about every 15–20 minutes, really crank 'em out. He was a huge guy, with big hands. He said all across North America you could tell where he'd been because he'd pull open furniture drawers and sliver out pieces of the plywood for making the skins. He was quite a character."

There were influential professors like Lee Yeager, his Master's advisor. How did they meet? Prof. Yeager was conducting photography work on island-nesting herons at Terry Lake near Fort Collins. While canoeing to the island he encountered student Ryder "swimming out to the island, holding my Brownie camera over my head. I guess he

was impressed by my being in that cold water just to get pictures for my undergraduate paper on Double-crested Cormorants. Later he hired me to do bird study skins for him. That was great for me 'cause I went from the 50 cents an hour I was getting at the Student Center to 65 cents to do the skins. And later it led to my Master's work."

Another big influence in his early Colorado experience was the Curator of Birds for the Denver Museum of Natural History. "I was a regular behind the scenes, bringing in birds I'd collected. I was always particularly impressed by Robert Niedrach's cordial nature and the time he took to chat and teach me about breeding birds. He was a fabulous nest finder."

D. Ryder got his first taste of competitive birding from shipmate Bob Frohling of New York City's famous Urner Society, and a 1951 tern trip he took with Bob on Cape Cod. Their companion and dune buggy supplier that day was Ludlow Griscom.

Early remembrances of the land now occupied by Colorado State University? "Bobolinks nesting in the alfalfa field where Moby Gym is now. And right at the corner of Laurel and Shields was a nesting pair of Lewis's Woodpeckers, in a big old cottonwood that got removed when they widened the streets."

He was part of the effort, led by Jack Grieb and Gurney Crawford, to introduce Canada Geese along the Front Range. I asked how he viewed that now. "Oh, I think it was probably a mistake. It seemed a good thing but on the other hand, it has really boomeranged."

If you talk with Dr. Ryder for very long you are comforted by an outlook that could only come from a long association with natural cycles. That view could perhaps best be described as "things change." He has great faith in the ability of birds and other organisms to cope and adapt. "That's what evolution is all about. And we have to remember people are animals, too." That does not mean he has his head in the sand and has not seen the problems. He has observed and even collected species like the Flightless Rail of Guam, which is now extinct outside zoos. But he has also been around for the fall and rise of Bald Eagles, notes that deer are more abundant now than ever, and, in general, seems more concerned about the people being trained to manage and shape public opinion about wildlife. He views much of the current environmental outcry as "reactionary and alarmist" in flavor. He worries somewhat that most wildlife students at Colorado State these days have not grown up on ranches or farms, have not handled the animals they purport to care about. He feels such an upbringing can be invaluable and something the modern generation is lacking for the most part.

Yet, when I inquired whether he thought birding needs special

programs to recruit young people into the fold, he laughed, "It'll probably take care of itself. Various groups, like duck hunters, have always worried about where the new guard will come from, and there's never been a real shortage."

In short, Dr. Ryder believes if we are reasonable with our inevitable impacts on wildlife and protect habitat where we can, the natural resiliency of most species will allow their use as a resource and ensure their sustainability.

When asked what new place or places he would visit if given the chance, his immediate responses were, "The Galapagos Islands and then Siberia, including Wrangell Island." Tropical places were not on the list, although he had seen some during his Pacific naval experience. "I feel ill-at-ease in a dense jungle. I guess that relates to my Kansas upbringing. I'm more an open country, arctic–alpine person."

Do you have any "nemesis birds," birds you have never seen that you feel you should have or really wanted to see? "Black-throated Blue Warbler. Of the seabirds, there are not many I've missed, but I've not seen a Whiskered Auklet or Red-legged Kittiwake. I'm missing several Bering Sea birds and I guess I'd include Ross's Gull and Northern Hawk Owl on the list."

He and his wife Audrey have two children: Raymond, who is working on his Ph.D. in music, and Helen, who has an M.Ed. He considers his spouse a great supporter over the years. "She's done all my typing, she's a good editor, and been real tolerant of my field work. She enjoys birds…as long as they don't get loose in the house Then she gets a little panicky with fluttery birds."

In retort to my rapid series of "favorites" questions, here is a sampling:

Favorite music? "Bagpipe music and John Philip Sousa marches."

Favorite food? "Any kind of seafood."

Favorite author(s)? "Rudyard Kipling (both stories and poems), David Lack, Peter Scott, Eric Hosking, any of the old explorer accounts, Teddy Roosevelt, and Mark Twain."

Favorite modern TV show? No response.

Favorite sport? "Hockey and soccer. I also like basketball and football. I don't follow baseball much."

Favorite comedian? "I grew up on Bob Hope, Danny Kaye."

Favorite holiday? "Christmas, because of Christmas Counts."

Favorite birds? "American Coot would be #1. Crows. I always pull for the underdogs. Then of course I like most waterbirds, hawks. I'm partial to owls, too."

Favorite month? "February."

"Have you ever had any serious hardships because of birds?," I

asked. "Yes, I've had my share of things, dysentery, staph infections… almost fallen out of trees a couple of times. I've got scratches all over me and I've had some exciting times. Up in Newfoundland I was collecting seabirds and got a Great Black-backed Gull, which are harder than heck to kill. I thought it was deceased in the back of my little VW van but I only had it wounded. He 'came to' so I had to pull off and subdue a bird."

How does one sum up Ronald A. Ryder? At face value he is but 150 pounds. An army doctor once described him as "having a crooked right arm, flat feet, and near-sightedness." They took him anyway, and so, certainly, will we. While true, the doctor's assessment would be a grossly shallow capsulization of the man we now honor. He is a curious, bright, individual, who knows the value of consistency, accuracy, and adaptation. He strikes a delicate balance amid the people and animals of his devotion. He accumulates. The things he gathers are books, facts, and piles of reprints, banding recovery records, blood specimens and pellets. He appears disorganized but proves the contrary with each obscure reference produced upon request for the seeker. Sometimes he even knows what you want or need before you do. He steers "retirement" with an appointment book, eight items to each day. His North American Life List is over 600. He is not sure of the exact number. He still takes time to help, or at a minimum you get a referral. He laughs a lot. He whistles a lot. Some whistles are tunes, some mimic owls. He is as comfortable firing a cannon net to catch his beloved coots as he is ordering off the menu at Warren Air Force Base or reciting details of Eskimo whaling techniques. He knows avocets are delicious and murres are not. Mention his name at the ominous Rawhide Power Plant gates and they mysteriously gape in welcome. Pelican elders at Riverside no doubt recount "The Ryder Legends" to their nestlings.

He was our 5th organizational president. He has been loyal to and led C.F.O. because he says we still remember we are about birds. This article is about Ronald A. Ryder and about the respect and admiration we have for a truly special man—who happens to know about birds and much more.

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A Closer Look at Colorado's Brown Creepers

Nick Moore

Brown Creeper (*Certhia americana*) is a rather unobtrusive bird in Colorado. In summer, breeding birds are best detected by voice in old-growth pine forest. During winter, the species can be found in a much wider range of habitats as birds disperse or migrate onto the plains, occupying cottonwood lowlands and any place with large conifers. Due to their habits, quickly moving along tree trunks and often becoming invisible against the background, it is not easy to observe them closely. The following is a summary of published literature and my personal observations on variation within Brown Creeper.

Background

The genus *Certhia*, which Europeans call treecreepers, is a group of remarkably similar-looking birds. In Europe, two species occur, Eurasian Treecreeper and Short-toed Treecreeper, and present a major identification challenge. A recent genetic study of these two taxa in Asia revealed two additional species (Tietze et al. 2006). These birds differed very slightly in morphometrics and plumage, but the new species aligned with various physical and vocal differences. Left out of this study was a full sample across the recognized subspecies of Brown Creeper in North America (nine subspecies; Pyle 1997). It does, however, give some insight into potential drivers for speciation within the group. While plumage differences across taxa (species and subspecies) are very similar, the various forms adapt to their local environments with slight differences in size, shape, and song.

Tietze and Martens (2008) followed up the genetic study with an extensive review of morphometrics, this time including specimens from each named subspecies of Brown Creeper in North America. The study's main goal was to support species limits in Asia, however several conclusions were made about American birds. Western populations were fragmented, with several named subspecies marked by subtle clinal changes in size, while eastern populations were uniform in their measurements. Furthermore, the western birds as a group differed consistently from eastern birds, with Tietze and Martens (2008) concluding that eastern populations "have quite a long independent evolutionary history." (That is technospeak for "these may well represent different species.") Manthey et al.'s (2011) genetic analysis produced similar results, but recognized three groups or clades, one

each from the Rocky Mountains, the Sierra Nevada/Cascades, and the North/East. These groups' distributions follow, more or less, the distributions of other species groups, such as the Yellow-bellied Sapsucker complex (Yellow-bellied, Red-naped, and Red-breasted) and the Solitary Vireo complex (Blue-headed, Plumbeous, and Cassin's), or like subspecies groups (one or more similar and/or related subspecies) in Hairy and Downy woodpeckers. The results of Tietze and Martens (2008) and Manthey et al. (2011) offer the possibility that what is currently considered a single species, Brown Creeper, may house more than one species.

Subspecies Groups

As Brown Creeper has been known as a single species throughout New World ornithological history, there are, apparently, no English or common names assigned to any of the subspecies. Thus, here I use the term "Brown Creeper" to indicate the species as currently known, but use the names "Eastern Creeper," "Rocky Mountain Creeper," and "Pacific Creeper" to refer to the geographic clusters of named subspecies that align with the groups suggested by Tietze and Martens (2008) and Manthey et al. (2011). I also use the term "western creepers" to indicate birds that are either Rocky Mountain Creepers or Pacific Creepers. It is worth noting that several distinct forms occur in Middle America that are distinct both genetically and physically from the various U.S. and Canadian taxa.

Eastern Creeper (*C. a. americana*) is the most migratory of the subspecies groups. It breeds in northern forests from Alberta east to the Atlantic coast and south to Pennsylvania and the Appalachians (including the Appalachian subspecies *nigrescens*). In winter, birds occupy most of eastern and central North America. This group has the shortest bills and longest wings (Tietze and Martens 2008), the latter being typical of more-migratory groups related to more-sedentary related groups (Pyle 1997).

Rocky Mountain Creeper (*C. a. montana*) and Pacific Creeper (*C. a. occidentalis* [including *alascensis*, *stewarti*, *phillipsi*, and *zelotes*]) are mostly sedentary, though downslope movement in fall and winter is known (Webster 1986). Rocky Mountain Creeper breeds in the Interior West from Arizona north to British Columbia, while Pacific Creeper breeds from Northern Baja California to Southern Alaska. The two groups are separated, in part, by the Great Basin and presumably meet in eastern British Columbia. Unlike Eastern Creeper, Pacific birds vary clinally, the smallest bills and longest wings in the north and longest bills and shortest wings in the south (Tietze and Martens 2008).

Implications for Colorado

The questions for Colorado birders are, "What groups occur in the state?" and, "Where and when do they occur?" In summer, this is an easy question to answer: our breeding creepers belong to the Rocky Mountains subspecies group. In fall and winter, the situation becomes more complex, as Brown Creeper can be found throughout the state then. Knowing that Rocky Mountain birds migrate minimally and that Eastern birds disperse across eastern and central parts of the U.S. and Canada, Eastern Creepers should be expected on the plains in fall and winter. Pacific birds have less potential in the state, owing to their generally shorter migrations, but, at least, the northernmost subspecies (*alascensis*) probably occurs in low density at these seasons, as that form is almost certainly a long-distance migrant. However, Pacific Creepers are quite similar to Rocky Mountain Creepers, at least in measurements (though *alascensis* is quite long-winged and short-billed). For this reason, the first challenge faced when identifying Brown Creepers to subspecies group is to differentiate Rocky Mountain birds from Eastern birds, and that is the main thrust of this paper.

Variation in Brown Creeper

The lack of information on differentiating subspecies or subspecies groups of Brown Creeper is, in part, due to the high degree of individual variation *within* populations. It is critical to understand two particularly important variations before attempting to identify a creeper in the field: sexual dimorphism and plumage-color dimorphism.

Males and females have similar plumage, however the sexes differ in size. Bills length differs on average by about 10% and tail length by about 5% (Tietze and Martens 2008). Bill length has been identified as a key driver in speciation due to a possible role in reducing competition between pair members (Tietze and Martens 2008), and must be considered in identification.

Color morphs are another complication. After reviewing hundreds of online photos, I have identified three groups. Although intermediates do occur, assigning a bird to a color morph allows for more direct comparison between subspecies groups. Rufous-morph (hereafter, "Rufous") birds appear to be rare and have a nearly solid brown/rufous back, with limited white or gray spots. Pale-morph ("Pale") birds' backs are over 50% white, have clean white flanks, and more extensive white in the face. Brown-morph ("Brown") birds are intermediate, having backs that are mostly brown and lack extensive rufous tones, and generally have buffy flanks.

This paper presents my findings about plumage and bill-shape and

bill-length differences between Eastern Creeper and Rocky Mountain Creeper. Vocalizations have also been suggested to differ among subspecies groups (Sibley 2011), but that topic is not broached here.

A First Attempt at a Suite of Field-Identification Characters

It is important to note that field identification of Brown Creeper subspecies is in its infancy. This section is intended as a way to begin tackling the problem and any contributions that others can make will be welcome. I encourage reporting Brown Creepers to subspecies group in eBird (www.ebird.org), but *only* when accompanied by strong descriptive details of the bird seen and, particularly, supported by photos. Any subspecies-group identification at this time comes with a great deal of uncertainty. To define these field marks, I studied a large number ($n > 50$) online geo-referenced Brown Creeper photos, then selected a character and tested it on different photos ($n > 20$). Through extensive trial and error, a few patterns appeared.

Bill shape. As noted above, bill size varies between sexes and among subspecies groups, with males and Rocky Mountain Creepers having longer bills than females and Eastern Creepers (Table 1). Bill length is the primary visible difference between the two subspecies groups. Without knowing the sex of the bird in question, though, identification to subspecies group is tricky. However, bill *shape* is quite useful in this regard. The bills of western creepers are best described as scythe-like, especially in (presumed) males. The bill curves downward for more than half its length and droops heavily. In Eastern Creepers, the bill has a much smaller curve, accounting for less than half the bill's length. This character is very difficult to judge on some creepers, especially long-billed Eastern Creepers or short-billed western creepers. Bill width is identical between subspecies groups but does vary between sexes (Tietze and Martens 2008). Some Eastern Creepers have heavy bills, approaching those of western creepers.

Table 1. Bill length in Brown Creeper by subspecies group and sex. From Tietze and Martens (2008).

Subspecies group	Sex	Bill length[a]	Sample size
Rocky Mountains	Male	18.7 ± 1.1	11
	Female	16.9 ± 0.9	9
ÅEastern	Male	16.9 ± 1.0	72
	Female	15.5 ± 1.0	38

[a] In mm, with range of variation

Fig. 1 (back cover). This is a fairly typical Colorado Brown Creeper. The back is mostly brown, with a fair amount of rufous (a Rufous-morph would be solidly rufous extending onto the cap here), its flanks have a brown wash, and the wing zigzag is somewhat buffy. These features all point toward a Brown morph of Rocky Mountain Creeper, as the rich color is atypical of Brown morphs of Eastern Creeper, though I have seen birds that could cause confusion. The bill is long, thick, and begins to curve about one-fourth of the way down the bill. Given the size of the bill, the bird is likely a male. The rich coloration of the body and the bill size and shape support the tentative identification. Brown-morph Rocky Mountain Creeper, Lyons, Boulder Co., CO. November 2014. Photo by Nick Moore

Fig. 2 (back cover). The similarity between Eastern and Rocky Mountain brown-morph creepers is apparent with this bird. The back is mostly brown, it lacks rufous and contains white streaking. The flanks are buffy, and the wing zigzag appears white. These features are consistent with a Brown-morph, though the wing zigzag color is unusually pale. The pale back and wing zig-zag is a mark of Eastern Creeper, however not diagnostic. The bill is rather thick, yet short and relatively straight and is likely outside the range of Rocky Mountain Creeper. A bird such as this would be difficult to identify in Colorado. Brown-morph Eastern Creeper, Fort McHenry, Baltimore County, MD. April, 2014. Photo by Josh Jones

Fig. 3 (back cover). Though poorly lit, this Brown Creeper has a brown back with some white marks and clean, white flanks. This is typical of Pale-morph Eastern Creepers. Note that differentiating Pale and Brown morphs of Eastern Creeper in the field is difficult and that the color of the flanks and wing zigzag are key. This bird's bill is thin, short, and barely curves, and what curve there is occurs toward the tip. The very short bill suggests that this is a female. This bird's face is mostly dark. Pale-morph Rocky Mountain Creepers that share this bird's pale flanks have very pale faces (see Fig. 4). This bird's combination of characteristics appears to be outside the range of appearance of Rocky Mountain Creepers. Putative Pale-morph Eastern Creeper, Ovid, Sedgwick County, December 2015. Photo by Nick Moore

Fig. 4 (back cover). Pale-morph Rocky Mountain Creepers are often striking. The large pale supercillium, white behind the ear, and snowy back identify this as a Pale-morph. This individual is on the pale end of the spectrum. The faint buffy wash and buffy wing zigzag, while not present on all Pale-morph Rocky Mountain Creepers, is not expressed on Pale-morph Eastern Creeper. The bill is long, with the curve starting at the base of the bill. This suite of field marks makes Pale-morph Rocky Mountain Creepers highly distinctive. Pale-morph Rocky Mountain Creeper, Pueblo City Park, Pueblo, CO. January, 2010. Photo by Loch Kilpatrick

Plumage. The presence of color morphs complicates determining field marks useful in subspecies-group differentiation, though comparing like color morphs can aid in the identification process, which seems particularly useful with Pale birds. Pale Eastern Creepers have clean white undersides (foraging birds may have gray undersides as feathers wear) and limited brown wash on the back and the zigzag whitish bars halfway down the wing (hereafter "wing zigzag"), though individuals vary. Pale Rocky Mountain Creepers appear to be less common. They share the white underparts (excepting faint brown wash near the vent), but have extensive white on the face, often with wide white supercillia and white behind the eye (vs. solid brown in Pale Eastern Creepers). The result of all the paleness on the face of Rocky Mountain Creepers is that the dark eye is isolated in a field of pale coloration, whereas Eastern Creepers' eyes are part and parcel of the obvious dark eyelines. Some Rocky Mountain Creepers exhibit a snowy back and cap, paler than those of Eastern Creepers.

Brown morphs seem to have few consistent plumage differences between Eastern and Rocky Mountain birds. Though Eastern Creepers appear paler and lack rusty tones, beware of Rufous Eastern Creepers. Rufous-morph creepers have rust plumage extending from the back to the cap, Brown-morph creepers may have part of the back rusty. It appears that Brown-morph is most common in Rocky Mountain Creeper, while Pale-morph is most common in Eastern Creeper.

Rufous-morphs are the least common morph, in both populations, and few photographs exist. Rocky Mountain Creepers have a dull rufous color, while Eastern Creepers have a rich, bright rufous tone. Determining the color morph of a Brown Creeper is likely a key factor in identifying it to subspecies group with any certainty.

Discussion

Overall, understanding of occurrence parameters of Brown Creeper subspecies groups in Colorado has a long way to go, and Colorado birders have a great opportunity to contribute to this knowledge. This winter, take a trip to your local cemetery and study well any Brown Creepers that you encounter; a camera will be useful. The captions of the photos presented on the back cover of this issue summarize the results of my explorations into this paper's topic.

ACKNOWLEDGMENTS

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Spring 2016 (March–May)

David Dowell

"News from the Field" contains reports of rare birds found in Colorado. These reports are compiled from eBird (ebird.org), the COBirds listserv (cobirds@googlegroups.com), and the West Slope Birding Network (wsbn@yahoogroups.com). The reports contained herein are largely unchecked, and the editors do not necessarily vouch for their authenticity. Species in capitals are those for which the Colorado Bird Records Committee (CBRC) requests documentation. Please submit your sightings of these "review" species through the CFO website at coloradobirdrecords.org.

Season Overview

Spring 2016 will be remembered for Brown Pelican, but was it one or multiple birds wandering around eastern Colorado? Sightings of Brown Pelican, all of the Atlantic subspecies and always of a single bird on any one day, spanned the 5–28 April period at lakes in *Pueblo, Bent, Boulder* and *Weld*.

The rarest birds found in Colorado in spring 2016 showed up on private land. On 25 April, a male Hooded Oriole arrived at a residence in the Roxborough Park community south of Denver in *Douglas* and stayed for a week. (Amazingly, during the same week a male Hooded Oriole was also found in Manhattan, Kansas.) On 9 May, a King Rail was recorded at a ranch in *Lincoln*. If accepted by the CBRC, the Hooded Oriole and King Rail reports would be third and fourth state records, respectively.

COBirds reports from eastern Colorado generally conveyed a sense of disappointment about the spring passerine migration, with low numbers reported for most migrants. Still, by finding individual migrants here and there, birders tallied 37 warbler species in the state.

Rarities in western Colorado and in the high country of central Colorado included Scarlet Tanager, Prothonotary Warbler, Yellow-throated Vireo, Eurasian Wigeon, Neotropic Coromorant, Baltimore Oriole, Orchard Oriole, and Arctic Tern. The highlights of birding in the San Luis Valley were high numbers of shorebirds for both common and uncommon species, and a Laughing Gull seen on one day in May.

Numbers of sightings were unusually high for Whimbrel (25 different locations), Northern Parula (37 different locations), and Greater Roadrunner (170 ebird reports). Coverage during the CFO convention in southeastern Colorado in early May certainly contrib-

Neotropic Cormorant, Chipeta SWA, Montrose County, 17 March 2016. Photo by Brenda Wright

Marbled Godwits, Blanca Wetlands, Alamosa County, 20 April 2016. Photo by John Rawinski

Bonaparte's Gull, Arkansas River/US 50, Lamar, Prowers County, 17 March 2016. Photo by Janeal Thompson

Flammulated Owl, Cat Creek, Conejos County, 15 June 2016. Photo by John Rawinski

Western Screech-Owl, Zapata Falls, Alamosa County, 4 March 2016. Photo by John Rawinski

Belted Kingfisher, Northgate Park–Lamar, Prowers County, 4 April 2016. Photo by Janeal Thompson

Barn Swallow, Thurston Lake, Prowers County, 27 May 2016. Photo by Janeal Thompson

Say's Phoebe, Thurston Lake, Prowers County, 25 March 2016. Photo by Janeal Thompson

Northern Parula, Stulp Farms–Lamar, Prowers County, 8 May 2016. Photo by Janeal Thompson

Black-throated Green Warbler, Fairmount Cemetery–Lamar, Prowers County, 16 May 2016. Photo by Janeal Thompson

uted to the number of roadrunner reports this spring, but a trend toward more sightings had already begun during the last few years.

In the list of reports below, county names are *italicized*, and the following abbreviations are used: CFO – Colorado Field Ornithologists; CG – campground; m.ob. – many observers; NA – Natural Area; NHS – National Historic Site; NP – National Park; NWR – National Wildlife Refuge; Res. – Reservoir; SP – State Park; STL – State Trust Lands; SWA – State Wildlife Area.

Trumpeter Swan: 2 near Basalt, *Pitkin*, 1 Apr (Rob Norville).

Tundra Swan: 5 at Elevenmile SP, *Park*, 22 Feb–5 Mar (David Suddjian, Steven Mlodinow, David Dowell). 3 near Carbondale, *Garfield*, 4 Mar (Sue Riffe, Gwen Moore). 1 at Schaefer Res., *Lincoln*, 22 Apr–9 May (William Kaempfer, m.ob.).

Trumpeter/Tundra Swan: 2 near Castle Rock, *Douglas*, 8 Apr (Glenn Walbek). 1 at Fruitgrowers Reservoir, *Delta*, 17 Apr (Rick Harner).

EURASIAN WIGEON: 1 male at Pastorius Res., *La Plata*, 3 Mar–1 Apr (Riley Morris, m.ob.).

White-winged Scoter: 3 at Trinidad Lake SP, *Las Animas*, 20 Mar (Paul Tennery).

Long-tailed Duck: 3 at Chatfield SP (*Jefferson*) and South Platte Res. (*Jefferson/Arapahoe*), 19 Dec–5 May (group led by Joey Kellner, m.ob.). As many as 2 at Big Johnson Res., *El Paso*, 3–24 Mar (Mark Peterson, Aaron Driscoll, m.ob.). 1 at Prewitt Res., *Washington*, 12 Mar (William Kaempfer). 1 near Atwood, *Logan*, 13 Mar (Kathy Mihm Dunning). 1 at Redlands Parkway Ponds, *Mesa*, 19 Feb and 27 Mar–8 May (Carol Ortenzio, m.ob.). 2 at Barr Lake SP, *Adams*, 3 Apr (Kim Mauritz). 1 at San Luis Lakes SP, *Alamosa*, 14 May (Jessie Barry, Chris Wood, Andrew Farnsworth, Marshall Iliff, Brian Sullivan, Tim Lenz).

Red-throated Loon: 1 immature at Highline Lake SP, *Mesa*, 17 Mar–4 Apr (Eileen Cunningham, Nic Korte, Mike Henwood, m.ob.). 1 adult at Cherry Creek SP, *Arapahoe*, 12–17 Apr (Doug Kibbe, m.ob.). 1 adult at Boyd Lake, *Larimer*, 16–17 Apr (Nick Komar, David Wade, m.ob.). 1 adult at John Martin Res., *Bent*, 9 May (Gloria Nikolai, Mary Driscoll , Scott Manwaring).

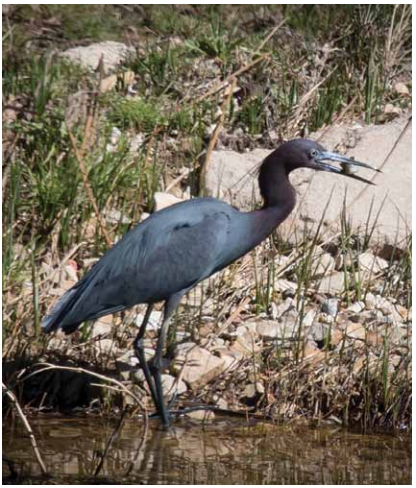
Pacific Loon: 1 at Big Johnson Res., *El Paso*, 26 May continuing into summer (Mark Peterson, m.ob.).

Red-necked Grebe: 1 at John Martin Res., *Bent*, 19–21 Apr (Duane Nelson, Janeal W. Thompson). 1 in Pagosa Springs, *Archuleta*, 31 May (Satoko Lincoln).

NEOTROPIC CORMORANT: 1 in Montrose area including Chipeta Lake SWA, *Montrose*, 17–19 Mar and 24–28 May (Coen Dexter, Brenda Wright, Alan Reed, Jon Horn, m.ob.). 1 at Lower Latham Res., *Weld*, 18 Apr (Steven Mlodinow).

BROWN PELICAN: 1 at Lake Beckwith, *Pueblo*, 5–7 Apr (Dave Silverman, m.ob.). 1 at Lake Hasty, *Bent*, 14–24 Apr (Jill White Smith, m.ob.). 1 at Walden Ponds, *Boulder*,

Brown Pelican, Lake Hasty, Bent County, 20 April 2016. Photo by Janeal Thompson



Little Blue Heron, Lake Holbrook, Otero County, 13 April 2016. Photo by Janeal Thompson

26–27 Apr (John Rutenbeck, Robert Martinez). 1 at Ireland Reservoir #5, *Weld*, 28 Apr (George Mayfield, Karen Drozda).

Least Bittern: 1 at Thurston Res., *Prowers*, 7–14 May (Jessie Barry, Chris Wood, m.ob.). 1 at Walden Ponds, *Boulder*, 18–21 May (Jeff Parks, m.ob.).

Little Blue Heron: 1 adult at Holbrook Res., *Otero*, 11–14 Apr (Stanley Oswald, m.ob.).

Green Heron: 1 at Pastorius Res., *La Plata*, 29 Apr–3 May (John Bregar, m.ob.). 1 at Puett Res. SWA, *Montezuma*, 3 May (Steven Mlodinow).

Glossy Ibis: Singles at Pastorius Res., *La Plata*, 15 Apr (Susan Allerton, m.ob.) and 15 May (Jason St. Pierre). 1 at Lake Hasty, *Bent*, 19 Apr (Janeal W. Thompson, Dave Leatherman). 1 at Schaefer Res., *Lincoln*, 24 Apr (Mark Peterson, m.ob.). 1 at Pueblo Res., *Pueblo*, 25 Apr (Brandon K. Percival, Margie Joy). 1 at Beebe Draw / Lower Latham Res. area, *Weld*, 26 Apr–3 May (Loch Kilpatrick, Dan Brooke, Cheryl Teuton, m.ob.). 1 at multiple locations near Fountain, *El Paso*, 28 Apr–12 May (Mark Peterson, Aaron Driscoll, Richard Bunn, Bill Maynard, John Drummond, Mel & Jeanne Goff). 1 at Red Lion SWA, *Logan*, 1 May (Charles Lawrence, Kathy Mihm Dunning, Tim Smart, Joey Kellner). 1 at Thurston Res., *Prowers*, 2–8 May (Steven Mlodinow, Laura Steadman). 1 at Harriman Lake Park, *Jefferson*, 6 May (Matt Clark, Susan Bonfiglio, Frank Farrell). 1 at Chico Basin Ranch, *Pueblo*, 8–13 May (Richard Bunn, Tim Lenz, Marshall Iliff, Chris Wood). 1 near Barnesville, *Weld,* 11 May (Glenn Walbek, Steven Mlodinow). 1 at Hwy 71 playa, *Morgan*, 15 May (Gwen Moore, Matt

Glossy Ibis, Lake Hasty, Bent County, 19 April 2016. Photo by Janeal Thompson

Sanderling, Rio Blanco Lake, Rio Blanco County, 3 May 2016. Photo by Dona Hilkey

Clark, Susan Bonfiglio). 2 at Ramah Res. SWA, *El Paso*, 20 May (Peter Gaede, Mark Peterson).

Turkey Vulture: 250 at Waneka Lake, *Boulder*, 29 Mar (Ted Floyd).

Broad-winged Hawk: Reports from *Adams, Arapahoe, Baca, Bent, Boulder, Cheyenne, Custer, Denver, Douglas, El Paso, Fremont, Gilpin, Jefferson, Kiowa, Kit Carson, Larimer, Las Animas, Lincoln, Logan, Otero, Phillips, Prowers, Pueblo, Washington, Weld*, and *Yuma*, 12 Apr–29 May.

Black Rail: 1 at Brett Gray Ranch, *Lincoln*, 9–13 May (Steven Mlodinow, Glenn Walbek). 1 at Chico Basin Ranch, *Pueblo*, 12–21 May (John Drummond, Richard Bunn, Bill Maynard, Brandon K. Percival, Sam Fason). 4 southeast of Pueblo, *Pueblo*, 14 May (Van Truan, Brandon K. Percival). Other reports from *Bent, Otero* and *Prowers*, 21 Apr–29 May.

KING RAIL: 1 at Brett Gray Ranch, *Lincoln*, 9 May (Steven Mlodinow).

Black-bellied Plover: 2 at Pastorius Res., *La Plata*, 30 Apr (Jason St. Pierre, Amanda St. Pierre, Heather Morris, Jenny Winegarden). 1 at Highline Lake SP, *Mesa*, 2 May (Jason Beason). 7 at Smith Res., *Costilla*, 9 May (Tim Lenz, Alec Hopping, Marshall Iliff). 4 at San Luis Lakes SP, *Alamosa*, 12–14 May (Marshall Iliff, m.ob.). Other reports from *Bent, Elbert, Kiowa, Larimer, Logan, Morgan, Washington*, and *Weld*, 14 Apr–14 May.

American Golden-Plover: 2 at Sheridan Lake, *Kiowa*, 5 May (Peter Burke).

Snowy Plover: 1 at Stalker Lake, *Yuma*, 7 May (David Dowell). 1 at Smith Res., *Costilla*, 11 May (Tim Lenz). 1 at Huerfano Res., *Pueblo*, 14 May (Van Truan, Brandon K. Percival). 1 at Lathrop SP, *Huerfano*, 21 May (Rod Schmidt). 1 at Red Lion SWA, *Logan*, 22 May (David Dowell, Tim Smart, Dean Shoup, Joey Kellner, Kathy Mihm Dunning). 1 at Jumbo Res., *Sedgwick*, 27 May (Lisa

Western Gull, Blanca Wetlands, Alamosa County, 11 July 2016. Photo by John Rawinski

Northern Pygmy-Owl, Conejos Canyon, Conejos County, 2 May 2016. Photo by John Rawinski

Edwards, Kathy Mihm Dunning, Joey Kellner). Other reports from *Bent*, *Crowley*, *Kiowa*, and *Otero*, 3 Apr–31 May.

Piping Plover: 1 at Jumbo Res., *Sedgwick*, 27 May (Kathy Mihm Dunning, Lisa Edwards, Joey Kellner)**.** Other reports from *Bent* and *Prowers*, 20 Apr–31 May.

Whimbrel: 1 at Pastorius Res., *La Plata*, 24 Apr–6 May (Amy Dobbins, m.ob.). 1 at Blanca Wetlands, *Alamosa*, 12 May (Lisa Rawinski). Other reports from 23 different locations in *Arapahoe*, *Bent*, *Crowley*, *Douglas*, *El Paso*, *Jefferson*, *Kiowa*, *Larimer*, *Morgan*, *Otero*, *Prowers*, *Pueblo*, *Washington*, *Weld*, and *Yuma*, 27 Apr–28 May.

HUDSONIAN GODWIT: 1 at Holbrook Res., *Otero*, 18–19 Apr (Stanley Oswald, Stephany McNew, Brandon K. Percival). 1 at Behrens Res., *Weld*, 16 May (Steven Mlodinow, Kathy Mihm Dunning, Jon King). 1 at Verhoeff Res., *Bent*, 25 May (Duane Nelson, Janeal Thompson).

Ruddy Turnstone: 1 (Apr 25, Janeal W. Thompson and Jane Stulp) and then 2 (May 7–8, m.ob.) at John Martin Res., *Bent*. 1 at Lake Meredith, *Crowley*, 12 May (Andrew Farnsworth, Brian Sullivan). 2 at Stewarts' Pond, *Weld*, 14 May (Mackenzie Goldthwait, Judith Henderson, Doug Kibbe, Jeff Dawson).

Dunlin: 1 at Holbrook Res., *Otero*, 19 Apr (Dan Stringer, Brandon K. Percival, Stephany McNew, Stanley Oswald). 1 in Craig, *Moffat*, 7–10 May (Forrest Luke). 1 at San Luis Lakes SP, *Alamosa*, 2–14 May (Lisa Rawinski, m.ob.). 1 at Blanca Wetlands, *Alamosa*, 6 May (Lisa Rawinski).

Short-billed Dowitcher: 1 at Rocky Mountain Arsenal NWR, *Adams*, 24 Apr (Bruce Neuman, Colleen Nunn, Candice Johnson, Paula Hansley). 1 at Red Lion SWA, *Logan*, 1 May (Kathy Mihm Dunning, Joey Kellner,

Lesser Nighthawk, Nucla Lagoons, Montrose County, 31 May 2016. Photo by Brenda Wright

Charles Lawrence, Tim Smart). 1 at Two Buttes Res., *Baca*, 2 May (Steven Mlodinow). 1 northeast of Amherst, *Sedgwick*, 8 May (T. J. Walker).

Red Phalarope: 1 at Timnath Res., *Larimer*, 30–31 May (David Wade, Nick Komar, m.ob.).

Laughing Gull: 1 at Holbrook Res., *Otero*, 9 May (Mark Peterson, m.ob.). 1 at San Luis Lakes SP, *Alamosa*, 14 May (Chris Wood, Jessie Barry, Brian Sullivan, Marshall Iliff, Tim Lenz, Andrew Farnsworth, Lisa Rawinski). 1 at Thurston Res., *Prowers*, 28 May (Kevin Welsh). 1 at John Martin Res., *Bent*, 29 May (Ira Sanders).

Mew Gull: 1 second cycle at Horseshoe Res., *Larimer*, 2 Apr (Nick Komar, Austin Hess).

ICELAND GULL (Kumlien's): 1 adult at Horseshoe Res., *Larimer*, 26 Mar (Nick Komar, Sandy Winkler, Bobbie Tilmant).

Glaucous Gull: 1 first cycle at Cherry Creek SP, *Arapahoe*, 12 Mar–9 Apr (Glenn Walbek, m.ob.). 1 immature at Upper Queens/Neeskah Res., *Kiowa*, 27 Mar (David Dowell).

Great Black-backed Gull: 1 adult at Boulder Res., *Boulder*, 12 Mar (Jack Bushong, Ryan Bushong).

Least Tern: 1 at Big Johnson Res., *El Paso*, 6 May (Richard Bunn, Kara Carragher, Bill Maynard). 1 at Connected Lakes SP, *Mesa*, 9 May (Diane Trappett). Other reports from *Bent* and *Prowers*, 11–31 May.

Caspian Tern: Reports from *Bent, Denver, Douglas, El Paso, Jefferson, Larimer, Logan, Mesa, Morgan, Otero, Pueblo, Weld,* and *Yuma*, 8 Apr–30 May.

ARCTIC TERN: 2 near Jefferson, *Park*, 26 May (Steven Mlodinow).

White-winged Dove: 1 in Craig, *Moffat*, 19 May (Jan Leonard). 1 in Meeker, *Rio Blanco* (Dona Hilkey, Forrest Luke).

LESSER NIGHTHAWK: 1 at Alamosa NWR, *Alamosa*, 12 May (Marshall Iliff, Tim Lenz). 1 at Nucla, *Montrose*, 24 May (Coen Dexter, Brenda Wright, m.ob.).

RUBY-THROATED HUMMINGBIRD: 1 at Lamar Community College, *Prowers*, 25 Apr (Duane Nelson).

ACORN WOODPECKER: Ongoing birds in Durango (*La Plata*) and Pueblo Mountain Park (*Pueblo*).

Red-headed Woodpecker: 1 at Zapata Ranch, *Alamosa*, 19 May (John Rawinski).

Yellow-bellied Sapsucker: 1 in Golden, *Jefferson*, 3 Mar (Tim Mitzen). Singles in southwestern Lamar (9 Mar, Dorothy Russell) and southeastern Lamar (Jane Stulp and Janeal

Yellow-bellied Sapsucker, Willow Creek Park–Lamar, Prowers County, 19 March 2016. Photo by Janeal Thompson

Golden-winged Warbler, Stulp Farms–Lamar, Prowers County, 5 May 2016. Photo by Janeal Thompson

Thompson, 18–19 Mar), *Prowers*. 1 in Fort Collins, *Larimer*, 12–13 Mar (Neill Matheson). 1 in Cheyenne Canyon, *El Paso*, 12 Mar (Diana Beatty). 1 in Hasty, *Bent*, 13 Mar (Gloria Nikolai). 1 southeast of Colorado Springs, *El Paso*, 19 Mar (Marty Wolf).

EASTERN WOOD-PEWEE: 1 at Chico Basin Ranch, *El Paso*, 18 May (Steven Mlodinow).

ALDER FLYCATCHER: 1 at Flagler Res. SWA, *Kit Carson*, 18–28 May (Mark Peterson, Glenn Walbek, David Dowell, Kara Carragher, Brandon K. Percival). 1 at Beecher Island, *Yuma*, 25 May (Dean Shoup). 1 at Sand Draw SWA, *Sedgwick*, 28 May (David Dowell). 1 at Sandy Bluffs STL and SWA, *Yuma*, 29 May (David Dowell).

Least Flycatcher: 25 at Chatfield SP, *Jefferson*, 21 May (Scott Somershoe).

Vermilion Flycatcher: 2 females at Belmar Park, *Jefferson*, 15–21 Apr (Robert Raker, m.ob.). 1 male at Karval, *Lincoln*, 18–22 Apr (Mel & Jeanne Goff, Jeannie Mitchell, Mark Peterson). 1 female at Chico Basin Ranch, *Pueblo*, 20 May (John Drummond).

Black Phoebe: 5 at Escalante Canyon, *Delta*, 10 Apr (Mike Henwood, Chris Owens, Lisa Edwards).

Say's Phoebe: 28 at Ramah Res. SWA, *El Paso*, 1 May (Gloria Nikolai).

Eastern Phoebe: 1 in Durango, *La Plata*, 12–13 Apr (Heather & Riley Morris, m.ob.). 1 in Eagle, *Eagle*, 27 Apr (JoAnn Riggle).

Scissor-tailed Flycatcher: 1 in Eads, *Kiowa*, 6 May (Norman Erthal). 1 at Chico Basin Ranch, *El Paso*, 7 May (Bill Maynard, Kara Carragher).

White-eyed Vireo: 1 at deKoevend Park in Littleton, *Arapahoe*, 18–29 May (Jared Del Rosso, m.ob.). 1 at West Chicago Creek CG, *Clear Creek*, 25 May (Georgia Doyle).

Yellow-throated Vireo: 1 at Fountain Creek Regional Park, *El Paso*, 2 May (Sam Fason). 1 at Pastorius Res., *La Plata*, 7–27 May (Ryan Votta, m.ob.). 1 at John Martin Res., *Bent*, 13 May (Richard Bisbee). 1 at Flagler Res. SWA, *Kit Carson*, 14 May (Kathy Mihm Dunning). 1 at Van's Grove near John Martin Res., *Bent*, 24–25 May (Duane Nelson, Dave Leatherman, Janeal W. Thompson). 1 at Crow Valley CG, *Weld*, 29 May–2 June (Glenn Walbek, Steve Larson, m.ob.).

Cassin's Vireo: Reports from *Arapahoe, Bent, El Paso, Elbert, Fremont, Jefferson, Kiowa, Lincoln, Logan, Pueblo,* and *Yuma*, 1–28 May.

Clark's Nutcracker: 187 near Salida, *Chaffee*, 24 Apr (Chris West, Judith Huf, Robert Sattelmeyer).

Cliff Swallow: 8,000 at Lower Latham Res., *Weld*, 16 May (Kathy Mihm Dunning, Jon King, Steven Mlodinow).

White-breasted Nuthatch: 29 near Lake George, *Park*, 5 Mar (Steven Mlodinow, David Dowell).

PACIFIC WREN: 1 at Carrizo Canyon Picnic Area, *Baca*, 13 Feb–2 Apr (Jeff Calhoun, Brandon K. Percival, Mark Peterson).

Winter Wren: 1 in Ken Caryl, *Jefferson*, 3 Mar (Janet Shin). 1 at Chatfield SP, *Jefferson*, 16–22 Mar (Karen Drozda, Cynthia Madsen, Ruth Gabreski, Janet Shin, Susan Bonfiglio, Matt Clark). 1 at Two Buttes SWA, *Baca*, 20 Mar (Cheryl Teuton, Dan Brooke)**.** 1 at Riverside Park in Fort Morgan, *Morgan*, 3 Apr (David Dowell). 1 at Fairmount Cemetery in Lamar, *Prowers*, 5 May (Janeal W. Thompson). 1 at Chico Basin Ranch, *Pueblo*, 7 May (Cheri Phillips). 1 at Fountain Creek Regional Park, *El Paso*, 7 May (Kyle Hawley, Caleb Hawley).

Marsh Wren: 62 at Monte Vista NWR, *Rio Grande*, 25 May (Steven Mlodinow).

Carolina Wren: 1 at Cottonwood Canyon, *Baca*, 4 Apr (Sarah MacLellan, Michael O'Brien, Nancy Silacci, Marianne Hosford, Dick Porter, Sue Hamilton). 1 in Pueblo, *Pueblo*, 14–20 May (Rick Clawges, Brandon K. Percival, Margie Joy).

Gray-cheeked Thrush: Reports from *Baca, Bent, Boulder, El Paso, Larimer, Lincoln, Morgan, Prowers, Washington,* and *Weld*, 5–30 May.

Wood Thrush: 1 in Colorado Springs, *El Paso*, 29 Apr (David Tønnessen). 1 at Barr Lake SP, *Adams*, 21–22 May (Amy Morton, Chris Goulart, Renee Casias, Jesse Casias).

Varied Thrush: 1 near Cherry Creek Res., *Arapahoe*, 1 Jan and 22 Mar–2 May (Rebecca Campbell, m.ob.). 1 in Fort Collins, *Larimer*, 15 May (Bobbie Tilmant, Irene Fortune).

Brown Thrasher: 1 at DeWeese Res., *Custer*, 5 May (Rich Miller).

Northern Mockingbird: 1 in Craig, *Moffat*, 10–20 May (Forrest Luke).

McCown's Longspur: 4,000 near Arriba, *Lincoln*, 5 Apr (Tom Johnson).

Worm-eating Warbler: 1 in Boulder, *Boulder*, 30 Apr–9 May (Nathan Pieplow, m.ob.).

Golden-winged Warbler: 1 at Stulp Ranch, *Prowers*, 5–6 May (Jane Stulp, m.ob.). 1 at Fort Lyon Wildlife Easement, *Bent*, 8 May (Maggie Boswell, Dean Shoup, Norman Erthal). 1 at Flagler Res. SWA, *Kit Carson*, 28 May (Brandon K. Percival, Kara Carragher, Mark Peterson).

Blue-winged Warbler: 1 at Chico Basin Ranch, *El Paso*, 14 May (m.ob.). 1 at Melody Tempel Grove, *Bent*, 17 May (Dave Leatherman). 1 near Broomfield, *Adams*, 20 May (Kent Turner).

Black-and-white Warbler: 1 at Navajo SP, *Archuleta*, 7 May (James Beatty). Other reports from *Arapahoe, Baca, Bent, Boulder, Douglas, El Paso, Elbert, Jefferson, Larimer, Logan, Prowers, Pueblo,* and *Weld*, 11 Apr–30 May.

Prothonotary Warbler: 1 at Lee Martinez Park in Fort Collins, *Larimer*, 9–13 Apr (Jeffrey Birek, m.ob.). 1 at Wray, *Yuma*, 28 Apr (Daniel Maynard). 1 in Gunnison, *Gunnison*, 16 May (Joe Carrithers).

Tennessee Warbler: Reports from *Adams, Bent, Boulder, Douglas, El Paso, Jefferson, Larimer, Lincoln, Logan, Morgan, Otero, Prowers, Pueblo, Weld,* and *Washington*, 3–22 May.

LUCY'S WARBLER: 1 in Salida, *Chaffee*, 13 Apr (Sherrie York). Other reports from *Montezuma*, 3 Apr–30 May.

MOURNING WARBLER: 1 at Prewitt Res., *Washington*, 14 May (Mackenzie Goldthwait, Jeff Dawson, Doug Kibbe). 1 at Last Chance Rest Area, *Washington*, 17 May (Glenn Walbek, Mark Peterson). 1 at Akron golf course, *Washington*, 29 May (Glenn Walbek, Steve Larson). 1 at Waterton Canyon, *Jefferson*, 30 May (Mary O'Connor).

Kentucky Warbler: 1 in Pueblo, *Pueblo*, 26–28 May (Van Truan).

Hooded Warbler: 1 at Chico Basin Ranch, *El Paso*, 15 Apr (Brandon K. Percival, Stephany McNew). 1 in Colorado Springs, *El Paso*, 18 Apr (Aaron Driscoll). 1 at Two Buttes SWA, *Baca*, 2 May (Jim Malcom, Steven Mlodinow). 1 in Fort Collins, *Larimer*, 8 May (Greg Golz). 1 at Thompson Ranch, *Lincoln*, 18 May (Glenn Walbek, Mark Peterson, Daniel Maynard). 1 at Eaton Cemetery, *Weld*, 23 May (Nick Moore).

Northern Parula: 1 at Home Lake SWA, *Rio Grande*, 18 May (John Rawinski). 1 at Lone Dome Recreation Area, *Montezuma*, 24 May (Steven Mlodinow). Other reports from 35 different locations in *Arapahoe, Baca, Bent, Boulder, Denver, Douglas, Elbert, Huerfano, Jefferson, Larimer, Lincoln, Logan, Morgan, Otero, Prowers, Pueblo, Weld,* and *Yuma*, 9 Apr–31 May.

Magnolia Warbler: Reports from *Bent, Boulder, Jefferson, Kiowa, Larimer, Lincoln, Otero, Prowers, Pueblo,* and *Washington*, 5–28 May.

Bay-breasted Warbler: 1 in Fort Collins, *Larimer*, 8–9 May (Joey Angstman, m.ob.).

Blackburnian Warbler: 1 at Bear Creek Lake Park, *Jefferson*, 14–18 May (Wendy Wibbens, JoAnn Hackos).

Chestnut-sided Warbler: Singles at Van's Grove near John Martin Res., *Bent*, 5 May (John Drummond, Lisa Edwards, Sue Riffe) and 24–25 May (Duane Nelson, Dave Leatherman, Janeal W. Thompson). 1 at Barr Lake SP, *Adams*, 21 May (Grant Beauprez).

1 at Bear Creek Park, *Denver*, 25 May (Robert Martinez). 1 at Chico Basin Ranch, *El Paso*, 28–29 May (Norm Lewis, Robb Hinds, Nena Shoup, Dean Shoup).

Black-throated Blue Warbler: 1 at Melody Tempel Grove, *Bent*, 5 May (Brandon K. Percival, Vic Zerbi, m.ob.). 1 in Fort Collins, *Larimer*, 10–12 May (Sean Walters, David Wade, m.ob.). 1 at South Mesa Trail, *Boulder*, 14 May (Christian Nunes, Peter Burke). 2 at Chico Basin Ranch, *El Paso/Pueblo*, 18–21 May (Steven Mlodinow, Bill Maynard, m.ob.). 1 at Duck Creek SWA, *Logan*, 22 May (David Dowell).

Palm Warbler: 1 at Eaton Cemetery, *Weld*, 29 Apr (Nick Moore, Steven Mlodinow). 3 at Stalker Lake, *Yuma*, 28 Apr–1 May (Daniel Maynard, m.ob.). 1 near Eads, *Kiowa*, 30 Apr (Austin Hess). 1 at Beecher Island, *Yuma*, 1 May (Chris Rurik, Mimi Chau). 1 at Memorial Park & Prospect Lake, *El Paso*, 1–3 May (Heidi Eaton, Mel & Jeanne Goff). 1 at Crow Valley CG, *Weld*, 1 May (Doug Kibbe, Sarah Polk). 1 at Fountain Creek Regional Park, *El Paso*, 5 May (Sam Fason). 1 at Harriman Lake Park, *Jefferson*, 6–9 May (Heidi Retherford, m.ob.). 1 at Brett Gray Ranch, *Lincoln*, 9 May (Steven Mlodinow). 1 near Limon, *Elbert*, 9 May (David Suddjian).

Yellow-throated Warbler: 1 in Fort Collins, *Larimer*, 5 Dec–16 Mar (Luke Caldwell, Jeffrey Birek, m.ob.). 1 at Bent's Old Fort NHS, *Otero*, 8 May (James McReavey). 1 at Chico Basin Ranch, *Pueblo*, 20–21 May (Brandon K. Percival, Torrah Giles, John Drummond, m.ob.).

PRAIRIE WARBLER: 1 at Ken Caryl, *Jefferson*, 16–18 May (David Suddjian).

HERMIT WARBLER: 1 at Crow Valley CG, *Weld*, 15 May (Darla Anderson, Janet Anderson-Ray, James Anderson).

Black-throated Green Warbler: 1 at Lake Hasty, *Bent*, 10 May (Brandon K. Percival, Jim Newell). 1 at Fairmount Cemetery, *Prowers*, 16 May (Janeal W. Thompson, Jane Stulp, Dave Leatherman).

Fox Sparrow (Slate-colored): 1 at Last Chance Rest Area, *Washington*, 26–27 Mar (David Dowell, m.ob.). Other reports from *Boulder, Conejos, Eagle, Gilpin, Grand, Gunnison, Jackson, La Plata, Mesa, Montezuma, Montrose, Park, Pitkin, Pueblo, Routt, Saguache, San Miguel,* and *Summit*, 22 Mar–28 May.

Golden-crowned Sparrow: 1 at Snooks Bottom Open Space near Fruita, *Mesa*, 1–12 Apr (Emily Marino, m.ob.). 1 at Tamarack Ranch SWA, *Logan*, 1 May (David Dowell, m.ob.).

Sagebrush Sparrow: 1 at Bear Creek Greenbelt, *Jefferson*, 19 Mar (William Ford). 1 at Belmar Park, *Jefferson*, 27 Mar (Aaron Shipe, Art Hudak, Tom Behnfield). 1 at Chatfield SP, *Douglas*, 27 Mar (Joey Kellner, m.ob.). 1 at Hanover Road, *El Paso*, 12 Apr (Richard Bunn, Bill Maynard). Other reports from *Alamosa, Conejos, Costilla, Dolores, Eagle, Garfield, Jackson, La Plata, Mesa, Moffat, Montezuma, Rio Blanco, Rio Grande,* and *San Miguel*, 4 Mar–31 May.

Swamp Sparrow: Reports from *Adams, Arapahoe, Boulder, El Paso,*

Orchard Oriole, "Grouse House," Moffat County, 31 May 2016. Photo by Jan Leonard

Baltimore Oriole, Meeker, Rio Blanco County, 8 May 2016. Photo by Dona Hilkey

Jefferson, Pueblo, Washington, and *Yuma*, 12 Mar–22 May.

Spotted Towhee: 83 at Cheyenne Mountain SP, *El Paso*, 9 Apr (Wendy Wibbens).

EASTERN TOWHEE: 1 male near Fort Morgan, *Morgan*, 14 May (Judith Henderson, Doug Kibbe, Mackenzie Goldthwait, Jeff Dawson). 2 (male and female) at Tamarack Ranch SWA, *Logan*, 16 May (Glenn Walbek, Loch Kilpatrick). 1 female at Flagler Res. SWA, *Kit Carson*, 16 May (Forrest Luke, John Reichhardt, Nick Komar).

HEPATIC TANAGER: 1 male at Thompson Ranch, *Lincoln*, 29 May (Mark Peterson, Lisa Edwards). Other reports from *Huerfano* and *Las Animas*, 13–21 May.

Summer Tanager: Reports from *Arapahoe, Baca, Bent, El Paso, Elbert, Fremont, La Plata, Larimer, Las Animas, Montezuma, Montrose, Otero,* and *Prowers*, 30 Apr–23 May.

Scarlet Tanager: 1 male seen at various locations in Fort Collins, *Larimer*: Lee Martinez Park (2–4 May, Penny Bauer and m.ob.), CSU Environmental Learning Center (11 May, Kathy Mihm Dunning), and a nearby neighborhood (17 May, photographed by Tim Vaughn and reported by Bill Wuerthele). 1 male in Hotchkiss, *Delta*, 25–27 May (Andrea Robinsong, Robin Nicholoff, Jason Beason).

Rose-breasted Grosbeak: Sightings in multiple locations in the Craig area, *Moffat*: 19 May (Forrest Luke), 19–20 May (Patti Moseby, Jan Leonard), and 20 May (Gwenn Vikse).

Painted Bunting: As many as 3 in Picture Canyon, *Baca*, 5 May–24 Jul (m.ob.).

Dickcissel: 1 in De Beque, *Mesa*, 14 May (Paul Didier, m.ob.).

Rusty Blackbird: 1 near Fountain, *El Paso*, 16 Jan–13 Mar (Bill Maynard, Mark Peterson, m.ob.).

HOODED ORIOLE: 1 male at a private residence in Roxborough Park, *Douglas*, 25 Apr–2 May (John Ealy, m.ob.).

Orchard Oriole: 1 at a private

residence in Lay, *Moffat*, 30–31 May (Vinnie Johnson, m.ob.).

Baltimore Oriole: 1 in Meeker, *Rio Blanco*, 8–10 May (Dona Hilkey, Forrest Luke, Vic Zerbi).

Scott's Oriole: 1 at Brush Hollow Res., *Fremont*, 10 May (Rich Miller). 1 in Monte Vista, *Rio Grande*, 18 May (Mary Thompson). Other reports from *Las Animas*, *Mesa* and *Montezuma*, 9–26 May.

PURPLE FINCH: 1 at Sand Draw SWA, *Sedgwick*, 28 Mar (Steven Mlodinow, Nick Moore). 1 female type at private residences in Lakewood, *Jefferson*, 14–21 Apr (Pam Zimmer, Mark Chavez).

Common Redpoll: As many as 26 near Tabernash, *Grand*, 5 Mar–9 Apr Mar (Mark Obmascik, Marilyn Binkley). 18 near Dillon, *Summit*, 29 Mar (Hank Taliaferro).

ACKNOWLEDGMENTS

The sightings reported by contributing observers to eBird, COBirds, and the West Slope Birding Network are greatly appreciated. Volunteer compilers contributed significantly to this report: Jim Beatty (southwest), Coen Dexter (west), John Drummond (southeast), Forrest Luke (northwest), Rich Miller, Brandon Percival, John Rawinski (San Luis Valley), and David Silverman. Much of the information in this report was obtained from the eBird Basic Dataset from the Cornell Lab of Ornithology, Ithaca, New York.

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Solifuges

Dave Leatherman

What looks so scary you would never just pick one up, lives in the arid West amid rocks and grass, can run like lightning, appears to have 10 legs, and almost nothing is known about its consumption by birds? Answer: the solifuge. So, what's a solifuge? They go by many other names. In 2004 during the Iraq War and the formative stages of the sensationalism we have come to expect from many quarters on the Internet, they became widely known as "camel spiders." The photoshopped image of a soldier carrying two clinging head-to-tail that stretched from the infrantryman's belt to the ground got sent around the globe faster than you can say "arachnophobia." Why is it that sort of story goes viral, and the calm scientist's video debunking the fabrication is only watched by his mother?

Other names for solifuges include solifugids, solpugids, sun scorpions, false spiders, sun spiders, haarskeerders, jagspinne kippe, jerrymanders (presumably after the social activist, not to be mistaken for political line-drawing shenanigans starting with a "g"), roman spiders, walzenspinnen, wind scorpions, and my favorite, matevanados (Spanish translation: "deer killers") (Savery 2016). Despite their looks and ominous displays when harassed, my buddies at Colorado State University tell me that our Colorado species are harmless to humans. These guys are always right, but one site says "gives a painful bite" and I will admit to not yet having the courage to pick one up. The assignment of the word "pain" to these creatures may pertain to South American or African species, which can be bigger than those in North America. Whatever the truth regarding the pain of their bite, solifuges do NOT possess venom and, speaking from imaginary experience, the bite of Colorado species should be no more painful than that of a gnaw-happy puppy or paper edge. However, if their arthropod and vertebrate prey have nightmares, solifuges are in them, perhaps in color.

Worldwide the Order Solifugae (Class Arachnida) has 12 families, 141 genera, and well over 1,000 species (Savery 2016). Because they and their habitats are poorly studied, experts on this group think the true number of species could be twice the number formally described (Savery 2016). They have eight legs and one pair of pedipalps that usually project out front as they move. The pedipalps aid their predaceous lifestyle in two important ways—initial detection and capture, and then manipulation. Capture is facilitated by special suctorial organs at the pedipalp tips (Cushing et al 2005). Solifuges are

more closely related to pseudoscorpions in the Order Pseudoscorpiones than they are spiders in the order Araneae (Kraus 1976). Their strongholds are South Africa and the American Southwest. North America has two families (Ammotrechidae and Eremobatidae), only one of which, the latter, occurs in Colorado, where we have 4 genera and 15 species, as follows (Brookhart and Cushing):

Colorado Solifuges

Scientific name	Colorado distribution
Eremochilus bilobatus	Statewide
Hemerotrecha fruitana	Statewide
H. cornuta	Southeastern
H. parva	Northwestern
H. denticula	Southwestern
Eremorhax puebloensis	Southeastern
E. mumai	Northwestern
Eremobates docolora	Northwestern
E. pallipes	Front Range from WY to NM
E. bantai	Southeastern Front Range
E. palpisetulosus	Front Range from WY to NM
E. ctenidiellus	Colorado Plateau
E. clarus	Northwestern
E. mormonus	Southwestern
E. similus	San Luis Valley

These intriguing beasts range in size from a few millimeters to 10 centimeters, with most of our full-grown Colorado species being in the 20–30mm range. They typically live in arid habitats with sparse vegetation. Such areas are characterized by high daytime temperatures, low nighttime temperatures, and low humidity. Solifuges can run in bursts as fast as 53 centimeters/second (i.e., almost two feet in the time it takes to say, "one-thousand-one") (Punzo 1998b). Their lifespan is about one year. They have very high metabolic rates, typical of active predators. They obtain their prey mostly at night either alive or scavenged, and promptly macerate it with a pair of chelicerae resembling the action end of a clamshell loader. Animals suffering this fate include arthropods like spiders and insects (especially termites), other solifuges, and small reptiles (Muma 1966, Punzo 1993). Predators include spiders, solifuges, small mammals, reptiles, and amphibians (Muma 1967, Punzo 1998a). Oh yes, and birds.

Most of the anecdotes involving bird predation on solifuges come from Africa. The only mention of the term "solifuge" (or synonyms) in the huge *Birds of North America* database from Cornell University is in the account for Northern Shrike. The section on how fledglings learn to hunt describes their pecking at a variety of animate and inanimate objects including "solifuges" (Cade and Atkinson 2002). This is interesting but also confusing since the entire, decidedly northerly, breeding range of Northern Shrike and known ranges of the North American solifuges do not come close to overlapping! I am not sure what to make of this. Northern Shrikes certainly seem to be among the bird types that would enjoy a good solifugid entrée. However, by the time this shrike moves southward to areas inhabited by solifuges (late autumn/winter), the temperatures are such that most, if not all, solifuges would be in hiding in burrows or under objects like rocks, wood, or cowpies.

At this point you might be asking, why are solifuges a subject of this column? Because of the African anecdotes, a personal one from Colorado, and an Iranian snake's tail. These seem to indicate the literature, particularly here in North America, is lacking more than the fact that these creatures do not get eaten by birds.

African anecdotes first. Remains have been found in bustard (family Otitidae) droppings (Wharton 1987). New World shrikes have captured them (Clark et al 1982). There is mention of predation by Old World larks and wagtails (Distant 1892). The Pearl-spotted Owlet (looks a lot like our Northern Pygmy-Owl) and Marsh Owl eat solifuges on occasion (Dixon 1981, Braine 1989).

As for close to home, on 6 July 2015 I was driving slowly along Larimer County Road 5 north of Fort Collins, Colorado, between Buckeye Road and Larimer CR92, photographing birds on the westside barbed wire fence. Of particular interest were adult birds with mouths full of food items destined for gaping nestlings. One of these parents was a Western Meadowlark (*Sturnella neglecta*). Upon computer examination of photographs that night, I noticed a solifuge among the other items, mostly grasshoppers, in that meadowlark's beak (Fig. 1). Identification to species is not possible from the photograph, but it appears to be in the genus *Eremobates*.

Surely this observation is not unique but it appears to be one of the few documented cases of feeding by a North American bird on a solifuge.

On 20 July 2016 while hiking along the Pronghorn Loop Trail in the City of Fort Collins's Soapstone Prairie Natural Area about 11 miles northwest of the CR5 spot where the aforementioned meadowlark had captured a solifuge, at about 8 A.M., Georgia Doyle spot-

ted a solifuge underfoot. This individual was collected by me (specimen deposited with Colorado State University's Gillette Museum of Arthropod Biodiversity) and later determined to be *Eremobates pallipes* (Figs. 2 and 3). This finding perhaps supports the identification of the meadowlark prey as being in this genus. Besides *E. pallipes*, the other possibilities for this northern Front Range area would be *E. palpisetulosus*, *Eremochelis bilobatus*, and *Hermotrecha fruitana*. Its being active in early morning on a sunny day is also of interest. If occasional solifuge diurnal activity occurs routinely, perhaps the likelihood of predation by diurnal birds on these organisms thought to be mostly nocturnal is, likewise, routine, just difficult to witness and document.

Now about that Middle Eastern snake. In 1968 a collecting expedition targeting, but not limited to, mammals visited western Iran. A viper thought to be a deformed individual of a known species was discovered which had a strangely frayed tail. It was deposited in the famous Chicago Field Museum. In 2001 a second individual that matched the appearance of the 1968 specimen was found. This triggered a re-examination of these two snakes, which determined they were anything but deformed. In 2006 they were described as a new species, the spider-tailed horned viper, *Pseudocerastes unarachnoides* (Serpentes: Viperidae) (Bostanchi et al. 2006).

The amazing thing about this viper is its tail, how it uses it, and for what purpose. It has taken a while to prove, but it is now apparent this snake uses a tail resembling a solifuge to lure birds into range of the snake's fatal strike. Certain of its caudal scales are elongated to resemble "appendages." At the extreme tail tip is a pale knob flanked by the adjacent leglike scales. The snake positions itself motionless in gypsum rocks that match the pattern of its primary body scales, then gently wiggles its tail in an almost perfect match of a moving solifuge. To see this, do an Internet search for "spider-tailed horned viper video." Truly amazing. Birds are attracted to this lure and die for their hungry curiosity (Fathinia et al. 2009, Fathinia et al. 2015). Among the birds proven to be captured in this way are warblers in the genus *Acrocephalus* and the Crested Lark (*Galerida cristata*) (Fathinia et al. 2009, James 2016).

This snake with the remarkable tail is a twist on the theme of birds eating solifuges but in an evolutionary sense seems to prove birds have been eating them for a long time. What other North American birds besides the Western Meadowlark and perhaps the Northern Shrike eat solifuges? With the heart of solifuge ranges being the arid West, I will speculate likely eaters of them are birds like American Kestrel, our pygmy and screech-owls, Greater Roadrunner,

various thrashers, Canyon Wren, towhees, and desert sparrows like Sagebrush, Rufous-winged and Black-throated. Probably other bird species eat them, too, and probably none of these utilize solifuges as a major component of their diets. But then again, maybe they do.

So much to learn in this study area of bird food habits.

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Fig. 1. Western Meadowlark delivering solifuge (possibly in genus Eremobates) and grasshoppers to nestlings along Larimer County Road 5 on 6 July 2015. Photo by Dave Leatherman

Figs. 2 and 3. Eremobates pallipes (both photos of same individual) found at Soapstone Prairie Natural Area north of Fort Collins on 20 July 2016. Note pair of dark, two-part chelicerae involving movable (upper) and fixed (lower) fingers best visible in left photo. Both dark upper fingers can be seen in front of the cephalothorax (head area) in the right photo. The long tan appendages protruding farthest out in right photo are the pedipalps. Length of this individual as shown in right photo is about 4cm. Photos by Dave Leatherman

Stealthy Streptopelias

Ted Floyd

As I write this, it's July, the most intriguing month of the year for birding (http://blog.aba.org/2012/07/most-wonderful.html). And in that spirit, I had occasion yesterday to ponder the intriguing ID challenges posed by Colorado's increasing and expanding populations of doves in the genus *Streptopelia*.

Let's start off with the bird in Fig. 1, photographed on 3 July at the playground at Waneka Lake, Boulder County. You would certainly be excused for

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

thinking it's a candidate for African Collared-Dove (*S. roseogrisea*), but it is not. Fig. 2 provides the view of the same bird from beneath, showing the classic pattern of strong contrast on the tail. So it's "just" a Eurasian Collared-Dove (*S. decaocto*), albeit a notably pale one. Conversely, many (most?) of our African Collared-Doves are "wild types," pretty much the same colors and tones, and the same size and build, as Eurasian Collared-Dove.

Fig. 3 is an African Collared-Dove photographed on 3 July, that has been present for several months at the west edge of Greenlee Preserve, Boulder County. I'd probably walk right past this "wild type" collared-dove every day if it weren't for its distinctive song (an introductory note followed by a trill) and landing/alighting call (a descending whinny).

Fig. 4 is another African Collared-Dove, this one spotted and photographed on 3 July, near Waneka Lake, Boulder County, by Tom Behnfield. Again, it's a "wild type" bird, easily dismissed as a Eurasian Collared-Dove, I would say. Tom audio-recorded the bird, and it sings the distinctive, diagnostic song of African Collared-Dove. (I don't mean to imply that Tom dismissed it as a Eurasian. He got it right! Thanks, Tom, for emailing me the photo and audio.)

Speaking of easy dismissal of African Collared-Doves, Fig. 5 is one from the Waneka Lake playground that I initially thought was a Eurasian. But it is an African.

Finally, there are those that cannot be ID'd, at least not by me. Fig. 6 presents one that, based on a brief glimpse of the bird in flight, looked good for African Collared-Dove. But I didn't hear it, and the tail was quite worn, so I wasn't sure about the ID. So I eBirded it as "*Streptopelia* sp.," a perfectly good and honorable solution.

Bottom line: There certainly are African Collared-Doves along the I-25 corridor in Colorado—and north into Wyoming and south into New Mexico. The keys to detecting them: (1) *don't* get hung up on overall color, size, and robustness; (2) *do* pay attention to contrast on the wings and tail; and (3) *do* listen for the distinctive songs and landing/alighting calls. (Extra credit: What are the flickers in Fig. 6?)

Here's a thought. Sooner or later, Colorado will get its 500th species. Brown Booby...Couch's Kingbird...Mute Swan... At the same time, the ABA Area is closing in on #1,000. We're at #991 right now, and a little birdie tells me several more are imminent. If we Colorado birders document establishment of African Collared-Doves, the ABA Checklist Committee will move swiftly on the matter as it pertains to the ABA Checklist. (The species currently is not on the ABA Checklist.) Wouldn't it be glorious if African Collared-Dove were ABA #1,000?

[*This article originally appeared on COBIRDS, the Google Groups discussion group for sharing information online about Colorado's birds*.]

Ted Floyd, Lafayette, Boulder County

White-winged Junco in Colorado

Tony Leukering

Introduction

Among the first things with which I fell in love when moving to Colorado in 1994, along with shortgrass prairie, was Dark-eyed Junco (*Junco hyemalis*). Oh, I liked the species well enough in the East, but juncos there were so… regular. I had seen tens of thousands of them, banded hundreds. There was only one kind. But my eyes were really opened to the species when I saw my first good mixed flock of juncos, probably at Red Rocks Park. Looking carefully, I could find at least six named subspecies, perhaps a seventh. Juncos, for me, pointed out how incredibly important Colorado is in the biogeographic sense, as those six or seven subspecies of Dark-eyed Juncos came from six or seven different parts of the continent to winter in Colorado's Front Range: the Pacific Northwest, the Canadian Rockies, the huge expanse of Canada's boreal forest, the northern Rockies of Montana, the beloved parkland of northwestern Wyoming, the southern Rockies closer to home, and the Black Hills. Juncos had come from all of these places to winter in Colorado's version of a melting pot right where thousands of birders can enjoy them. Chief among these, in my opinion, are those relatively short-distance migrants from the Black Hills, the Dark-eyed (White-winged) Junco (hereafter "White-winged Junco").

While White-winged Juncos (*J. h. aikeni*) can be found in winter in many places in Colorado's eastern half, the primary winter range of the taxon is the ponderosa pine belt on the east side of the Front Range, extending south through the Wet Mountains. In fact, the northern Front Range counties of Larimer, Boulder, Jefferson, and Douglas account for over half of all public records of White-winged Junco housed in eBird (1,653 of 2,991 records as of 13 August

White-winged Junco, Eldorado Mountain Open Space, Boulder County, 7 November 2008. Photo by Christian Nunes

2016). Confoundingly, these may be the four most-heavily birded counties in the Interior West. Yet, this fact still sheds light on the importance of eastern Colorado forests to the taxon. It is nowhere in Colorado particularly numerous and is nearly always greatly outnumbered by other junco taxa. This is not surprising considering that the breeding range of White-winged Junco (Fig. 1) is so small and its winter range (Fig. 2) so much larger. Though White-winged Junco is fairly readily findable in winter at the foothill–plains interface (particularly at a few favored locations, such as Red Rocks Park), White-winged Junco is typically found there in only tiny numbers. Hiking uphill is the way to find them.

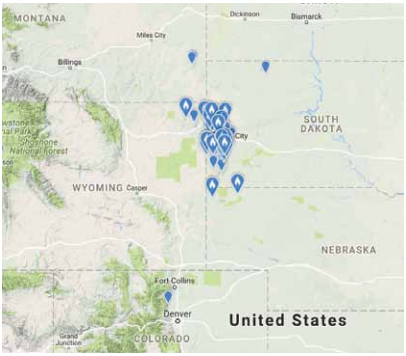

Fig 1. June–July (ostensibly, breeding) range of White-winged Junco (eBird 2016).

Fig. 2. December–February (ostensibly, wintering) range of White-winged Junco (eBird 2016).

Methods

White-winged Junco winter Colorado distribution does not change appreciably from year to year (eBird 2016), so the variation of interest should be relative abundance from year to year. Unfortunately, the data set in eBird (2016), robust as it is for recent years, does not have the long history that is needed to look at long-term population size. For that, only the Christmas Bird Count (CBC) data set (National Audubon Society 2016; http://netapp.audubon.org/cbcobservation/) will suffice. Unfortunately, there are many methodological problems with the CBC (both CBC policy and individual-CBC mechanics) that make analyzing the data an exercise best left for a PhD in statistics. Though I will not delve into those problems here, I mention two that are germane to this discussion. The most obvious of these problems is the elimination of the participation fee (which had climbed to $5/person/count before its elimination) within the past ten years and the resultant great increase of participation (both in observers/count circle and in num-

ber of count circles), which has to have had a large impact on data and their analyses. The second is that the counters have no official accreditation and that they vary tremendously in knowledge of and skill at bird identification. However, as a very rough indication of patterns for taxa found in sufficient numbers, it does a reasonable job. Again, unfortunately, White-winged Junco is not such a taxon. However, data from certain local CBCs provide useful abundance metrics for the subspecies.

For the below discussion, I queried the CBC data set, obtaining the previous 25-year history of White-winged Junco in Colorado and for five select CBC circles. The span of CBCs queried was from the 1990–1991 season (the 91st CBC year) through the 2014–2015 season (the 115th). I chose five Colorado CBCs as the best representative counts to analyze Colorado White-winged Junco abundance in order to cover as much of the spread of occurrence in the state as possible while also maintaining sufficient sample size for useful analysis. The five count circles, all with extensive acreage of suitable habitat for the taxon, are, from north to south: Boulder, Evergreen–Idaho Springs, Black Forest, Pikes Peak, and Penrose. The graphs use number of individuals/party-hour in order to normalize the data for, at times, highly variable number of observers across years.

I follow Pyle (1997) in using the term "subspecies group… based either on published definition or… defined based on shared characters." Assigning individuals of Oregon Junco to a particular subspecies in the field can be difficult, particularly of females, but assigning individuals to the Oregon Junco group of five subspecies (Pyle 1997) is, generally, straightforward. Below, I use "subspecies" when discussing White-winged Junco by itself, and "subspecies group" when I make comparisons among differing taxa of Dark-eyed Junco.

Results and Discussion

Among the shortcomings of using Christmas Bird Count data to analyze distribution and population trends of subspecies groups of Dark-eyed Junco, two in particular are relevant here. It is difficult or impossible to determine 1) the minutiae of coverage of individual CBC circles (what habitats, in what percentage, with how much effort in each) and 2) observer focus and efficiency on finding and, particularly, identifying Dark-eyed Juncos to subspecies group. As example of the latter, in the 25-year period from 1990–1991 to 2014–2015 (the 91st through 115th CBCs), about half (50.8%) of the Dark-eyed Juncos reported on Colorado CBCs were identified to subspecies group. However, that percentage varied nearly two-fold on an annual basis: 34.3% to 67.8%. For this discussion, as long as White-winged

Juncos were identified in percentages close to actual percentages, this variation does not matter. However, if CBC participants counting in eastern-Colorado ponderosa forest were inconsistent on identifying Dark-eyed Juncos to subspecies group, particularly to White-winged Junco, analysis of these data may be compromised. Given that the CBC is the only game in town, I here bull on ahead in hopes that the CBC data provide at least a useful index to White-winged Junco population size.

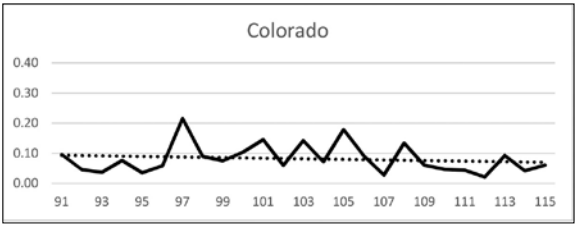

Fig. 3. Abundance of White-winged Junco (number per party-hour) in 25 years (winters 1990–1991 to 2014–2015) of Colorado Christmas Bird Counts. The max value is 0.215 birds/party-hour.

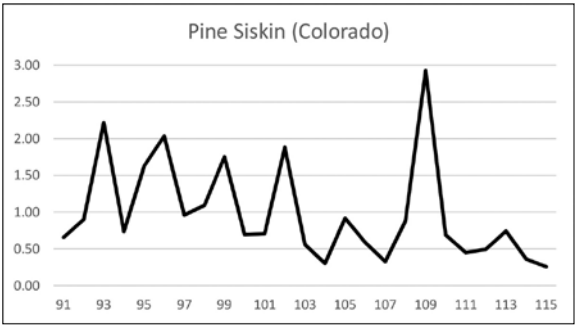

Fig. 4. Abundance of Pine Siskin (number per party-hour) in 25 years (winters 1990–1991 to 2014–2015) of Colorado Christmas Bird Counts. The max value is 2.925 birds/party-hour.

The most striking feature of the occurrence of White-winged Junco on Colorado Christmas Bird Counts in the 25 winters is the great variability in abundance (Fig. 3). (*Please note that the y axis (vertical scale of abundance) on the various figures differ across figures and that not noting the scale can cause misinterpretation of the graphs*.) The overall appearance of the graph is of an up-and-down pattern of plenitude and scarcity. While local weather might explain this pattern, my experience suggests that winter weather regimes are not so precisely cyclical as to explain this result. Other passerine species are known to exhibit similar boom-and-bust cycles, with Pine Siskin on Colorado CBCs providing an excellent example of a similar short-term abundance pattern (Fig. 4). Pine Siskin is thought to be responding to availability of particular food sources in its boreal-forest habitat—specifically, the abundance or dearth of seeds, especially those of conifers (Dawson 2014). Considering that White-winged Junco shows a strong preference for

pine forest, perhaps it, too, is responding to localized food resources, perhaps with larger proportions of the taxon staying closer to the breeding grounds in some years, and having to travel farther afield in others. Interannual variation in breeding success might also be a causative factor behind the cycle.

In Fig. 3, the 25-year trend line (dotted line) indicates a gradual decline. However, notice that during the period of the 97th through 108th CBCs, most values are above that trend line, while even those below it are only just below it. Then notice that most values before the 97th CBC and after the 108th CBC are below the trend line. So, in addition to the short-term up-and-down population cycling in Colorado, there also seems to be a longer-term up-and-down aspect to White-winged Junco's abundance in Colorado. Whether that appearance continues into the past is beyond the scope of this essay, but it makes for some interesting food for thought. Regardless of the cause(s) of the apparent population cycle (cycles?), White-winged Junco seems to have missed a population "up" between the 2008–2009 season (the 109th CBC) and the 2011–2012, though with a return to something of a cycle in the last four years. One of the confounding factors in analyzing these data is that recent years have seen a great increase in the number of CBCs established on Colorado's plains. As the subspecies is rare on the plains, these counts typically get few, if any, White-winged Juncos, which would depress numbers detected per Colorado CBC party-hour.

A very interesting comparison with Colorado CBC results is provided by the CBC results from the two South Dakota CBCs that include Black Hills forest habitat, the Rapid City and Spearfish CBCs (Fig. 5, see page 235). These two counts show a great general increase in abundance starting in the 97th count, similar to that illustrated by the Colorado data (Fig. 3). However, the similarity between the two states ends after the 103rd count (2002–2003 winter), due to the relative dearth of White-winged Juncos recorded on these two CBCs since. Through the 103rd count, the two CBCs had been averaging 2.382 White-winged Juncos per party-hour (13 years), but after that count (12 years), have averaged just 0.502, only 21.1% of the previous average! In comparison, Colorado CBC abundance in those two periods was 0.091 and 0.073, the latter being 80% of the former. The overall similarity of the shapes of the Colorado and South Dakota CBC graphs suggest that whatever is driving either of the up-and-down cycles (short-term or long-term) is acting on the population as a whole, rather than White-winged Junco using the Black Hills and Front Range Colorado as a populational see-saw, as opined above. Looking at individual Colorado CBC results (Figs. 6–10), the five

selected CBCs throw a monkey wrench into the analysis, one that might be explainable with a more-in-depth analysis, but which lies outside the scope of this essay. In these graphs, we can see that no two of the five CBC circles present results similar to each other, nor to the general Colorado results! Unfortunately, the Black Forest count was not begun before the 98th CBC, while the Pikes Peak count, if run, was not reported to the National Audubon Society in the final eight years of the time period that I chose. Table 1 illustrates that the three central counts (Evergreen–Idaho Springs, Black Forest, Pikes Peak) host greater abundance of White-winged Junco than either Boulder or Penrose. However, all three have a higher percentage of their circles occupied by suitable White-winged Junco habitat than does either the Boulder CBC, a large portion of which is occupied by urbanized plains habitats, or the Penrose CBC, a large portion of which is occupied by low-elevation habitats. Table 1 suggests that the southern part of the Front Range and the associated Palmer Divide is the epicenter of Colorado White-winged Junco abundance, with the Black Forest CBC circle being especially so. However, the small sample size of Colorado CBCs incorporating extensive suitable habitat (n = 5) and the variable habitat makeup of the individual CBC circles makes that derivation somewhat problematic.

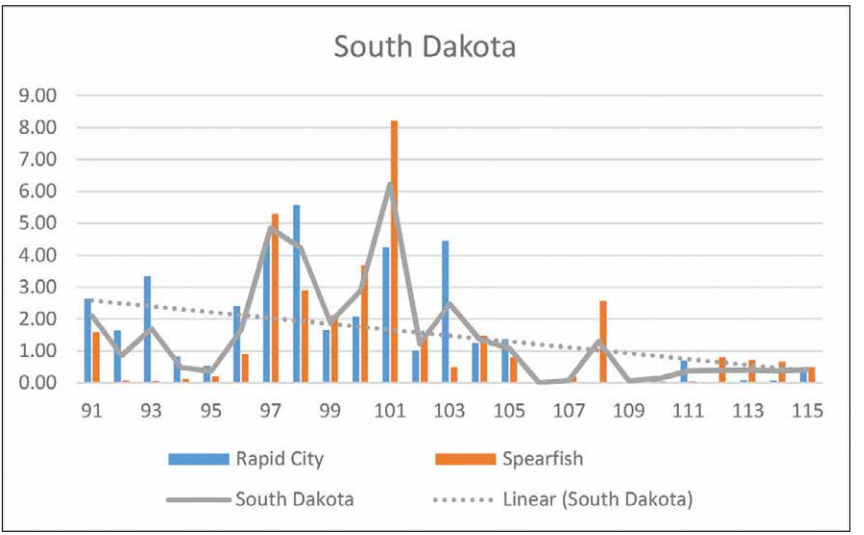

Fig. 5. Numbers of White-winged Junco (per party-hour) in 25 years (winters 1990–1991 to 2014–2015) of Rapid City and Spearfish, South Dakota, Christmas Bird Counts. The maximum value is 8.200 birds/party-hour.

Fig. 6. Numbers of White-winged Junco (per party-hour) in 25 years (winters 1990–1991 to 2014–2015) of Boulder Christmas Bird Counts. The max value is 0.345 birds/party-hour.

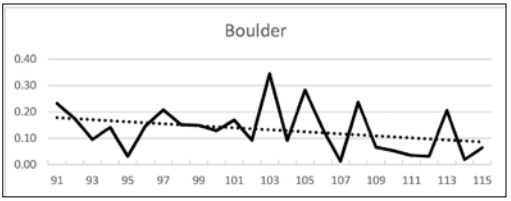

Fig. 7. Numbers of White-winged Junco (per party-hour) in 25 years (winters 1990–1991 to 2014–2015) of Evergreen–Idaho Springs Christmas Bird Counts. The maximum value is 0.661 birds/party-hour.

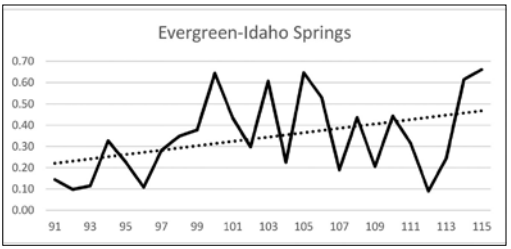

Fig. 8. Numbers of White-winged Junco (per party-hour) in 25 years (winters 1990–1991 to 2014–2015) of Black Forest Christmas Bird Counts. The maximum value is 4.462 birds/party-hour. The circle was established in the 98th count year.

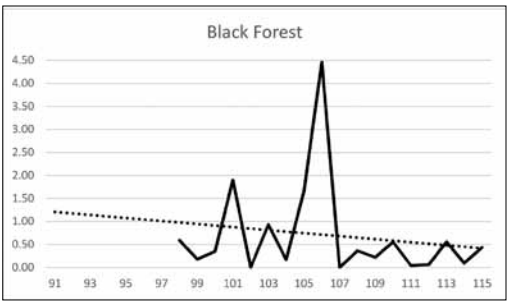

Fig. 9. Numbers of White-winged Junco (per party-hour) in 25 years (winters 1990–1991 to 2014–2015) of Pikes Peak Christmas Bird Counts. The max value is 1.120 birds/party-hour. The circle did not report after the 107th count.

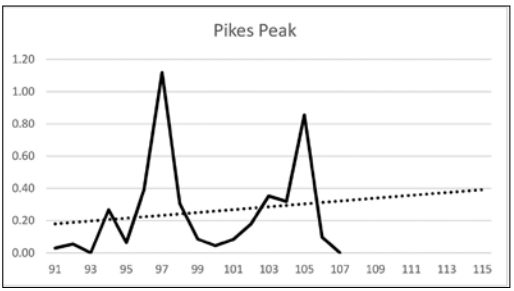

Fig. 10. Numbers of White-winged Junco (per party-hour) in 25 years (winters 1990–1991 to 2014–2015) of Penrose Christmas Bird Counts. The maximum value is 0.639 birds/party-hour.

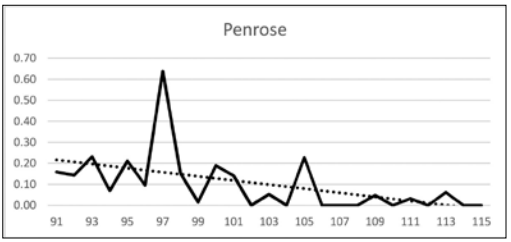

Table 2 presents the range of variation of participation for each of the five CBCs. Note that the three southern CBCs have been subject to much higher variability in participation that, depending upon deployment of observers, might impact the results across years. More and more-consistent participation would be beneficial for analysis of these counts' data.

One of the interesting facets of these figures is the spike in White-winged Junco numbers on the southern two CBCs in the winter of 1996–1997 (the 97th CBC). I was one of the participants on that Penrose CBC, covering my usual area on that count, an area with extensive ponderosa pine forest. That year's haul of White-winged Juncos was nothing short of astounding, something that I noted many times that day. I never saw a day like that on the Penrose count, either before or since, a fact obvious in Fig. 8.

Table 1. Occurrence of White-winged Junco on 25 years of Christmas Bird Counts, 1990–1991 to 2014–2015, in Colorado and in five Front Range CBC circles.

CBC circle	# of years reported	# of years detected	25-year total	Abundance[a] minimum	Abundance[a] average[b]	Abundance[a] maximum
Statewide	25	25	5034	0.021	0.082	0.215
Boulder	25	25	875	0.012	0.132	0.345
Evergreen–Idaho Springs	25	25	912	0.090	0.344	0.661
Black Forest	17	15	431	0.000	0.699	4.462
Pikes Peak	17	15	265	0.000	0.250	1.120
Penrose	25	16	103	0.000	0.099	0.639

[a] Abundance presented in individuals/party-hour

[b] Metric is derived by summing individuals/party-hour across years for each count and dividing by the number of years that the count reported.

Table 2. Range of number of participants on five Colorado Christmas Bird Counts, winters 1990–1991 to 2014–2015.

CBC circle	Minimum	Maximum	% difference[a]
Boulder	81	137	69.1
Evergreen–Idaho Springs	42	78	85.7
Black Forest	4	39	875.0
Pikes Peak	4	21	425.0
Penrose	7	30	328.6

[a] Percentage that maximum is more than minimum

Finally, taken at face value, White-winged Junco CBC data, particularly those from South Dakota, suggest a recent somewhat alarming drop in population size. Without knowing the details of coverage on the various individual CBCs—the percentage makeup of habitats visited, observer effort spent in the various habitats of each, or the effort spent by observers on identifying Dark-eyed Juncos to subspecies—we cannot be certain of what, precisely, CBC data tell us. However, because of White-winged Junco's small range and relatively small absolute population size, it will always be highly susceptible to stochastic perturbations in habitat quality. Thus, the taxon deserves closer scrutiny on both breeding and wintering grounds, and Colorado should play a major part in that.

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Fig. 1

Fig. 2

Fig. 3

Fig. 4