COLORADO BIRDS

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From the Editor

After years of diligent reporting, Dean Shoup has stepped down as author of News From The Field and I'd like to thank him for his thorough, consistent approach to summarizing notable bird sightings throughout the state! A lot of work goes into this column, which has been featured in Colorado Birds for decades. Thanks Dean! We are very fortunate to have Pat Cullen, based in Longmont, take over for Dean, and you can read her first article in this issue.

Also in these pages you will find the latest report from the CBRC with details on several new additions to our state's official bird list. Dave Leatherman, as only he can, goes deep into the details of how birds feed on flowers, Eric DeFonso provides insight into flycatcher vocalizations in Birding By Ear and David Tønnessen shares a detailed essay on the tricky field identification of female-type hummingbirds.

Peter Burke
Managing Editor
editor@cobirds.org

David Leatherman has been thrilling us with both his knowledge of avian feeding strategies AND his excellent photography skills in his regular feature, The Hungry Bird, for more than a decade, so it seems fitting to spotlight his image of a Merlin with its prey (Red-winged Blackbird) on the cover of this issue.

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President's Message

Like a bird going through its molt, CFO continues to undergo numerous changes in the last quarter. Several board members have reached the end of their three-year terms. I would like to thank outgoing board members Irene Fortune (Treasurer), Diana Beatty (Secretary) and Stephanie Gobert-Pitt (acting Vice President) for their outstanding service to our organization.

As announced at our 2022 annual meeting on May 21, the CFO board welcomes Sondra Bland as Treasurer, and two new Directors, Linda Lee and Chip Clouse. Director Chuck Hundertmark will take on the Vice President position. We look forward to working with these talented individuals!

The second annual Colorado Birding Challenge was held on May 7. We set an ambitious goal to raise $50,000 for Gunnison Sage-Grouse habitat restoration and while we came up short of that amount, we are very pleased to have raised significant funds for this critical work. More details of this exciting challenge will be forthcoming in the next issue of *Colorado Birds*. Also, in the next issue will be highlights of the Pueblo Convention, held May 19-23, 2022 and details of our plans for our next convention to be held in 2023 in Breckenridge, CO. We are currently negotiating with our sister organization Western Field Ornithologists to co-host the convention during July or August of next year. I hope you will join us then!

As always, if you are interested in serving on the Board or a CFO working committee, please don't hesitate to contact our Membership Director, Megan Jones-Patterson membership@cobirds.org.

Nick Komar
CFO President
president@cobirds.org

CFO NEWS

CFO GRANT RECIPIENT WILL ANDERSON / 2021 – 2022 DONORS

Exploration of a Novel Avian Hybrid Zone in Colorado A project made possible by CFO's Joe Roller Memorial Grant

By Will Anderson

The House Wren (*Troglodytes aedon*) is a very well-known bird to many, if not all, Colorado birders. We first see (but mostly hear) them in the spring as they sing during territory formation and nest building. Because they are so common and rather drab, House Wrens are often overlooked. These diminutive songbirds occupy a very large geographic range extending from British Columbia to Maine, then south to Tierra Del Fuego (the very tip of South America!).

The House Wren is considered a "species complex," containing thirty-two subspecies, the most of any North American songbird. Two distinct subspecies are found north of the US-Mexico Border: the western form (*T. aedon parkmanii*) and the eastern form (*T. aedon aedon*). Until very recently the specific ranges of these two forms had been unknown. Dr. Garth Spellman, Curator of Ornithology at the Denver Museum of Nature and Science, in collaboration with University of Washington and University of Nebraska, has been working to better understand the genetic variation that underlies divergence in House Wrens across their entire range, and he recently started working with the Taylor Lab at CU Boulder to expand on this research.

With help from a CFO grant, and in collaboration with Dr. Spellman, Dr. Scott Taylor and Dr. Erik

Funk, I studied HouseWrens with three goals in mind. I wanted to (1) use genetic data to determine if both subspecies are present along the Front Range, (2) determine the extent of genetic differentiation in their nuclear genomes and (3) use genome-spanning data to determine if the two forms were hybridizing. This study system has helped to expand our knowledge of House Wrens and has implications on our understanding of the mechanisms that generate biodiversity.

Our analyses answered all three of my previously stated questions. We determined that both subspecies are indeed present along the Front Range, which, according to other data, may represent the western extent of the eastern subspecies' range, and the eastern edge of the western subspecies' range. Using genetic analyses, we found that the two populations are significantly diverged in their nuclear genomes, and at an even higher level in the mitochondrial genome. To answer our last question, we ran other analyses that found extensive multigenerational hybridization across our samples.

As is often the case, answering our questions has yielded yet more questions. The finding of a multigenerational hybrid zone allows us to move forward with more research. One interesting hypothesis is that the presence of this zone appears to imply reduced hybrid fitness, meaning that the hybrids don't persist into the parental populations. We know this because we see that there is a relatively narrow band of hybrids between two generally "pure" parental populations. Moving forward, we are going to study the underlying genetic mechanisms that keep these two visually and vocally nearly identical populations of House Wrens genetically divergent and distinct. Our findings have the potential to inform further research into novel genetic diversity in other cryptic species systems.

To accomplish my goals, I obtained 100 tissue samples from numerous institutions including LSU's Museum of Natural Science, The Denver Museum of Nature and Science and the Burke Museum at University of Washington. Most of the tissue samples were collected along the Front Range, but some originated from the West and East Coasts to ensure the study included samples of both forms of House Wren from areas where there is no potential for hybridization. I also spent part of my 2021 summer field season sampling blood from House Wrens discovered in the nest boxes used in Angela Theodosopoulos's Chickadee Study (Colorado Birds 56:1 Winter 2022).

CFO grant money funded the genetic sequencing component of my study, a critical component of this project. Thank you so much for your support – I look forward to sharing more detailed findings with you in the coming years!

Hybridization within a Species

We tend to think of hybrids as the offspring produced when two distinct species mate. In the case of the House Wrens in my study, the Eastern and Western forms proved to be genetically distinct, thus even though the parents may not be readily distinguished taxonomically, their offspring were identified as hybrids based on genetic analysis.

2021-22 DONORS

The CFO Board of Directors wishes to thank everyone who supported the organization and its various endeavors in 2021 and the early months of 2022. We received the following donations:

$7,346 was raised for General Donations and Scholarships either directly or through secondary fundraising sources such as Giving Tuesday and Colorado Gives Day. In several instances individuals who had paid for field trip fees but were unable to attend elected to donate the fees rather than seek a refund.

$43,647 was raised for the Joe Roller Memorial Fund, established in partnership with Scott Somershoe to honor his friend and mentor. Scott conducted a Green Big Year in 2021, collecting pledges and documenting his adventures on his wonderful blog that enabled so many of us to ride along with him!

$34,919 was raised in the first annual Colorado Birding Challenge. The funds were presented to Bird Conservancy of the Rockies to support grassland habitat and the installation of a Motus tower.

Following is a list of donors and donor organizations arranged alphabetically.

CFO would not be the organization that it is today without your generous support!

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In honor of M.A. Braymer and G. Gade

The 81st Report of the Colorado Bird Records Committee

By Peter R. Gent, Chairman of the CBRC

Introduction

This report of the Colorado Bird Records Committee (CBRC) documents accepted records of three species new to the state of Colorado: Yellow Grosbeak, Cassia Crossbill and Rufous-backed Robin. The official Colorado State list is now 518 species. Also in this report are the state's third record of Thick-billed Kingbird, the third and fourth records of both Mexican Whip-poor-will and Magnificent Frigatebird. In addition, this report includes the fifth record of Ruff, the seventh and eighth records of Harris's Hawk, and the eighth record of Smith's Longspur. Finally, note that the reports of Smew and Monk Parakeet were not accepted and not added to the state list. This report discusses a total of 69 records that were submitted by 55 observers.

Accepted Species New to the State

Rufous-backed Robin *Turdus rufopalliatus* (CD*, BP*, KB*, PG*, SR*; 2022-001; 7-0): An adult was found by Brenda Wright and Coen Dexter in Denny Park, which is just east of Cortez, *Montezuma*, on 18 Jan 2022. It was very cooperative and was seen by many birders over the next two weeks into early February. The winter of 2021-2022 saw many more reports of this species in Arizona and Southern California than is usual, so this occurrence wasn't totally unexpected.

Rufous-backed Robin, 1/25/2022, Montezuma County. Photo by Sue Riffe.

Cassia Crossbill *Loxia sinesciuris* (CN; 2021-011; 7-0): Christian Nunes recorded a family of 3 Crossbills, including a singing male, on Arapahoe Forest Road 555, which is southeast of Hot Sulphur Springs, *Grand*, on 16 July 2021. Several months later, he analyzed the spectrographs of these recordings and realized they were diagnostic for this species, which was confirmed by 3 experts. Even though this family included one juvenile, it was too old to determine that the species had bred in Colorado. More details are given in the article by Nunes (2022).

Yellow Grosbeak *Pheucticus chrysopeplus* (BP*, WA*, CT*, PG*, CB*, SR*; 2021-001; 7-0): A probable one year old male appeared in the yard of Gib Rokich on 28 May 2021, which is just east of I-25 midway between Colorado City and Walsenburg, *Huerfano*. This was totally unexpected, as occurrences of this species in the USA are very few and far between. Gib hosted a very large number of birders over the next few days, who all got to see this extremely rare bird, and it was last seen on 1 June 2021. More details are given in the article by Klaver (2021).

Yellow Grosbeak, 5/28/2021, Huerfano County. Photo by Brandon Percival.

Accepted Records

Northeast (Adams, Arapahoe, Denver, Logan, Morgan, Phillips, Sedgwick, Washington, Weld, Yuma)

Brant (Black) *Branta bernicla nigricans* (SM*; 2017-004; 7-0): An immature bird was seen at Aurora Res., *Arapahoe*, on 15 Jan 2017. (RH*; 2019-012): An adult was photographed at Frederick Res., *Weld*, on 31 Jan 2019.

Piping Plover *Charadrius melodus* (ST*; 2019-021): An adult was photographed at Cherry Creek Res., *Arapahoe*, on 8 May 2019.

Glaucous-winged Gull *Larus glaucescens* (CT*; 2019-014; 7-0): An immature bird was nicely documented at Aurora Res., *Arapahoe*, on 20 Feb 2019.

Magnificent Frigatebird *Fregata magnificens* (JK*, RO*; 2020-025; 7-0): A female bird was seen at Cherry Creek SP, *Arapahoe*, on 8 Nov 2020. The female only stayed around for about 3 hours, but in that time was seen by many birders. This the 4th record of this species in Colorado. The first record was seen in September 1985 first just north of Chatfield Res., *Jefferson*, and then at Green Mountain Res., *Summit*, where it died and the skin is at the Denver Museum of Nature and Science. The second record was in June 2013 near Walden, *Jackson*.

Magnificent Frigatebird, 11/8/2020, Arapahoe County. Photo by Joey Kellner.

Yellow-crowned Night-Heron *Nyctanassa violacea* (KM*; 2018-074; 7-0): An adult and an immature bird were seen at Stalker Pond, *Yuma*, between 24 Aug and 7 Sep 2018. This species was seen at this location over the summer of 2017, and it is possible, but not confirmed, that it bred there in 2018.

White Ibis *Eudocimus albus* (ZS*, MM*, PG*, GM*, CA, DF*; 2017-044; 7-0): An

White Ibis, 6/20/2017, Adams County. Photo by Mark Minner-Lee.

adult was seen by many observers at Clear Creek Valley Park, *Adams*, between 18 and 24 June 2017.

Scissor-tailed Flycatcher *Tyrannus forficatus* (RH*; 2011-199): An adult was well photographed at Nunn, *Weld*, on 7 Aug 2011.

Blue-headed Vireo *Vireo solitarius* (JM*; 2016-075; 5-2, 6-1): An adult was seen at Crow Valley Campground, *Weld*, on 2 Sep 2016. Even with good photographs, there was considerable discussion on distinguishing this bird from a Cassin's Vireo.

Purple Martin *Progne subis* (CS*; 2019-022): An adult female was well photographed at Barr Lake SP, *Adams*, on 15 May 2019.

Sedge Wren *Cistothorus stellaris* (DD*; 2018-047; 7-0): An adult was seen near Hale, *Yuma*, on 12 May 2018.

Western Bluebird *Sialia mexicana* (AS; 2019-023): 5 birds, including two adult

Sedge Wren, 5/12/2018, Yuma County. Photo by David Dowell.

males, were seen at South Platte Park, *Arapahoe*, on 10 Oct 2019.

Baird's Sparrow *Ammodramus bairdii* (SM*; 2018-051; 7-0): 5 singing males, some with bands, and a female were seen and heard at Meadow Springs Ranch, *Weld,* on 5 June 2018. This is one of the nesting locations for this species documented over the past 5 years.

Eastern Towhee *Pipilo erythrophthalmus* (DD*, KM*; 2015-022; 4-3, 6-1, 7-0): A male was seen at the Tamarack Ranch SWA, *Logan*, between 21 Feb and 8 Mar 2015. Despite good photographs, there was a vigorous debate within the committee over whether this bird, with a little white in the primaries, was a hybrid with Spotted Towhee, as northeast Colorado is well known as an area where hybrids occur.

East Central (Cheyenne, El Paso, Elbert, Kit Carson, Lincoln)

Ruby-throated Hummingbird *Archilochus colubris* (BM*; 2016-078; 7-0): An immature male was in the Old Farm Road neighborhood of northeast Colorado Springs, *El Paso*, on 25 Sep 2016.

Smith's Longspur *Calcarius pictus* (MP; 2018-084; 7-0): An immature bird was nicely photographed on CR 52 just north of CR M, which is southeast of Burlington, *Kit Carson*, on 11 Jan 2018. This is the 8th state record, and an unusual winter sighting of this species in Colorado.

Lucy's Warbler *Leiothlypis luciae* (BM*; 2018-040; 7-0): An adult was seen at Sinton Pond Open Space, which is in north Colorado Springs, *El Paso*, on 14 Apr 2018.

Southeast (Baca, Bent, Crowley, Kiowa, Las Animas, Otero, Prowers, Pueblo)

Mexican Whip-poor-will *Antrostomus arizonae* (KM; 2020-059; 7-0): One adult was first heard singing at McBride Creek in the newly designated Fishers Peak SP, which is northeast of Trinidad, *Las Animas*, on 16 May 2020. Two birds were heard singing in the same location on 31 May and 5 June. This is the 4th state record of this species in Colorado, and was part of a significant number of birds found well north of their usual range in the summer of 2020.

Ruby-throated Hummingbird *Archilochus colubris* (TL*; 2018-092; 7-0): Adult male and female birds were at the house of Janeal Thompson in Lamar, *Prowers*, on 11 Sep 2018. This is the best time of year and one of the best locations to see this species in Colorado.

Red Knot *Calidris canutus* (BP*; 2003-157; 4-3, 5-2, 7-0): A non-breeding bird was seen at Pueblo Res., *Pueblo*, on 24 Sep 2003. This report went through three rounds of voting because the description was extremely short and the photograph is out of focus.

Ruff *Calidris pugnax* (DD*; 2018-043; 7-0): A bird in transitional plumage was photographed at Neeskah Res., which is between Eads and Lamar, *Kiowa*, on 27 Apr 2018. This is the 5th documented record of this species in Colorado.

Yellow-billed Loon *Gavia adamsii* (BM*; 2018-038; 7-0): An immature bird was seen at Pueblo Res., *Pueblo*, on 29 Mar 2018.

Yellow-billed Loon, 3/29/2018, Pueblo County. Photo by Bill Maynard.

Magnificent Frigatebird, 11/5/2020, Bent County. Photo by Samantha Colvin.

Magnificent Frigatebird *Fregata magnificens* (NV*, SC*; 2020-073; 7-0): A female bird was seen at John Martin Res., *Bent*, on 5 Nov 2020. This female was first reported by Norma Verhoef, but it was seen by only a few other birders before flying west in the early afternoon. This is the 3rd state record of this species in Colorado, and occurred 3 days before a different female was seen at Cherry Creek Res.

Swainson's Warbler *Limnothlypis swainsonii* (DL*, BP*, TL*; 2018-045; 7-0): An adult was

Swainson's Warbler, 5/6/2018, Prowers County. Photo by Dave Leatherman.

seen and photographed by many observers at the Riverside Cemetery in Lamar, *Prowers*, on 6 May 2018.

Painted Redstart *Myioborus pictus* (BP*, TL*; 2019-008; 7-0): An adult male was seen by many observers at the courthouse in Eads, *Kiowa*, on 2 May 2019. (DR; 2019-009; 7-0): Another male in breeding plumage was seen at the Community College in Lamar, *Prowers*, on 13 May 2019.

Hepatic Tanager *Piranga flava* (BP*; 2018-048; 7-0): An adult male was seen by many observers at Rose Pond in Chico Basin Ranch, *Pueblo*, on 13 May 2018.

North Central (Boulder, Broomfield, Grand, Jackson, Larimer)

Brant (Black) *Branta bernicla nigricans* (AB*; 2018-086): An adult was seen at Timnath Res., *Larimer*, on 14 Nov 2018.

Anna's Hummingbird *Calypte anna* (RH*; 2018-039; 7-0): An adult female in breeding plumage was seen at Long Pond and surrounding lakes, *Larimer*, on 12 Apr 2018.

Glaucous-winged Gull *Larus glaucescens* (DD*; 2018-087; 7-0): An immature bird was seen at Horseshoe Lake in Loveland, *Larimer*, on 16 Nov 2018. (PH*; 2019-017; 7-0): An adult was well photographed at the county landfill in Fort Collins, *Larimer*, on 2 Jan 2019.

Least Tern *Sternula antillarum* (CG; 2015-156; 7-0): An adult in breeding plumage was seen at Walden Res., *Jackson*, on 21 Jun 2015.

Harris's Hawk *Parabuteo unicinctus* (RB*; 2018-016; 7-0): An adult was seen in east Fort Collins, *Larimer*, on 14 Oct 2018. (RB*; 2019-015; 7-0): An adult was nicely photographed in southeast Fort

Harris's Hawk, 2/21/2019, Larimer County. Photo by Robert Beauchamp.

Collins, *Larimer*, on 21 Feb 2019. These 7th and 8th sightings of this species in Colorado may well have been the same individual, but this was not certain, so they were kept as separate reports. An interesting speculation is that the previous report 2017-042 of an adult in the same area in Dec 2017 just might have been the same individual.

Purple Finch *Haemorhous purpureus* (KK*; 2019-013; 7-0): An adult female was photographed at the house of Kevin Keirn in Ft. Collins, *Larimer*, on 17 Feb 2019.

Central (Chaffee, Clear Creek, Douglas, Fremont, Gilpin, Jefferson, Lake, Park, Summit, Teller)

Eurasian Wigeon *Mareca penelope* (BM*; 2018-005; 7-0): An adult male was seen in Canon City, *Fremont*, on 5 Jan 2018.

Mexican Whip-poor-will *Antrostomus arizonae* (GD, PG, BP, RH; 2020-019; 7-0): This bird was first heard singing along Oak Creek Grade Road, which is south of Canon City, *Fremont*, on 6 May 2020 by Gerald DeBoer. Many more people heard it singing on several subsequent evenings, and the last documented report is from 22 July 2020. This is the 3rd record for Colorado: The first was in Colorado Springs in 1981, and the second was along Fosset Gulch Road, Archuleta County in 1999.

Yellow-crowned Night-Heron *Nyctanassa violacea* (ST*; 2018-075; 7-0): An immature bird was photographed at Main Reservoir, which is in Lakewood, *Jefferson*, on 28 Aug 2018. (DH*, BP*; 2019-007; 7-0): An adult was seen at Sell Lake in Canon City, *Fremont*, between 23 and 27 Apr 2019.

Thick-billed Longspur *Rhynchophanes mccownii* (DTo*; 2019-024): An adult in non-breeding plumage was photographed at Manitou Lake, *Teller*, on 12 Oct 2019. This was a new record for this species in Teller County.

West Central (Delta, Gunnison, Mesa, Montrose, Pitkin)

Yellow-billed Loon *Gavia adamsii* (KM*; 2018-033; 7-0): A bird in non-breeding plumage was seen at Blue Mesa Res., *Gunnison*, on 13 Feb 2018.

Thick-billed Kingbird *Tyrannus crassirostris* (DTu*; 2018-083; 7-0): An

Thick-billed Kingbird, 12/16/2018, Mesa County. Photo by Debbie Tubridy.

adult was beautifully photographed just north of Grand Junction, *Mesa*, on 16 Dec 2018. This is the 3rd record of this species in Colorado: The first was in Waterton Canyon in Jefferson County in 1992 and the second was near Parker in Elbert County in 2004.

Purple Finch *Haemorhous purpureus* (CD; 2009-500; 7-0): A female or first-winter male was seen at a feeder in Fruita, *Mesa*, on 10 Jan 2009.

Golden-crowned Sparrow *Zonotrichia atricapilla* (CD*; 1989-500; 7-0): An immature in non-breeding plumage was seen at the Clifton Wildlife Park in south Grand Junction, *Mesa*, between 21 and 28 Nov 1989.

Scarlet Tanager *Piranga olivacea* (AR, CD*; 2016-065; 5-2, 7-0): An adult male was seen by many observers at the home of Andrea Robinsong in Hotchkiss, *Delta*, between 25 and 28 May 2016.

Southwest (Archuleta, Dolores, Hinsdale, La Plata, Mineral, Montezuma, Ouray, San Juan, San Miguel)

Anna's Hummingbird *Calypte anna* (LR*; 2017-062; 7-0): An adult female was nicely photographed coming to a feeder just southwest of Mancos,

Montezuma, between 5 and 7 Oct 2017.

Winter Wren *Troglodytes hiemalis* (KM*, JS; 2018-034; 7-0): An adult was seen at the McCabe Creek outlet to the San Juan River, which is south of Chimney Rock near the border with New Mexico, *Archuleta*, on 16 and 17 Feb 2018.

Painted Bunting *Passerina ciris* (AZ; 2015-161): An immature bird was banded just north of Ridgway, *Ouray*, on 18 Sep 2015.

Records Not Accepted

Northeast (Adams, Arapahoe, Denver, Logan, Morgan, Phillips, Sedgwick, Washington, Weld, Yuma)

Smew *Mergellus albellus*. (2014-206; 0-7): 4 adults were reported at the Denver section of the South Platte Greenbelt, *Denver*, on 14 Feb 2014. The description was short, and this is an area where Barrow's Goldeneyes occur regularly in winter.

Greater Roadrunner *Geococcyx californianus*. (2016-032; 0-7): A bird was reported in downtown Denver, *Denver*, on 20 May 2016. This was an intriguing sighting of a rather distinctive species, but there was no actual description of the bird in the report.

Western Gull *Larus occidentalis*. (2018-076; 5-2, 0-7): An immature female was reported at Aurora Reservoir, *Arapahoe*, on 7 Oct 2018. This report was originally supported by one outside expert, but other outside experts and 2 committee members thought that it definitely was a Herring Gull. This persuaded the other committee members in their second round votes.

Glaucous-winged Gull *Larus glaucescens*. (2015-016; 5-2, 3-4): An immature bird was reported at Barr Lake SP, *Adams*, on 5 Feb 2015. The dissenting members in the first round thought that the Thayer's race of Iceland Gull was not eliminated, and this persuaded 2 more committee members in the second round.

Monk Parakeet *Myiopsitta monachus*. (1983-001; 0-7): An adult was reported on the east side of Congress Park, *Denver*, between 23 June 1983 and 5 May 1985. The committee unanimously agreed with the identification on this very old report, but thought that the bird was an escapee, which eventually died.

Southeast (Baca, Bent, Crowley, Kiowa, Las Animas, Otero, Prowers, Pueblo)

Mottled Duck *Anas fulvigula*. (2015-042; 4-3, 2-5): A bird was reported in Colorado City, *Pueblo*, on 10 April 2015. Unfortunately, there were no photographs of this bird, and committee members thought the description did not eliminate a hybrid with Mallard or Mexican Duck.

Green-winged Teal *Anas crecca*. (2011-40; 2-5): A bird of the Eurasian race (Common Teal) was reported at Pueblo West, *Pueblo*, on 7 Apr 2011. Committee members thought that the bold horizontal white bar of this race could not be seen in the photographs, so that they were inconclusive in showing a bird of the Eurasian race.

Costa's Hummingbird *Calypte costae*. (2015-106; 3-4): An immature female was reported in Rye, *Pueblo*, on 20 Sep 2015. This was a very brief sighting, and some committee members thought that the description did not eliminate Calliope Hummingbird.

Pomarine Jaeger *Stercorarius pomarinus*. (2017-057; 4-3, 3-4): An immature bird was seen at Neenoshe Reservoir, *Kiowa*, on 19 Sep 2017. Some committee members thought that the description did not rule out an immature Parasitic Jaeger.

Laughing Gull *Leucophaeus atricilla*. (2016-119; 2-5): An adult in breeding plumage was reported at Thurston Reservoir SWA, *Prowers*, on 28 May 2016. Nothing was written about how other species were eliminated, and members thought Franklin's Gull could not be ruled out.

Lesser Black-backed Gull *Larus fuscus*. (2013-227; 5-2, 4-3, 1-6): An adult was photographed at Pueblo Res., *Pueblo*, on 5 Jan 2013, and reported as the first state record of the *intermedius* subspecies from Europe. This record produced much discussion among the committee, but it was finally decided that the photographs did not adequately eliminate the usual subspecies seen in Colorado, *graellsii*.

Yellow-bellied Flycatcher *Empidonax flaviventris*. (2018-073; 2-5): A bird in non-breeding plumage was reported at Rye, *Pueblo*, on 29 Aug 2018. This bird was only seen briefly, and committee members thought other *Empidonax* flycatchers were not adequately eliminated.

North Central (Boulder, Broomfield, Grand, Jackson, Larimer)

Ruby-throated Hummingbird *Archilochus colubris*. (2013-316; 0-7): An immature male was reported in Livermore, *Larimer*, on 27 Jul 2013. Committee members thought that the brief description did not eliminate other hummingbirds that are more common at this location.

Glaucous-winged Gull *Larus glaucescens*. (2017-089; 3-4): An immature bird was reported at Boyd Lake SP, *Larimer*, on 2 Dec 2017. Although the report mentioned photographs, none were submitted, and committee members thought other species and hybrids were not adequately eliminated.

Sprague's Pipit *Anthus spragueii*. (2017-091; 0-7): An adult was reported at the Davidson Mesa Open Space near Superior, *Boulder*, on 6 Oct 2017. However, the photographs show the bird to be a Western Meadowlark.

South Central (Alamosa, Conejos, Costilla, Custer, Huerfano, Rio Grande, Saguache)

Eastern Bluebird *Sialia sialis*. (2018-078; 1-6): An adult was reported at the Monte Vista NWR, *Rio Grande*, on 8 Apr 2018. Again, the report mentions photographs but none were submitted, and committee members thought other bluebird species were not adequately eliminated.

Baird's Sparrow *Ammodramus bairdii*. (2014-207; 1-6): An adult was reported just east of La Jara in the San Luis Valley, *Conejos*, on 1 Sep 2014. Committee members thought that the brief sighting and description did not adequately eliminate other, more common, sparrows.

West Central (Delta, Gunnison, Mesa, Montrose, Pitkin)

Gyrfalcon *Falco rusticolus*. (2017-090; 0-7): An immature female was reported east of Fruita, *Mesa*, on 8 Apr 2017. Committee members thought that the very brief description did not adequately eliminate a Peregrine Falcon.

Reporters and Cited Observers

CA: Christine Alexander, WA: William Anderson, AB: Andrew Bankert, RB: Robert Beauchamp, CB: Carl Bendorf, KB: Karel Buckley, SC: Samantha Colvin, GD: Gerald DeBoer, CD: Coen Dexter, DD: David Dowell, DF: Doug Faulkner, PG: Peter Gent, CG: Christopher Goulart, RH: Rachel Hopper, DH: Derek Hudgins, PH: Paul Hurtado, KK: Kevin Keirn, JK: Joey Kellner, DL: David Leatherman, TL: Tony Leukering, JM: Joe Mammoser, GM: George Mayfield, BM: Bill Maynard, KM: Kathy Mihm Dunning, MM: Mark Minner-Lee, SM: Steven Mlodinow, CN: Christian Nunes, RO: Ric Olson, BP: Brandon Percival, MP: Mark Peterson, SR: Sue Riffe, AR: Andrea Robinsong, LR: Leona Ryter, ZS: Zachary Schiff, CS: Cathy Sheeter, AS: Amanda Spears, JS: Jason St. Pierre, ST: Santiago Tabares, CT: Cheryl Teuton, DTo: David Tønnessen, DTu: Debbie Tubridy, NV: Norma Verhoef, AZ: Amanda Ziegelbauer,

Peter Gent
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Committee Functions

The Committee solicits documentation of reports in Colorado for all species published in its Main Review List (https://cobrc.org/ReviewList.aspx), species with no prior accepted record in Colorado and sightings of regularly occurring species that are considered out-of-range or out-of-season. Documentary materials should be submitted online at the CBRC website (https://cobrc.org/Reporting/). Alternatively, one can request an electronic document from the Chair or Secretary (see this journal inside front cover for contact information).

Report Format

The records in this report are arranged taxonomically following the American Ornithological Society's (AOS) Checklist of North American Birds (AOS 1998) through the 62nd Supplement (Chesser et al. 2021). We present the initials of the contributing observer(s), the accession number and the vote tally in the first round and, if relevant, the second and third rounds (with the number of "accept" votes on the left side of the dash). The initial observer of the bird is underlined if known and is presented first. Additional contributors follow in time order by last name. Observers submitting a photograph or video capture are indicated with an asterisk. In this report, county names are italicized.

Committee News

Peter Gent has taken over as Chairman of the CBRC from Mark Peterson, but Mark remains on the committee as a voting member. Kathy Mihm Dunning and David Dowell have finished their terms on the CBRC, and Bill Maynard and Steven Mlodinow have left the committee. I wish to thank them for their voting and service to the committee. Jason St. Pierre has been renewed as a committee member for 2022-2024, and new members on the CBRC for the same three year terms are Eric DeFonso (Hygiene), David Tønnessen (Colorado Springs) and Eric Hynes (Telluride).

Literature Cited

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Chesser, R. T., S. M. Billerman, K. J. Burns, C. Cicero, J. L. Dunn, B. E. Hernandez-Banos, A. W. Kratter, I. J. Lovette, N. A. Mason, P. C. Rasmussen, J. V. Remsen, Jr., D. F. Stotz, and K. Winker. 2021. Sixty-second Supplement to the American Ornithologists' Union Checklist of North American Birds. Ornithology 138. https://doi.org/10.1093/ornithology/ukab037

Klaver, E. 2021. A Yellow Grosbeak in Colorado, Colorado Birds 55(4), 218-219.

Nunes, C. 2022. First Record of Cassia Crossbill (Loxia sinesciuris) in Colorado, Colorado Birds 56(2), 141-144.

NEWS FROM THE FIELD

NEWS FROM THE FIELD contains reports of rare or unusual birds found in Colorado. The reports contained herein are largely vetted by eBird review and in some cases the Colorado Bird Records Committee (CBRC). Species and/or counties in capitals are those for which the CBRC requests documentation. Please submit your sightings of these "review" species through the Colorado Field Ornithologists website at coloradobirdrecords.org.

Season Overview

WINTER 2021-2022 (DEC-FEB)

By Patricia Cullen

First, I want to thank Dean Shoup for his many contributions over three years, for his thorough collation of rare birds for this column and for the support he has extended to me as I take over writing News From The Field. I also want to thank Steven Mlodinow, Nick Komar, David Dowell and Peter Gent for helpful discussions on winter rarities that are interesting and significant.

Colorado winter weather was nearly snow free and warmer than average in December 2021 until a cold snap on January 1, 2022. This sudden cold snap contributed to the demise of some over wintering warblers. Compared to the winter of 2020, montane species were very sparse on the plains this year. I missed the 2020 Mountain Chickadees and nuthatches at my feeder and that scarcity is an eBird documented pattern on the Front Range this winter.

The star of the winter season was the first Colorado occurrence of a Rufous-backed Robin, found by Coen Dexter and Brenda Wright on January 18, 2022, in a yard with berry and Russian olive trees near Denny Lake in Cortez, Montezuma County. This is a thrush of tropical woodlands, gardens and forests of West Mexico that is annual in southern Arizona, which has about 10 records per year. The closest antecedent record comes from Coconino County in north-central, NM, during November 2017.

The winter season was also highlighted by a spectacular showing of all four loons (Common, Pacific, Yellow-billed and Red-throated) simultaneously, at Pueblo Reservoir, which allowed many birders to see them side by side.

This was a strong winter for Common Redpolls in the state of Colorado, a large flock of 60-66 birds was found in Garfield County along the Roaring Fork River, a flock of was 40 found at Grand Mesa in Delta County, a flock of 35 was found in Cheyenne County, a flock of 35 was found in Gilpin County and a flock of 25-28 birds was found at Lake Estes, Larimer County. Larimer County boasted over 40 sightings of 1-28 Common Redpolls. Other sightings were in Phillips, El Paso, Boulder and Weld counties.

Another notable sighting during the Loveland CBC, Denise Bretting found a Solitary Sandpiper in a restricted city-owned property along the Big Thompson River. Solitary Sandpipers winter regularly in north to southernmost Texas.

Front Range birders were especially delighted when a Pyrrhuloxia, a desert bird of Mexico and the American Southwest, was found in Denver County, singing at an inner city feeder! This is the fifth sighting in the state of Colorado with sightings of this magnificent bird in 1989 Prowers County, 1996 Park County, 1999 La Playa County and 2011 Alamosa County.

Black-and-white Warbler, Jefferson County. 17 December 2021. Photo by Rob Raker.

Chestnut-sided Warbler, Pueblo County. 27 December 2021. Photo by Alan Ketchum.

Common Redpoll, Garfield County. 04 January 2022. Photo by Mark Fuller.

Dunlin, Arapahoe County. 28 February 2022. Photo by Lorraine Lanning.

Eurasian Wigeon, Pueblo County. 18 February 2022. Photo by Mike Miller.

Common Redpoll, Gilpin County. 06 February 2022. Photo by Donna Stump.

BRANT: One at Barr Lake SP, Adams Co, 9 Dec (Brian Genge). One at Civic Center Park Denver Co, 16 Jan - 18 Jan (Robert King, m.ob.).

EURASIAN WIGEON: One at Lake Pueblo—Ponds, Pueblo Co, 18 Dec CBC - 24 Dec (Chris Knight, Brandon Percival, m.ob.), 26 Feb - 28 Feb (Roger Massey, m.ob). One at Pueblo Res., Pueblo Co, 21 Dec (Felice Lyons). One at Canon City Valco Pond, Fremont Co, 31 Dec (Mark Peterson, Glenn Walbeck). One at Pella Crossing—Hygiene, Boulder Co, 12 Jan - 24 Jan (Eric DeFonso, m.ob.).

Cattle Egret: Found in Nov 2021 near Big Bluestem Trail, Boulder Co, 1 Dec (Peter Gent).

Dunlin: One at Barr Lake SP, Adams Co, 6 Dec (Steven Mlodinow). Two at Barr Lake SP, Adams Co, 9 Dec (Michael Dougherty). One at Cherry Creek SP—Pelican Point (continuing bird from Nov) 1 Dec - 4 Jan (m.ob.). One to three birds at Centennial Park (South Platte River), Arapahoe Co, 5 Feb - 28 Feb (Art Hudak, m.ob.).

Solitary Sandpiper: One at Willow Bend Natural Area, Larimer Co, 4 Jan Loveland CBC (Denise Bretting).

Black-legged Kittiwake: One at Lathrop SP, Huerfano Co, 1 Dec (Brandon Percival, Van Truan). One at South Platte River—88th Ave area, Adams Co, 11 Dec - 19 Dec (Chris Petrizzo, m.ob.). One at Matthew T. Glasser Res., Broomfield Co, 6 Jan (Jason Cole). One immature at South Platte River near Weld CR 61, Weld Co, 9 Jan (Kelly Ormesher, Kenneth Wat).

Iceland Gull (kumlieni): One at Standley Lake Park—north shore, Jefferson Co, 12 Dec (Doug Faulkner). One at Warren Lake, Larimer Co, 26 Dec (Bryan Tarbox, Josh Bruening). One at Robert Benson Lake, Larimer Co, 28 Dec (Nick Komar, Skyler Bol). One at Aurora Res., Arapahoe Co, 7 Jan (Glenn Walbek, Loch Kilpatrick).

GLAUCOUS-WINGED GULL: One second cycle bird at Lake Pueblo SP—South Marina, Pueblo Co, 31 Dec (David Tønnessen, Edward Landi).

Short-billed Gull: One adult Pueblo

Res., Pueblo Co, 6 Dec (Brandon Percival). One adult Pueblo Res. area, Pueblo Co, 1 - 30 Jan (Brandon Percival, m.ob.). One adult Runyon Lake, Pueblo Co, 7 Feb (Brandon Percival, Chris Knight, m.ob.). One at Warren Lake, Larimer Co., 26 Dec (Josh Bruening, Bryan Tarbox).

Red-throated Loon: One immature at Union Res., Weld Co., 1 - 7 Dec (Harrison Wheeler, Steven Mlodinow, m. ob.). One at John Martin Res., Bent Co., 14 Dec (Mark Peterson, Kathy Mihm Dunning). One at Pueblo Res., Pueblo Co., 17 Dec - 28 Feb (Brandon Percival et al.).

YELLOW-BILLED LOON: Two at Pueblo Res., Pueblo Co, 8 Jan with at least one remaining through February (Brandon Percival, Kara Carragher et al.).

Northern Goshawk: One immature at Cottonwood SWA—South, Morgan Co, 10 Feb (Patricia Cullen, Kelly Ormesher). Very rare on eastern plains.

SNOWY OWL: One along I-76 south of Prewitt Res., Washington Co, 7 Dec (Phil and Mary Lyon). One on Hwy 10 and CCR 2 to Fowler, Crowley Co, 16 Jan (Susan Dietrich). One along E 26th Ave, Adams Co, 19 Dec (Gail Hogan). One at CR 104 Briggsdale, Weld Co, 20 Feb (Lorraine Lanning).

GYRFALCON: One gray morph immature at John Martin Res., Bent Co, 30 Dec (Jill White Smith).

PACIFIC WREN: One at Bear Creek Trail—Bear Creek Lake Dame to S Kipling Blvd, Jefferson Co, 5 -12 Feb (Marta Hawkins, m.ob.). One at Lake Pueblo SP—Valco Ponds, Pueblo Co, 27 Jan (Brandon Percival, Chris Knight, Edward Landi).

SEDGE WREN: One at South Platte Park—C470 area, Arapahoe Co, 6 - 30 Jan (Cole Sage, m.ob.).

RUFOUS-BACKED ROBIN: One at Denny Lake Park, Montezuma Co, 18 Jan - 7 Feb (Coen Dexter, Brenda Wright, m.ob.). First State Record.

Wood Thrush: One at private residence, Centennial, Arapahoe Co, 7 - 14 Dec (m.ob.).

Varied Thrush: One at Chico Basin Ranch, Pueblo Co, 1 - 4 Dec (Tanya Britton). One at 11th Ave Longmont (private home), Boulder Co, 28 - 30 Dec (R. Visser). One in Golden (town), Jefferson Co, 3 Jan (Hugh Kingery, m.ob.).

Bohemian Waxwing: 40 at Brainard Lake, Boulder Co, 23 Jan (Dan Zmolek, Leslie Sutton). One at Rocky Mountain NP—Deer Mountain Trail, Larimer Co, 29 Jan (Brendan Brassil).

Common Redpoll: 66 at Ranch at Roaring Fork, Garfield Co, 9 Jan (George Waaler et al.). 60 at Roaring Fork River, Garfield Co, 9 Jan (Susan Proctor). 40 at Grand Mesa—Visitor Center and Island Lake Area, Delta Co, 26 Jan (John Horn et al.). 35 at Big Sandy Creek at CR 20, Cheyenne Co, 14 Feb (David Suddjian/ DFO), 35 at Tolland Rd (CR 16), Gilpin Co, 6 Feb (Donna and Peter Stumpp), 1 to 28 birds in over 40 sightings, Larimer Co. Other sightings in Clear Creek, Jefferson, Arapahoe, Logan, Phillips, Yuma, Montezuma, Ouray, El Paso, Boulder, Morgan, Douglas, Summit, Jackson, Otero and Weld counties.

Snow Bunting: Two at Jackson Lake SP, Morgan Co, 2 Dec (David Dowell, Kathy Mihm Dunning). One at Valmont Res.,

Northern Parula, Bent County. 14 December 2021. Photo by Dave Leatherman.

Golden-crowned Sparrow, Denver County. 21 December 2021. Photo by Steve Mlodinow.

Gyrfalcon, Bent County. 30 December 2021. Photo by Jill Smith.

Northern Parula, Jefferson County. 12 December 2021. Photo by Rob Raker.

Northern Waterthrush, El Paso County. 20 February 2022. Photo by Alan Ketchum.

Boulder Co, 1 Jan (David Dowell). Two at Boulder Res., Boulder Co, 7 - 9 Dec (Jan Hansen, m.ob.).

Black-throated Sparrow: One at Cottonwood Canyon (southern loop), Baca Co, 28 Jan (David Suddjian).

Field Sparrow: One at Bent CR 12 between US 50 and Fort Lyon Ditch, Bent Co, 14 Dec (Kathy Mihm Dunning). One at Van's Marsh (Gageby Creek at Bent CR JJ), Bent Co, 5 Jan (David Suddjian). One at Rocky Fort SWA—Ryans Ponds, Otero Co, 13 Feb (Kathy Mihm Dunning). Species appears to be increasing in winter in SE Colorado.

Golden-crowned Sparrow: One at a feeder on NCR3, Larimer Co, 5 Jan (Karen Morris). One at a private home a 1/2 mile south of Horsetooth Mtn Park, Larimer Co, 11 Feb and sporadically through winter (Greg Luger). One at M-and-K's, Montezuma Co, 19 Jan (Kathy Mihm Dunning). One at Bluff Lake Nature Center (has frequented the same location for years) in the fall, DENVER Co, seen continuously 1 Dec to 28 Feb (m.ob.).

Canyon Towhee: One at a private residence in Johnstown, WELD Co, 23 Feb (Karen Taylor). Species rare for Weld County.

Northern Waterthrush: One at Fountain Creek Regional Park, El Paso Co, 4 Jan - 27 Feb (Ryan Strickhouser, Adrian Barrs, m.ob.).

Black-and-white Warbler: One at Clear Creek Trail Golden to I-70, Jefferson Co, 14 Dec - 4 Jan (Steve Barlow, m.ob.). Also found at nearby Wheat Ridge Greenbelt, and Wheat Ridge Greenbelt West Lake, Jefferson Co.

MacGillivray's Warbler: One at South Platte River—York St. to I-270, Adams Co, 24 Dec (Bez Bezuidenhout).

Cape May Warbler: One at Lathrop SP, Huerfano Co, 21 Nov - 6 Dec (Luke Pheneger et al., David Suddjian, Patricia Cullen, Susan Suddjian).

Northern Parula: One at Main Res. (Lakewood), Jefferson Co, 6 Dec (Robert Raker).

Black-throated Blue Warbler: One at Florence (town), Fremont Co, 20 Dec (Jerry DeBoer).

Magnolia Warbler: One at CU Boulder Varsity Pond, Boulder Co, mid Nov - 9 Dec (Nathan Pieplow, m.ob.).

Chestnut-sided Warbler: Two at Historic Arkansas Riverwalk, Pueblo Co, 20 -27 Dec (Van Truan et al.).

Palm Warbler: One at Beulah, Pueblo Co, 29 Dec (Van Truan, Edward Landi).

Pine Warbler: One at Fort Logan Cemetery, Denver Co, 26 Jan (Norman Erthal) and 19 Feb-27 Feb (m.ob.).

PYRRHULOXIA: One in a neighborhood north of Dry Gulch Park, Denver Co, 11 Feb - 18 Mar (Taylor Smith, m.ob.)

Summer Tanager: One female at Meadowood South Park, Arapahoe Co, 16 - 28 Feb (Doug Kibbe, Mackenzie Goldthwait, m.ob.).

Western Tanager: One female at Boulder Creek—75th St, Boulder Co, 12 Jan (Valentina Roumi). Rare for winter in this county.

Acknowledgments

The sightings reported by contributing

Pacific Wren, Jefferson County. 19 February 2022. Photo by Charlie Lee.

Pine Warbler, Denver County. 27 February 2022. Photo by Rob Raker.

Pyrrhuloxia, Denver County. 12 February 2022. Photo by Alan Ketchum.

Red-throated Loon, Pueblo County. 04 January 2022. Photo by Sue Riffe.

Yellow-billed Loon, Pueblo County. 09 January 2022. Photo by Alan Ketchum.

Sedge Wren, Arapahoe County. 07 January 2022. Photo by Rob Raker.

Wood Thrush, Arapahoe County. 08 December 2021. Photo by Rob Raker.

Snow Bunting, Boulder County. 09 December 2021. Photo by Katherine Holland.

Rufous-backed Robin, Montezuma County. 27 January 2022. Photo by Rob Raker.

Snowy Owl, Weld County. 20 February 2022. Photo by Lorraine Lanning.

observers to eBird and COBirds are greatly appreciated. A special thank you to David Suddjian and DFO for providing me detailed field classes, training on species ID, eBird data collection and extraction, distribution and habitat. Thank you to Coen Dexter for continuing to compile a West Slope report. Information in this report was obtained from the eBird Basic Dataset from the Cornell Lab of Ornithology, Ithaca, New York. Weather data was provided by NOAA.gov.

Citations

COBirds 2021/2022. Colorado Birds Google Group by Colorado Field Ornithologists [Google Group]. Available: https://groups.google.com/forum/#!forum/cobirds.

eBird. 2022. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

-Patricia Cullen

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News From The Field makes use of the following abbreviations:

BLM - Bureau of Land Management

CG – Campground

Co - County

CPW - Colorado Parks and Wildlife

CR – County Road

et al. – and others

m.ob. – many observers

NA – Natural Area

NF – National Forest

NP – National Park

OS – Open Space

Res. – Reservoir

SP – State Park

SWA – State Wildlife Area

WTP – Water Treatment Plant

THE HUNGRY BIRD

FLOWERS, FLOWER BUDS AND NECTAR

By David Leatherman

Time to clean up a few loose ends involving the reproductive parts of plants in the diets of birds. Since its inception in 2010, this column has covered “flash fruits,” “persistent fruits,” “faux flowers,” “*Dorytomus* weevils in male cottonwood catkins” and various other fruit/seed issues (“Russian-olive,” “green ash seeds,” “honeylocust seed beetle,” “common buckthorn,” “common sunflower,” “grain sorghum” and “catalpa seeds”). A few other related issues beg for coverage, namely “hummingbird nectar feeding,” “dandelions,” “drunken birds” and this issue’s subject, simply “flowers, including flower buds and nectar.”

When one sees a bird poking at the ends of plant branches, shoots or flowers, several possible explanations exist. It could be nabbing a bud, a visiting insect (especially if flowers are present), a cryptic spider or predaceous insect hoping to ambush other flower-visiting arthropods, nectar/pollen, petals or, in the case of older flowers, developing ovaries/seeds.

The feeding activities of birds are usually precise, but when centered on flowers and involving larger-beaked species, it is probably impossible for them to avoid a little messiness. That is, one particular part of the flower, or one arthropod associated with the flower, may be the primary target, but there are unavoidable collateral acquisitions. For example, nectar or pollen may be the goal but owing its small size and location, other portions of the flower or nearby flowers might be consumed and/or damaged in the process.

FLOWER BUDS

Most plants have two types of buds: flower and leaf. In a good number of plants, the flower buds open before the leaf buds. In others, it is the reverse. Like fox squirrels, birds seem to know where they can obtain the biggest bang for the bite. When a plant is investing physiological resources in particular growing points, thus making these sites above average in nutritional value, herbivorous birds capitalize. It appears to me that birds use their eyes to sense when buds are best, while squirrels use their nose.

Siberian elm produces flowers early in spring, sometimes as early as late February-early March if we have had sufficient warm weather during winter. Many birders seeking the recent Pyrrhuloxia in Denver reported seeing House Finches eating the buds of Siberian elms in the area (Figure 1). The Pyrrhuloxia was suspected of joining them but this was not documented to my knowledge.

Many bird species seek elm flower buds in spring, particularly various sparrows like White-crowned and Dark-eyed Junco, Cedar Waxwing, European Starling, chickadees, American Goldfinch and Pine
Siskin. When the White-winged Crossbill pair nested at Grandview Cemetery in Fort Collins during the spring of 2010, they also supplemented their mostly conifer seed diet with flower buds. American elm and common hackberry flower buds were gobbled and likely those of other early spring flowering trees and shrubs (Figures 2, 3 & 4).

Figures 1 & 2. Siberian elm flower buds at left, American elm flower buds at right. Photos by David Leatherman.

Figures 3 & 4. At left a male White-winged Crossbill nesting nearby is eating common hackberry flower buds on 4 April 2010. At right this same individual is eating American elm flowers on 5 April 2010. Both at Grandview Cemetery, Fort Collins. Photos by David Leatherman.

Elms are monoecious, with both male and female flowers being produced in clusters on twigs of the same tree. While the pollen in the male flowers likely makes them more nutritious and sought after than female flowers, the small size and mingling of both kinds of flowers makes this situation a likely example

of the unavoidable “collateral” feeding damage referred to earlier. For a bird to be able to obtain male flowers without consuming female flowers, with resulting loss of seed production, seems highly unlikely.

Of course, many other types of plant flower buds are sought by birds during the brief window, usually in spring, when they are nutritional sinks. While taking a break from writing this piece, I visited Sheldon Lake and Grandview Cemetery,

Figures 5 & 6. At left a male American Goldfinch pecks at a viburnum flower bud on the shore of Sheldon Lake in Fort Collins on 26 April 2022 (background erased for clarity). At right are two viburnum flower buds flanked on each side by very young, expanding leaves. The bud at left shows minor peck damage from the goldfinch in Figure 5, with the bud at right being intact for comparison. Photos by David Leatherman.

Figures 7 & 8. Bushtit caught in the act of eating pieces of a viburnum flower bud flanked by expanding leaves at Grandview Cemetery, Fort Collins, 26 April 2022. Photo by David Leatherman.

both part of the Fort Collins City Park complex. It was as if viburnum (maybe nannyberry (*Viburnum lentago*)) wanted to make sure it received mention. No less than three bird species were observed pecking pieces from its flower buds at two locations: American Goldfinch (Figures 5 & 6), a pair of Bushtits (Figures 7 & 8) and a Red-breasted Nuthatch copied the Bushtits, albeit briefly.

Once the flower buds open, they continue to be a food resource for birds. Pollen in male flowers and nectar are the main targets, but petals and developing ovaries/seeds also receive directed attention.

Male flowers of certain dioecious plants are targeted by birds seeking pollen and pollen-feeding insects. Several references suggest this type of flower feeding, indeed, all types of flower feeding, might be more common for some birds during times when normal dietary staples like fruit, insects and seeds are not present or in short supply (Pettet 1977, Silva 2019, Riley and Smith 1986). Species for which this is documented outside North America include the Blackburnian Warbler in Columbia. This account is most interesting, partly because it’s my favorite bird, but also because the dangling flowers were those of Andean oak (*Quercus humboldtii*) fed upon while the bird hovered and this process is wonderfully color-illustrated by Andres Gallo-Cajiao (Idrobo and Gallo-Cajiao 2007).

Examples of male flower feeding are plains cottonwood by Gambel’s race White-crowned Sparrows wintering at low elevation just prior to their northward departure (Figure 9), white poplar by American Crow in spring (Figure 10) (Verbeek and Caffrey 2021), plains cottonwood by spring migrating male Rose-breasted Grosbeak (Figure 11) and green ash by Cedar Waxwings (Figures 12 & 13).

Figure 9. Adult White-crowned Sparrow eating male plains cottonwood catkins at Lamar Community College in Lamar, Colorado on 15 April 2019. Photo by David Leatherman.

Figure 10. American Crow immediately after it placed white poplar catkins on a branch and consumed pieces of them at Windsor Lake, Weld County, CO. on 18 April 2022. Photo by David Leatherman.

NECTAR

Nectar is a sugar-rich liquid evolved as a reward for organisms that visit a plant to obtain it and which provide pollination services in the process.

In our area, the most famous group of pollinating nectar seekers is the hummingbirds. This column will devote a separate treatment to them and their favorite nectar plants in the future. That article will probably also include sunbirds and honeyeaters that share this significant reliance on nectar.

Nectar and its consumption by birds is a complicated subject, and for any birds other than hummingbirds, difficult to observe. “Complicated” because the precise anatomical sites where individual plants produce nectar are tiny and

Figure 11. Male Rose-breasted Grosbeak eating plains cottonwood catkins in Fort Collins on 30 April 2013. Photo by David Leatherman.

Figures 12 & 13. Cedar Waxwings eating male green ash flowers at Grandview Cemetery in Fort Collins, CO on 14 April 2020. Photos by David Leatherman.

quite varied. “Difficult to observe” for non-hummingbirds because distinguishing acquisition of nectar from simple probing of flowers usually involves problematic observational distances. The non-hummingbirds we see exploiting hummingbird feeders give us a clue that these same birds when fussing with flowers are probably after something like sugar water, namely nectar. Think orioles (Figures 14 & 15).

I found one photo online of a Northern Cardinal consuming redbud flowers (*Cercis canadensis*). That combination probably involves nectar consumption. The Birds of the World account for House Finch mentions this species feeding on the pollen and nectar of saguaro cactus (Badyaev et al. 2020).

Detailed discussion of flower morphology to pinpoint nectar production sites is beyond the scope of this article. Suffice it to say nectar is primarily produced in glands located on various flower parts, the exact locations depending on the species of plant.

Further, about 4% of the world’s plants produce additional nectar apart from their flowers. These sites, often on stems and leaves, are referred to as “extrafloral

Figures 14 & 15. Male Bullock’s Oriole believed to be obtaining nectar from the flowers of box-elder in Fort Collins on 10 May 2020. Boxelder is a type of maple, a genus of trees famous for their sweetness. Photo by David Leatherman.

nectaries.” Insects are the most common animals feeding on extrafloral nectar, not birds. The most likely explanation for why plants would provide nectar for animals that provide little to no pollination services is that concurrent with their presence to feed these animals protect the plant from herbivory. A good example is the ants we see so commonly on peonies, whether the plants are flowering or not (Keeler 2016).

Plants have two primary tissue types in their vascular system. Xylem’s function is to transport water, usually taken up from soil by the roots, to other parts of the plant, usually above ground. Phloem’s main function is to distribute the sugary food products of photosynthesis, termed “photosynthate,” produced mostly by chlorophyll-rich leaves. Thus, nectar is a byproduct of materials synthesized by plant foliage, and in rare cases, bark containing chlorophyll (Keeler 2016, Nicholson et al. 2007). In simple terms, as I heard my former office partner, the late Larry Helburg, bellow hundreds of times to audiences of arborists and other plant people, “XYLEM UP, PHLOEM DOWN!!!!”

Nectar, one of the many manifestations of “PHLOEM DOWN!”, is a very important material in the landscape of Nature. This normally-successful enticement to would-be pollinators is sometimes “stolen” by birds without any obvious benefits to the plant from the robbers. Depending on the particular bird and plant involved, this so-called theft can be detrimental, neutral or positive for the plant (Maloof and Inouye 2000, Nicholson et al. 2007). A conspicuous avian group with this lifestyle is the South American “flowerpiercers” (Hilty et al. 2020). They simply peck a hole in a flower base (corolla) and take a sweet drink. No brushing up against a male flower part followed by contacting a female flower part.

The Asian “flowerpeckers” are poorly named. They do not normally peck flowers but do eat fruit and visit flowers for pollen and nectar (Winkler et al. 2020).

WHOLE FLOWERS INCLUDING PETALS

Other birds noted in a search of the internet for “flower-eating birds,” with specific

Figure 16. Monk Parakeet eating feather-duster flower (Calliandra sp.) in Miami, Florida on 28 April 2009. Photo by David Leatherman.

parts of the flower not mentioned, are the Tui Bird of New Zealand, Rainbow Lorikeet in Australia, the various Go-Away Birds of South Africa, Emerald Toucanet in Costa Rica (Riley and Smith 1986), Blue-crowned Trogon in Brazil (Gonsioroski et al. 2021), Toco Toucan in Brazil (Silva 2019) and Acorn Woodpecker in Colombia (Kattan 1988). Parrots also engage in this habit, with my personal experience involving introduced Monk Parakeets in Florida (Figure 16).

Occasionally, it appears birds are after flower petals. In the "who would have guessed it?" category are episodes of Mallards eating cherry blossoms (Kettle 1991) and a Spotted Flycatcher eating wisteria petals (Radford 1984). Two petal-eating species in our area are House Finch and Cedar Waxwing. In the 1980s I recall being annoyed with House Finches that took our yard's early-sign-of spring crocus blooms down to the nubs. Had I not witnessed this, the damage could have easily been blamed on a buck-toothed mammal like deer or rabbit.

House Finches also go after various fruit tree flowers (Figure 17). In the Desert Southwest, House Finches eat the flowers of native woody plants including ocotillo (*Fouquieria splendens*), creosote-bush (*Larrea tridentata*) and ironwood (*Olneya tesota*) (Badyaev et al. 2020). And I once saw a House Finch eat the petals

Figures 17 & 18. At left House Finch female eating plum flowers at Grandview Cemetery in Fort Collins on 30 April 2015. At right is catnip in flower at Grandview Cemetery on 4 August, the same species eaten by a House Finch on 23 July 1989 at Dixon Reservoir on the west side of Fort Collins. Photos by David Leatherman.

of introduced catnip (*Nepeta cataria*). If you ever see a House Finch hopping crazily like a drugged-up cat, I have a possible explanation (Figure 18).

One of my favorite lengthy flower-feeding episodes involved a beautiful Rose-breasted Grosbeak quietly consuming flower after flower of black locust along the west edge of Melody Tempel Grove in Bent County, Colorado (Figure 19).

Figure 19. Rose-breasted Grosbeak male gorging on black locust flowers at Melody Tempel Grove north of Lamar, CO on 27 April 2015. Photo by David Leatherman.

Considering the above, it might appear that flower-feeding by birds is commonplace but compared to other major food groups like arthropods, fruit and seeds, it is relatively uncommon.

To determine what is actually going on when a bird pecks at a plant requires watching closely, probably for a long time. This certainly takes longer than making a mark on a checklist. But it is great fun and I urge you to try it.

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BIRDING BY EAR

Unlocking The Empids

By Eric DeFonso

When it comes to bird identification, the *Empidonax* flycatchers are renowned for their difficulty. Not unlike the sparrows in this regard (see Birding By Ear, *Sparrows: Same Same But Different*, Spring 2021), the empids look very much like each other, perhaps visually resembling one another even more acutely than the sparrows as a group. However, like the sparrows, there is good news to be had when it comes to separating these vexing species in that their songs are actually fairly distinctive, and with a little practice, even their soft call notes can be used along with visual characters to greatly assist with identification.

Colorado Empids

The family of New World Flycatchers is *Tyrannidae*, or the Tyrant Flycatchers. The term "empid" refers to the species of the genus *Empidonax* in this family. The name *Empidonax* derives from Greek and roughly translates as "lord of the flies." This is a fitting name to be sure, and as "tyrannical" rulers over flying insects, they are only present in Colorado when there are ample flying insects around. This means that for much of the year, we have no empids in the state as they are in the tropics on their wintering grounds. However, starting in mid-April, Colorado begins to see and hear empids as they migrate through the state or, in some cases, arrive on their annual breeding territories.

The genus as a whole contains 16 species, with just 11 regularly occurring in the U.S. Of those, six concern us here, as these are the ones that breed in Colorado at least to some extent, and thus are likely to be heard singing or calling. These include the Cordilleran, Gray, Dusky, Hammond's, Willow, and Least flycatchers. Two more largely eastern species, Alder and Yellow-bellied flycatchers, are quite rare but do occur in migration, and may possibly give call notes here if encountered, which can greatly help with identification.

Empid Songs and Calls, Typified

Flycatchers as a family are *suboscine* passerines, a technical term that refers to the structure of the syrinx (the sound-producing membrane in birds) as well as the method of song-learning that the species utilize. As suboscines, flycatchers generally have simple, repetitious songs, many consisting of short, quick notes in short phrases. This applies not just to *Empidonax* flycatchers, but to many other flycatcher genera, like *Tyrannus* (kingbirds), *Sayornis* (phoebes) and

Contopus (pewees). In contrast to birds with varied songs like sparrows or wrens, flycatcher songs are strongly *stereotyped*, meaning that they have a pattern and stick to it. These birds aren't taught their songs as nestlings; instead research has shown that they seem to be genetically encoded! This is good for us as birders, because it means once we learn a typical song for a species, we're pretty much set to listen for it regardless of geography or time of year without ever being thrown off by an unfamiliar variation.

Call notes among empids are also simple, and often soft. Several empids have similar call notes which can initially be perplexing, but as we shall see, a couple species do have alternate types of calls that can be distinctive. For the species that breed in Colorado, we are likely to hear call notes at some point during an encounter if not a song, so becoming familiar with these calls will prove very helpful in narrowing down ID possibilities.

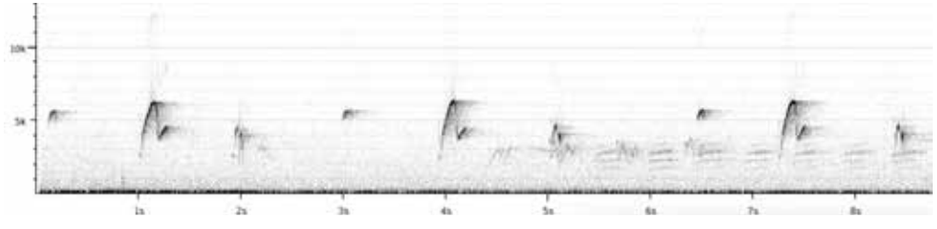

Fig. 1. Spectrogram of Cordilleran Flycatcher song. A song phrase consists of three notes, taking about 2 seconds from start to finish, so this image shows three repetitions of the song in total. (Eric DeFonso, Flagstaff Mtn., Boulder County, Colorado, June 9, 2015.) https://xeno-canto.org/253552

Cordilleran Flycatcher
(Empidonax occidentalis)

We'll start with the Cordilleran as it is perhaps the most visually distinct empid in Colorado (though that's not saying much!) and arguably has the most distinctive song among species here. In 1989 the former "Western" Flycatcher was split into two species: Cordilleran Flycatcher and Pacific-slope Flycatcher, which as the name suggests, inhabits the Pacific coast states. (Learning to separate Cordilleran from Pacific-slope by sound is a whole other topic beyond the scope of this article, and less relevant to Colorado birding in any case.) Cordilleran Flycatchers prefer montane habitats and are often found in conifers with streams nearby. Such streams also can have deciduous trees as well, so that can be a helpful indication for this empid.

The Cordilleran's song, depicted in Fig. 1, consists of three notes, with about a second of silence between them, almost always given in the same sequence. During an extended song bout, you may hear the bird omit one of the three notes in a given phrase, and perhaps omit it for a few phrases in succession. But eventually the bird should resume the three-note sequence shown here, and most singing birds encountered should sound very much like this.

Cordilleran calls consist of quick, hiccup-like rising notes that have sometimes been described as "*bird-ie*." Fig. 2 shows two repetitions of this call note, and the full recording linked to it will show dozens in long succession. Note the kink in the rising note – this manifests as the very slight but noticeable break in the syllables between the aforementioned "bird" and the subsequent "ie." This was recorded among pines not far from the Dolores River in southern Colorado, a typical and expected location to hear these calls and songs.

Fig. 2. Spectrogram of Cordilleran Flycatcher calls. Inquisitive, upslurred notes are somewhat nasal and polyphonic. (Eric DeFonso, Rico Hot Springs, Dolores County, Colorado, June 29, 2016.) https://xeno-canto.org/369980

Gray Flycatcher
(*Empidonax wrightii*)

Gray Flycatchers in Colorado are most likely to be found in the pinyon-juniper expanses on the West Slope and in the southeastern parts of the state. They can also be encountered in migration in brushy or wetter areas in the Front Range, and they do breed in that habitat in other parts of their range, like in eastern California. Many members of the flycatcher family (Tyrannidae) have "pre-dawn" and "post-dawn" songs, and Gray Flycatchers are among them. For some species, the pre-dawn version is much like the usual song, just delivered with more frequency and energy, and is not really a different song type. Fig. 3 shows a pre-dawn song recorded in California, notably at 4:50am, 45 minutes before sunrise.

The Gray Flycatcher's song consists of two main elements, one of which is repeated more than the other. The main element is a two-syllable *chirrup* or *chuh-lup*, sometimes given in fairly rapid succession two or three times before pausing. The second element, a higher-pitched *til-leep*, is placed at the end of a phrase, and is given far less often, seemingly more as punctuation than as a word being said. The version of the song given at dawn and into the day sounds very similar to this, but with more spacing between the chirrups.

Before we get to call notes, let's continue examining the songs of the other empids. We shall see that the Gray, along with the Dusky, Least and Willow flycatchers have very similar call notes, so it will serve us to compare them alongside one another.

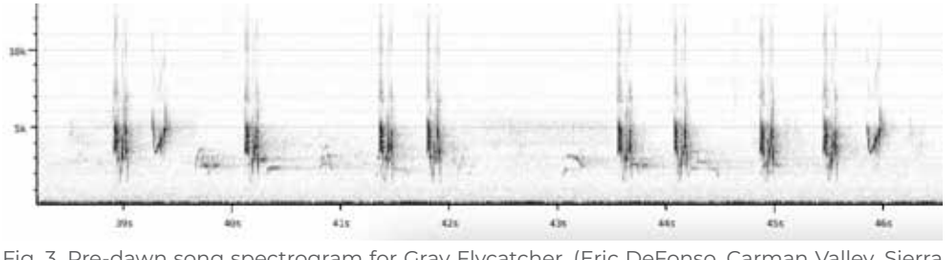

Fig. 3. Pre-dawn song spectrogram for Gray Flycatcher. (Eric DeFonso, Carman Valley, Sierra County, California, June 17, 2010.) https://xeno-canto.org/103087

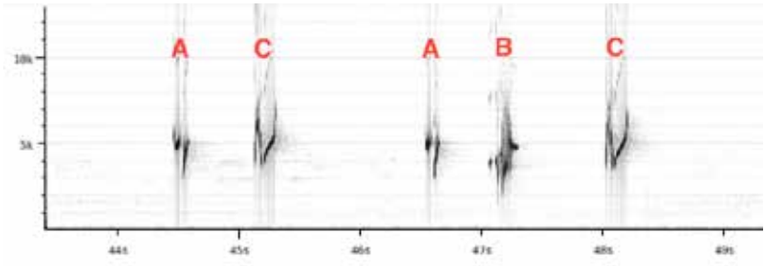

Fig. 4. Spectrogram for Dusky Flycatcher, with three different elements labeled A,B,C. (Andrew Spencer, Carnero Pass, Saguache County, Colorado, May 29 2012.) https://xeno-canto.org/110017

Dusky Flycatcher
(*Empidonax oberholseri*)

Dusky Flycatcher is perhaps the most common resident empid in Colorado. They can be found in a variety of shrubby habitats of many types, among forests and woodlands or in more open spaces, in pinyon-junipers or aspens, riparian forests or willow thickets, to name a few. Such habitats are regular in montane areas below 8500 feet, but Dusky Flycatchers can be found sometimes much higher, all the way to treeline if there's appropriate shrub cover available.

There are as many as three elements to a Dusky Flycatcher song, but sometimes only one or two are given in succession. In Fig. 4, we see two example phrases from the same bird, with the elements labeled A, B, and C; the first phrase consists of such a two-element version (A-C) starting after 44s, and then a three-element "full" version (A-B-C) starting after 46s. You can see that in the three-element version, syllables A and C are identical to those in the two-element version. This is something you can listen for in the field, now that you've seen the spectrogram and know that a Dusky song only consists of these three notes. Again, bear in mind that sometimes a Dusky will sing element A only in a phrase, maybe several times in a row, and only then resume A-B, or A-B-C, or perhaps A-C.

Dusky does have a typical call note very similar to Gray which I will address shortly, but Dusky also has another very distinctive and diagnostic call note which is worth describing here. This call note is sometimes referred to as '*du-hic*', and is often heard later in the morning or throughout the day. (Another common mnemonic for this call is *bean-dip*.) Its spectrogram and linked audio are shown in Fig. 5. The full recording shows that sometimes the *du-hic* sequence is a lot of '*du*'s' with only a few full phrases with the rising note *'hic'* following.

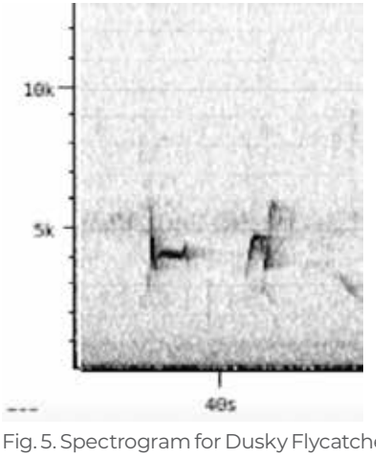

Fig. 5. Spectrogram for Dusky Flycatcher du-hic call. (Eric DeFonso, Mesa Verde NP, Montezuma County, Colorado, June 2 2014.) https://xeno-canto.org/205920

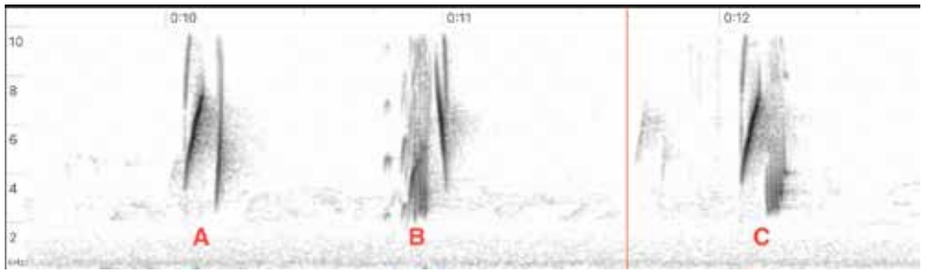

Fig. 6. Spectrogram for Hammond's Flycatcher song. Note the strong similarity between elements A and C – both consist of two parts, a rising note followed by a lower note. But in C, the following note has a more burry quality and is lower in pitch. (Geoffrey Keller, Seneca, Oregon, June 13 1991.) https://macaulaylibrary.org/asset/56931

Hammond's Flycatcher
(*Empidonax hammondii*)

The flycatcher most likely to be confused with Dusky by voice in Colorado would be the Hammond's. Hammond's and Dusky flycatchers can overlap in habitat somewhat, although Hammond's is generally found more often in coniferous forests, ranging from various pines like ponderosa and lodgepole to spruce-fir and Douglas-fir, but can also be found in aspen groves. Because of this greater closed-canopy forest affinity, they are on average found at higher elevations than Dusky, but again be aware that there is as much elevation overlap as there is for range. Because of this overlap, it's helpful to discern the more subtle distinctions between the songs of Hammond's and Dusky.

In Fig. 6 the three main syllables of Hammond's song are labeled, as they were for Dusky. Without hearing the notes, you can see that the A, B, and C syllables for Hammond's are distinctively different from Dusky in shape on the spectrogram. However, seeing the difference on a spectrogram and hearing it in the field are two different matters. On first listen, most birders will have trouble hearing a distinction between the two songs, and indeed they are quite similar. Like the Dusky, the Hammond's will sometimes mix up their deliveries and give A then B in sequence, skipping C. Other times they'll simply repeat A over and over. You might even just hear B by itself, followed by a long stretch of silence.

So how best to distinguish the similar songs of Hammond's and Dusky? Both species' songs utilize a two- or three-syllable model when performing their common morning/daytime songs, and syllables seem the same between species at first listen. Perhaps the easiest handle to reach for when listening to these songs is that final note, element C. For the Dusky, that note falls on our ears as more of a rising, inquisitive note, as if the Dusky was asking a question. For the Hammond's that note stays down low, sounding more like a grumble from a grumpy bird. That, in combination with the aforementioned *du-hic* calls from the Dusky, sounds that a Hammond's will never make, can make identification of this challenging pair of empids much easier.

Willow Flycatcher
(Empidonax traillii)

The following two empids are far less common in Colorado, but both are known to breed in small numbers in

localized parts of the state. Thus it is useful to be aware of what to listen for if you happen to be in the right place at the right time.

Willow Flycatcher, as the name suggests, prefers to breed in willow thickets, mostly in montane areas and also in the absence of other trees. In migration they can be found also in willows, but in most any riparian habitat statewide. One regular spot for them in Colorado is in the San Luis Valley at Alamosa National Wildlife Refuge. Among empids, the Willow Flycatcher has a very distinctive song, famously described as *FITZ-bew* in guidebooks and in birding lore.

Elements A and B in Fig. 7 are very similar, and only on closer inspection and intent listening can one discern that the *FITZ* portion of the famous song in A is a clearer, cleaner whistle, while the same portion in B is a hoarser note. In either case, the impression on the listener comes far more from the *bew* syllable, which as the spectrogram indicates is loud, buzzy, and downward-inflected. Element C is a softer, more subtle rising note that sometimes immediately precedes A or B, but often is left out altogether.

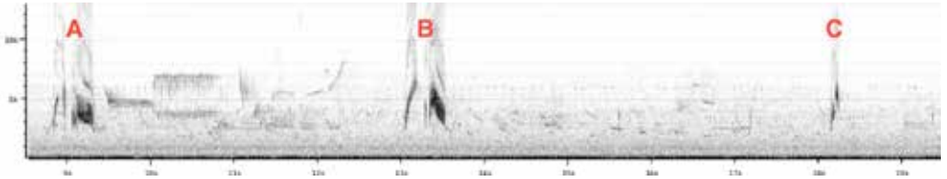

Fig. 7. Spectrogram for Willow Flycatcher song. (Eric DeFonso, White Rocks Trail Area, Boulder County, Colorado, May 31 2015.) https://xeno-canto.org/253394

Least Flycatcher
(*Empidonax minimus*)

Last (and well, least) of the regular Colorado empids would be the Least Flycatcher, which summers here in very small numbers, in just a handful of semi-regular locations. It does occur more commonly in migration, and in fact it can be difficult to know for certain how many Leasts are actually on territories unless you find the nests. As a result, the Least's song is not heard all that often, but Least does sometimes sing in migration and it does have a very recognizable song. The song is arguably uninspired, but at "least" it's not likely to be confused with any other empid. (Fig. 8)

The song may seem similar to that of the Gray Flycatcher at first listen, but the Least song has a relentless urgency that the Gray lacks, even when compared to the Gray's relatively energetic pre-dawn song. The common descriptor for the Least song is "*che-bek*", which renders on the spectrogram as two nearly vertical lines in rapid succession. The verticality means that the sounds have a broad frequency, and that our human ears will not readily associate a pitch with the sounds, making them seem flat and noisy. The spectrogram also shows that the *che-bek* is repeated ~2x/second with occasional brief pauses, but then resuming with the same monotonous cadence. Listen to the song at the link given in Fig. 9, and you'll hear how it is nothing but the same *che-bek* for the entire duration. As stated, the song won't win any awards for variety, but it is unique and makes the species easy to identify when it sings.


Hammond's Flycatcher, Boulder, CO, 13 May 2018. Photo by Peter Burke.

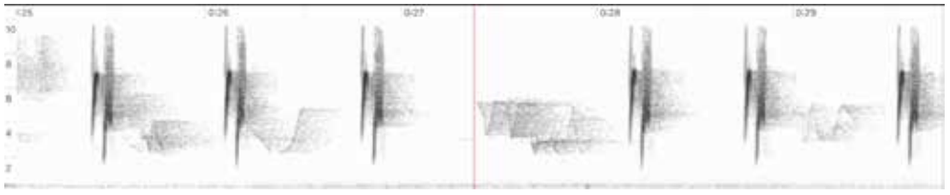

Fig. 8. Spectrogram for Least Flycatcher song. (Wil Hershberger, Brown Tract Ponds, Hamilton County, New York, May 28 1999.) https://macaulaylibrary.org/asset/100845.

The Confusing Call Notes

Gray, Dusky, Least, and Willow flycatchers all perform a common call note that is quite similar between species, a dry rising whit note. A side-by-side comparison of *whit* calls is provided in Fig. 9.

The Fig. 9 image depicts call notes from five empids, four of whom have very similar-sounding *whit* calls, with the fifth from Hammond's Flycatcher which makes a notably different *pip* call. As the image shows, the Least, Dusky, and Gray notes are extremely similar, and perhaps are not separable in the field by sound, except perhaps with years of practice and maybe not even then. The sound is referred to as "whit" because as the spectrogram shows, the note is like a fast, rising whistle that ends on a high note, similar to the human-voiced word. In contrast, the Hammond's note of *pip* is overslurred, meaning that it starts rising in pitch but then switches to falling in pitch, making a sound that the human voice can best imitate via the syllable "pip." The Willow is also quite similar, but from time to time it

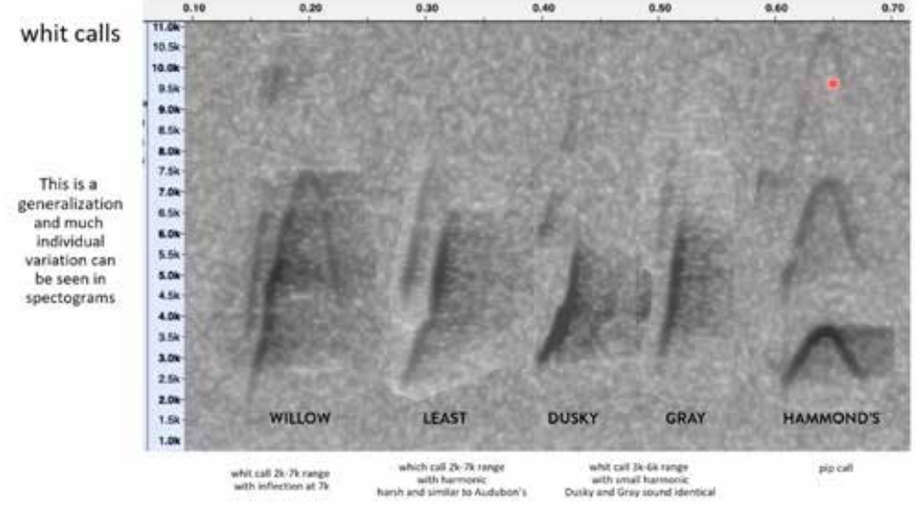

Fig. 9. Call note comparison for 5 species: Willow, Least, Dusky, Gray, and Hammond's. (Screen grab from YouTube webinar by Cin-Ty Lee and Andy Birch for Los Angeles Birders, "Empidonax Identification in the West". Graphic by Andrew Birch. https://www.youtube.com/watch?v=-gSSEx8zhqQ

can emit a more *pip*-like call, similar to a Hammond's but even more similar to its former conspecific, the Alder Flycatcher.

Rare But Relevant Empid Calls

Alder Flycatcher (*Empidonax alnorum*) does not breed in Colorado, and is only found rarely in migration, mostly on the eastern plains. Like the Willow it prefers lower elevation riparian areas, and like the Hammond's, its call note is a distinctive *pip* (Fig. 10).

This seemingly minute note is significant because visually the Alder very closely resembles the Willow – as mentioned, the Willow and Alder were formerly considered the same species as recently as 1973. It was largely because of their vocal differences that they were separated, when viewing a problematic "Traill's" Flycatcher, that is, one that could either be a Willow or an Alder, hearing even just a faint call note may be all that's needed to figure out which species is being seen. The song from either species is diagnostic, as is the *whit* call from the Willow.

A very rare empid in Colorado is the Yellow-bellied Flycatcher (*Empidonax flaviventris*), whose call note is only occasionally heard and never its song. Its *pwee* call has been described as being most similar, strangely, to that of Semipalmated Plover, and indeed it is strikingly reminiscent. This call is unlike that of any resident Colorado empid and should immediately raise your birding hackles if you should luck into hearing it! (Fig 11.)

Although intimidating at first, learning the identification tips for *Empidonax* flycatchers, both visual and auditory cues, does yield tangible benefits and with some study at home and practice in the field, many birds that seemed off-limits to you will become approachable. Learning habitats and distribution will also assist in creating associations in your mind between species and the sounds you hear in different parts of Colorado. Remember that birding the

Fig. 10. Call note from Alder Flycatcher. Note the similar structure of the spectrogram note to that for Hammond's; a downslurred note that also sounds like 'pip.' (Wil Hershberger, Acadia National Park, Hancock County, Maine, June 12 2021.) https://macaulaylibrary.org/asset/347143771

Willow Flycatcher, Boulder, CO, 29 May 2019. Photo by Peter Burke.

Gray Flycatcher, Boulder, CO, 9 May 2019. Photo by Peter Burke.

empids by ear will pay dividends on many occasions and eventually make these visually challenging birds much more obvious.

Acknowledgments:

I'd like to thank Greg Budney, former Director of the Macaulay Library of Natural Sound at Cornell University, for introducing me to the vocal behaviors of Gray Flycatchers and Tyrannids in general.

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FIELD MARKS

Female-type Hummingbird Identification

By David Tønnessen

Springtime in Colorado has seen the arrival of two hummingbird species that are relatively straightforward to identify from each other—that is, if you're dealing with a male in the right lighting. Asserting their presence with a loud and metallic wing trill wherever they travel, brilliant male Broad-tailed Hummingbirds are the first in this group to show up in early April to claim territories before the females arrive, while male Black-chinned Hummingbirds follow suit in their respective territories by the end of that month. Both species breed widely throughout Colorado, Broad-tailed Hummingbirds being abundant in most mountain habitats in the western half of the state up to timberline, while Black-chinned Hummingbirds stick to riparian zones at lower elevations in the western and southern three-quarters of the state. You could almost ascertain that life is simple at this point—after all, most of us can easily remember the stunning magenta gorget of a male Broad-tailed Hummingbird, or the black and purple gorget of a male Black-chinned Hummingbird (from whence comes the species name). That all changes when the number of species doubles, or most individuals become females and immatures.

At the end of June and continuing through September, Colorado sees the arrival of southbound Rufous and Calliope hummingbirds. Many of these are individuals hatched that year, which join the also newly hatched Broad-tailed and Black-chinned hummingbirds in becoming extra busy at your nectar feeders, scrambling to fuel up before their impressive journeys south. Because young individuals resemble females, the number of female-like hummingbirds now well outnumbers the number of adult male hummingbirds. Identification of these surprisingly similar bundles of energy can be daunting at first when no gorget feathers are present to work with, but with some pointers and practice the subject can be tamed. As in many bird complexes with similar plumages, some of the best features to focus on in hummingbird ID will be structure, particularly that of the wings and wing-tail ratios. Here I'll break down what exactly those features are.

Plumage

Sometimes plumage is too heavily relied on where it should be avoided due to individual variation, molt or simply lack in plumage differences between species. However, there are a few consistent plumage features that can help in differentiating Colorado's hummingbirds. The biggest difference lies on the genus line; a good way to distinguish Black-chinned Hummingbirds, in the genus *Archilochus*, from any of the *Selasphorus* hummingbirds is its general lack in rufous on the sides and in the tail. The usage of the color term "rufous" here is used to refer to any of the orange-toned, non-iridescent feathers, even paler tones that might not be associated with the term in a different context. Besides this specific color, areas to pay attention to across all of the four hummingbird species will be throat pattern, head color and tail pattern.

Wings and tail

For the experienced eye, wing shape, particularly that of the individual primaries, is often the most reliable method of distinguishing similar hummingbirds. Since the shape of individual primaries is often very hard to observe though, more focus will be emphasized on how they appear collectively in each species when perched, and where they sit relative to the tail. For example, Broad-tailed and Rufous hummingbirds have a defined tail projection, meaning that when perched with wings folded, the wings come well short of the end of the tail. In contrast, the folded wings of Black-chinned Hummingbirds usually reach or nearly reach the tip of its tail, while the folded wings of a Calliope Hummingbird will project slightly past the tail.

Bill shape

The shape of the bill is the last main feature to pay attention to, but never by itself. Typically it is helpful only for Calliope Hummingbirds that have slightly shorter bills than the other species. Sometimes it plays a hand in recognizing Black-chinned Hummingbirds as well, which average slightly longer and more curved bills than the *Selasphorus* species.

Broad-tailed Hummingbird - *Selasphorus platycercus*

The most abundant hummingbird in Colorado, Broad-tailed Hummingbirds frequently outnumber all the other species at the feeder. Structure will be the most important role in IDing the species when no hints of a gorget exist, and the key here is tail length and proportion to wings. When perched, a Broad-tailed Hummingbird's tail projects well past its wings. This also contributes to a lankier structure overall than the other two *Selasphorus* hummingbirds.

A female Broad-tailed Hummingbird, and due to the rusty edging in the head and back feathers, this might be a young individual. In the throat, notice a fairly consistent size and density of spots. Structurally, notice how the wings come short of the tail, and the last two primaries are thinner and of a different shape than the preceding primary feathers. Photographed by Willem van Vliet.

In this female Broad-tailed Hummingbird, again there are spots relatively densely throughout the throat. Notice the long tail reaching well past the wingtips, and how the primaries are layered neatly behind each other, giving the folded wings a narrower look. Photographed by Peter Burke.

Because it was hatched this year, this young female Broad-tailed Hummingbird has slight rusty edges to the head and back feathers. A lack of rufous uppertail covert feathers above the tail feathers, and a lack of any clean white areas of the throat help distinguish it from a Rufous Hummingbird. Photographed by Peter Burke.

In this young male Broad-tailed Hummingbird you can see the same general color scheme that females show, and the typical long tail reaching past the wings. The throat appears messy and inconsistently spotted, and two iridescent gorget feathers are visible in the center of the throat, from which they will spread as this individual reaches adult plumage. Photographed by David Waltman.

The combination of a long bill, long tail and narrow wings are distinctive for Broad-tailed Hummingbird, as in this female. Photographed by Donald Jones.

Rufous Hummingbird - *Selasphorus rufus*

Structurally, Rufous Hummingbird is the intermediate *Selasphorus* here, so that aspect will not be as helpful as in other hummingbirds. As the name implies, even young and female Rufous Hummingbirds will have more rufous hues than the other hummingbird species. Rufous edging in the crown feathers and particularly bright rufous creeping from the tail into the upper tail coverts, or right above the tail, are features I find particularly helpful in separating these from any of the other Colorado hummingbirds, because all of the *Selasphorus* hummingbirds have a similar amount of ample rufous in the sides. The throat pattern is also typically quite distinctive, although variable; young males and adult females typically have a small gorget spot in the center of the throat, meaning some of the same orange iridescence of an adult male is present here. Before they acquire any gorget color however, throat spots are densest in the corners and starkly sparser towards the center, particularly in females, which differs from Broad-tailed or Calliope hummingbirds where the throat spot density appears more even throughout (Stiles 1972).

Even though it is not an adult male, a lot of rufous is visible in this Rufous Hummingbird. The olive-yellow iridescence at the corners of the throat are typical for Rufous Hummingbirds of both sexes and most ages, but even if the iridescence weren't angled at us right, the density of color at the lower corners of the throat compared to the center and upper throat, or chin, is still typical of Rufous Hummingbird over the other hummingbirds discussed here.
Photographed by David Tønnessen.

The darkness of the spots in the center of the throat tell us that those are iridescent gorget feathers, meaning this could be a young male of almost any species, or a female Rufous Hummingbird. This particular throat pattern with very clean upper and mid fringes is good for an adult female Rufous Hummingbird, and the bright rufous tail and upper tail coverts as well as rufous fringes in most of the back feathers further confirm that ID.
Photographed by David Waltman.

The overexposure in this image makes the colors a little faded but we can still tell that they are a combination of rufous and olive-greens. The throat pattern here is similar to that of a Broad-tailed or Calliope hummingbird, but the upper throat or chin is very white which is indicative of Rufous Hummingbird, likely an immature female.
Photographed by Todd Deininger.

The large extent of rufous on every tail feather here and pale rufous tones throughout the plumage including in the head, supports the ID as a Rufous Hummingbird here. The much whiter center and upper portion of the throat than the sides is also supportive.
Photographed by Sabrina Hepburn.

Not a lot of rufous is visible on this young female Rufous Hummingbird, but she does have rufous coloration in the flanks and in the tail area. More distinctive is her very white upper throat which slowly gives way to larger and larger spots towards the lower corners of the throat. The lack of any dark iridescence feathers in the center of the throat tell us she only hatched this year.
Photographed by David Tønnessen.

Four half-rufous feathers on either side of the tail tell us this is a Rufous Hummingbird, and sometimes rufous will creep into all five. Broad-tailed and Calliope hummingbirds have slightly variable amounts of rufous, but typically only on the three outer tail feathers.
Photographed by David Tønnessen.

Calliope Hummingbird - *Selasphorus calliope*

Although the smallest species of hummingbird in the US, size in Calliope Hummingbirds can often be hard to judge, and plumage colors are very similar to Broad-tailed Hummingbirds. That's why they will often appear the plumper, stumpier version of a Broad-tailed Hummingbird, with a shorter bill, larger head, shorter tail and shorter, stouter wings. When perched, the wings project past the tail and the primaries will often appear layered more horizontally, meaning the shafts will not be aligned so as to create a single, relatively straight line as in Broad-tailed or Rufous hummingbirds.

Immediately a plump, large-headed, short-billed and short-tailed stature should tell us this is a Calliope Hummingbird. Note that the folded wings reach further down than the tail. In this young male, the feathers at the corner of the throat are gaining the elongated shape of an adult male as well.
Photographed by David Tønnessen.

In this Calliope Hummingbird, notice how the stubby bill is shorter than the length of that large head, and a clear wing projection is also apparent. Photographed by Jeff Percell.

Short bill, short tail and wing projection indicate Calliope Hummingbird, and almost no rufous edging is apparent in the green back feathers. Photographed by David Tønnessen.

The elongated feathers at the corners of the throat help ID this as a young male Calliope Hummingbird, but also note the very broad wings with broad, blunt-tipped primaries compared to the sharper narrower shapes of the longest primaries in Rufous or Broad-tailed hummingbird.
Photographed by David Tønnessen.

The color scheme of Calliope Hummingbirds is very much like a Broad-tailed Hummingbird. In this shot, a very short and stubby looking tail helps eliminate that species, as does a small bill. Photographed by David Waltman.

The straightforward gray and green color scheme lacking rufous should tell you right away that this hummingbird is not in the genus Selasphorus. Other things to notice here include a clean, unmarked throat, which is not found in any Selasphorus either, but typical of young Black-chinned Hummingbirds. The very gray crown and head, long bill and folded wings nearly reaching the tail are good clues against the rare Ruby-throated Hummingbird. Notice th e rather blunt-edged but curved primaries near the tip, also distinctive of a Black-chinned Hummingbird.
Photographed by David Waltman.

Black-chinned Hummingbird - *Archilochus alexandri*

The only non-*Selasphorus* hummingbird in this article, Black-chinned Hummingbirds are more slender overall with an on-average longer bill than the other Colorado hummingbirds, although the easiest and often quickest way to distinguish them from a *Selasphorus* is by plumage coloration. Generally, they are lacking in the rufous tones that the Selasphorus hummingbirds sport, including on the sides, in the tail and in the feather fringes of the back and crown. Instead, look for whitish or grayish underparts and frosty feather edges in the crown, something that contributes to the appearance of a gray crown overall. The green iridescence in the overparts is also a slightly different color than in *Selasphorus* hummingbirds, being a duller olive-green, although this is not always readily apparent. In the throat, young and female Black-chinned Hummingbirds are usually cleaner white than the *Selasphorus* hummingbirds, but when marked they will be dark streaks near each feather shaft, and concentrated more heavily in the middle of the throat than the corners. Finally, pay attention to wing shape and wing-tail proportions. Usually the folded wings will reach the tail, and the primaries collectively appear more like a cutlass than the other hummingbird species; this will become clearer when looking at photos. Many of these characteristics are also helpful in separating Black-chinned Hummingbird from the other member of its genus, the Ruby-throated Hummingbird, which is a rare migrant in eastern Colorado in the fall.

Dull gray-fringed crown feathers and sparsely marked throat are good features to notice in this female Black-chinned Hummingbird. Once again, the wings nearly reach the tail. On average, the species has more curvature in the bill than the other Colorado hummingbirds including Broad-tailed. Photographed by Jeff Percell.

The slightest bit of rust is visible in this Black-chinned Hummingbird, but it doesn't have the full rufous flanks of a Selasphorus. The tricky angle does away with a lot of the structural cues, but notice a very weakly marked throat, typical for females of this species. The markings in a Black-chinned Hummingbird almost always appear more like little black streaks than in any of the Selasphorus hummingbirds. Photographed by Jeff Percell.

A combination of a very fresh juvenile plumage and odd lighting can make Black-chinned Hummingbirds appear quite rusty, even rufous, and this is a more extreme example. Notice the long, decurved bill, and very dull grayish head and crown. Photographed by Jeff Percell.

Can you identify this hummingbird with only a portrait shot? The black streaks in the throat should indicate Black-chinned Hummingbird, but they are denser than usual as a result of this bird's young age. It is likely a fresh juvenile. Photographed by David Tønnessen.

While Colorado's young and female hummingbirds present an underappreciated ID challenge, don't let the subject intimidate you. By studying a few key plumage aspects and paying close attention to the lengths and structure of the wings and tail, anyone can enhance their hummingbird ID abilities. Practice noticing structural differences can help cultivate better birding skills in general, and you might find that details of wing and tail shape can help to identify many species beyond hummingbirds.

Acknowledgements

Hummingbird ID is more challenging than many realize and my personal grasp on the subject would not be possible without the great ornithologists who pioneered plumage difference subtleties before me. Sheri L. Williamson is a hummingbird bander and ID expert who authored the Peterson Guide to Hummingbirds of North America and runs the website fieldguidetohummingbirds.com. Her detailed illustrations, explanations of wing-tail proportions and focus on flight feather shape has greatly influenced my approach to hummingbird ID, and should influence others seeking to better understand the subject as well. Discussion with Caleb Strand and literature from Peter Pyle have also helped shape how I approach the subject.

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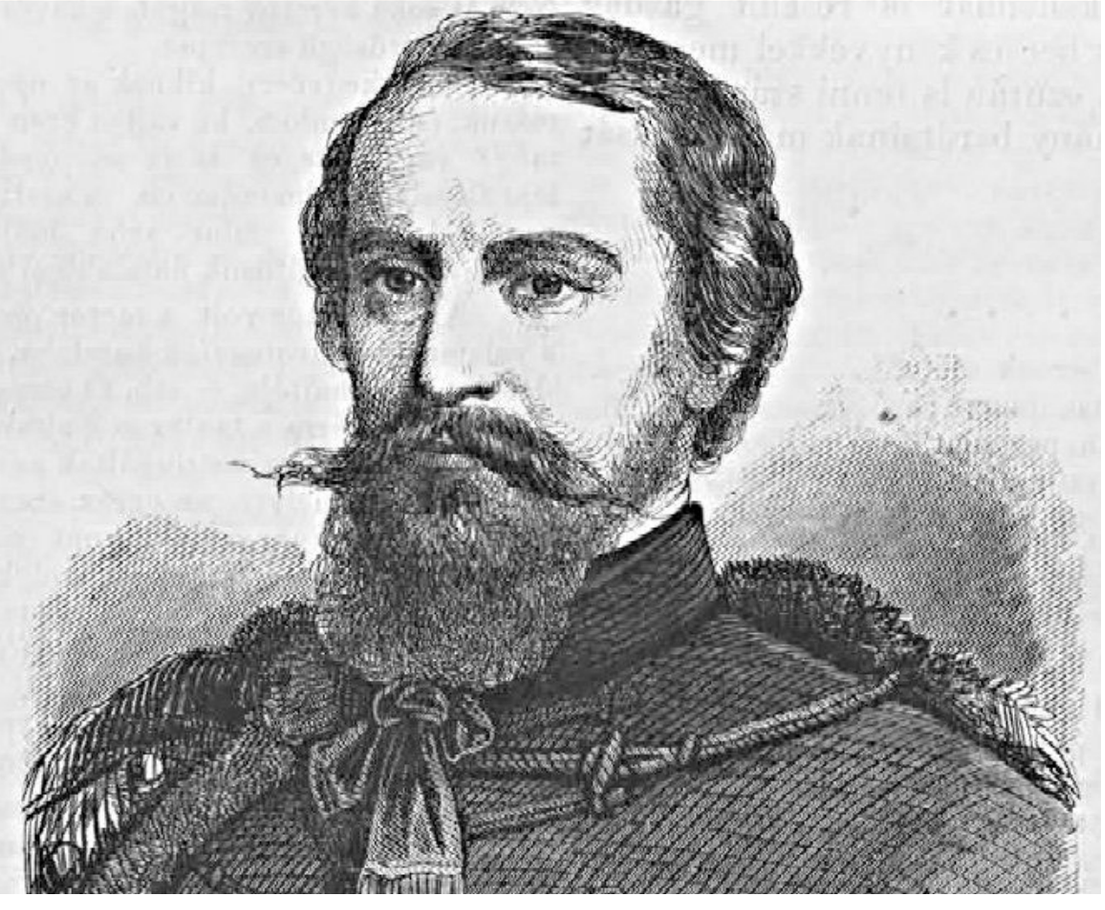
John Xantus

(1825–1894)

By Robert Righter



In 1848 John Xantus, a Hungarian, joined in the effort to free Hungary from the grip of the Austrian empire. The effort failed, and as a result Xantus found himself conscripted into the Austrian army; his mother eventually had to pay the Austrian government for his release. Xantus escaped from Austria, traveled to England, and eventually to the United States. He was educated, having obtained a law degree while in Hungary. Above all he wanted to succeed and wanted his mother to be proud of him, but he was penniless, in a strange country, trying to learn a foreign language and perhaps during his distress, he began to fabricate his achievements. For example, in letters to his family in Hungary, he painted himself as a heroic leader, a scholarly writer and a prestigious professor at Louisiana University (today Tulane University) when in fact, he was working as a day laborer, digging ditches.

In 1855 he entered the U. S. Army and was assigned to Fort Riley, Kansas Territory. It was here that he met Dr. William Hammond, who was an assistant surgeon at the fort. Hammond, like some other medical officers of the day, collected natural history specimens for the zoologist Spencer Fullerton Baird, Assistant Secretary at the Smithsonian Museum in Washington, D.C. Hammond mentored Xantus in the trade of collecting and preparing specimens. His first collections were sent to the Academy of Natural Sciences in Philadelphia, and not long afterwards he was recommended by the distinguished entomologist Dr. John LeConte to become a life member of the Academy. Hammond also recommended that Xantus send some of his natural history findings to Baird, which he did, resulting in a long relationship between the two men.

Baird arranged for Xantus to be transferred from Fort Riley to a new military post in southern California, Fort Tejon, situated in the Tehachapi Mountains and surrounded by oak woodlands between California's Central Valley and the Mojave Desert. Xantus cataloged 140 bird species during his stay and is credited with the discovery of the first North American record for Spotted Owl. He also described two new species, giving them names to honor his mentors: Hammond's Flycatcher and Cassin's Vireo.

Baird's next assignment for Xantus was Cabo San Lucas, Baja California, an area previously unexplored by scientists. From 1859-1861, Xantus collected specimens on behalf of the United States National Museum. In later years, Robert Ridgway, curator of the Smithsonian Museum, determined that Xantus had collected 130 bird species from the region that included three new species, Gray Thrasher, Xantus's Hummingbird and Xantus's Murrelet (since split to Scripps's and Guadalupe Murrelets).

Xantus returned to Washington, D.C. and negotiated a deal with Baird that would give the Smithsonian all his duplicate specimens in exchange for passage for him to return to Hungary. Armed with references from Baird and Hammond, he was made a corresponding member of the Hungarian Academy of Sciences. John Xantus died at Volosca, a small town in Croatia along the Adriatic coast, on 13 December 1894.

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Five Questions

with Peter Gent

Peter Gent was born in Staffordshire, England, and attended college at the University of Bristol. He moved to Boulder, Colorado, in September 1976 for a job with the National Center for Atmospheric Research (NCAR), where he worked until his retirement as a senior scientist in July 2019. A CFO member since 1977, Peter has served in numerous roles including President (twice), CBRC Chair (twice previously) and Editor of the Journal (once).

Colorado Birds checked in with Peter to ask about his vision for the Colorado Bird Records Committee (CBRC) and the importance of formally documenting rare bird sightings today.

CB: With eBird, iNaturalist and so many other reporting options available to birders, are state review committees still relevant today?

PG: I believe that state review committees are still relevant, and that they are complementary to, and not in competition with, eBird. Whereas eBird covers all species of birds, the CBRC requests records only on species that are rare, or very uncommon, in Colorado. Another difference is that the eBird data is mostly from the last 20 years, although records from earlier than that can be submitted. The CBRC started 50 years ago, and some of the records dealing with specimens in museums, for example, can go back over 100 years. Therefore, CBRC data tells the story of how very uncommon species have changed over the last 50-100 years, and documents what species are new to Colorado in that time. Are they being found because there are now very many more active birders in the state, or are they new because bird populations are changing? The freely available CBRC data helps to answer questions such as this.

CB: How does the review process differ between eBird and the CBRC?

PG: eBird generally has one reviewer for each county, and one or two people who look at records from across the state. I believe that the CBRC has a more stringent review process. There are nine committee members who are selected by the Chairman for their expertise, and approved by the CFO board. Each record is reviewed by seven members, ensuring that members do not review their own submissions. Voting can proceed through three rounds, but in the end a record must receive six or seven positive votes in order to be accepted. This can be a tough process, and records from both CBRC committee members and CFO board members are quite regularly not accepted. The idea is that someone in the distant future looking at CBRC data can be assured that accepted records may be relied upon.

CB: You mentioned that records submitted to the CBRC will be voted on by the committee. With so many birders taking often high quality photographs of the birds they see, what other information is needed for the committee to review?

PG: It is very useful that more birders are taking high quality photographs, because they make the review process much easier, and so should always be added to a record when they are available. It is frustrating when a submitted record mentions that photographs were taken, but are not added to a record. The process of submitting a record and adding photographs has become easier over time as the CBRC website has been improved, and there are instructions at https://cobrc.org/Reporting/. However, submitting high quality photographs doesn't mean that a reporter should not add any description of the bird at all, nor have some discussion of how other species were eliminated. Submitting a record with diagnostic photographs should not take more than 15 minutes, but submitting just a sight record will take longer because the description needs to be much more detailed, with considerable attention paid to how other species were eliminated.

CB: Colorado is a big state with a tremendous variety of habitats suited to many different species. A Curve-billed Thrasher may be expected in Las Animas County but rare in Weld. How do people know which sightings to report to the CBRC?

PG: The CBRC web site has a list of the species for which documentation is desired at https://cobrc.org/ReviewList.aspx. As you point out, many species occur regularly in some parts of the state, but are rare elsewhere. These are covered in this list by only asking for records from certain counties. Take for example the first two species on the list, Black Swift and Black Rail, which breed regularly in some Colorado locations, but are rare over most of the state. Another resource provided by CFO is county checklists that are available at https://coloradocountybirding.org/Checklists/. If one were to observe a species not present on the list for that county, then we ask for the observer to report the sighting to the CBRC.

CB: The official state list has grown to 518 species with the committee's latest report. Any thoughts on what the 519th species might be?

PG: As a climate scientist, I am well aware of the old adage, "prediction is difficult, especially when it's about the future." Over the years, I have seen quite a few predictions about the next species to be seen in the state fall completely flat. There are two reports in the CBRC pending queue for European Common Gull, now that it has been split from the American Short-billed Gull, so that is one possibility. However, several of the recent additions to the state list have been birds coming from the south, and I believe this will continue into the future as Colorado's climate continues to warm. There are also a few species whose regular range comes quite close to Colorado, such as Carolina Chickadee. And a Brown-headed Nuthatch was recently seen in Garden City, Kansas only 50 miles from Colorado. Now I feel like a politician, having given a fairly long reply without answering the question precisely!!

5Q is a Colorado Birds interview series that aims to engage CFO members with individuals and organizations affecting birds and birding throughout Colorado. Have a topic you would like us to cover? Know someone we might be interested in interviewing? Send your thoughts to editor@cobirds.org.

The Shrike

black masked assassin
    in white satin damask
to pedestal
to wing
and wing's advantageous pinnacle

gentility is a lie, my love,
as is the cat-bird song he sings—
the little thing's a predator
and his shape is but a counterfeit

it's the small, hooked beak,
his sudden swoop
that breaks their necks—
the skink, the snake

and that which he doesn't there consume,
he treks back to his trophy room
where on wire
strung between rusted barbs,
he displays
for all to see,
his charcuterie