

# A Closer Look at Colorado's Brown Creepers

Nick Moore

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

## Background

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

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

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

### Subspecies Groups

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

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

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

## Implications for Colorado

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

## Variation in Brown Creeper

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

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

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

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

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

### A First Attempt at a Suite of Field-Identification Characters

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

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

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

Subspecies group	Sex	Bill length <sup>a</sup>	Sample size
Rocky Mountains	Male	18.7 ± 1.1	11
	Female	16.9 ± 0.9	9
Eastern	Male	16.9 ± 1.0	72
	Female	15.5 ± 1.0	38

<sup>a</sup>In mm, with range of variation

---

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

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

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

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

---

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

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

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

## **Discussion**

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

## **ACKNOWLEDGMENTS**

I greatly appreciated the review and assistance from Tony Leukering in writing this article.

## LITERATURE CITED

- Manthey, J. D., J. Klicka, and G. M. Spellman. 2011. Cryptic diversity in a widespread North American songbird: Phylogeography of the Brown Creeper (*Certhia americana*). *Molecular Phylogenetics and Evolution* 58:502–512.
- Pyle, P. 1997. *Identification Guide to North American Birds, Part I*. Slate Creek Press, Bolinas, CA.
- Sibley, D. A. 2011. Variation in Brown Creeper songs. Sibley Guides blog. <http://www.sibleyguides.com/2011/01/variation-in-brown-creeper-songs/> (accessed Aug 2016).
- Tietze, D. T., and J. Martens. 2008. Morphometric characterization of treecreepers (genus *Certhia*). *Journal of Ornithology* 150:431–457.
- Tietze D. T., J. Martens, and Y.-H. Sun. 2006. Molecular phylogeny of treecreepers (*Certhia*) detects hidden diversity. *Ibis* 148:477–488.

Nick Moore, [sdhjuw@gmail.com](mailto:sdhjuw@gmail.com)



Fig. 1



Fig. 2



Fig. 3



Fig. 4

*In the Scope:  
A Closer Look at Colorado's Brown Creepers..... 210*