

Colorado's Crossbill Types: 2, 4, and 5

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It's All in the Call

Although many Colorado birders are intimidated by the problem, Colorado is an ideal place for beginners to start identifying crossbill types. Despite what is implied by Sibley (2000), only two crossbill types are common in our state, and a third likely rare but regular. Once you learn these three regular types, you are one-third of the way towards solving one of the continent's thorniest ID problems.

This article will deal with identifying crossbill types by their "flight call." Given either in flight or from a perch, this call is the vocalization most often heard from crossbills (Groth 1993). Keep in mind that crossbills can make a variety of other sounds, including "excitement calls," which are given by crossbills in a variety of circumstances, including flight; "alarm calls," which generally sound similar to the excitement calls; "chitter calls," which are usually given by birds foraging in groups; and a variety of other, more behaviorally specialized calls that are less likely to be heard in the field (Groth 1993). Crossbills sing, too, complexly and beautifully so, but that is a matter for another article—or perhaps a full-on monograph.

You can be reasonably certain you are hearing flight calls if you are hearing a crossbill repeating identical call notes in series at a steady rate of about 3-5 per second for a full second or more. Crossbills of different types rarely flock together, so if you hear two different calls from the same flock of crossbills, you may be hearing non-flight calls, or variations within the flight calls, rather than the calls of a different type of crossbill.

The crossbill flight call most commonly heard in Colorado, by far, belongs to Type 2. This is also the most commonly encountered crossbill across much of the country, as evidenced by the fact that it accounts for at least 19 and possibly up to 23 of the 26 Red Crossbill

The species: Red Crossbill (*Loxia curvirostra*)

The context: Colorado's mountains, any time of year

The problem: The different "types" can be distinguished only by their calls, and even then the distinctions are subtle.

(See photos on back cover.)

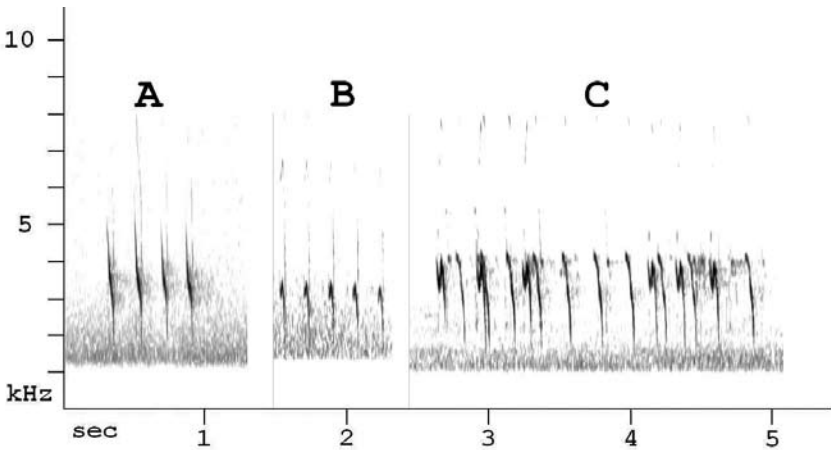


Figure 1. Three sonograms of Type 2 Red Crossbill flight calls, showing variation. (A) Smoothly downslurred variant; recorded December 2005, Boulder County, Colorado. (B) Kinked variant; recorded 15 April 2007, Dolores County, Colorado. (C) Calls of two members of a flock, one with a kinked call, the other with a smooth call; recorded 25 August 2006, Boulder County, Colorado. All recordings and sonograms by N. Pieplow. Listen to these sounds at the CFO website (www.cfo-link.org).

recordings from western North America available online in digital format from the Macaulay Library of the Cornell Laboratory of Ornithology (<http://www.animalbehaviorarchive.org/loginPublic.do>). The “classic” Type 2 call (Fig. 1A) is a clear, sharply but smoothly downslurred whistle which is perhaps best transliterated *pew pew pew*. However, Type 2 flight calls are variable, and many birds give a call that appears distinctly kinked on a sonogram (e.g., Fig. 1B). This “kink” does not affect the listener’s perception of the tone quality or the intonation of the call—it remains a clear, sharply downslurred whistle to our ears. However, the “kink” imparts a harder, louder, and more distinctly consonantal sound to the beginning of each call (a “consonantal onset”), suggesting the transliteration *kew kew kew* with a hard “k” sound. By comparison, the “smooth” variant of the type 2 call begins much more softly and can be surprisingly similar to certain “peeping” calls of Pygmy Nuthatch. Variants of the Type 2 call might be confused with the *pip pip pip* calls of Olive-sided Flycatchers; they can also be compared to the “chirp” of the Yellow-bellied Marmot (T. Hahn, pers. comm.).

The most distinctive call type in Colorado is type 4 (Fig. 2A). It gives a call that is strongly, distinctly upslurred, with a clear tone quality and a sharp consonantal onset similar to that of the “kinked”

type 2 call. This consonantal onset is visible on the sonogram as a fainter, briefer downslurred note that introduces the much louder and longer upslurred portion of each call. If the call is transliterated *kwit kwit kwit* (Sibley 2000), then the consonantal onset is responsible for the strong “k” sound at the beginning of each call. Rarely this is omitted, resulting in a purely upslurred note on the sonogram that is strongly reminiscent of the “whit” calls of certain *Empidonax* flycatchers (e.g., Dusky, Gray, Willow, and Least). Both variants can be heard on a recording from Arizona that is available online at the Macaulay Library website (LNS 87296); the first variant is also heard on a recording from Alberta (LNS 58167). Type 4 seems to be rare or irregular in Colorado, but can sometimes be locally abundant, as it was in the Wet Mountains in 1999 (T. Hahn, pers. comm.).

The most common crossbill in Colorado’s lodgepole pine and spruce-fir forests is call type 5. Among Colorado crossbills, this call type is unique in having two downslurred components that are at least partly simultaneous (Fig. 2B & 2C). Whenever a bird produces two simultaneous sounds that are not harmonically related (that is, when the frequency of the higher sound is not an integer multiple of the frequency of the lower sound), it is likely that the bird is producing sound by using both sides of its syrinx at once (Greenewalt 1968). This situation is relatively rare among North American birds, being perhaps most common in the call notes of the cardueline finches (Pieplow, unpubl.); it may be responsible for the characteristic “finchy” tone of certain vocalizations of goldfinches and siskins, for instance. In the case of Type 5 crossbills it results in a tone quality that is less clear than those of the other two types, one that observers may be more likely to transliterate with words beginning in “ch,” such as *chip chip chip*. Some observers interpret the tone of the call as dully metallic.

Although the two components of the Type 5 call are both strongly downslurred, the call as a whole frequently does not sound strongly downslurred; in fact, it may sound fairly monotone. This may be due to the fact that the second, higher-pitched component frequently starts several hundredths of a second after the first (e.g., Fig 2C), confusing the human ear. This lag time may also impart an added texture to the call note; it may make the call sound slightly disyllabic, in which case it may best be transliterated *klip klip klip*. Under some circumstances, when a large flock of Type 5 crossbills is vocalizing simultaneously, the combination of many high-pitched, mostly monotone, vaguely trilled or disyllabic notes may create the vague impression of a distant group of chirping crickets.

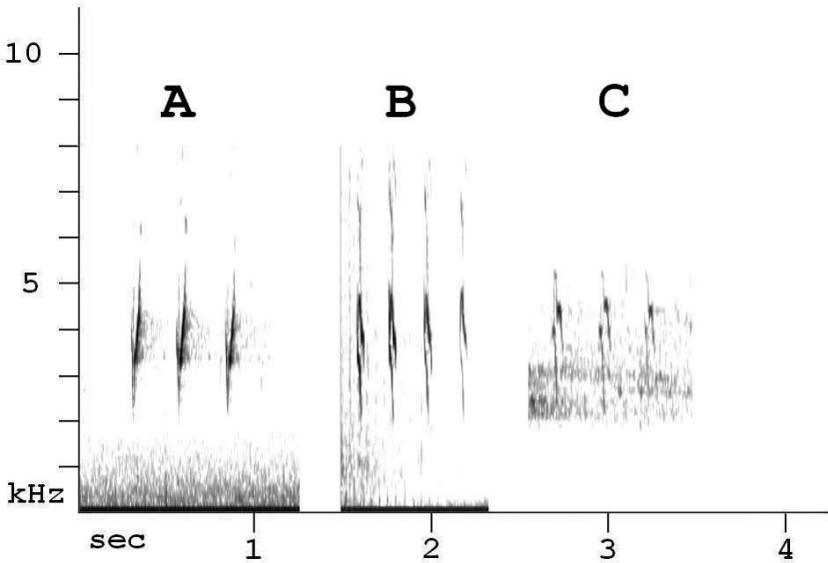


Figure 2. Type 4 and 5 Red Crossbill flight calls. (A) Type 4 flight call, showing the typical strong upslur with a faint consonantal onset; recorded 1990 by C. Benkman from a captive bird captured in Oregon in 1989. (B) Type 5 flight call; recorded summer 2005 by P. Keenan in the South Hills of Idaho. (C) Type 5 flight call, recorded summer 2005 by N. Pieplow in Hinsdale County, Colorado. Sonograms by N. Pieplow. Listen to these sounds at the CFO website (www.cfo-link.org).

Recordings of the examples shown in Figures 1 and 2 can be heard at the CFO website (www.cfo-link.org). In addition, a great many Type 2 recordings and two Type 4 recordings can be heard at the Macaulay Library website (see above). Unfortunately, no Type 5 recordings are yet available online from Macaulay, nor are most of the other call types represented there.

I hope that this article will demystify certain aspects of crossbill identification and encourage many Colorado birders to listen more carefully to these birds. At the same time, I hope it has not oversimplified the problem. Identifying crossbills to type in the field remains a difficult challenge, but for the careful and educated observer, it is frequently not impossible.

ACKNOWLEDGMENTS

I thank Craig Benkman, Ted Floyd, Tom Hahn, and Christopher Wood for their comments on drafts of this article, which have improved it greatly.

| | call type 2 | call type 4 | call type 5 |
|-----------------------------|---|---|--|
| Suggested name ¹ | Ponderosa Pine Crossbill | Douglas-fir Crossbill | Lodgepole Pine Crossbill |
| Distribution in Colorado | Common year-round in most years; most likely crossbill below 8500 feet; most likely to occur in large flocks; perhaps most likely to wander to the plains | Uncommon to rare, probably more common in winter and on the West Slope; occasionally locally abundant | Uncommon but present year-round; most likely crossbill in lodgepole and spruce-fir forests |
| Transliterations | <i>kew kew kew</i> or <i>pew pew pew</i> | <i>kwit kwit kwit</i> or <i>whit whit whit</i> | <i>chip chip chip</i> or <i>klip klip klip</i> |
| Intonation | Strongly or slightly downslurred | Distinctly upslurred | Monotone or slightly downslurred |
| Tone quality | Clear but not musical; frequently has a sharp consonantal onset | Clear but not musical; frequently has a sharp consonantal onset | Less clear than the other two types, often with a slightly "finchy" or dully metallic tone; may sound vaguely disyllabic |
| Comparisons | "Typical" crossbill call; some variants suggest calls of Olive-sided Flycatcher or Pygmy Nuthatch; compare chirp of Yellow-bellied Marmot | Some variants suggest "whit" calls of <i>Empidonax</i> flycatchers | Calls of flock may suggest sound of crickets |

1: Names follow Benkman (2007).

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