

NOTES

APPARENT HYBRID RUBY-THROATED × RUFIOUS HUMMINGBIRDS IN WESTERN CANADA

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ABSTRACT: We present six observations, including photographs, of at least four individual hummingbirds from Alberta and British Columbia that we have identified as hybrids between the Ruby-throated (*Archilochus colubris*) and Rufous (*Selasphorus rufus*) Hummingbirds, a hybrid combination currently poorly documented in the literature. Diagnostic features include the shapes of the primaries, the colors and relative lengths of the rectrices, and the gorget in the males. This hybrid combination adds to an already long list of hybrids between sympatric hummingbirds, many between species ascribed to different genera, as in this example. Field identification of hybrid hummingbirds, especially of females and immatures, can be very challenging, and many individuals are likely overlooked. One hybrid we report from Alberta was at first mistaken for an extralimital Broad-tailed Hummingbird (*Selasphorus platycercus*). We encourage observers to document and report potential hybrid hummingbirds to further our understanding of hybridization in this family.

Despite sporting gaudy attire and species-specific courtship displays, North American hummingbirds experience relatively high rates of hybridization in areas where species breed in sympatry. Hybrids resulting from crosses between almost all species that share at least part of their breeding ranges north of Mexico have been reported (Clark et al. 2022). The Black-chinned Hummingbird (*Archilochus alexandri*), for example, may have hybridized with 11 of the 14 other species it encounters on its breeding grounds in the United States and Canada (Clark et al. 2022, Williamson unpubl. data). Interestingly, many of these hybrid crosses involve species classified in different genera, an observation that didn't escape an early study of hybridization in the group (Banks and Johnson 1961). These hybrids present many challenges for hummingbird identification, especially with less distinctive female and immature birds (Williamson 2001), and should be properly documented to improve our knowledge of "species" identification.

We note the striking absence from the compilation by Clark et al. (2022) of one pair of parental species that are believed to meet at least occasionally in western Canada: the Ruby-throated (*Archilochus colubris*) and Rufous (*Selasphorus rufus*) Hummingbirds. Here we advance six observations, including photographs, of at least four individuals from Alberta and British Columbia that we have identified as hybrid Ruby-throated × Rufous Hummingbirds.

On 26 May 2016, Gordon Petersen observed and photographed an adult male hummingbird with unusual characteristics as it visited a hummingbird feeder in his backyard in Beaver Mines, along the eastern edge of the Rocky Mountains in southwestern Alberta (49° 27' 32" N, 114° 11' 35" W). The bird

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had a red gorget, green sides washed with rufous, rufous flanks, buffy undertail coverts, and a unique tail pattern that distinguished it from regular species occurring in the area (Figure 1; this issue's back cover). The bird was viewed by multiple observers, and it was initially believed to be a good candidate for Alberta's first recorded Broad-tailed Hummingbird (*Selasphorus platycercus*), as its characteristics clearly eliminated all other potential species (Hudon et al. 2021).

However, there were several inconsistencies with this identification: the bird's small size compared to the feeder, proportionally large head, medium-length tail, pointed rectrix 5 (i.e., the outermost of the five pairs of rectrices), extensive rufous on the inner vane of rectrix 4, dusky green mask, scarlet gorget iridescence, narrow inner primaries, and medium-short bill appeared inconsistent with a Broad-tailed, but consistent with a hybrid of *Archilochus* with a Rufous or Allen's (*Selasphorus sasin*) Hummingbird. The gorget color pointed to the Ruby-throated rather than the Black-chinned, which would most likely have produced a broader non-iridescent band (Banks and Johnson 1961) and more rose-purple iridescence (e.g., <https://macaulaylibrary.org/asset/135627311>). Despite the wings' motion blurring the image, primaries (P) 2 and 3 (numbered from proximal to distal) appear to have elongated tips suggestive of the distinctive sinuous terminal contours of the inner primaries of an adult male Ruby-throated. Primaries 4 and 5 show outer vanes that are narrow for most of the feathers' lengths and slightly wider basally, a feature characteristic of *Archilochus* but not of the Broad-tailed Hummingbird. Given the remoteness of the breeding distribution of Allen's Hummingbird from that of the Ruby-throated, as well as the location of the observation, it seems reasonable to assume that a Rufous Hummingbird was one parent of this hybrid.

Our second apparent hybrid Rufous × Ruby-throated Hummingbird

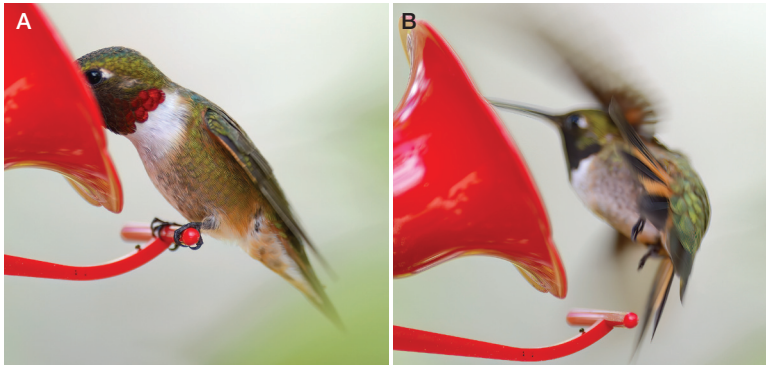


FIGURE 1. Apparent adult male hybrid Ruby-throated Hummingbird × Rufous Hummingbird in Beaver Mines, Municipal District of Pincher Creek, Alberta, 26 May 2016. Features inconsistent with a Broad-tailed and consistent with a hybrid of the Ruby-throated and Rufous/Allen's include small size compared to the feeder, proportionally large head, medium-length tail, pointed tip on the outermost rectrix (R5), extensive rufous on the inner vane of R4, dusky green mask, scarlet gorget iridescence, narrow inner primaries, and medium-short bill. See also this issue's back cover.

Photos by Gordon Petersen

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was also observed by Gordon Petersen at his feeders in Beaver Mines. This adult female, photographed on 6 May 2019 (Figure 2), was also thought to be a potential Broad-tailed Hummingbird. Though there is much individual variation in the plumage of female Broad-tailed Hummingbirds, the bird in question did not fit within the expected range. In particular, we noted the overly acute angles to the tips of P1–6, the shorter P8, the tips of P6–8 more widely spaced than those of P1–4, the notches on the inner vanes of P2–4, the outer vanes of P2–6 extending beyond the tips of the rachises, the blackish lores and eyelashes, the gorget being unspotted in the center, and the inconspicuous rufous on rectrices 3–5. Taken together, these characteristics point to another hybrid Rufous × Ruby-throated Hummingbird.

On 3 May 2023, Darlene Cancelliere photographed an adult male hummingbird at her feeders in Revelstoke, British Columbia, and uploaded the



FIGURE 2. Apparent adult female hybrid Ruby-throated Hummingbird × Rufous Hummingbird in Beaver Mines, Municipal District of Pincher Creek, Alberta, 6 May 2019. As with the male, size, proportions, and extensive blackish around the eye are inconsistent with the Broad-tailed. Though the primaries are superficially similar to those of an adult female Rufous, the widths and shapes of individual feathers suggest the Ruby-throated; see Figure 4. An album with additional photos can be found at <https://archive.westernfieldornithologists.org/archive/V55/williamson-photos.pdf>.

Photo by Gordon Petersen

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photos to <https://ebird.org/checklist/S136046922>. The photos show structure and coloration similar to the Beaver Mines male and primaries intermediate in shape between the Ruby-throated and Rufous Hummingbirds, with moderate “sawtooth” elongation of the tips of P2–5, slightly wider spacing between the tips of the outer primaries, and similarly narrow, pointed shapes of P1–8 (Figure 3).

In 2023, a fourth apparent hybrid Rufous × Ruby-throated Hummingbird was photographed in Calgary’s Griffith Woods Park and reported via eBird on 22 June by Marilyn Weber (<https://ebird.org/checklist/S142460611>), on 25 June by Diane Stinson (<https://ebird.org/checklist/S142719899>), and on 1 July by Daniel Martin (<https://ebird.org/checklist/S143276302>). In all three cases, the photos show an adult male with many of the same ambiguous characteristics seen in Petersen’s and Cancelliere’s photos. Stinson’s and Martin’s photos show additional details of the tail, specifically, a shallowly notched shape with rectrices 4 and 5 similar in length and rectrices 1–3 shorter, intermediate between the deeply notched shape of a Ruby-throated and the graduated shape of a Rufous. Weber’s photo also clearly shows green tips to the rufous feathers on the bird’s flanks. It is possible that these three observations represent more than one individual.

As expected for hybrid hummingbirds, many of the characteristics of these birds were intermediate between those of the parental species or leaning toward one or the other (Graves et al. 2016). Most diagnostic are the shapes of the primaries (see Figures 3 and 4), the colors and relative lengths of the rectrices, and the non-iridescent gorget band in the males.

Prior to these records, there have only been anecdotal reports of intergeneric hybrid combinations involving the Ruby-throated Hummingbird (see Silcock 2014, Toochin and Cecile 2014). Only two intergeneric combinations involving the Rufous Hummingbird had been documented: with Anna’s Hummingbird (*Calypte anna*), reported in Alaska, British Columbia, Washington, Oregon, California, Arizona, and Texas; and with the Black-chinned Hummingbird, reported in Alberta, British Columbia, Montana, Washington, Oregon, California, and Georgia (Clark et al. 2022; see also, for example, <https://ebird.org/checklist/S42345931>, <https://ebird.org/checklist/S112331669>, <https://ebird.org/checklist/S132091264>, <https://ebird.org/checklist/S73400190>, and <https://ebird.org/checklist/S37591649>). That records of intergeneric hybrids involving the Ruby-throated Hummingbird had not been documented is likely due mainly to this species breeding in allopatry from other members of its family across almost its entire range. The Ruby-throated hybridizes with the congeneric Black-chinned Hummingbird across a small area of sympatry in central Texas and Oklahoma (Judd et al. 2011, Graves et al. 2016).

Clark et al. (2022) noted that the breeding distributions of the Ruby-throated and Rufous Hummingbirds may overlap in northern British Columbia. June observations in community-science databases such as eBird.org and iNaturalist.org, often supported by photographs, suggest that a potential area of sympatry permitting hybridization extends from the Peace River Regional District in British Columbia southeast along the eastern edge of the Rocky Mountains to at least the Calgary area and perhaps as far as Waterton Lakes National Park. Though the Ruby-throated Hummingbird tends to favor deciduous and mixed-wood forests, avoiding coniferous forests and higher elevations (Phinney 2015), unlike the Rufous Hummingbird (Moran and Fra-

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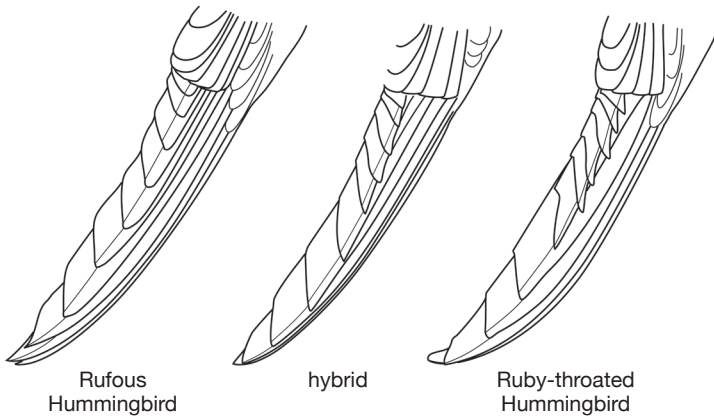
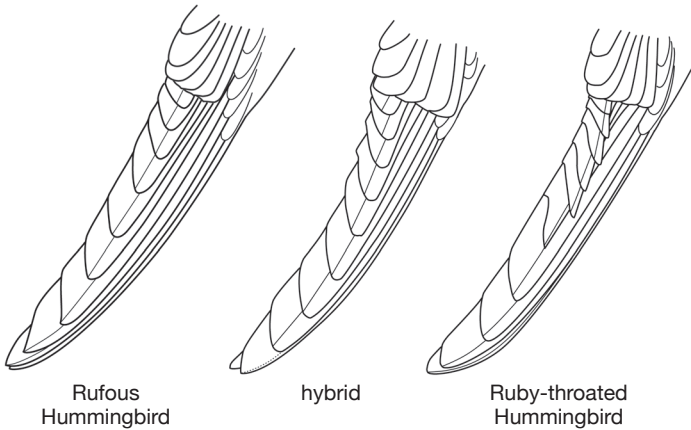


FIGURE 3. Comparison of the shapes of the primaries in adult males of the Rufous Hummingbird (left), the Ruby-throated Hummingbird (right), and two hybrid Rufous \times Ruby-throated Hummingbirds (center, based on photos by Darlene Cancelliere and Daniel Martin).

Vector drawing by Sheri L. Williamson



ADULT FEMALES

FIGURE 4. Comparison of the shapes of the primaries in adult females of the Rufous Hummingbird (left), the Ruby-throated Hummingbird (right), and a hybrid Rufous \times Ruby-throated Hummingbird (center, based on photos by Gordon Petersen). Characters intermediate between the Rufous and Ruby-throated include P2-4 with slight distal widening of the outer vanes and emargination of the inner vanes, tips of P6-9 spaced more widely than in the Rufous but closer than in the Ruby-throated, P7-8 with tips wider and less acutely angled than in the Rufous, and P9 shorter than P10 with a narrow blunt tip.

Vector drawing by Sheri L. Williamson

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ser 2015), both species are reported regularly from localities such as Calgary's Weaselhead Natural Area and Griffith Woods Park, the latter being the site of at least one of our apparent hybrids. As these sites lie at the edges of both species' ranges, it is likely both species occur there in relatively low numbers. Should they have difficulty finding conspecifics with which to breed, they may more readily mate with a related species (Sibley 1957, Qvarnström et al. 2023), even across generic boundaries if premating isolating mechanisms, like a strong mate-recognition system, haven't fully developed yet (see Banks and Johnson 1961, Grant and Grant 1992).

It is possible that extensions in the ranges of the Ruby-throated and Rufous Hummingbirds could explain the hybrids we have documented. However, evidence of range expansions for either species in recent decades is lacking (see Healy and Calder 2020, Weidensaul et al. 2020). The two breeding-bird atlases completed to date for Alberta, field work for the most recent of which concluded in 2005, do not appear to show any significant shifts in either hummingbird's breeding distribution (Federation of Alberta Naturalists 2007). Alternatively, hybrids could have been present for years, and a more likely explanation for their coming to our attention only now is the relatively recent proliferation of digital cameras capable of taking photos showing fine details like the structure of individual remiges, alongside the growing popularity of community-science websites and mobile applications (see Phinney 2015). Hummingbird identification can be challenging, requiring careful examination of often subtle distinguishing characteristics. Clark et al. (2022) estimated that observations on community-science sites may underestimate the incidence of hybridization in hummingbirds by as much as 90%. Further, observers identifying birds in the field may not seriously consider the possibility of hybrids, especially for combinations that have seldom, if ever, been documented previously. Hybrids that could easily be mistaken for another species, as was initially the case for at least three of our examples, are likely also overlooked. Databases such as eBird.org and iNaturalist.org now readily afford opportunities for experts in hummingbird identification to find and review observations of unusual individuals photographed anywhere and draw attention to those that may represent new hybrid combinations.

We hope that our documenting these apparent hybrid Rufous × Ruby-throated Hummingbirds will bring additional records to light, and our collective understanding of this intergeneric hybrid combination as well as hummingbird hybridization more generally will be strengthened. Toward this end, we encourage observers to document and report possible hybrids as promptly as possible through community-science platforms, on social media, or directly to interested individuals and organizations.

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elstoke hybrid to our attention. This contribution stems from work of the Alberta Bird Record Committee.

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