

## EXTREME HUMMINGBIRDS: THREE SPECIES NORTH OF THE 55<sup>TH</sup> PARALLEL

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**ABSTRACT:** The occurrence and distribution of the Ruby-throated (*Archilochus colubris*), Calliope (*Selasphorus calliope*), and Rufous hummingbirds (*S. rufus*) in British Columbia and Alberta north of the 55<sup>th</sup> parallel and east of the Rocky Mountains are poorly known. In 2011, we banded Ruby-throated Hummingbirds as far north as North Star, Alberta (56° 52' N), and as far west as Charlie Lake, British Columbia (121° 00' W). In both 2011 and 2014, we also banded Calliope Hummingbirds as far north as Charlie Lake, documenting overlap of the ranges of the Ruby-throated and Calliope hummingbirds in northeastern British Columbia in 2011. We confirmed breeding of the Calliope but not of the Ruby-throated or Rufous hummingbirds.

The Ruby-throated Hummingbird (*Archilochus colubris*) has the most extensive range of any North American hummingbird. It breeds from central Florida north to the Canadian maritime provinces and west to approximately 100° W in the United States and to approximately 114° W in central Alberta, Canada (Weidensaul et al. 2013). The Calliope Hummingbird (*Selasphorus calliope*) is a western species, nesting from California, Nevada, and Utah north to central Alberta and British Columbia (Calder and Calder 1994). The summer range of the Rufous Hummingbird (*Selasphorus rufus*) extends coastally as far north as Alaska, and the species is a common breeder and migrant in the mountains of western Alberta (Healy and Calder 2006) as well as through much of British Columbia. The occurrence and distribution of these three hummingbirds in British Columbia north of the 55th parallel and east of the Rocky Mountains is poorly known (see Calder and Calder 1994, Healy and Calder 2006, Siddle 2010, Weidensaul et al. 2013), and the northern limits of the Ruby-throated Hummingbird's range in Alberta are not well documented (Weidensaul et al. 2013).

In this study, we investigated primarily the western and northern limits of the breeding range of the Ruby-throated Hummingbird, but also wanted to learn more about the distribution of the Calliope and Rufous. To do this, we banded hummingbirds in northeastern British Columbia at 14 locations in 2011 and at 11 locations in 2014, and in north-central Alberta at five locations in 2011.

### METHODS

In British Columbia, all of our banding sites were east of the Rocky Mountains, most in the Peace River lowlands. This region is part of the Alberta Plateau, where the flat to rolling landscape contains towns and agricultural lands, forests of Black Spruce (*Picea mariana*) and White Spruce (*Picea glauca*), and groves of Trembling Aspen (*Populus tremuloides*) (Siddle 2010). Banding sites in Alberta were located primarily along the southern and eastern shore of Lesser Slave Lake; one site was situated near the Peace

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River outside of the village of North Star. In this part of Alberta, small towns, villages, and farms are bordered by scattered patches of boreal forest.

We used round cage traps baited with sugar-water feeders, and we trapped only at homes where hummingbirds were known to be visiting such feeders. We visited each location once, with banding sessions lasting 1–2 hours. We found suitable sites by contacting local birders and biologists, as well as by distributing news releases on our hummingbird research to local newspapers. After capture, each hummingbird was identified to species, sexed, and aged according to Ortiz-Crespo (1972), Baltosser (1987), and Pyle (1997) and banded with a numbered aluminum band provided by the Canadian Bird Banding Office.

In 2011, Cubie banded from 4 to 7 July and from 10 to 13 July at 14 homes in or near the British Columbia communities of Tupper, Pouce Coupe, Dawson Creek, Progress, South Taylor, Fort St. John, Charlie Lake, and Chetwynd (Figure 1). On 14, 16, 17, 23 and 24 July 2011, she also banded in Alberta in the towns of North Star, Slave Lake, Kinuso, and Canyon Creek (Figure 1).

From 28 June to 1 July 2014, Bassett banded in British Columbia at 11 homes. Six of the 2011 locations (in Tupper, Progress, South Taylor, Fort St. John, and Charlie Lake) were visited again; five homes (in Progress, Fort St. John, Hudson's Hope, and Chetwynd) were new (Figure 1). Three of these new locations were farther west than any of the 2011 sites.



Figure 1. Sites of hummingbird banding in Alberta and British Columbia (stars).

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### RESULTS

#### Ruby-throated Hummingbird

In British Columbia in 2011, we banded 10 Ruby-throated Hummingbirds (3 adult males and 7 adult females) in or near Tupper (1 female), South Taylor (2 females at 1 location), Pouce Coupe (1 male), Dawson Creek (1 male), Fort St. John (1 male and 1 female at 1 location), and Charlie Lake (3 females at 2 locations). In 2014, no Ruby-throated Hummingbirds were banded or observed. In Alberta in 2011, we banded 10 individuals (6 adult males and 4 adult females), at North Star (1 female), Slave Lake (4 males at 1 location), Kinuso (3 females at 1 location), and Canyon Creek (2 males at 2 locations).

#### Calliope Hummingbird

In 2011, we banded a total of 53 Calliope Hummingbirds (19 adult males, 2 hatching-year males, and 32 adult females) in or near the British Columbia towns of Dawson Creek (1 female at 1 location), South Taylor (1 male and 5 females at 3 locations), Charlie Lake (5 females at 2 locations), Fort St. John (3 males and 3 females at 2 locations), Tupper (3 males and 4 females at 2 locations), Pouce Coupe (5 females at 1 location), Progress (13 males and 8 females at 2 locations), and Chetwynd (1 male and 1 female at 1 location). The two hatching-year birds were banded in Progress. In Alberta in 2011, no Calliope Hummingbirds were observed at any of the locations.

In 2014, we banded 60 Calliope Hummingbirds (23 adult males and 37 adult females) in or near the British Columbia towns of Tupper (2 females at 1 location), South Taylor (1 male and 2 females at 2 locations), Fort St. John (4 females at 2 locations), Charlie Lake (5 females at 1 location), Progress (18 males and 17 females at 2 locations), and Chetwynd (4 males and 7 females at 2 locations).

#### Rufous Hummingbird

In British Columbia, in 2011, we banded one adult female in South Taylor; in 2014, one adult female in Tupper, two adult females near Hudson's Hope, and 12 adult males near Chetwynd. At the Alberta banding sites in 2011, no Rufous Hummingbirds were observed.

### DISCUSSION

During July 2011, all Ruby-throated Hummingbirds we captured were in yards where Calliope Hummingbirds were also present, documenting a range overlap of these two species in northeastern British Columbia. More research is needed to determine if Ruby-throated Hummingbirds still persist in this area, after our failure to find any in 2014. Siddle (2010) and Phinney (2015) thought that the Ruby-throated might be outcompeted in northeastern British Columbia by the Calliope and Rufous hummingbirds, which appear to be expanding their ranges and numbers there. Via [www.ebird.org](http://www.ebird.org), Peter Candido documented (with photos) at least one male and one female Ruby-throated on 24 June 2015 at one of our banding sites in

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South Taylor, British Columbia.

It is not surprising that the Ruby-throated Hummingbird occurs in northeastern British Columbia, as the habitat is similar to that found farther east where the species is known to breed. Other eastern bird species also reach the western limits of their range in northeastern British Columbia, including the Rose-breasted Grosbeak (*Pheucticus ludovicianus*), Eastern Phoebe (*Sayornis phoebe*), Baltimore Oriole (*Icterus galbula*), and Blue Jay (*Cyanocitta cristata*) (Sibley 2014).

Two female Ruby-throated Hummingbirds banded in 2011 at Charlie Lake, British Columbia (121° 00' W), mark the farthest west this species has been banded (L. Laurin, Canadian Bird Banding Office, in litt., 2016) and also the westernmost locality where multiple individuals of this species have been observed (see Toochin et al. 2014). However, Sturney (2007) and Toochin et al. (2014) reported occurrences of single birds even farther west in British Columbia, including the Vancouver area. A female Ruby-throated banded in 2011 near North Star, Alberta (56° 52' N), represents the northernmost banding of this species (L. Laurin, Canadian Bird Banding Office, in litt., 2016). We did not confirm breeding at either location. No immatures were seen.

Two female Calliope Hummingbirds captured at Charlie Lake (at 56° 20' N) in 2011 and five females captured nearby (56° 17' N) in 2014 are the northernmost banded of this species (L. Laurin, Canadian Bird Banding Office, in litt., 2016). Two juvenile male Calliopes banded in Progress, British Columbia (55° 45' N, 120° 44' W), confirmed that species' breeding at the northern limit of its range in 2011. Both immature birds were very young, showing extensive corrugations on their bills, and one showed a yellow gape (see Ortiz-Crespo 1972). In 2014, however, we recorded no immatures, possibly because our banding took place before any young fledged.

We could not ascertain whether the Rufous Hummingbirds we encountered in northeastern British Columbia were local breeders, wanderers, or early migrants. No juveniles were documented and breeding was not confirmed.

Ruby-throated Hummingbirds dropped out as we moved to the west. In Progress, Hudson's Hope, and Chetwynd, we encountered only Calliope and Rufous hummingbirds. Of the 14 hummingbirds banded at our westernmost location, along Highway 97 between Chetwynd and Prince George (55° 36' N, 121° 56' W), 12 were Rufous and 2 were Calliope. Elevation and habitat likely play roles in the western limit of range of the Ruby-throated and also in the distribution of the Rufous and Calliope.

More research is needed to determine if Ruby-throated Hummingbirds remain and nest in northeastern British Columbia. Also, this species, as well as the Calliope Hummingbird, might range as far north as Fort Nelson, British Columbia, where the habitat is similar. In northern Alberta, Ruby-throated Hummingbirds might also occur well north of 56° N, although probably in very low numbers. The challenge in these remote areas is finding locations with sugar-water feeders, which concentrate the hummingbirds and make banding possible, thereby documenting not only occurrence but also an approximation of the number of birds.

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