

RAPID SECOND NESTING BY ANNA'S HUMMINGBIRD NEAR ITS NORTHERN BREEDING LIMITS

ANN SCARFE, 4090 Gordon Head Road, Victoria, British Columbia V8N 3Y1
J. CAM FINLAY, 270 Trevlac Pl., Victoria, British Columbia V9E 2C4

Anna's Hummingbirds (*Calypte anna*) were first reported in Victoria, British Columbia, in December 1944 and again each winter until 13 January 1947. Sightings continued through the 1950s (Taylor and Harper 1987), increased in numbers each year, and by 1970 the first individual was noted on the Victoria Christmas bird count. Numbers increased on subsequent counts, with 177 noted in 1998 (D. Pearce pers. comm.). With these data and our banding records over the past two years, we estimate a minimum of 300 Anna's Hummingbirds spend the winter and spring on the southeastern tip of Vancouver Island (greater Victoria). Given these numbers, we suspect this species might exhibit nesting overlap here as it does in Arizona and California (Russell 1996, Maender et al. 1996).

The first documented nest of Anna's Hummingbird in Canada was found near Duncan, 50 km north of Victoria, in July 1958. In Victoria a nest was first seen 30 years later on 29 February 1988 (Campbell et al. 1990). Since then, nests have been found in increasing numbers each spring.

Our study was conducted in Scarfe's private garden approximately 1.5 km northeast of the University of Victoria, near the south end of Vancouver Island, from February to mid April in both 1998 and 1999. The female discussed here that laid two clutches was caught by means of a feeder within a wire cage trap. We banded her and colored the top of her head orange with Liquitex Value Series Basics acrylic color, a water-based paint that lasts about five months. Nest observations were made with the aid of a mirror on a long handle, with 7, 8, and 9× binoculars and a 27× spotting scope. We obtained temperature data from the weather station on the campus of the University of Victoria.

By the end of February 1998, Scarfe had located four active Anna's Hummingbird nests in the greater Victoria region. When first spotted on 19 February, one of these (nest 1) was being built by a female 3.3 m above ground in Scarfe's yard. The nest sat on a bare Douglas fir (*Pseudotsuga menziesii*) branch, 4 cm in diameter, with dense needle coverage above it and on its north and south sides. The north-facing wall of Scarfe's residence was 2 m away, providing shelter from winds from the southeast. This nest contained two eggs when first checked for eggs on 21 February. By 3 March, nestlings were being fed, the first of which fledged on 20 March, the second on 23 March. The adult female was never trapped or color marked.

On 22 March, only 33 m to the southwest of nest 1, Scarfe discovered a second female building a nest on the topmost, unsheltered branch of an apple tree (*Malus* sp.), 4.75 m above ground. This female was trapped, banded, and color marked on 23 March. That day we watched the unmarked female feeding one newly fledged juvenile. Also on 23 March, the marked female was seen feeding two newly fledged young (estimated 1–3 days out of the nest) in dense shrubbery about 8 m from the new nest tree. On 25 March we noted this female sitting on her nest at 10:00 when she left to feed the nearby fledglings about 7 m away. At 10:30 that day, we noted two eggs in the new nest.

On 30 March, the marked female was incubating eggs and feeding her two fledglings, which were now more than 25 m away from nest 2 but still calling for food. By 3 April only one fledgling, being fed by the female, could be located. The next day it too disappeared.

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The marked female's eggs hatched on, or just before, 14 April. We noted the female feeding nestlings and a small bill poking above the nest's rim on that day. The two nestlings were present on 23 April, but the nest was empty on 27 April. The nest remained intact. The marked female remained around for several days and then disappeared. Over the summer both nests were gone. Feeders were available all summer but were seldom used.

All four nests of Anna's Hummingbirds that Scarfe found in 1998 had incubating females by the end of February. Another nest 2.5 km southeast of Scarfe's residence fledged two young on 28 and 29 March 1998.

The marked female was trapped again on 18 September 1998 and remarked. On 12 February 1999 this marked female was seen building a nest in the exact spot where the unmarked female built the previous year. An egg was present on 19 February, almost a year from when the unmarked female began laying in 1998. A second egg appeared the next day. Both had hatched by the morning of 7 March, but the nestlings died that day.

The southeast side of Vancouver Island has a Mediterranean-type climate with cold, wet winters. January temperatures sometimes fall below 5° C at night, but by mid February, overnight low temperatures seldom go below freezing and, if so, to only -1° or -2° C.

In both 1998 and 1999 eggs were laid on or just before 19 February. Since the mean temperature for February was 5.5° C in 1998 but only 3.6° C in 1999, it would seem that similarities in time of nest construction and egg laying in the two years were not entirely temperature dependent. We suggest that the early breeding has been aided by the increased numbers of hummingbird feeders being left filled all year, a result of public knowledge of the presence of this species.

Because Anna's Hummingbirds do raise two broods in California and Arizona (Russell 1996) and have been confirmed breeders on southern Vancouver Island for at least 40 years it was not surprising to find two broods being raised in Victoria.

In 1999, the marked female selected the exact site used in 1998 by the unmarked female the previous year. Because this was a more sheltered site than the marked female had used the previous year, perhaps it was selected to avoid the effects of cold stress. Calder (1974) found that an Anna's Hummingbird selected a sheltered nest site located so that the temperature within the nest was slightly warmer than the surrounding ambient air.

Overlap of two broods (a female feeding late nestlings and incubating a second clutch simultaneously) was observed in the Broad-tailed Hummingbird (*Selasphorus platycercus*) by Bailey (1974).

The use of the same spot two years in a row by an Anna's Hummingbird is relatively uncommon but does occur. One of the earliest citations is by Bendire (1895). W. M. Tyler (in Bent 1940) noted that several other species of hummingbirds, including the Ruby-throated (*Archilochus colubris*), Costa's (*C. costae*), Rufous (*S. rufus*), and Allen's (*S. sasin*), have re-nested on the same site in two or more consecutive years. Tim Manolis (pers. comm.) has observed Black-chinned Hummingbirds (*A. alexandri*) reusing the same site in California.

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LITERATURE CITED

- Bailey, A. H. 1974. Second nesting of Broad-tailed Hummingbirds. *Condor* 76:350.
Bendire, C. E. 1895. Life histories of North American birds from the parrots to the grackles. U. S. Natl. Mus. Spec. Bull. 3.

NOTES

- Bent, A. C. 1940. Life histories of North American cuckoos, goatsuckers, hummingbirds and their allies. U. S. Natl. Mus. Bull. 176.
- Calder, W. A. Jr. 1974. The thermal radiant environment of a winter hummingbird nest. *Condor* 76:268-273.
- Campbell, R. W., Dawe, N. K., McTaggart-Cowan, I., Cooper, J. M., Kaiser, G. W., and McNall, M. C. E. 1990. The Birds of British Columbia, vol. 2. Royal Br. Columbia Mus., Victoria.
- Maender, G. J., Hiatt, K. L., and Bailey, S. J. 1996. Nesting Anna's Hummingbirds in urban Tucson, Arizona. *W. Birds* 27:78-80.
- Russell, S. M. 1996. Anna's Hummingbird (*Calypte anna*), in *The Birds of North America* (A. Poole and F. Gill, eds.), no. 226. Acad. Nat. Sci., Philadelphia.
- Taylor, K., and Harper, C. 1987. Anna's Hummingbird (*Calypte anna*) on Vancouver Island. *Victoria Nat.* 43 (6):9-11.

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