

NOTES ON PARENTAL CARE BY CASSIN'S VIREOS

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Abstract -- A pair of Cassin's Vireos were observed at their nest near Nelson, British Columbia. Both the male and female brooded and fed the nestlings. Shared parental care has not previously been reported for this species.

Key words: behaviour, breeding, Cassin's Vireo, Kootenay region, parental care, *Vireo cassinii*

Cassin's Vireo (*Vireo cassinii*) was until recently considered to be a western subspecies of the widespread Solitary Vireo (*V. solitarius*). Molecular genetic studies (Murray *et al.* 1994, Johnson 1995) showed sufficient differences for the Solitary Vireo complex to be split into three distinct species: Cassin's Vireo in western North America, Blue-headed Vireo (*V. solitarius*) in the north and east, and Plumbeous Vireo (*V. plumbeus*) in the southwestern portion of its range (AOU 1997). Prior to splitting, most behavioural studies of Solitary Vireo appear to have been performed on the eastern and southwestern forms; consequently, there are major gaps in our knowledge of Cassin's Vireo life history (Goguen and Curson 2002).

On 31 May 2004, I located an active Cassin's Vireo nest near Nelson, British Columbia. The nest was placed 2.0 m off the ground in a twig fork of a Douglas Maple (*Acer glabrum*) sapling and was poorly concealed. An adult was incubating four eggs. When I returned to the nest on 2 June the presumed male (based on singing behaviour) of the pair was singing overhead while the presumed female was incubating. Over the next five minutes the male descended toward the nest and continued singing until it alighted in the nest tree. The female left the nest and the male settled into it to incubate.

On the afternoon of 3 June the nest contained one egg and three young. Both adults were present. The bird in the nest continued brooding for 15 min after my arrival, then the second bird came with food, fed one or more chicks, and brooded for nearly 15 min. The first bird returned with food, fed a chick, and brooded for 40 minutes, after which I left. The sex of the individuals was not known during these observations but it was clear that both members of the pair participated in the brooding and feeding of the young.

I continued to observe the nest, making six more visits between 4 and 14 June. Brooding continued until at least 8 June and both adults fed the young throughout the nestling period. Once, I saw an adult vireo remove a faecal sac. On 15 June the four young were huddled inside the nest. On the following day the nest was empty and fresh droppings were found on the ground below. Although I searched the area for several minutes, I did not see any fledgling vireos. However, the pair scolded me vigorously and one adult was carrying food. In addition, one bird fluttered its wings as if begging in an apparent distraction display, while the other flew at my head and snapped its beak.

The account for Cassin's Vireo in the Birds of North America indicates a lack of information on many aspects of the species' biology, particularly its breeding behaviour (Goguen and Curson 2002). While incubation by both adults was reported, it was not known whether one or both provided care of the young after hatching. Under the section titled "Parental Care", the statement "no information" occurs in all three subheadings: brooding, feeding, and nest sanitation. Cassin's Vireo was assumed to behave similarly to the closely related Plumbeous and Blue-headed vireos, in which both adults care for young, but those details had not been confirmed at the time of the publication of the Cassin's account (Goguen and Curson 2002). Although based on a single pair of unmarked birds, my observations show that male and female Cassin's Vireos share the feeding and brooding of young in the nest. In addition, one of the pair was observed to remove a faecal sac to provide nest sanitation. The four young likely hatched on 3 June and left the nest 16 June, indicating a fledgling period of approximately 13 days which falls within the range of 11-15 days noted by Goguen and Curson (2002).

Many aspects of the life history of Cassin's Vireo remain poorly known, providing birders in British Columbia with an unusual opportunity to make significant contributions to the knowledge of this species' biology.

LITERATURE CITED

- American Ornithologists' Union. 1997. Forty-first supplement to the American Ornithologists' Union *Check-list of North American Birds*. *Auk* 114:542-552.
- Goguen, C.B. and D.R. Curson. 2002. Cassin's Vireo (*Vireo cassinii*). In A. Poole and F. Gill (Editors). *The Birds of North America*, No. 615. The Birds of North America, Inc., Philadelphia, Pa.
- Johnson, N.K. 1995. Speciation in vireos. I. Macrogeographic patterns of allozymic variation in the *Vireo solitarius* complex in the contiguous United States. *Condor* 97:903-919.
- Murray, B.W., W.B. McGillivray, J.C. Barlow, R.N. Beech and C. Strobeck. 1994. The use of cytochrome B sequence variation in estimation of phylogeny in the Vireonidae. *Condor* 96:1037-1054.