

MISDIRECTED PARENTAL CARE BY LEAST FLYCATCHERS AT A WARBLING VIREO NEST

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Some birds use the nests of other birds of the same or a different species for their own breeding attempts. The use of an inactive nest is termed nest re-use, whereas the physical takeover of an active nest is known as nest usurpation.^{7,8} In addition to raising their own young in a nest built by another bird, songbirds occasionally have been recorded directing parental care toward the young of another species and this usually involves the feeding of nestlings or fledglings.¹¹ This behaviour, known as misdirected parental care, differs from brood parasitism wherein a female parasite lays her eggs in the nests of other birds and leaves the care of her offspring to the foster parents. In rare cases, misdirected care may progress to adoption of an unrelated brood, such as a pair of Song Sparrows that gradually took over nearly complete care of a brood of Yellow Warblers.⁹ Here, I describe a similar case of misdirected parental care involving a pair of Least Flycatchers at a Warbling Vireo nest that began during the egg stage.

On 20 June 2001, I discovered a vireo nest approximately 7.5 m high in a Manitoba Maple (*Acer negundo*) at Delta Marsh, Manitoba. The small nest was a cup-shaped type that was light-coloured and suspended from the fork of a small branch. No birds were seen near the nest, but a Warbling Vireo sang about 20 m to the north.

Based on past research experience with vireos nesting at Delta Marsh, I was certain

this was a Warbling Vireo nest. Of the three species of vireos that have been recorded nesting there, Warbling Vireos are the most abundant, whereas Red-eyed Vireos nest in low numbers and Yellow-throated Vireos are extremely rare nesters in one localized area (personal observations).¹² Neither Red-eyed nor Yellow-throated Vireos were detected in the general vicinity of the nest before or after it was discovered. Two other factors, nest placement and construction, support the identification of this nest as a Warbling Vireo's. At Delta Marsh, Warbling Vireos nest high in the canopy at an average of 8.6 m with 88 % of nests located above 5 m (n = 156 nests), whereas Red-eyed Vireos, on average, nest lower at 4.1 m with 69 % of nests located below 5 m (n = 29 nests; unpublished data). Most Warbling Vireo nests in this area are composed largely of plant down that is covered on the outside with grasses or strips of cattails (*Typha* spp.). Nests composed of these materials appear fairly light in colour. In contrast, Red-eyed Vireos in this area use strips of bark in the outer layer of their nests, which, as a consequence, appear coarser and more brown in colour than Warbling Vireo nests. Because of these differences, the nests of these two species can be reliably separated with experience.

I examined the nest through binoculars the next morning and saw a Least Flycatcher sitting on it. Later that day, the flycatcher was flushed from the nest and the contents were examined with a mirror mounted on

an extendable pole. Much to my surprise, the nest contained four white eggs with dark spots, and not the immaculate white eggs that Least Flycatchers lay. With the help of Spencer Sealy and Robyn Underwood, I climbed to the nest and brought the eggs down for a closer inspection. They were briefly examined and replaced. The eggs were clearly those of a Warbling Vireo. They were white and had characteristic brownish-black spots sparsely covering the egg but concentrated toward the large end. Although not measured, the eggs appeared larger than Least Flycatcher eggs. Average egg measurements are 19.0 x 14.1 mm for Warbling Vireos and 16.8 x 13.0 mm for Least Flycatchers.^{1, 5}

I monitored the nest almost daily until 30 June. A single adult flycatcher was observed on the nest at each of these visits. The nest still held all four eggs on 24 June, but when next checked, on 26 June, only nestlings were present. Due to the height and position of the nest, the exact number of nestlings was difficult to determine. A pair of adult Least Flycatchers was observed twice at the nest on 26 June. In the morning, one bird was on the nest and the other was perched 2 m below it. In the afternoon, I observed a flycatcher leaving the nest and another bringing food to the nestlings. On 28 June, the nestlings were begging when the mirror was raised and at least three young were observed. Nestlings were still present on 30 June, but on 5 July the nest was empty. Warbling Vireos fledge about 14 days after hatching,⁵ thus, the young could not have fledged in the interim.

I do not know the cause of nest failure. However, an incompatible diet fed to the nestling vireos is an unlikely cause of failure. Although the food provided to nestling Warbling Vireos has not been described,⁵ both Least Flycatcher and Warbling Vireo adults at Delta Marsh feed on a similar arthropod diet that consists largely of midges (Diptera: Chironomidae) during the breeding season¹⁰ and Least Flycatchers

provide their nestlings with a midge-dominated diet.¹

Interspecific feeding has been attributed most often to either an individual's nest being close to that of another species or a mixed clutch of eggs resulting from nest usurpation.¹¹ Least Flycatchers are not known to usurp active nests.¹ However, they occasionally re-use the nests of other Least Flycatchers² and there is one record of a failed Yellow Warbler nest being re-used by a Least Flycatcher for a breeding attempt.⁶ In addition, there are two records of Least Flycatchers feeding nestlings of other species: one Least Flycatcher fed nestling Chipping Sparrows³ and another was observed feeding two Brown-headed Cowbird nestlings at a Red-eyed Vireo nest.⁴ The close proximity of the Least Flycatcher's nest to the Chipping Sparrow nest was suspected as the cause of interspecific feeding in the first instance.^{3, 11} A mixed-species pairing was implied as the cause of the behaviour at the Red-eyed Vireo nest,⁴ but there was little evidence to support this.

As I did not observe the circumstances that led up to this case of misdirected parental care, I can only speculate as to the potential causes of this behaviour. The flycatchers may have attempted to use this vireo nest for their own breeding effort after usurping the nest or re-using a deserted nest, but either did not lay their own eggs or lost them. An alternative to nest usurpation or re-use is the outright adoption of a deserted vireo clutch by the flycatchers. If this were the case here, I would have suspected not only a nearby Least Flycatcher nest, but one that had recently failed. With Robyn's help, an area of approximately 5 m in diameter around the Warbling Vireo nest site was searched for a Least Flycatcher nest. No active or failed flycatcher nest was found in this area. Unfortunately, there was too little evidence to determine the cause of the misdirected parental care I observed. This observation adds to the previous records of

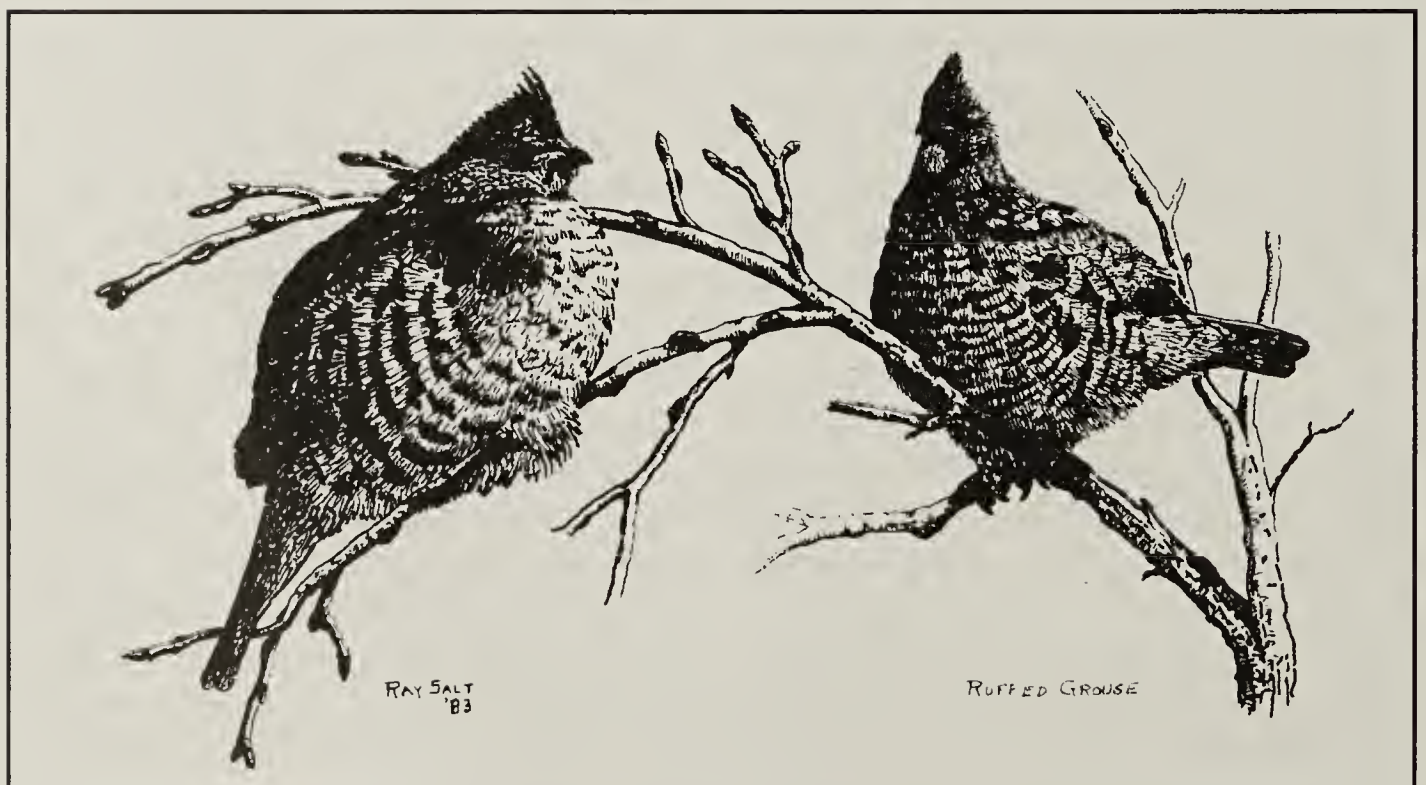
interspecific feeding in Least Flycatchers, but, to my knowledge, is the first record of Warbling Vireos being involved in any such strange nesting situation.^{5, 11}

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Ruffed Grouse

W. Ray Salt