

A Gray Kingbird in Nova Scotia, and the Perils of **Online** Identification

Randy F. Lauff • Antigonish, Nova Scotia • rlauff@stfx.ca

Ian A. McLaren • Halifax, Nova Scotia • iamclar@dal.ca

Ash-throated Flycatcher.

Riverside County, California; April
2006. Photo by © Brian E. Small.



In this note we provide evidence supporting Nova Scotia's third reported Gray Kingbird. Much critical identification of birds is now made from images posted on the internet, often with controversy. Our account also may be taken as a lesson on the problems of identification from low-resolution images of ill-posed birds, even by very experienced birders. A general essay about the perils of birding in the internet era is provided by Lehman (2008).

The Original Sightings

On 18 November 2010, Lauff received an e-mail and attached image from Marilyn O'Brien, who lives in an isolated house with several feeders amid bird-rich surroundings near the hamlet of Lanark, some six kilometers (3.7 miles) northeast of Antigonish, Nova Scotia, and who occasionally reports birds of interest to him. O'Brien wrote:

My latest visitor [was] at lunch time. It flew right up to the window and...was definitely a kingbird, but the color was gray instead of the usual almost black shade. When I first saw it...I thought it might be a shrike because of the color. I see Gray Kingbird in the [bird] book but it should not be anywhere near here. Wish I had gotten [a] close-up, but by the time I got the camera this was the best I could do...

Later that day, Lauff received another e-mail message from O'Brien. It read:

Crazy as all this seems, I actually saw another flycatcher this afternoon. This one was smaller, leaner, and [had] chestnut outer wings and yellow flanks...It came back several times but in my haste to get a still shot I lost out because my digital camera is relatively new and I don't "get the hang of it" yet. I did manage however to get a video of this second bird...wondering after this day if flycatchers actually flock together at this season. The second bird I saw was certainly smaller, leaner and with the markings already described. The one I saw earlier was impressive with its size, all white breast and complete grayness otherwise...It is not an Eastern Kingbird because it [did] not have the white tail fringe. On the other hand, if it is a Gray Kingbird, I cannot see the fork in the tail...If I manage to [get] another photo or get to diagnose the second bird, I'll get back to you. Sorry I did not get a better photo of the first bird, though, because it was right in my face through the window.

It should be noted that late on 18 November, upon request by Lauff, O'Brien responded, "When [the bird] was right 'in my face,' I did not see a mask." The image of the first bird was sent to Lauff in low resolution, with the bird's length only about 5% of the frame width. The next day, Lauff reported the bird to the Nova Scotia rare bird alert (NS-RBA), and he placed the un-cropped image—which he understandably characterized as "not even diagnostic"—on his website; this image is reproduced on p. 31.



Gray Kingbird. Key West
Botanical Gardens, Florida; April 1996.
Photo by © Kevin T. Karlson-VIREO.

High-quality photos of conveniently posed birds generally do not present challenges for experienced students of bird identification. For example, both the Gray Kingbird (above) and Ash-throated Flycatcher (left) are easily identified in the photos shown here. But rare birds often do not pose long enough to allow crisp photos showing diagnostic field marks.

In this article, we consider the difficulties presented by a grainy photo of an inconveniently posed flycatcher far out of range in Nova Scotia. To be sure, the internet revolution has led to a proliferation of photo-documented rarities that would have "gotten away" in the past. But as this article alerts us, online photo identification is not without its challenges.

McLaren believed the photo to be of a Gray Kingbird, increasingly noted as a vagrant in the fall to the Atlantic coast north of North Carolina (Armistead and Iliff 2003). So he solicited opinions regarding the low-resolution image from contributors to the online “Frontiers of Field Identification” (hereafter, F-ID) discussion group <tinyurl.com/44rxz9s>. Additional details and context (for example, the observer’s e-mail message to Lauff) were not provided to F-ID; only the photo itself was submitted for discussion. As a result of his inquiry, McLaren received more than 30 public and private responses, including multiple responses from a few respondents.

A Sighting the Next Day

Fulton L. Lavender, an experienced birder, observed the kingbird at 9:15 a.m. the next morning, 19 November 2010, while his two companions were unfortunately looking elsewhere. In his account, Lavender says:

I stepped to my right to get a better view of the yard and immediately noticed a large, gray-and-white, blackbird-sized kingbird perched horizontally, side on, below two Blue Jays, on the bottom rail of the back fence, perhaps 20 meters away. I took a few seconds to note some critical field marks and then attempted to get [a companion’s] attention. As I began to speak...the kingbird flipped over the fence and dropped out of sight...The rest of the cold, viciously windy day was spent in a fruitless search for the bird.

Lavender noted the following field marks during his fairly brief sighting:

Structure: Large, heavy headed with rounded crown; very long, heavy bill, almost disproportionate for the size of

the bird; proportionally short-winged and long-tailed; fairly long, heavy feet for a kingbird; tail was slightly folded. No fork was discernable. Color: underbody white from throat to undertail coverts; rear flanks with a bit of gray dividing undertail from flanks; upper body gray, including crown (very dark in centre, may have been wet), nape, back, rump, uppertail, coverts and upper tail; lesser, median, greater, marginal coverts and primaries darker gray, secondaries paler; no wing bars; tertials black with white edgings; face with a blackish mask, contrasting with gray crown; underwings whitish. Voice: No call notes were heard.

Critical Analyses of the Images

The images obtained by O’Brien 18 November clearly show two very different birds. The first (inset, p. 31), which is cropped from the high-resolution original, appears to be perched nearly parallel to the measured foreground limb, with its head pointed to the right directly away from the camera. It is in first-fall (“formative”) plumage, judging by its blunt, rounded primary tips, among other features. Above it is gray from the crown to the tip of tail, but with brownish washes on parts of the crown, mantle, and tail. It has prominently white-margined tertials. There are whitish margins at the edges of the greater coverts, and a hint of one on an outer median covert, but nothing that might be termed a wing bar. There is no hint of yellow on the exposed flank. Some confusing background features have been clarified from later images and a visit to the scene by Lauff (see inset, p. 31).

The less-focused image of the second bird (p. 30) shows a bird with a small bill, a pale gray breast, and a pale yellow belly and flanks. Its head and forewing are gray-brown, its back is paler, and its hind wings are a darker chestnut. There appears



Although blurry, these videograbs are diagnostic, depicting a rare **Ash-throated Flycatcher** in a Lanark, Nova Scotia, backyard on 18 November 2010. The existence of these photos created an interesting psychological challenge for the photo-identification of another, even rarer flycatcher species *in the same yard on the same day*. See text for details. *From video made by © Marilyn O’Brien.*



Where's Waldo? Note the gray-and-white flycatcher in the upper right portion of the photo; this bird appeared in the same yard and on the same date as the bird depicted on p. 30. Birders who attempted to identify this bird—eventually determined to be Nova Scotia's first photo-documented **Gray Kingbird**—were challenged by the problematic quality of the image, as well as by their own notions about what the bird was or wasn't. *Photo by © Marilyn O'Brien.*

to be a median-coverts wing bar, but any other pale edgings on the bird's greater coverts and flight feathers are presumably obscured by the wing angle and poor focus. It does not at all resemble the image of the first bird, but it readily fits Ash-throated Flycatcher, a rare but annual vagrant to the Atlantic coast from the mid-Atlantic region north to Atlantic Canada.

Of those who commented on the original, low-resolution image posted to F-ID, only three were for Gray Kingbird, one was for a (tail-worn) Eastern Kingbird, six were for Ash-throated Flycatcher or some other *Myiarchus*, four were for Black Phoebe, and two were



In this close-up, the arrows and annotations were used to obtain measurements analyzed in the text. The distance between the two small branches was measured by Lauff, who also determined that the dark area left of the head is a background feature, and that the white areas behind the nape are magnolia buds. The small, pale, triangular feature just beyond the arrowhead at the primary tip was also found to be a background feature, not a projection of the limb cutting off a "true" primary tip beyond. *Photo by © Marilyn O'Brien.*

for Eastern Phoebe. Three, perhaps wisely, considered the bird to be unidentifiable from the photo. Later, Lauff obtained the full-resolution image from the photographer. He also downloaded still images from her video of the second flycatcher.

Contributors to F-ID raised several objections to the identification of the first bird as a Gray Kingbird. Other objections were raised in private exchanges with those contributors and by others. Among the various objections, some certainly were related to the quality of image posted online. Others were not. Here is a summary of the objections:

1. The occurrence of two greatly displaced vagrant flycatchers on the same November day in the same backyard seemed highly improbable to some. Thus, some observers assumed that the reports from O'Brien's yard in Lanark must have pertained to only one bird. However, laggard migrants and vagrants in severe weather are well known to associate with each other, perhaps because they find highly local, reliable food sources and/or because they recognize similar foragers. In this regard, we note that several warbler species are found routinely into early winter in a short stretch of pines in Point Pleasant Park, Halifax, Nova Scotia. With regard to the present matter, we note that O'Brien's back yard contained unharvested apples, which are known to sustain flying insects and attract insectivorous birds in early winter.
2. The behavior of the bird, huddled on a low branch, was too "unkingbird-like" for others. However, remote vagrants in severe weather—the temperature was near freezing on 18 November—often behave unexpectedly. For example, a Gray Kingbird lingering in November 2006 near the tip of the Gaspé Peninsula in Québec spent time feeding on sea buckthorn (*Hippophae rhamnoides*) berries, and a published image shows it perched on a low shrub (Bannon et al. 2007). One respondent noted that a Gray Kingbird in Maine in early November 2010 spent some time perched low, and an internet image of that bird shows that bird huddled on thick spruce foliage <tinyurl.com/3psj2m3>. Another internet photo of a Gray Kingbird 23 October 2010 at Savannah, New York, shows a bird perched on a branch in the middle of a small tree <tinyurl.com/3hp3mze>.
3. The initial observer did not see a mask, although that mark was anticipated and noted by the second, experienced observer. The mask of the Gray Kingbird is not obvious on underexposed or low-light internet images.
4. Several people believed that the tertials were too prominently white margined for Gray Kingbird, more resembling those of Ash-throated Flycatcher. The image is "soft," and that may overemphasize breadth of the white fringes by ren-

dering marginal pixels as white. This feature is very variable among internet images; some, including two juveniles shown in *Birds of North America Online* (Smith and Jackson 2002), have white margins as conspicuous as, or more so than, those of the Nova Scotia bird.

5. Others invoked the brownish washes on the crown, back, and tail of the bird as a trait for Ash-throated Flycatcher. However, Pyle (1997) notes for Gray Kingbird that the juvenile, from August until the second half of November, has "upperparts washed brownish." The head, lower back, wings, and tail of a recently molted Ash-throated are considerably darker and browner.

Further Analysis: The Ratio Approach

To investigate the matter further, we attempted to extract more information from the higher-resolution image using the measured approximately 223-millimeter distance between two branches on the foreground limb (see inset, p. 31). If the bird was perched reasonably parallel to that limb, then its apparent size would exclude both phoebes, but not Ash-throated Flycatcher. If the branch was parallel to the plane of the image, and the bird was perched at an angle, the bird could be even larger. But, if the bird was parallel to the plane of the image, and the measured branch was as much as 45° off that plane (very unlikely from inspection of the photo), simple geometry would indicate that the bird's true size could fall within the size range for the two phoebes.

An alternative approach using *ratios* of measurements from images is more trouble-free. McLaren (1996) used this approach to help identify the province's first confirmed Acadian Flycatcher, and it has recently been explored for separating the wood-pewees (Lee et al. 2008) and for resolving differences among *Empidonax* flycatchers (Rowland 2009). Using such ratios requires only that the two measured parts be reasonably coplanar. In the image of the first bird, the distance from the base of the exposed tertials (that is, the edge of the greater coverts) to the tip of the primaries as a proportion of the distance to the tip of the tail is 0.49. We also estimated this ratio on ten good internet images of the two large candidate species, Gray Kingbird and Ash-throated Flycatcher; these were birds perched more or less broadside, with the wings and tail in line with the body. For Gray Kingbird, the arithmetic mean of this ratio was found to be 0.51, with a range of 0.48–0.54. For Ash-throated Flycatcher, the arithmetic mean was 0.43, with a range of 0.40–0.47. On this basis, the bird in O'Brien's backyard in Lanark lies within the range of Gray Kingbird but outside the limit of Ash-throated Flycatcher, consistent with the relatively short wings and long tail of Ash-throated.

Mathematically inclined readers will be interested to know

that we tested the statistical “fit” of the Lanark bird to the respective candidate species. For technical reasons, the ratios were first transformed as arcsine square roots; then, means and standard deviations (SD) estimated for each internet sample of ten birds. These transformed estimates are as follows: for Gray Kingbird, mean=1.04, SD=0.024; for Ash-throated Flycatcher, mean=1.12, SD=0.029. The Lanark bird, with a transformed ratio of 1.03, lies within about 0.6 SD of the sample mean for Gray Kingbird; however, it is more than 3.3 SDs from the sample mean for Ash-throated Flycatcher. On this basis, the Lanark bird is not far from average for Gray Kingbird, but it has a less than 1% probability of being an Ash-throated Flycatcher based on our measurements alone.

We believe that field observations and digital images strongly support records of Nova Scotia’s first confirmed (and third reported) Gray Kingbird and third confirmed Ash-throated Flycatcher in mid-November 2010. Intriguingly, but not implausibly, both are from the same yard on the same date. The occurrence of these birds reinforces the lesson that low-resolution images of “ill-posed” rare birds can be misleading. In this digital era, photo documentation of rare birds is easy, and photo confirmation of their identifications often seems

straightforward. As the Lanark flycatchers show, however, old-fashioned critical analysis may still be required for the correct identification of vagrants.

Literature Cited

- Armistead, G. L. and M. J. Iliff. 2003. The vagrancy of Gray Kingbird in North America. *North American Birds* 57:148–161.
- Bannon, P., O. Barden, N. David, S. Denault, and Y. Aubry. Fall migration–August through November 2006: Québec. *North American Birds* 61:33–35.
- Lee, C.-T., A. Birch, and T. L. Eubanks. 2008. Field identification of Western and Eastern wood-pewees. *Birding* 40(4):34–40.
- Lehman, P. 2008. Birding and the internet: The dark side. *Birding* 40(1):36–40.
- McLaren, I. A. 1996. Acadian Flycatcher in Nova Scotia. *Birders Journal* 5:194–195.
- Pyle, P. 1997. *Identification Guide to North American Birds. Part I. Columbidae to Ploceidae*. Slate Creek Press, Bolinas.
- Rowland, F. 2009. Identifying *Empidonax* flycatchers: The ratio approach. *Birding* 41(2):31–38.
- Smith, G. A. and J. A. Jackson. 2002. Gray Kingbird (*Tyrannus dominicensis*), in: *Birds of North America*, ed. by A. Poole. Cornell Lab of Ornithology, Ithaca <tinyurl.com/6j6eb8q>.