

A PROBABLE COUCH'S KINGBIRD X SCISSOR-TAILED FLYCATCHER IN LIVINGSTON CO., NEW YORK

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Abstract

A hybrid *Tyrannus* flycatcher was observed near Geneseo, Livingston Co. NY 9 Nov–2 Dec 2003. Originally identified as a Western Kingbird because of its yellow chest and white outer tail feathers, subsequent inspection of photographs revealed problems with that diagnosis. Numerous characters point to this being the first reported hybrid between Couch's Kingbird (*Tyrannus couchii*) and Scissor-tailed Flycatcher (*T. forficatus*). The new technologies of digital photography and the Internet, as well as the old technology of examining skin specimens, played key roles in identifying the hybrid.

This article documents the occurrence of a hybrid *Tyrannus* flycatcher near Geneseo, New York. It includes the timeline of key observations and the application of the many tools birders can now bring to bear in attempts to identify such birds. Discussion will pull together the various observations, research comparing skins with photos, and behavior to arrive at a conclusion relative to the probable parentage of the bird.

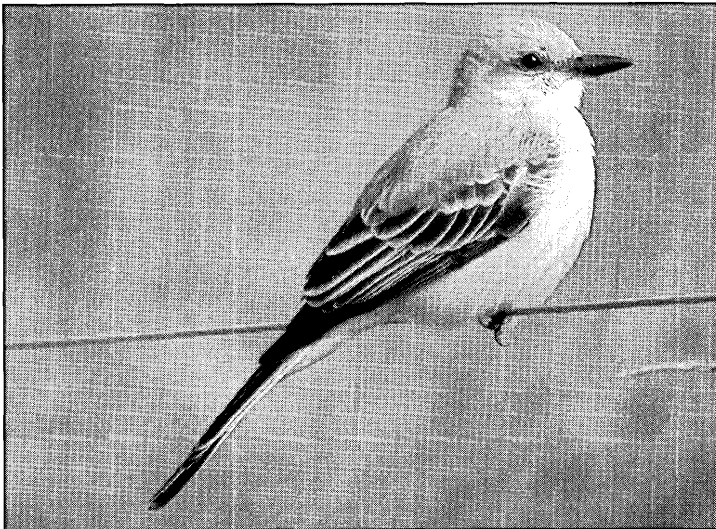


Fig. 1: Hybrid *Tyrannus* 22 Nov
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Timeline and Tools

On 9 Nov 2003, Rochester birder Gary Chapin was finishing a familiar road loop driving north along River Road in the Town of Leicester, just north of the village of Cuylerville in Livingston County. Along that section of road the west side is lined with dense brush, mostly gray dogwood and hawthorn species, the east side is open field with scattered bushes and trees near the road and similar dense brush 100 yards or so away. Chapin noted a spot of bright yellow tucked back in the bushes – a late chat perhaps. He stopped to check it out; a yellow-bellied kingbird!! The bird eventually flew out to hawk insects and to perch on the trees and fence. It finally flew off to the southwest and disappeared. A gray head and white on the outer rectrices computed to Western Kingbird (*T. verticalis*), a rare vagrant here – the second record for Livingston County (Fox 1998) and about the 7th in *The Kingbird* reporting Region 2. Chapin put the bird and the general location on the GeneseeBirds-L listserv that day. Over the next couple of days others searched with no success, possibly in not quite the right area. As many as five Northern Mockingbirds (*Mimus polyglottos*) were aggressively chasing each other in the area. Might they have run off the kingbird? Of Region 2's past six Western Kingbird records, all but one have been flyby or one-day wonders. It seemed like this bird would follow that trend.

On 15 Nov, Chapin returned to bird the area. He found the bird again and obtained some photos. Again Chapin posted a report and refined the location as 1.3 miles south of Chandler Rd. just north of a metal shed in the pasture on the east side. Again, the bird would feed for a bit, then typically fly southwest to rest in the dense brush. Over the next two days, the bird was seen and photographed by several, including Matt Victoria and Willie D'Anna. Most observers drove up, saw the bird, perhaps shot a few digiscoped photos, and soon departed. Matt Victoria posted his photographs on his website <<http://www.fickity.net/photos.html>> on 17 Nov, the same day he watched the bird.

Enter the Internet as probably the greatest single new tool to affect the birding identification scene in recent years. The evening of 17 Nov, Jay McGowan was helping his little sister figure out the identity of various birds and went to Matt Victoria's website to look at the kingbird photographs. When they looked at the Western Kingbird page, Jay realized that the Livingston Co. bird did not look right. The bill was far too big, the chest was too pale, and the yellow extended too far up on the shoulder. He called KJM's attention to the photo, and both agreed that it was something different, perhaps a Tropical Kingbird (*T. melancholicus*) or Couch's Kingbird (*T. couchii*). The face and bill looked very much like a Tropical Kingbird they had photographed in Peru and not at all like their pictures of Western Kingbird taken in Montana and New York. They did not have time to work on the identification further that evening, but Jay posted a note to the NYSBirds-L listserv suggesting people take another look at the bird with the thought that it might not be a Western Kingbird. D'Anna posted a note on GeneseeBirds-L that evening saying he was rethinking the identification and that he agreed with Jay's assessment that the bill was more like that of Tropical Kingbird. D'Anna provided photos for posting to the website of Angus Wilson <<http://www.oceanwanderers.com/NYTyrannus.html>>, who then asked for

comments from birders on the ID-Frontiers listserv. The same things jumped out to others in looking at these and other photos: the bill seemed large for Western, the yellow extended too far up on the breast, and the tail had a substantial notch in the tip and different rectrix lengths and colors.

This is a clear reminder to recall the old Rule 1 of birding - look at every bird, especially the rarities, no matter who and how many have been there before. New photographic tools present new issues. A digital camera which can be used either with its own long lens or to obtain digiscope shots through a telescope forces the observer to decide between studying the bird and taking notes to assure one's personal identification and shooting photos first to gather documentation. If the bird leaves soon and you opted for study, you may have no photo documentation. If you take photos and it flies off, you may find that the photos really are not adequate to allow a solid identification. In this case, many violated Rule 1, and maybe because of that opted to take the photos and did not question the ID on the spot. But again, yellow-bellied kingbird, gray head, and white on the outer tail feathers - what else could it be?

With the photos on the Internet, interested and attentive observers were able to see the photos and question the ID. Within hours, postings were made from all over the country, many from observers with intimate and frequent field experience with all of the yellow-bellied kingbirds. Issues with lighting and the position of the bird relative to the camera resulted in varied impressions relative to the several aspects of the bird that might have aided in identification. Most of the Internet inputs were appropriately hedged with "Based on the pictures to which I've had access..." Some immediately discounted Western, suggesting Tropical, or more likely Couch's Kingbird, but there were conflicts in attempting to fit any of these. There were also verbal inputs on the call which didn't fit Tropical Kingbird and seemed to best fit Western or possibly Couch's. Could it, as suggested by several, be just an aberrant Western? The first ID-Frontiers response, by Bruce Anderson of Winter Park, Florida, introduced the possibility of Scissor-tailed Flycatcher (*T. forficatus*) X Western Kingbird hybrid into the mix, pointing out that it was a known hybrid.

Bring on more of the new tools and the luck element in birding. Luck - the bird stayed. Many others ventured forth and watched, listened to, and photographed or video taped the bird. New images were posted. Using D'Anna's photos plus the old tools of the skins in the Cornell University Museum of Vertebrates collection, KJM was able to post illustrations comparing the primary lengths and feather shapes relative to those of specimens of each gender of each yellow-bellied kingbird <<http://birds.cornell.edu/crows/kingbirdsX.htm>> <<http://birds.cornell.edu/crows/KingGen.htm>>. Pat Kocinski posted videos that clearly showed white on the outer tail feathers. Kurt Fox posted new digital images <<http://home.eznet.net/~kfox/wny/weki/tyrannus.htm>>, which showed the extent and location of white on the rectrices, the extent of forking of the tail, variation in the lengths of the rectrices, and the underwing color. Some had incorrectly thought they had seen salmon on the underwing in the video, which may have lent more credence to the Scissor-tailed Flycatcher parentage. With KJM obtaining even more photos and posting more analysis, and David Sibley researching skins in the Museum of Vertebrate Zoology at Harvard University and the literature (more old tools), and weighing in with an analysis, the general

consensus was more and more toward a hybrid between Scissor-tailed Flycatcher and Tropical or Couch's Kingbird. The details supporting such a conclusion will be discussed below.

More technology was brought to bear. There was more speculation about the call notes and various opinions about how closely it resembled that of Western Kingbird. Jim Kimball, from Geneseo, followed up with many visits to watch and listen and brought equipment and taped the call notes. He later brought and played tapes and CD's and found that the bird did not respond to "songs" and calls of Western, Cassin's, or Tropical kingbirds or to Scissor-tailed Flycatcher, but it responded vigorously to Couch's Kingbird calls. It flew over his head and perched close by, delivering calls that were more extended, and somewhat like Couch's Kingbird. He sent a tape to the Macaulay Library of Natural Sounds at the Cornell Lab of Ornithology for analysis. Interestingly, the spectrograms of the calls do not match up with those of any of these kingbirds or Scissor-tailed Flycatcher. The spectrogram of the call note is longer and more complex than the short call notes of any of the other species considered. More analysis is needed to understand this call.

Over the next two weeks, many visited the site, some many times. A large number of new photos were obtained and shared. Photos taken over a week apart show no change in the relative lengths of the rectrices, laying to rest speculation about a possible out of sequence molt with feathers still growing in. On a wet day in late November, observers noted and posted that the bird showed a red-orange crown stripe. There was some discussion of the possible capture or collection of the bird, but it was too late. It was last seen on Tuesday, 2 Dec at about 11:00 AM. In the end, many enjoyed viewing this beautiful visitor.

Description and Identification

The bird was obviously a large *Tyrannus* kingbird, showing all the typical field marks of yellow belly, gray head, and all black bill (Figure 1). The head was medium gray with darker lores and a thin line behind the eye, in the auricular area, but only a line or point. The color seemed the same in front of and behind the eye.

The legs and feet were black. The bill was entirely black, and appeared quite large. It was sturdy, giving the impression of being longer and thicker than is typical of Western Kingbird, much more along the lines of Tropical Kingbird or just not quite that large. A hook at the end of the bill was apparent, and, together with the dusky mask, gave it a shrike-like appearance. The bird had a bit of a rounded crest peaking at the rear of the head. When the bird was observed in the rain, an orange-red crown mark was seen, appearing bright and somewhat glossy.

The lower face and throat were pale, pearly gray, nearly white. This color extended onto the chest, especially down the ventral portion. The yellow of the belly extended up the sides above the bend of the wrist (top of the wing). The chest was a somewhat washed-out yellow, but the belly and flanks were a brilliant yellow. Having just looked at trays of kingbirds in the Cornell museum before viewing the live bird, KJM believed the flanks were a Tropical/Couch's bright yellow, not the medium yellow of a Western Kingbird. This difference is not

readily apparent in many photographs. The undertail coverts were faded yellow to white.

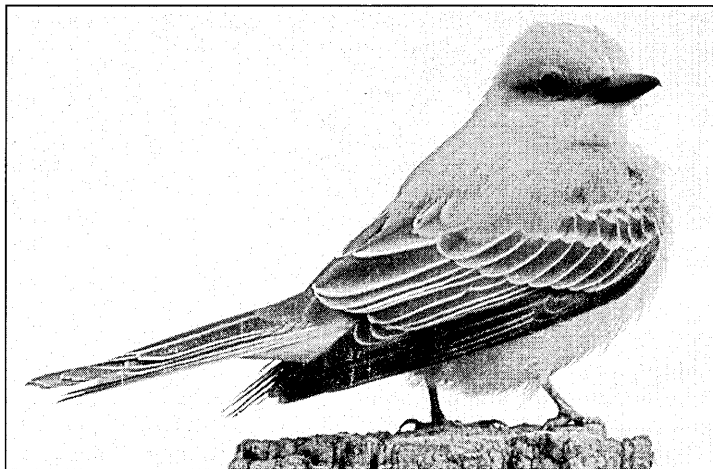


Fig. 2: Hybrid *Tyrannus* 17 Nov
Note lengths of wing feathers on the left wing
©Willie D'Anna

The back was primarily gray with an olive green wash. The yellowish olive color was obvious, but the ground color was gray. All of the upper wing coverts and secondaries were broadly edged in whitish (Figure 2). The flight feathers and greater coverts were blackish. The under wing linings were dull yellow. The undersides of the flight feathers were whitish with dusky tips.

The tail was odd. The central three pairs of tail feathers were clearly of a different generation than the outer three pairs (Figures 3, 4). The newer inner feathers were dark blackish, with white edges around the entire margin of the feather. The older outer feathers were dark, faded-looking brown. They were not edged in white, except for the outermost vane of the outermost pair. The outer web of the outermost tail feather (rectrix 6 or r6) was white along its entire length, but not at the tip (Figure 5). The base of the inner vane of r6 was white to the rachis (shaft) for just under half its length. The outer vane of r5 was white-edged along most of its length (but not near the tip), but the white did not reach the rachis. The third feather in (r4) also had white edging along the outer vane.

When the bird was perched, the tail was long and deeply forked, with the central tail feathers being much shorter than the outer ones (Figures 3, 4). Rectrix 1, the innermost one, was shortest, with r2 slightly longer. Rectrix 3 was longer still, by about the same degree as r2 was longer than r1. Rectrix 4 was substantially longer than r3, with the difference being about twice that of r3 to r2. Rectrix 5 was longer than r4 by the same amount as r4 exceeded r3. Rectrix 6 was just about the same length as r5, barely exceeding it. In flight, the curved, lyre-shape of the tail was apparent.

The lighting in various photographs made the relative shades of the wings and tail difficult to understand. In some pictures, the wingtips looked lighter than the tail, but they looked darker in most others. While viewing the bird

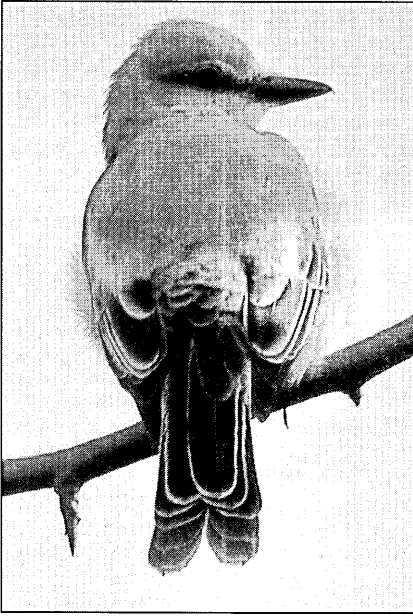


Fig. 3:
Hybrid *Tyrannus* 22 Nov
Note tail feathers of different lengths,
with the middle three sets
being darker than the outer three.
©Jay and Kevin McGowan

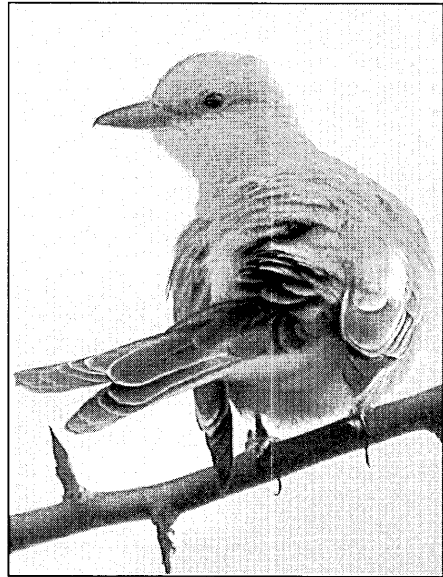


Fig. 4:
Hybrid *Tyrannus* 22 Nov
At certain angles
the deep fork was obvious.
©Jay and Kevin McGowan

in life, KJM looked specifically for this relationship and determined that the primaries and secondaries were about the same shade as the new tail feathers and were slightly darker than the older-looking tail feathers.

The bird called periodically, making a sharp, high, single-note described variously as “peep,” “wick,” or “kip,” that some thought had two quick syllables, the second slightly lower.

Why Not A Western Kingbird?

It was a gray-headed, yellow-bellied kingbird with a dark tail and white edges to the outer tail feathers. Why was it not a Western Kingbird? As recognized by many, some things just were wrong. First, the bill was too large. Bill size in Western Kingbirds does vary a bit, and some might show unusually large bills.

But, they never approach Tropical or Couch's in size, as this bird's bill appeared to do. In-hand measurements might easily have determined whether it was a Western Kingbird or not, but the photographs were only suggestive, not definitive.

Next, the chest color was not right. Western Kingbirds have a dusky gray chest and throat that contrasts slightly with the whiter chin and malar region. The chest is extensively gray, nearly the same color as the nape. Yellow extends only part way up onto the lower chest, fading into olive and then gray evenly across the chest. On the Livingston Co. bird, the yellow extended well up the sides of the chest. The chest color was pale whitish gray, as pale as the chin and malar, much paler than the nape, and extended down the center of the chest in a point.

The bird did have a dark tail with white outer edges to the outermost tail feathers. However, all of the fresh center feathers had broad whitish edges along the entire length (Figures 2-5), something that Western Kingbird never has. On a Western, the tail feathers are blackish, without pale edging. Even fresh and juvenal feathers on the Cornell specimens showed pale edges only near the tips of the tail feathers, not along the sides. In the museum drawers, the black tails of the Western Kingbirds stood out dramatically from the blackish ones of Tropical and Couch's kingbirds. It was difficult to determine if the Livingston Co. bird's tail was black or blackish. However, in all Western Kingbird specimens the wingtips were blackish and contrasted markedly with the blacker tail. This difference was enhanced by feather wear, with the wing feathers becoming much lighter while the tail feathers changed very little. In life, and in most photographs, the wing feathers of the Livingston Co. bird appeared the same color as the newer, darker central tail feathers and darker than the older feathers.

The bird also showed more white in its tail feathers than is normal for a Western Kingbird. The white outer vane of r6 was right for Western Kingbird, but photos showed the inner vane was white for nearly half its length, and that the outer vane of r5 was white for most of its length (Figure 5). Most Cornell

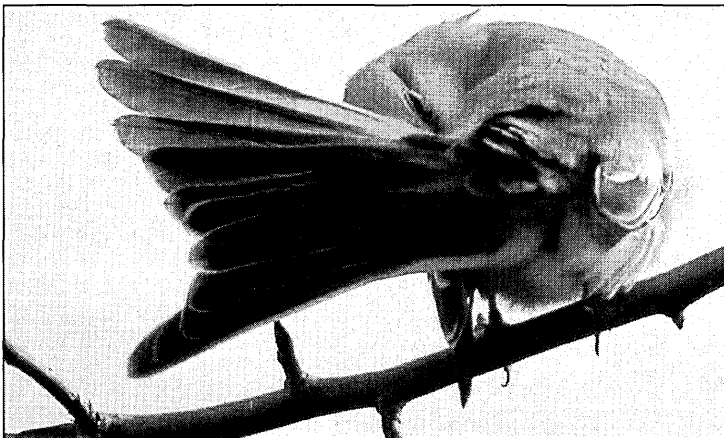


Fig. 5: Hybrid *Tyrannus* 22 Nov

Note outermost tail feather is edged white on the outside for just less than half of the inner vane.

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specimens of Western Kingbird had white only on the outer vane of r6, but nearly one third had some on the inner vane. In these birds the white on the inner vane did not extend more than one third the length of the feather. Only a few specimens had any white on r5.

Perhaps most damaging for a Western Kingbird identification was the wing formula of the bird. Several photographs allowed the relative lengths of the individual primaries to be seen (e.g., Figure 2). In Western Kingbird, primaries 10 (the outermost), 9, 8, and 7 are much longer than 6, which is much longer than 5; 10 is long, about the same as 7-9; 5 is short, barely longer than 4. In the Livingston Co. bird, primary 10 was much shorter than p6-9, and p5 was moderately shorter (Figure 6).

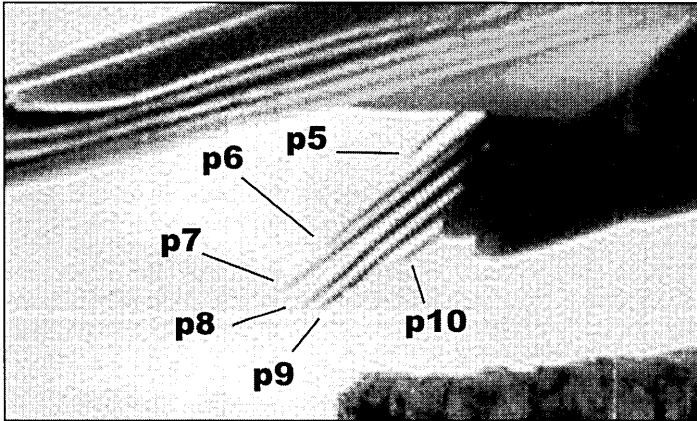


Fig. 6: Hybrid *Tyrannus* 17 Nov
Wingtip detail enlarged from Fig. 2
©Willie D'Anna

And then there was the oddly shaped tail. Again, without actual measurements, it was impossible to determine if the outer tail feathers were long, or the inner ones short. The extreme fork noticeable in life and in some photographs was attributed by some observers as molt. It was pointed out, however, that kingbird molt proceeds from the central tail feathers outward. So, if the tail was in a normal molt progression, the inner feathers should have been older and longer than the outer ones, not the other way round. Also, they should have been growing. Photographs from one week and more apart showed no change in the length of these feathers, demonstrating that they were not growing (c.f., Figure 2 and Figure 3).

Comparison With Other Kingbird Species

It was suggested that perhaps the bird was a Tropical or Couch's Kingbird rather than a Western Kingbird. Bill size and shape, white edging to central tail feathers, wing and tail color and contrast agreed rather nicely with Tropical and Couch's Kingbird. The wing formula appeared the best match to

Couch's Kingbird. And it responded only to Couch's Kingbird calls, although its own calls were quite different.

But a number of characters were wrong for Couch's or Tropical Kingbird, too. The pearly gray chest was wrong; it should have been dusky olive for either Couch's or Tropical Kingbird, contrasting with a whiter throat. The tail also was wrong. Very wrong. Tropical and Couch's kingbird tails can be rather notched, but not nearly the way this tail was. And, although the whitish edging on the central tail feathers matched Tropical and Couch's kingbird tails, the white outer vane of the outermost tail feathers did not. KJM has seen Tropical Kingbirds in Peru that showed white outer tail feathers, and he found one such Cornell specimen. It is possible that Couch's could have white outer vanes too, although none of the Cornell Couch's specimens showed any white. On the Cornell Tropical Kingbird specimen, the white extended the length of the feather edge, but penetrated only half way to the central shaft of the feather. Photographs of the Livingston Co. bird show that nearly the entire outer vane of the outer tail feather was white (only the tip was dark), and that in fact some white was present on the inner vane as well.

So, the bird showed outer tail feathers like a Western Kingbird, bill and wings like a Couch's Kingbird, a chest unlike any other species, and a unique tail. Could it be something even more exotic, like a bird from South America? Two candidate South American species exist: White-throated Kingbird (*T. albogularis*) and Snowy-throated Kingbird (*T. niveigularis*). White-throated is an austral migrant, breeding in southern South America and wintering in northern South America. Wayward individuals might be expected to turn up in North America if they got their directions mixed up, as happens with the migratory populations of Fork-tailed Flycatcher (*T. savana*) (Monroe and Barrow 1980). White-throated Kingbird has a white throat meeting a yellow chest, without olive or gray on the upper chest. Snowy-throated has a white throat and upper chest, something similar to the Livingston Co. bird. But both species have distinct dark facial masks and tails that are less forked than that of a Tropical Kingbird (Hilty and Brown 1986).

The primaries of the different *Tyrannus* species are differently shaped, with those of Western Kingbird and Scissor-tailed Flycatcher being long and thin, and Tropical and Couch's kingbird's being broader with more distinct notches on the inner vane. Western Kingbird's are notched too, but the notch is slight and elongated, and p10 is especially long and thin. Scissor-tailed Flycatcher has a more distinct notch, but the feather is long and thin like that of a Western Kingbird. These differences are most distinct on the adult males. Adult females have much less exaggerated feather shapes, with less noticeable notches. Juvenile primaries are broader and mostly lack notching, especially those of juvenile females, looking more like "normal" bird feathers. Unfortunately this character could not be used to identify the species of the Livingston Co. bird. All of its primaries, in all photos examined, showed no notching at all (Figure 7), suggesting that it was a hatch-year (HY) bird and perhaps a female.

If In Doubt, Consider Hybridization

If the bird did not fit any known kingbird species, then perhaps it was a hybrid? The overall appearance indicated that one parent would have to be one of the yellow-bellied kingbirds, and the oddly forked tail suggested Scissor-tailed Flycatcher as the other. Also agreeing with Scissor-tail was the pearly white color of the throat extending onto the upper chest. Scissor-tailed Flycatcher also shows white on the outer web of the outermost tail feathers, white up the base of the inner web, and some white at the base of the next set proximal (r5), and might explain a similar, if less marked pattern on a hybrid. The relative lengths of Scissor-tailed Flycatcher tail feathers also match the Livingston Co. bird, with r5 and r6 nearly equal and longest, r4 intermediate, and r3, r2, and r1 gradually shorter.

Hybrids of Scissor-tailed Flycatcher and Western Kingbird have been documented (Davis and Webster 1970, Tyler and Parkes 1992), and this parentage became a popular supposition on ID-Frontiers. Both previous hybrids appeared most like Scissor-tailed Flycatchers with short, but forked tails, and pale yellow bellies, roughly like the Livingston Co. bird. But, a number of characters were not explained by this pairing. With the exception of the oddly forked tail, extra white in the tail feathers, and a pale gray chest, a Scissor-tailed Flycatcher parent would not help explain any of the characters that ruled out Western Kingbird. Scissor-tailed Flycatcher has a smaller bill than Western Kingbird, not larger. The white edging on the central tail feathers was wrong, too. Scissor-tailed Flycatcher has black tail feathers, with the white edging on the central ones restricted to the tip, just like a Western Kingbird and unlike the Livingston Co. bird. Wing formula for Scissor-tailed Flycatcher also is most like that of a Western Kingbird, with the 10th primary being very long, as long as p7, p8, and p9, and much longer than p6. So, Scissor-tailed Flycatcher X Western Kingbird cannot account for all of the odd characters shown by the Livingston Co. bird. Could any other hybrid combination?

A combination of Couch's Kingbird X Scissor-tailed Flycatcher can explain all of the characters seen. The Couch's parent can account for the bright yellow belly, dark face mask, large bill, olive-gray back, dusky flight feathers with broad white edging, wing formula, and response to Couch's calls. The Scissor-tail parent could be responsible for the whitish chest, the white outer vane with dark tip of rectrix 6, the white extending onto the inner vane of r6, the white on r5, and the deeply forked tail.

Age and Sex

The shape of the outer primaries (Figure 7) indicated that the bird was not an adult male. The blunt shape of the primaries fit best with those of hatch-year (HY) female *Tyrannus* in the Cornell collection. In addition to the lack of any noticeable emargination on the outer primaries, the presence of two different generations of non-growing tail feathers supports HY status as well. Pyle (1997) indicates that the first prebasic (or post-juvenal) molt in *Tyrannus* kingbirds is partial, involving the central pair of tail feathers and often adjacent pairs too. Over half of HY individuals examined had contrasting fresh central tail feathers, while

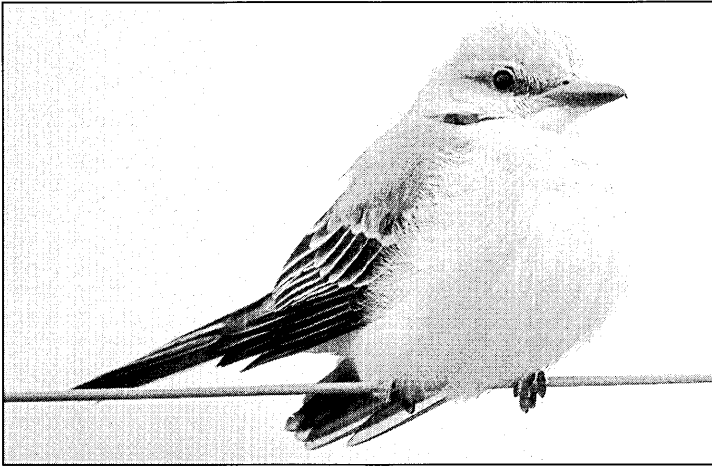


Fig. 7: Hybrid *Tyrannus* 25 Nov
Note outermost primaries of left wing are visible and
lack an obvious notch on the inner vane.
©Robert G. Spahn

those of after hatch year birds (AHY or adults) were described as having uniform tail feathers. The tail feathers themselves were blunt in shape (Figures 3, 4), however, as would be true for an AHY bird, rather than the more tapered shape of a HY bird (Pyle 1997). The presence of the red-orange crown feathers has been suggested as indicating that it is an adult, but those feathers are missing from the juvenile, not first basic plumage, and might be present in a HY bird in November. The sex was probably female, but the age remains unresolved.

Additional Observations

With so many observers spending time with this bird, other interesting observations were noted. The bird was often seen to catch insects, both on the wing and by dropping and picking them off grass or weed tops. The insects appeared to include some grasshoppers, crickets, and squash bugs. It would regularly cough up pellets of the inedible remains of its catches. Often after a catch, the bird would call. Interestingly, at times nearby Northern Mockingbirds would then call back with a pretty good rendition of the call note. It frequently hunted for 20 minutes or so, then flew away for an hour or more. Most often it flew SW into the thorn scrub thicket. Once it flew higher, then well off to the SE toward the Genesee River. When perching, it most often perched low to the ground, often within four feet or less. It utilized shrubs and fence posts and the fence wire. The bird did not interact directly with any of the other species present in the area.

Discussion

This is the first documentation of a possible hybrid between Couch's Kingbird and Scissor-tailed Flycatcher. The breeding range of the two species overlaps narrowly in southern Texas, and northern Nuevo Leon and Tamaulipas, Mexico (American Ornithologists' Union 1998). The area of overlap may have been increasing as Couch's Kingbird expanded its range northward out of the Rio Grande Valley in Texas (Brush 1999). Couch's Kingbird lives in thorn forests and brushy clearings in forest (Brush 1999), while Scissor-tailed Flycatcher prefers more open grasslands with scattered trees (Regosin 1998), but both use suburban areas with scattered trees. Couch's Kingbird is known to flock with other flycatchers, including Scissor-tailed Flycatcher (Brush 1999), in mild winters in Texas. The fact that these two species encounter each other at the edge of their ranges may be significant. Hybridization may be expected more frequently at the edge of a range where appropriate mates are harder to find.

As woven in above, for this bird to be found and identified, both luck and the proper tools needed to be in place. A prepared observer spotted the yellow, stopped to study the bird, and posted the sighting. The bird stayed, was relocated, and was digitally photographed. Photographs were promptly posted on the Internet. A prepared birder was scanning the web and acted quickly on questioning the ID. The Internet allowed the rapid sharing of images and then ideas. The bird stayed. Birders with the right tools continued to visit the site and to follow up quickly on virtually every suggestion of additional information that might help. Others researched skins and the literature. Although collection of this bird may have been the only route to a conclusive answer, with the tools available we have a plausible identification.

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