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T. A. PARKER, III, *Conservation International, Washington, D.C. and Museum of Natural Science, Louisiana State Univ., Baton Rouge, Louisiana 70803;* JOHN M. BATES, *Museum of Natural Science and Dept. of Zoology and Physiology, 119 Foster Hall, Louisiana State Univ., Baton Rouge, Louisiana 70803;* AND GUY COX, *% Fundación Amigos de la Naturaleza, Box 2241, Santa Cruz, Bolivia.* *Received 18 April 1991, accepted 1 Sept. 1991.*

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A hybrid Scissor-tailed Flycatcher × Western Kingbird specimen from southwestern Oklahoma.—At 18:30 CST on 11 May 1988, John B. Wheatley and Sam J. Orr noticed an unusual flycatcher 3.2 km south and 9.6 km east of Lawton, Comanche County, southwestern Oklahoma. The bird's tail was dark, deeply forked, and bordered with white but was shorter than that of a Scissor-tailed Flycatcher (*Tyrannus forficatus*), hereafter STF. Furthermore, its belly color was not white washed with salmon, but dull yellowish, similar to that of a Western Kingbird (*T. verticalis*), hereafter WK. Its flight displays and its call notes (recorded by Wheatley) resembled those of the STF.

The surrounding countryside was mostly open pastureland with a scattering of American elms (*Ulmus americanus*), hackberries (*Celtis occidentalis*), and mulberry (*Morus* sp.) trees. Both STF and WK were present in the area.

The bird was seen again on 12 and 13 May and photographed by Wheatley and Orr (photos not suitable for reproduction). On 16 May, Wheatley and Tyler found the bird again. Tyler collected it and prepared it as a museum skin (originally Cameron Univ. Museum of Zoology 1034, now Carnegie Museum of Natural History 168365). It proved to be a male, with the cranium incompletely pneumatized (flycatchers frequently exhibit delayed pneumatization). The right testis measured 6.5 × 13 mm, and the left testis was bilobed and strongly asymmetric. The weight was 43.3 g.

Color and pattern comparisons.—UNDERPARTS: The throat of the WK is gray, only slightly paler than the gray of the breast. That of the STF is pure white. That of the hybrid is nearly white, hence more like the STF.

In the hybrid, the transition between the pale neutral gray (86; numbered colors from Smithe 1975, 1981) of the breast and the trogon yellow (153) of the belly, washed with pale orange yellow (18) (richer on the flanks), is at about the same level as the gray to sulfur yellow (157) transition in the WK. The salmon-pink wash on the underparts of the STF begins more posteriorly. The crissum of the STF is near white, faintly flesh color (5). That of the WK is a dilute version of the sulfur yellow (157) of the belly. In the hybrid the crissum is a dilute version of trogon yellow (153). The under wing coverts and distal axillars of the STF are flesh color (5), changing proximally to spectrum red (11), which continues to the sides of the breast to form a semi-concealed (when the wings are folded) patch. The under wing coverts of the WK are a darker version of sulphur yellow (57), intensifying proximally only slightly. In the hybrid the under wing coverts and distal axillars are whitish, faintly washed with warm buff (118) becoming spectrum orange (17) proximally, blending on the flanks with the yellow of the belly.

UPPERPARTS: The crown and nape of the STF are pale neutral gray (86), those of the WK light neutral gray (85). Those of the hybrid are midway between. The concealed crown patch in the STF is very small, involving only about 3–4 feathers, nearest flame scarlet (15) in color. That of the WK is much larger, between flame scarlet and chrome orange (16) in color. In the hybrid the patch is intermediate in size, Pratt's ruby (210) centrally, changing laterally to a color between spectrum orange (17) and orange yellow (18).

The nasal bristles of the STF are white, those of the WK black. Those of the hybrid are white with black tips. The ear coverts of the STF are, if anything, slightly whiter than the crown. They are darker gray than the crown in the WK, forming a vague, relatively inconspicuous ear-patch. In the hybrid, the ear coverts are almost imperceptibly darker than the crown, but the feathers have whitish shafts.

The back of the STF is gray, barely darker than the pale neutral gray of the crown and nape. In the somewhat variable WK, the back feathers are basally rather darker than olive yellow (52), broadly tipped with the light neutral gray of the crown and nape, giving an overall grayish green appearance. In the hybrid, the back feathers tend to be gray basally and mixed gray and olive yellow on most of the web, giving a somewhat grayer overall appearance than in the WK. The upper tail coverts are dull black in both species and the hybrid.

WINGS AND TAIL: The remiges and wing coverts of the WK are near hair brown (119A), subject to much fading with wear. Those of the STF are similar but more neutral (less brown, more blackish). The coverts of the hybrid are near those of the WK in color, but the remiges are more blackish, closer to the STF. The upper wing coverts of the WK do not have contrasting edgings, although the tertials are edged with dull grayish white. In unworn specimens of the STF, the coverts, and especially the tertials, are conspicuously edged with white (slightly grayish on the lesser coverts). The covert edgings of the hybrid are mostly worn away, but what remains is grayer than in the STF. The tertial edgings of the hybrid are paler than in the WK but not as white as in the STF.

The outer web of the outermost rectrix (R6) in the WK is white (tinged yellow basally in fresh-plumaged specimens) for its full length except for the terminal 5 mm or so, where the black of the inner web crosses over the shaft to the outer web. In the STF, both webs of the outermost rectrix are white (tinged salmon basally in fresh-plumaged specimens) for about 65–75% of their length, at which point the inner web develops progressively more black, in a long taper beginning along the shaft, and crossing over to the outer web 30–40 mm from the tip. In the hybrid, the outermost rectrix pattern is essentially that of the STF, but the

black begins to appear at about halfway from the base, the taper along the inner web is more abrupt, and the black crosses to the outer web about 20 mm from the tip. In addition, the white is almost imperceptibly tinged with yellow.

The pattern of the next-outermost rectrix (R5) in the STF is similar to that of R6, but the black begins closer to the base, at about midway along the feather's length. There is no white in the tail of the WK other than that on the outer web of R6. In the hybrid, R5 is white for about its basal third.

UNFEATHERED PARTS: The bill, legs, and claws of the freshly collected hybrid were jet black (89). In the dried specimen, these parts are similar in color to those of specimens of the WK. The bill (in life?) of the STF is described by Oberholser (1974) as "dark brown, lighter at base, particularly on mandible"; this description fits dried specimens as well. The iris color of the hybrid was not recorded.

Measurements.—Twelve relatively unworn spring males of each of the putative parent species in the Carnegie Museum of Natural History were measured. The measurements taken were flattened wing to the nearest 0.5 mm, tail (standard measurement) to the nearest 0.5 mm, length of bill from anterior point of nostril to the nearest 0.1 mm, width of bill at base to the nearest 0.1 mm, maximum width of the outermost rectrix to the nearest 1 mm, and difference in length between the longest (outermost) and shortest rectrix (=tail fork) to the nearest 1 mm. The separation between the two species in the last two measurements was so great that no statistical computations, not even the means, were made. Measurements presented by Ridgway (1907) indicated that the tarsal length of the two species is almost identical, so this rather awkward measurement was not attempted. The two species were statistically inseparable in both of the bill measurements, which are therefore not reproduced here.

Wing: STF, 119–131 (124.75), SD 3.506; WK, 127–135 (130.5), SD 2.440; hybrid, 127.5.

Tail: STF, 189–241 (216.33), SD 17.369; WK, 90–100.5 (93.67), SD 2.783; hybrid, 130.

Maximum width rectrix 6: STF, 9–11; WK, 16–18; hybrid, 12.

Tail fork: STF, 140–166; WK, 2–5; hybrid, 46.

The hybrid is clearly intermediate in all measurements in which the two parent species differ. Its wing measurement is almost midway between the means of the two series.

Other structural characters.—In the STF, the outermost primary, P10 (only) is narrow and notched; the notch is 21–23 mm from the tip of the feather, and is attenuated distad to the notch (2–2.5 mm wide). In the WK, the *four* outermost primaries are progressively more attenuated at the tip, inner to outer, but as a smooth curve with no notch. The hybrid resembles the STF but without a distinct notch where the outermost primary narrows.

In the STF, the 2nd outermost primary (P9) is the longest, with primaries 7–1 progressively shorter. In the WK primaries 8 and 7 are equal and longest, with P9 barely shorter. In the hybrid, primaries 9 and 8 are equal and longest, with P7 barely shorter, and P10 (outermost) slightly shorter than P7.

Discussion.—In addition to the WK, two superficially similar species of *Tyrannus* are sympatric with the STF. One of these, Cassin's Kingbird (*T. vociferans*), is known to breed in Oklahoma only in Cimarron, westernmost county of the panhandle, roughly 500 km NW of the collection site of the hybrid (Sutton 1967). The area of sympatry of the STF and Couch's Kingbird (*T. couchii*) lies far south of Oklahoma. Nevertheless, as one referee pointed out, it is possible that the hybrid was not hatched in the vicinity of its collection site, so some consideration must be given to the remote possibility that one of these two kingbirds rather than the WK was a parent of the hybrid.

The bill of *T. couchii* is massively larger than that of either the WK or the STF, and has a more prominently keeled culmen. The breast is yellow, only slightly greener than the belly, rather than gray. There is no indication of intermediacy in either of these characters in the hybrid. The bill of *T. vociferans* is only slightly longer than that of the WK, but is distinctly

broader at the base. As emphasized above, the bills of the WK, STF, and the hybrid are essentially alike in size and shape. In addition, the gray of the head and anterior underparts of *T. vociferans* is much darker than in the WK; if this species had been a parent of the hybrid, one would expect this heavy pigmentation to be reflected to some degree in the hybrid, which it is not.

In virtually all color and structural characters, the Lawton, Oklahoma, specimen is midway between the STF and the WK, although in a few instances closer to one than the other. We are confident that the specimen has been correctly identified as a hybrid between *T. forficatus* and *T. verticalis*; the likelihood of a kingbird parent other than *verticalis* is considered to be virtually nil. Hybridization in the family Tyrannidae has seldom been reported (Short and Burleigh 1965), and we know of no other specimens of the parentage reported here (or between any other pair of *Tyrannus* species), but a sight record (with sonograms) of such a hybrid encountered in Austin, Texas, from 18 April to 22 June 1967 was reported by Davis and Webster (1970). Their color description suggests that the Texas hybrid more nearly resembled *T. forficatus* than does the Oklahoma bird, as its back was described as pale gray. Measurements taken from photographs of the Texas bird indicated that the tail and wing length were approximately equal, and this is also true of the Oklahoma hybrid. In *T. verticalis* the mean tail length is about 72% of the mean wing length; this proportion in *T. forficatus* is about 173%.

The Texas hybrid was paired with a female Western Kingbird. Davis and Webster stated that "The existence of the hybrid and its mating with *T. verticalis* demonstrate the phylogenetic proximity of *M[uscivora] forficata* and *T. verticalis*," and they supported the suggestion of Smith (1966) that *Muscivora forficata* be placed in the genus *Tyrannus*. The American Ornithologists' Union (1983) subsequently placed both species of *Muscivora* in *Tyrannus*.

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JACK D. TYLER, *Dept. Biological Science, Cameron Univ., 2800 West Gore, Lawton, Oklahoma 73505-6377;* AND KENNETH C. PARKES, *Carnegie Museum of Natural History, 4400 Forbes Ave., Pittsburgh, Pennsylvania 15213.* *Received 3 June 1991, accepted 3 Sept. 1991.*