

A TENTATIVE KEY TO THE SPECIES OF KINGBIRDS, WITH DISTRIBUTIONAL NOTES

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Abstract.—A key to the known species of *Tyrannus* is presented, with their corrected distributions. The subgenus *Muscivora* (Scissor- and Fork-tailed Flycatchers) is included. A main problem, the Tropical Kingbird group (*T. melancholicus* and allies), is now clarified on the Caribbean slope of Mexico (Gulf of Mexico) and of Guatemala; it remains uncertain on the Pacific slope. Though two (or more?) species are involved here, all are more similar to each other, in appearance, than to the subspecies *T. m. melancholicus*, of South America. Specific limits in certain other groups (*T. savana*, *T. caudifasciatus*) may require adjustment when thorough biological studies are undertaken. A number of errors in the literature are corrected.

CLAVE TENTATIVA PARA LA IDENTIFICACIÓN DE TIRÁNIDOS (*TYRANNUS*) Y NOTAS SOBRE SU DISTRIBUCIÓN

Sinopsis.—Se construye una clave para la identificación de las especies conocidas dentro del género *Tyrannus* (incluyendo al subgénero *Muscivora*) y se dan datos corregidos sobre su distribución. Se elucida el problema principal del grupo de Tiranos Tropicales (*T. melancholicus* y afines) en la vertiente del Caribe Mexicano (Golfo de México) y de Guatemala; aunque todavía queda por resolverse el problema taxonómico de la vertiente del Pacífico. Aún cuando existen al menos dos especies en dicha vertiente, en apariencia todas se asemejan más entre sí que a la subespecie *T. m. melancholicus* de Sur América. Los límites taxonómicos de algunas especies (*T. (Muscivora) savana* y *T. caudifasciatus*) muy bien pudieran necesitar ajustes cuando se lleven a cabo estudios biológicos más detallados.

Phillips and Lanyon (1970:192) long ago warned that stray “Tropical Kingbirds” should be preserved as specimens until a useful key, then in preparation, was published. The complex variations within this group (*Tyrannus melancholicus* and allies) had led to their all being thought conspecific for almost a century. Even a special study of kingbirds and their vocalizations (Smith 1966) concluded that *couchii* intergraded vocally, and morphologically, with the other forms; no specimens were taken, however.

Unforeseen problems delayed publication, however. On learning that the American Ornithologists’ Union would now publish “check-lists” of species only, it seemed best to present anyone interested with a more complete check-list of our ten-primaried oscines. This covered both species and subspecies, including new forms, with accurate basic information (Phillips 1986, 1991).

Meanwhile I did send identified specimens, with a note on some of their characters, to Traylor (1979a:233). Thus we made the existence of two Caribbean-slope species known to ornithologists and to the continuation of Peters’ Check-list of Birds of the World (Traylor 1979b), though we did not agree on every detail.

Even now I would prefer to postpone publication, could the key be

improved. I strongly suspect that the Pacific slope, too, has two sibling species of the Tropical Kingbird group. But far from supporting the discovery (and thus conservation) of further avian biodiversity, bureaucrats and "conservationists" now forbid it; see Phillips 1991:xix-xx. (I still, in February 1993, am not permitted to apply for a permit to collect any bird without giving its correct scientific name, or to import it into U.S. for the necessary comparisons with known species.)

Thus my key must exclude the probable second species of the Tropical Kingbird group on the Pacific slope. Its biology and voice are unknown; if a race of *couchii*, the characters of that species will very probably need modification. Fortunately, these complications do not seem to reach northern Nayarit, the type locality of *occidentalis* Hartert and Goodson; so nomenclature seems stable.

Despite their highly distinctive shapes, I include here the Fork- and Scissor-tailed Flycatchers as a subgenus *Muscivora*. The former was known until recently as *M. tyrannus*; but in *Tyrannus* this was preoccupied, so it became *T. savana*.

KEY TO THE SPECIES AND SOME SUBSPECIES
(EXCLUDING JUVENALS)

- A. Tail deeply forked. Outer rectrices very narrow and much more than twice as long as central pair. (Subgenus *Muscivora*) I.
- I. Pale, with orange-red patches on crown and axillars. (Breeds on plains of central U.S. south to northeastern Mexico. Winters from southern Mexico to western Panama, and sparingly in southern Florida. Casual widely in U.S. and Canada) Scissor-tailed Flycatcher, *T. forficatus* (Gm.)
- I'. Crown (except yellow patch), nape, sides of head, and whole tail black; no reddish in plumage. (Southern Mexico to northern Argentina. Accidental in eastern U.S., Cuba, and Bermuda) Fork-tailed Flycatcher, *T. savana* Vieillot [group?]
- A'. Tail slightly or not forked. Outer rectrices normal, less than twice as long as central pair. (Subgenera *Tyrannus* and *Tolmarchus*) II.
- II. Rectrices black, broadly tipped with white (for more than 5 mm on outer pair). Black, dark gray, and white, without yellow or olive tones. (Breeds in much of Canada and U.S. Winters from Peru to northern Argentina, casually Chile. Migrant in Middle and northern South America. Accidental elsewhere) Eastern Kingbird, *T. tyrannus* (L.)
- II'. Little or no white on tips of rectrices. (Outermost may have white outer web.) a.
- a. Tail black, nearly even; if slightly notched, furca [= longest minus central rectrices] not over 5 mm. (Southern Canada south, on mainland chiefly, wintering to Nicaragua and sporadically Costa Rica. Also in and near western Ecuador) 1.
1. Outer rectrix (if present and unworn) with outer web white to near tip, in abrupt contrast to rest of tail; head pale except ocular stripe (see below). (Breeds from southern Canada to northwestern Mexico. Winters from southern Mexico to Nicaragua, sporadically Costa Rica; also sparingly in southeastern U.S.) Western Kingbird, *T. verticalis* Say
- 1'. Webs of rectrices without sharp contrasts distally, if anywhere. (Western U.S. to Guatemala highlands, casually Honduras, and in and near Ecuador) B.
- B. Blackish ocular stripe, black tail and upper tail-coverts, and dusky wings sharply contrasted to white throat and gray crown, back, and rump. (Pacific slope of Andes in and near Ecuador) Snowy-throated Kingbird, *T. niveigularis* Sclater

- B'. Back little paler than wings and ocular stripe, which is not much darker than lower throat and crown. (These are darker than in *verticalis*, more contrasted to whitish chin.) (Breeds from western [except northwestern] U.S. south, mainly in interior highlands, to southern Mexico. Winters from northern Mexico to highlands of Guatemala, casually from central California to Honduras)
Cassin's Kingbird, *T. vociferans* Swainson
- a'. Tail paler, or if blackish notched, with furca [= longest minus central rectrices] 5 mm or more. (Southernmost U.S. and Antilles to southern South America) 2.
- 2. Bill relatively long and narrow (subgenus *Tolmarchus*); tail slightly rounded (outer rectrices about 4 mm, or more, shorter than central pair). Crown blackish; whitish ventrally, except crissum and nearby in some sub(?)species. (Greater Antilles and Bahama Islands; reported from southern Florida)
 Loggerhead Flycatcher or Kingbird, *T. caudifasciatus* d'Orbigny [group?]
- 2'. Bill wider; tail even or notched (outer rectrices not distinctly shorter than central). (Subgenus *Tyrannus*, part) (Widespread) C.
- C. Crown dusky, distinctly darker than back. Bill swollen, DBN [= depth of bill at nostril] 10 mm or more. Tail furca 5 mm or less. (Cuba to southeastern Bahama Islands; also western Mexico, breeding sparingly in adjacent U.S.; winters casually [?] south to Guatemala) III.
- III. Larger, with bigger bill; exposed culmen over 30 mm. White ventrally. (Cuba and [breeding?] Isla de Pinos, also Caicos Is. and Great Inagua in the southeastern Bahamas. Casual on Isla Mujeres off Quintana Roo, Yucatan Peninsula)
Giant Kingbird, *T. cubensis* Richmond
- III'. Smaller, exposed culmen less than 25 mm. Underparts tinged with yellowish posteriorly. (Western Mexico, breeding north in recent decades to southern Arizona. Winters, normally, from southern Sonora south, reaching[casually?] Pacific Guatemala) Thick-billed Kingbird, *T. crassirostris* Swainson
- C'. Crown gray, little if at all darker than back (often less olive). Tail furca over 5 mm, or else DBN [= depth of bill at nostril] less than 9 mm. (Southern U.S. to southern South America) IV.
- IV. Gray above; white below. (Breeds from southeastern U.S. through Antilles, locally from Hispaniola east and south, spreading to northern South America east to the Guianas; winters west to Panama. Accidental north to southernmost Canada) Gray Kingbird, *T. dominicensis* (Gm.)
- IV'. Breast to crissum yellow or yellowish; back and rump more or less olive or greenish. (Southernmost U.S., east to Texas, and south, chiefly on or near mainland) b.
- b. Bill and feet slender, DBN [= depth of bill at nostril] approx. 6.5 mm. Tail black, deeply notched (furca 15 mm or more). Yellow chest contrasts abruptly to all-white throat. (Central Brazil and eastern Peru north to Surinam, Guyana, and southern Venezuela)
White-throated Kingbird, *T. albogularis* Burmeister
- b'. Bill and feet thicker; DBN 7.2 or more. Tail fuscous to dusky or blackish, furca usually less than 15 mm. Often an olive wash on chest or its sides (and adjacent lower throat grayish in some subspecies). (Southernmost U.S. to southern South America) (Tropical Kingbird group) 3.

3. Whitish chin contrasted to wholly gray throat and slate-gray crown. (Southern, central, and western South America, northwest to easternmost Darién, Panama, where variable. Southern populations winter to north, but not known beyond South America) Tropical Kingbird (part), *T. m. melancholicus* Vieillot
- 3'. Gray of lower throat paler, not contrasted to whitish of chin, which extends onto upper throat; crown paler (ash gray). (Southernmost U.S. to northern South America) D.
- D. Tail (at least on Gulf of Mexico/Caribbean slope) somewhat paler fuscous, especially when worn, and with shallower notch than in sympatric *T. melancholicus*; furca usually 7.3 mm or less (but once 10.3). Bill relatively short, wide, and thick: DBN usually over 7.7 mm; BFN [= bill, grown, from anterior end of nostril] usually 17 mm or less; BFN/DBN usually 2.2 or less. (Primary #10 of adult usually about as long as #5, not distinctly shorter; see Traylor 1979a.) (Breeds, and largely resident, from southern Texas south and east through Mexican mainland to northern Guatemala, Belize, and Yucatán; not known as yet from Pacific slope. Casual northeast to Louisiana) Couch's Kingbird, *T. couchii* Baird
- D'. Tail dusker; furca, on northern Caribbean slope, usually 7.5–12.8 mm. On northern Middle American mainland, bill relatively long and thin: DBN usually 7.8 mm or less; BFN 17 mm or more; BFN/DBN more than 2.2. (Breeds from southern Arizona and coastal southern Tamaulipas to northern South America, including a number of islands. Winters north to south-central Sinaloa. Accidental north to southernmost Canada) Tropical Kingbird (part), *T. melancholicus satrapa* (Cabanis and Heine) group

DISTRIBUTIONAL NOTES

Dubious to erroneous reports in winter, outside of normal winter ranges, are almost routine on "Christmas Bird Counts," where long "lists" are the goal and collecting prohibited. Thus (among other errors) both Tropical and Western Kingbirds (*T. melancholicus* and *verticalis*) were listed from Sonora in Am. Birds 38:820 (plus Cassin's Kingbird [*T. vociferans*] from Yucatán). More formal literature also errs, however.

This report was not the first "Western Kingbird" on a Sonora Christmas Count (see Am. Birds 37:783). My extensive travels in northwestern Mexico, however, at times with other reliable ornithologists (R. W. Dickerman, J. S. Weske, L. D. Yaeger), plus observations of G. Monson (pers. comm.), found none of the conspicuous Western Kingbirds in Sonora, Sinaloa, or even Nayarit in winter. In southern Sinaloa it was "first seen in April" (Miller 1905: 358).

Tropical Kingbirds we found in winter north to southern Sinaloa (Ma-

zatlán area, and sporadically [?] farther, as noted below). Likewise the important Sinaloa collections of the Moore Laboratory of Zoology have none taken after 20 September, even as far north as Mazatlán. Farther north only Cassin's and Thick-billed Kingbird (*T. crassirostris*) winter (regularly).

One might expect recent formal summaries of easily identified birds to be reliable. And indeed American Ornithologists' Union (1957:332) did correct its 1931 statement that Eastern Kingbirds (*T. tyrannus*) winter in southern Mexico: "records from Colombia northward apparently refer to migrants."

Yet American Ornithologists' Union (1983) now claims it winters casually from Honduras south, and regularly in Colombia (to which Traylor 1979b adds Venezuela, occasionally). Ridgely and Gwynne therefore speculated (1989:233) that it might winter "possibly northward to Costa Rica," though found in Panama "mostly early September-late November."

Actually, it is known to be a "Passage migrant" in Costa Rica (Stiles and Skutch 1989) and a transient in Colombia (Hilty and Brown 1986). The recent confusion is based primarily on Monroe's undocumented (1968) "rare winter visitant" in Honduras, despite the warnings of American Ornithologists' Union (1957) and others (Eisenmann 1952; Slud 1964). The only approach to a winter record cited by Monroe was an Underwood specimen, 10 December, doubtless a late migrant if correctly labeled. (Conceivably Monroe had winter sight records, as he also reported seeing it in January in El Salvador: Thurber et al. 1987.)

More likely he considered 10 December "winter" and accepted Underwood's date, though questioning (on the same page) his "23 July" label on a Western Kingbird. Further (Monroe 1968:349), an Underwood Orchard Oriole (*Icterus spurius*) "may be mislabeled;" and "I have found obvious errors relating to sex and date" (Monroe 1968:34), so Underwood's "labels should be used with caution." (Nonetheless he also accepted an "11 December" Canada Warbler [*Wilsonia canadensis*] not taken otherwise between October and April north of Panama. This too became a winter visitant in Honduras and even farther north in American Ornithologists' Union 1983:633.)

Still easier should be the striking Scissor-tailed Flycatcher (*T. forficatus*). Yet a far stray was called a "Western Kingbird" by local "experts" until collected (Griscom and Snyder 1955)! And neither Traylor 1979b nor American Ornithologists' Union 1983 give correct breeding and winter ranges. It breeds only "south to northern Nuevo León and southern Texas" (American Ornithologists' Union 1983); but I find it in summer south to near Monclova, Coahuila (June 1988), to not far north of Monterrey and (2 Jul. 1970) southeast of Cadereyta, central Nuevo León, and east toward Reynosa, Tamaulipas. It ranges south to Tres Palos, near 24°30'N south of San Fernando, Tamaulipas (Davis 1950), and was seen to north-east, and to east, of Ciudad Victoria on 3 Jul. 1970 (*vide* R. W. Dickerman, pers. comm.); also seen south to San Fernando 17 Jun. 1956 by Zimmerman ("1957").

The winter range is usually given as including southern Texas. Thus it

"winters from southern Texas through eastern Mexico" (Traylor 1979b: 225). The only Texas winter specimen of a *Muscivora*, however, is a Fork-tailed Flycatcher (*T. s. savana*); and there are no winter records for north-eastern Mexico (north of Veracruz).

American Ornithologists' Union (1983:475) omits this claim, but says Scissor-tailed Flycatcher winters "primarily on the Pacific slope." This distribution may have been true long ago, but there were always open areas on the Caribbean slope also. It now winters widely there: regularly north to at least Lerdo de Tejada, southeast of Veracruz and Alvarado, Veracruz, and probably near Champotón, Campeche. In Guatemala it is "Transient and winter visitor . . . over much of the country" (Land 1970:209).

Though the Western Kingbird is much less striking, its ranges were given quite accurately by American Ornithologists' Union (1957); it wintered chiefly from Guerrero and Morelos to northern Nicaragua. Then confusion entered. Oberholser and Kincaid (1974), as with almost all kingbirds, had winter "sightings" in Texas which (except for Couch's Kingbird [*T. couchii*] and Scissor-tailed Flycatcher) were promptly discredited by Wolfe et al. (1974). Yet American Ornithologists' Union (1983:473) said it "Winters from southern Mexico (casually north to northern Mexico and southern Texas) south through Middle America . . . to central and southwestern Costa Rica, and in small numbers . . ." Presumably Christmas Bird Counts were computed, for I know of no other winter reports from northern or eastern Mexico. The true winter range is much farther south, along the Pacific slope and adjacent arid valleys north and west only to central Michoacán (southwest of Pátzcuaro); also to southern, coastal Michoacán (Villaseñor 1988). But in far-southwestern Mexico (Colima), Schaldach (1963) had records only for October and probably early November.

Nor does it normally reach eastern Mexico, much less extend thence north to Texas. In Veracruz (as in the coastal lowlands of Tamaulipas), Western Kingbird is evidently merely a casual transient; it was not even listed as hypothetical by Loetscher (1955). Apparently the report of one collected on the Oaxaca border by Amadon and Eckelberry (1955) was a *lapsus*, only a Tropical Kingbird was taken 12 May 1952 (*vide* J. Farrand, Jr., *in litt.* to R. J. Oehlenschläger).

Nor is it more than sporadic anywhere in Costa Rica (Slud 1964, Stiles and Skutch 1989), whereas a report of one "carefully studied" in central Panama is dubious (Ridgely and Gwynne 1989).

I suspect that breeding "reported" or implied in southern Sonora, in July (or early August) and late June (Short 1974, van Rossem 1945) was also based on misidentification. The true breeding range of Western Kingbird in Mexico seems to be limited. Supposed specimens taken south of near 31°N in Baja California proved to be Cassin's Kingbirds (Grinnell 1928). The southernmost recent report, still well north of 30°N (Short and Banks 1965, Wilbur 1987), is doubted by S. H. Levy (*in litt.*). The lack of authentic records of migrants on the main peninsula, farther south, suggests relatively recent spread into Baja California from the north.

Cassin's Kingbird breeds south (American Ornithologists' Union 1983:

472) "through the Mexican highlands" in "dry savanna, open scrub, and pinyon-juniper-oak woodland." Like other kingbirds, however, it nests in trees (including open pine forests). And from the highlands it extends down and south, along wooded Pacific rivers, far into the Tropical Zone: on the Río Yaqui near Ciudad Obregón, near sea-level in southern Sonora, I saw about eight on 28 Jun. 1959; on 21 Aug. 1968 it was feeding young there, and was heard (18 August) at Culiacán, Sinaloa. Farther north in Sinaloa (Guamúchil and west, and Guasave), I saw it 28 Aug. 1956).

It does winter in northern Mexico (American Ornithologists' Union 1983); but east of the Pacific slope and north of the highlands of southern Nuevo León (A. M. Sada, pers. comm.), it is then hardly more regular than in Texas, where the various winter reports are generally considered dubious. On migration it extends (casually?) to the lowlands east-southeast of Xalapa, Veracruz, where I took one on 19 Apr. 1970.

Although the usual northwestern limit of wintering Tropical Kingbird seems to be southern Sinaloa, on 19 Dec. 1985 J. S. Weske and I saw one a bit north of El Espinal and one at the Río Elota crossing, 103 road km north of Mazatlán; and two were almost certainly identified 3 d earlier, 21.5 km south of Río San Lorenzo. We saw none farther north, however, near Culiacán. American Ornithologists' Union's statement (1983:471) that it winters north to Sonora disagrees with ours and all reliable data. Miller et al. (1957) gave no winter records for Sonora or Sinaloa. C. C. Lamb lived in Culiacán while collecting for Moore, but took no winter or near-winter Tropical Kingbirds; nor did I find any in my winter work there or to the north. Even in far-southern Sinaloa, Batty reported that it "arrives in April" (Miller 1905:358).

The importance of subspecies for understanding vagrancy is illustrated by a Maine Tropical Kingbird taken 31 October. Perceptive ornithologists reported this bird, repeatedly, as a young example of a pale northern race. More recently, however, it is suggested (Roberson 1983:126) that it "originated in southern South America." But were this true, earlier workers would have seen its darker colors; and it would not be obviously young in the southern hemisphere spring.

American Ornithologists' Union (1983:471–472) confuses the insular distributions of Couch's and Tropical Kingbird; both breed or are resident on "most islands off the coast." Tropical Kingbird is indeed resident on various islands, both off the coast and farther inland in coastal lagoons. I never found Couch's Kingbird on islands, however, nor did I find any insular specimens of Couch's Kingbird in museums. (Few if any others have visited islands, even inshore islands, whenever possible; and if they had, they would not have distinguished the two species.)

The Gray Kingbird (*T. dominicensis*) is repeatedly said to breed on Isla Cozumel, Quintana Roo (or in Yucatán: Blake 1953, Phelps and Phelps 1963, Traylor 1979b); but it is merely casual there. There is no evidence of its breeding in or near Central America, *contra* Traylor and others; it is regular only in Panama, where a winter resident (Wetmore 1972).

RANGE EXPANSIONS

With the massive destruction of American forests, and in arid regions the planting of shade trees, we may expect savanna birds to expand their ranges. Unlike some icterids (*Quiscalus* grackles, *Molothrus* cowbirds) and others, however, kingbirds have been slow to advance, as far as known.

Nor were all advances due to habitat alterations. In 1931 American Ornithologists' Union knew of breeding Western Kingbird east and southeast to western Iowa, central Kansas, Oklahoma, and western Texas. This expanded in 1957 to Tarrant County, Texas, northeastern Oklahoma, central eastern Kansas, and rarely north-central Missouri. By 1983 it bred to southern and south-central Texas, rarely or sporadically eastward to western Missouri, central Arkansas, and southwestern Louisiana. In southernmost Texas it began to nest in Edinburg in 1966 (P. James, pers. comm.); nesting in northeastern Tamaulipas now would not be surprising, were there observers there. Yet much recently occupied territory was not forested originally.

This lack of observers in most of Mexico also obscures the extent of the northward expansion, into Arizona, of Tropical Kingbird and (more recently) the Thick-billed Kingbird. Absence of ornithologists does not prove absence of birds. Thus although it is quite certain that Tropical Kingbird invaded the Tucson area in this century, we cannot tell if this was a local or long-distance movement.

The above are true range expansions, resulting in breeding populations in previously unoccupied regions. They should not be confused with the occasional spectacularly extralimital nestings of the Scissor-tailed Flycatcher; these nestings do not establish colonies. But less remote nestings, apparently "casual" at the time, can lead to range expansions; three such mentioned by American Ornithologists' Union (1931) are all within the regular breeding range it gave in 1983, when it in turn listed three "isolated breeding reports" east and north to northeastern Mississippi, central Tennessee, and central Iowa. There have, however, been still more extreme cases: a pair fledged young in southwestern Indiana in 1974 (Howell and Theroff 1976); and R. S. Crossin (pers. comm.) took eggs of a pair of Scissor-tailed Flycatchers at Sarabia, Oaxaca (north of Matías Romero on the Isthmus of Tehuantepec) soon after the passage of a migratory wave in May!

Equally remote were two nesting attempts in California by a Scissor-tailed Flycatcher which, in the absence of another, mated with a Western Kingbird (Monson and Phillips 1981). In the other cases, mating in winter or on migration is indicated, and migration in pairs. All these data are hard to explain.

Expansion of winter ranges may also be expected, but apparently the only clear case is that of Scissor-tailed Flycatcher west to the Acapulco area, Guerrero. Here it was apparently only casual in winter earlier, but was regular from 1973 to at least 1977, at times in some numbers (C. Sánchez-Mejorada, pers. comm.). Its present status is unknown.

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APPENDIX

Taxonomic Remarks

The forms of Fork-tailed Flycatcher (*T. savana*) are universally considered conspecific. Curiously, the range of *T. s. monachus* Hartlaub of Middle America is interrupted by another race in northern Colombia, yet includes areas farther south and east. Haverschmidt (1975) pointed out that these southern Surinam birds breed in January, when non-breeding migrants from the north are present in northern Surinam. This situation

is so unusual, for a single subspecies, as to call for a critical study, both biological and morphological.

Biological studies should also be undertaken in the *T. caudifasciatus* group. Here Ridgway (1907:678–685) recognized several species.

I omit *T. apolites*, following Traylor (1979b) in accepting Meise's identification of the unique type as a hybrid, *T. m. melancholicus* × *Empidonamus v. varius*.

I cannot believe Smith's (1966) conclusion of vocal intergradation of Couch's Kingbird and Tropical Kingbird. I have heard none, and all my specimens (he took none) are clearly of the species whose calls they gave. Traylor (1979a) also mentioned supposed hybrids; he kindly sent me a list of the doubtful specimens. To me, most of these show that, in this case, bills and tails are more reliable, in and near the area of known sympatry, than the wing tip index. (One bird that puzzled Traylor, understandably, was a stray Tropical Kingbird from Brownsville, Texas, where Couch's Kingbird is the normal species.)

Neither in field nor museum, then, have I found evidence of "limited hybridization in eastern and southern Mexico" (American Ornithologists' Union 1983:472); though of course occasional strange matings occur in many groups of birds. As Lanyon (1967:608) pointed out, we still lack thorough field studies, with series of specimens of known vocalizations, in the extensive areas of overlap.

The opposite extreme from Smith's conclusion was that of Davis (1972), who recognized three species of this group in Mexico. He correctly noted Couch's Kingbird's overlap with Tropical Kingbird in eastern Mexico and its paler tail. Western birds, however, became "Western Kingbird, *Tyrannus occidentalis*." This supposedly differed from Tropical Kingbird vocally, particularly "when a recording is played back at one-fourth speed" (Davis 1972:131).

Davis portrayed *occidentalis* as paler than *melancholicus*. Bangs and Penard (1921) had also called *occidentalis* "a very well-marked form. Its pale under parts and clear white throat distinguish it at once from its nearest allies, *T. m. chloronotus* and *T. m. couchii*." Its tail was less deeply forked than *chloronotus*' and averaged shorter. (Though claimed to be "smaller," the wing average was almost identical.)

Like Traylor, however, I see no differences in useful, unworn specimens. Nor does "*occidentalis*" differ vocally in the field, to my ear. (And if it did, how many "species" of White-crowned Sparrow [*Zonotrichia leucophrys*] should we recognize in central California alone?) To me all Tropical Kingbirds sound alike, from Arizona and Tamaulipas to Venezuela.

As Tropical Kingbird leaves Arizona and Sonora in autumn, few specimens from there have full, unworn tails. In these few the furca is usually about 6 mm, thus like Couch's Kingbird. I do not, however, find "*occidentalis*" consistently less forked than "*chloronotus*" of Bangs and Penard [= *T. m. satrapa* plus probably some *T. couchii*]. The furca seems less reliable on the Pacific slope.

Clearly, the northern species all look much alike; it is the subspecies of

most of South America that is decidedly darker. Subspecies are often ignored, or even decried, at present. But as cases like this show, they can be essential to understand Nature's complexity or biodiversity (and birds' movements, as shown above; see also Phillips 1991, notably on *Catharus* spp.).

For clarity, then, I do not entirely restrict my key to full species.

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