

EL SALVADOR

CHALATENANGO. Los Esesmiles, 8700 feet; San Jose del Sacare, 3600 feet.

MORAZON. N slope Mt. Cacaguatique, 4600 feet.

SAN MIGUEL. Mt. Cacaguatique, 3500 feet.

HONDURAS

MOSQUITIA. Intibuca, Esperanza, 5400 feet; Intibuca, 4 mi. SE Esperanza, 5900 feet.

TEGUCIGALPA. Alto Cantoral; Cerro Cantoral; D. C.: 1 mi. NW Zambrano; Monte Redondo.

YORO. Portillo Grande, Yoro, 4000 feet.

ADDITIONAL NOTES ON THE FLYCATCHERS OF EASTERN NORTH AMERICA

By ALLAN R. PHILLIPS AND WESLEY E. LANYON

Banders and, to some extent, museum workers have apparently found the paper by Phillips, Howe, and Lanyon (1966) to be a useful guide to the identification of flycatchers, particularly the genus *Empidonax*, in eastern North America. When the need for a third printing developed this year, it was suggested that we might wish to incorporate new data and perhaps make corrections in the original text before reprinting. To avoid possible bibliographic problems, we recommended that the 1966 paper be reprinted in its original form and that any further remarks appear in this supplement. Our principal objectives here are to provide a more comprehensive treatment of the five western species of *Empidonax* that were not included in the 1966 key, to add another *Myiarchus* flycatcher for consideration by eastern banders, to clarify the status of certain tyrannids in Florida, particularly southern Florida, and to comment further on the general problems of flycatcher identification that continue to plague banders. Our discussion of such problems has been prompted by correspondence and conversations with a

number of banders, more than we can acknowledge individually, but nevertheless we are grateful to all who have taken the time to pass along to us their comments on the 1966 paper. Dr. Eugene Eisenmann has been most helpful with suggestions for improving and clarifying our presentation here.

Some banders have informed us that they believe the 1966 key to be too formidable, and they continue to search for a more simplified alternative. We contend that there is no "simple alternative" to the correct identification of difficult groups like *Empidonax*, and those who hopefully profess otherwise are only creating a false sense of security that will foster and perpetuate the same types of dubious identifications that have characterized banding schedules in the past. We believe that, with a little advance study, use of the 1966 key should not be unduly onerous. It is gratifying to note that, as indicated by the banding summaries of Operation Recovery stations in recent years, the number of "unidentified *Empidonax*" banded and released is on the decline. There could be two explanations: (1) banders have developed a greater expertise in identifying these birds, or (2) they are becoming increasingly reluctant to place a band on a bird that defies specific identification. Both of these trends, if real, are desirable and commendable. Every banding station must expect the occasional *Empidonax* that cannot be identified with certainty and these should be released unbanded or, if circumstances warrant, should be collected and referred to specialists for study. An illustration, though obviously extreme, is a specimen collected at the Kalbfleisch Field Research Station in Huntington (Long Island), New York, on 28 August 1968, by Joseph Wunderle, Jr., who recognized it as being unlike any of the many *Empidonax* that he had processed. Its characters could not be reconciled with the key in the 1966 paper, nor could it be matched with any of the reference specimens of western species in the genus. Subsequently both Phillips and Dr. Ned K. Johnson examined the specimen and independently agreed that it was an abnormally pigmented Yellow-bellied Flycatcher (*E. flaviventris*) almost if not entirely lacking in yellow pigments. No bander could have been expected to identify this individual properly.

We should like to reiterate the plea made in the 1966 paper for the use of multiple characters and the avoidance of undue emphasis upon single characters. Many banders regard as unnatural and cumbersome the concept of "the best fit" of a complex of characters, yet it is this desire to base an identification on "one good character" that has led to most of the problems, particularly with *Empidonax*. We are grateful to Dr. Kenneth C. Parkes for calling to our attention a case in point—a specimen collected on 1 October 1969 by Robert Leberman of the Powdermill Nature Reserve in western Pennsylvania. Leberman was impressed with the fact that the yellow pigment in this specimen was concentrated in the area just above the dark chest band, unlike any of the hundreds of individuals that had been processed at Powdermill, and he was unable to key it out to his complete satisfaction. Lanyon subsequently examined

the specimen and had no hesitancy in calling it a Yellow-bellied Flycatcher and was able to match it with a nearly identical specimen taken at the Kalbfleisch Station. Some of the characters were admittedly close to the extremes in the range of variation for the species as we know it at Kalbfleisch. For example, the 10th primary was *shorter* than the 5th by 0.5 mm. Only one out of 94 Yellow-bellied Flycatchers processed at Kalbfleisch has had the 10th primary shorter than the 5th, and in that instance the difference was recorded as 0.5 mm. also. In the 1966 key we allowed for this rare deviation from the norm for the species, as follows: "10th primary *nearly always* equal to or longer than the 5th" (italics introduced here.). We identify our term "nearly always" as being roughly equivalent to the statement that "98 out of 100 individuals may be expected to be so characterized". The use of a complex of characters (6th primary slightly cut out, short wing length, yellow wash just above the dark chest band, formula $B = +3.4$ mm.) provided an unequivocal identification of this particular specimen, whereas the use of a single character, such as wing shape, could have led to confusion.

For another example of the danger inherent in single character identifications, we call attention to a specimen of Acadian Flycatcher (*Empidonax virescens*) netted at the Kalbfleisch Station on 31 May 1969. The species is now a rare migrant on Long Island and this individual, the first record for the station, was photographed for coloration of soft parts (flesh-colored mouth lining, not orange; gray tarsi, not black) and later collected as a voucher specimen. The fact that the plumage of the throat was conspicuously tinged with yellow might well have influenced some banders (and field observers) to identify the bird as a Yellow-bellied Flycatcher. We pointed out in the 1966 paper that most Acadian Flycatchers return in the spring with the throat white, but that some spring sight records of Yellow-bellied Flycatchers, suspect because of their early dates, might well be of yellow-throated Acadians. The Kalbfleisch specimen, identified on the basis of a complex of characters (long wing length, wing shape, color of mouth lining and of tarsi), reinforces this belief and amplifies our concern over the use of single characters.

We would again stress the use of multiple characters in identifying Western Kingbirds (p. 160), as other yellow-bellied kingbirds have been taken in the east and may be increasing. The important feature of Western Kingbirds is the even, contrasted tail, largely black but with abrupt white outer web of the outer rectrix. Cassin's Kingbird (*T. vociferans*) lacks this contrasting white. Tropical kingbirds lack both black and white, the tail being dark brownish to dusky and notched (or even forked in some forms). Their identification is extremely critical, and no usable key exists as yet; they should be *preserved* as museum specimens until such a key, now being prepared, is published.

The generalizations given in the 1966 paper relating to migration schedules and presence or absence at specific times of the year have,

for the most part, been substantiated. Some departures have been brought to our attention but, with few exceptions, are not significant enough to merit presentation here. Dr. Parkes has informed us, however, that data accumulated at the Powdermill Nature Reserve suggest that both Yellow-bellied and Traill's Flycatchers continue to move through western Pennsylvania, in small numbers, into early October, and that station has one record of a Traill's as late as 11 October and of a Yellow-bellied Flycatcher as late as 30 October.

We are most appreciative for the splendid data sent to us by Dr. William B. Robertson, Jr., and John C. Ogden, which help to clarify the distributional status of certain flycatchers in Florida. Consequently, some of the statements in the 1966 paper need to be corrected or amended, and we refer the reader to the appropriate page numbers. Since the Eastern Wood Pewee, *Contopus virens* (p. 158), is known to have nested in Volusia County, Florida, the species may be present in the northern part of the state during the summer months. Great Crested Flycatchers, *Myiarchus crinitus* (p. 159), winter rather commonly in parts of southern Florida, *i.e.* Palm Beach south to Matecumbe Keys. The Gray Kingbird, *Tyrannus dominicensis* (p. 160), breeds up to 10-15 miles inland from the coast of Florida, chiefly in towns, and migrates throughout the interior of southern Florida. Western Kingbirds (p. 160), and Scissor-tailed Flycatchers, *Muscivora forficata* (p. 161), winter rather commonly (October to June) in the southern half of Florida, including the keys, and are regular transients (especially in October and November) on the Gulf coast below Tallahassee. The Least Flycatcher, *Empidonax minimus* (p. 161), winters regularly on the south Florida mainland, mainly in "dense thickets on low ground" (*vide* Robertson), and is fairly common there from September through October. This is the commonest species of *Empidonax* in southern Florida after the first few days of October. On the basis of one Florida specimen (recently examined by Lanyon) of the Yellow-bellied Flycatcher (p. 162), taken at Homestead by Mrs. Bradley Fisk on 22 October 1969, one might expect this species *very rarely* almost anywhere in Florida in fall. But we know of no firm spring record for this species in Florida (see discussion on p. 166), although Robertson points out that its occurrence in mid-May in the Dry Tortugas is not impossible. Acadian Flycatchers (p. 162) and Traill's Flycatchers, *E. traillii* (p. 163), are somewhat less numerous than Least Flycatchers in southern Florida in fall (Ogden and Fisk, 1970), and pass through earlier, especially the Acadian. Though the Acadian Flycatcher is a regular spring migrant in Florida, appearing in the south early in April, we still know of no verifiable spring record for the Traill's Flycatcher in that state.

Only two species of *Myiarchus* flycatchers were included in the 1966 key: the Great Crested Flycatcher, *M. crinitus* (the common summer species), and the Ash-throated Flycatcher, *M. cinerascens* (a western species, and rare straggler east of Texas). According to data kindly sent to us by Dr. Robertson and Mr. Ogden, Wied's Crested Flycatcher (*M. tyrannulus*), which is normally restricted

in the United States to a few of the southwestern states, has been recorded with increasing regularity in recent years in southern Florida and the keys. It presumably winters there, in small numbers, for there are now records for December through March. Accordingly, we have prepared the following key to *Myiarchus* flycatchers in eastern North America, which is designed to supercede couplets B and B' (pp. 158-159) in Phillips, *et al* (1966):

- B. Lower mandible drab or horn-color, at least basally. Mouth orangeish. Inner webs of rectrices entirely or largely cinnamon-rufous; some individuals may have a narrow stripe (less than 2.0 mm. wide) of fuscous or brownish-gray, separating the cinnamon-rufous from the shaft; no expanded fuscous area at tips of inner webs. Belly pale to bright yellow, contrasting sharply with the darker gray chest. (Common, from early May to late September generally, arriving in late March and early April in the south; winters rather commonly in parts of southern Florida) V

GREAT CRESTED FLYCATCHER

(*Myiarchus crinitus*)

- B'. Bill entirely black or nearly so. Mouth flesh-color (paler than in *crinitus*). Inner webs of rectrices (except in juvenal plumage) not as in B; prominent fuscous stripe (usually 2.0 mm. to 6.0 mm. wide) along the shaft, or, prominent fuscous area near the tip of the feather. Belly pale yellow to yellowish white; chest pale gray or grayish white. V

- V. Inner webs of all rectrices (except central pair) with prominent fuscous stripe (usually 2.0 mm. to 6.0 mm. wide) along the shaft; fuscous stripes are of nearly uniform width, *i.e.* not expanding abruptly at tips of the feathers. Belly pale yellow; chest pale gray. (Western species, normally restricted to the southwestern states; winters [regularly?] in small numbers in southern Florida and the keys) WIED'S CRESTED FLYCATCHER

(*Myiarchus tyrannulus*)

- V'. Inner webs of inner rectrices without fuscous stripe, but with fuscous area at the tip of each feather; outer rectrix usually without a fuscous stripe or with a much reduced strip, but with an expanded fuscous area at the tip of the feather (except in badly worn plumage or in some immatures in juvenal plumage). Gray of chest and yellow of abdomen very pale, almost white. (Western species; only a rare and irregular straggler east of Texas, chiefly in fall and winter) V

ASH-THROATED FLYCATCHER

(*Myiarchus cinerascens*)

WESTERN EMPIDONACES

At the time the 1966 paper was written, no specimens of western *Empidonax* had been taken in eastern North America, but we predicted (p. 155) that exceptionally late fall flycatchers in the eastern states might include some of these western species, and we offered some casual remarks (pp. 170-171) on their identification. Subsequently, a specimen of Hammond's Flycatcher, *E. hammondi*, was collected in Pennsylvania on 23 December 1966 (Heintzelman, 1968), and a specimen of the Gray Flycatcher, *E. wrightii*, was taken in Massachusetts on 31 October 1969 (MS being prepared by James Baird). That both of these specimens are now preserved in museum collections and available for study is an excellent example of how such fortuitous records should be handled when the opportunity arises. Since there is no key generally available to banders, we include here a more comprehensive (though still abbreviated) treatment of the five western species of *Empidonax* than was given in the 1966 paper. We have chosen not to present this expanded coverage within the format of the 1966 key, for to do so would unnecessarily complicate the use of the original key.

Six species of *Empidonax* occur in the western United States more or less widely — not counting accidentals and the Least Flycatcher, which seems to be spreading through the west. The only transcontinental species is the Traill's Flycatcher; its western forms should key out readily, although (IV', p. 161) the 10th primary is nearly always shorter than the 5th, and some young females of the Pacific Coast form (unlikely to reach the east) have wings less than 62 mm.

One western species is of limited distribution, confined mainly to Arizona, and thus unlikely to appear in the east. This is the tiny Buff-breasted Flycatcher (*E. fulvifrons*), weighing only 6.7 to 9.5 grams. The forked tail with distinctly whitish outer web of outer rectrix, and especially the more or less prominent wash of pale tawny or cinnamon-buff on the chest (obsolete occasionally in badly worn summer females), should prevent confusion.

Of the four species likely to appear somewhere in the east, sooner or later, only one has a definite wash of yellowish and greenish which extends *forward onto the throat* (and crown). This is the Western Flycatcher, *E. difficilis*, and eastern banders will probably recognize it as close to the Yellow-bellied. It will key fairly well into Yellow-bellied except that the wing is more rounded: formula A (5th primary minus the 10th; p. 164) is usually over 0.7 mm. in males, though rarely these (wing chord 67 mm. or more) have the 5th and 10th about equal; females almost always have formula A 2.0 mm. or more. The more rounded and duller, less contrasted wing (wing-bars and edgings of tertials less abruptly contrasted to the main body of the feather, *i.e.* less yellowish-white and dusky) distinguish the Western Flycatcher. The sixth primary is usually markedly cut out.

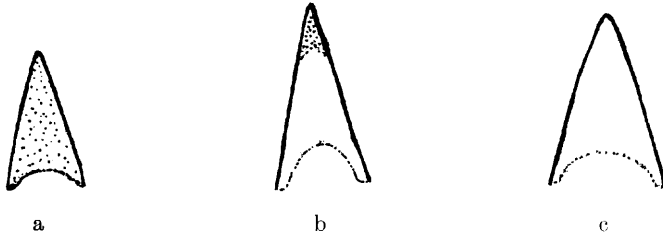
The remaining three western species are the notorious Gray - Dusky - Hammond's group (*E. wrightii*, *E. oberholseri*, and *E.*

Figure 1. Differences in bill shape and coloration in *Empidonaces*.

1a, *E. hammondi*; 1b, *E. wrightii*; 1c, *E. traillii*.

A relatively narrow bill, straight-sided as viewed from below and, in most cases, dark at least at the tip, as illustrated in 1a and 1b, is characteristic of most western species of *Empidonax*, including *hammondi*, *oberholseri*, *wrightii*, and *fulvifrons* (which lacks a dark tip, however).

A relatively wider bill, slightly convex at times and pale throughout, even to the tip, as illustrated in 1c, is characteristic of all eastern *Empidonaces* (except many *minimus*), as well as of most *E. difficilis* of the west.



hammondi). Since it has often been claimed that there is a perfect gradation of morphological characters through these three, banders may anticipate that some specimens might cause problems (especially since the Least Flycatcher belongs to this group). All three species have the *sixth primary cut out* and would key out to Least Flycatcher (p. 161) with these exceptions: wings are often longer and chin and throat are frequently not really white, but rather gray. All three differ from all other eastern *Empidonaces* in having relatively narrower bills (fig. 1), straight-sided as viewed from below, but the Least Flycatcher is usually somewhat intermediate in bill shape. Furthermore, these three western species usually have the lower mandible rather dark (dull pinkish to drab, or even dusky), at least on the terminal 2 or 3 mm., whereas all wide-billed *Empidonaces* (including the Western Flycatcher) commonly have wholly pale mandibles (pinkish to yellowish).

The Gray Flycatcher is the most distinctive of the three when observed in the field, for it dips its tail gently like a subdued phoebe, instead of jerking it spasmodically like other *Empidonaces*. In the hand, the lower mandible is nearly always distinctly bicolored, with a dusky tip in sharp contrast to the pale yellow or pinkish base. The primary coverts, if unworn, have tips or edges that are conspicuously paler than their centers. The outer web of the outer rectrix, as seen from above, is definitely *whitish*, and the bill is always (?) 8.0 mm. or more in length, as measured from the anterior edge of the nostril. The longer bill and conspicuously whitish-edged outer rectrix should separate most Grays from either Least or Hammond's. In addition, both of the latter species often have the tail 55.0 mm. or less, while the tail of the Gray Flycatcher is almost always 56.6 mm. or more unless badly worn.

The Dusky Flycatcher is very difficult to separate from the Gray, for the outer web of the outer rectrix tends to be whitish also, both

species have the 5th primary longer than the 10th (except in an occasional male Gray), and both have a tail that is often longer than that of the Least or Hammond's. However, the primary coverts of the Dusky show only a slight color difference (if any) between the very narrow tips or edges and their centers, and the Dusky's mandible is nearly always either uniform or with the top drab or dull pinkish, in relatively slight contrast to the paler basal half. Additional characters helping to separate these two species are the less rounded wing and relatively shorter tail of Grays. Thus the difference (wing chord minus tail) is usually more than 7.0 mm. in both sexes of the Gray Flycatcher, while the Dusky has the smallest difference of any *Empidonax*: almost always 7.0 mm. or less in females, and usually less than 8.0 mm. in males. Gray Flycatchers usually have the 10th primary longer than the 4th (almost always shorter in the Dusky), and the 9th is about equal to (females) or longer than the 6th (in Dusky, about equal in males and shorter in females). But these and other differences are not always marked enough to identify birds of unknown sex and without comparison of colors.

The short bill (almost always 7.5 mm. or less), wing-tail difference (always over 6.0 mm. and almost always over 8.0 mm.), and lack of a conspicuously whitish outer edge of the outer rectrix should prevent confusion of Hammond's Flycatcher with either the Gray or the Dusky. But it is often very difficult to tell a Hammond's from a Least. Usually the chin, and sometimes the whole throat, are grayish (not distinctly whitish as in all Least not badly worn); the bill is narrow, straight-sided, and usually less than 4.5 mm. wide at the anterior end of the nostrils (usually slightly convex in Least, and about 4.5 mm. or a little more, in width); the wing-tip (distance from tip of longest secondary to tip of longest primary) is usually 13 mm. or more in Hammond's, but almost always less than 13 mm. in Least. Here again, structural differences do not always suffice to identify birds of unknown sex, and minor matters of color and molt need consideration in some cases.

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