The *Empidonax* Challenge

by Bret Whitney & Kenn Kaufman

Part I: Introduction

Empidonax (Gr.): "King of the gnats." Cabanis certainly chose an appropriate generic epithet to describe these diminutive tyrants. The smaller species in particular seem to be always "at attention", snapping wing-salutes and tail-flicks as they alertly watch for their tiny insect prey. In North America north of Mexico the genus *Empidonax* comprises ten flycatcher species, most of which are notoriously difficult to distinguish in the field. Even in-hand identification of these birds was largely guesswork until at least the mid-point of the twentieth century, but gradually the most difficult aspects have been clarified through the excellent work of Allan R. Phillips, Ned K. Johnson, and others. There are now good keys employing such in-hand characters as measurements, wing formulae, and qualified details of plumage, providing banders and museum personnel with the means for routine in-hand identification of nearly 100% of captured *Empidonax* in North America north of Mexico.[1]

One challenge met suggests another, however, and human endeavor spurred by the curious mind cannot leave well-enough alone. Thus, we find a small but increasing number of birders taking interest in *Empidonax* and wondering whether these birds might be identifiable, after all, in the field (or out-of-hand, as the case may be).

Predictably, the great problem of field identification of *Empidonax* has progressed to the situation of widespread enthusiastic confusion. Many supposed fieldmarks have been suggested and have been widely quoted or misquoted, with birders taking sides on each one, claiming that one character is diagnostic while another is worthless. Even those points that seem to be universally accepted are often more opinion than fact.

The ground-level problem here is one of proof: How can we *know* that our identifications are *correct*? How can we be positive of which species it was on which we took all those notes? The answer is that one *cannot* know the species unless the bird is captured and keyed-out in the hand, or unless a totally diagnostic vocalization is heard—and learning the voices is a major project in itself.

Here is the basic rule: *All knowledge of field recognition of* Empidonax *must develop through study of known-identity birds.* From careful scrutiny of singing and calling birds, mist-netted birds, and museum specimens stems the eventual possibility of correctly naming silent *Empidonax* in the field. For the birder who has the desire, opportunity, and perseverance to study these birds, this can be a most worthwhile challenge.

A number of field-identification-oriented accounts of *Empidonax* have been published over the past several years, primarily in various field-guide books. While some of these contain basically sound information, most of them reflect the state of confusion surrounding the *Empidonax* issue. Rather than attempt to isolate the scattered good points (which are sometimes in the same

[1]Excluding the sibling-species pair of Willow Flycatcher (*E. traillii*) and Alder Flycatcher (*E. alnorum*).

accounts with questionable material), we suggest that you try starting with a clean slate, keep organized records of observations in a uniform recording scheme, and make your own judgments about published accounts (including this formative series) as your knowledge grows.

While much remains to be learned (and, yes, unlearned) on the subject, it does appear that many silent *Empidonax* can be identified in the field. We must emphasize that this is possible only when several field characters are used *in combination*—and *after* one has gained experience in looking at these characters on singing/calling and captive birds (*i.e.,* known-identity). Obviously, no amount of reading can give one this necessary experience. But we hope that this series of articles will allow birders to accelerate the learning process by providing a framework for approaching the *Empidonax* challenge, and by pointing out those characters that are most worthy of attention when one is looking at the *Empidonaces.*

We have chosen to illustrate the series primarily with photographs because we believe that drawings and paintings, if they are anything less than perfect, are likely to be more misleading. Photographs have limitations too, of course, but most birders are probably somewhat aware of these (after all the recent discussion of paintings *vs.* photos to illustrate bird guides) and can make allowances for them. Many of the photos are of hand-held (mist-netted) birds, and in these all sense of natural posture is lost. Properly exposed, sharp photos of known-identity *Empidonax* in the field are rare, but are probably the best medium for illustration, and we have included those available to us.[2] Each bird in the photos was positively identified with in-hand characters or by diagnostic vocalizations, with the exception of a few cases in which the identifications were only highly probable (as noted in the photo captions).

[2]The authors are actively soliciting any good photos of *Empidonax* for possible inclusion in this series of articles. If you have photos that you wish to submit for consideration, please send them to Bret Whitney, 602 Terrace Mountain Drive, Austin TX 78746.

We also plan to publish a cassette-tape featuring songs and calls of *Empidonax* as an important aid to field identification.

How to Look at *Empidonax*

Perhaps the first point to keep in mind is the importance of remaining objective. Do not look *for* field marks, but rather look *at* what is there. Try to do this on every Empid which you have the good fortune to see well, and compare your observations with past observations *ad infinitum.* Always be on the alert for any vocalizations.

As you begin to look at the Empid, make conscious note of the *light* on the bird. Plumage tones, regions of contrast, and even the apparent shape of the bird can vary dramatically in shadow vs. sunlight, for instance. Light overcast or open shade may provide the best conditions for seeing Empid colors and contrasts accurately. Strong sunlight and dark shade are extremes, and are likely to create misleading impressions. If necessary, the bird can sometimes be moved into a better lighting situation by slowly walking toward it. Remember that a calling Empid is the best kind, regardless of lighting conditions. Empids are generally wary, and a calling bird will often become silent and elusive if it senses that you are after it.

Additionally, try to determine the mood of the bird. Decide whether the bird is "normal" (busily feeding, calling unexcitedly, perched quietly) or "excited" (agitated by "squeaking", owl imitations, or presence of a predator or another Empid, disturbed by the observer, and so forth). The posture, attitude of the wings and tail, position of the crown feathers, and frequency of calling can all change markedly from "normal" when an Empid is excited. Cold or wet birds may also give unnatural impressions.

It is a good practice to watch any given Empid for several minutes to gain a representative impression of all aspects of the bird's appearance and behavior. Brief views are likely to be misleading, and conclusions incorporated into your mental framework that are based upon less-than-meticulous

observation may lead to miring inconsistencies down the road.

Listen!

The best field character for any *Empidonax*, and the only 100%-reliable one for many species, is the primary *song*. This is the vocalization used in territorial maintenance on the breeding-grounds, and it is often heard on spring migration as well. The song is also used by some species (to maintain territories?) on the wintering-grounds—although those species that do sing during the winter seem to do so less often then. No two *Empidonax* species ever sing the same primary song; the importance in field identification of this basic fact is obvious.

A second major type of vocalization is the *call*, which is a short one-syllabled note—two-syllabled, in a few forms. This vocalization has been variously interpreted by biologists as a location note or an alarm note, but its function need not concern us here. The important point is that on a year-round basis it is by far the most frequently heard vocalization, being used on both the breeding-grounds and wintering-grounds, and during migration. The loudness and frequency of calling seems to vary with mood: excited or territorially defensive Empids tend to call more loudly and more often. Especially during migration and winter, an Empid may be silent for many minutes at a time and then begin to call repeatedly, so do not give up too quickly on a bird that seems determined not to call. Silent Empids can sometimes be induced to call by playing a tape-recording of the suspected species' (or a similar species') call. Remember that the bird may perk up and show interest whether or not the recording is of its own species, so do not allow this behavior to influence your judgment unless the bird calls back.

The nicest aspect of the calls, from the standpoint of field identification, is that they are almost all species-specific. Some are indistinguishable even to the practiced (human) ear, but, fortunately (and as expected), the most outwardly confusing species pairs or trios possess the most dissimilar calls (Hammond's/Dusky; Willow/Alder; Acadian/Yellow-bellied/Western).

Besides the primary song and call, most *Empidonax* species have a variety of other vocalizations which are heard much less frequently. Under the Species Accounts we will mention those that are likely to have some value in identification. The vocalizations given during inter- or intra-specific interactions (trills, series of soft cries, harsh notes, etc.) are probably too variable and too generalized to be worth mentioning in this connection.

What to Look at on Empidonax

In this section we discuss four visual categories that should be assessed for any Empid (or any bird, for that matter) which one wishes to study. These are (1) structure, (2) plumage, (3) stage of molt, and (4) state of wear.

(1) Structural characters are less susceptible to the vagaries of light than are plumage characters. To be sure, structural

Alder Flycatcher (*Empidonax alnorum*) on breeding-territory. June 29, 1983. Riding Mountain National Park, Manitoba. *Photo by Bret Whitney.*

characters are subject to variation, owing largely to the fact that male *Empidonaces* are larger than females. But as you gain field experience with known-identity Empids, subtle differences in the various species' body proportions will begin to take on significance.

Profile each bird's frame for a guarded first impression of body proportions. Then look carefully at the **size and shape of the bill** (especially its shape as viewed from above or below, although this view is not always easy to see!). The color and light/dark pattern of the **lower mandible** should be determined at the same time (see Fig. 1). Take a close look at the length of the pointed extension of the primaries beyond the posterior-most, pale-edged tertial on the folded wing. We call this the **primary extension** (see Fig. 1). Finally, look at the tail, noting its length **in proportion** to the bird's body size. While you are at it, note whether the tail is more constricted at the base than at the tip, or if it appears "relaxed" and essentially parallel-sided from base to tip.

(2) Plumage differences among most North American Empids are very subtle. The differences that do exist are mostly ones of **value** (lightness or darkness of tones) and **intensity** (brightness or paleness of hue, or of color), both of which require much experience to judge. Impressions of value and intensity should be considered as supporting evidence only, and even then only when studied in good light.

Where two regions of differing light-values appear on a given bird, a **contrast** is set up. If the two regions are very different and the change from one to the other is abrupt, the contrast will be obvious; if the two regions are more similar and/or if the change from one to the other is more gradual, the contrast will be less noticeable. Plumage areas on Empids where the degree of contrast should be checked include crown *vs.* back, back *vs.* tail, back *vs.* wing, face *vs.* throat *vs.* breastband, and wing-bars and tertial-edgings *vs.* ground-color of the wing.

The degree to which the pale **eye-ring** stands out against the darker face on an Empid is a good example of contrast, and is a character to check specifically. Not all Empids possess clear "field-guide" eye-rings. Willow Flycatcher, on average, has the weakest eye-ring of the genus and seems

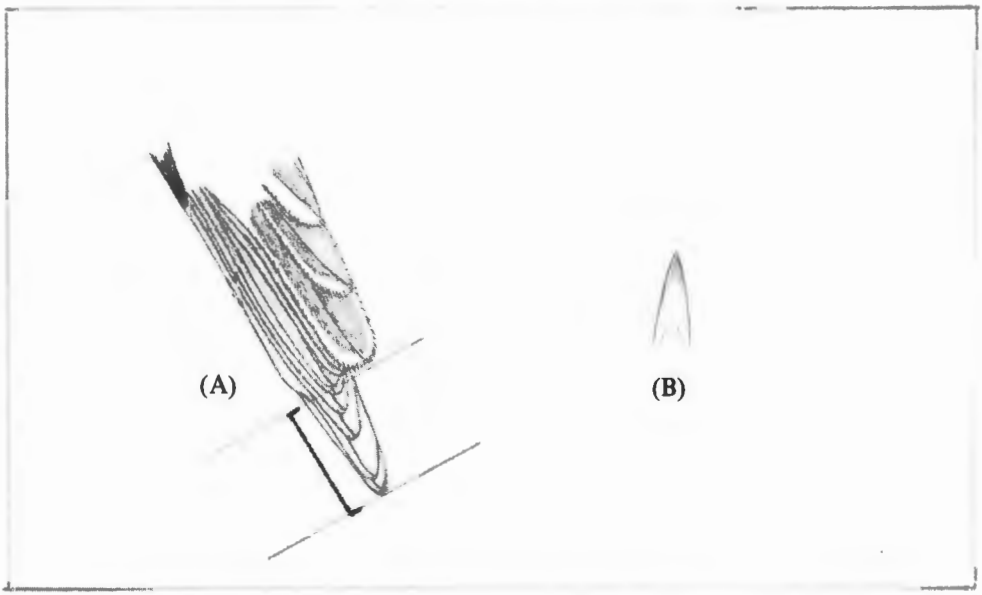

Fig. 1. Examples of two structural characters to look at on *Empidonax:* (A) primary extension and (B) lower-mandible shape and light/dark pattern.

to be the only Empid that *often* shows no eye-ring at all. Many Alder Flycatchers and Acadian Flycatchers show weak eye-rings, as well. Eye-ring contrast is typically heaviest on all Empids along the posterior half of the eye, where the eye-ring tends to be thickest. Eye-rings tend to be thinnest on the top edge, an impression that is sometimes heightened by the effect of compressed crown feathers overlapping this portion of the eye-ring and partially obscuring it. On many species (but particularly on Western Flycatcher) the eye-ring at least occasionally comes back to a "tear-drop" point behind the eye.

Differences in **hue** (the popular conception of color) among the Empids are the subtlest of all; they do exist, but the effects of lighting and the condition of the plumage itself (fresh *vs.* worn) can make them almost impossible to be sure of in the field. Areas of the plumage to study for hue are the throat, wing-bars, back, nape, sides of head, and sides of breast for purposes of comparison with other species' appearance at the same time of year. Make note of contrasts in hue on an individual Empid just as you note contrasts in value.

A final reason to beware of plumage characters for Empids is that they are constantly changing—mostly in gradual and subtle ways—throughout the year, as the condition of the plumage itself changes. An understanding of this phenomenon is essential to any analysis of the appearance of these birds.

Plumage Condition: (3) Molt & (4) Wear

Most North American birders are not yet accustomed to thinking about molt and wear of the plumage, especially among passerines. But these processes affect a bird's appearance so much that they *must* be considered in identifying difficult birds like *Empidonax* flycatchers.

(3) Molt is the process whereby feathers fall out, a few at a time, and new ones grow in their place. In general, a healthy wild bird will molt every one of its feathers at least once a year. For most species, the timing of the molt and the sequence in which feathers from various tracts are replaced are fairly precise. Many molt strategies are known, but this one seems to be typical of many birds (including many flycatchers): in fall there is a **complete** molt,[3] in which all of the feathers are replaced over a period of a month or two; in spring there is a **partial** molt involving body and head plumage and sometimes wing-coverts, but usually not any of the flight-feathers of the wings and tail. Because molting and migrating both burn up energy, birds rarely do both at once. Thus, the fall molt may occur (1) before the birds leave the breeding-grounds, (2) after they arrive on the wintering-grounds, or (3) partially in both areas, the molt being suspended during the actual period of migration. The spring molt, if any, is usually completed before the birds migrate north.

While molt is in progress, it can affect an Empid's appearance in a number of ways. For example, the tail and/or wing-tips may look shorter than usual or asymmetrical, and the tail-tip may appear more or less notched than normal. Eye-rings and wing-bars can appear broken if some of these feathers are being molted. The shape and relative size of the head can appear quite different from normal on a molting bird. Individual Empids in molt of the head and body plumage look disheveled, and their plumage tones are especially hard to judge due to the mixture of old and new feathers (see Plate 2).

(4) Wear is the general term used for the natural deterioration of feathers (which is the major reason why molt is necessary). It has two main effects on a bird's appearance: (1) the edges of the feathers, especially exposed ones, are gradually worn away; (2) the hue of exposed areas tends to fade, owing to oxidation by the sun and to weathering.

[3]This molt, which occurs after breeding, is often called the **postnuptial** molt in adults; in birds hatched during that breeding season it is called the **postjuvenal** molt. For many species the **postjuvenal** molt is partial rather than complete. The spring replacement of feathers is often called the prenuptial molt.

The effects of abrasion are most apparent on the wing pattern. *Empidonax* flycatchers in fresh plumage have wing-bars—formed by contrasting pale tips on the greater and median coverts—and contrasting paler outer edges on the tertials and secondaries. These pale edges and tips are exposed to more abrasion than are the centers of the feathers (and pale areas on feathers tend to be weaker and more readily worn away than dark areas). So as the plumage becomes worn, the wing-bars and tertial-edgings become narrower, and the pale edgings of the secondaries become less distinct. Abrasion may also affect the tail-tip.

The effects of fading are more widespread. Areas of the head that are olive-gray or blue-gray on birds in fresh plumage tend to become a duller, plainer (and often slightly paler) gray. Yellow or buff on the underparts may fade to whitish. Olives may take on a brownish hue. The dark areas of the wings may become slightly paler, and wing-bars that are yellow or buff at first tend to fade to off-white, so that the entire wing is less "colorful" on faded birds.

The gradual change brought about by wear must always be taken into account when reading (or writing!) about the subtle differences in hue among *Empidonax* flycatchers. Remember that Species A in worn plumage may look almost identical to Species B in similarly worn condition—and quite different from its own Species A in **fresh** plumage.

In general, birders should expect adult *Empidonax* to look duller (more worn) in mid-summer than in spring. In most of our Empids this trend continues, with adults looking even more worn in late summer and during fall migration; in a few species, however, the adults molt before they leave the breeding-grounds—so they are in crisp plumage for fall migration.

When juveniles appear on the scene in summer, they are in noticeably fresher plumage than adults. Juvenal plumage, however, is a bit "looser" or "flimsier" than that of adults, so it tends to wear a little faster. In some species, this original plumage is very promptly replaced, the postjuvenal molt occurring before the birds leave the breeding-grounds, and of course these birds will also be in fresh plumage during fall migration. In the Species Accounts sections we will discuss the timing of molt for each species, and the effect that this schedule has on the birds' appearances at different seasons.

Although the topics of molt and wear may seem confusing at first, they provide the explanation for what would otherwise be a confounding and mysterious amount of variation in these birds. And there are even cases in which differences in the timing of molt among similar species provide valuable clues to their identification. Thus we see the importance of taking conscious note of plumage condition whenever looking at *Empidonax*.

What *Not* to Look at on *Empidonax*

Naturally, one hopes to grab hold of some nice, seeable character and assign it to a particular species, or at least use it to rule out some species. Where such distinctions have been isolated, we will try to discuss them in the Species Accounts sections. But on this subject of supposed fieldmarks there are some notions going around that should be dispelled, revised, or at least tinged with caution. Most of the following points deal with characters that are either (1) unpredictably variable within species (or over the entire genus) or (2) so consistent through the genus that their merit as specific fieldmarks is nil. Thus we recommend that, with the very few noted exceptions, these characters not figure significantly into *Empidonax* field identification.

Pale lores: All *Empidonax* have pale lores, corresponding to the position of the yellow loral spot on adult White-throated Sparrows (*Zonotrichia albicollis*) as illustrated in the field guides. This characteristic may tend to be more obvious on some species than on others, but because of individual variation this feature has little value in field identification.

Pale outer vanes on the outer rectrices: The outer vanes on the outermost tail-feathers are paler than the rest of the tail on all North American Empids with the excep-

tions of most Yellow-bellied Flycatchers and perhaps all Western Flycatchers. Acadian Flycatcher shows only slightly paler outer vanes, but in the rest of the species these range from grayish-white to white (perhaps brightest in Gray Flycatcher). The degree of contrast in various species can be appreciated in the museum—where lighting is controlled, the amount of wear can be checked, and species can be directly compared—but as a field character it is rarely helpful. Especially beware of back-lighting: *any* bird's tail can look pale-edged and/or pale-tipped when viewed with the light behind it.

Yellow bellies: All Empids have yellow or yellowish bellies if seen well. There is much age-related and molt-and-wear-related variation within species, and much overlap among species.

Breast-bands: All Empids have some darker feathers (contrasting with the throat and belly) concentrated on the sides of the breast and usually washing through the center of the breast to form a breast-band, variably conspicuous, narrowest in the center. For some species, the breast-band takes on the shape of an open vest because of the posterior suffusion of darker feathers down the sides and flanks. Juveniles of all Empid species tend to be more "vested" than adults. Seasonal and individual variation affects the strength of the breast-band and of the vested appearance, however, so these differences have only limited value as field characters. These patterns will be discussed (where appropriate) in the Species Accounts sections.

Wing- and tail-"flicking": Smaller species may do it almost constantly, larger ones less often, but all Empids at least occasionally "flick" both the wings and the tail. There has been much discussion as to whether the frequency of these actions can be used as a field character for separating some species. The birds' mood can have a major effect on this behavior: excited Empids tend to be much more active. In the Species Accounts sections we will mention the behavioral tendencies of each species, but—aside from the subdued tail-dipping motion of the Gray Flycatcher—these traits of wing- and tail-action are at best only minor aids to identification.

Least Flycatcher (*Empidonax minumus*) in molt. Note worn condition of upper wing-bar and feathers on the head, as well as abraded tail-tip. The wing and tail are in obvious molt, probably indicating a first-year bird. May 17, 1983; Austin, Texas. *Photo by B. Whitney.*

Format of This Series

"The Empidonax Challenge" series will consist of five additional installments to discuss each of the ten species breeding in the ABA area, plus Pine, White-throated, and Yellowish Flycatchers, which are present in Mexico and must be considered when studying Empids there.[4] Each installment in the series will treat two or three species

[4]All ten of the ABA-area *Empidonax* are regular spring and fall migrants in various regions of Mexico, and all of them (with the exception of Alder Flycatcher) winter in Mexico to some extent. As several species often occur in the same area, much valuable comparative experience may be gained on birding travels in Mexico.

which we feel represent the most similar groups under field conditions, in the following order of appearance:

Part II: Least, Hammond's, and Dusky Flycatchers (*Empidonax minimus, E. hammondii,* and *E. oberholseri*).

Part III: Willow and Alder Flycatchers (*E. traillii* and *E. alnorum*).

Part IV: Acadian, Yellow-bellied, and Western Flycatchers (*E. virescens, E. flaviventris,* and *E. difficilis*).

Part V: Gray (*E. wrightii*) and Buff-breasted (*E. fulvifrons*) Flycatchers (these two relatively distinctive species will be discussed as a separate installment for the sake of convenience, keeping the above installments to a more manageable length).

Part VI: Pine (**E. affinis**), White-throated (*E. albigularis*), and Yellowish (*E. flavescens*) Flycatchers (to be discussed in the context of separation from the most similar species in previous installments).

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Bret Whitney
602 Terrace Mountain Drive
Austin, TX 78746

Kenn Kaufman
Academy of Natural Sciences
19th & the Parkway
Philadelphia, PA 19103

Answers to Trivial Birding: 1. Swifts. This unique adaptation is called "pamprodactyly" and is also found in tropical colies, whatever they are!—*Submitted by Paul J. Baicich.* Bonus question: California Condor. Carcasses are being set our for the remaining condors to feed upon. 2. Lucy. 3. Yellow-breasted Chat. 4. Richard Pough. 5. Yellow. 6. Rook. 7. Tercel. 8. Labrador Duck, Great Auk, Passenger Pigeon, Carolina Parakeet. 9. Missouri & Illinois. 10. Black Vulture. 11. Crissal Thrasher. 12. Sandwich Tern. 13. Texas; the Florida birds were introduced but never became established.

The *Empidonax* Challenge

Looking at *Empidonax*

by Bret Whitney & Kenn Kaufman

Part II: Least, Hammond's, and Dusky Flycatchers

(*Empidonax minimus, E. hammondii,* and *E. oberholseri,* respectively). Gray Flycatcher (*E. wrightii*), although most similar to species in this group, is sufficiently distinctive that we have chosen to treat it in detail separately.

Least Flycatcher (*Empidonax minimus*) (Plates 1 - 4)

Voice

The song is the familiar, sharp *che-bek'* or *ka-bek'* delivered as rapidly as once per second on the breeding-grounds, and often on migration. Least also sings occasionally on the wintering-grounds. The song is similar to that of Yellow-bellied Flycatcher, but Least's song is not as harsh and is typically given in more-rapid succession. The two songs are easily distinguished once compared and learned.

Least's call is a small, dry, upwardly inflected *whit* or *wit* or *pwit* given frequently, and usually accompanied by wing- and tail-flicking. The call is very similar to the calls of Buff-breasted, Willow, Dusky, and Gray Flycatchers; it is easily told from all other species' calls.

Structure

Least Flycatcher is a small, typically round-headed Empid with a regularly proportioned frame. The bill is fairly short and wide, with the lower mandible entirely or almost entirely orange-yellow. The lower mandible often shows an ill-defined dusky tip to the distal one-fourth or one-third, perhaps especially on juveniles. The primary extension appears to be quite variable but is typically short and round, averaging intermediate between the shorter Dusky and longer Hammond's.

Plumage

Non-molting Least Flycatchers have a clean, wide, complete white eye-ring (but see Plate 3 of bird in molt). The throat is whitish or white and contrasts well with the drab olive, grayish, or even brownish breast-band on fresh fall juveniles, not as strongly in spring (usually), or on molting fall birds. Least generally shows the strongest brownish tone (nonetheless faint) to the upperparts and breast of any Empid north of Mexico except Buff-breasted. Some spring Leasts, however, can be very green above and into the face, especially when seen in bright sunlight. These birds are of unknown age/sex; this plumage needs further investigation. Irrespective of the hue of the upperparts, Least tends to be uniform above with a slight darkening of the crown and forehead, but plumage contrasts may be apparent on molting birds.

Freshly molted spring Leasts typically have white or off-white wing-bars and tertial-edges. In late summer/fall the wing-bars are whitish or buffy on adults, and buffy-white to ochre on juveniles. The tertial-edges tend to be whiter than the wing-bars in fall, especially on juveniles.

Plate 1: Least Flycatcher (*E. minimus*). Note short primary extension, bold eye-ring, white wing-bars and tertial-edges. This adult (skull completely ossified) may have largely completed the post-nuptial molt on the breeding-grounds, as it is in fresh plumage. (Early September, in Richmond, Indiana.) *Photo by B. Whitney.*

Plate 2: Least Flycatcher (*E. minimus*). Note the short primary extension. This fresh-plumaged Least shows typically bold, white eye-ring, wing-bars, and tertial-edgings. Note also the uniformity of the upperparts. (Mid-May at Point Pelee N.P., Ontario.) *Photo by Onik Arian.*

Behavior

Least is an active bird, moving often and usually doing lots of snappy wing- and tail-flicking. The tail is usually not held parallel-sided, being more constricted basally than at the tip.

Molt

Adults undergo a complete molt (the pre-basic, or post-nuptial, molt) in fall after arriving on the wintering-grounds, beginning as early as August and completing the molt probably by mid-November. Juveniles have a partial molt, involving mainly the body plumage, from July to October. Much of this post-juvenal molt occurs before they leave the breeding-grounds, but the late stages may be completed during migration. Adults migrate south substantially earlier than juveniles, and are mostly gone from Canada and the U.S. by early September. Some migrants (spring or fall) have a "scruffy" or "uneven" appearance imparted by continuing body molt.

The spring (pre-alternate or pre-nuptial) molt may be more extensive in first-year birds than in adults, involving much of the body plumage and often some of the flight-feathers, but is apparently unlikely to be complete. It occurs in late winter/early spring on the wintering-grounds, usually before the birds start northward, but Least may show evidence of spring molt in progress as late as mid-May.

Similar Species

Among the "eastern" species, only Willow Flycatcher has a similar call, but it is lower, "thicker", and is generally delivered less frequently than is Least's. The combination of Least's small size; shorter, slimmer bill; stubbier primary extension; and bold white eye-ring will serve to separate it from Willow, Alder, and Acadian Flycatchers.

Plate 3: Least Flycatcher (*E. minimus*) in molt. Note generally disheveled appearance, particularly the eye-ring, wing-bars, and head plumage showing mixture of olive (new) and grayish (worn) feathers. Note also short primary extension; could it be due to molt? Such birds are especially tricky to identify (see also Plate 2 in Part I, *Birding*, Vol. XVII, No. 4, August 1985). (Mid-May, in Austin, Texas.) *Photo by B. Whitney.*

Plate 4: Least Flycatcher (*E. minimus*). Typical juvenile showing buff tinge to wing-bars, off-white tertial-edges, conspicuous eye-ring, and general uniformity of upper-parts. Note short primary extension. (Mid-September, in Hays County, Texas.) *Photo by B. Whitney.*

Yellow-bellied Flycatcher is usually easily separable by its yellow throat and strong green hue above and in the breast, but worn fall birds, especially females, may show much-reduced yellow in the underparts and less green in the upperparts. The voice is very different, however, and Yellow-bellied has a blacker wing which contrasts more sharply with the back than is the case for Least. Although structurally quite similar to Least, Yellow-bellied boasts a slightly longer and broader bill, and the lower mandible apparently never has a dusky tip.

Among the species most similar to Least is Hammond's Flycatcher. Happily, the voices are easily distinguished, Hammond's call being a high, sharp *peep* or *peek,* lacking the dry quality and upward inflection of Least's *whit* or *wit.* The two species are close structurally, but Hammond's bill is truly tiny, being both shorter and slimmer throughout its length than Least's. Additionally, Hammond's bill is at least one-half to two-thirds dark toward the tip when seen from below; the dusky tip of the lower mandible on some Leasts is usually less extensive and paler than Hammond's. Hammond's throat is grayish, usually not contrasting much with the olive-gray breast-band except in fresh fall plumage. Above, Hammond's appears more two-toned than Least, with a gray face and nape which contrasts with the olive back. Least is more uniform from crown to tail, slightly darker on the forehead and crown. These plumage differences are at a minimum during spring and summer, when Hammond's shows subdued plumage contrast. By early fall, however, virtually all Hammond's Flycatchers are in fresh, bright plumage, having largely completed molt on the breeding-grounds. Least probably completes fall molts on migration and on the wintering-grounds. Thus, a small Empid in obvious molt or worn plumage after early

September is more likely to be a Least or Dusky Flycatcher.

The problem of separating Dusky Flycatcher from Least also deserves special attention. The calls are similar *whits*, but Dusky's is lower-pitched, and is usually given in less-rapid succession than Least's. Dusky is a "longer" bird, although the primary extension is short like Least's and is of little help in the field. The bill is as long as or longer than Least's, but it is noticeably slimmer, and the lower mandible is one-third to one-half dark toward the tip. Additionally, Dusky is proportionally longer-tailed than Least. Plumage-wise, Dusky fits well with the preceding discussion for Hammond's, but it is during fall migration that Dusky is most similar to Least. At this season, both species are in variably worn plumage and possibly in molt. Dusky's grayish throat may approach the whitish throat of Least, and general plumage contrasts and hue intensities are at a minimum. Caution is urged; look carefully at shape and color of the lower mandible and at throat-color and tail-length. Take careful notice of plumage condition and calls.

Comments on Distribution and Migration

Least Flycatcher is an important species with which to become thoroughly familiar because it is the most common Empid migrating through much of eastern North America, and it is the species most similar to the Hammond's/Dusky pair of the West. Least is also the most likely of the eastern species to stay late in the fall, when some of the similar western species have been collected in the East. Least is being reported increasingly as a rare migrant in the West, especially in California; it is expanding its breeding-range in the interior of the Northwest, and was first found breeding in California in 1984.

Least usually appears in the southern U.S. by late April, but may be found earlier some years. The largest concentrations pour through during May, largely occupying breeding areas by early June. Fall migration begins in late July and is heaviest in late August and the first week of September. Least is quite scarce in the U.S. by October 1, and very rare after mid-October. Least may winter in small numbers in southmost Texas, Florida, and southern California; specimen confirmation is desirable.

Least is a common winter resident of the drier lowland (primarily) habitats of Mexico, most abundant in the south. The wintering-range extends south to western Panama, where Least is scarce. There are specimens from as far east in Panama as the Canal Zone. As yet, there is no report from South America.

Hammond's Flycatcher (*Empidonax hammondii*) (Plates 5 - 8)

Voice

The song is slightly variable in pattern, but consists of three basic elements. First is a dry rapid *chi-pit'* or *see-brrk'*, sharply two-syllabled, with the second syllable either slightly higher or noticeably lower and rougher. When this element is given alone, as may happen often on the breeding-grounds, it can suggest the *che-bek'* of Least Flycatcher or *che-bunk'* of Yellow-bellied Flycatcher. Second is a very rough *brrrk* at one low pitch. The third element is similar to the second, but rises in pitch toward the end: *brrip'*. These parts are usually given in this order, with brief pauses between the notes; elements may be repeated, left out, or perhaps sometimes given in a different sequence. The call-note heard most frequently at all seasons is a sharp *peep* or *peek* which has been likened to the piping call of Pygmy

Nuthatch (*Sitta pygmaea*) or the single note of a Long-billed Dowitcher (*Limnodromus scolopaceus*). A call heard often on the breeding-grounds, at least in some areas, is a short, mellow *tew* (*fide* K. Rosenberg).

Some aspects of Hammond's calls need to be clarified. It has been suggested that the sharp piping note is given only by females, but we (and others) have repeatedly heard this note from both members of pairs on the breeding-grounds. And there is confusion over the existence of a rough *bick* note, which some observers have never heard while others claim it is common; perhaps this note is similar or identical to the piping note, and the difference is mostly one of interpretation.

Structure

Hammond's is a small *Empidonax* which usually looks large-headed. Its bill is narrow and short, the smallest bill of any *Empidonax* (except perhaps the tiny Buff-breasted, which looks proportionally broader-billed). The lower mandible is usually at least one-half to two-thirds dark at the tip, fading to dull dusky-yellow or pinkish-yellow at the base. Some Hammond's look entirely dark-billed in the field, and some (young birds?) may be more extensively pale at the base of the lower mandible; the amount of variation in this trait needs more attention. Typically, the primary extension is noticeably long; although the tail is about medium-length relative to the body-size, the long wing-tips make Hammond's look proportionally short-tailed.

Plumage

Hammond's is a relatively dark Empid, and in fresh plumage it is relatively contrasty and colorful, as well. Adults in paler, worn plumage are seen mostly in summer on the breeding-grounds, although some spring migrants are also drab, showing only minimal plumage contrast. The back is usually a fairly dark gray-olive. The head is subtly darker, noticeably less olive, thus contrasting with the back in good light. In fresh plumage the face is nearly blue-gray, especially on the lower part of the ear-coverts and side of the neck. The eye-ring is white, usually well-defined, and thicker on the posterior half (behind the eye). The throat is always a clear gray (but beware the washing-out effect of direct sunlight). The breast is olive-gray or brownish-gray, usually rather dark, particularly toward the sides. The belly is pale to fairly bright lemon-yellow. Often the dark color of the breast extends down the sides and flanks, and the yellow of the belly extends up the center of the lower breast, creating a vested appearance of such high contrast that it may bring to mind the pattern of Olive-sided Flycatcher (*Contopus borealis*). The wings are dusky gray, with wing-bars and tertial-edges that are quite buffy in fresh plumage (fall and winter), fading toward dull white in spring and summer.

In mid-summer, juveniles can be distinguished from adults, as the latter have worn wings with narrow whitish wing-bars while the juveniles have fresher wings with buffy wing-bars. In fall migration, however, adults and young birds look identical in the field.

Behavior

Hammond's tends to be an active bird. The tail is flicked frequently, and often the wings are flicked at the same time. By comparison, Dusky Flycatcher tends not to flick the wings as much as the tail; but this is only a minor supporting fieldmark at best, because Dusky will sometimes flick the wings very frequently when excited. Hammond's tail is usually not held parallel-sided, being more constricted basally than at the tip.

A fairly consistent behavioral difference between Hammond's and Dusky is in their choice of nest sites. Hammond's usually builds its nest more than twelve feet above the ground, often much higher; Dusky usually nests less than twelve feet off the ground. There is also a general tendency for Hammond's to sing or forage in spots surrounded by dense vegetation, while Dusky may choose slightly more-open areas.

Plate 5: Hammond's Flycatcher (*E. hammondii*). Note long, pointed primary extension and short, thin, dark bill. Slightly grayish head contrasts subtly with more-olive back, while grayish throat shows little contrast with head. Note also typically conspicuous eye-ring. This individual was a migrant. (May, in Sawyer Park, Oregon.) *Photo by Tom Crabtree.*

Plate 6: Hammond's Flycatcher (*E. hammondii*). Same bird as in Plate 5. Note bill and primary extension as in Plate 5. Slightly brighter lighting lessens apparent head/back contrast. *Photo by Tom Crabtree.*

Plate 7: Hammond's Flycatcher (*E. hammondii*). Same bird as in Plates 5 and 6. Photo slightly over-exposed, but note general uniformity of underparts, a condition seen in some spring and most summer (breeding) Hammond's. *Photo by Tom Crabtree.*

Plate 8: Hammond's Flycatcher (*E. hammondii*). Fresh-plumaged fall migrant showing contrasty, "colorful" pattern of underparts, owing largely to dark breast and bright yellow belly. At this season, the throat/breast contrast is at its best. Soft focus makes structural characters hard to discern in this photo. (Mid-September, at Petrified Forest N.P., Arizona.) *Photo by B. Whitney.*

Plate 9: Dusky Flycatcher (*E. oberholseri*). Note longish bill with largely dark lower mandible. The primary extension is difficult to judge. The grayish head contrasts with the more olive back on this fresh-plumaged spring migrant. (Early May, at Whitlow Dam, Arizona.) *Photo by K. V. Rosenberg.*

Plate 10: Dusky Flycatcher (*E. oberholseri*). Note the grayish throat, contrasting little with the head or breast, and the conspicuous eye-ring. Some spring Hammond's may look very much like this in terms of plumage. Although the bird is hand-held, Dusky's rather long-tailed appearance is preserved. The primary extension is difficult to judge, as the tertials are not visible. Same bird as in Plate 9. *Photo by K. V. Rosenberg.*

Plate 11: Dusky Flycatcher (*E. oberholseri*). Note slim appearance and longish tail with basal constriction very characteristic of this species. Compare bill to Hammond's plates to appreciate the greater length of Dusky's in proportion to the head. Although lighting is harsh in this photo, note the extensive gray through the throat, breast, and sides. (Late June, singing on territory near Manitou, Pike National Forest, Colorado.) *Photo by Bill Maynard.*

Plate 12: Dusky Flycatcher (*E. oberholseri*). Note the short primary extension. Lower mandible appears largely pale in this view. Fresh plumage with buff tinge to wing-bars and tertial-edges indicates a juvenile bird. (August at Crane Flat Meadow, Yosemite National Park, California.) *Photo by Bob Yutzy.*

Molt

Adults undergo a complete molt (the pre-basic, or post-nuptial, molt) in late summer before they leave the breeding-grounds. This molt generally begins between late June and mid-July, and is completed between late August and mid-September. Juveniles go through a partial molt, replacing only body plumage, which begins practically as soon as they fledge and is completed sometime between late August and early October. Thus all Hammond's adults and first-year birds are in fresh plumage during fall migration.

The spring (pre-alternate or pre-nuptial) molt, which occurs between February and April on the wintering-grounds, involves only body plumage. It varies from extensive to minor, so some Hammond's in spring migration are in visibly fresher, more colorful plumage than others.

Similar Species

Hammond's and Dusky Flycatchers are notoriously similar; even their songs have often been confused, partly because they have been poorly described. See the voice descriptions given in this article for the two species, listen to any good recordings (*e.g.*, on *A Field Guide to Western Bird Songs*), and notice the following differences: the first element of Hammond's song is more sharply two-syllabled; the second element of Hammond's is on one pitch, and is lower-pitched and rougher than any song element of Dusky; the third element of Hammond's (the rough ascending note) is somewhat like the second element of Dusky's song, but sounds shorter, rougher, and lower-pitched; and the song of Hammond's rarely if ever includes a high-pitched clear note like the *peet* or *pweet* often heard in the song of Dusky.

The songs of these two are rarely heard away from the breeding-grounds, but their call-notes are very helpful in identification. The sharp *peep* given by Hammond's is quite unlike the *whit* calls of Dusky and Least Flycatchers.

Separating Hammond's and Dusky visually can be more of a challenge, but structural characters will suggest the correct identification for many individuals. Hammond's averages shorter-billed, and its lower mandible is usually mostly dark (although a few individuals of either species may look almost identical in bill length and lower-mandible color). The tail of Hammond's also averages shorter, and its long primary extension makes the tail look even shorter proportionally. Hammond's short bill and short tail tend to make it look more compact and large-headed than Dusky in the field. The compact, short-billed, short-tailed look and the tendency to frequent wing-flicking have led some observers to liken Hammond's to Ruby-crowned Kinglet (*Regulus calendula*).

Plumage characters can be very good, *if seasonal change is taken into account.* The differences are most obvious in early fall, when Hammond's is in very fresh plumage. At this season Hammond's shows rich yellowish-buff wing-bars, a fairly dark olive-gray breast, a strong wash of yellow on the belly, and definite contrast between the gray head and olive back. Juvenile Duskies in early fall also have buffy wing-bars, but their body plumage is rapidly fading in color; the breast is pale to medium olive-gray, the belly is usually pale yellow, and there is little or no contrast between the head and the back, both of which are a rather drab olive-gray and becoming paler with wear as the season advances. Adult Duskies in early fall look even more nondescript, as their body plumage is about as pale and drab as that of juveniles at this season, and their tail-feathers and wings are more worn, with narrow, dull whitish wing-bars and tertial-edges.

It should be emphasized that the plumage differences between Hammond's and Dusky are much less apparent in *spring,* when wear, fading, and individual variation in extent of molt have combined to produce an equalizing effect; some spring Duskies look more colorful than some Hammond's at this season. And in winter, when only a handful of either species may be found north of the Mexican border, Dusky tends to be the brighter of the two species—having just completed its molt. Also, even in very fresh

plumage, Dusky is rarely as dark on the breast as is typical Hammond's.

Hammond's should also be compared to Least, since both are small Empids with small bills. See the discussion under Least.

Comments on Distribution and Migration

Of the five purely "western" Empids, Hammond's is the one that breeds farthest north and migrates farthest south. As such, it is the one perhaps most likely to stray to eastern North America. There are already records for Pennsylvania and Louisiana; further occurrences in the East are likely as more observers begin to look closely at *Empidonax,* although proving these records will always be a challenge. Suspected out-of-range Empids, or any late fall or winter birds away from the few standard wintering-areas, should be mist-netted or at least photographed and tape-recorded.

Hammond's Flycatcher occurs regularly as far east as the Guadalupe and Chisos mountains regions of western Texas, where it is an uncommon spring and fall migrant. In the far West, at least, Hammond's tends to migrate earlier in spring and substantially later in fall than Dusky Flycatcher, and this trend is sometimes a helpful clue in identification. It winters rarely in southern Arizona (perhaps casually in southern California). Most Hammond's winter in highland areas (usually with some pines, primarily above about 3500 feet) from northwestern and northeastern Mexico south at least to Honduras, and probably north-central Nicaragua. Whitney saw and photographed one above Boquete, Chiriquí, Panamá, in February 1982. On the wintering-grounds, Hammond's frequents more-heavily forested areas than do Dusky and Least, usually choosing perches higher than about twelve feet above ground.

Dusky Flycatcher (*Empidonax oberholseri*) (Plates 9 - 12)

Voice

The song is variable in pattern, but consists of three basic elements. First is a short note at medium pitch, *chpit´* or *chrip´,* which may seem either one-syllabled or two-syllabled. Given alone, it may suggest the *che-bek´* of Least Flycatcher, but it is not quite so loud, snappy, or clearly two-syllabled as that. Second is a rough, burry note, *ggrrreep´,* starting at a low pitch but slurring sharply upward. Third is a clear, higher-pitched *peet* or *pweet.* The usual sequence is *chpit´ . . . ggrrreep´ . . . pweet* or *chpit´ . . . ggrrreep´ . . . chpit´ . . . pweet.* Elements may be repeated out of sequence, or omitted. Sometimes, especially late in the breeding-season, the song may consist of only one or two elements. There has been much confusion in the past over the differences between the songs of Dusky and Hammond's Flycatchers; see the discussion under "Similar Species" in the Hammond's account. The call is a dry *whit* or *wit,* quite similar to those of Gray, Least, Buff-breasted, and Willow Flycatchers.

A vocalization frequently given by males on the breeding-grounds, especially in the late morning and the evening, is a repeated *dew, dew-hic* with a plaintive quality.

Structure

Dusky is a medium-sized *Empidonax.* The bill is narrow, averaging intermediate in length between that of the short-billed Hammond's and that of the long-billed Gray Flycatcher; there is individual variation in this, however, and Duskies at either extreme may overlap in bill shape with

either of these species. The lower mandible is usually at least one-third to one-half dark at the tip, fading gradually into the pale basal half. The primary extension is quite short for the size of the bird, contributing to Dusky's proportionally long-tailed appearance.

Plumage

For much of the year Dusky Flycatcher is rather drab in terms of overall color and contrast, appearing at its brightest in early winter (when it is mostly south of the United States), although some spring birds may show a fair amount of color. Its back is gray-olive, and its head is slightly grayer and slightly less olive. With the exception of fresh-plumaged birds, there is little apparent contrast between the back and the head, and both areas may fade to drab olive or grayish in summer and fall adults. The eye-ring is white, usually well-defined but sometimes appearing broken; because the head is not very dark, the eye-ring is not always conspicuous. A pale area on the lores, present to some degree on all Empids, is often more pronounced on Dusky than on Hammond's Flycatcher, and this pale area may further reduce the conspicuousness of the eye-ring. The throat is pale gray, but it can look whitish in bright light. The olive-gray of the breast may be moderately dark in fresh-plumaged winter adults and in some spring birds, but typically it is paler than the color of the back. For most of the year the belly is pale yellow, but it may be fairly bright in winter birds and some spring birds. The wings are dusky-gray, with wing-bars that are dull whitish on adults for most of the year and moderately buffy on fresh-plumaged winter birds.

Juveniles in mid-summer differ from the drab, worn adults at that season in having unworn tail-feathers and wings (with buffy wing-bars) and stronger tones of olive on the back, olive-gray on the breast, and yellow on the belly. All the plumage hues of juveniles, however, are subject to rapid wear and fading, and look paler and duller in fall migration.

Behavior

Dusky is a relatively sedate Empid, occasionally flicking the tail through a short arc while perched, but not usually flicking the wings at the same time (unlike Least and Hammond's) unless it is excited, or during the first few seconds after arriving on a perch. Dusky's tail is usually not held parallel-sided, being more constricted basally than at the tip.

Molt

Adults undergo a complete molt (the pre-basic, or post-nuptial, molt) in fall after arriving on the wintering-grounds. This molt may begin as early as mid-August, but it is not completed until mid-November to December. Juveniles undergo a partial molt—replacing the body plumage, some of the median and greater coverts, and sometimes some of the secondaries—which begins between late August and late September and is not completed until about December. Thus all Dusky Flycatchers are in fresh plumage in early winter.

The spring (pre-alternate or pre-nuptial) molt occurs between March and May, before the birds migrate north. It is quite variable in extent, sometimes involving much of the body plumage and some wing feathers.

Similar Species

Dusky is among the least distinctive of our *Empidonaces,* often identified as much by elimination as by positive characters. See the Similar Species discussions under Hammond's and Least Flycatchers. Dusky's combination of narrow bill with largely dark lower mandible and grayish throat should separate it from all the species with wide, pale lower mandibles and white or yellow throats.

In the hand, Dusky Flycatcher can be extremely similar to Gray Flycatcher (in fact, the supposed type-specimen of Dusky turned out to be a Gray, resulting in a taxonomic juggling-act; in texts published before the 1940's, you will find Dusky Flycatcher sometimes called "Wright's

Flycatcher" and given the Latin name *Empidonax wrightii,* now applied to Gray Flycatcher). In the field, however, Gray Flycatcher may be readily identified by its distinctive trait of gently dipping the tail, like a phoebe, with a slow motion and an emphasized downward swing; this is quite different from the rapid up-down flick of the tail performed by the other Empids. Gray also has a longer bill than Dusky, longer for its width than that of any other *Empidonax* species. Its lower mandible is sharply bi-colored (pink or pinkish-yellow for the basal three-fourths, contrasting with a black tip), while that of Dusky fades more evenly from the pale base to the dark tip. Gray also tends to have overall paler and grayer plumage than Dusky.

Comments on Distribution and Migration

Dusky tends to migrate a little later in spring and earlier in fall than Hammond's Flycatcher. It occurs as far east as the Trans-Pecos region of western Texas, where it is a fairly common spring and fall migrant. As far west as southern California it is an uncommon but regular spring migrant, but as a fall migrant it may be largely absent there, contrary to past impressions (*fide* J. Dunn). As a wintering bird, Dusky Flycatcher is uncommon and local in southern Arizona, and casual in southern California. Dusky winters primarily in the uplands of northern Mexico (including the Northeast), sparsely south to Chiapas and casually to Guatemala. On the wintering-grounds, Dusky prefers rather open situations, such as scrub woodland and brushy fields and fencerows, usually choosing perches that are lower than about twelve feet above ground.

Bret Whitney
602 Terrace Mountain Drive
Austin, TX 78746

Kenn Kaufman
Academy of Natural Sciences
19th & the Parkway
Philadelphia, PA 19103

Miscellaneous

LESSER BLACK-BACKED GULL (*Larus fuscus*): As part of a study which Bertel Bruun and I are conducting on the migration and New World distribution of the races of this species, we should like to examine photographs of *L. fuscus* taken in the Western Hemisphere. Please send photographs (black-and-white or color), for examination and possible publication, to the name and address given below.

We prefer original slides, but duplicates will suffice, provided information is supplied on any color variation from the original. All photographs will be returned. We would also appreciate information on specimen records, as well as references to reports published in state or local publications which give sub-specific identification or which contain photographs. Naturally, anyone providing information will be duly acknowledged.

—PETER W. POST, 141 West 73rd Street #3J, New York, N.Y. 10023

CORRECTIONS: In Vol. XVII, No. 3, page 85, the caption for Fig. 3 should read as follows:

"Three variations: American Coot (rear left), intermediate coot (front left), and Caribbean Coot (right)." Please correct your copy of *Birding.* In Vol. XVII, No. 4, page 222, we goofed! As all of you probably realized, the black-and-white drawing labeled "Red-cockaded Woodpecker" should have been labeled "Acorn Woodpecker". Actually, the printer substituted the wrong drawing, and we missed the error in final proofing.

The **"HUMAN SIGN-POST"** shown on page 103 of *Birding,* Vol. XVII, No. 2/3, April/June 1985, is Jim Curry. We appreciated the help of Jim and all of his fellow birders on the 1984 Convention's Victoria field trip.

The *Empidonax* Challenge

Looking at *Empidonax*

by Bret Whitney & Kenn Kaufman

Part III: "Traill's" Flycatcher: The Alder/Willow Problem.

(*Empidonax alnorum* and *E. traillii*)

"Traill's" Flycatcher: How to Recognize It

Separating Alder and Willow Flycatchers (formerly regarded as one species called "Traill's Flycatcher") off the breeding-grounds ranks with the Eastern/Western Wood-Pewee situation as the most difficult field or in-hand identification problem in North America. The birds are structurally almost identical, and their plumages are extremely similar, showing much overlap in every character. Vocalizations—both songs and calls—represent the only obvious differences between the two. Fortunately for birders and for field researchers, these voice differences are easily recognized in the field once the species are compared and learned. We now believe that even after gaining extensive experience with singing and calling (*i.e.,* known-identity) Alder and Willow Flycatchers, it is not practical to identify the vast majority of silent birds beyond the "Traill's" superspecies level.

Before any attempt to separate Alder and Willow can be contemplated, *all* other species must be eliminated from consideration. The following material and other "Similar Species" sections in this series should help to isolate the "Traill's" (Alder/Willow) type.

Structure

"Traill's" is a *large* Empid, with a noticeably heavy bill, a moderately long primary extension, and a fairly long, wide tail. It is most similar to Acadian Flycatcher. The bill is often as long as that of Acadian, but it is not as broad overall, especially basally. The lower mandible on "Traill's" is usually entirely yellow or pale, but it often has a small dusky tip. The primary extension is shorter than on Acadian, but longer than on other *Empidonax* species except possibly Hammond's. "Traill's" crown may look rounded, flattened, or slightly crested, apparently independent of mood, so this feature must not be relied upon.

Plumage

"Traill's" virtually always has a white throat which contrasts well with the breast-band, especially on spring arrivals and juveniles. Note that a small number of "Traill's" show a yellow tinge to the throat, perhaps especially juveniles. The wing-bars and tertial-edgings are whitish, almost always with a buff tinge on freshly molted birds, but these feather-tips wear toward grayish-white through late summer and fall, often appearing

Plate 1: "Traill's" Flycatcher (*Empidonax* sp: Alder/Willow type). A large *Empidonax* with a heavy bill. Subdued lighting (and graininess of the film; not a problem in the field as long as your binocs are clean!) makes the primary extension difficult to judge, but it appears to be rather short. The tail is rather "wide", being essentially parallel-sided from base to tip (no basal constriction). Lighting conditions discourage judgment of plumage-values or hues from this angle, but note that the plumage is in fresh condition. The face is fairly well illuminated, and there appears to be no eye-ring. We have here a short-winged "Traill's" that was 100% identified as a Willow Flycatcher only because it was calling. [By the way, we know that this bird is not a pewee (*Contopus* sp.) simply by looking at the primary extension; Eastern (*C. virens*) and Western (*C. sordidulus*) Wood-Pewees have primary extensions appreciably longer than those of any Empid species. Tropical Pewee (*C. cinereus*), however, has a primary extension of about the same proportions as "Traill's", so once again we must go back to differences in vocalizations to confirm our probable first impression that this bird is not a pewee.] Mid-April in southern Chiapas, Mexico (Mapastepec). *Photo by K.V. Rosenberg and B. Whitney.*

Plate 2: "Traill's" Flycatcher (*Empidonax* sp.: Alder/Willow type). A large *Empidonax* with a heavy bill. The lower mandible appears to be entirely yellowish. The tail appears to be slightly constricted basally. Tricky lighting makes it unwise to rule on plumage-values or hues, but the eye-ring looks fairly evident, especially along the posterior half. Thank goodness this bird was calling! This Willow Flycatcher (*E. traillii*) was photographed on territory at Jamaica Bay Wildlife Refuge, New York, in late May. *Photo by Arthur Morris.*

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thin and pale by that time of year. The upperparts are generally drab olive, acquiring a grayish or brownish cast as they become worn. Some birds (especially Alders) can be strongly tinged with green on the back and on the breast-band in fresh spring plumage. "Traill's" upperparts may appear uniform from crown to rump, or look pale- or dark-crowned in relation to the back and rump, depending on light and on the amount of wear. The underparts of adults, especially mid-summer to early fall, may be very pale, showing little indication of a breast-band or of yellow in the belly. Eye-rings vary on "Traill's" from none visible (some Willows) to rather bold and complete (some Alders, especially spring migrants and juveniles).

Plate 3: "Traill's" Flycatcher (*Empidonax* sp.: Alder/Willow type). Note large size, moderately long primary extension, and heavy bill (with tiny dusky tip on lower mandible). This bird is generally pale olive with some grayish hues in the upperparts and face, but there seems to be some dark olive in the sides of the crown and the sides of the breast; the eye-ring looks rather conspicuous. We could say that it is *probably* a rather pale Alder... but what's the use? We cannot be 100% sure, and if we call this one an Alder, then what would we do with the known-identity Willow on the cover of the January 1982 issue of *American Birds*? Late May in Austin, Texas. *Photo by B. Whitney.*

Plate 4: Alder Flycatcher (*Empidonax alnorum*). Note the heavy bill, the moderately long primary extension (the right wing looks longer than the left, at least from this angle), and the wide, essentially parallel-sided tail. This fresh-plumaged, extreme-end Alder shows beautifully dark olives in the upperparts that really can only be described as dark green. The eye-ring is conspicuous in contrast with the dark head. Keep in mind that this bird would look somewhat paler in bright light. Late May in Austin, Texas. *Photo by B. Whitney.*

Juvenile "Traill's" have buffy wing-bars and clear lemon-yellow bellies as far anteriorly as the breast-band, and these young birds tend toward stronger green hues in the upperparts than do adults at the same season.

Behavior

Like Acadians, "Traill's" are relatively languid Empids. "Traill's" flicks both the wings and the tail, but limits most of the wing-flicking to the first few seconds after settling on a perch. The tail is typically held parallel-sided, appearing wide and relaxed rather than constricted at the base (on unexcited birds).

Molt and Wear

"Traill's" undergoes spring and fall molts almost entirely south of the U.S. border, on or near the wintering-grounds. In fall, only juveniles appear to be in (variably) fresh plumage,with adults often appearing worn and drab, especially by mid-September. By late summer/fall the wing-bars, eye-rings, and all regions of plumage-contrast may be much reduced.

In spring migration, head, body, and wing-covert feathers are greener in general with more yellow in the belly than in

summer or fall (except for juveniles). Additionally, eye-rings and wing-bars are crispest on these fresh spring birds, and the breast-band is usually most conspicuous in this plumage.

Similar Species

See "Similar Species" under the section on Acadian Flycatcher (in soon-to-be-published Part IV of this series). Although Least Flycatcher is close to "Traill's" in plumage characteristics, it is almost always easy to distinguish on the basis of smaller size and other structural differences (see "Similar Species" section under Least Flycatcher, Part II). Among the "western" species, Dusky Flycatcher is fairly similar to "Traill's" structurally but is a slimmer bird, with a decidedly slimmer, shorter bill that shows considerably more dark area on the tip of the lower mandible. Dusky also has a pale grayish throat that does not contrast much with the breast-band. By late summer/early fall, adult Duskies and "Traill's" are quite drab; at that season they are more similar than at any other time of the year—although Dusky will always be somewhat grayish on the throat and breast. Gray Flycatcher can be confused with "Traill's" also, but Gray's strongly bicolored lower mandible, generally paler plumage, and unique tail-dipping motion will serve in combination to set it apart. The calls of both Dusky and Gray are similar to those of Willow, but unlike those of Alder.

Comments on Distribution and Migration

"Traill's" Flycatchers are late spring migrants, usually peaking in numbers in the United States and southern Canada in the latter half of May and the first week of June. In fall, numbers peak in the last part of August and the first week of September; they are rare after mid-September.

Willow Flycatcher is the most widely distributed North American *Empidonax*, breeding across most of the U.S. and southern Canada. Like Least, it is an important species with which to become thoroughly familiar; such familiarity will help to isolate an Acadian or an Alder which is out of its expected range. Willow winters in the lowlands from Sinaloa, Mexico, south to just east of the Panama Canal Zone. As yet, there is no report from South America. The typical wintering habitat is a moist or wet pasture, marsh, or other open area with scattered trees and shrubs.

Alder Flycatcher is for many birders an enigma, and understandably so. Unless it is encountered on the northerly portion of its breeding-grounds, Alder must be identified while on migration. This identification entails learning the *call,* but once this task has been accomplished, one often becomes aware of Alder's previously undetected presence as a migrant through familiar birding spots.

Alder breeds farther north than any other *Empidonax*, reaching well into Alaska. It nests in alder bogs and other structurally similar habitats in or on the borders of the great boreal-forest belt that spans the continent, reaching southward through suitable habitat in the Appalachians as far as Tennessee and western North Carolina. Recently, the species has been spreading in the interior of the Pacific Northwest, and a small breeding population has been discovered in eastern Oregon at Malheur National Wildlife Refuge. It is surprising that this species is yet to be recorded in many areas of the U.S. west of the Rocky Mountains. Although the bulk of the migration (spring and fall) passes through the eastern half of the U.S., perhaps bottlenecking in the eastern half of Texas (excluding the coast), Alder should be sought everywhere in the U.S. and Mexico during the latter half of May and the first days of June in spring, and during late August and the first half of September in fall.

Alder is the only North American Empid thought to winter entirely in South America. It is evidently a winter visitor east of the Andes, reaching elevations of at least 3,300 feet on the eastern slope. Typical wintering habitats include open, wet grassland with scattered trees and shrubs, river-edge and river-island scrub, and around brushy streams in the flat lowlands and in hilly areas. Almost all definite records are from eastern Peru, but Alder probably winters east as far

as northern Argentina (needs confirmation). Whitney has found Alder as early as August 7 in far-southwestern Peru (Rio Tambopata, Explorer's Inn).

Comparing Alder Flycatcher with Willow Flycatcher

The following material on the separation of Alder and Willow Flycatchers is presented for consideration after one has become thoroughly familiar with recognition of the "Traill's" type. If there remains some doubt in your mind as to whether or not a bird which you are looking at is a "Traill's" type or something else, don't even begin to wonder whether the bird is an Alder or a Willow!

Voices

Alder Flycatcher's song is a harsh, throaty *rrree-beep'* or *fee-beep',* often shortened to *rrreep,* with a rising inflection. The song is accented on the second syllable. At close range, a lesser third syllable may often be heard: *rrree-bee'-ah,* with the accent remaining on the second syllable. This song is described by Stein (1958) as *fee-bee'-o;* we believe that Stein's description implies too much emphasis on a well-separated third syllable, which in actuality is hard to be sure of unless one is close to the singing bird. In any event, the arguable existence of the third syllable does *not* figure significantly into differentiation between the two species' songs; separating them can become routine with comparative experience.The recordings included in *A Field Guide to Eastern Bird Songs* are very helpful in this regard.

Alder's call is a rather low, flat *pip* or *peep* or *tip,* with the distinctive quality of most *Picoides* woodpeckers when their calls are heard at a distance, or the *kip* call of Western Kingbird (*Tyrannus verticalis*). Among the Empids, Hammond's call is the only one which is close to Alder's, but Hammond's sounds noticeably higher-pitched (true of both male's and female's calls, since they differ slightly in pitch).

Willow Flycatcher's song is reminiscent of Alder's in that it is also harsh and throaty, but Willow sings *fitz'-bew* or *vitz'-bew,* with the accent on the *first* syllable or without a stronger accent on either syllable. Additionally, the second syllable in Willow's song seems to *drop* slightly in pitch, while that of Alder seems upwardly inflected—perhaps owing to the different syllabic accents of the two species. Analogous to the shorter *rrreep* of Alder is Willow's *rrrip* or *rrrik.* These two vocalizations are the most similar of all. They are given year round, but (like the primary songs) mainly on the breeding-grounds.

Willow's call is a rather thick, dry *whit,* usually with a strong *wh* [actually *hw*] sound. This call is easily told from Alder's, but it is quite similar to the calls of Dusky, Gray, Least, and Buff-breasted Flycatchers.

Visuals

Alder Flycatcher is typically a darker, contrastier bird than Willow. Olive hues are generally richer through the upperparts and the breast-band on Alder, which sets off the throat in strong contrast. Fresh-plumaged Alders in good light sometimes appear to have the upperparts shot with a distinctive bronzy cast. The crown and the face are darker olive than the back, a feature that is usually apparent in the field. There may be a weak tendency for Alder to show slightly whiter wing-bars than Willow, in fresh plumage. Alder's eye-ring is *often but not always* complete, and may be conspicuous. From early summer on, adult birds often show very weak (worn) eye-rings concentrated on the posterior half of the eye.

A fresh-plumaged, dark "Traill's" with strong olive tones in the upperparts, face, and breast, and having an obvious white eye-ring, is likely to be an Alder Flycatcher.

Willow Flycatcher tends to be generally paler than Alder, with more gray and pale

Plate 5: Alder Flycatcher (*Empidonax alnorum*). Note the heavy bill (entirely pale lower mandible), dark face with contrasting white eye-ring, and fairly conspicuous breast-band contrasting with white throat. Same bird as in Plate 4. *Photo by B. Whitney.*

Plate 6: Alder Flycatcher (*Empidonax alnorum*). Note the rather strong olive hue coming around from the back and head to the sides of the breast-band, which contrasts nicely with the white throat. See Part I, Plate 1, for a different viewing-angle and lighting-aspect on this individual. Late June in Riding Mountain National Park, Manitoba. *Photo by B. Whitney.*

Plate 7: Willow Flycatcher (*Empidonax traillii*). Note the large size, heavy bill, and moderately long primary extension. Note the generally paler olive upperparts and weaker crown/back contrast (crown perhaps slightly paler or grayer than the back) in comparison with extreme-end Alder in Plate 4. Excellent lighting and an ususually close view reveal the presence of an eye-ring around the posterior one-third of the eye, a common condition in Willow. Identification of this individual was only highly probable; a Willow was heard and seen calling beside the mist-net just before this bird was captured in that net. Late May in Austin, Texas. *Photo by B. Whitney.*

olive in the upperparts and breast-band, and less throat/breast contrast. The crown and the face of Willow, while often a bit darker than the back, have more gray and less olive hue than these same regions on Alder, contributing to a weaker average crown/face/back contrast. This is usually a subjective judgment, however, since the two species are seldom found calling side-by-side, and light-quality can have such a strong influence on apparent contrasts. The eye-ring of Willow averages less conspicuous than that of Alder, but Willow almost always has at least *a hint of whitish eye-ring* around the posterior one-half to one-third of

Plate 8: Willow (*E. traillii*), left, and Alder (*E. alnorum*), right, Flycatchers. Note the slightly darker olive hues in the upperparts of this Alder, and the weaker crown/back contrast of this Willow, perhaps owing to the Willow's generally paler head. Remember that there is an extensive overlap in these characters between the two species; the tendency is for them to sort out as shown here. These are different individuals from those in the previous plates. Late May in Austin, Texas. *Photo by B. Whitney.*

Plate 9: Willow (*E. traillii*), left, and Alder (*E. alnorum*), right, Flycatchers. The underparts of these two birds are essentially identical, being largely whitish with faint breast-bands, a common condition in the "Traill's" type. Note the paler upperparts and head of this Willow relative to the dark upperparts and head of this Alder. The Alder's darker face highlights the bold eye-ring, while the Willow's paler face has a concealing effect on the one-half eye-ring that is there. Many adult Alders, especially from early summer on, show much less eye-ring than this individual does. Remember that these are fresh-plumaged spring migrants—plumage differences are at their maximum. The effects of wear and fading work rapidly and variably to subdue these apparent differences; therefore, eye-rings and regions of contrast can virtually disappear. Same birds as in Plate 8. *Photo by B. Whitney.*

the eye. Occasional individuals may show more eye-ring than this (see cover of *American Birds,* Jan. 1982), but more commonly Willow shows essentially *no* eye-ring, imparting a wood-pewee (*Contopus* spp.) visage, especially from early summer on.

A fresh-plumaged "Traill's" that is pale olive or grayish through the upperparts, face, and breast, and has no eye-ring, is likely to be a Willow Flycatcher.

The overwhelming majority of non-calling migrant "Traill's" encountered in the field cannot be matched to either extreme-end Alder or extreme-end Willow. These birds must remain "Traill's" flycatchers. Some silent "Traill's" may be induced to call by playing a tape-recording of the voice (especially the call), thereby identifying themselves to one who knows the language.

Bret Whitney
602 Terrace Mountain Drive
Austin, TX 78746

Kenn Kaufman
Academy of Natural Sciences
19th & the Parkway
Philadelphia, PA 19103

The *Empidonax* Challenge

Looking at *Empidonax*

by Bret Whitney & Kenn Kaufman

Part IV: Acadian, Yellow-bellied, and Western Flycatchers

(*Empidonax virescens, E. flaviventris,* and *E. difficilis,* respectively).

Acadian Flycatcher (*Empidonax virescens*) (Plates 1 - 3)

Voice

The song is a loud, explosive *peet'-seet, or pee'-tsip,* or *pee'-tsup.* The first syllable is usually accented, but there sometimes seems to be no accent on either syllable. The call is also rather loud but lacks tonal quality (very "flat") and is similar to the first syllable of the song: *peet!* or *pick!.* No other *Empidonax* has a call like this. A one-syllabled call of Yellow-bellied Flycatcher is closest, being about the same pitch and with a similar piercing quality, but also with a falling, more "musical" inflection.

Structure

Acadian is a large, long-winged Empid with a lot of bill and tail. The bill averages the broadest basally of any species, and also averages longest (but see Similar Species). The lower mandible is virtually always entirely pinkish-yellow or yellow but rarely has a small dusky tip.

The primary extension of Acadian averages the longest of all Empids, with a sabre-like curve on the folded wing, long and straight on the drooped wing. In fact, the wing may be so long as to make the tail appear proportionally rather short. The length of the primary extension on a short-winged Acadian can be overlapped by those of Alder and Willow, and can rarely be matched even by Least, according to specimen measurements obtained by K. V. Rosenberg! The extent to which the primary extension might vary during molts needs investigation. The tail is fairly long, and tends to be uniformly wider than that of other species when in a relaxed attitude.

Plumage

The wing-bars and tertial-edgings of adult Acadians (except after wear, mid-to-late summer) are well-defined, ranging in hue from white (second spring and older?) to buffy-white (first spring?) in spring, and buffy-white to rich buff in fall. All juveniles, and perhaps all adults after the post-nuptial molt (which is usually completed before the birds leave the U.S.), have buffy wing-bars. Adult Acadians in spring and fall typically show a neat whitish or yellowish-white eye-ring of uniform thickness, or thickness slightly concentrated around the posterior edge. In some individuals (a somewhat higher percentage of worn summer birds), the eye-ring is essentially lacking. Like Least Flycatcher, Acadian is characteristically quite uniform from crown to rump, showing essentially no contrasts in the upperparts or head. Aside from Yellow-bellied and Western Flycatchers, Acadian shows brighter green in the upperparts than does any other *Empidonax* species. This green is perhaps best seen in the face and malar region. The green of the head and malar region, from where it borders the sides of the whitish throat, runs posteriorly to the sides of the breast, where it takes on a darker olive hue. This olive in the sides of the breast usually

Plate 1: Acadian Flycatcher (*E. virescens*). Note the very long primary extension, and drooped wing. This individual appears to have a small dusky tip to the lower mandible. Fresh spring plumage shows a typical even, yellowish-white eye-ring, and whitish wing-bars and edges to the tertials. Plumage generally suffused with a delicate greenish hue, uniformly through upperparts and paling on to face and sides of upper breast. The throat and belly might be said to show a very pale yellowish tinge, but one can imagine how whitish the underparts will look after a month or two of wear. This individual was fluffed to keep warm on a cold mid-May morning at Point Pelee National Park, Ontario. *Photo by Onik Arian.*

Plate 2: Acadian Flycatcher (*E. virescens*). A different viewing angle and lighting aspect on the bird shown in Plate 1. Long wings evident, and a hint of green in the face and sides of upper breast is visible even at this distance, imparting a rather weak face/throat contrast. Note that the tail, which would normally hang somewhat lower, is propped up by a branch. *Photo by Onik Arian.*

washes almost through the center to impart a faint olive breast-band.

Adult Acadians are often largely white or grayish-white below, especially individuals with weak breast-bands or worn summer birds. On fresh spring arrivals, the underparts may be seen to bear a very pale, delicate greenish wash as ephemeral as the new opening of the spring leaves. The majority of adult Acadian Flycatchers have a whitish throat. Following the fall and spring molts, however, Acadian may show a pale yellow or greenish wash on the throat. This apparently wears to whitish within a month or so, but could cause confusion with Yellow-bellied Flycatcher if not considered in conjunction with structural and other plumage characters.

Juvenile Acadian Flycatchers possess a very distinctive plumage. The upperparts are bright green, many of the crown, nape, and upper wing-covert feathers (lesser and median) with conspicuous buff tips. The wing-bars and tertial-edgings are rich buff. The throat usually shows a light yellow wash. The underparts typically bear a fairly conspicuous greenish breast-band which is often washed with clear lemon yellow that runs posteriorly to the undertail-coverts. The center of the belly, however, is often white. Unfortunately, this beautiful plumage is largely molted out by early September,

Plate 3: Acadian Flycatcher (*E. virescens*). Note the very long primary extension and relaxed wing. Even in very subdued lighting (in the rain), the neat yellowish-white eye-ring and whitish wing-bars and tertial-edgings indicative of fresh spring plumage are evident. Stronger apparent face/throat contrast on this bird (as compared to Plate 1) is perhaps owing to a somewhat whiter throat and darker sides of upper breast. (Third week of April, at Corpus Christi, Texas.) *Photo by John Arvin.*

Plate 4: Yellow-bellied Flycatcher (*E. flaviventris*). Although focus is soft, this plate is good for a typical profile impression of Yellow-bellied Flycatcher (small, with round head and proportionally short tail). Note the rather short primary extension, bold whitish eye-ring (obsolete bottom edge on this individual), and blackish wing with whitish wing-bars (upper not as white as lower) and tertial-edgings. This is as pale and "colorless" (above and below) as a spring Yellow-bellied is likely to appear, although sunlight will bring out more green in the upperparts at least. This bird apparently had not completed its pre-nuptial molt. (Mid-May, in Austin, Texas.) *Photo by B. Whitney.*

and is unlikely to be seen far from the breeding area.

Behavior

Acadian seems to be a relatively lethargic bird, sitting still for longer than the other Empids, and doing less wing- and tail-flicking. The tail is flicked now and then, but the wings are very seldom flicked except for the first couple of seconds after settling on a perch. In a relaxed mood, Acadian seems to hold the wings and tail "at ease" much of the time, allowing the long wing-tips to droop below the tail. The tail is characteristically parallel-sided (no basal constriction), and allowed to expand to its full, relaxed width. But when excited (for example, when patrolling territory or trying to impress a mate), Acadian can be a spritely little bird, wing- and tail-flicking with the best of them.

Molt

Acadian is the only "eastern" Empid in which the adults typically undergo a complete molt (the pre-basic, or post-nuptial) in late summer before they begin their southward migration. This molt can be underway as early as late July and can be completed by early September, although in some individuals it is later. Juveniles have a partial molt, replacing mostly the body plumage (thus losing the distinctive buff tips on the

crown, back, and perhaps some of the wing-covert feathers), beginning about the time they become independent, and generally completed by early September. Thus, the vast majority of Acadians seen in fall will be in fresh plumage, with buff or buffy-white wing-bars, and often a noticeable yellow wash on the belly. (See the precautionary notes in the Similar Species section concerning the effects of wear on late-summer adults.)

Spring molts are partial (wing and tail feathers retained) and take place on the wintering-grounds.

Similar Species

Acadian Flycatcher is most similar to "Traill's" Flycatcher (Alder/Willow pair). It can be readily separated from "Traill's" by either the song or the call. The bill structures and lower mandibles are very similar, but Acadian's lower mandible averages both broader throughout its length and longer than "Traill's". The length of the primary extension is a more reliable character. Acadian's is almost always longer and more pointed, but can occasionally be approached by "Traill's". Short-winged Acadians seem to be more common than long-winged "Traill's". This is perhaps a result of incompleted wing growth on molting, post-nuptial Acadians.

The birds are also close plumage-wise. Acadian tends to show less contrast through the upperparts than does "Traill's", especially between the head and back. Additionally, even lighting will reveal the upperparts of Acadian to be a lighter green, not as olive or flat in hue as is typical of "Traill's", setting up a generally stronger back-to-wing contrast on Acadian. If studied at close range in good light, the clearer green in Acadian's face, especially just where the face meets the side of the throat in the malar region, is helpful in separating from "Traill's", which never shows anything brighter than olive in the face and malar region. Acadian's generally paler face contrasts less sharply with the throat than is the case for "Traill's". Acadian's eye-ring covers the entire range of variation between Alder and Willow, with some Acadians showing neat, uniform eye-rings, and others having virtually none.

Plumage-points to keep in mind when faced with an Acadian/"Traill's" are that most adult Acadians are very whitish below (except soon after molts), while most juvenile "Traill's" are lemon-yellow on the belly, appear noticeably green on the back (especially in direct sunlight), and have buffy wing-bars. Through spring and summer, both Acadian and "Traill's" show whitish wing-bars, sometimes with a buff tinge, but in fall, strong buffy wing-bars are the norm for Acadians of all ages. Only juvenile "Traill's" have buff wing-bars at this season; the wing-bars of adults (which have not molted are thin and dingy whitish, showing evidence of the summer's wear. It is important to remain conscious of predictable age- and molt-related plumage variation in looking at *Empidonax*—it can work for you (or against you!).

Comments on Distribution and Migration

Like many passerines breeding primarily in the southeastern U.S., Acadian Flycatcher is a fairly early spring migrant, and starts breeding by late April in the south and mid-May in the north (here it is helpful to remember that Alder, Willow, and Yellow-bellied Flycatchers are considerably later spring migrants, concentrating in the latter half of May). South-bound birds begin moving by late July, and the species has largely departed the U.S. by early September. Acadian is relatively little-known as a fall migrant; birds seem to vanish off the breeding-grounds in late summer. At least some birds linger well beyond early September, however, as evidenced by late September/early October 1986 sightings in southern Louisiana during prolonged warm, humid weather (K.V. Rosenberg, pers. comm.) and the report of 11 Acadian Flycatchers on October 29 and of 3 on November 3 at Lafitte N.P., Louisiana (*American Birds,* Central Southern Region report, Vol.40, No.1). As noted by *American Birds* regional editor Robert D. Purrington these Lafitte N.P. records came on the heels

of Hurricane Juan, which probably carried the birds back to the U.S. from points south.

Acadian frequently "over-shoots" the breeding-grounds on spring migration, which probably accounts for most of the non-breeding records (especially in May) for southern Canada (where it breeds very locally) and the north-eastern U.S. Acadian is the only Empid likely to be encountered in any numbers on the middle and upper Texas coasts in spring, at least before about the last week in May. Acadian is extremely rare west of the Great Plains (only a couple of records).

Acadian Flycatcher winters from the Caribbean slope of Nicaragua (probably also Belize, and perhaps extreme southern Gulf-slope Mexico) south through Central America to northern and western Colombia, northern Venezuela, and western Ecuador (*AOU Check-list,* 1983). Preferred habitat is humid lowland forest and tall second-growth below about 2500 feet elevation. Acadian is a bird of the forest interior on the breeding-grounds as well as the wintering-grounds, generally perching from about 10 to 30 feet above ground.

Yellow-bellied Flycatcher
(*Empidonax flaviventris*)
(Plates 4 - 10)

Voice

The song is a rather low, hoarse *che-bunk* or *je-bunk,* usually lacking a stronger accent on either syllable. The song is most similar to that of Least Flycatcher, but is easily separable once the two are compared and learned. As regards the call, Yellow-bellied shows more variability than any other Empid. One common call is distinctive in being a plaintive, two-syllabled, upslurred whistle: *pr-weée,* the quality of which is reminiscent of that of the Eastern Wood-Pewee (*Contopus virens*), although obviously emanating from a much smaller bird. This is often shortened to a whistled *preee* or *wreee,* with a rising inflection. This single-syllable call is sometimes shortened further still, and delivered more emphatically, without the gentle rising inflection: *peer!* This version of the call is most often heard on the wintering-grounds, and is sometimes delivered at the rate of more than one per second. Also given (mostly on the breeding-grounds) is a sharp, explosive *piyu!* or *chiu!,* with a curt, falling inflection; this is the call most closely approached by the call of Acadian Flycatcher. This latter species' call, however, is a flat exclamation, lacking any tonal quality or falling inflection. The two are easily recognizable once compared and learned.

Structure

Yellow-bellied Flycatcher is a small but proportionally large-billed Empid, often giving the impression of being slightly large-headed and short-tailed. The bill is large for the size of the bird in that it is both fairly long, and broad basally. The lower mandible is evidently always entirely orange-yellow, lacking a dusky tip. The primary extension is generally short to moderate, but can be noticeably short on some females, and long on long-winged males. There appears to be a significant tendency for undisturbed Yellow-bellied Flycatchers to look round-headed, or less often, with a slight peak above and behind the eye (a "crested" or distinctly peaked appearance is unusual).

Plumage

Among the "eastern" Empids, Yellow-bellied is almost always identifiable by the distinctly yellow throat and underparts. On some spring migrants and many summer birds, however, yellow in the underparts

Plate 5: Yellow-bellied Flycatcher (*E. flaviventris*). Note moderate primary extension (compare with Acadian Flycatcher), and blackish wing with bold whitish wing-bars and tertial-edgings. The conspicuous eye-ring appears to be strongly concentrated around the posterior edge of the eye from this angle. Note uniformity of upperparts and weak face/throat contrast. Outer vane of outer tail feather noticeably paler than rest of tail (looking at the "undisturbed" tail of this bird, I was able to see no pale outer vane!). This is a typical, spring migrant Yellow-bellied. (Mid-May, in Austin, Texas.) *Photo by B. Whitney.*

Plate 6: Yellow-bellied Flycatcher (*E. flaviventris*). Note proportionally heavy bill with entirely orange-yellow mandible. The eye-ring is bold and full, but definitely concentrated around the posterior edge, weakest along the top edge. It may come as a revelation that many spring Yellow-bellied Flycatchers are this pale yellow through the underparts (photo may be slightly over-exposed as well). Same bird as in Plate 5, but different angle and lighting heighten apparent face/throat contrast. *Photo by B. Whitney.*

(especially the posterior half) can be very weak, reduced to little more than a pale and rather unevenly distributed wash. Yellow-bellied usually shows some greenish-olive (with bright-yellow undertones on strongly hued birds) on the sides of the breast, extending posteriorly along the sides in adults and down to the flanks in juveniles. This imparts a blurry or streaky, greenish-olive "vest" to juveniles.

The upperparts and face, even on worn adults, tend to be the brightest green of the genus (north of Mexico), matched season-for-season only by some fresh spring Western Flycatchers, and in fall, by some freshly molted Acadians. The wing of Yellow-bellied, particularly on spring adults, is rather dark, almost blackish, and contrasts sharply with the wing-bars and back. This contrast is somewhat diminished in summer and fall adults, and in juvenile plumage, in which the wing-bars are buffier. Spring adults have white or yellowish-white wing-bars, with the upper one (tips of median wing-coverts) often showing a slightly stronger yellowish tinge than the lower (greater wing-coverts). The tertial-edgings are also white or yellowish-white, usually a bit whiter than the wing-bars. By fall migration time, these feather tips are often worn to mere dirty whitish vestiges of the bold spring wing-bars and tertial-edges.

Juveniles are more boldly patterned below than are adults, showing more extensive

Plate 7: Yellow-bellied Flycatcher (*E. flaviventris*). Note the short primary extension. The plumage is in an early stage of wear, showing abraded edges to wing-bars and tertial-edgings, and some of the scapular and belly feathers. The eye-ring is neat and of uniform thickness. This is a drab Yellow-bellied, but at this time of year and as the plumage becomes increasingly worn and faded, a drab appearance is to be expected (weak color saturation and graininess of film in original transparency is also contributing to the overall pale effect here). This bird was photographed in late June (Acadia National Park, Maine); imagine what another month or two of wear will do to this plumage! *Photo by Tom Crabtree.*

Plate 8: Yellow-bellied Flycatcher (*E. flaviventris*). Note rather heavy bill with entirely orange-yellow lower mandible. Strong greens in the head and face show little contrast with the yellow throat. This is a typical Yellow-bellied eye-ring; note slightly thicker posterior edge, just hinting at a "tear-drop". This is a juvenile (skull unossified) in fresh plumage. Many juveniles show stronger greenish breast-bands or "vests" than this. (Early September, in Austin, Texas). *Photo by B. Whitney.*

bright yellow from throat to belly, and the extensive greenish-olive "vest". The wing-bars vary from yellowish-white to distinctly buffy (tertial-edgings paler whitish). The upperparts are rather bright olive, not as green as on adults in fresh plumage.

The typical eye-ring of Yellow-bellied Flycatcher (all ages) in fresh plumage is nearly uniformly thick and conspicuous, and is white or faintly yellowish-white. The eye-ring tends to be slightly heavier along the posterior edge of the eye, but there is considerable variation in the shape of the eye-ring. Some individuals show narrowed or missing sections, and a minority show almond-shaped eye-rings with a slight "tear-drop" projection on the posterior edge. Most adults and juveniles show *barely* paler outer vanes to the outer rectrices.

Behavior

Yellow-bellied, like Least Flycatcher, is an active bird, doing much wing- and tail-flicking as it moves from perch to perch. The tail is not typically held parallel-sided, being more constricted basally than at the tip.

Molt

The autumn molt of adults (the pre-basic, or post-nuptial) may sometimes begin on the breeding-grounds, but it usually occurs after the fall migration, so fall adults generally look worn and drab. Typically the fall molt is incomplete, with many of the flight

feathers being retained. A complete molt (the pre-alternate, or pre-nuptial) occurs in late winter, so that birds seen in spring migration are in uniformly fresh plumage (which is not to say that the birds appear bright yellow in the underparts in spring migration; as mentioned above, many are only washed lightly with yellow). Juveniles undergo a partial molt (involving only body plumage) on or near the breeding-grounds, before their southward migration.

Similar Species

See "Similar Species" under Least Flycatcher (*Birding,* Vol. XVII, No. 6, "The *Empidonax* Challenge, Part II"). It is worth mentioning that, season-for-season, Yellow-bellied shows less contrast between the face and throat than is the case for Least Flycatcher.

It is commonly believed that Acadian Flycatcher is very similar to Yellow-bellied. The voices (both songs and calls), however, are very different, and these two are appreciably different structurally. Acadian is considerably larger than Yellow-bellied in overall length, and Acadian's bill is longer, and broader basally. The primary extension of Acadian is usually conspicuously longer than that of even long-winged male Yellow-bellied Flycatchers. Also, Acadian's tail is longer and broader, especially basally.

Acadian's plumage is basically similar, but never shows the distinctly yellow throat and underparts characteristic of Yellow-bellied. Freshly molted Acadians, especially juveniles, have a bright yellow belly and even some yellow on the breast, but the throat does not have more than a pale yellow wash. Additionally, Acadian has less of an eye-ring than Yellow-bellied season-for-season. Finally, it is important to note differences in the timing of autumn molts for these two species, and plumage differences resulting from these differing schedules. Acadian Flycatchers (all ages) typically complete molts on the breeding-grounds (or at least before moving south of the U.S.), and are thus in fresh plumage on fall migration, all showing buff wing-bars. Adult Yellow-bellied Flycatchers, on the other hand, wait to complete post-nuptial molts on the wintering-grounds, and look drab with variably abraded whitish wing-bars in fall migration. Juveniles have fresh buff wing-bars like Acadians, but structural and other plumage characters used in combination will usually serve to separate juveniles of these two species.

Only Western Flycatcher is truly similar to Yellow-bellied the year-round. Fortunately, the need to separate Yellow-bellied from Western will not come up very often, because their normal ranges barely overlap. But some possible records of one or the other out-of-range have remained in limbo because of the difficulty of proving the identification. The bad news is that the two birds are structurally inseparable in the field. The good news is that their voices (both songs and calls) are very different. Careful note (ideally, a tape-recording of even poor quality) should be made of any vocalization heard from a bird of the Yellow-bellied/Western type suspected out of range or season.

Now for the rest of the story. Surely, two species with such different voices, the vast populations of which experience virtually no overlap at any time of year, *can't* look *exactly* the same. Right. Not exactly the same (Excuse me, but does anyone have a microscope that we can borrow?). So, thinking of the big picture, remembering the broad range of variation that we know is there to foul us up, we'll attempt to scrutinize a few characters that, if considered in combination, may eventually prove (when the bird finally calls, or retires to a quiet place in a museum after all) to be of some value in separating Yellow-bellied and Western Flycatchers in the field.

Yellow-bellied tends to be a contrastier bird than Western, with a blacker wing (especially the greater coverts, tertials, and bases of the flight-feathers) and whiter wing-bars. The tertial-edgings in particular seem to look whiter and thus more conspicuous than the dirty-whitish or brownish-white tertial-edges of Western. Yellow-bellied generally shows stronger green hues in the upperparts and breast-band, these

Plate 9: Yellow-bellied Flycatcher (*E. flaviventris*). Note the rather short primary extension (especially as compared to Acadian Flycatcher). The eye-ring attracts attention immediately, being bold, complete, and just hinting at a "tear-drop" around the posterior edge. Note the blackish wing with yellowish-white wing-bars and whiter tertial-edgings. The upperparts are uniform and rather green. This individual shows as conspicuous a pale outer vane to the outer tail feather as this species ever shows. This juvenile (same bird as in Plate 8) has paler wing-bars than the rich buff of some birds. (Early September, in Austin, Texas.) *Photo by B. Whitney.*

Plate 10: Yellow-bellied Flycatcher (*E. flaviventris*). Note the rather long primary extension (This was a 61mm-wing-chord female!). Note buff-white wing-bars (especially upper), and white tertial-edgings. The eye-ring is very bold, forming an irregular projection at posterior edge. The upperparts are uniform bright olive; there is little face/throat contrast (view is so close, however, that light reflecting off a few throat feathers makes them look white). The bill has something dark stuck to lower mandible (not a dusky tip). This juvenile (skull unossified) in fresh plumage was photographed in Hays County, Texas, on the rather late date of October 18. *Photo by Greg Lasley.*

areas on Western tending toward duller greens and olive with a brownish tinge. The pale feathers on the leading edge of the wing at the "wrist", occasionally visible on a bird facing the observer, are buffy-yellow on Western, light greenish-yellow on Yellow-bellied (rarely visible, and difficult to judge if it is—not to be taken as a diagnostic character). The above points refer to adults in fresh plumage.

Differences in eye-ring shape between Western and Yellow-bellied may provide a helpful clue. Western shows a significant tendency to have the eye-ring strongly narrowed or broken across the top edge of the eye, and elongated and thickened to a "tear-drop" point behind the eye. The narrowed top edge is shown in its typical condition in each of the plates of Western in this article, and on the cover of "Pacific Discovery" (publ. Calif. Academy Natural Sciences; Vol. XXXV, No. 4, July-August 1982). Yellow-bellied tends to have a more uniformly distributed eye-ring, but there is also more variation (everything from missing chunks, sometimes on the top edge, to small "tear-drops") than seems to be the case for Western. The amount of variation in eye-ring shape for both species needs more study.

Finally, observers who are very familiar with both species may notice that Western tends to be more "crested", or peak-crowned, than Yellow-bellied, and proportionally longer-tailed.

All of the preceding discussion on separating Yellow-bellied and Western Flycatchers in the field is based upon *tendencies* for the general population of one or the other to lean toward one side of the scale. Some of the characters represent differences in degree, and most are subject to high seasonal variability. The best general procedure for attempting to make a Yellow-bellied/Western species identification is to listen for any vocalization and take detailed, objective notes on the plumage condition, eye-ring, wings, and plumage contrasts/hues.

Comments on Distribution and Migration

Yellow-bellied Flycatcher arrives in the U.S. on spring migration by about the second week of May (sometimes earlier, especially south), peaking as a migrant in late May. Yellow-bellied is observed on migration less frequently than most Empids primarily because of its retiring nature, generally keeping to denser thickets and woodlands. Yellow-bellied also seems to call less often on migration (but frequently in the winter) than most other Empids and very seldom sings until near the breeding-grounds in spring. In fall, migration begins by late July, peaking over most of the eastern U.S. and southern Canada between the last week of August and the first half of September, with stragglers coming through into early October. Yellow-bellied is extremely rare in migration west of the Rockies and is rare anywhere in the U.S. after about the third week of October.

Yellow-bellied is a boreal-forest breeder, usually nesting in bogs. The breeding range spans the continent from northern British Columbia to Newfoundland, and there is an isolated breeding population on Mt. Rogers, western Virginia (*A.O.U. Check-list,* 1983). Yellow-bellied can be hard to see on the breeding-grounds, as it generally keeps well within the dense vegetation of the coniferous bog. Males occasionally choose relatively exposed song perches, however, up to 30 feet above ground.

The winter range of Yellow-bellied Flycatcher extends from northeastern Mexico (perhaps as far north as Cielito, Tamaulipas) on the Caribbean slope and eastern Oaxaca on the Pacific slope, south to western Panama (Chiriquí). There is one record as far north on the Pacific slope as San Blas, Nayarit (G.H. Rosenberg and K.V. Rosenberg; tape-recorded and photographed). Yellow-bellied is very rare as far south and east as the Canal Zone, and there is one record from Cana, Darién (*A.O.U. Check-list,* 1983). As yet, there is no report from South America. Wintering-habitat is usually humid second-growth and edge of taller forest, from near sea level to at least 4,500 feet in the mountains of Chiriquí, Panama. Within drier regions of the tropics (such as southwestern Mexico), Yellow-bellied winters in creek bottoms and humid ravines, avoiding arid slopes and flats.

Western Flycatcher (*Empidonax difficilis*) (Plates 11 - 13)

Geographic Variation

Two major populations of Western Flycatcher occur north of Mexico. Although the known differences between them are slight, it has been suggested (Johnson 1980) that they may represent two distinct species, so field-observers should be aware of their existence. The two populations are referred to here as "coastal birds" (*E. d. difficilis* and *E. d. insulicola*) and "interior birds" (*E. d. hellmayri*). Coastal birds breed from southeastern Alaska south to Baja California; their eastern limits are marked by the Coast Ranges, the Cascades, and the Sierra Nevada. The race *insulicola,* breeding on the Channel Islands off southern California, is considered to be of the coastal type. Interior birds breed from southern Alberta south through the Rocky Mountains into Mexico and west through the isolated ranges of the Great Basin region. At their western limits, birds of this form breed locally in the eastern two-thirds of Oregon (west at least to Crater Lake), in northeastern California (west to the Siskiyou Mountains, but not the Mt. Shasta region, which is inhabited by birds of

the coastal form), and possibly in southeastern California in the Clark Mountain area. We mention all differences that we know of between coastal and interior birds; but because there are not many such differences, all comments in this species-account apply to both forms unless otherwise stated.

Voice

The most familiar vocalization of Western Flycatcher is the male's common call-note. Birders have sometimes mistakenly considered this to be the "song", giving Westerns the reputation for singing very frequently at all seasons, since the call is heard commonly all year. This note is the best means of separating coastal and interior birds. Coastal males give a single, strongly up-slurred note: *peweap'!* or *pseeyeet'!*. Interior males give this call at about the same range of pitch but make it sharply two-syllabled, with the second note higher: *pit-peet'!*. On the wintering-grounds in northwestern Mexico, both coastal- and interior-calls can be heard, as well as a single note *teet!* or *peet!* from both races, often alternated with the more distinctive calls described above. Only Yellowish Flycatcher (*E. flavescens*) of southern Mexico to western Panama has a basically similar call.

The song of Western Flycatcher varies somewhat individually and regionally, but it is always very thin and high-pitched, usually a repetition of three elements—for example, *tseé-wee... pttuck... tseep... tseé-wee... pttuck... tseep....* The pace of the song may be faster or slower, but it is usually difficult to detect a major break in the song or to say which of the three elements comes "first". Because the tone of the song is so high-pitched and squeaky, no other Empid song is really similar, and travelers may be reminded more of the voices of some tropical hummingbirds.

Structure

Western is a small to medium-size *Empidonax*, with interior birds averaging a bit larger than coastal birds. The bill is wide and the lower mandible is entirely yellow-orange to pinkish, with this color usually being fairly bright and conspicuous in the field. Western's primary extension is usually rather short, and the tail appears to be medium-length to long in relation to the overall size. Although the head is not proportionally large, it usually shows a slight peak at the rear of the crown, caused by slightly raised crown-feathers.

Plumage

For most of the year, Western Flycatchers are uniformly olive above, sometimes rather bright but always with a slight brownish wash that may be more pronounced on the crown. The throat is dull pale-yellow, or pale gray with a yellowish wash, not contrasting much with the color of the sides of the head. A dull brownish-olive wash crosses the breast and extends down the sides and flanks, while clear pale-yellow from the belly often extends forward as a narrow strip up the center of the breast. The eye-ring is conspicuous: white with a yellowish tinge. The eye-ring is always narrow and often broken at the top of the eye, looking "flattened" on top; it is usually broadened behind the eye, often extending to a point, imparting a "tear-drop" or "almond-shaped" effect. The wings are dusky, and the wing-bars and tertial-edgings look dull white or brownish white for most of the year. Unlike most Empids, Western Flycatcher has no pale outer web on the outermost pair of tail-feathers.

There is virtually no difference in coloration between the interior *E. d. hellmayri* and the coastal *E. d. difficilis*. Birds from the Channel Islands, *E. d. insulicola*, tend to be more dull-colored overall, grayer above with more whitish wing-bars. *E. d. cineritius*, breeding in Baja California and perhaps in extreme southern California, is also drab but tends to be paler. These differences are all slight (and it would be pointless to try to guess the races of Western Flycatcher in the field!), but the relative drabness of some individuals is worth remembering as a potential source of confusion.

Seasonal variation is more pronounced, and some worn summer adults are so dull as to show almost no yellow on the throat; this characteristic may be especially likely in the

Channel Islands and Baja birds. Juveniles (seen in summer) and all freshly molted birds (seen in late fall and early winter, when the species is rare north of Mexico) are more richly colored, with a noticeable buff tone to the wing-bars.

Behavior

Western Flycatcher is usually an active bird, frequently flicking the wings and tail simultaneously in an emphatic motion. Although not shy or difficult to observe inside the forest, the species rarely ventures out into open areas, tending even in migration and winter to seek densely shaded spots.

Molt

Adults go through a complete molt in fall (the pre-basic, or post-nuptial, molt) after arriving on the wintering-grounds, beginning as early as mid-August and finishing by mid-November. Juveniles also molt after migration, between about early September and mid-November; their molt is highly variable in extent but always includes at least some body-plumage and never is complete. Thus, adult Westerns are in worn plumage during fall migration and in fresh plumage in early winter, while juveniles are slightly worn in fall and vary from worn to fairly fresh in winter.

The spring (pre-alternate or pre-nuptial) molt in Western Flycatcher usually involves only a little of the body-plumage, occurring from March to early May on the wintering-grounds, before spring migration.

Similar Species

The combination of the wide bill and the strong green and yellow tones should usually separate Western from other species occurring regularly in most of the West. But confusion is possible in late summer and in fall, when many Westerns are in very worn condition and are much less "colorful". At this season, some individuals may have no visible yellow on the throat; therefore, to avoid confusing them with various other Empids, it is important to note call-notes, bill-shape and -color, appearance of the eye-ring, and other features.

Plate 11: Western Flycatcher (*E. difficilis hellmayri*). Note the proportionally heavy bill. The wing (at least the bases of the median and greater coverts) looks blackish, with narrowed yellowish wing-bars (probably owing to wear, but we're too far away to see plumage condition). The eye-ring is typical of Western in being strongly narrowed or obsolete at top edge, but many individuals show more of a "tear-drop" projection to posterior edge. Note the peaked crown, the usual appearance of Western. (Early August, Huachuca Mtns., Arizona.) *Photo by Greg Lasley.*

In the southwestern U.S. in winter, Hammond's and Dusky Flycatchers are sometimes misidentified as Westerns because the former species have strong yellow tones on the belly at that season; however, those two species have narrower bills with dark-tipped lower mandibles and lack yellow on the throat.

The most serious identification problem is separating Western from Yellow-bellied Flycatchers, discussed under "Similar Species" in the account for Yellow-bellied Flycatcher. Separation from Pine and Yellowish Flycatchers in Mexico will be discussed in Part VI of this series.

Comments on Distribution and Migration

It should be emphasized that, in migration, Western Flycatchers of the coastal form

Plate 12: Western Flycatcher (*E. d. difficilis*). Note the short primary extension, and proportionally long tail. The wing-bars are rather weak, and dingy whitish, showing some signs of abrasion. The crown feathers also show worn tips, but the crown is still peaked. The tertial-edgings are not clearly visible, but would appear to be very weak. The eye-ring is the outstanding plumage feature, being bold and white; it is nearly obsolete along the top edge, broadening posteriorly into a conspicuous "tear-drop" projection. (Late June, in Topanga, Calif.) *Photo by Onik Arian.*

Plate 13: Western Flycatcher (*E. d. difficilis*). Note the short primary extension and proportionally long tail. The plumage is much abraded, looking grizzled and brownish, and the lower wing-bar (tips to greater coverts) and tertial-edgings are virtually worn away. From this angle, there is essentially no yellow in the underparts. Note the bold eye-ring, however, with very narrow top edge and conspicuous posterior-edge "tear-drop". The crown is somewhat peaked. This may be the same bird as in Plate 12 (or one of the same pair), photographed at the same nesting locality two years later. (Mid-June, in Topanga, Calif.) *Photo by Onik Arian.*

spread well into the interior. In the lowlands of southern Arizona, for example, the coastal form is far more common as a migrant than is the interior form, which breeds in the adjacent mountains. These birds also have a lengthy migration period, with the individuals being found away from breeding- and wintering-areas from mid-March to mid-June and from mid-July at least to the end of October, with some stragglers to late December also possibly qualifying as late migrants. The authors would appreciate hearing of any definite records of Western Flycatcher occurring east of the Great Plains.

In Mexico in winter, we have noted (based on the call-notes of the males) a tendency for the coastal form to winter in the lowlands, while the interior form seems to be mostly in the mountains (mostly below about 7,000 ft. elev.). Wintering-habitats include dense coastal brush, semi-deciduous woodland, and understory of humid lowland forest upwards in the mountains into the oak zone at the lower edge of coniferous forest, often but not necessarily near water. Western usually perches low (at a distance less than about 15 ft. above ground) within concealing vegetation.

Bret Whitney
602 Terrace Mountain Drive
Austin, TX 78746

Kenn Kaufman
Academy of Natural Sciences
19th & the Parkway
Philadelphia, PA 19103

THE *EMPIDOMAX* CHALLENGE

LOOKING AT *EMPIDOMAX* PART V

Gray and Buff-breasted Flycatchers
(*Empidonax wrightii* and *E. fulvifrons*)

by Bret Whitney and Kenn Kaufman

Gray Flycatcher (*Empidonax wrightii*)
(Plates 1 to 4)

Voice

The song is a simple, irregular repetition of two elements. The one given most frequently is a strong two-syllable note with a low-pitched chirping quality, accented about equally on each syllable: *chuwip*. A weaker, higher-pitched, slightly descending *teeap*, also accented about equally on the two syllables, is included at irregular intervals. The call is a small, dry *pit* or *wit*, similar to the call of Least, Dusky, and Willow Flycatchers, but perhaps having less of the thick *wh* quality of the two latter species.

Structure

Gray Flycatcher is a large but rather slim *Empidonax*, usually appearing long-billed and long-tailed, with a smoothly rounded crown. Of the species with narrow, straight-sided bills (Hammond's, Dusky, and Gray), Gray has on average the longest bill. Gray's lower mandible is mostly pale pink or yellowish with a sharply defined dark tip covering the outer third to quarter (occasionally, even less). Relative to its large size, Gray Flycatcher's primary extension is rather short, similar to that of Dusky.

Plumage

Plumage for plumage, Gray Flycatcher is paler overall than any other North American *Empidonax*. The upperparts and face are medium to pale gray, usually showing at least a faint olive wash on the back but often with none on the head. This olive tinge is generally most apparent on fresh-plumaged birds in late fall and early winter and is virtually lacking on worn summer adults. In any case, the grayish-olive upperparts of adults show minimal contrast from head to tail. Although the white eye-ring is well defined, it often does not contrast noticeably with the rather grayish

sides of the head (although this contrast varies appreciably with the angle of light). The throat is a very pale gray—sometimes nearly white—but there is no sharp contrast in hue between the throat and slightly darker side of the head. The breast is pale to medium gray, frequently with at least a slight olive tinge. The breastband is often nearly broken in the center by a pale area invading upward from the belly to the center of the breast. The belly is a pale yellow, and in spring and summer it may look essentially white in the field, but on fresh-plumaged birds in early winter it is a beautiful, soft creamy yellow. The wings are blackish gray (paler on worn birds) with whitish wingbars and tertial-edgings. Although the pale edgings on the tertials are quite broad in fresh plumage, they blend evenly into the feather centers rather than contrasting sharply. The tail is just slightly darker than the back, and it bears conspicuous white outer webs to the outer tail feathers. That there is a certain amount of variability present in the general coloration of breeding-plumaged Gray Flycatchers is evidenced by Oberholser's descriptions of three "nuptial phases" (yellowish, brown, and gray [normal]) (*The Bird Life of Texas*, Vol. 2, p. 559, 1974). This almost certainly reflects nothing more than the combined effects of wear and molt.

Juveniles look much like fresh-plumaged adults except that the wing bars and tertial edges appear to be a little more contrasting. The wing bars and tertial edgings are white, often with a faint buffy tinge.

One additional plumage feature that deserves further checking is the apparent tendency for Gray Flycatcher to have a whitish supraloral streak that runs from the anterior edge of the eye-ring, above the darker lores, and meets over the bill in a narrow whitish frontal band.

Behavior

The most distinctive behavioral trait of any empid is the tail-dipping motion of Gray Flycatcher. This movement actually begins with a slight, rapid upward hitch of the tail, followed by a slower, emphasized downward swing, after which it is raised to its original position. The whole action is more reminiscent of a phoebe (*Sayornis*) than of any other *Empidonax*. The slow movement and emphasized downward swing are the significant aspects. Other empids may sometimes flick the tail down and then up rather than up and then down, but these are still tail *flicks*, too rapid for the human eye to follow easily. If you can't tell for sure which way the tail is going, the bird is almost certainly not a Gray Flycatcher. Be conscious of the wind condition when looking at the tail motion of any empid; gusty wind can make the tail of any bird appear either to dip or lift.

Gray Flycatcher is relatively inactive; it often dips its tail but only infrequently flicks its wings. When foraging it tends to perch low (owing in part to the generally low height of vegetation in favored habitats), and it often goes to the ground to take insects.

Molt

After arriving on the wintering

Plate 1:
Gray Flycatcher (*Empidonax wrightii*). Note the long bill with distinctly bi-colored lower mandible and rather short primary extension. The upperparts are essentially uniform, pale olive gray; plumage in general is lacking in zones of contrast (but see Plate 3). This is a fresh-plumaged spring migrant. (Early May in Bend, Oregon.) Photo by Tom Crabtree.

grounds, adults undergo a complete molt in fall (the prebasic, or postnuptial molt), beginning around late August or early September and finishing between late October and early December. Juveniles have a partial molt, replacing most of the body plumage and some of the tail feathers, secondaries, and greater and median wing coverts. They may begin to replace some of these feathers as early as late July, on the breeding grounds, but most of their molt occurs after fall migration, so that they are in heavy molt in October and have finished with it between late November and late December. Thus all Gray Flycatchers are in fresh plumage in early winter, whereas in late summer and early fall the juveniles are looking fresh and the adults are in very worn condition.

The spring (prealternate or prenuptial) molt, when it occurs,

Plate 2:
Gray Flycatcher (*Empidonax wrightii*). Note the rather narrow bill with distinctly bicolored lower mandible. The underparts appear to be quite uniform, showing a whitish throat, very faintly darker breast-band, and very pale yellowish belly. Note the strongly backlit tail—it is best to avoid making plumage judgments when looking up into the light like this. Same bird as in Plate 1. Photo by Tom Crabtree.

Plate 3:
Gray Flycatcher (*Empidonax wrightii*). Perfect lighting at last! Note the sharply bicolored lower mandible. The underparts are more contrasting than we thought in Plate 2, showing a whitish throat that contrasts fairly well with the gray breast-band and sides, and the pale, creamy yellow belly and undertail-coverts are also evident. The face is distinctly gray, and the eye-ring, concentrated around the posterior edge of the eye as is typical of most empids, is at maximum contrast for this species. We shall fight off the temptation to rule on the white outer webs on the outer tail feathers until we get a good back view (which we don't get this time around). Same bird as in Plates 1 and 2. Photo by Tom Crabtree.

is completed on the wintering grounds prior to spring migration. Some birds may show little or no molt at this season, whereas others (probably for the most part individuals hatched the previous summer) may undergo extensive replacement of the body plumage and even some flight feathers.

Similar Species

The combination of Gray Flycatcher's long bill with sharply bicolored lower mandible, long tail, and overall pale coloration should rule out Least and Hammond's Flycatchers. Only Dusky Flycatcher is truly similar to Gray (see "Similar Species" under

Plate 4:
Gray Flycatcher (*Empidonax wrightii*). Note the sharply bicolored lower mandible. This individual is in fresh plumage, having recently completed its prebasic molt, and it shows a slight olive tinge to the grayish upperparts and sides of breast. It appears that direct sunlight has especially highlighted the white around the eye and supraloral and has perhaps slightly "washed out" the side of the throat. (December in Coahuila, Mexico.) Photo by K. V. Rosenberg.

Dusky Flycatcher in Part II of this series). There is some overlap in bill length between the two species, but most Grays are noticeably longer-billed than most Duskies. Additionally, Gray shows a sharply bicolored lower mandible (mostly pinkish or yellowish with a sharply defined blackish tip), whereas that of Dusky tends to be less pink basally and darker throughout, lacking the strongly bicolored effect. At any given stage of wear, Dusky tends to be more colorful: more olive above and on the sides of the breast, and more yellow on the belly. Worn Willow/Alder flycatchers in late summer may appear grayish in the field, but at this time of year, Gray Flycatcher will be paler still, particularly in the head and underparts. The strongly bicolored bill of Gray is narrower than the bill of Willow/Alder, which usually shows an entirely orangish or yellowish lower mandible with perhaps an indistinct dusky tip. The best field mark, of course, is the distinctive tail motion of Gray Flycatcher. Naturally, if a Gray were suspected out of range, it would be unwise to rely upon this character alone.

Comments on Distribution and Migration

Gray Flycatcher is one of a handful of common species that are "observationally rare" be-

cause they breed in the Great Basin, a region that tends to be neglected by traveling birders. Many observers catch up with this bird at the northern edge of its wintering range, in southern Arizona. Gray is a relatively early migrant in both spring and fall; some birds reach the breeding grounds as early as the first part of April, and some southbound migrants appear in southern Arizona before mid August. It is a rare but regular spring migrant along the coast and through the deserts of California from mid April to mid May (*fide* Jon Dunn). Gray is a scarce late-April to early-May migrant in the Trans-Pecos region of Texas, which is as far east as the species is regular. Fall migration along the eastern edge of the range is largely undocumented. A vagrant was mist netted at Toronto, Ontario, on September 11, 1981.

As a migrant, Gray Flycatcher keeps to arid, scrubby habitats such as mesquite, desert washes, and low oaks, and it generally shuns woodland and higher-elevation forests. Typical breeding haunts are pinyon/juniper slopes and flats, sagebrush, and structurally similar habitats, always in rather arid regions.

Most of the Gray Flycatcher population winters in brushy habitats of Baja California and the northern part of the Central Plateau of Mexico, but birds have been found as far south as the Mexico City area. Wintering birds occur regularly as least as far east as Coahuila and Nuevo Leon, Mexico. In southern Arizona it is uncommon to locally common in winter; in southern California it is a rare but regular winter visitor.

Buff-breasted Flycatcher (*Empidonax fulvifrons*) (Plates 5 to 7)

Voice

The song typically consists of two elements and is a rather loud and musical *chee-bit´* or *pee-twit´... pee-tsoo´... pee-twit´... pee-tsoo´*, with the elements given at irregular intervals. Each element is accented on the second syllable, which is pitched lower than the first. The *chee-bit* or *pee-twit* element is often followed either by a few or several notes at the same pitch as the second syllable or by a low, short, uneven trill. Occasionally, the second syllable is sharper and higher pitched than the first: *chee-beet!* The call is a short *pwit* or *pit*, sounding perhaps a bit sharper or dryer than the calls of Dusky and Least Flycatchers and rather similar to that of Gray Flycatcher.

Structure

Buff-breasted is a tiny bird, our smallest *Empidonax*. The bill is quite short but not proportionally narrow for its length. The lower mandible of the adult is entirely yellow or pinkish yellow, but on at least some juveniles it bears a small dusky tip. The primary extension is moderate to fairly long for the species' small size. The tail is moderate to fairly short, usually somewhat constricted basally, and is often rather deeply notched. The crown usually looks smoothly rounded or slightly peaked toward the rear.

Plate 5:
Buff-breasted Flycatcher (*Empidonax fulvifrons*). Note the small bill with entirely yellow lower mandible. This is a worn midsummer bird. Although there is still plenty of buff in the throat, breast, and sides, note that the wing-bars are heavily worn. (Early July in the Huachuca Mts., Arizona). Photo by Rick Bowers.

Plumage

As its name implies, this species' most distinctive plumage character is the warm wash of buff or orange-buff across the breast and sides. This color is obvious when the adults first arrive in spring, but with wear and fading it becomes faint by early to mid summer, and some adults in early August may even look whitish on the breast! Juveniles in early August may also show very little color on the breast. The upperparts are entirely dusty brown or grayish brown, and fresh-plumaged birds (perhaps especially after the fall molt) show a variably bright olive hue in the back. Because the head is not very dark it does not contrast sharply with the eye-ring, which is whitish, slightly pointed at the

Plate 6:
Buff-breasted Flycatcher (*Empidonax fulvifrons*). This is a different individual in worn midsummer plumage. The feathers are so heavily abraded as to appear clipped, and the wing-bars and eye-ring are virtually gone. The bill actually looks large in relation to the very worn head (analogous to the head and paws on a soaking-wet cat!). Nonetheless, there is plenty of buff in the face and underparts on this individual to give it away. (Mid July in the Huachuca Mts., Arizona.) Photo by Rick Bowers.

Plate 7:
Buff-breasted Flycatcher (*Empidonax fulvifrons*). This photo, although distant and soft of focus, accurately captures the petite appearance of this species and the beautiful orange-buff and brown of unworn plumage. (Early January in Sinaloa, Mexico.) Photo by K. V. Rosenberg.

rear edge, and often connected to the consistently pale lores. The throat is whitish, and the belly is buffy white to yellowish white. The wings are dusky brown, contrastingly darker than the back. The wing-bars and tertial edgings are dull whitish and do not contrast crisply with the ground color of the wings, although these pale feather edgings are noticeably wide in fresh plumage. The dusky-brown tail shows conspicuous white outer webs to the outer tail feathers.

Juveniles look much like adults except that the wing-bars and tertial-edgings are deep buff at first, and the buff wash on the breast may be faint.

Behavior

A fairly active bird, the Buff-breasted lives in open pine/oak

woodland and tends to perch in relatively exposed locations. Although it often sings from rather high perches (but not usually the very tops of trees), it forages at all levels and is often encountered near the ground. It usually flicks its tail several times immediately after alighting, moving the tail through a very short arc, but otherwise it does not show much tail motion. It does not flick the wings often.

Molt

Adults evidently go through a complete molt in late summer on the breeding grounds. Thus they may be seen in fresh, bright plumage in late August or early September, just before they leave the United States, and throughout the fall in the mountains of western Mexico.

Similar Species

The Buff-breasted is the most distinctive of North American *Empidonax* flycatchers, and it is unlikely to be confused with any other. The only potential problem involves worn, midsummer adults and fading juveniles in August with little or no color on the breast, although there is virtually always at least a hint of buff somewhere on the underparts, perhaps especially on the sides. Such birds are superficially similar to the Least Flycatcher, but the latter species is darker through the upperparts and has much darker wings with more sharply contrasting wing-bars and tertial edgings. Buff-breasted is also much browner (less olive or gray) than Least in all plumages. For comparison with White-throated Flycatcher (*Empidonax albigularis*) of Mexico and Central America, see upcoming Part VI of this series.

Comments on Distribution and Migration

In the United States today, Buff-breasted Flycatcher is a very local summer resident in southeastern Arizona; it occurs primarily in a few canyons of the Huachuca Mountains and is irregularly present in the Chiricahua, Santa Rita, and Santa Catalina mountains. Fifty to 100 years ago it bred more widely, extending north to central Arizona and west-central New Mexico; because of this, it could be found in the future well north of the current limited range. Arrival on the Arizona breeding grounds is in late March, departure is before mid September, and migrants are rarely seen away from the actual breeding grounds in this country. Buff-breasted Flycatcher winters from northern Mexico south throughout its breeding range, which extends into Honduras, with some descent nearly to sea level in winter. Favored wintering habitat is open pine/oak woodland with grassy or shrubby areas nearby.