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specific locations. Careful attention should be paid to weekly arrival contours as flycatchers tend to be faithful to arrival and departure dates from year to year. Fall birds may linger beyond the dates noted on the map.

We have also drawn arrows depicting approximate migration routes. Flycatchers of western North America typically follow the north-south aligning mountain ranges characteristic of the west. They may follow the foothills, canyons, or ridgelines. In most cases, arrival on northwestern breeding grounds, such as along the Pacific coast north to Alaska, is earlier than the same species' arrival in the mountains of the continental interior (Montana, Colorado, Utah) as the rise in temperatures in these interior mountains in spring lags those of the more humid Pacific coast.

Flycatchers and pewees of eastern North America predominantly follow a western circum-Gulf of Mexico route along the Texas coast in both spring and fall. Small numbers of some species take an eastern route, hopping along the Caribbean islands between Florida and Central America. Trans-Gulf migration between Louisiana and the Yucatan Peninsula is probably rare. Because most of the spring migration of eastern flycatchers is dominated by the western circum-Gulf route, most flycatchers are rare or uncommon in the spring in the southeast as most turn northward along the upper Texas coast. In the fall, migration often includes a more easterly component such that certain flycatcher species that were rare in spring in Louisiana, for example, become common as a fall migrant. A fraction of these southbound birds may head down through Florida and to Central America, although most continue along the western Gulf of Mexico. Much more work is needed to unravel the nuances of flycatcher migration.



Summary

While no single field mark is in general diagnostic, the combination of field marks forms a unique "fingerprint" for a given species, even when considering the intrinsic variabilities of individual field marks. We have tabulated these features for each species in the following **FIELD MARK MATRIX** and comparison plate. Use these as a cheat sheet to help you remember some of the salient features of each species.

We also provide a **VISUAL SIMILARITY MAP**, on which birds are arranged spatially according to how similar they appear. For example, Willow and Alder Flycatchers are nearly identical and thus displayed as overlapping fields. However, Alder Flycatcher shows some subtle similarities with Least Flycatcher, whereas Willow Flycatcher shows subtle similarities with wood-pewees. As another example, Gray, Dusky, Hammond's, and Least, in that order, form somewhat of a continuum. This visual similarity map was not derived from any phylogenetic considerations, but we note that some groups of visually similar species are indeed taxonomically related.

THE FIELD MARK MATRIX

		Tufted Flycatcher	Olive-sided Flycatcher	Greater Pewee	Western Wood-Pewee	Eastern Wood-Pewee	Cuban Pewee	Acadian Flycatcher	Alder Flycatcher	Willow Flycatcher	Yellow-bellied Flycatcher	Pacific-slope/Cordilleran Flycatcher	Hammond's Flycatcher	Dusky Flycatcher	Pine Flycatcher	Gray Flycatcher	Least Flycatcher	Buff-breasted Flycatcher	your bird
Crown shape	round																		
	peaked																		
	flat																		
	crested																		
Forehead angle	shallow																		
	medium																		
	steep																		
Bill length	short																		
	medium																		
	long																		
Lower mandible	all dark																		
	partial																		
	all orange/yellow																		
Tail length	short																		
	medium																		
	long																		
Tail width	wide																		
	medium																		
	narrow																		
Primary projection	short																		
	medium																		
	long																		
Wingbar contrast	strong																		
	medium																		
	weak																		
Wing panel contrast	strong																		
	medium																		
	weak																		
Eye-ring	indistinct																		
	messy, distinct																		
	bold, crisp																		
	tear-snaped					_													
Upper/underpart contrast	strong																		
	medium																		
	weak						_					⊢							
Wing flicking	oπen																		
	occasional										_								_
	rarely						-												
Tail flicking	orten																		
	occasional			_															
	tail draming																		
	ran aropping																		

HOLISTIC APPROACH STRUCTURE, PLUMAGE, AND VOICE



HOLISTIC APPROACH STRUCTURE, PLUMAGE, AND VOICE



VISUAL SIMILARITY MAP



The Field Guide

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Tufted Flycatcher

Mitrephanes phaeocercus L 4.7–5.3" (12.0–13.5 cm), WT 0.3 oz (8.5 g)

GENERAL IDENTIFICATION The Tufted Flycatcher is unmistakable with its pointed crest and overall buff to cinnamon tones. Other distinguishing features are its small size, blackish wings, relatively bold white wingbars, lack of distinct eye-ring, small bill with entirely orange lower mandible, relatively long tail, and medium to long primary projection. The Tufted Flycatcher flicks its wings and tail but usually only just after landing. Its tail flicking is unique: a short but rapid succession like a fluttering or flickering, which makes the bird appear to shiver just after landing.

VOICE Tufted Flycatcher gives a variety of calls. It frequently gives a single note "*pip*" call. Tufted also gives a high pitched down-slurred whistle "*peeur*" similar to the "*peeur*" of Hammond's, but at a higher frequency. Its song consists of a rapid succession of "*pip*" notes or a distinctive "*chuwee-chuwee*." Each "*chuwee*" phrase is characterized by an initial downward inflection in pitch followed by a drawn-out burry up slur.



TUFTED FLYCATCHER



10songs with rapid 5 "pip" notes k H "pip pip pip pip peep" 7 1 2 sec 10 A.M.M. distinctive "chuwee-chuwee" 5 song k H "chu" burry, rolling "wee" z 1 sec 10 "peeur" call 5 k H z sec i

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RANGE AND HABITAT Resident of pine and broadleaf forests in the mountains and foothills of Mexico south through Central America. It is a very rare spring/summer visitor (has nested) to the mountains of southeast Arizona and west Texas. There is one spring record (April 22, 2014) on the central Texas coast. It moves to lower elevations in winter, where it can often be found in desert scrub and riparian habitats.

SIMILAR SPECIES Tufted Flycatcher is unlikely to be confused with any other flycatcher in the United States. Buff-breasted is of similar coloration, but it has a rounded crown.



Olive-sided Flycatcher

Contopus cooperi L 7.0-7.9" (18-20 cm), WT 1.1-1.3 oz (32-37 g)

GENERAL IDENTIFICATION Despite its name, the Olive-sided Flycatcher is a type of pewee. Crested appearance; long primary projection; stiff, relatively short and wide tail; and strongly contrasting open-vested appearance across breast and sides are diagnostic. When not obscured by wings, pair of white patches on sides of rump are uniquely diagnostic. Tail has a subtle fork. Underparts are whitish, contrasting strongly with dark, somewhat open vest and dark upperparts. Undertail coverts are often marked with dark chevrons or ventral streaks. Juvenal plumage is like adult. Olive-sided rarely flicks wings or tail. It usually perches motionless and erect on tall dead snags protruding from the forest canopy. Adult prebasic molt is complete and occurs on wintering grounds.

VOICE Olive-sided has a distinctive whistled song often described as "*quick-three-beers.*" Call is a hollow sounding "*pip*," often given in threes. Individual "*pip*" is like that of the wood-pewees, but slightly lower in pitch.

RANGE AND HABITAT Olive-sided breeds in the coniferous forests of western North America north to Alaska and east across the Canadian boreal forest and into the northern Appalachians. It winters in northern South America and is found throughout much of the United States during migration. It is very rare in the United States during the winter (most winter records are from California). Spring migrants arrive in California and east to Texas in late Apr., continuing into late May. In interior mountains of the west, nesting birds may not arrive until late May. Fall migrants pass through southwestern United States from early Aug. to early Oct. While widespread during migration, they are not usually seen in large

numbers. During breeding, it prefers forest edges with tall trees and snags.

SIMILAR SPECIES Olive-sided Flycatcher is unlikely to be confused with *Empidonax*. It can be confused with other *Contopus* species, but other pewees are uniformly dark across the chest/breast, have longer tails, and never have the open-vested appearance or whitish belly of Olive-sided.



OLIVE-SIDED FLYCATCHER







Wood-Pewee

Greater Pewee

Contopus pertinax L 7.1–8.0" (18–20 cm), WT 0.95 oz (27 g)

GENERAL IDENTIFICATION Greater Pewee is usually unmistakable. It is a large, olive-colored pewee with a strongly pointed crest, long and heavy bill, completely orange lower mandible, and very long primary projection. Wingbars are dull. Chest is usually dark olive, resulting in weak upper/underpart contrast. It very rarely flicks wings or tail. It generally sits motionless on branches beneath the canopy, rarely above the canopy. Periodically sallies out for insects. Adult prebasic molt is complete and occurs on summering grounds.

VOICE Its distinctive song is a whistled repertoire consisting of a series of short "*perduit-perduit*" phrases and a distinctive drawn-out "*pew-pew-puWEEew*," often given the mnemonic "*Jose-Maria*." Its call is a single short "*pip*" or "*peeeur*" similar to that of wood-pewees, but at a slightly lower frequency and with a slightly hollower tone. It often calls at dawn.

RANGE AND HABITAT The Greater Pewee is resident in the mountains of Mexico and Central America. Between early Apr. and late Aug. its range expands into Arizona and locally to the Davis Mountains of west Texas for nesting. It is a rare winterer in the southwest from California to Texas and is the only expected winter pewee in the United States. It prefers middle story to upper canopy of pine and oak woodlands.

SIMILAR SPECIES Only wood-pewees are likely to be confused with Greater Pewee, but note Greater's longer bill, more pronounced crest, and longer tail.

GREATER PEEWEE

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Western Wood-Pewee

Contopus sordidulus L 6.25" (15.9 cm), WT 0.46 oz (13 g)

Eastern Wood-Pewee

Contopus virens L 6.25" (15.9 cm), WT 0.49 oz (14 g)

GENERAL IDENTIFICATION Wood-pewees are separated from *Empidonax* by their slightly larger size, more slender and vertical posture, very long primary projection (saber-like), long bill, and wide tail. A combination of dark olive coloration, olive or dusky underparts, dull wingbars; inconspicuous or nonexistent eye-ring, presence of ventral streaks, and crested crown is diagnostic of wood-pewees. Wood-pewees rarely flick wings or tail. They often sit motionless on snags in or above the forest canopy. They tend to sally high and return to the same snag unlike *Empidonax* which often return to a different snag. Wood-pewees are often first detected by sound because they are highly vocal even during migration.

Visual identification of wood-pewees to species must be done with care and should be verified by voice whenever possible. Subtle plumage and structural differences may be used to hint at a possible out-of-range pewee. Western is darker, shows less contrast, and is subtly shorter tailed than Eastern. Slightly lighter underparts of Eastern give subtly stronger upper/underpart contrast than in Western. Both wood-pewees have dull wingbars, showing little contrast with upperparts. However, wingbars on Eastern can be slightly brighter than on Western. Upper and lower wingbars on Eastern are almost always of similar boldness or brightness, but on Western, the upper wingbar is usually duller than the lower wingbar.

Although there is overlap, Eastern tends toward a slightly shorter primary projection and a longer tail than Western: ratio of the primary projection (PP) to tail projection (TP) is greater in Western

than in Eastern. Western tends to hold tail in line with its body and back, contributing to a straighter, more upright posture. Eastern often holds its tail slightly downward relative to its body, which, in combination with slightly more contrasting plumage, makes Eastern more reminiscent of an *Empidonax* than Western. Lower mandible is mostly orange in Eastern and dark in Western, but there is overlap. Neither species typically shows much of an eye-ring, but Eastern may occasionally show hint of an indistinct eye-ring. Both wood-pewees complete their prebasic molt on wintering grounds, although molt may begin on summering grounds. Some wood-pewees may be best left unidentified to species.

VOICE Pewee identification should consider all the above field marks collectively, but voice is the best way to be fully confident of an identification. Song of Eastern Wood-Pewee is a drawn-out slur "*PEE-a-weeeEEE*" with the last segment slightly rising. The Eastern Wood-Pewee song has a slight downward inflection in the middle of the phrase. Eastern Wood-Pewee call is a short "*pip*." Western Wood-Pewee song is shorter and burrier, a descending or rising "*BREeeer*." At dawn, the "*BREeeer*" phrase is often followed by a high-pitch twitter like that of Vermilion Flycatcher (*Pyrocephalus rubinus*). Western Wood-Pewee gives a short monotonic "*pee*" call. Both species call and sing often at dawn.

RANGE AND HABITAT

WESTERN WOOD-PEWEE Western Wood-Pewees breed in the coniferous mountains of western North America, from Alaska south through the Rocky Mountains and Coast Range to the Sierra Madre of Mexico. Western Wood-Peewees primarily winter in northwestern South America although small numbers may winter as far north as southern Mexico. They frequent the upper canopy of shaded woodlands, often perching on dead snags in or above the canopy. They are often found around riparian habitats. Northbound migrants

arrive in southern California and Arizona in mid-Apr. with late migrants continuing into early June. In fall, migrants pass through California and Arizona as early as late July and continue through the end of Sept. They arrive on South American wintering grounds from early Sept.; the last remaining winterers depart north by early May. It is very rare in the United States in winter.

EASTERN WOOD-PEWEE Eastern Wood-Pewees breed in deciduous and coniferous forests of eastern North America and winter in northwestern South America. They frequent the upper canopy of shaded woodlands, often on forest edges. Northbound migrants primarily take a circum-Gulf path through Texas with a smaller number cutting across the Gulf of Mexico from the Yucatan. A small number of spring migrants may transit through Florida by hopping the Caribbean islands. In fall, southbound migrants mostly reverse their spring migration routes, but a significant fraction migrates through Florida and across Cuba to reach Central America. Spring migrants arrive in the southern part of the United States by the second week of Apr. with migration continuing until the end of May. Arrival on northernmost breeding grounds is from early May. Southbound migrants reach Texas and Louisiana from mid-Aug., continuing to the end of Oct. with a few stragglers continuing into late Nov. Early Sept. is when the first birds arrive on wintering grounds with arrivals continuing into Nov. The last wintering birds depart their wintering grounds in Apr. It is very rare in the United States in winter.

SIMILAR SPECIES Olive-sided Flycatcher has more whitish ground color to underparts and has a shorter tail. Greater Pewee has a longer tail, much more pointed crest, and longer bill with completely orange lower mandible. Wood-pewees are often confused with dull-colored *Empidonax*, such as Willow, Alder, Hammond's, and Dusky. However, wood-pewees have much longer primary projection, stronger crest, and longer bill.

WESTERN WOOD-PEWEE

EASTERN WOOD-PEWEE

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