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This owl captured a child's hobby horse and carries it around the town!

LET'S SEE
HE



EMPIDONAX

THE “*GNAT MASTER*”

DO YOU SPEAK EMPID?

WESTERN EMPIDS

*“In this world, you must be oh so smart,
or oh so pleasant.*

Well, for years I was smart.

I recommend pleasant.”

Harvey (1950) Jimmy Stewart as Elwood P. Dodd

DISCUSSION

- ▶ Who feels they are making progress on Empids?
- ▶ Who feels lost or frustrated ?

WHAT CHARACTERISTICS DO ALL EMPIDS (GENERALLY) SHARE?

- ▶ Plumage
 - ▶ Drab tones of black-ish, gray-ish, white-ish, olive-ish, brown-ish, yellow-ish
 - ▶ Black-ish wings
 - ▶ White-ish wing-bars & tertial edges
 - ▶ Eye-rings
- ▶ Structure:
 - ▶ Flycatcher bills
 - ▶ Short wings
- ▶ Behavior
 - ▶ Fly-catch from perches
 - ▶ Short calls & simple songs
 - ▶ Often flick wings & tails

DO'S & DON'TS OF EMPID ID

▶ **Don'ts**

- ▶ Make ID solely on plumage
- ▶ Say “it’s an Empid” and turn away

▶ **Do's**

- ▶ Use a comparative approach
- ▶ Start with structural attributes
- ▶ Calibrate your eyes
- ▶ **Use Reference bird** -- “Why is this not a **Least?**”
- ▶ Learn songs & calls
- ▶ Make a DIAGNOSIS!!!!
- ▶ When appropriate default to “Empid spuh”
- ▶ Send me pix !!!!

HOW MANY EASTERN EMPIDS ?
HOW MANY WESTERN EMPIDS ?
CAN YOU NAME THEM ?

Western Empids

1 Hammond's

2 Gray

3 Dusky

4 Western

5 Buff-breasted

6 Willow

Eastern Empids

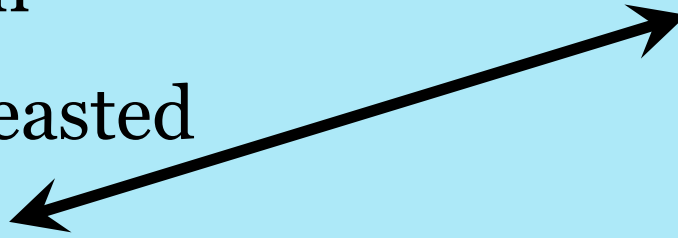
1 Least

2 Yellow-bellied

3 Acadian

4 Willow

5 Alder



HABIT o WHO?: GET ORGANIZED !!!!

Western Empids

- 1 Hammond's
- 2 Gray
- 3 Dusky
- 4 "Western"

Eastern Empids

- 1 Least
- 2 Yellow-bellied
- 3 Acadian
- 4 "Trails"

~~6 Buff-breasted~~ ←

Limited Range
Not an ID Challenge

~~7 Willow~~ ←

Already learned

“4” Western Empids

1

Hammond's

E. hammondii

(William Alexander Hammond, a military physician. Collected the first specimens)

4

Western

E. difficilis

(Troublesome, hard)

2

Gray

E. wrightii

(Charles Wright (1811 – 1895) botanist with survey team)

5

Buff-breasted

E. fulvifrons

(fulvus ("tawny") + frons ("brow"))

3

Dusky

E. oberholseri

(Harry Church Oberholser Ornithologist & author of *The Bird Life of Texas*)

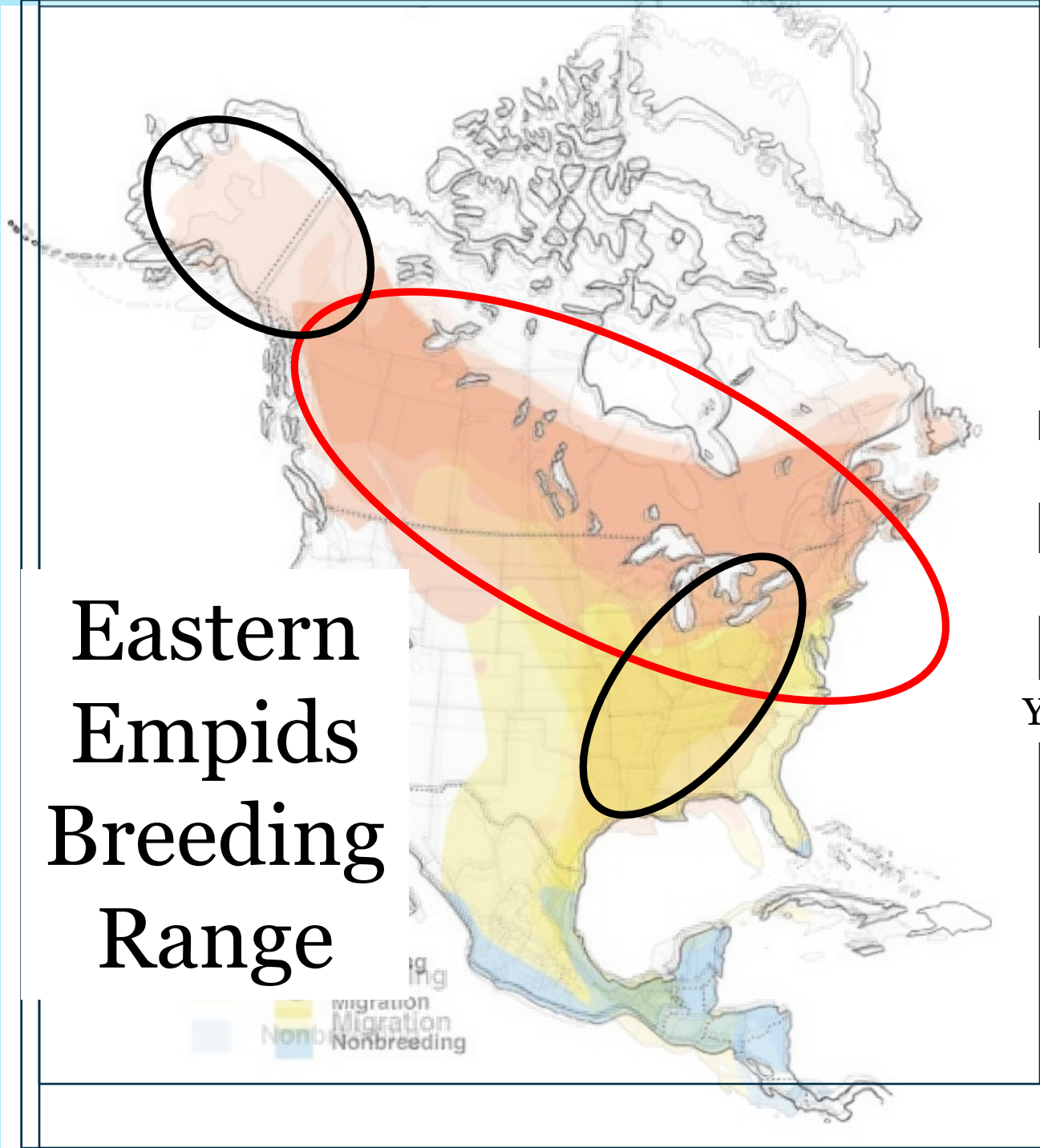
6

Willow

E. Traillii

(Thomas S. Traill, helped Audubon find publisher)

Eastern Empids Breeding Range

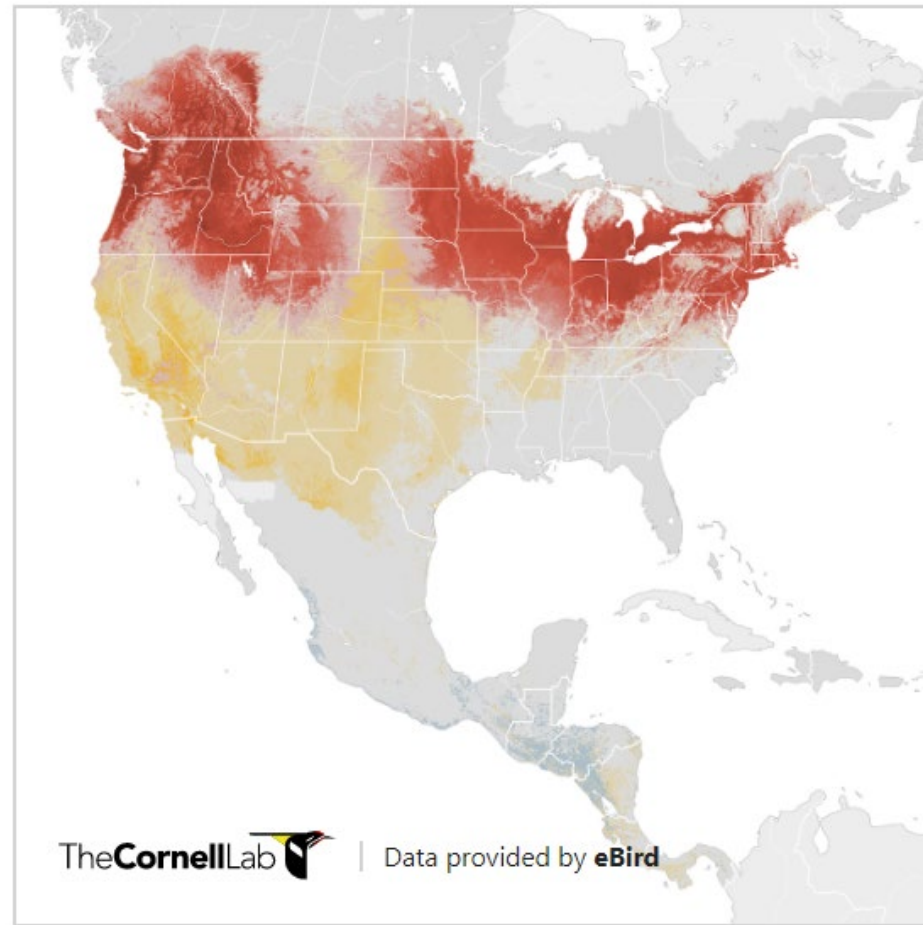
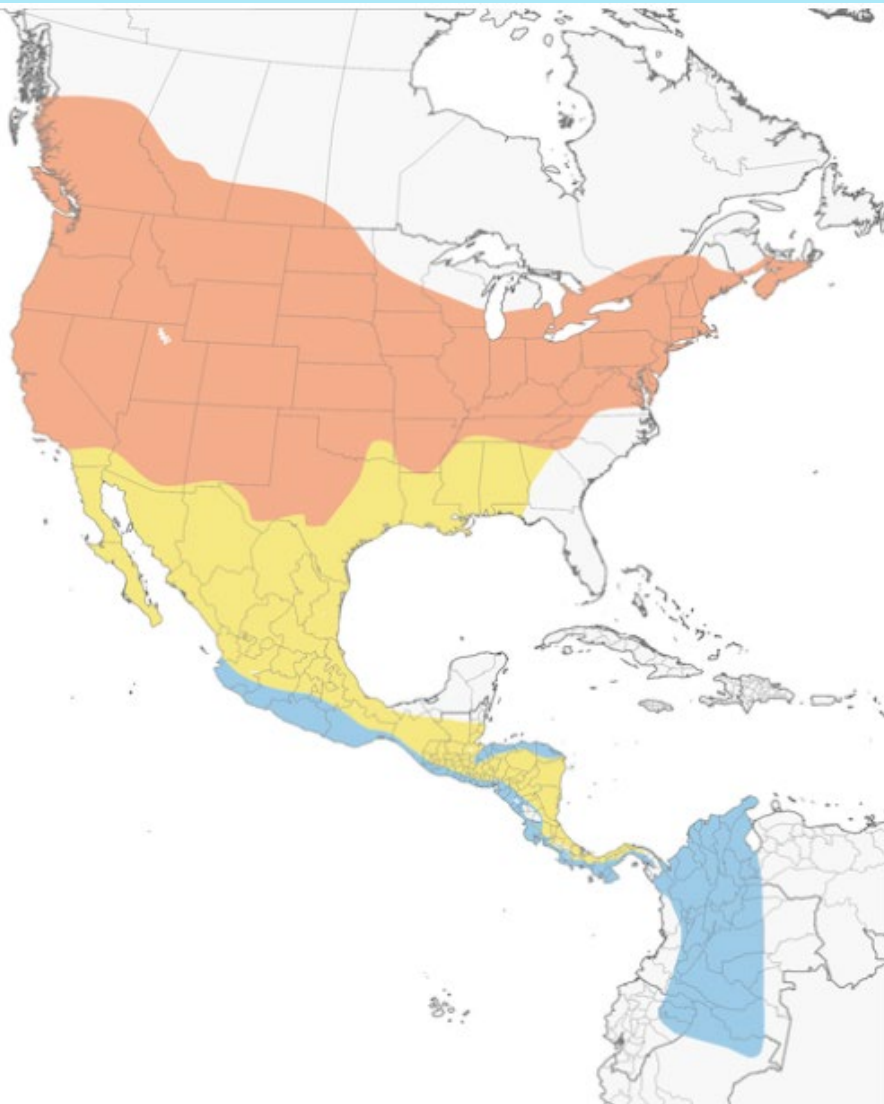


Least

Alder

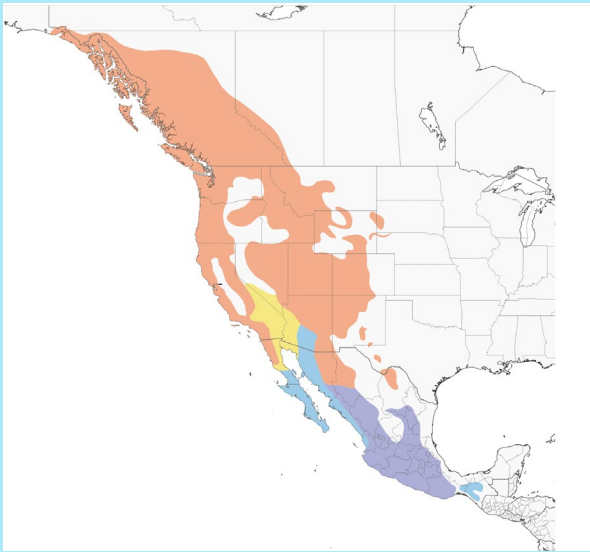
Acadian

Yellow-bellied

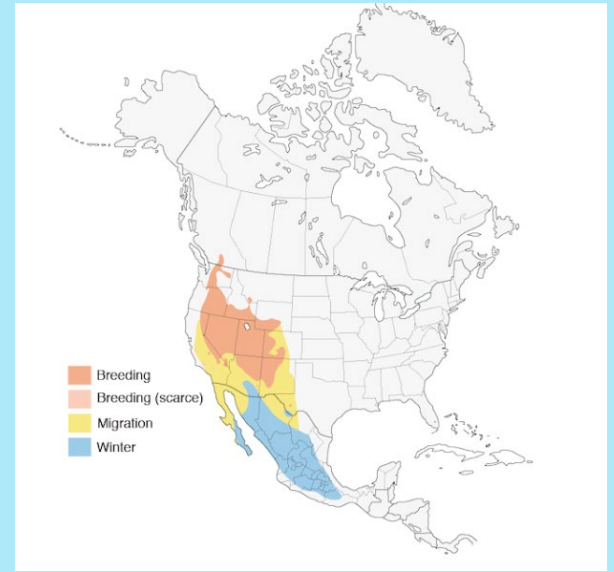


TheCornellLab  | Data provided by eBird

Willow



Western

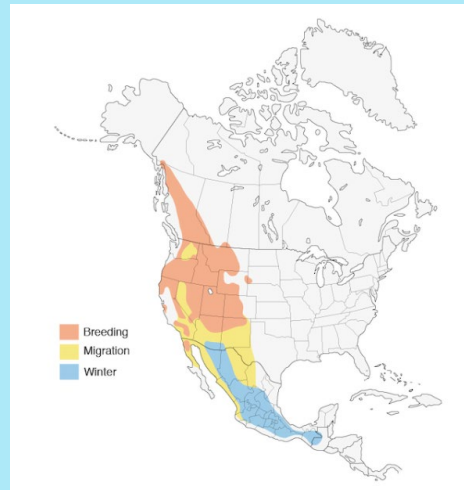


Gray

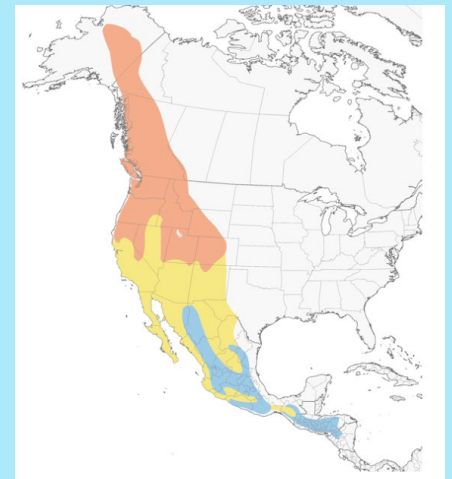
Western Empids



Buff-breasted

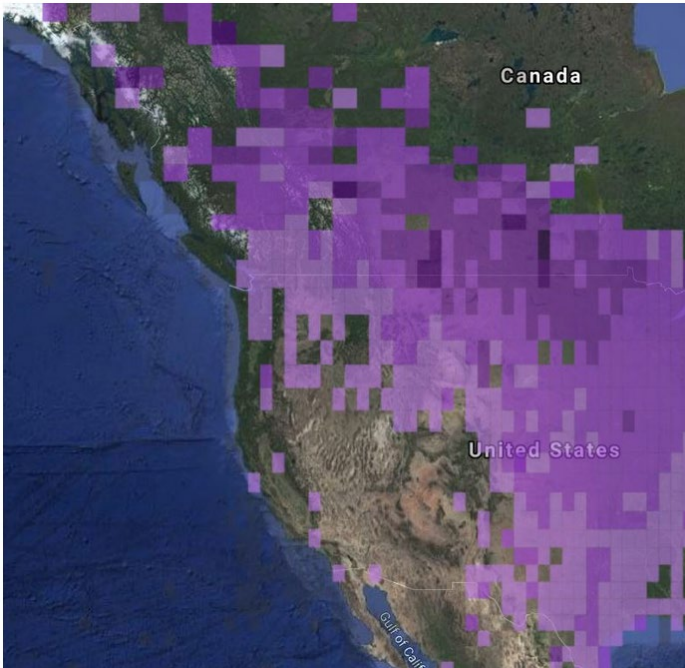


Dusky

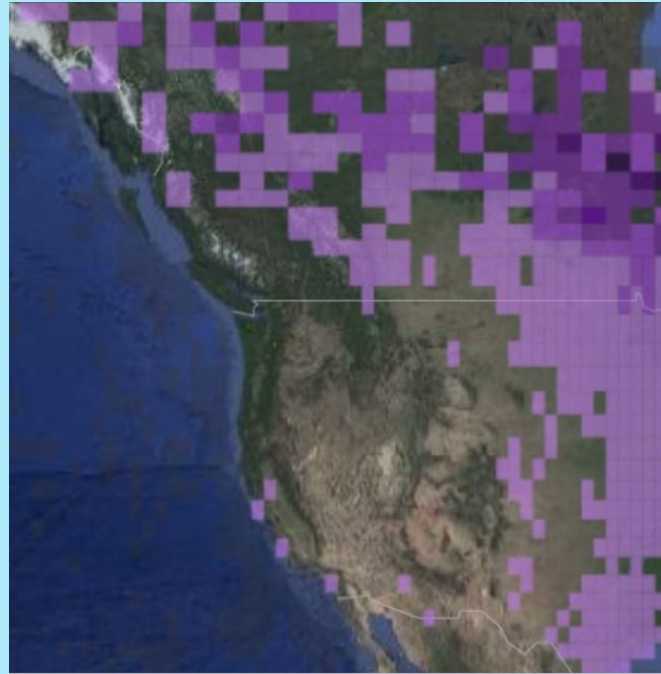


Hammond's

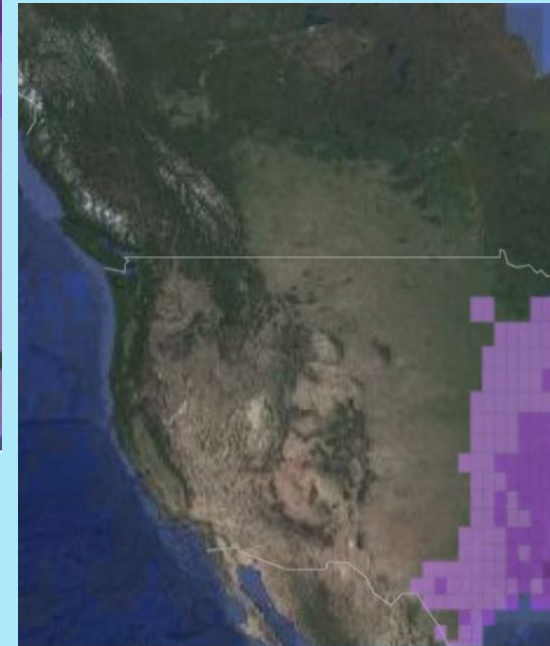
Eastern Empids in the West



Least
2020

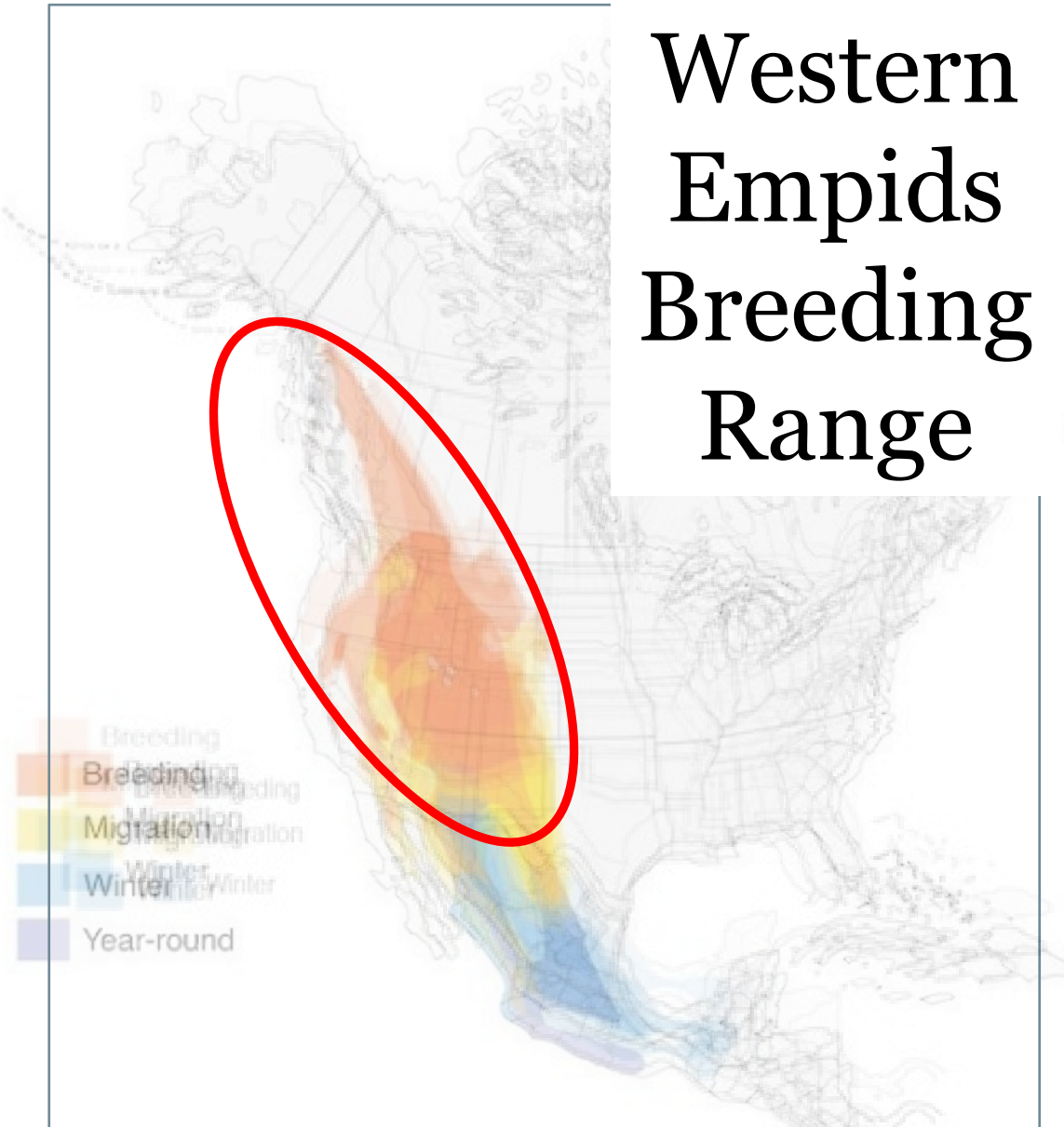


Yellow-bellied
(last 10 years)



Acadian
(last 10 years)

Western Empids Breeding Range



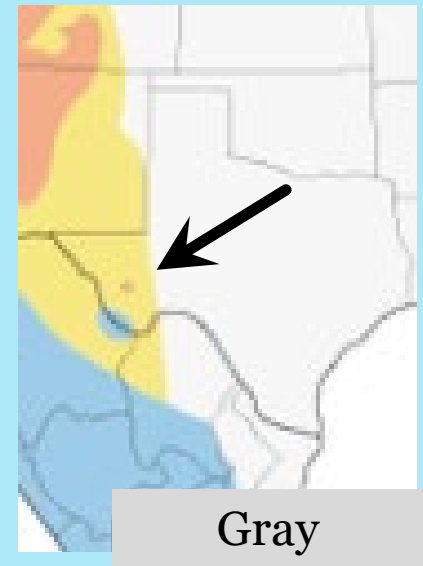
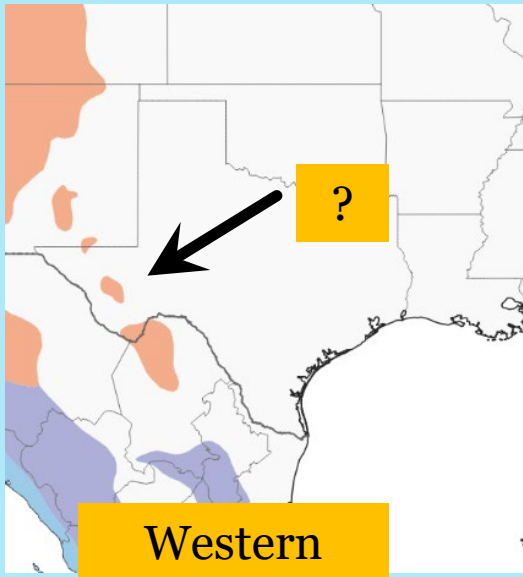
Gray

Hammond's

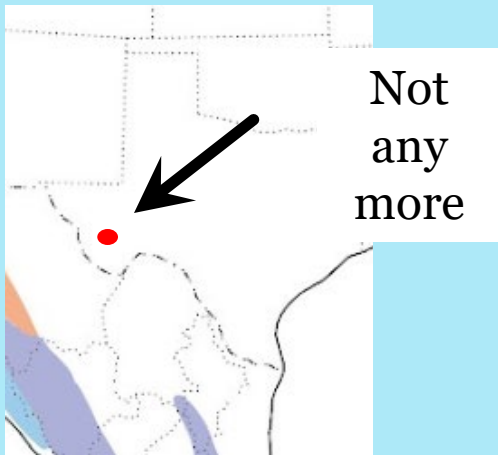
Dusky

Pacific-slope

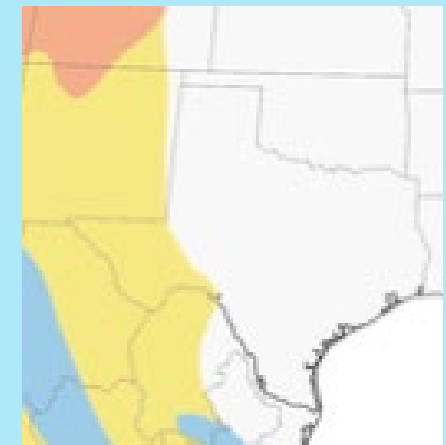
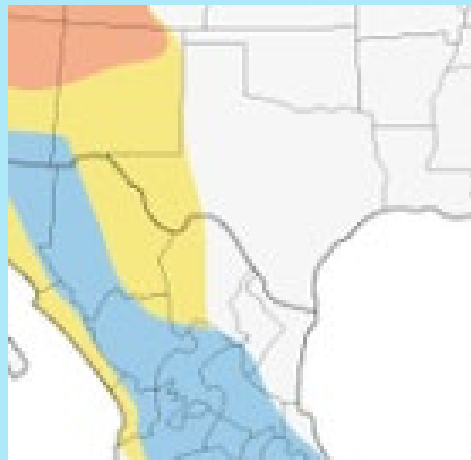
Cordilleran



Western Empids in Texas

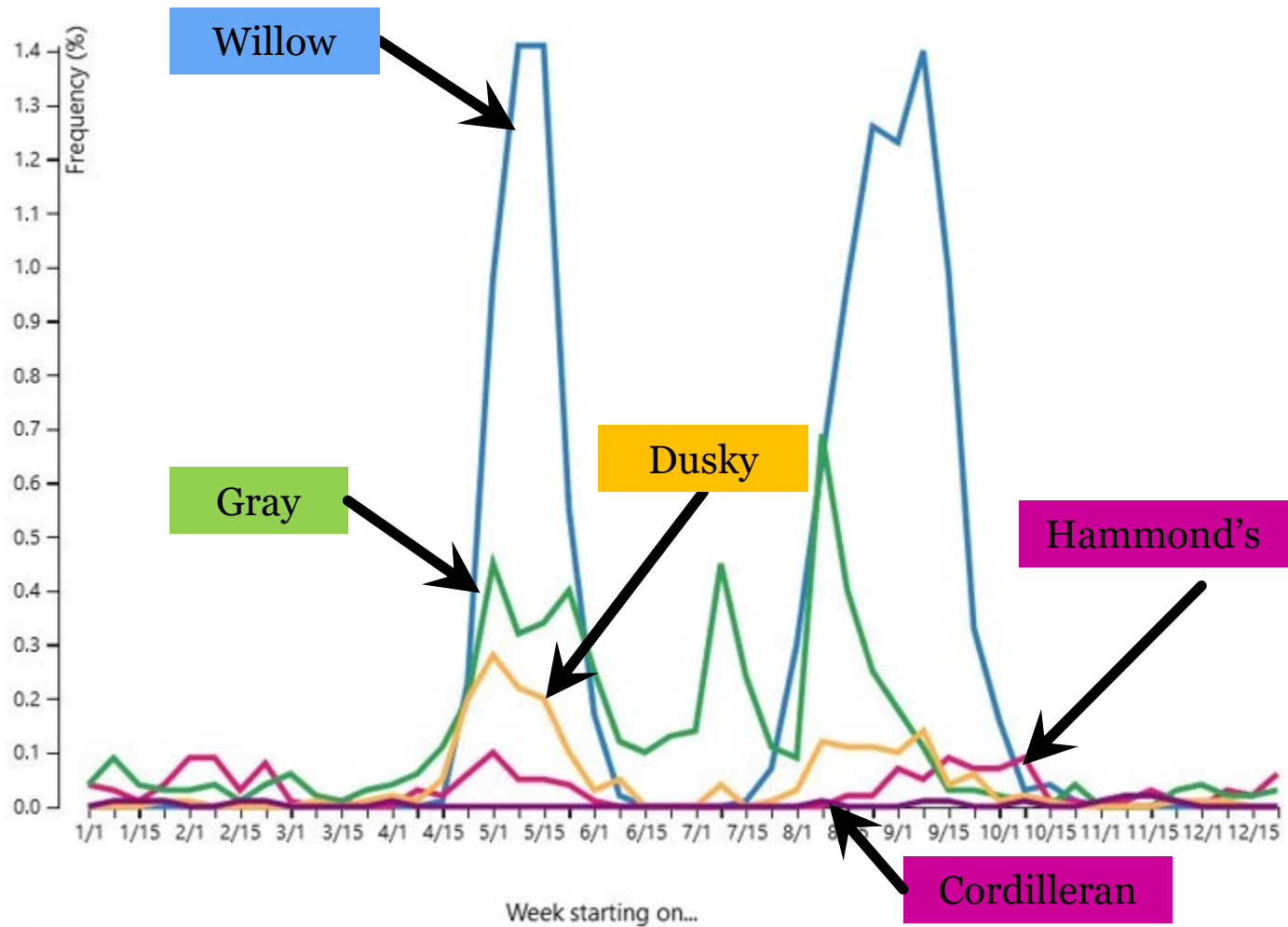


Buff-breasted

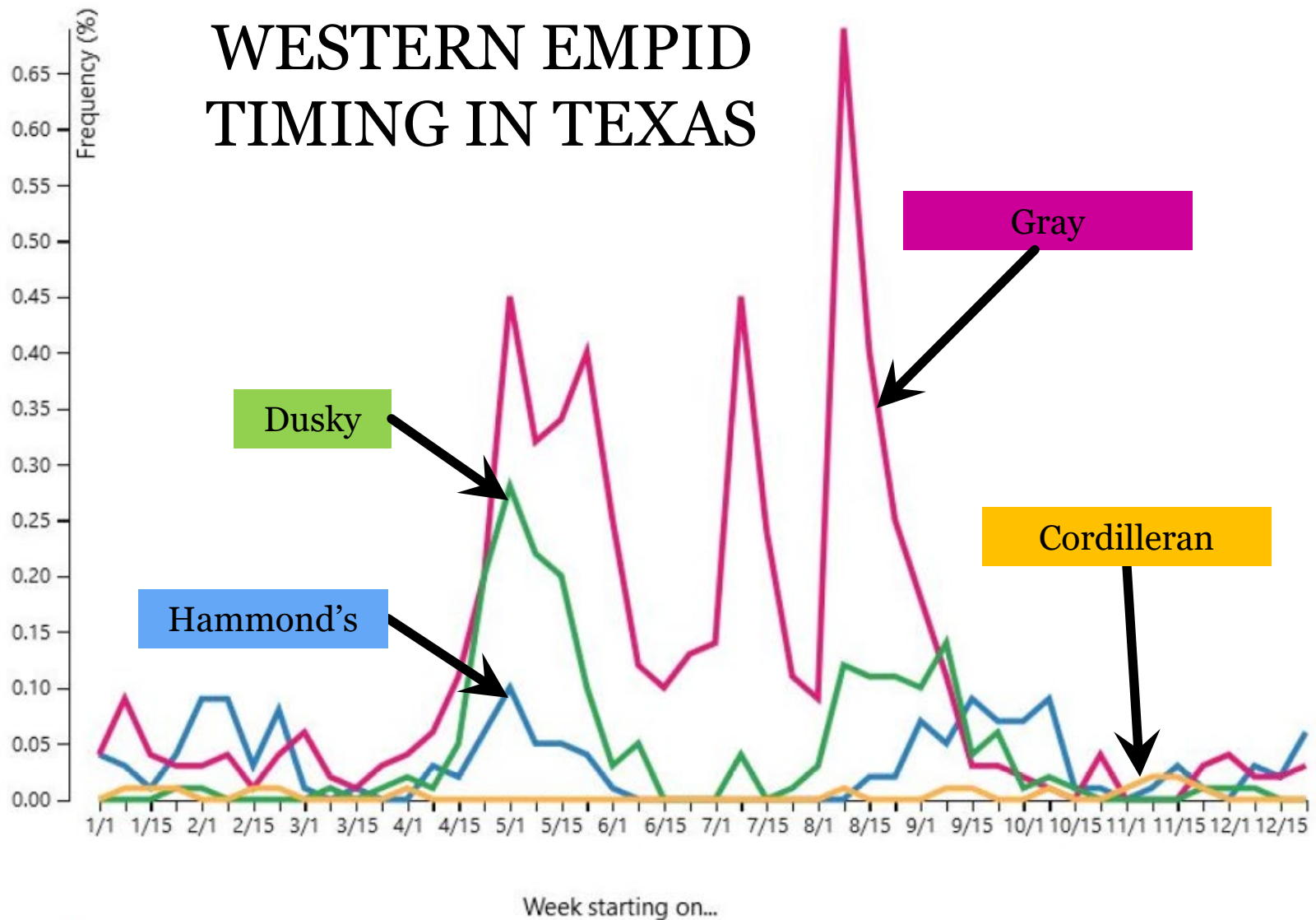


WESTERN EMPID TIMING IN TEXAS

- Willow Flycatcher
- Hammond's Flycatcher
- Gray Flycatcher
- Dusky Flycatcher
- Pacific-slope/Cordilleran Flycatcher (*Western Flycatcher*)



WESTERN EMPID TIMING IN TEXAS

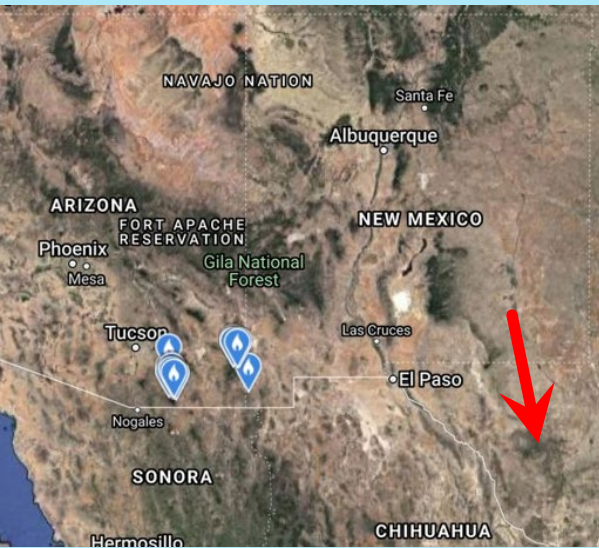


- Hammond's Flycatcher
- Gray Flycatcher
- Dusky Flycatcher
- Pacific-slope/Cordilleran Flycatcher (*Western Flycatcher*)

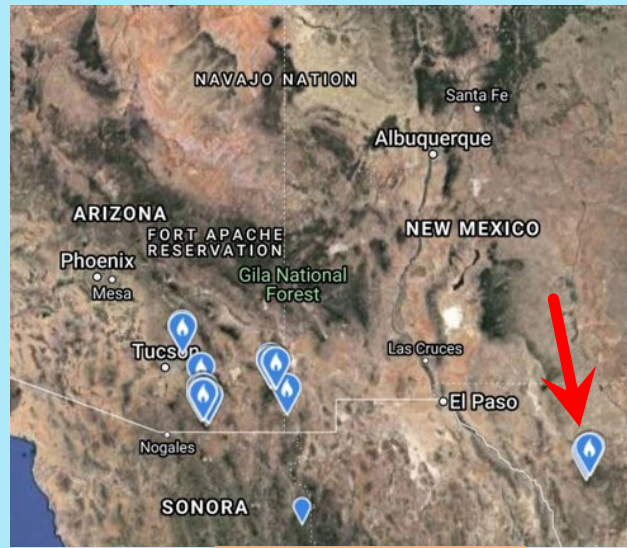
Source: Ebird

WESTERN EMPIDS STATUS IN TEXAS

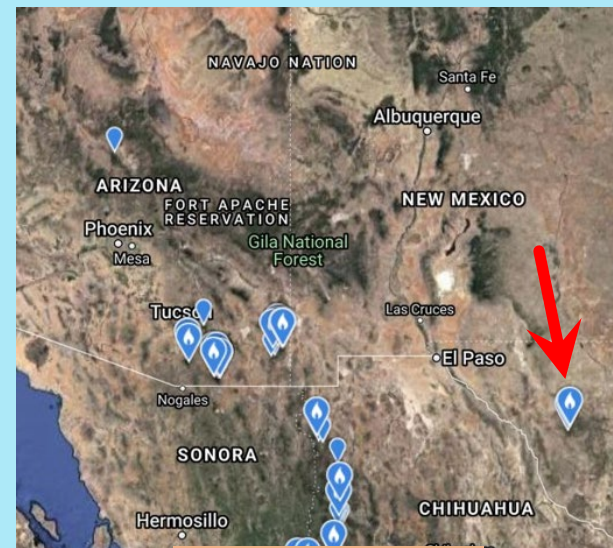
	Migrant	Breeder	Winters
Hammond's	X		
Dusky	X		
Gray	X	Limited	X
Cordilleran (“Western”)	X	X	
Pacific-slope (“Western”)			Rarity
Buff-breasted		Former	
Willow	X		



1991-1995

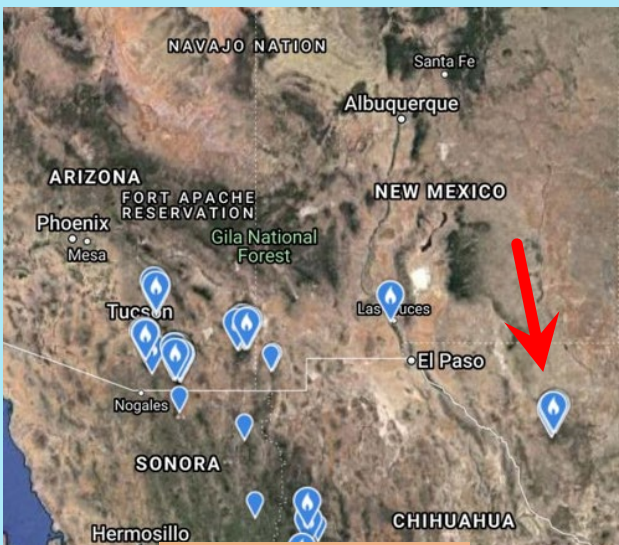


1996-2000

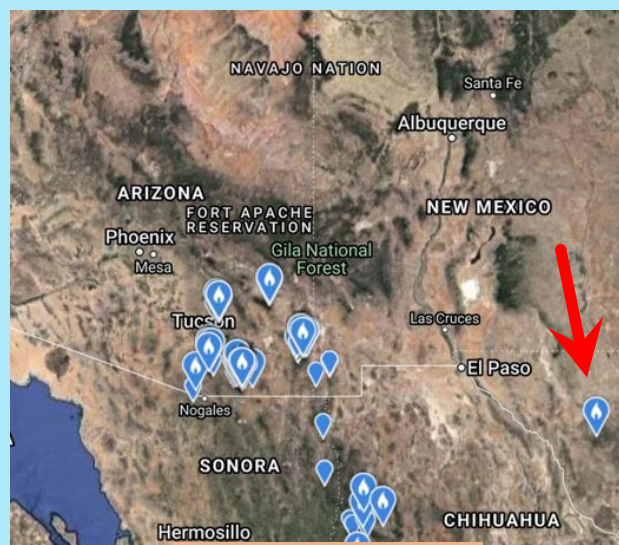


2001-2005

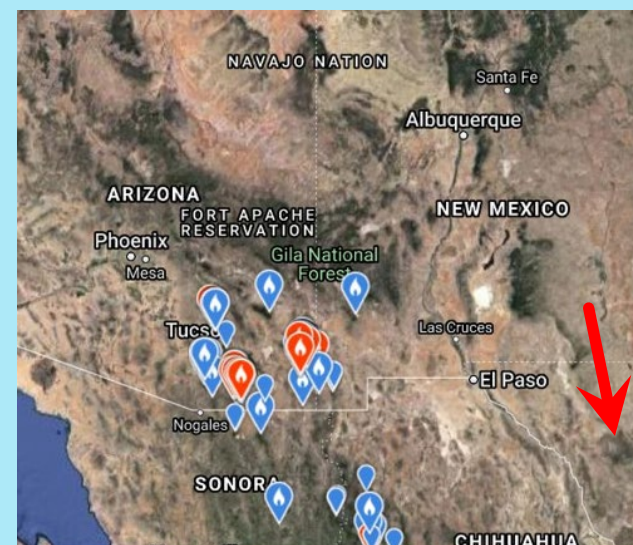
Buff-breasted Breeding in Texas (Davis Mountains)



2006-2010



2011-2016



2017-2020

HABIT 3

HABITAT & MICRO HABITAT

Hammond's



Habitat

- **High cool conifer forests;** in migration, other trees.
- Breeds in cool coniferous forests, sometimes in pure stands of aspens.
- Winters mostly in pine-oak woods of mountains in Mexico and Central America.



Dusky



Habitat

- Favored habitat includes both trees and low bushes.
- Breeds in mountain chaparral with scattering of trees.
- In migration, often in foothills.
- Winters in streamside woods in southwest, or in a variety of semi-open habitats in Mexico.

Gray

Habitat

- Sagebrush; also pinyon and juniper.
- Winters in mesquite groves and in streamside willows and other trees, in lowlands.



Breeding Habitat:

Open & arid habitats, especially sagebrush plains with sparse taller trees or shrubs.

Unusual amongst Empids.
Therefore an ID clue.



Cordilleran

Habitat

- Moist woods, forests, shady canyons.
- Breeds in forested regions, mostly in the mountains, and mostly in deciduous growth along streams.
- Forages in conifers such as pines or Douglas-firs.
- May tend to be in slightly drier or more open forest than Pacific-slope Flycatcher.



Pacific-slope



Habitat

- Moist woods, mixed forests, shady canyons.
- Breeds in wet forested regions. Often common in zones of coniferous forest.
- Also found in canyon groves of oak, sycamore, or willow. May tend to be in wetter forest than Cordilleran Flycatcher.

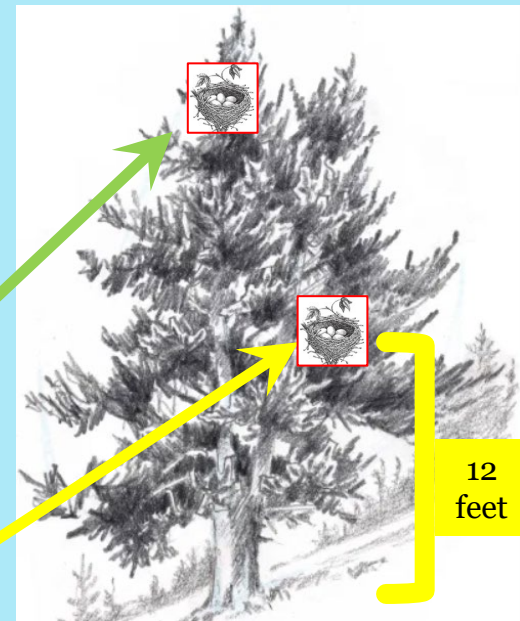
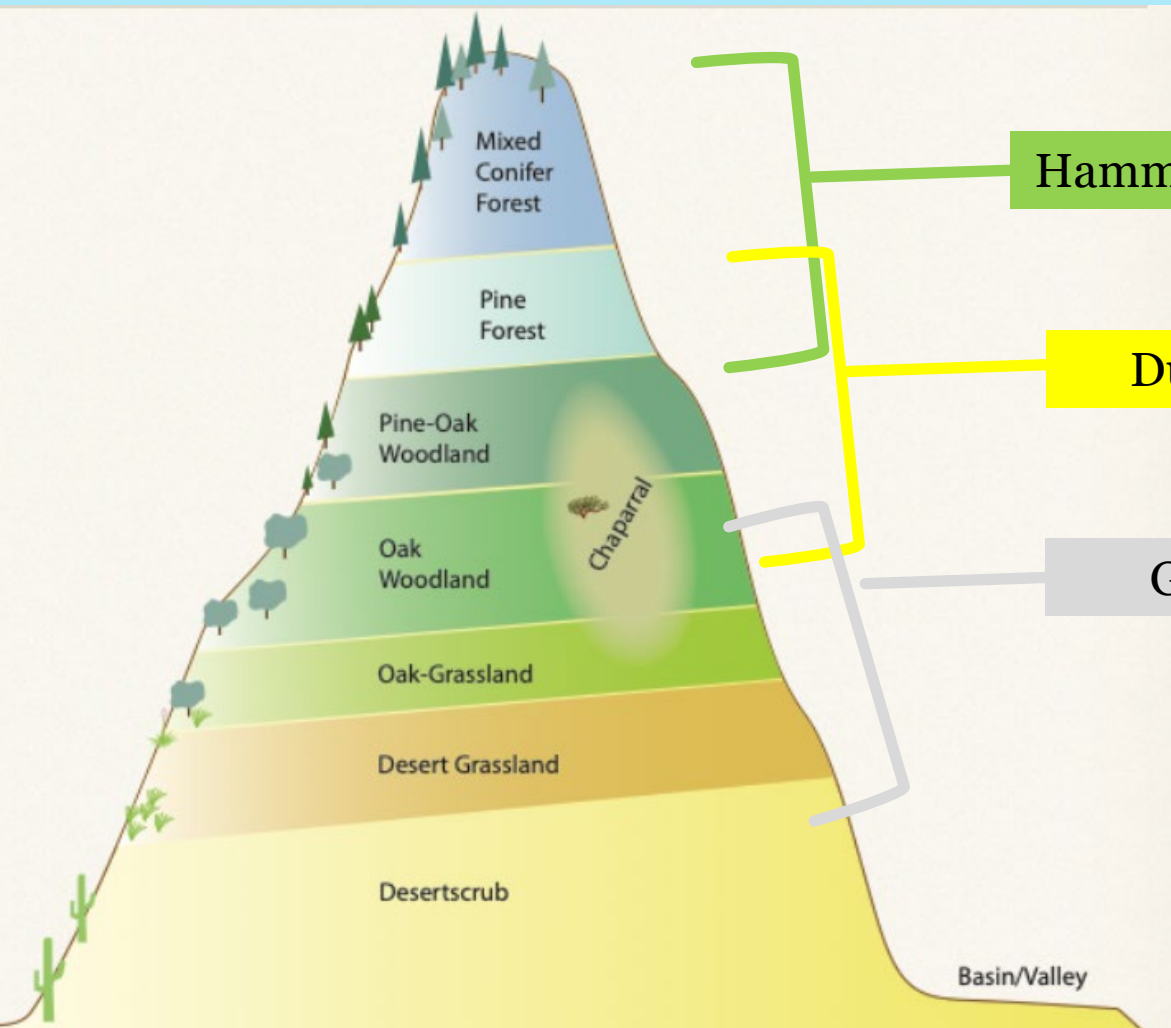
Buff-breasted

Habitat

- Open pine woods.
- Tends to be concentrated along canyons, near trees growing along streams.
- In Arizona, breeds in open areas in the mountains between elevations of 6,000-9,000'.
- In Mexico, summers in open pine woods, may winter in streamside trees at lower elevations.



GRAY, HAMMOND'S, DUSKY BREEDING HABITAT IS A CLUE



Hammond's

Dusky

Gray

Hammond's breeds at the highest elevations, mostly in coniferous forest, sometimes aspen.
Dusky is at slightly lower elevations in the mountains, in habitat with a mixture of tall trees and lower brush. Coniferous forest with a brushy understory or open chaparral with scattered taller trees will meet its needs.
Gray favors still lower elevations, mostly arid sagebrush plains with scattered taller trees, also open woodlands of pinyon pine and juniper with scattered sage brush.

Illustration by Wendy Moore at Rickbrusca.com

https://www.rickbrusca.com/http___www.rickbrusca.com_index.html/The_Sky_Islands.html

TOP 5

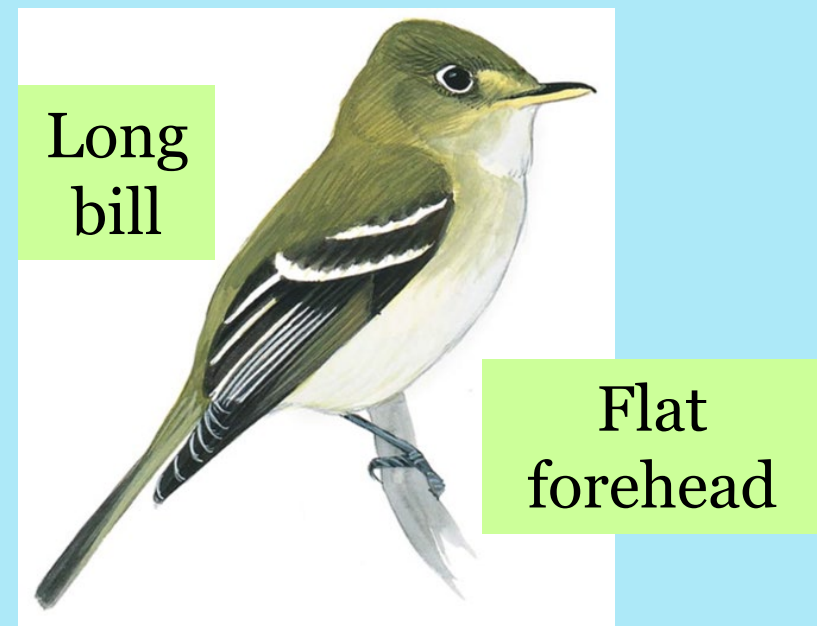
EMPID ID ATTRIBUTES

(FIRST 15 SECONDS OF SIGHTING)

1. Body & head proportions
2. Primary projection
3. Eye ring
4. Bill size, **shape & color**
5. Throat color & contrast

PROPOSED JEFF-RULE FOR EMPIDS

- ▶ 1) Extremes of an attribute are the most useful.
 - ▶ Short vs long
 - ▶ Small vs large
 - ▶ Thin vs thick



PROPOSED RULE FOR EMPIDS

- ▶ 2) Medium expressions of an attribute may be ambiguous.

INCREASING PRIMARY PROJECTION

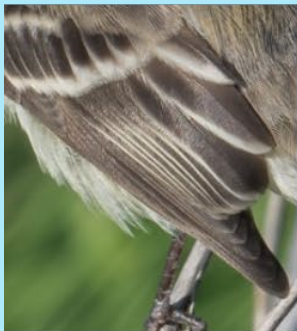
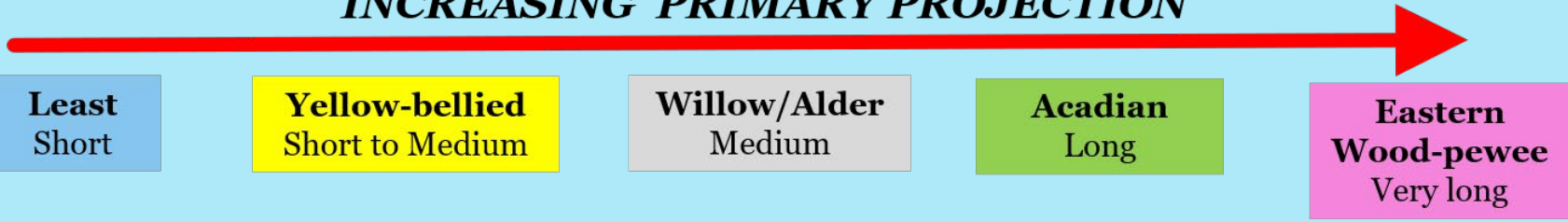


Photo by Michael Bolte



Photo by Dan Jones



Photo by Tom Johnson



Photo by Doug Hitchcox



Photo by Jim Carrol

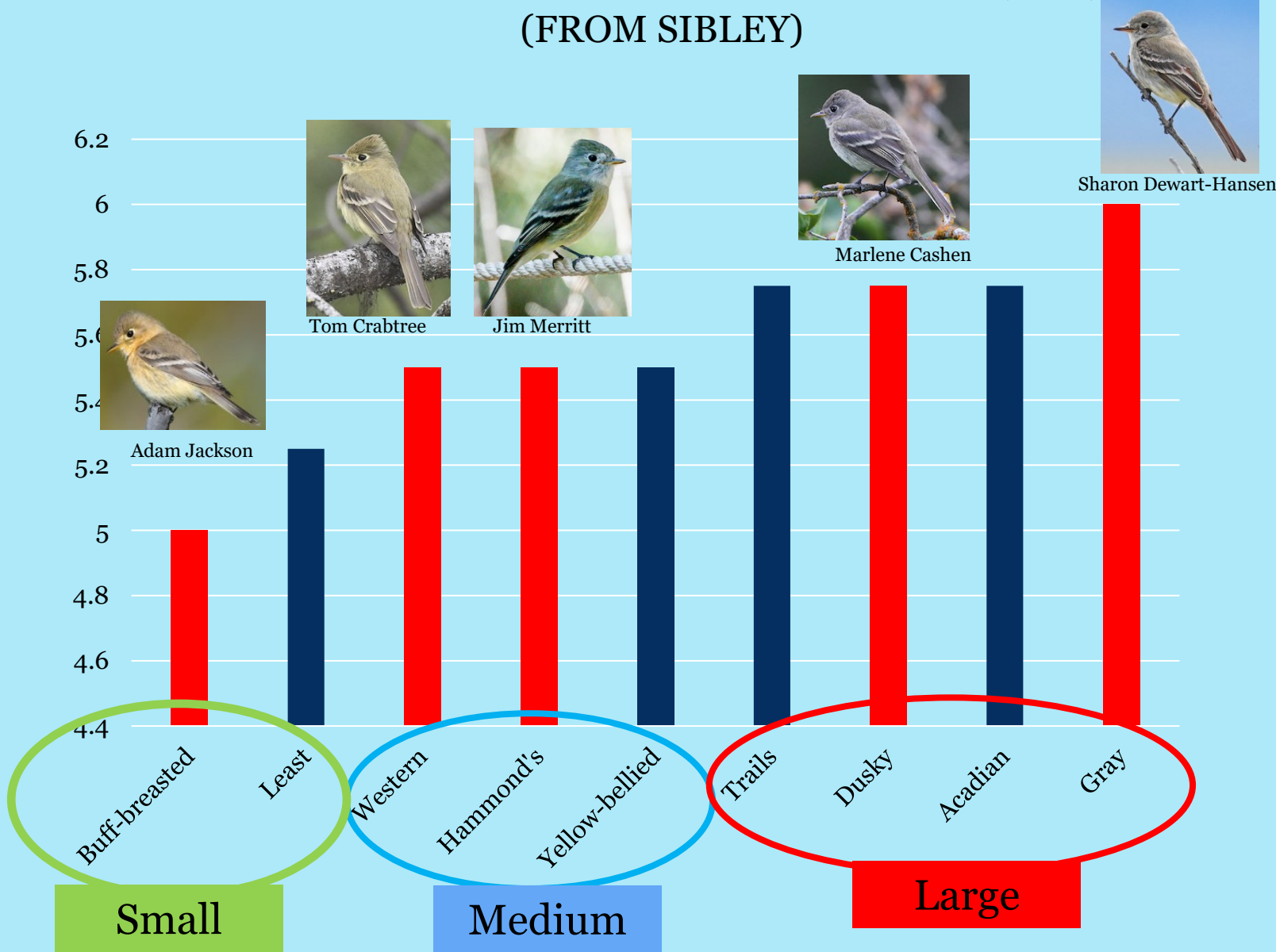
EMPIDONAX
THE “*GNAT MASTER*”

WESTERN EMPID
STRUCTURE

HEAD & BODY PROPORTIONS

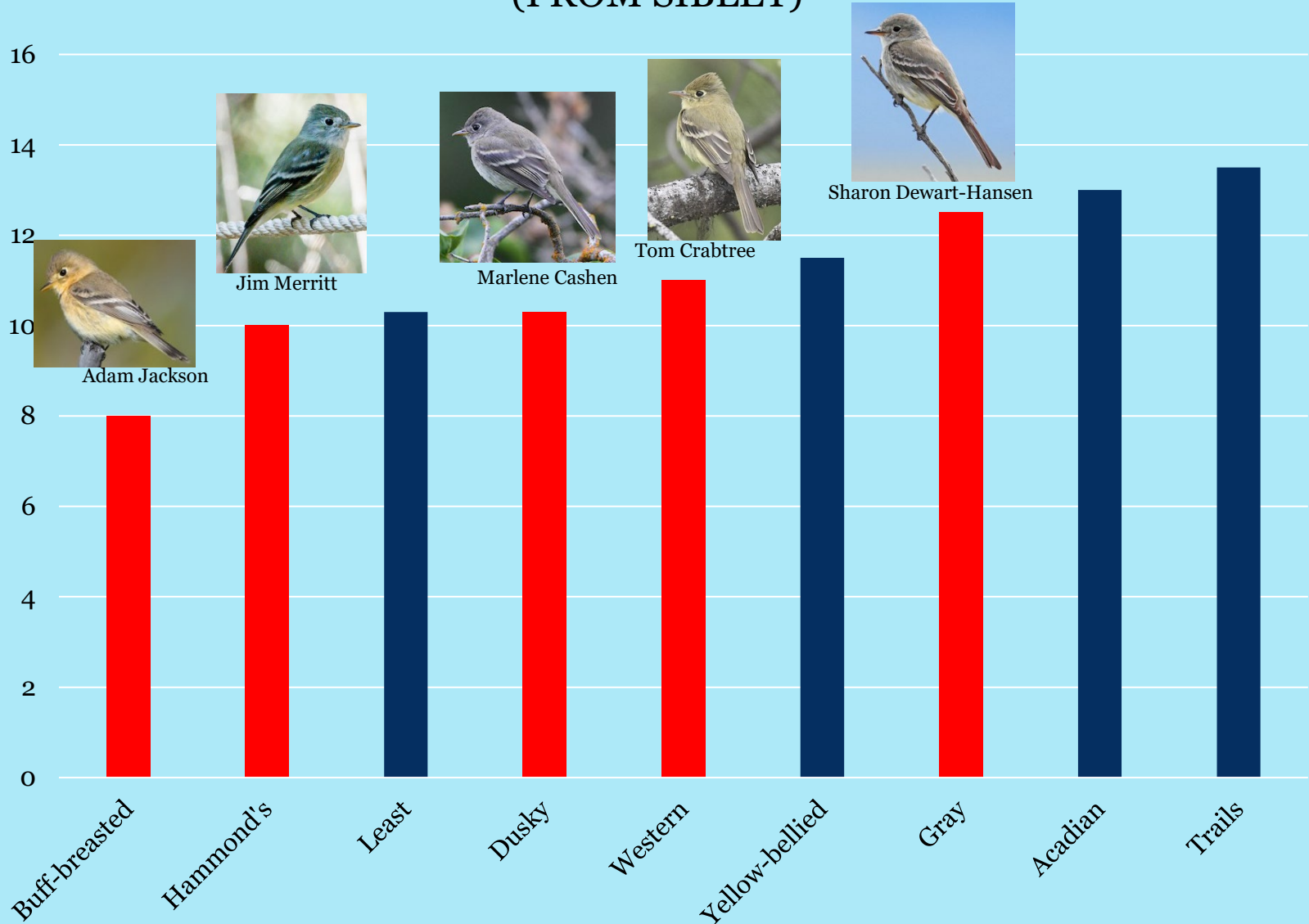
EMPIDONAX LENGTHS (IN)

(FROM SIBLEY)



EMPIDONAX WEIGHT (G)

(FROM SIBLEY)



Reference Bird: Least

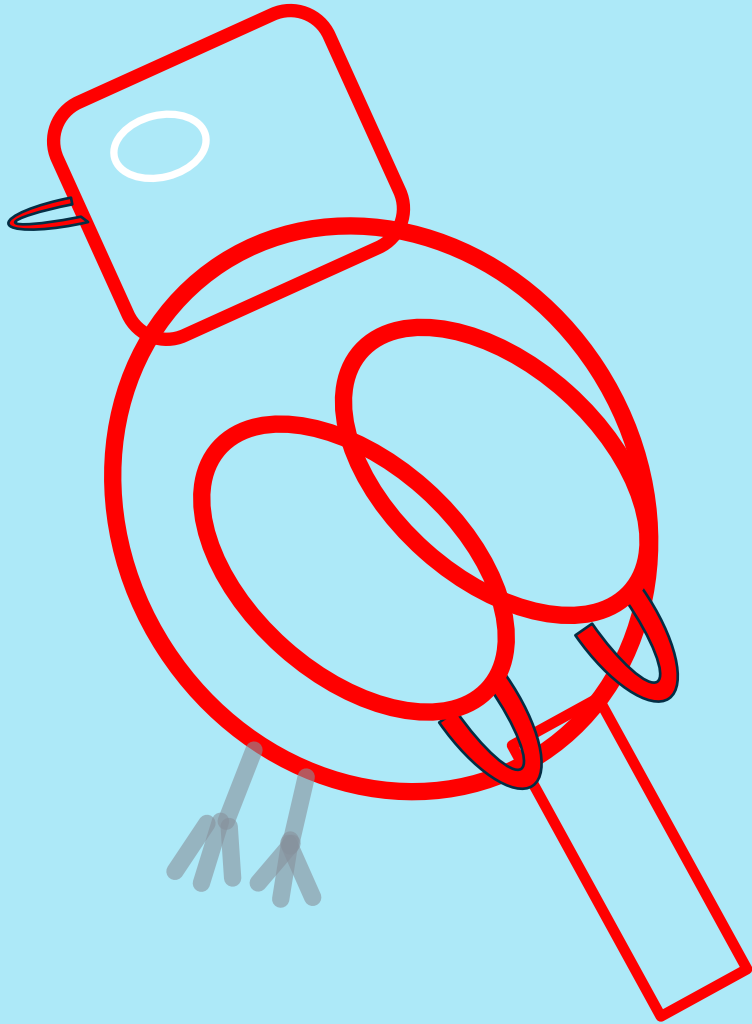


Photo by Ian Davies

Least



Photo by Zeke Smith



Photo by Janet Rathjen

LEAST



Least

Photo by Henry Trombley



Least

Photo by Janet Rathjen

BUFF-BREASTED HEAD & BODY PROPORTIONS

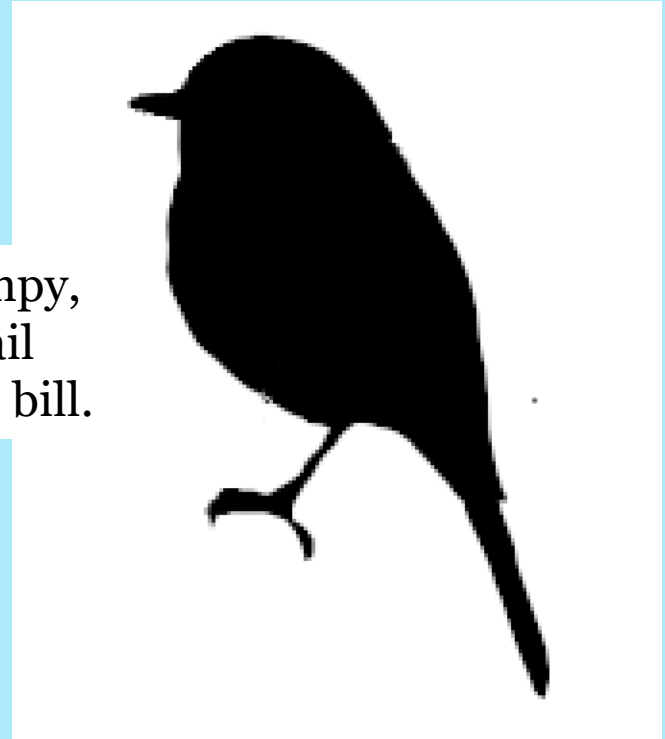
LEAST VS BUFF-BREASTED



Least

Photo by Henry Trombley

Small and dumpy,
with narrow tail
and very short bill.



Buff-breasted

Photo by Andrew Johnson

BUFF-BREASTED PLUMAGE



Photo by Laura Ellis



Photo by Mark Stackhouse



Photo by Oliver Komar

GRAY

HEAD & BODY PROPORTIONS

A photograph of a gray bird, possibly a flycatcher, perched on a dark brown branch. The bird is facing left and has a long, thin, dark bill. A red arrow points to the tip of the bill. The bird's body is slender and gray, with some darker streaking on its wings. The background is a soft, out-of-focus green.

GRAY

Largish, but
slender and evenly
proportioned.

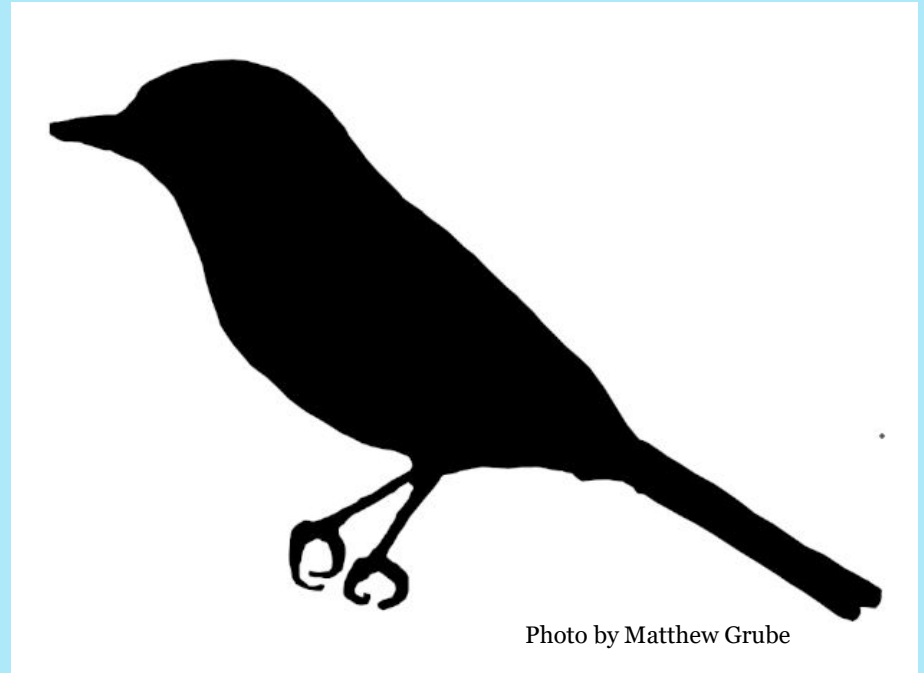
Long bill often makes
head look
proportionately small.

GRAY

Tail-dipping is the most distinctive behavior of any Empid.



Least



Gray

<https://www.youtube.com/watch?v=39Yl98KWpnU>

GRAY



Photo by Matthew Grube



Photo by Sharon Dewart-Hansen

GRAY



Photo by Ricardo Barrios

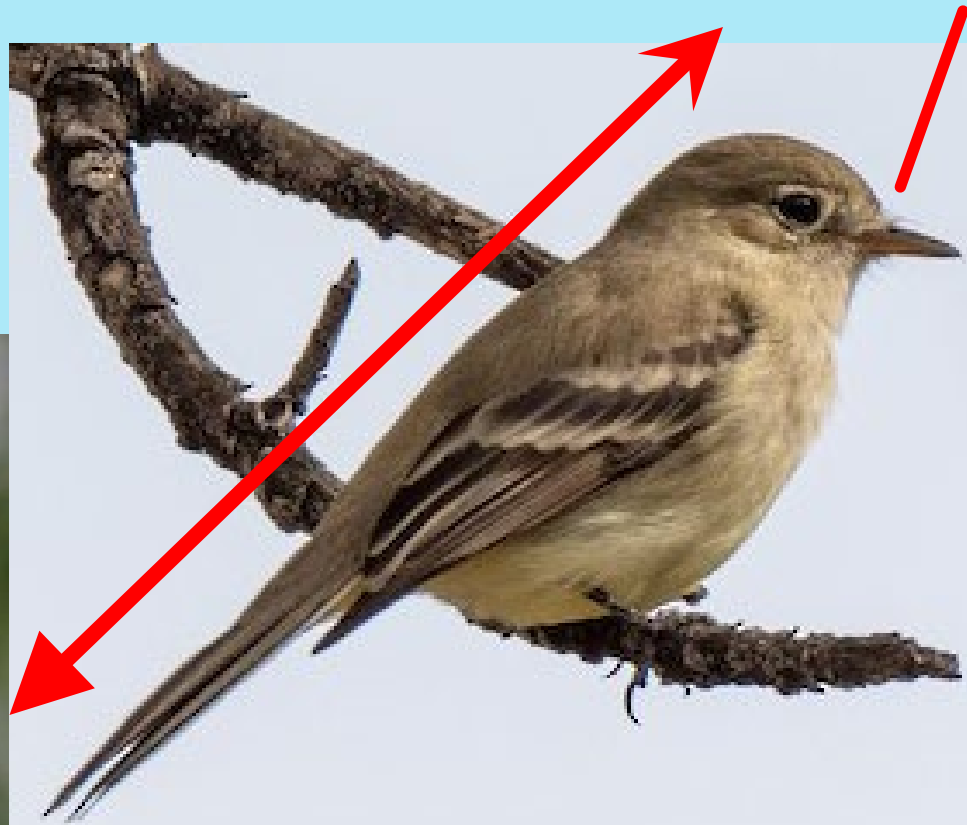


Photo by Mel Senac

GRAY



Photo by Ed Harper

June



Photo Mark Sheel

April

HAMMOND'S HEAD & BODY PROPORTIONS

Fairly large,
blocky head

Short
neck

HAMMOND'S

Small, compact.
Reminiscent of
Ruby-crowned
Kinglet.

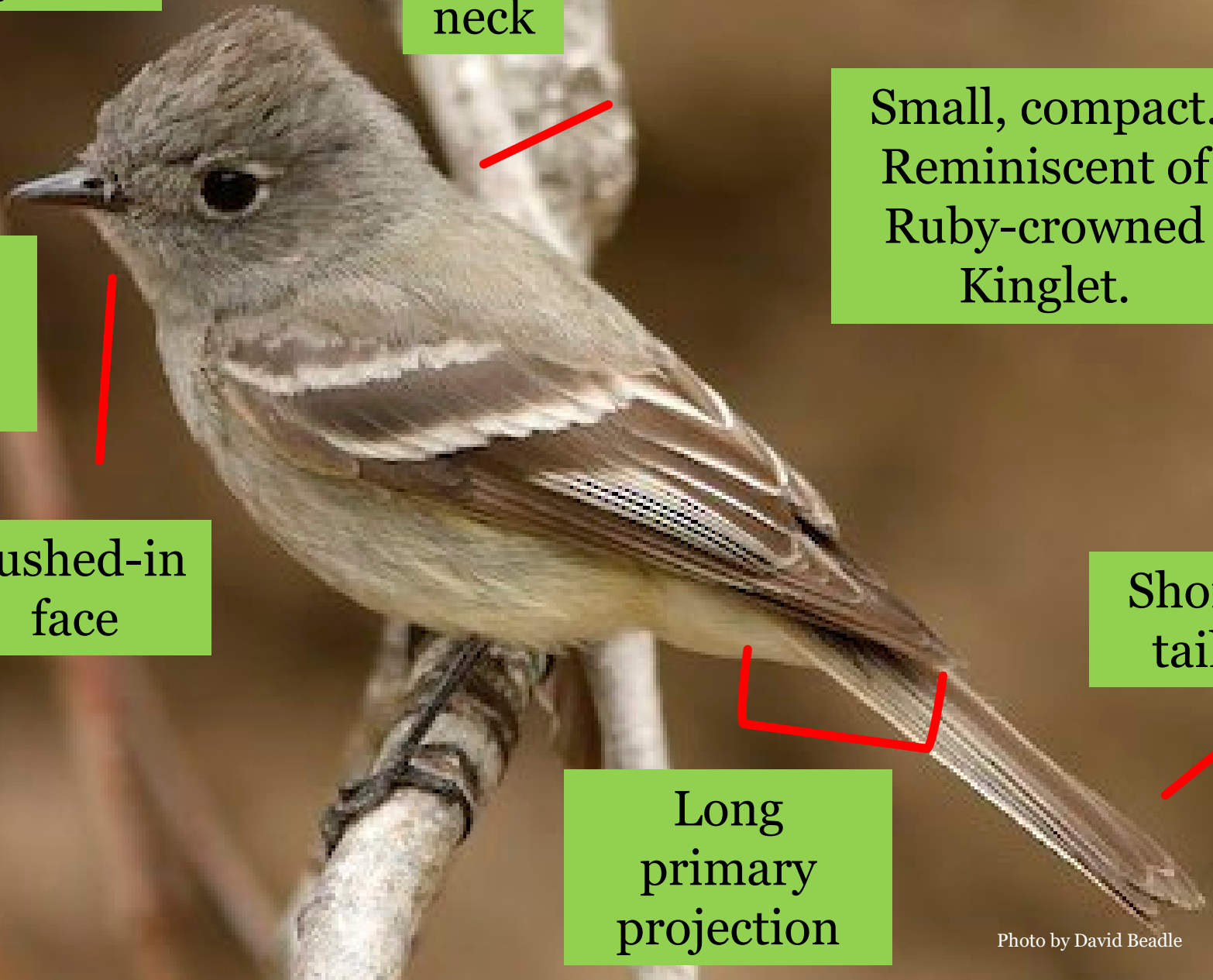
Very
short
bill

Pushed-in
face

Short
tail

Long
primary
projection

Photo by David Beadle



“PUSHED-IN FACE”

Pushed-in

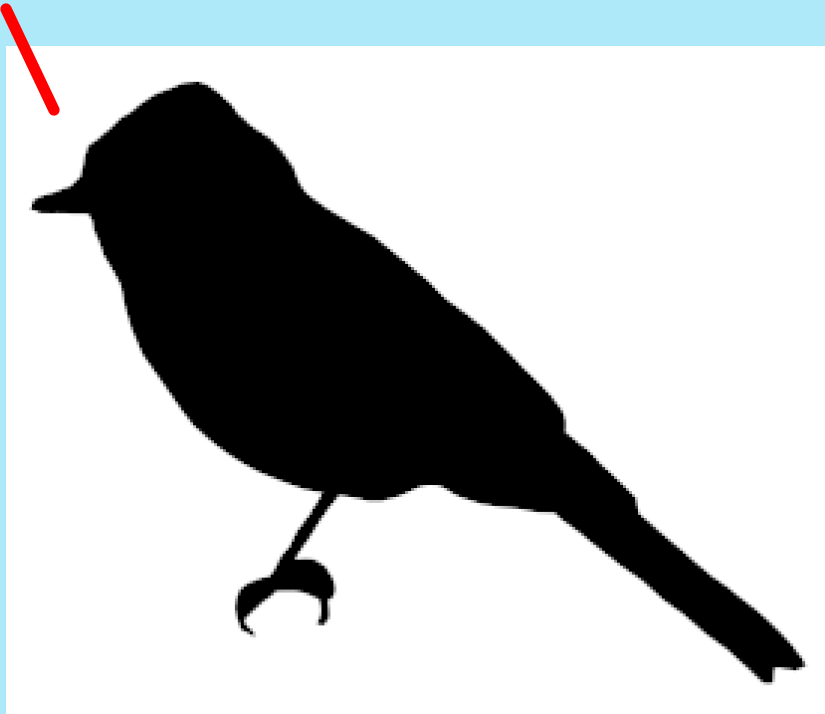


Photo by David Beadle

Hammond's

Stretched out

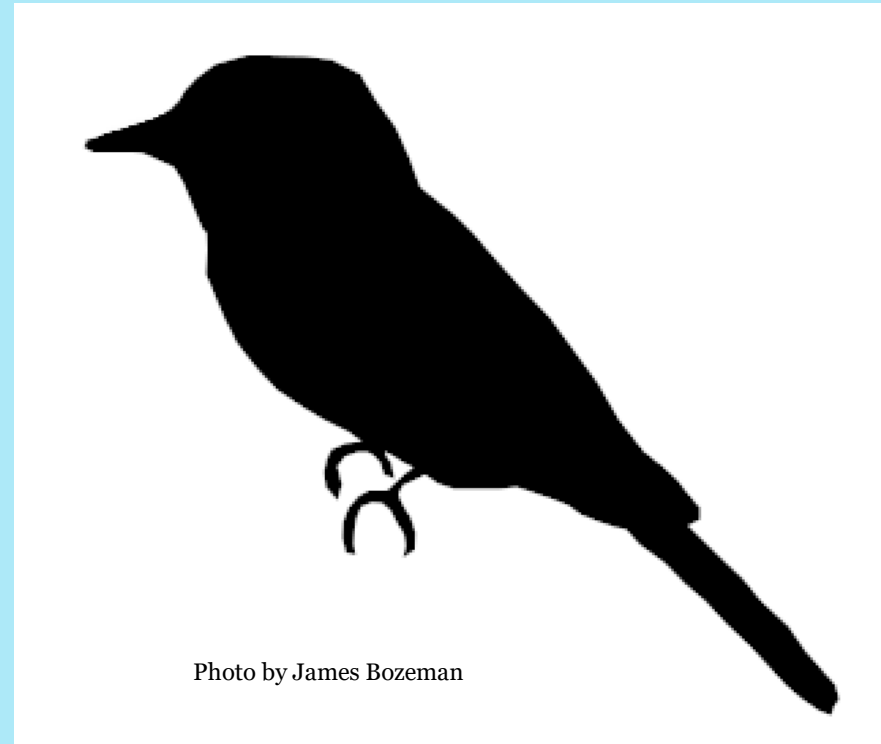


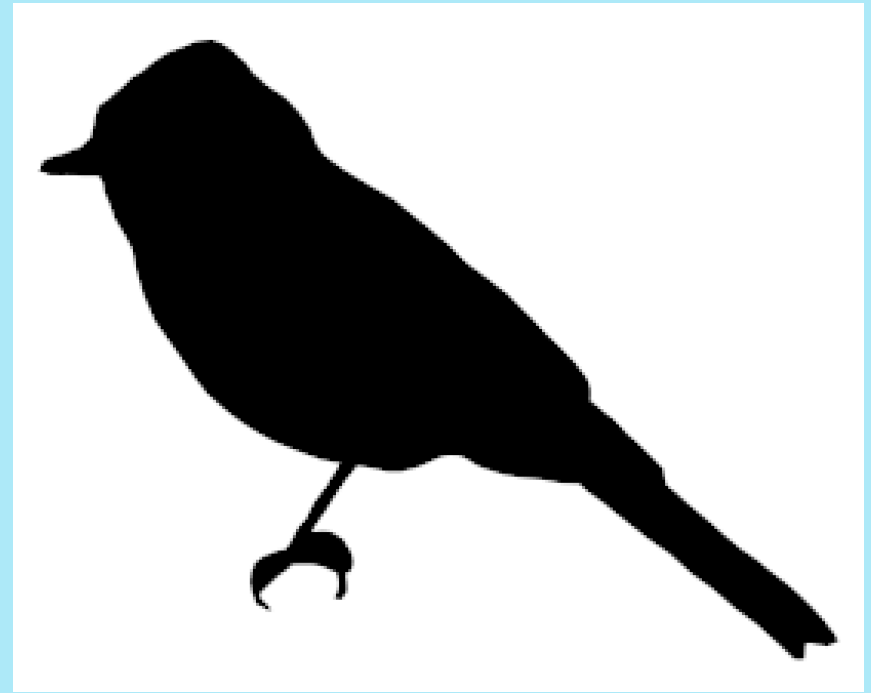
Photo by James Bozeman

Acadian

HAMMOND'S



Photo by David Beadle



Hammond's

Hammond's

HAMMONDS

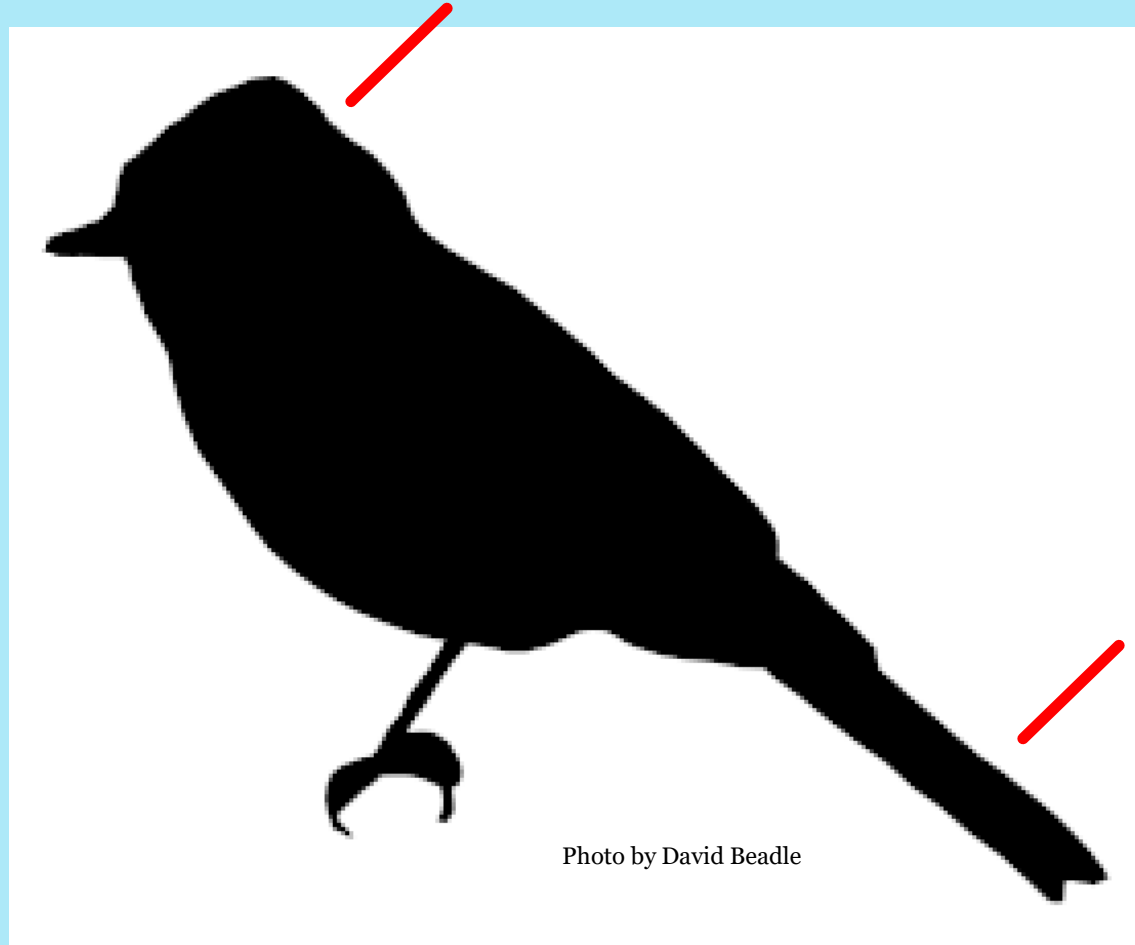
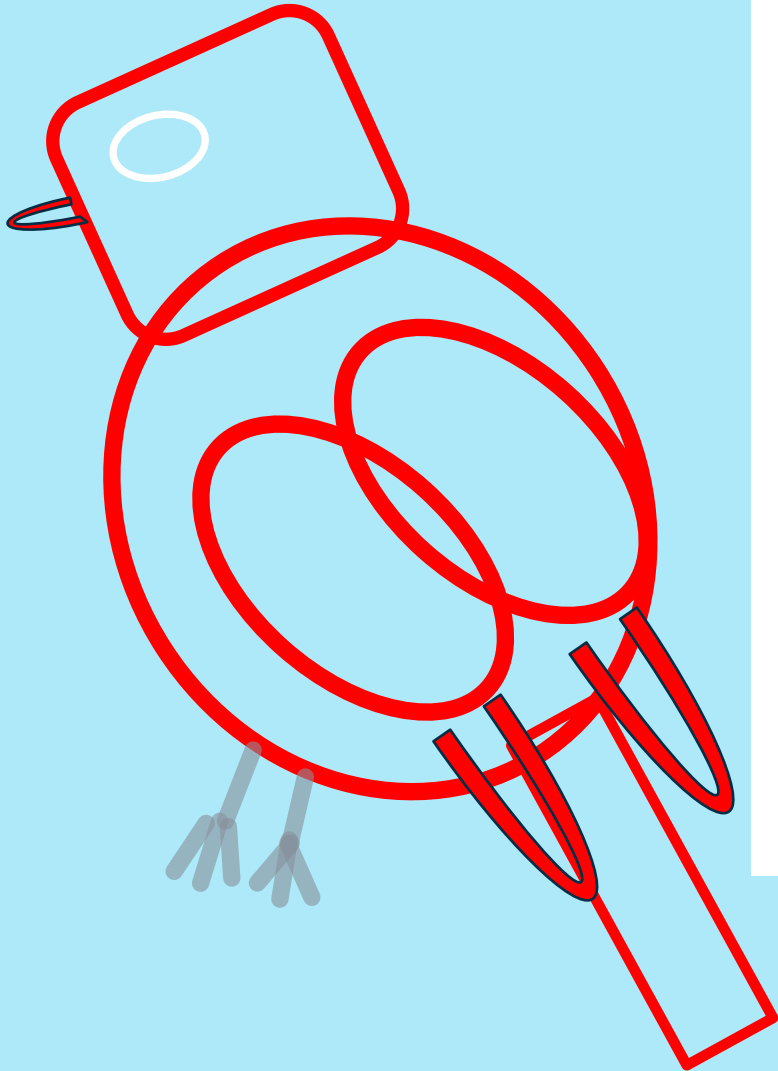


Photo by David Beadle

HAMMOND'S

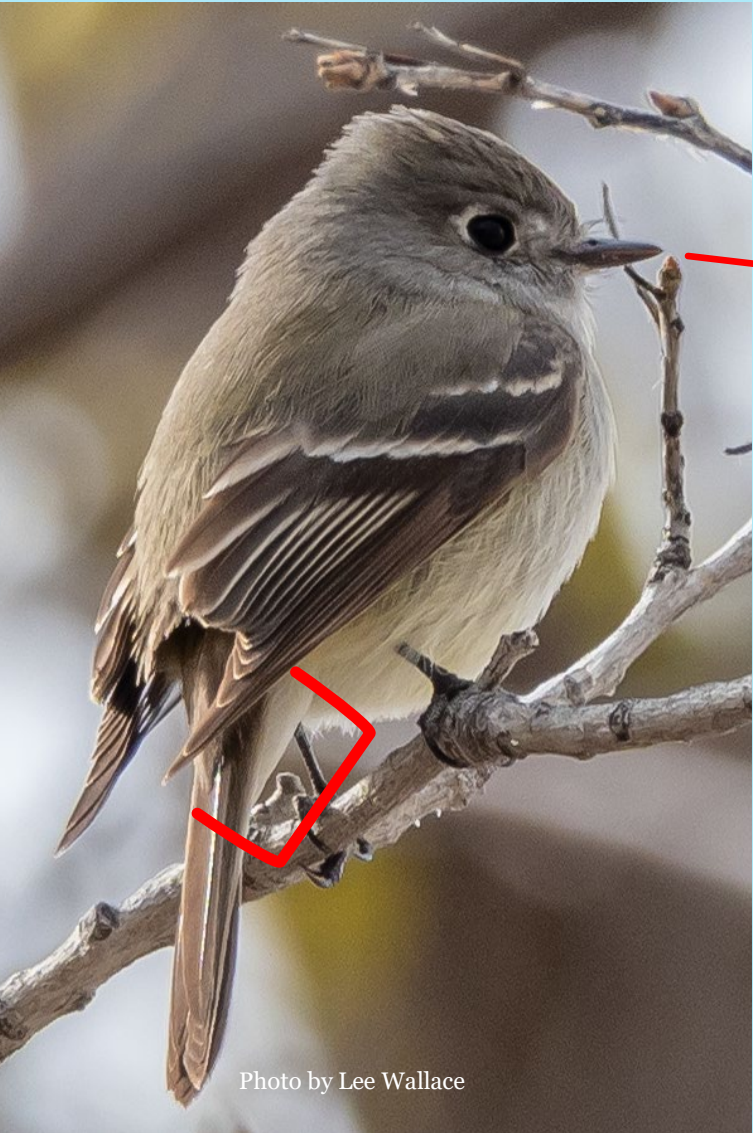


Photo by Lee Wallace



Photo by Lee Wallace

LEAST VS HAMMOND'S



Photo by Henry Trombley

Least



Photo by David Beadle

Hammond's

LEAST VS HAMMOND'S



Photo by Henry Trombley

Least

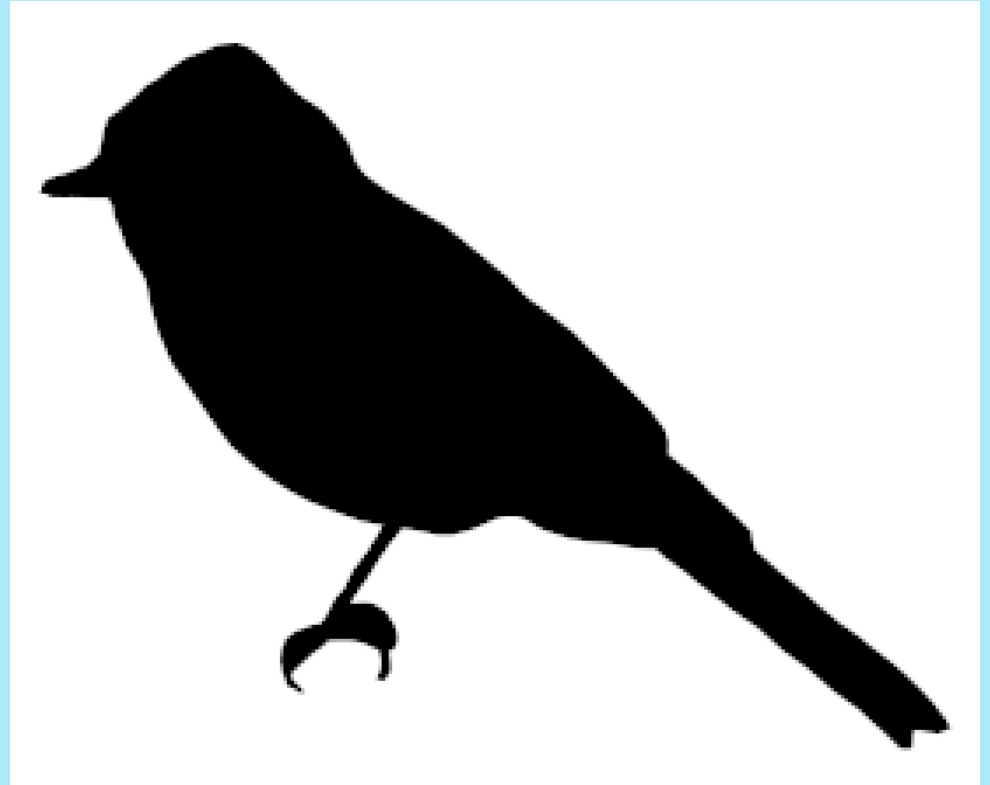


Photo by David Beadle

Hammond's

HAMMOND'S

<https://macaulaylibrary.org/asset/435455>



Photo by Louis Hoeniger



Photo by Darren Clarke



Photo by Jacob Drucker

Very active Empid. Quick perch changes, flicks tail frequently, often flicks wings.

A nervous, hyperactive look. **Ruby-crowned Kinglet?**

DUSKY
HEAD & BODY PROPORTIONS

DUSKY

Might be the most average looking Empid.

Medium-sized,
round to flat
head

Often identified by
elimination rather
than by its own
distinctive features.

Intermediate in size, shape, and
plumage between **Hammond's**
and **Gray**.



DUSKY



Photo by Cole Wild



Photo by Steve Summers

DUSKY



Photo by Richard Frey



Photo by Steve Mlodinow

DUSKY



Photo by Mike Nelson



Photo by Myron Gerhart

LEAST VS DUSKY



Photo by Henry Trombley

Least



Photo by Marya Moosman

Dusky

DUSKY



Least

Photo by Henry Trombley



Dusky

Photo by Marya Moosman

DUSKY



Photo by Ceredig Roberts



Photo by Karen Holland

DUSKY



Photo by Brian Daniels



Photo by Bob Lockett

WESTERN HEAD & BODY PROPORTIONS

“WESTERN”

- A classically built Empid; not long, not short.
- Burly chested.
- Less compact than Yellow-bellied.

Distinctly peaked at the rear of the crown.



WESTERN



Photo by Mark Chavez



Photo by Mark Chavez

A classically built Empid; not long, not short. Burly chest. Less compact than Yellow-bellied.

LEAST VS WESTERN



Photo by Henry Trombley

Least



Photo by Mark Chavez

Western

“WESTERN” VS “WESTERN”

Cordilleran



Photo by Tom Crabtree

Pacific-slope



Photo by Ken Simonite

“WESTERN” VS “WESTERN”

Cordilleran



Photo by Roger Reets

Pacific-slope



Photo by Annie McLoed

“WESTERN” VS “WESTERN”

Cordilleran



Pacific-slope



ACADIAN VS “WESTERN”



Photo by Oscar Wilhelmy

Acadian



“Western”

Photo by Annie McLoed

“Western”

ACADIAN VS “WESTERN”

Acadian



“TRAILS” VS “WESTERN”

“Trails”

“Western”



Photo by Ryan Sanderson



Photo by Tom Crabtree

YELLOW-BELLIED VS “WESTERN”

Yellow-bellied



“Western”



YELLOW-BELLIED VS “WESTERN”

Normal ranges barely overlap (Canada),
but strays do turn up. Call notes are the
best distinction.



“Western”

YELLOW-BELLIED VS “WESTERN”



Photo by Brian Sullivan

Yellow-bellied



Photo by Mark Chavez

“Western”

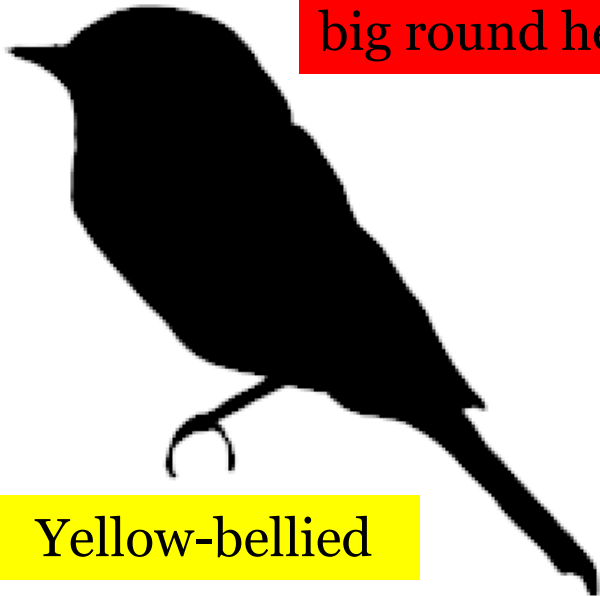
EASTERN EMPIDS



Least

Photo by Henry Trombley

Little guys with
big round heads



Yellow-bellied

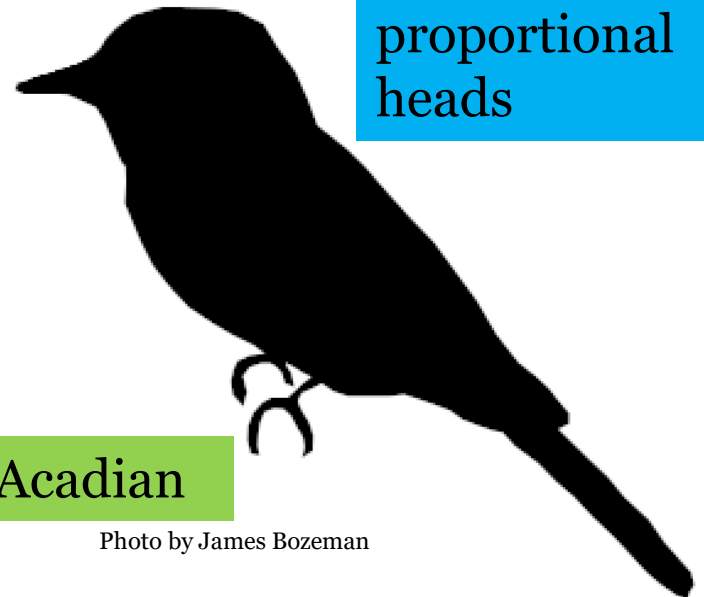
Photo by Brian Sullivan



“Trails”

Photo by Scott Stafford

Long guys with
proportional
heads



Acadian

Photo by James Bozeman

WESTERN EMPIDS

Gray



Photo by Matthew Grube

Dusky

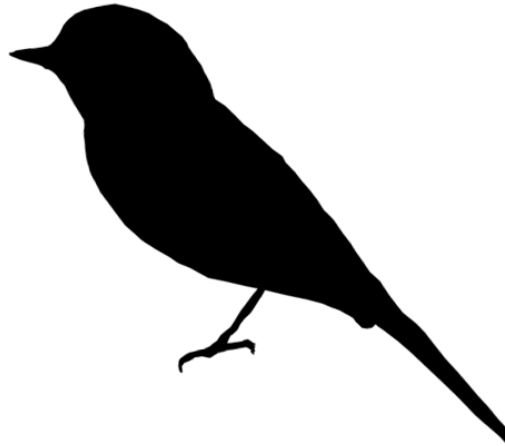


Photo by Marya Moosman

Hammond's



Photo by David Beadle

Willow



Photo by Scott Stafford

Western



Photo by Mark Chavez

Buff-breasted

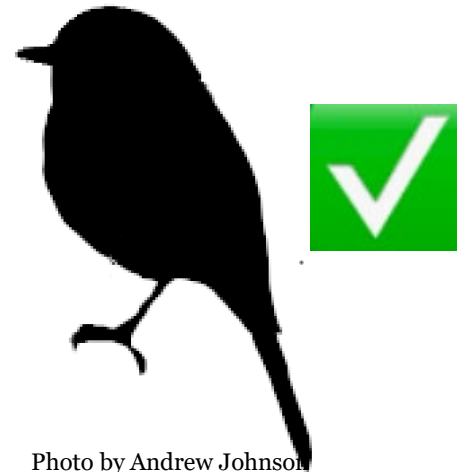


Photo by Andrew Johnson

WING PROPORTIONS

WING PROPORTIONS

Primary projection

Short

Medium

Long

Wing length

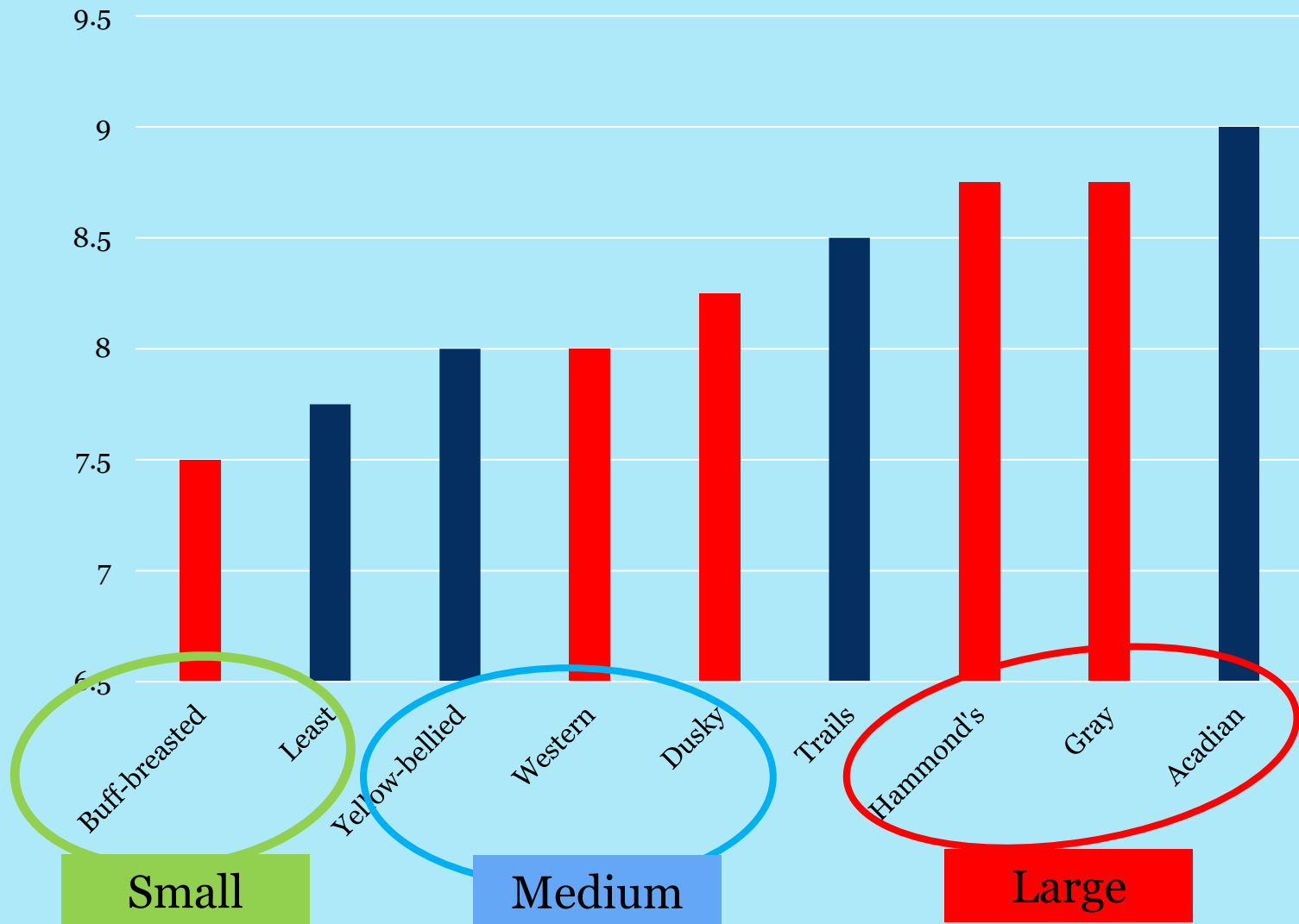
Short

Medium

Long

EMPIDONAX WINGSPAN (IN)

(FROM SIBLEY)



EMPID TOPOGRAPHY

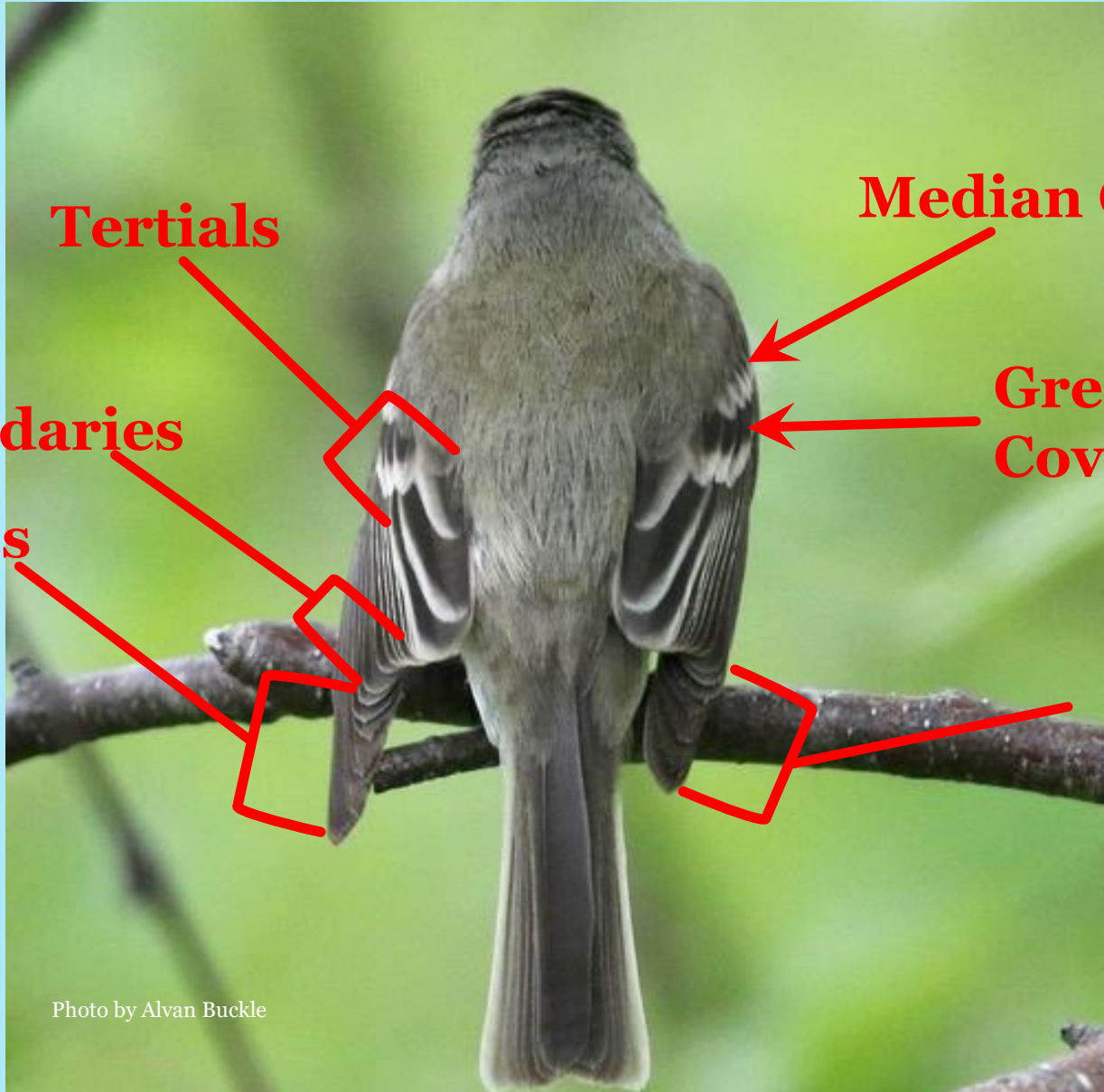


Photo by Alvan Buckle

Tertials

Median Coverts

Secondaries

Greater Coverts

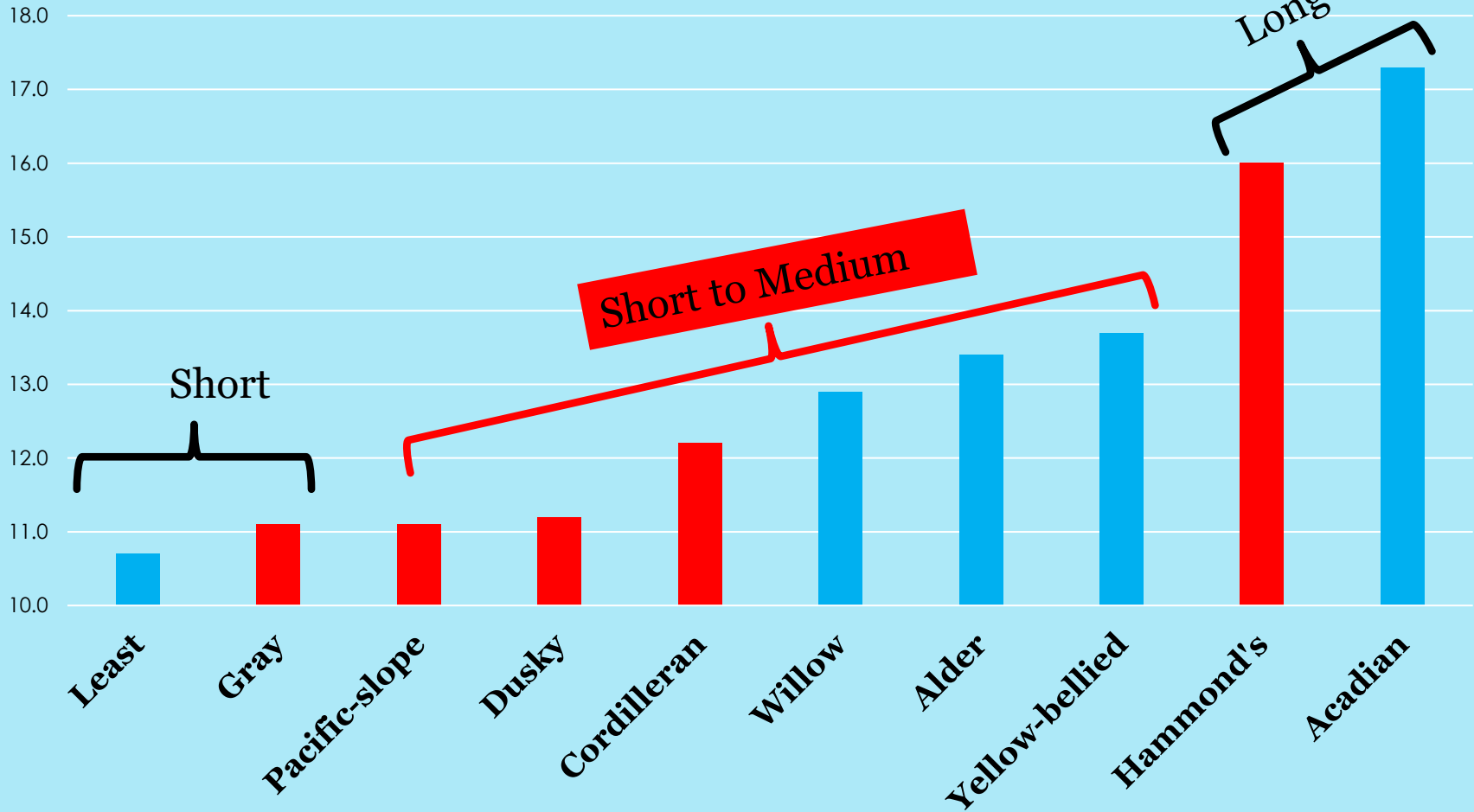
Primaries

Primary Projection

PRIMARY PROJECTION



Empid Primary Projection (mm)



Eastern Empid

Western Empid

Data from: *The Ratio Effect*, by Forrest Rowland, *Birding Magazine*, March 2009

INCREASING PRIMARY PROJECTION

Least

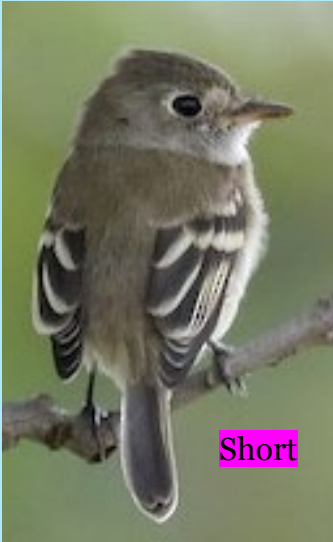
Yellow-bellied

“Trails”

Acadian



Eastern
Wood-pewee



Short

Photo by Justin Watts



Short
to
Medium

Photo by Steve Tucker



Medium

Photo by Joe Wing



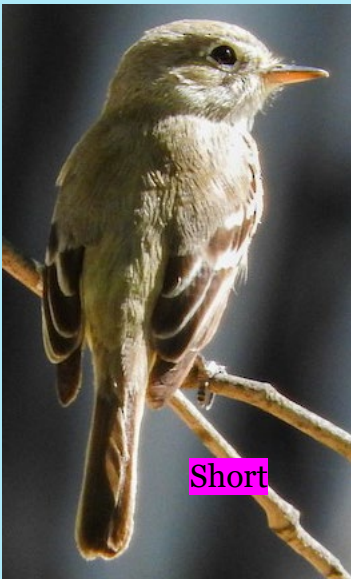
Long

Photo by Mary Beth Stowe



Very
Long

Photo by George Ho



Short

Photo by Charity Hagen

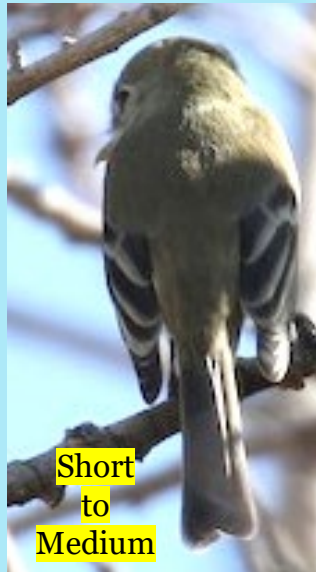
Gray



Short
to
Medium

Photo by Garrett Lau

Western



Short
to
Medium

Photo by Arnold Skei

Dusky



Long

Photo by Bob Neiman

Hammond's

INCREASING PRIMARY PROJECTION

Least



Photo by Justin Watts

Yellow-bellied



Photo by Steve Tucker

"Trails"



Photo by Joe Wing

Acadian



Photo by Mary Beth Stowe



Photo by Charity Hagen

Gray



Photo by Garrett Lau

"Western"



Photo by Arnold Skei

Dusky



Photo by Bob Neiman

Hammond's

HAMMOND'S



Photo by Jeffrey E. Patterson

Long



Photo by Lee Wallace

GRAY

Short

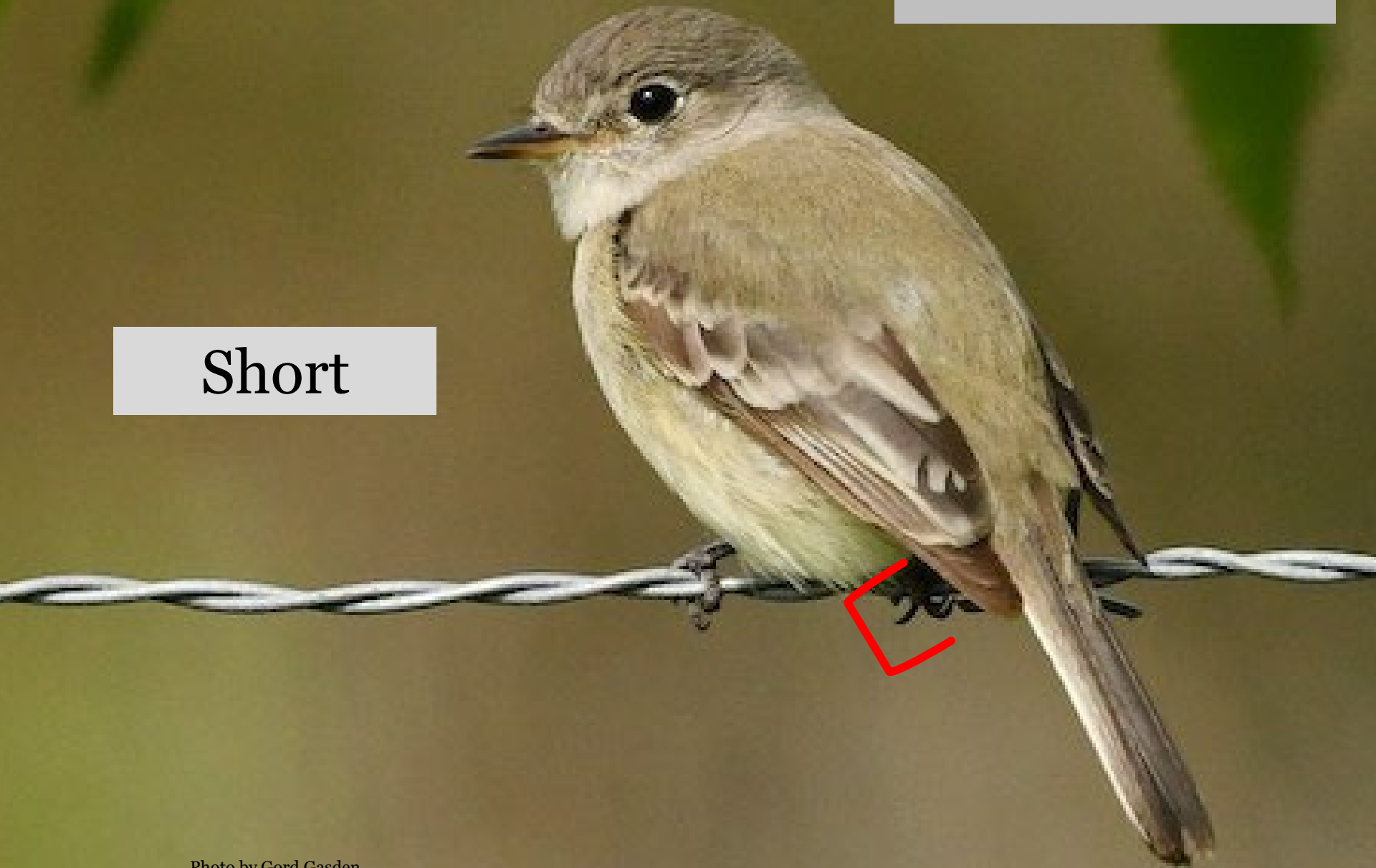


Photo by Gord Gasden

WESTERN

Medium



Photo by Ann Vaughn



Photo by Garrett Lau

DUSKY



Photo by Carl Bendorf

**Short to
Medium**



Photo by Nick Swan

TAIL PROPORTIONS & SHAPE

TAIL PROPORTIONS & SHAPE

1. Tail Proportions

a) Length (affected by primary projection)

i. Short

ii. Long

b) Width

i. Wide

ii. Narrow

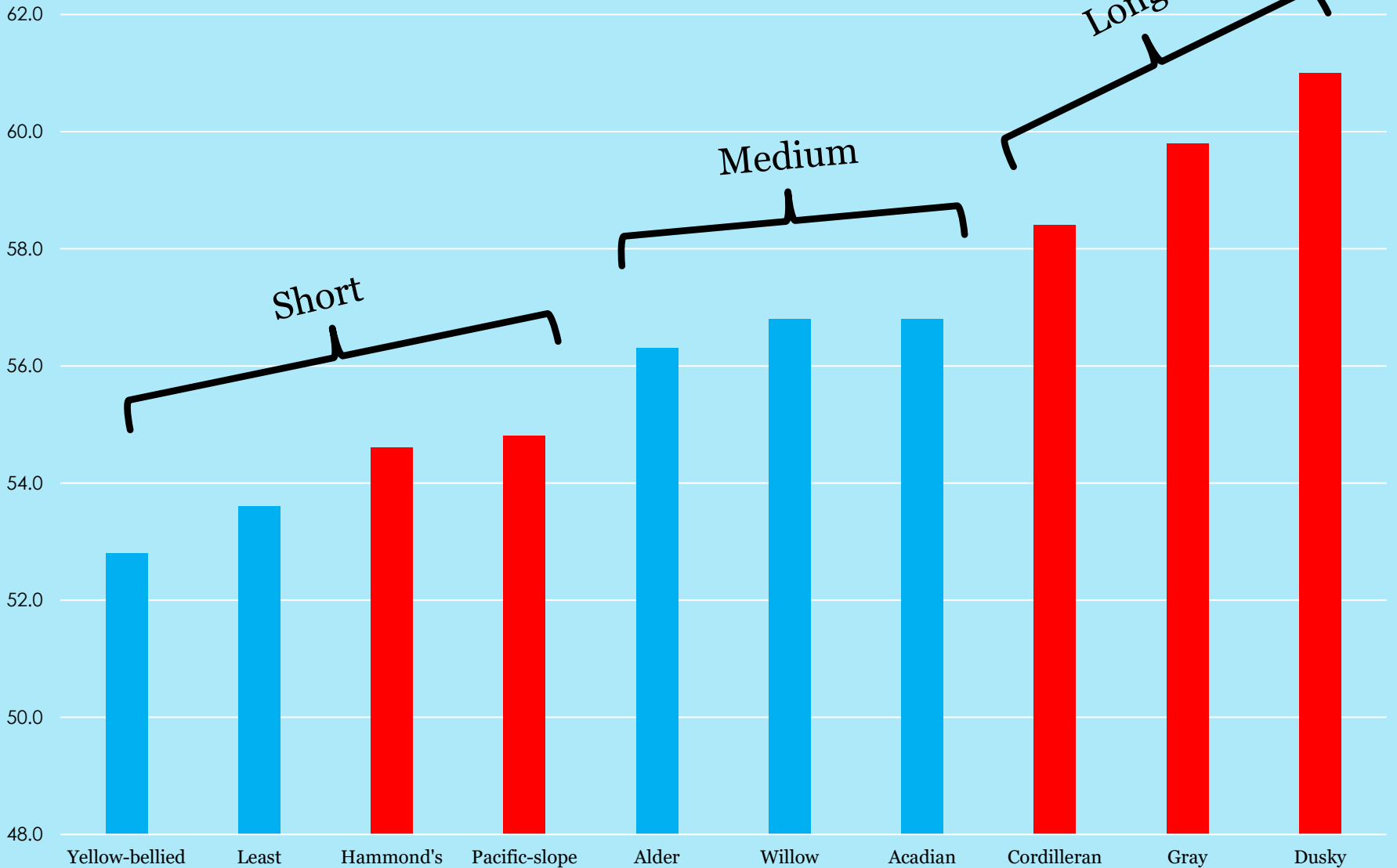
c) Shape

a) Parallel sides

b) Tapered at base

d) Tail notch

Empid Tail Length (mm)



Eastern Empid

Western Empid

Data from: *The Ratio Effect*, by Forrest Rowland, *Birding Magazine*, March 2009

WESTERN EMPID TAILS

Short

Medium

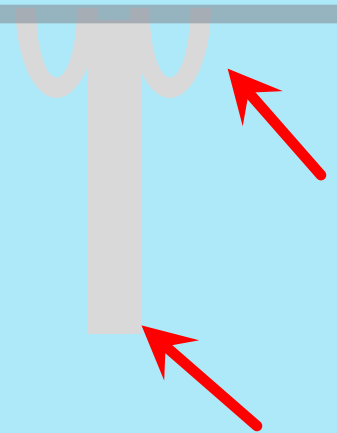
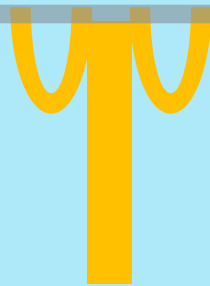
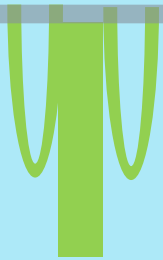
Long

Hammond's

Western

Dusky

Gray



Proportionately short, slightly notched, tail -- the tail is actually of medium length, but because the primary projection is so long, tail appears short.

Fairly long, narrow tail. May appear slightly long-tailed for its size.

Rather long, narrow, square or notched. Appears long-tailed -- length is accentuated because it is visibly constricted at the base.

Noticeably long-tailed.

WESTERN EMPID TAILS

Increasing Tail Length

Hammond's



Photo by Ad Konigs

Western



Photo by Linda Liag

Dusky



Photo by Mark Chavez

Gray



Photo by Ad Konigs

Proportionately short, slightly notched, tail -- the tail is actually of medium length, but because the primary projection is so long, tail appears short.

Fairly long, narrow tail. May appear slightly long-tailed for its size.

Rather long, narrow, square or notched. Appears long-tailed -- length is accentuated because it is visibly constricted at the base.

Noticeably long-tailed.

TAIL PROPORTIONS – LEAST



Photo by Kyle Tansley

Short, narrow tail.
Reminiscent of a
popsicle stick.



Photo by Ian Davies

TAIL PROPORTIONS

Gray



Photo by Ryan O'Donnell

Noticeably long-tailed.



Photo by Troy Hibbets

Hammond's

TAIL PROPORTIONS

Photo by Ad Konigs



Tail Proportions: Short, slightly notched, tail -- tail is actually of medium length, but because the primary projection is so pronounced, tail appears short. Tail has grayish edges.



Photo by Mark Scheel

Dusky

TAIL PROPORTIONS

Photo by Van Remson



Rather long, narrow, square or notched. Appears long-tailed -- length is accentuated because it is visibly constricted at the base. Slightly longer than Hammond's.



Photo by Bernard Tremblay

“Western”

TAIL PROPORTIONS



Photo by Liam Singh

Fairly long, narrow tail. May appear slightly long-tailed for its size. Tail longer than Yellow-bellied.



Photo by Don Vickers

DA BILL

THE EMPID CHECKLIST

FIELD MARKS (ATTRIBUTES)

EMPIDONAX CHECKLIST:				
#	ATTRIBUTE			Rank
1	Structure	Wings	Wing proportions (wing length & primary projection)	A
2			Shape of primary tips	
3		Tail	Tail proportions & shape	B
4		Bill	Bill size, shape & color(s)	A
5		Head	Head shape & proportion to body	A
6			Crown of head (peak, crest)	
7			Forehead slope	
8		Body	Body shape	A
9	Plumage	Eye-ring	A	
10		Wing-bars		
11		Throat color & contrast	B	
12		Color of upper parts	B	
13		Color of lower parts	B	
14		Molt		
15	Other	Habitat/Micro-habitat		
16		Behavior		
17		Song	A'	
18		Call	B	
19		Migration		
20		Similar species		

BILL

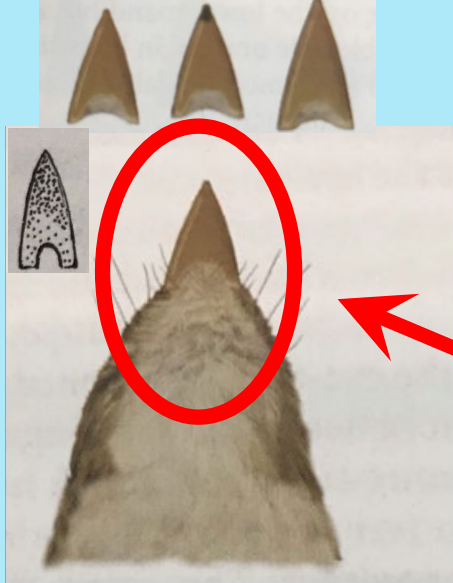
LOWER MANDIBLE – **SIZE, COLOR, SHAPE**



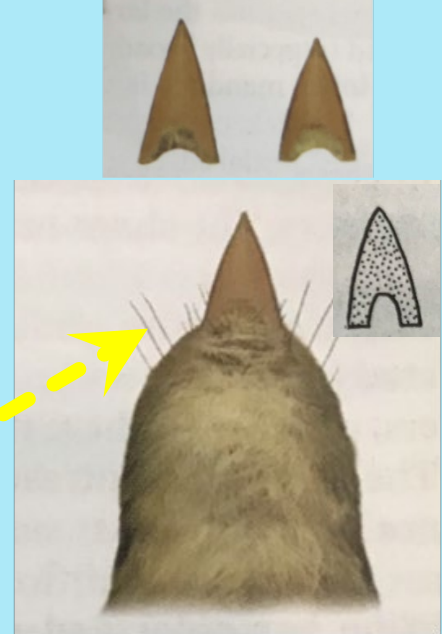
Hammonds

Photo by Jon Isocoff

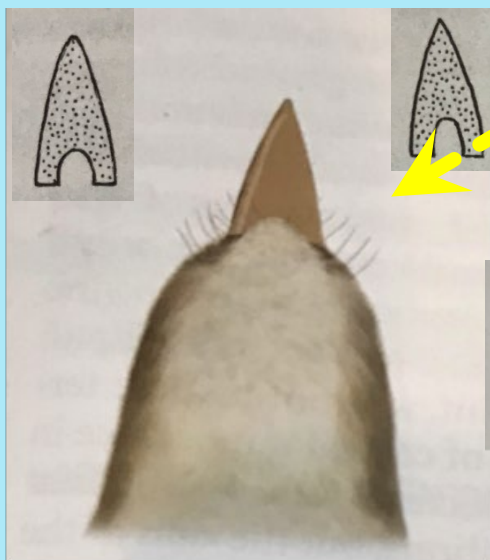
EASTERN EMPIDS BILLS



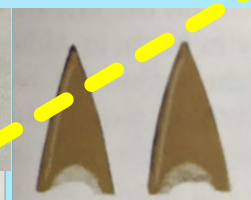
Least



Yellow-bellied



Willow/Alder



Alder



Willow

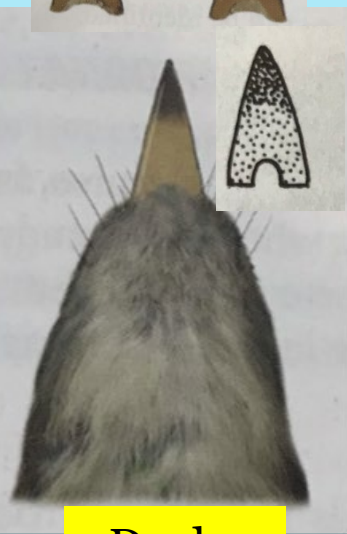
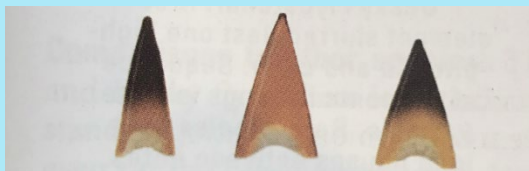


Acadian

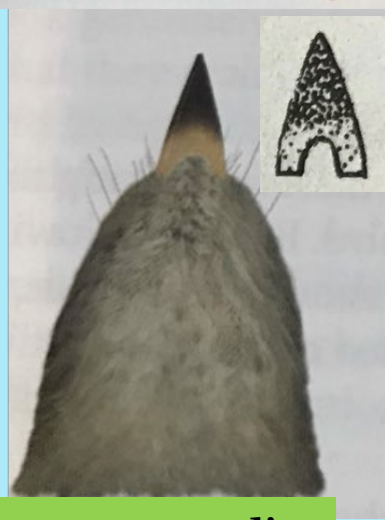
Illustrations from:
Birding in the American West
Zimmer, Kevin J., 2000

All photos from:
Kaufman Field Guide to Advanced Birding
Understanding What you See and Hear
Kaufman, Kenn, 2011

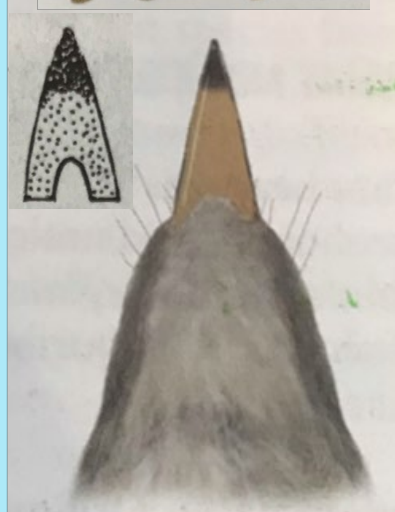
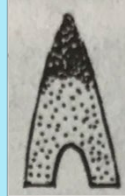
WESTERN EMPID BILLS (REFERENCE)



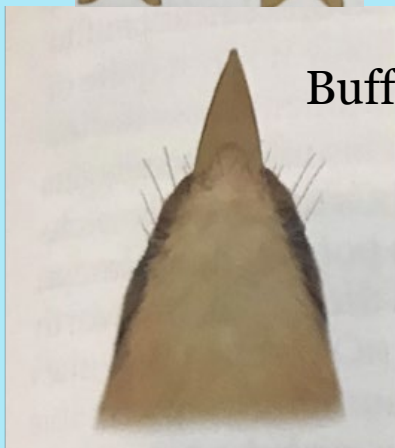
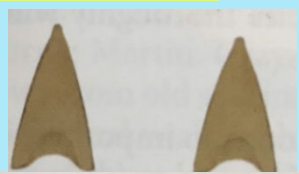
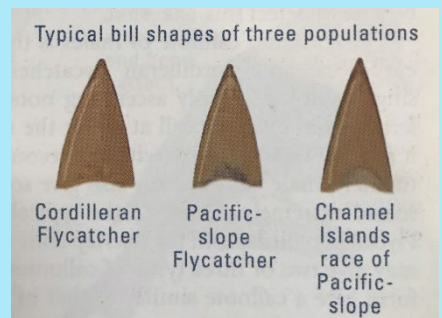
Dusky



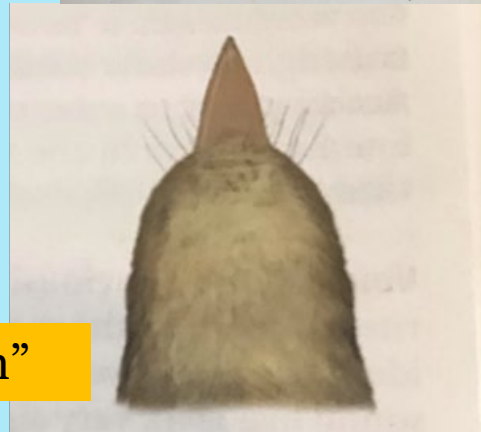
Hammond's



Gray



Buff-breasted



"Western"

Illustrations from:
Birding in the American West
Zimmer, Kevin J., 2000

All photos from:
Kaufman Field Guide to Advanced Birding
Understanding What you See and Hear
Kaufman, Kenn, 2011

WESTERN EMPID BILLS

All photos from:
Kaufman Field Guide to Advanced Birding
Understanding What you See and Hear
Kaufman, Kenn, 2011

INCREASING BILL SIZE

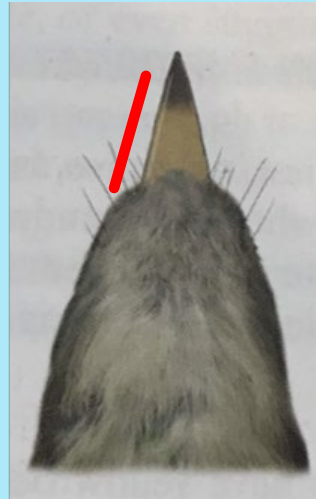


Least

Hammond's

Narrow, straight-sided, very short.
(Smallest bill of any Empid).

~ 2/3 dark, fading to dull dusky yellow or pinkish.



Dusky

Fairly thin, medium sized.

Thin base.

Mostly yellowish orange, dusky tip.

Slightly longer than **Hammond's**.

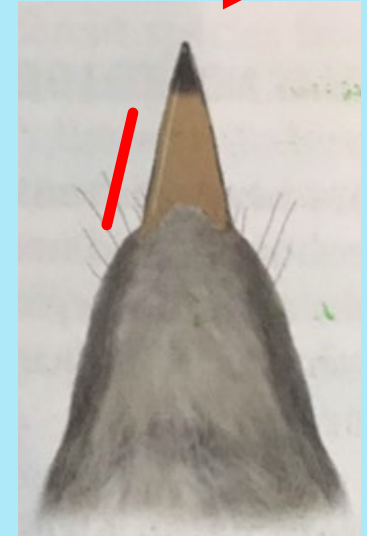
Yellow-bellied



"Western"

Big, wide base

Appears triangular
Entirely & conspicuously yellow-orange.



Acadian

Gray

Long, straight-sided, narrow (longest of any Empid)

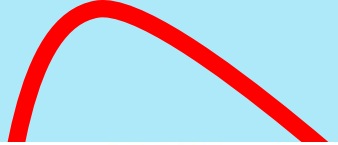
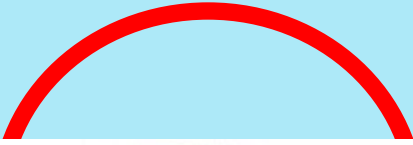
Narrower than **Acadian** or "**Trails**").

Mostly pale with a small well-defined blackish tip.

"Trails"

CROWN & FOREHEAD SHAPE

CROWN SHAPE

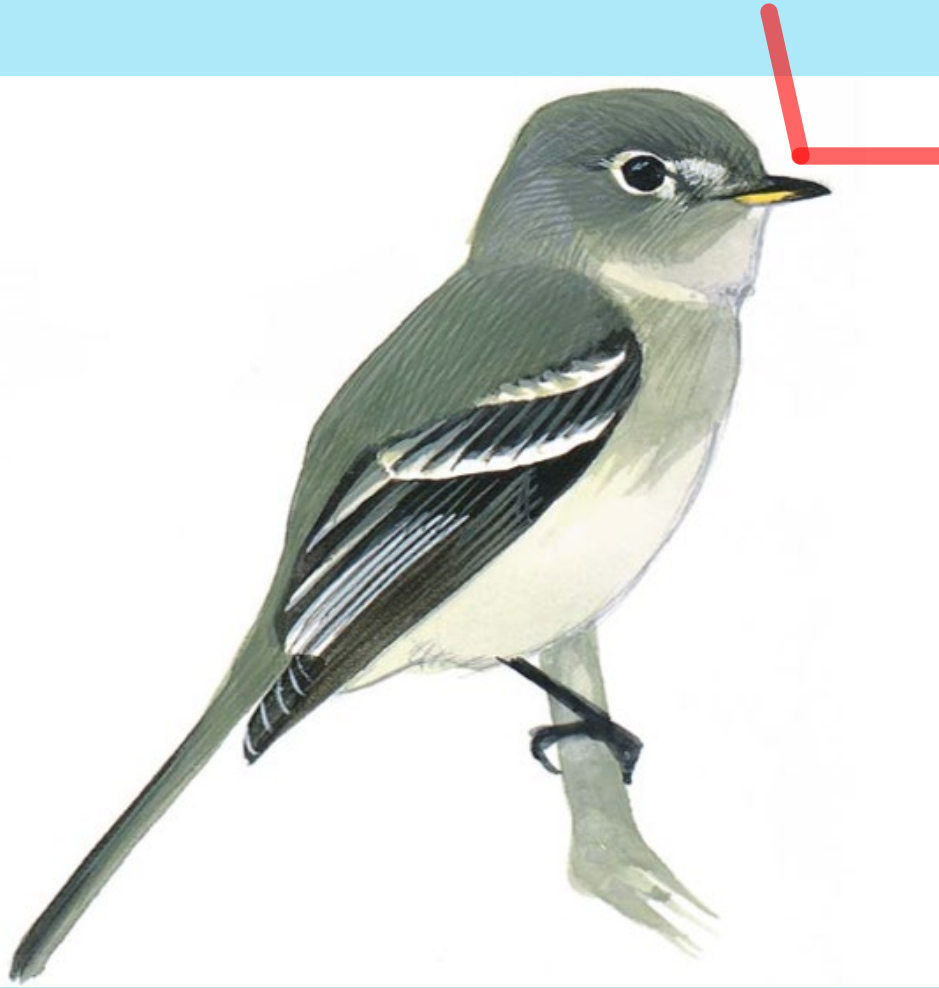


Rounded Crown



Rear Peaked Crown

FOREHEAD ANGLE



Steep Forehead



Flat Forehead

Least

CROWN & FOREHEAD



Photo by Logan Smith

Crown Shape: Roundish crown.

Forehead Angle: Steep forehead.

CROWN & FOREHEAD

Gray

Forehead Angle: Moderate



Photo by Ryan O'Donnell

Crown Shape: Usually looks smoothly rounded.



Photo by Troy Hibbets

Hammond's

CROWN & FOREHEAD

Photo by Ad Konigs



Crown Shape: Slightly peaked.

Forehead Angle: Very steep.



Photo by Mark Scheel

Dusky

CROWN & FOREHEAD

Photo by Van Remson



Crown Shape: Round-headed, even flat-headed. Sometimes slightly bushy, or square-crested.

Forehead Angle: Flat to moderate.



Photo by Paul Suchanek

“Western”

CROWN & FOREHEAD

Crown Shape: Distinctly peaked.



Forehead Angle: Flat to moderate.



WESTERN EMPIDS: ONE MORE LOOK

Gray



Photo by Kalin Ocana

Hammond's



Photo by Ed Thomas

Dusky

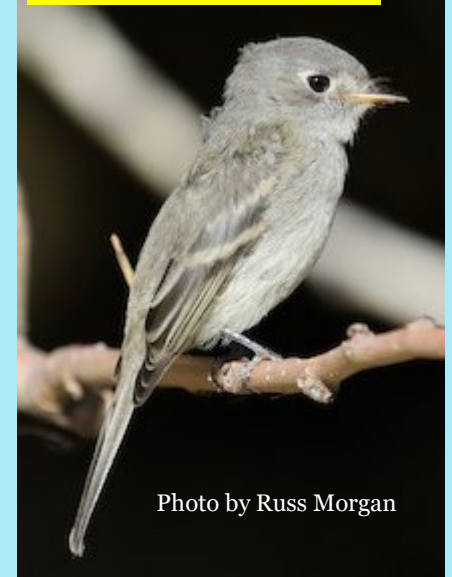


Photo by Russ Morgan

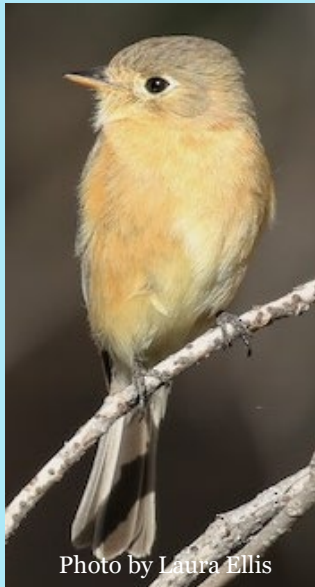


Photo by Laura Ellis

Buff-breasted



Photo by Ethan Denton

Western

WESTERN EMPIDS

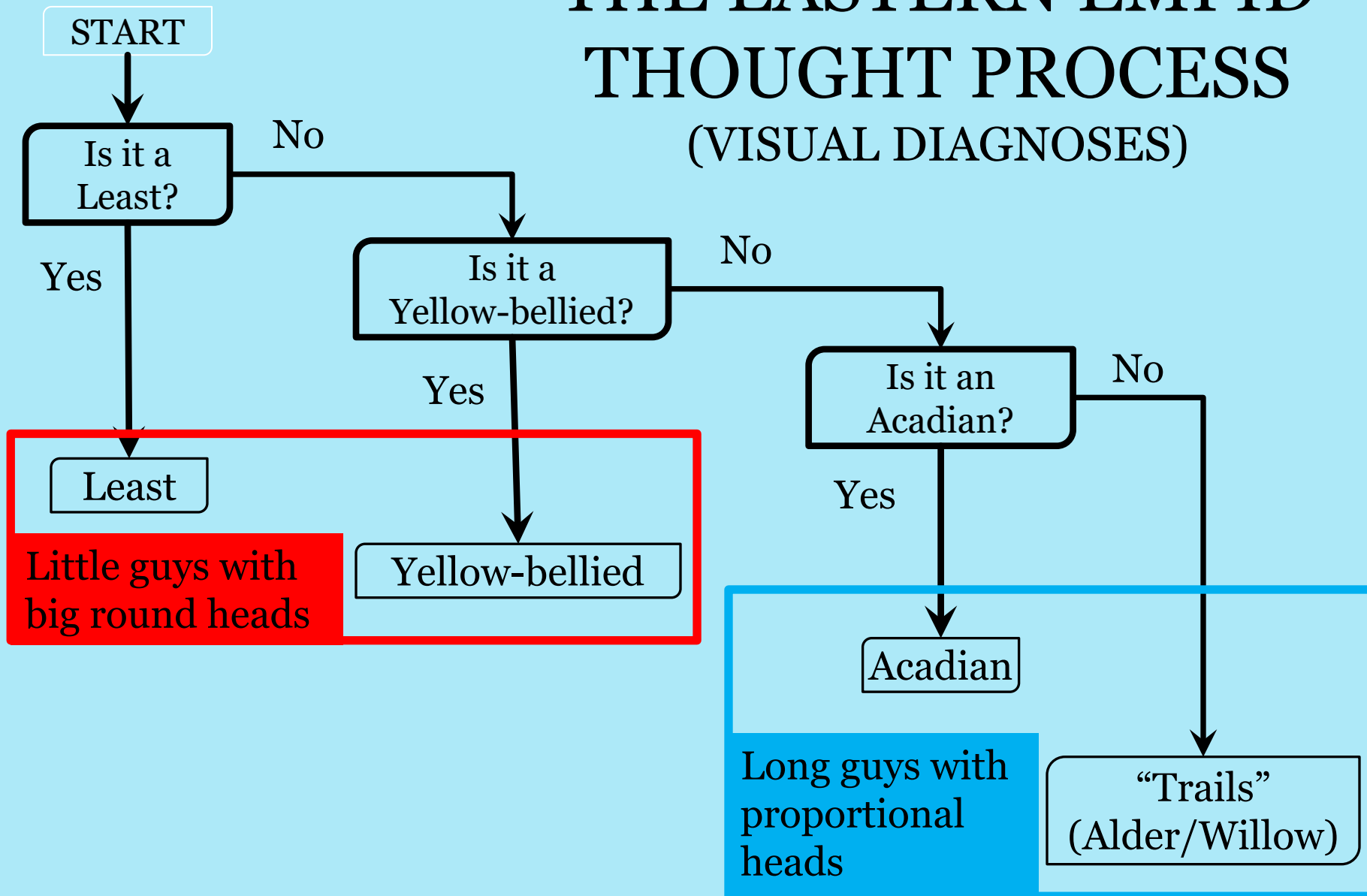
MOVIE LINKS

- 1 Hammond's https://www.allaboutbirds.org/guide/Hammonds_Flycatcher/sounds
<https://macaulaylibrary.org/asset/435455>
- 2 Gray <https://www.youtube.com/watch?v=39Yl98KWpnU>
- 3 Dusky
- 4 Western
- 6 Buff-breasted

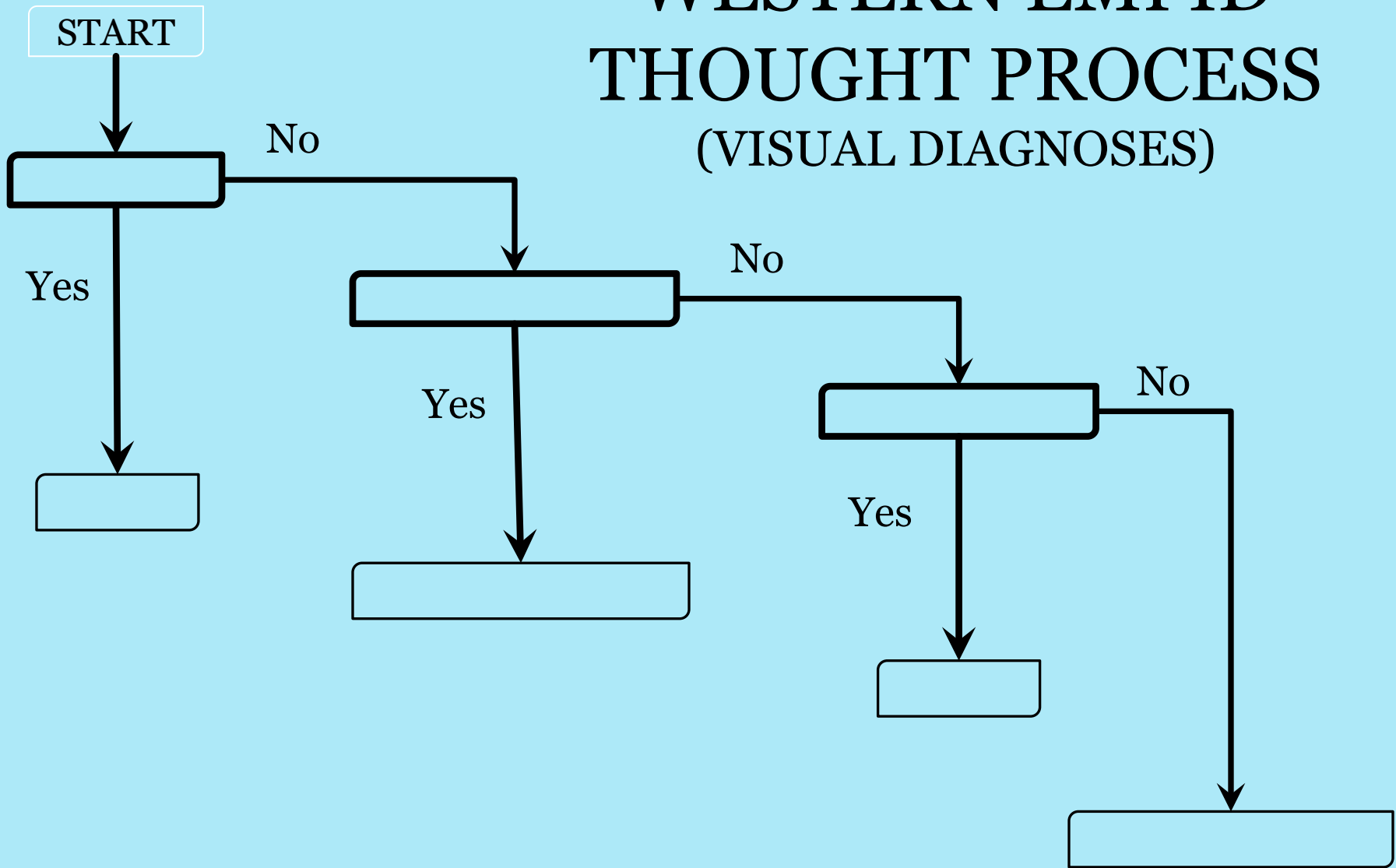
THE EMPID GAME PLAN

- 1) Bird at the right time
- 2) Hope for vocalizations
 - a) Record on phone
- 3) Observe as long as possible
 - a) “Blue” field marks
 - b) “Tan” field marks
 - c) “Gray” field marks
- 4) Take photos if possible
- 5) Complete The Empid Checklist
- 6) Consult references
- 7) Join the conversation
 - a) Share photos
 - b) Discuss with peers

THE EASTERN EMPID THOUGHT PROCESS (VISUAL DIAGNOSES)



WESTERN EMPID THOUGHT PROCESS (VISUAL DIAGNOSES)



WESTERN EMPID *STRATEGERY*

▶ Breeding

- ▶ Start with distribution & range – breeding location.
- ▶ For any one location 1-4 Empids possible (generally).
- ▶ From 11, we will go down to 8
- ▶ From 8 down to 4 in the East & 4 in the West
 - ▶ (unless you're Canadian)
- ▶ Gray has distinctive tail wag.
- ▶ Song & call
- ▶ Elevation
- ▶ Habitat

▶ Migrants

- ▶ First think in terms of expected migrants for location
- ▶ Next vocalizations.
- ▶ Then structure.
- ▶ Then plumage.
- ▶ Get a pix if possible.