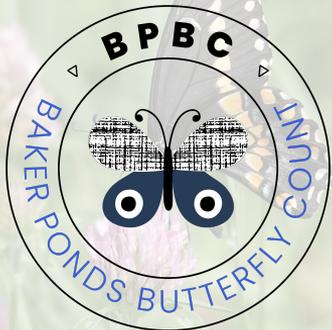
The background is a collage of various butterflies and flowers. In the top left, a brown and white moth-like butterfly is on a purple flower. In the top center, a grey butterfly with orange spots is on a purple flower. In the top right, a butterfly with orange and black spots is on a white flower. In the bottom left, a butterfly with blue and white spots is on a pink flower. In the bottom center, a butterfly with black and white stripes is on a green leaf. In the bottom right, a yellow and black butterfly is on a yellow flower.

Tips for Identification of New Hampshire Butterflies

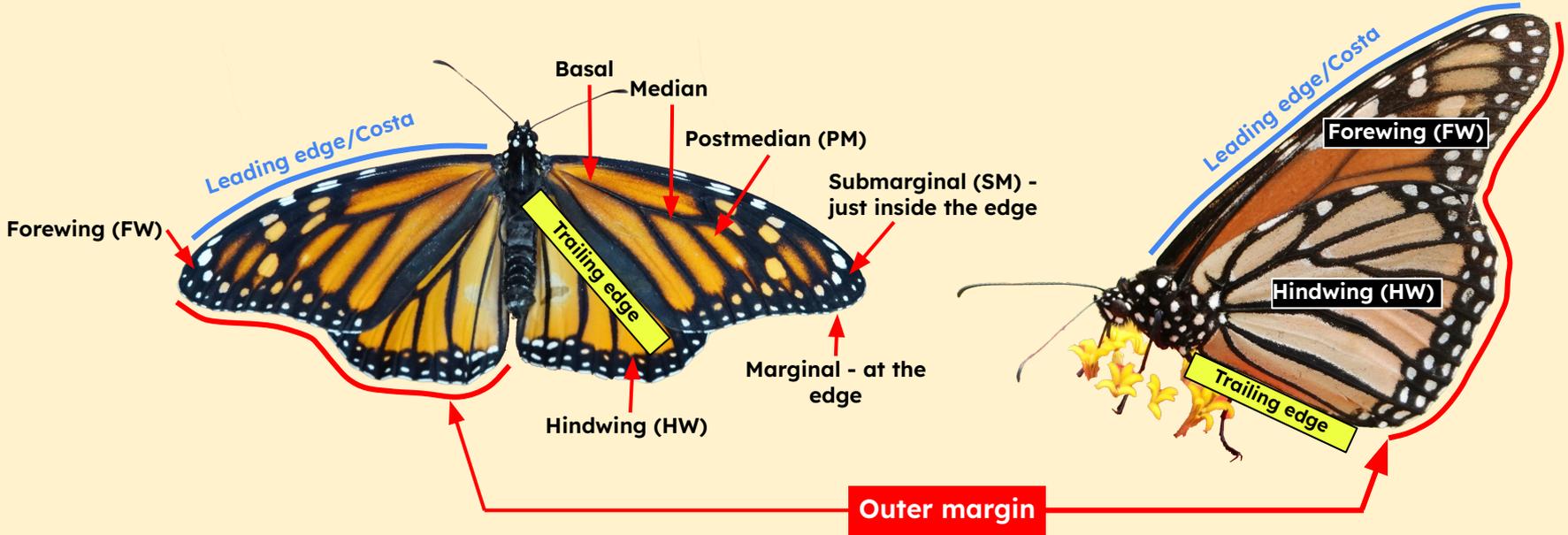


**Presented by George DeWolf,
Baker Ponds Butterfly Count Coordinator**

Butterfly Terminology

Upperside/Dorsal

Underside/Ventral



Butterfly Families

Order: Lepidoptera (Butterflies and Moths)

Superfamily: Papilionoidea (Butterflies)

Papilionidae (Swallowtails)

Canadian Tiger Swallowtail
Black Swallowtail
Spicebush Swallowtail
Eastern Tiger Swallowtail
Eastern Giant Swallowtail
Pipevine Swallowtail

Kaufman: pages 20-45
Swift: pages 16-35

Pieridae (Whites & Sulphurs)

Cabbage White
Clouded Sulphur
Orange Sulphur
Mustard White
Pink-edged Sulphur

Kaufman: pages 46-77
Swift: pages 36-73

Lycaenidae (Gossamer-winged)

American Copper
Eastern-tailed Blue
Eastern Pine Elfin
Gray Hairstreak
Silvery Blue
Banded Hairstreak
Karner Blue
Edwards' Hairstreak
Summer Azure
Northern Azure
Coral Hairstreak
Frosted Elfin
Striped Hairstreak
Harvester
Brown Elfin
Bog Copper
Henry's Elfin
White M Hairstreak
Acadian Hairstreak
Bronze Copper
Early Hairstreak
(26 total species obs on iNat)

Kaufman: pages 78-141
Swift: pages 74-145

Nymphalidae (Brushfoots)

Monarch
Red-spotted Admiral
Great Spangled Fritillary
Common Ringlet
American Lady
Atlantis Fritillary
Mourning Cloak
Common Wood Nymph
Pearl Crescent
Viceroy
Red Admiral
Northern Pearly-eye
Silver-bordered Fritillary
Little Wood Satyr
Northern Crescent
Green Comma
Aphrodite Fritillary
Painted Lady
Harris's Checkerspot
Eastern Comma
White Mountain Fritillary
(38 total species obs on iNat)

Kaufman: pages 152-253
Swift: pages 158-279

Hesperiidae (Skippers)

Silver-spotted Skipper
Dun Skipper
Long Dash
Hobomok Skipper
Peck's Skipper
Wild Indigo Duskywing
Northern Broken-dash
Tawny-edged Skipper
Least Skipper
European Skipper
Juvenal's Duskywing
Little Glassywing
Zabulon Skipper
Delaware Skipper
Arctic Skipper
Broad-winged Skipper
Pepper and Salt Skipper
Dreamy Duskywing
Indian Skipper
Northern Cloudywing
Horace's Duskywing
(37 total species obs on iNat)

Kaufman: pages 254-363
Swift: pages 280-399

Species listed here listed in order by number of iNaturalist observations in NH as of 4/20/2024 (most observed at top)

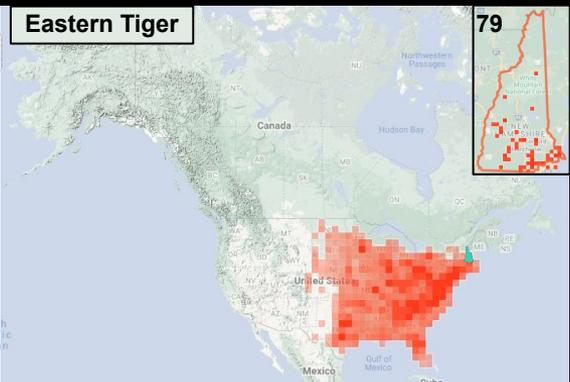
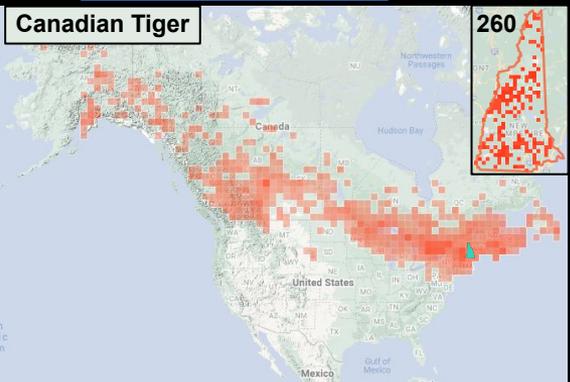
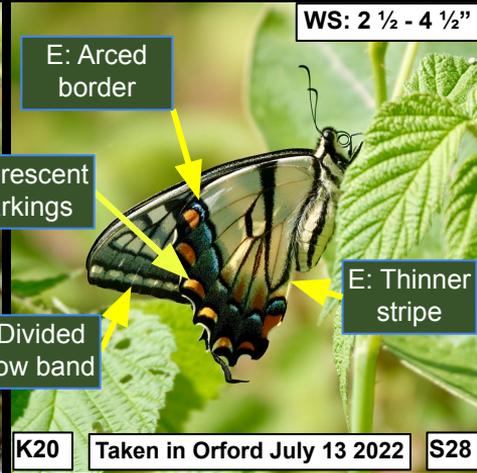
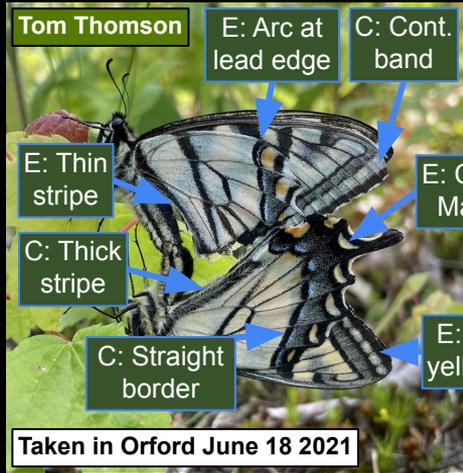
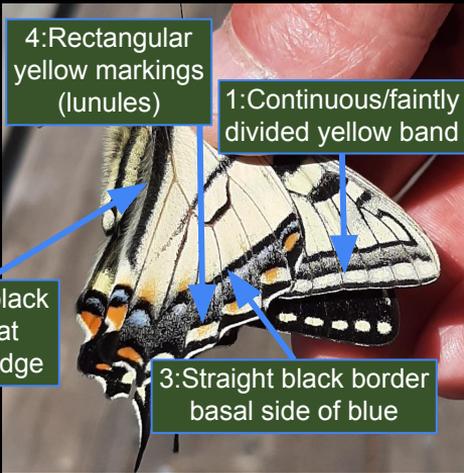
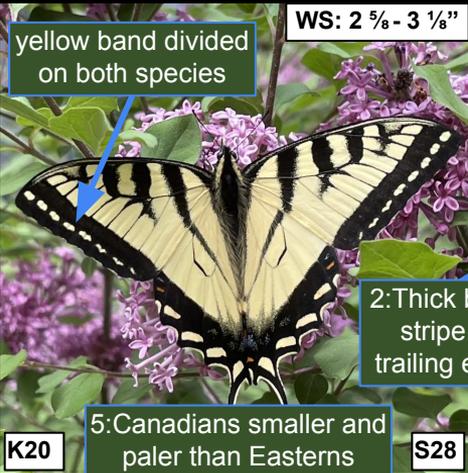
Is it a Canadian or Eastern Tiger Swallowtail?



Canadian Tiger Swallowtail

A confused pair

Eastern Tiger?



When: Canadians fly throughout NH in 1 brood from mid-May to mid July. The chances you see the 2-brood Eastern increases immensely the further past mid-July you get. Easterns fly end-Jun to early-Nov.

Where: open areas near deciduous and mixed forest edges

Canadian Tiger caterpillars feed on birch, aspen, and cherry. Easterns feed on these and other trees (willows, cottonwood, ash, basswood).

All swallowtails overwinter as chrysalids

Read Bryan Pfeiffer's web article [Taming the Tigers](#)

Is it a Canadian or Eastern Tiger Swallowtail? (summary)

Characteristic	Canadian Tiger	Eastern Tiger
Ventral FW SM band	Continuous, faintly divided	More boldly divided
Ventral HW trailing edge stripe	Thicker	Thinner
Ventral HW black border on distal side of SM blue near leading edge	Straight	Arced
Ventral HW SM lunules	More rectangular	Crescent-shaped
Size/Color	On average smaller (WS: 2 $\frac{5}{8}$ -3 $\frac{1}{8}$ ")/paler yellow. Rarely produce darker female form (Pipevine mimic). ¹	On average larger (WS: 2 $\frac{1}{2}$ - 4 $\frac{1}{2}$ ")/brighter yellow. Occasionally produce dark female form (only 1 obs. posted for NH (https://www.inaturalist.org/observations/186041855))
Flight Period/Broods	Mid-may thru mid-July in 1 brood	End-June thru early-November in 2 broods

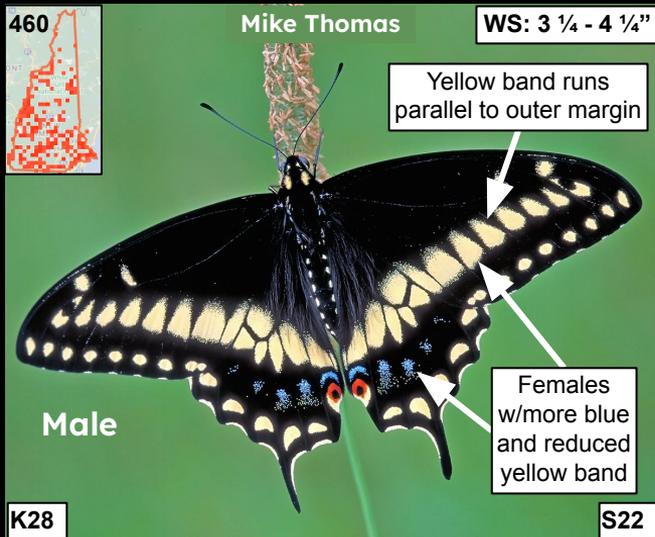


¹Cech, R. & Tudor, G. (2005). Butterflies of the East Coast. Princeton University Press.

The Black Swallowtails (dorsal)

Family: Papilionidae

Black Swallowtail



When: Flies throughout NH in 2 broods from May to early September

Where: fields, marshes, roadsides.

Caterpillars feed on plants in the Parsley family

Spicebush Swallowtail

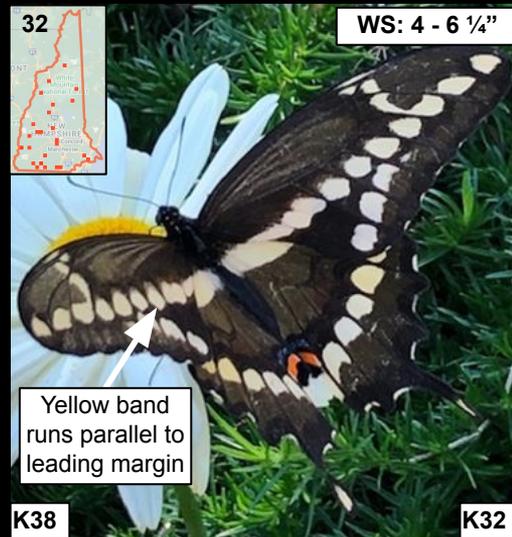


When: Flies mostly in southern NH in 2 broods from mid-May Through August

Where: Deciduous woods, fields, roadsides.

Caterpillars feed on Northern Spicebush found predominantly in southern NH

Eastern Giant Swallowtail



When: Flies mostly SW NH in 2 broods from late July to early Sept

Where: Near common prickly ash

Caterpillars feed on Common Prickly Ash in SW NH

All swallowtails overwinter as chrysalids

The Black Swallowtails (ventral)

Black Swallowtail

Mike Thomas

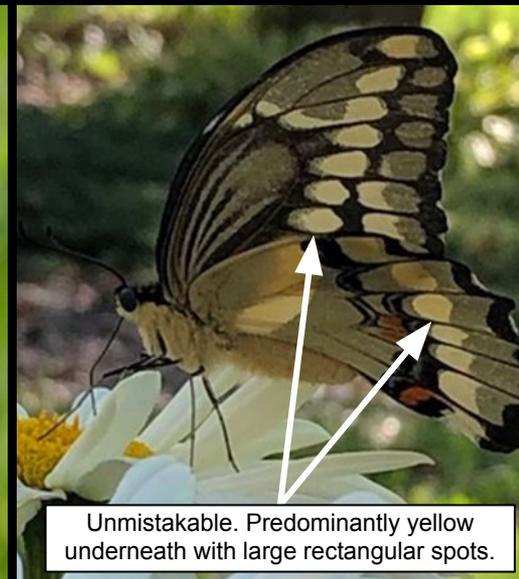


Spicebush Swallowtail

Steve Mirick

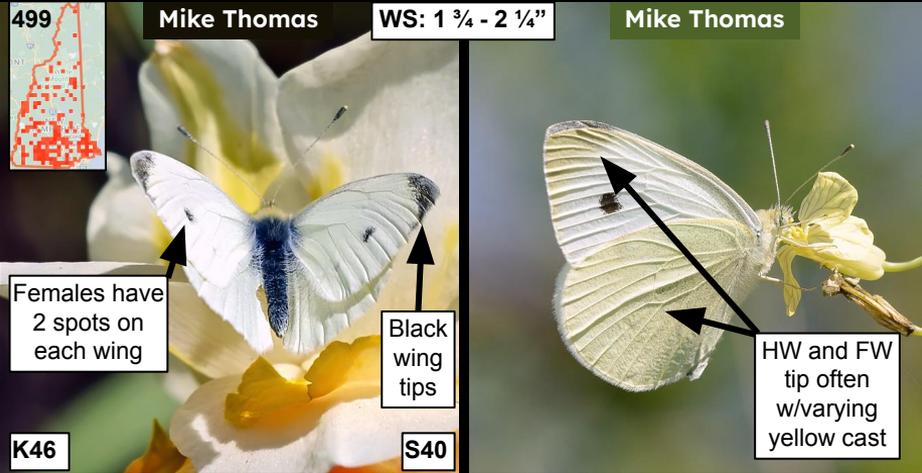


Eastern Giant Swallowtail



The Whites

Cabbage White



499 Mike Thomas WS: 1 3/4 - 2 1/4" Mike Thomas

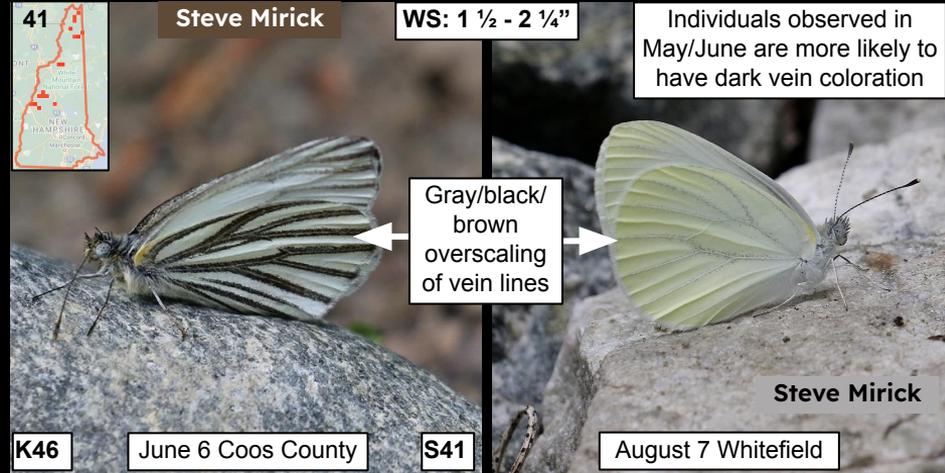
Females have 2 spots on each wing

Black wing tips

HW and FW tip often w/varying yellow cast

K46 S40

Mustard White



41 Steve Mirick WS: 1 1/2 - 2 1/4" Steve Mirick

Individuals observed in May/June are more likely to have dark vein coloration

Gray/black/brown overscaling of vein lines

K46 June 6 Coos County S41 August 7 Whitefield

When: Flies throughout NH in 3 broods from late April through September

When: Flies from southern WMNF to the north in 2 broods from mid May through early September

Where: Almost any open area from rural to urban.

Where: Forest openings, fields, bogs, streamsides.

Both the Cabbage and Mustard White caterpillars feed on plants in the mustard family (broccoli, brussel sprouts, cabbage, cauliflower, turnip, and others)

Both the Cabbage and Mustard White overwinter as chrysalids

Clouded Sulphur

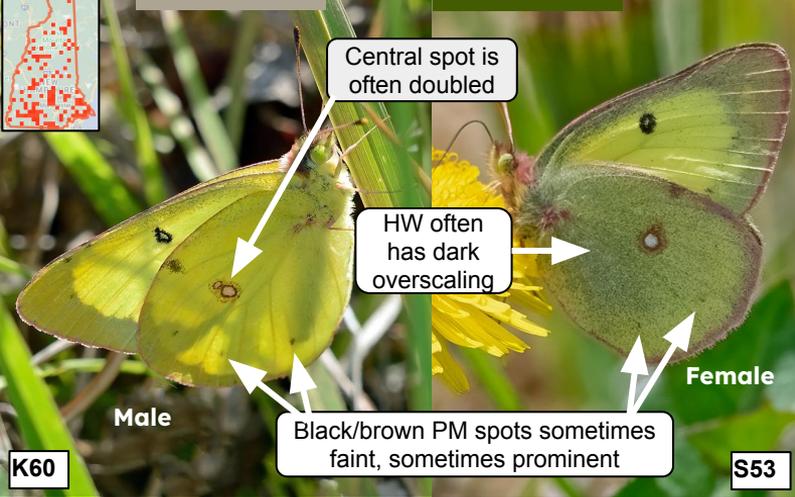


281

Mike Thomas

Mike Thomas

WS: 1 1/2 - 2 3/4"



Male

Female

Central spot is often doubled

HW often has dark overscaling

Black/brown PM spots sometimes faint, sometimes prominent

K60

S53



HW dorsal orange spot on all sulphurs

Female

Some females of all sulphur species are white with a bluish-green cast

Steve Mirick

Female

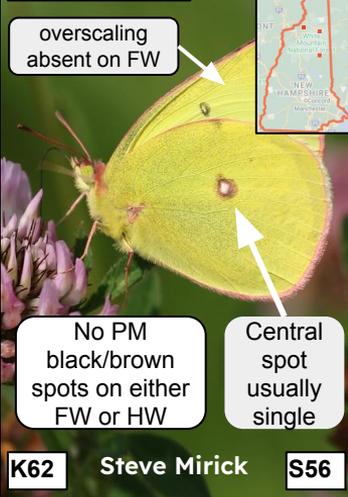
Females have Swiss-cheesed border

Pink-edged Sulphur

WS: 1 1/2 - 2 5/8"



4



overscaling absent on FW

No PM black/brown spots on either FW or HW

Central spot usually single

K62

Steve Mirick

S56

When: Flies throughout NH in 3 broods from mid May through September

When: Northern NH in 1 brood from mid June through August

Where: Any open area, particularly where there's clover

Where: Shrubby open areas with blueberries

Caterpillars consume clovers and other members of the pea family (Fabaceae)

Caterpillars feed on blueberry plants

Overwinter as 3rd stage caterpillar

OW: Caterpillar

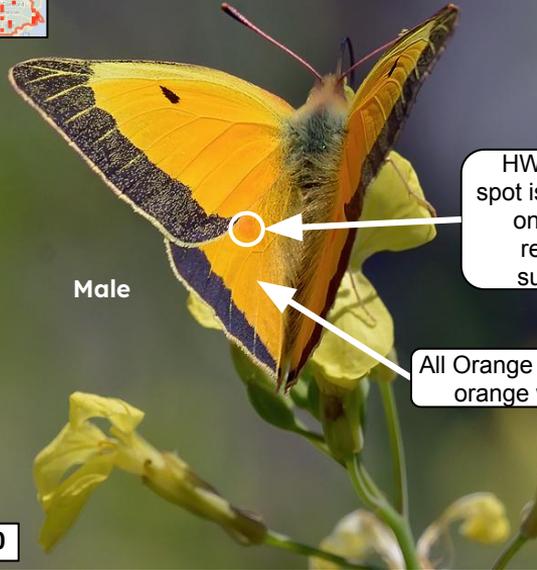
All sulphurs to varying degrees have pink edges. DO NOT USE THIS CHARACTERISTIC FOR IDENTIFICATION!

Orange Sulphur



96

Mike Thomas



Male

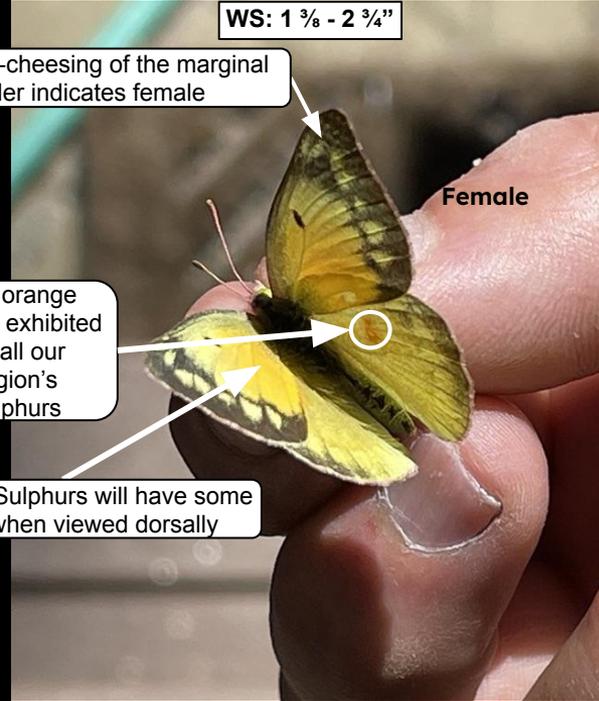
K60

WS: 1 3/8 - 2 3/4"

The swiss-cheesing of the marginal border indicates female

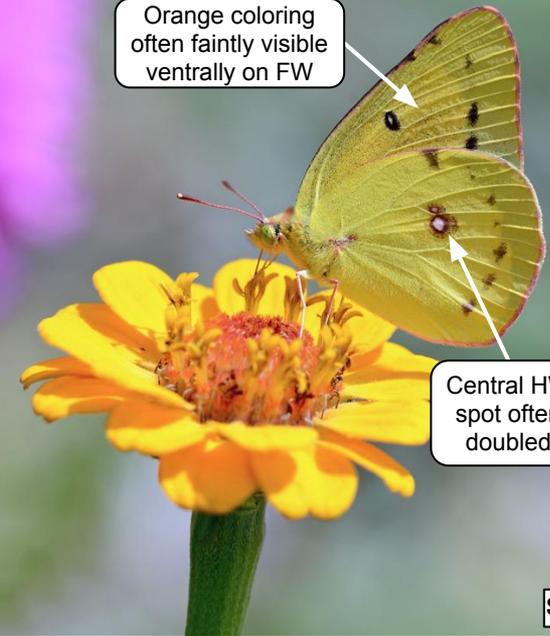
HW orange spot is exhibited on all our region's sulphurs

All Orange Sulphurs will have some orange when viewed dorsally



Female

Mike Thomas



Orange coloring often faintly visible ventrally on FW

Central HW spot often doubled

S52

When: Flies throughout NH in 3 broods from late May through mid October

Where: Any open area, particularly where there's clover

Caterpillars subsist on same diet as the Clouded Sulphur...clovers and other members of the pea family (Fabaceae)

Overwinter: Unlike Clouded and Pink-edged overwinters as chrysalid

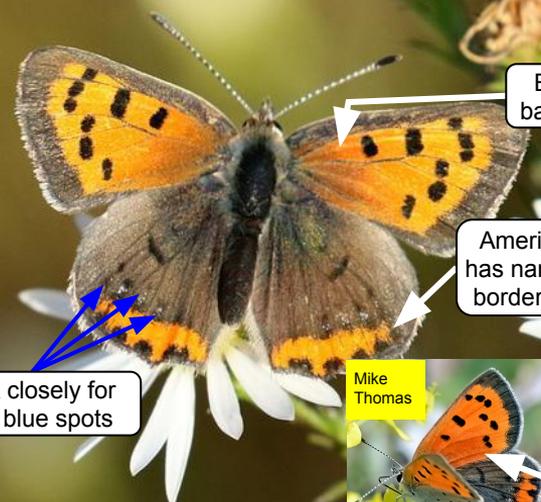
The Coppers (dorsal)

American

Bronze

Bog

495 Steve Mirick WS: $\frac{7}{8}$ - $1 \frac{3}{8}$ "

Look closely for faint blue spots

Mike Thomas

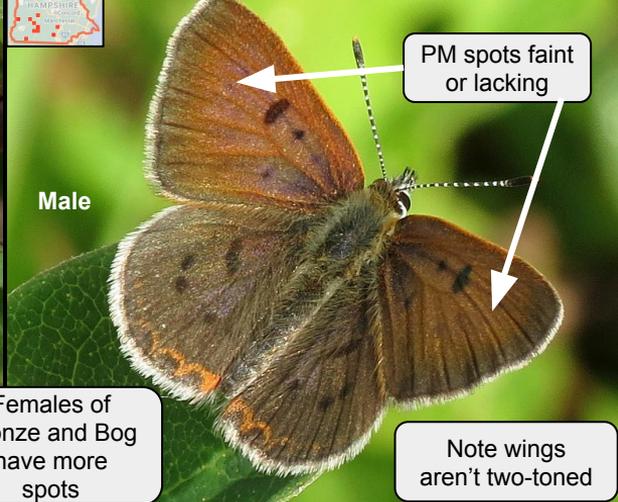
5 Steve Mirick WS: $1 \frac{1}{4}$ - $1 \frac{7}{8}$ "




Female

Background orange color on the Copper is typically brighter orange.

22 Steve Mirick WS: $\frac{7}{8}$ - 1 "

Male

PM spots faint or lacking

Note wings aren't two-toned

K80

S76

K88

S77

K84

S81

When: Flies throughout NH in 3 broods from mid May through Early October

Where: Disturbed places, pasture, fields

Caterpillars feed on: docks and sorrels (Genus Rumex)

Overwinter as: chrysalids

When: Flies in NH in 2 broods from mid June through Early October

Where: Bogs, marshes, wet meadows, ponds

Caterpillars feed on: docks (genus Rumex)

Overwinter as: eggs

When: Flies in NH in 1 brood from mid June through mid July

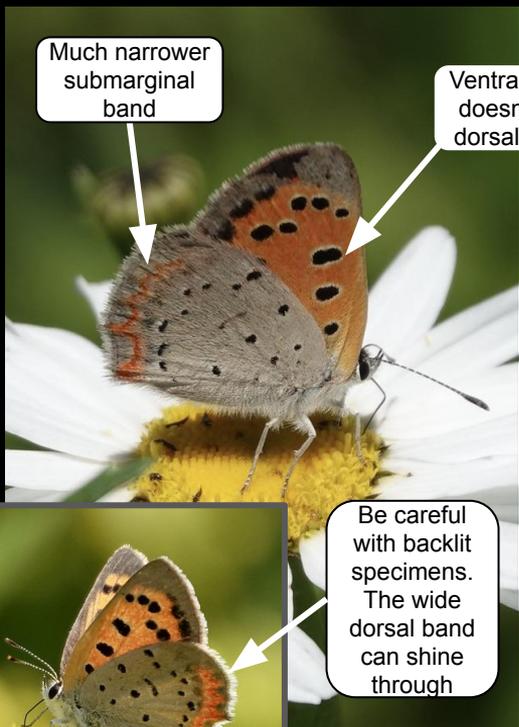
Where: Bogs and fens with cranberries

Caterpillars feed on: cranberries

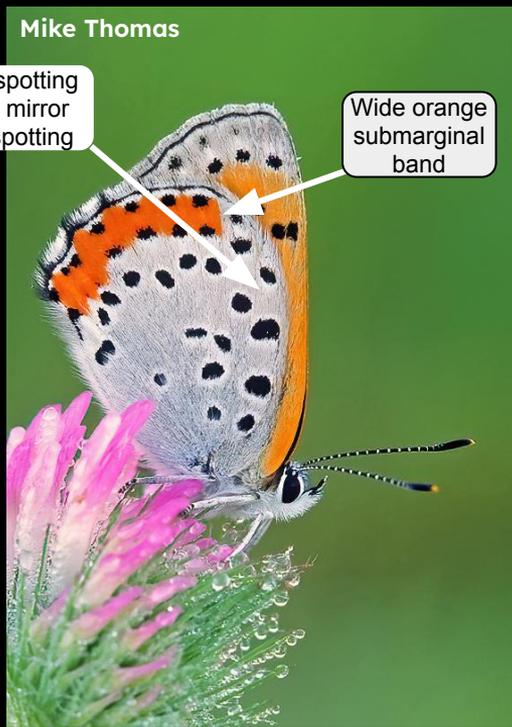
Overwinter as: first-stage caterpillars in eggs

The Coppers (ventral)

American



Bronze

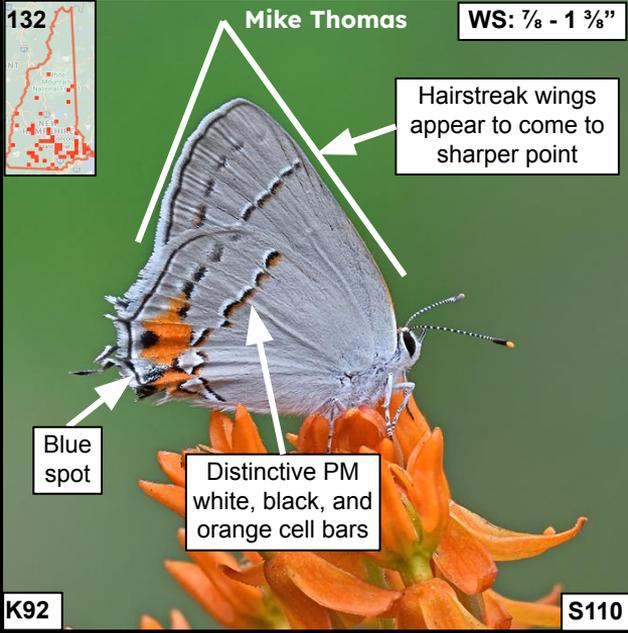


Bog



Hairstreaks

Gray Hairstreak



K92 S110

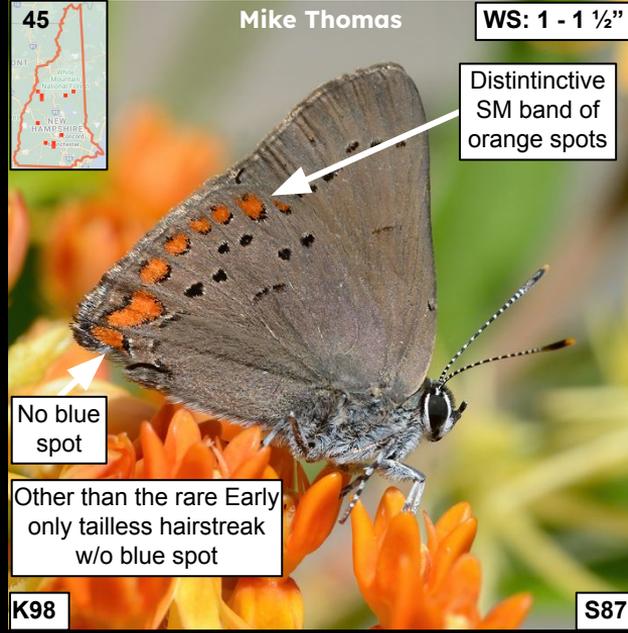
When: Flies southern NH in 2 broods from mid May through mid September

Where: Open disturbed weedy areas

Caterpillars feed on variety of flowers and fruits. Most often pea family (Fabaceae), mallows and clovers

Overwinter as chrysalis

Coral Hairstreak



K98 S87

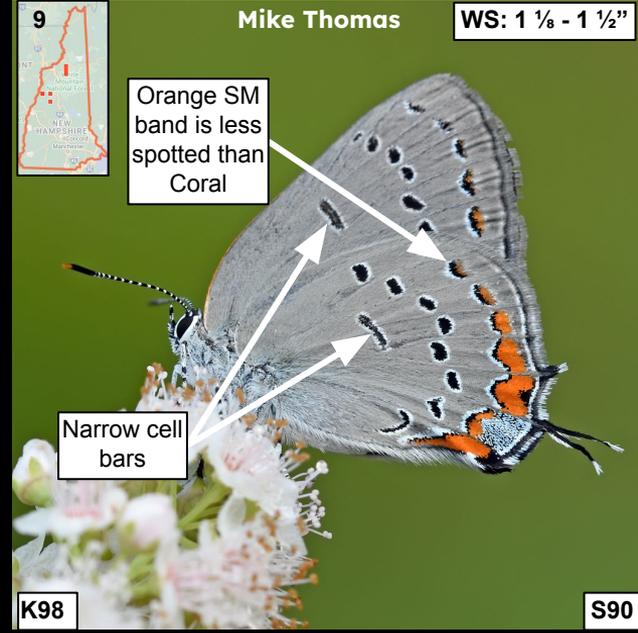
When: Flies throughout NH in 1 brood in July

Where: Open shrubby areas

Caterpillars feed on cherry (genus Prunus)

Overwinter as eggs

Acadian Hairstreak



K98 S90

When: Flies WMNF and north in 1 brood in July (uncommon)

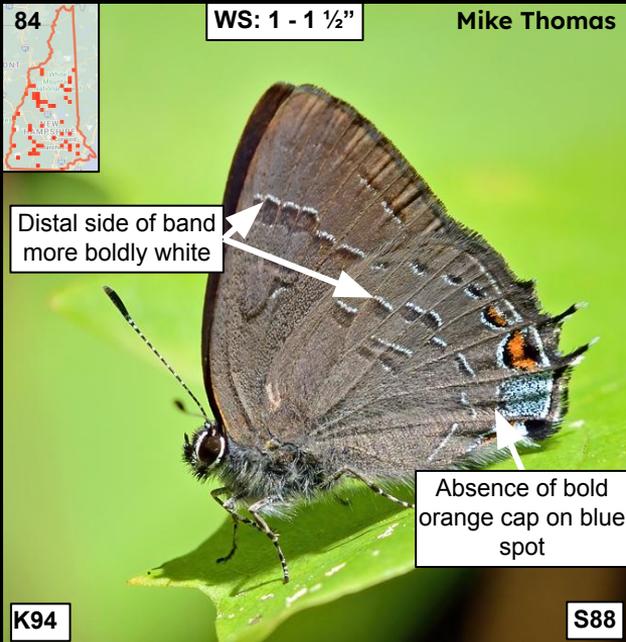
Where: Willow-lined streams and marshes

Caterpillars feed on various willow (genus Salix) species

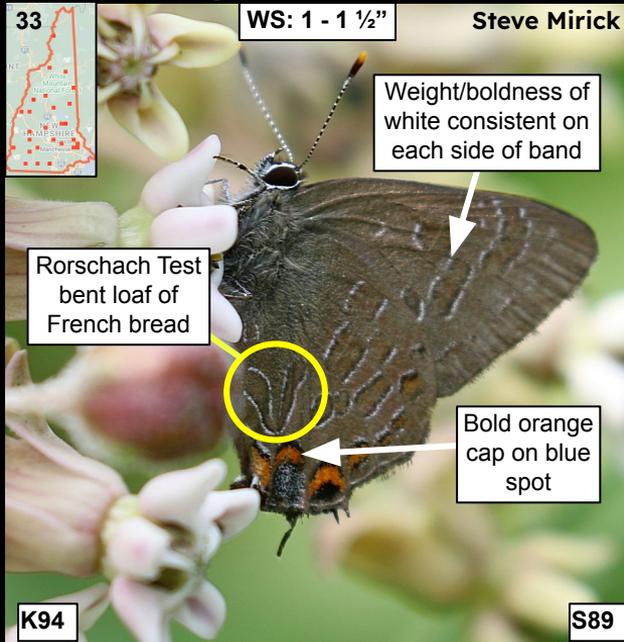
Overwinter as eggs

Hairstreaks that, to varying degrees, have banded patterns

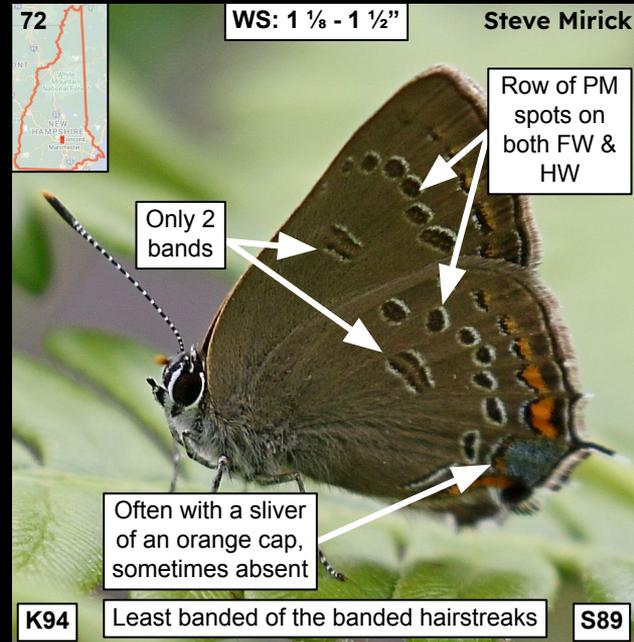
Banded Hairstreak



Striped Hairstreak



Edwards' Hairstreak



When: Flies throughout NH in 1 brood from mid June through August

Where: Openings near edges of woods

Caterpillars feed on oaks and hickory

Overwinter as eggs

When: Flies throughout NH in 1 brood from late June through early August

Where: Openings near edges of woods

Caterpillars feed on several woody trees and shrubs including blueberries, cherry, oak and willow

When: Flies only at (or near) Concord Pine Barrens in 1 brood July thru early August

Where: Scrub Oak/Pitch Pine thickets

Caterpillars feed Scrub Oak (Quercus ilicifolia)

Overwinter as caterpillar

The Blues

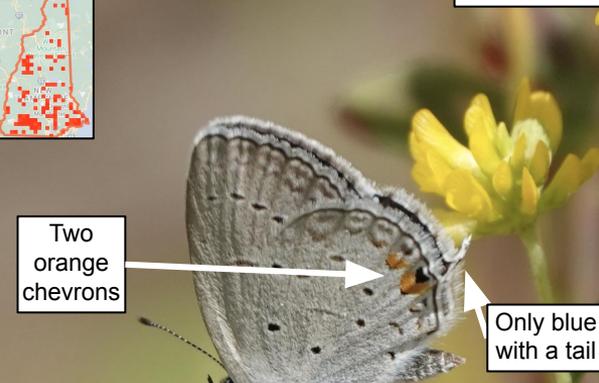
Eastern Tailed-blue

Silvery Blue

Northern/Summer Azure

247

WS: $\frac{7}{8}$ - $1\frac{1}{8}$ "

Two orange chevrons

Only blue with a tail

Female

Male

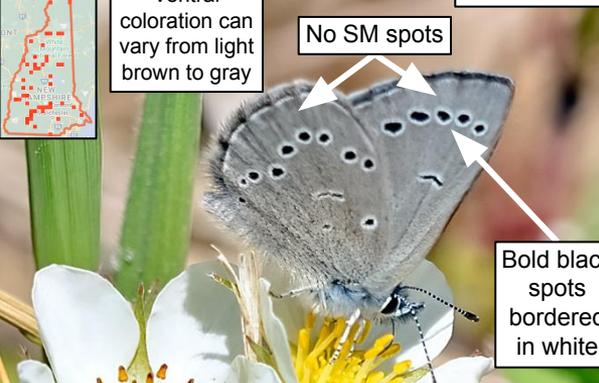


K124

S127

88

WS: $\frac{7}{8}$ - $1\frac{1}{4}$ "

Ventral coloration can vary from light brown to gray

No SM spots

Bold black spots bordered in white

Males considerably narrower dark gray border dorsally

Female

Mike Thomas



K124

S136

17

18

395

WS: $15/16$ - $1\frac{1}{8}$ "



Read Bryan Pfeiffer's [Getting the Blues](#) (online)

Northern Summer Holarctic

July 3, 2022

Summer



Dotted picket fence

May 20, 2020 Northern

Call it a Holarctic Azure

Female



K130

S128

Can't be sure

When: Flies throughout NH in 3 broods from mid May through mid September

When: Flies throughout NH in 1 brood from mid May through June

When: Flies throughout NH; **Northern** mid April to early August, **Summer** late June to August

Where: Open sunny, weedy, disturbed areas

Where: Openings near edges of woods

Where: Powerline clearings, gardens, almost anywhere

Caterpillars feed clovers, vetches, alfalfas and other legumes (family Fabaceae)

Caterpillars feed vetches and clovers

Caterpillars feed on dogwoods, cherries, viburnums and many others.

Overwinters as caterpillar

Overwinter as chrysalid

Overwinter as chrysalids. *C. neglecta* (Summer) emergence delayed until late spring

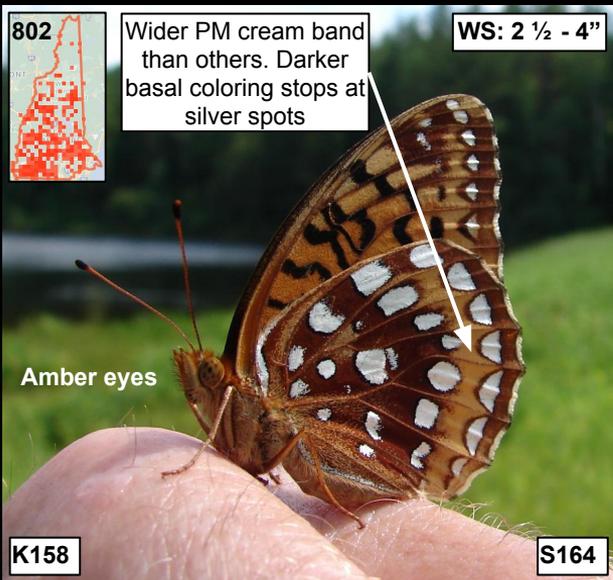
The Fritillaries



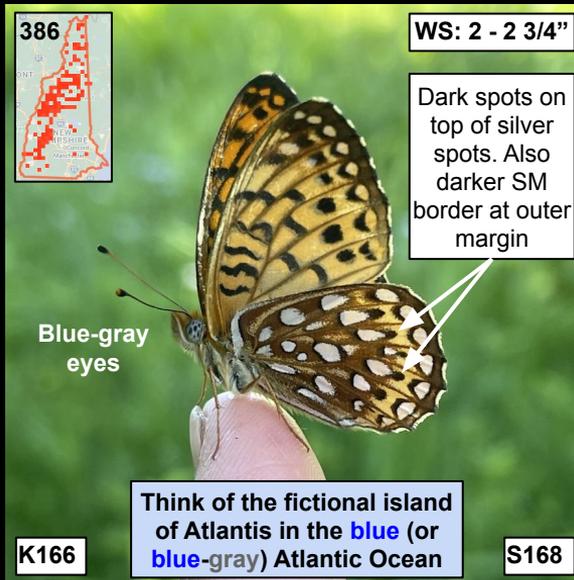
*The 3 squiggly
line butterflies*

The Greater Fritillaries (ventral)

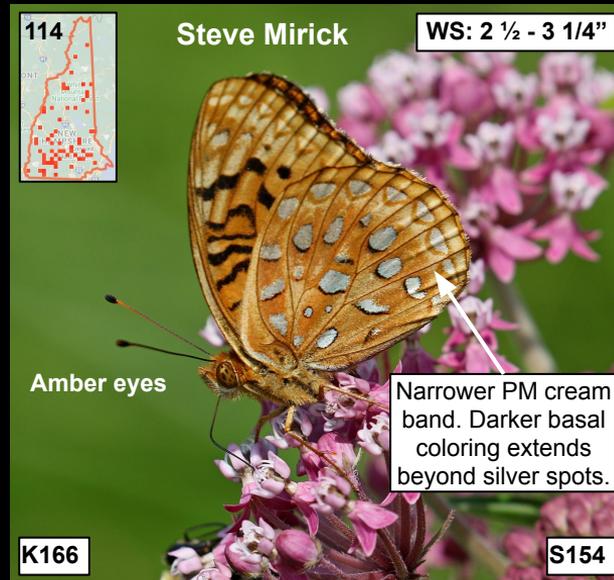
Great-Spangled Fritillary



Atlantis Fritillary



Aphrodite Fritillary



When: Flies throughout NH in 1 brood from mid-June thru September

When: Flies throughout NH in 1 brood from mid-June thru September. Seldom seen in SE NH

When: Flies throughout NH in 1 brood from mid-June to mid-September

Where: open meadows nectaring at milkweed, joe-pye weed, thistles, dogbane and many others.

Caterpillars of all NH fritillaries feed on a variety of violet species

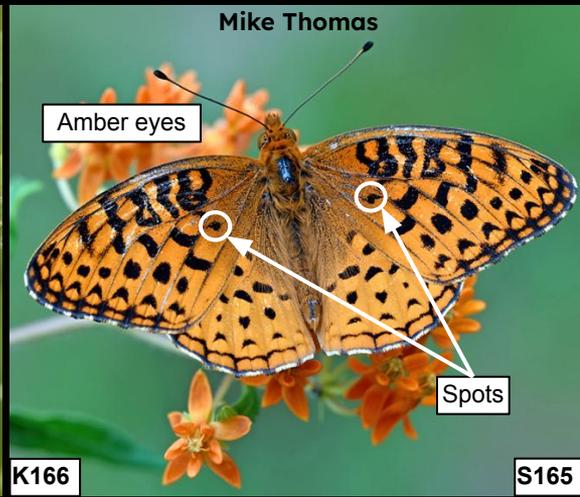
Overwinter: first stage/instar caterpillars that don't feed until the following spring

The Greater Fritillaries (dorsal)

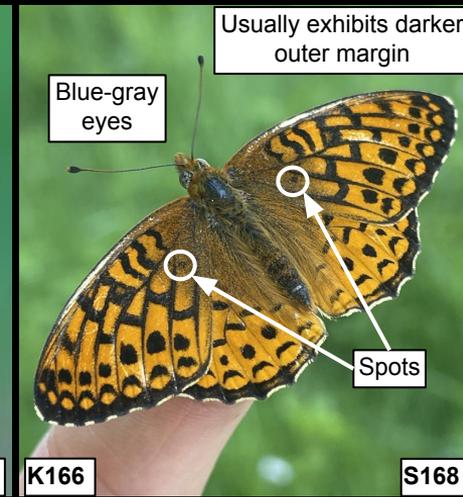
Great-Spangled Fritillary



Aphrodite Fritillary "Aphro-dot-ee"



Atlantis Fritillary



Female frits are more boldly patterned and have dark capes

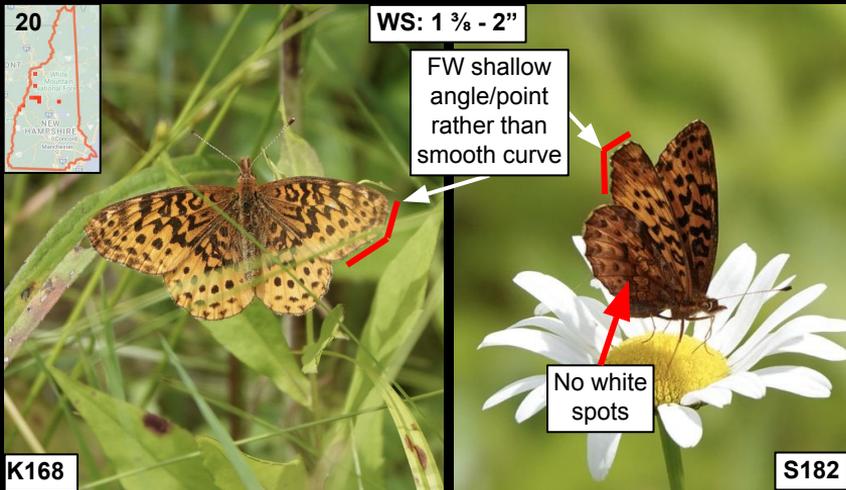
No spot in second cell as you move away from FW trailing margin

If the greater frit has a spot in second cell as you move away from FW trailing margin and it has amber eyes, it's an "Aphro-dot-ee"

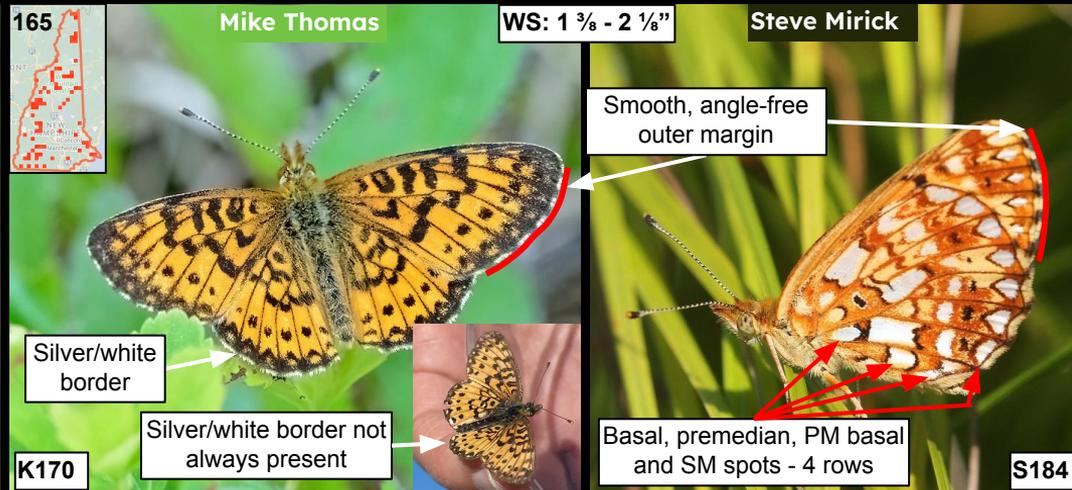
If the greater frit has a spot in second cell as you move away from FW trailing margin and it has blue-gray eyes, it's an Atlantis

The Lesser Frits (Fritillaries)

Meadow Fritillary



Silver-bordered Fritillary



When: Flies NW NH in 2-3 broods from mid May through mid September

When: Flies throughout NH in 2 broods from mid May through mid September

Where: Wet meadows and dry fields

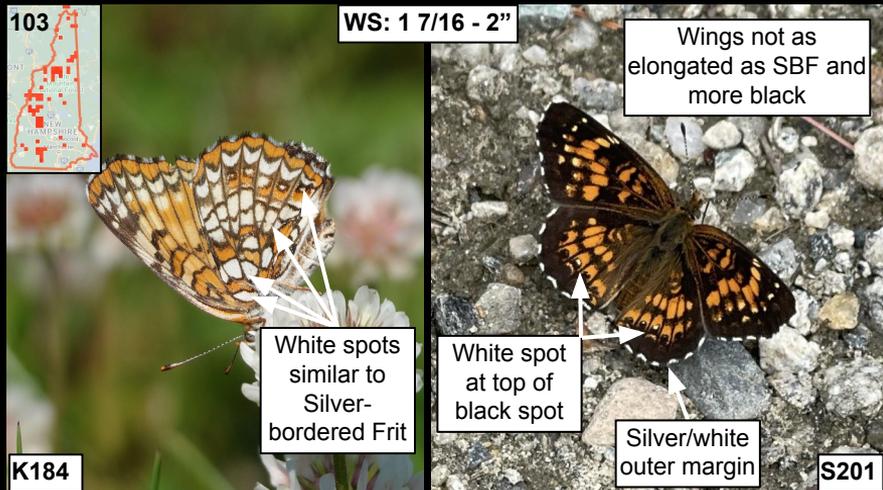
Where: Wet meadows, bogs, and marshes

Caterpillars feed on violets

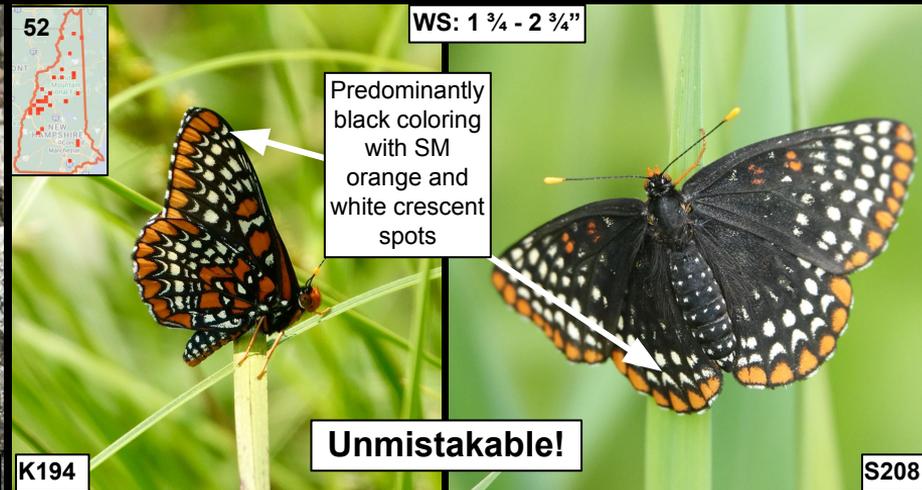
Overwinter as third or fourth stage caterpillars

The Checkerspots

Harris's Checkerspot



Baltimore Checkerspot



When: Flies throughout NH in 1 brood from mid June through July

Where: Marshes, moist meadows, bog edges

Caterpillars feed exclusively on Flat-topped Aster (*Aster/Doellingeria umbellata[tus]*)

Caterpillars feed on White Turtlehead (*Chelone glabra*) and other plants in the Plantain family. After overwintering, caterpillars may wonder onto other unrelated plants (*Viburnum*, *Lonicera*, *Fraxinus*) and feed.

Overwinters as caterpillar at base of host plant

Overwinters as 4th-stage caterpillar

The “Wicked Tough” Crescents



Pearl Crescent

Northern Crescent



WS: 1 ¼ - 1 ¾”



Steve Mirick

WS: 1 ¼ - 1 ⅝”

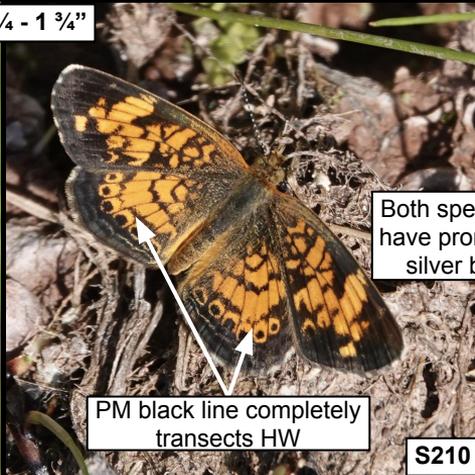
Mike Thomas

See [iNat observation](#)



Females of both crescents can have paler PM band

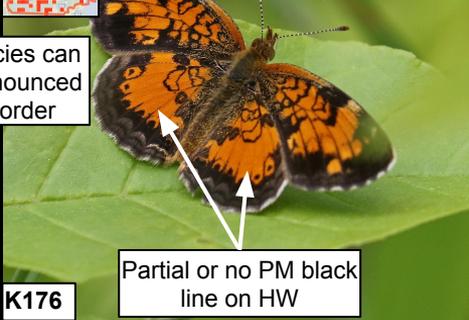
K176



PM black line completely transects HW

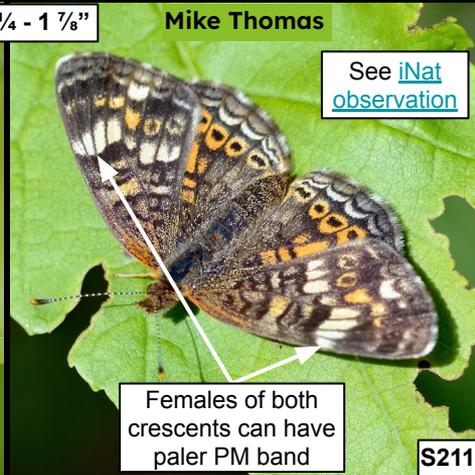
S210

Both species can have pronounced silver border



Partial or no PM black line on HW

K176



Females of both crescents can have paler PM band

S211

When: Flies throughout NH in 2 broods from mid May through early October

When: Flies throughout NH in 1 brood from June through mid July

Where: Open areas, pastures, road edges, fields, open pine woods

Where: Moist open areas in rocky places, wooded streams, marsh edges

Caterpillars feed on asters (family Asteraceae)

Overwinter as third stage caterpillars

WARNING: Kaufmann Guide neither depicts or describes silver-white border at outer margin, which is often exhibited in both species.

Read Bryan Pfeiffer’s web article [The Virtue in Uncertainty](#)

George's "Current" Position on Crescent Identification

The science isn't completely settled on the Crescent (genus *Phyciodes*) identification. Information has recently come to my attention that using the absence (Northern) or presence (Pearl) of a ventral PM hindwing line on Crescent species is not a rock solid indication of species. And that, in males only, using antennal club coloration, particularly the underside of the club, will give us further clues to species.

Many in the scientific community (Herb Wilson, curator of the Maine Butterfly Survey; Kent McFarland, Conservation Biologist at the VT Center for Ecostudies; and Harry Pavulaan, venerable Virginian Lepidopterist) are now pointing to antennal club coloration as the most reliable indicator. Briefly, summarizing Kent McFarland's [ID of Crescent Species](#)¹ e-Butterfly post (and honestly omitting some important details), here's some info on using antennal club characteristics for identification, "Females are best identified by association with males within population concentrations...*P. tharos* [Pearl] males have black antenna clubs with some gray on the lower side. Some *P. tharos* [Pearl] males have a slight orange tip on the upperside of the club, but the underside of the club is not orange...*P. cocyta* [Northern] males have orange on the underside of the antenna clubs. They usually have that orange tip on the upperside of the clubs like *tharos* [Pearl]. But the key in identifying *cocyta* [Northern] is by the orange on the underside of the clubs."

I [George] need time to study more Crescents in the field to be able to impart with assurance what the best field marks are for identification. Fortunately, they're abundant in my region. This spring/summer, I will be taking into account antennal club characteristics in conjunction with the presence and completeness of a ventral PM black line that transects the hindwing, as well as the presence (or absence) of blackened ventral lines on the hindwing. In the meantime, I will refrain from identifying the species for any Crescent iNaturalist observations. Stay tuned!

¹You will need to establish a free e-Butterfly account to read this post. This post also references a LepLog post, [A Tale of Two \(or More\) Crescents](#), which imparts some more information from Harry Pavulaan.

The Anglewings (ventral)

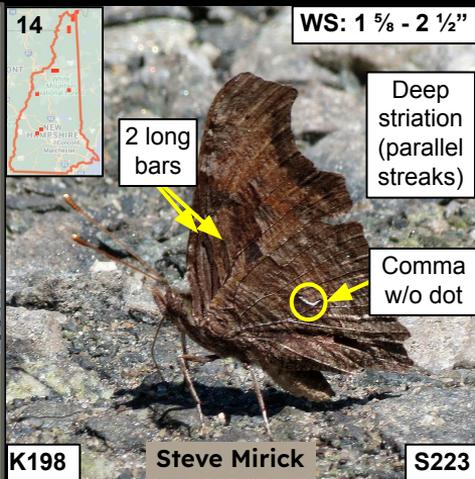
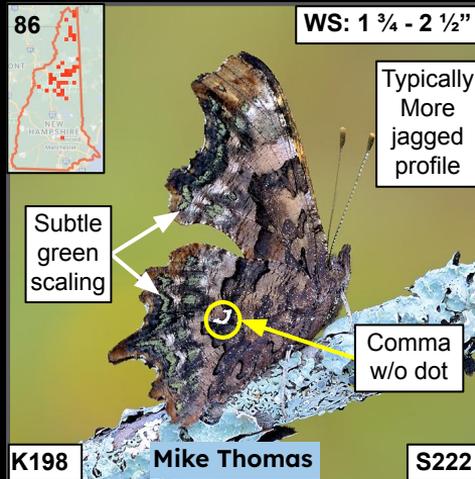
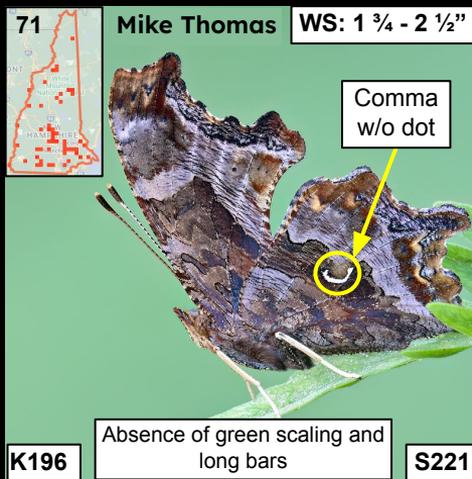
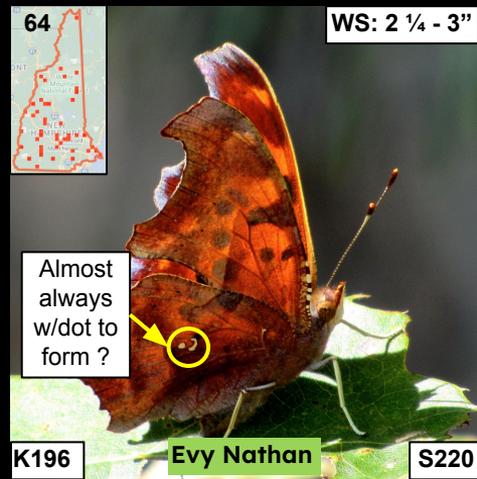
Family: Nymphalidae

Question Mark

Eastern Comma

Green Comma

Gray Comma



When: Flies throughout NH in 1 (N) to 2 (S) broods from mid May to September

When: Flies throughout NH in 2 broods from late March to early October

When: Flies WMNF and north in 1 brood from April to mid September

When: Flies mostly northern NH in 2 broods from late April to mid September

Where: Wooded areas w/open space, city parks, suburbs.

Where: Woodlands near rivers, marshes, swamps.

Where: Forests, mountain streamsidess

Where: Along dirt roads, streamsidess, clearings in woodlands

Caterpillars feed on elm (Ulmus), Common Hackberry, nettles (Urtica)

Caterpillars feed on elm (Ulmus), and nettles (Urtica)

Caterpillars feed on willows (Salix) and birches (Betula)

Caterpillars feed on genus Ribes (currants and gooseberries)

Some may overwinter in region as adults, but many repopulate from south

Most overwinter as adults, but some may migrate south

Overwinter as adults

Overwinter as adults

Adults of all anglewings rarely nectar at Flowers. Prefer tree sap, rotting fruit, carrion.

The Anglewings (dorsal)

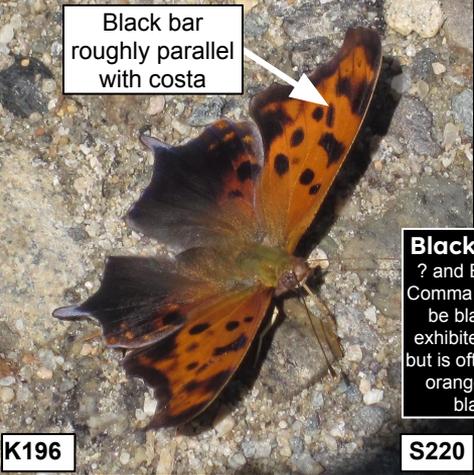


Question Mark

Eastern Comma

Green Comma

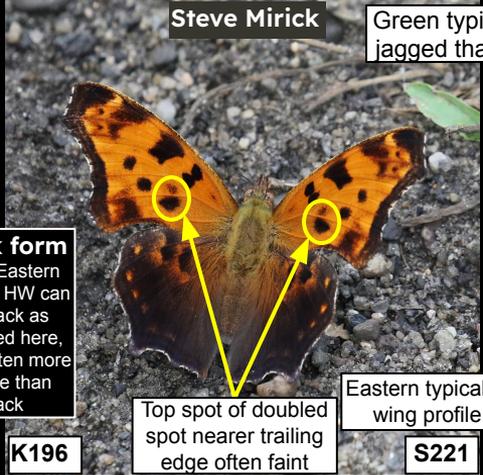
Gray Comma



Black bar roughly parallel with costa

Black form
? and Eastern Comma HW can be black as exhibited here, but is often more orange than black

S220



Steve Mirick

Top spot of doubled spot nearer trailing edge often faint

K196

Green typically more jagged than Eastern

Eastern typically has broader wing profile than Green

S221



Greens and Grays are not known to exhibit as extensive HW black scaling

Top spot of doubled spot nearer trailing edge often solid

S222



Steve Mirick

No black spot near apex of trailing edge/outer margin

S223

I'm never completely comfortable distinguishing the Eastern from the Green without the benefit of having a clear look at the ventral side



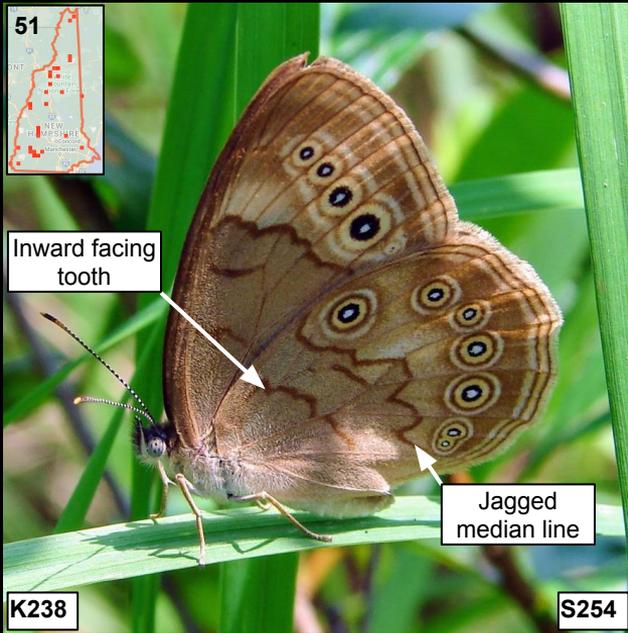
Red form

Steve Mirick

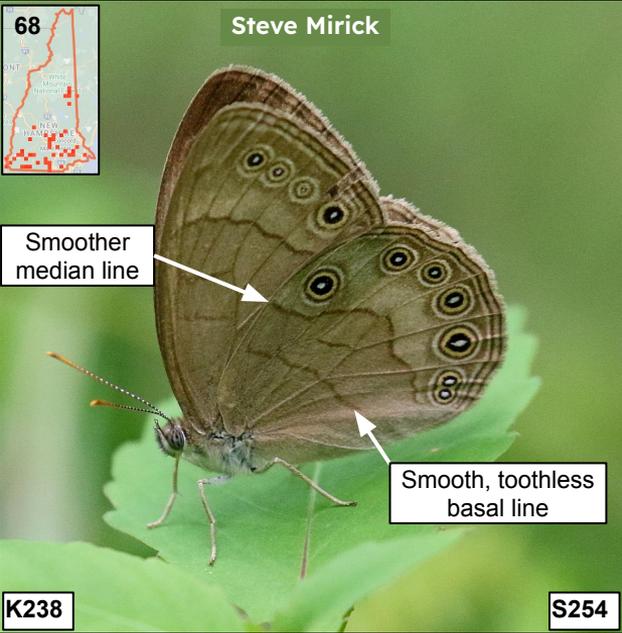
The Subtly Different Browns

Family: Nymphalidae

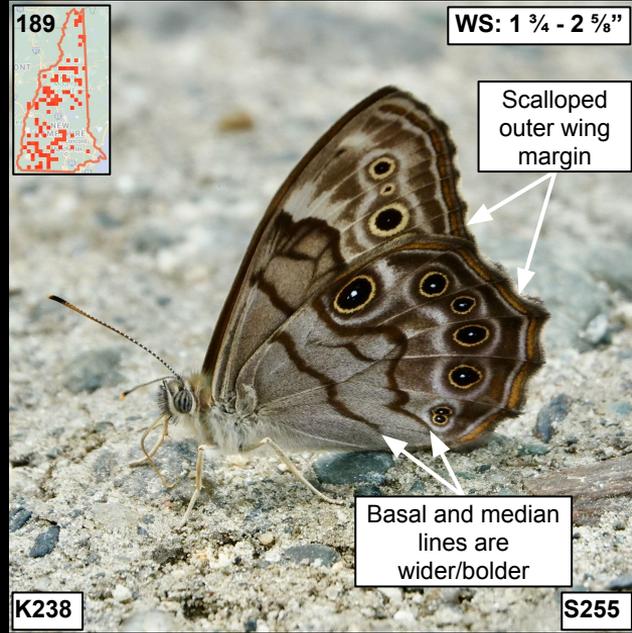
Eyed Brown



Appalachian Brown



Northern Pearly-eye



WS: 1 3/4 - 2 5/8"

When: Flies throughout NH in 1 brood from end of June through July

Where: freshwater marshes, slow moving streams
Caterpillars feed on various sedges (Carex)

When: Flies throughout NH in 1 brood from end of June to mid August

Where: Wooded swamps, forest edges, slow streams
Caterpillars feed on various sedges (Carex)

When: Flies throughout NH in 1 brood from end of June through August

Where: Damp deciduous woods with nearby water
Caterpillars feed on various grasses

All three of these species overwinter as 3rd and 4th stage caterpillars

These browns, with the occasional exception of the Eyed Brown, are not known to nectar at flowers. They get their nutrition from carrion, dung, tree sap, and carrion.

And that's all folks!

Many thanks to [Mike Thomas \(naturecloseup.com\)](#) and [Steve Mirick](#) for graciously filling the holes in my butterfly photo library and providing so many magnificent photos!

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- Finding solace in not being able to ID tricky butterfly species: [Taming the Tigers](#), [The Value of Uncertainty](#), [Getting the Blues](#) bryanpfeiffer.com
- Other supporting information: Cech, R. & Tudor, G. (2005). Butterflies of the East Coast. Princeton University Press.

Please, please, please: If you find any inaccuracies in these slides or if you have any suggestions for additions or improvements, email bakerpondsbutterflies@gmail.com.

Thanks! George

Background photo taken
by Bob Fleck