

Butterflies of Virginia: Beyond the Basics



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Goals for this Class

- ❖ Brief overview of butterfly anatomy
- ❖ Butterfly identification of commonly seen butterflies all across Virginia
- ❖ Teach you the 'tools' to enable you to identify them on your own
- ❖ Observation tips

What We Won't Cover

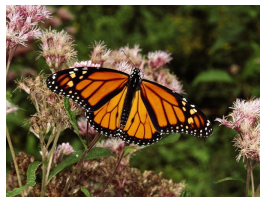
- ❖ Host and nectar plants
- ❖ Flight periods
- ❖ Butterfly gardens
- ❖ Larval stages / caterpillar identification
- ❖ Butterfly conservation
- ❖ Spring-only species and most Skippers

Tools for Identification

- ❖ Binoculars #1 (focus at close range best)
- ❖ Digital camera with fresh batteries
- ❖ Field guides, e.g.:
 - *Butterflies through Binoculars: the East* – Jeffrey Glassberg
 - *A Field Guide to Eastern Butterflies* – Peterson Field Guide
 - *Kaufman's Field Guide to Butterflies of North America* – Jim Brock & Kenn Kaufman

Butterfly Life Cycle

- ❖ EGG
- ❖ CATERPILLAR
- ❖ PUPA – chrysalis
- ❖ ADULT



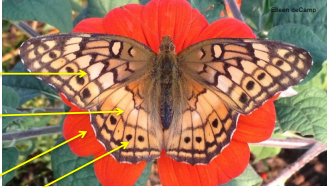
Identification Characteristics

- ❖ Color
- ❖ Size and shape
- ❖ Distinctive features – tails, no tails
- ❖ Check fore/hindwing; topside/underside markings
- ❖ Flight style
- ❖ Location – woods, fields, which plant is it on

Butterfly Anatomy

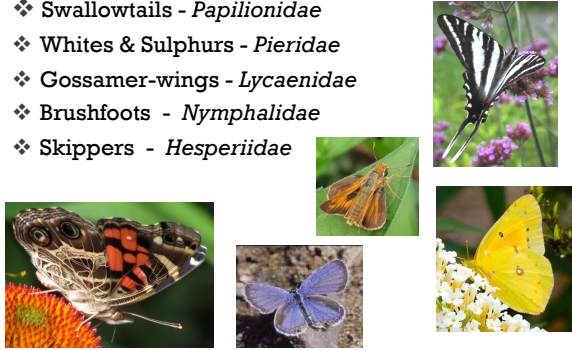
How to describe what you see...

- ❖ Forewings (2)
- ❖ Hindwings (2)
- ❖ Topside
- ❖ Underside
- ❖ Margins
- ❖ Eyespots
- ❖ Antenna




Five Butterfly Families in Virginia


- ❖ Swallowtails - *Papilionidae*
- ❖ Whites & Sulphurs - *Pieridae*
- ❖ Gossamer-wings - *Lycaenidae*
- ❖ Brushfoots - *Nymphalidae*
- ❖ Skippers - *Hesperiidae*




SWALLOWTAILS *Papilionidae*




ZEBRA




BLACK SWALLOWTAIL



SPICEBUSH



PIPEVINE



EASTERN TIGER

Zebra Swallowtail

Identifying Features

- Unique
- Zebra-like, black and white (sometimes light greenish tinted) striped triangular wings
- Long tails



Habitat

- Open spaces, water

Host Plant

- Pawpaw tree (*Asimina triloba*) – a Va native

Eastern Tiger Swallowtail



Identifying Features

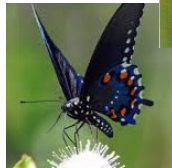
- Light Form: yellow with black stripes
- Dark Form: charcoal black; stripe on hind wing; one band of orange eye spots; female
- Striped body / no spots



Pipevine Swallowtail

Identifying Features

- Topside: Iridescent blue; single row of spots
- Underside: 1 row (band) of orange spots



Host Plants

- Pipevine spp.

Black Swallowtail

Identifying Features


- Topside: subapical spot
- Underside: 2 rows (bands) of orange spots

Habitat

- Open fields

Host Plants

- Parsley, carrot, rue



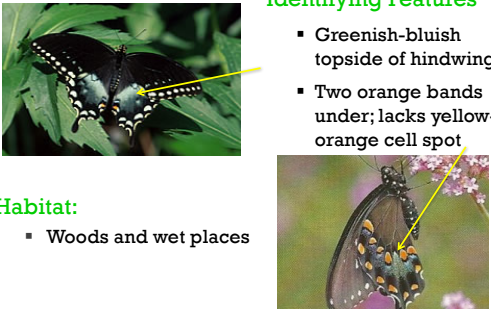
Spicebush Swallowtail

Identifying Features

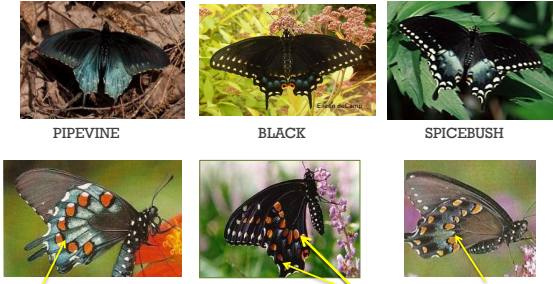
- Greenish-bluish topside of hindwing
- Two orange bands under; lacks yellow-orange cell spot

Habitat:

- Woods and wet places



A Closer Look at Dark Swallowtails




PIPEVINE BLACK SPICEBUSH

Single band 2 bands; all cells filled 2 bands; one cell "blue"

All these bodies have white spots


Eastern Tiger Swallowtail:
Black form; female




Single band of orange eyespots

Body without spots


“Shadow” of stripe – as in yellow form
COMPARISON of DARK TIGER with other DARK SWALLOWTAILS



Pipevine




Black




Spicebush

WHITES and SULPHURS *Pieridae*

- ❖ Rounded wings
- ❖ Bright simple colors
- ❖ Energetic flight
- ❖ Frequent open habitats
- ❖ Generalist in food plants



Cabbage White



Identifying Features

- Small size
- FW has 1 (male) or 2 (female) black dots
- Black on FW apex
- VERY common

Habitat

- Everywhere!
- Open areas

Clouded Sulphur and Orange Sulphur

Identifying Features

Both have, on underside:

- FW very pale tan marginal band
- HW double silver eyespot
- FW series of tiny spots

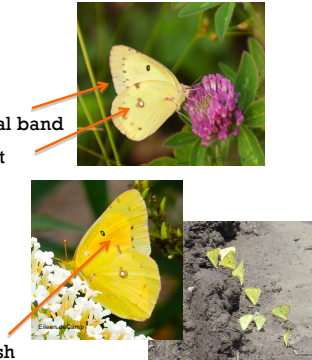
Difference between:

Clouded:

Underside FW: no orange

Orange:

Underside FW: orange blush



GOSSAMER-WINGS *Lycaenidae*

- ❖ Largest butterfly family (>4,000 species)
- ❖ Usually small and delicate
- ❖ 4 subfamilies
 - Harvester
 - Hairstreaks
 - Blues
 - Coppers

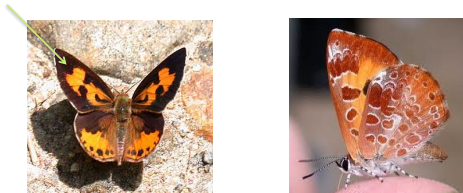


Harvester

- Our only carnivorous butterfly!
- Orange with splotchy black wing margins and body

Habitat

- Woodlands, with alders & beech



HAIRSTREAKS

Red-Banded Hairstreak



Identifying Features

- Small
- Red band on underside outlined in black / white on one side
- Two tails on each HW
- Series of black eyespots near the tails

Habitat

- Overgrown, forest margins

Gray Hairstreak

Identifying Features

- Grey in color
- Two tails on each HW
- Orange and black eyespots
- Underside HW: jagged white/black line

Habitat

- Open areas, fields

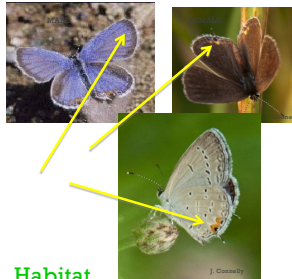


BLUES and AZURES

Eastern Tailed-Blue

Identifying Features

- Very small
- Orange eyespots on HW; top and undersides
- One small tail on each HW
- Rubs HW together at tail while resting
- Dark outline around wings
- Flies low to ground



Habitat

- Open areas, fields

Summer Azure (Common Blue)

Identifying Features

- Very small
- No tails or orange eyespots
- Often very pale blue
- Stronger flyer than Eastern-Tailed Blue



Habitat

- Hardwood forest, fields, edges

BRUSHFOOTS *Nymphalidae*

- ❖ Most diverse family
- ❖ Use only the back four legs for walking

Examples:

- Mourning Cloak
- Red-Spotted Purple
- Crescents & Checkerspots
- Anglemings
- Fritillaries
- Monarch and Viceroy
- Ladies and Admirals
- Buckeye
- Snout



Mourning Cloak

Identifying Features

- Medium size
- Wing margins – pale yellow or white



Habitat

- Most anywhere, especially hardwood forests
- Willows – major food

Red-Spotted Purple

Identifying Features

- Somewhat iridescent blue
- Large, **no tails**
- Band of red-orange spots in submargins and wing bases

Habitat

- Deep woods, moist areas



vs. Pipevine Swallowtail



Pearl Crescent

Identifying Features

- HW: marginal row of crescents
- HW: black spots without white centers
- 1 white crescent on HW underside

Habitat

- Open fields/meadows



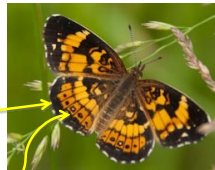
Silvery Checkerspot

Identifying Features


- No row of crescents
- Submarginal row of black spots often have white centers
- Many white crescents on underside of wings
- 1.5 - 2 in.

Habitat

- Woodland & stream edges



Comparison



Pearl Crescent

Silvery Checkerspot

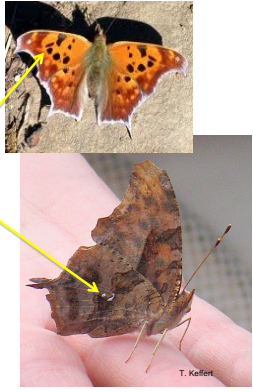
Question Mark

Identifying Features

- Black horizontal spot on FW “epaulet”
- Silver ‘question mark’ underside

Habitat

- Forests, wooded edges




Eastern Comma



Identifying Features

- Lacks black horizontal spot on FW
- Edges deeply cut
- Underside with silver comma

Habitat



- Forested streams
- Woodlands and edges



Question Mark


Comparison

Eastern Comma

Great Spangled

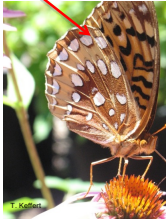
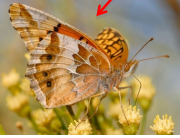

- Largest & most common
- Tan-colored band between large silvery-white spots on HW underside



FRITILLARIES

Variegated

- HW underside – no white spots, more splotchy
- Box around Black spots on FW/HW margins

Monarch and Viceroy



Monarch

- Larger
- No black line across
- Males have black scent spot
- Glides with wings in V pattern
- More powerful wingbeats

HABITAT: Fields with milkweed




Viceroy

- Smaller
- HW has a black line across
- Mimics Monarchs
- Glides on flat wings
- Flies w/ shallow wingbeats


HABITAT: Willows – major food

American Lady and Painted Lady




"Big eyes and an open mind"

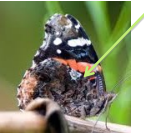
- FW eyespots
- Open black band FW
- Underside: HW 2 large eyespots



American Lady



- No eyespots, black dots
- Closed black band FW
- Underside: HW small poorly defined eyespots



Painted Lady

BOTH:
"cobwebbing"
on HW underside



Common Buckeye

Identifying Features

- Medium size
- Unique eyes of FW and HW
- FW orange bars on top and undersides

Habitat

- Open areas, fields
- Common



Red Admiral

Identifying Features

- Medium size
- Distinctive red bands on black
- FW/HW white spots on apex with a touch of blue

Habitat

- Likes rotting fruit, scat
- Open areas, nectars

American Snout

Identifying Features

- Medium size
- Snout – protrusion from head very distinct!
- Angular wings and dark margins
- Orange color near body



Habitat

- Hackberry – major food source
- Forested streams, marsh, fields

SKIPPERS *Hesperiidae*

- ❖ Small to medium butterflies
- ❖ Larger bodies, smaller angular wings
- ❖ Hooked antennae
- ❖ Erratic “skipping” flight
- ❖ Challenging to identify



SKIPPERS: *Two groups*

SPREAD-WINGED



SEMI-OPEN TO CLOSED



Silver-Spotted Skipper



Identifying Features

- Larger body, hooked antenna
- Medium size
- White spot with sharp edges on HW underside

Butterfly Viewing Conditions

1. Optimal air temperature for butterfly activity: 80°-90°F (60-100°F acceptable)
2. No or little wind, and no rain.
3. Relatively low cloud cover or shade.
4. Remember to record this information if you are keeping records!





Observation

- ❖ Walk slowly around your area
- ❖ Avoid shadow on butterfly - needs the sun
- ❖ Use binoculars for closer details
- ❖ Take photos to help identify
- ❖ Data matters! Don't guess! Use 2-3 characteristics to identify species
- ❖ Make field notes, then get help if needed

Internet Resources

- ❖ Butterflies and Moths of North America (BAMONA) www.butterfliesandmoths.org
- ❖ Butterflies of America www.butterfliesofamerica.com
- ❖ The Va Rare Species Atlas www.vararespecies.org
- ❖ North American Butterfly Association (aka NABA) www.naba.org
- ❖ Piedmont Va. Native Plant Database www.albemarle.org/nativeplants

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