

# Butterflies

## Order Lepidoptera



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# Butterfly Watching

- Catch, examine, release
- Observe with binoculars
- Photograph



# Anatomy



Abdomen

Thorax

## Head

- Antennae
- Compound Eyes
- Proboscis

## Wings

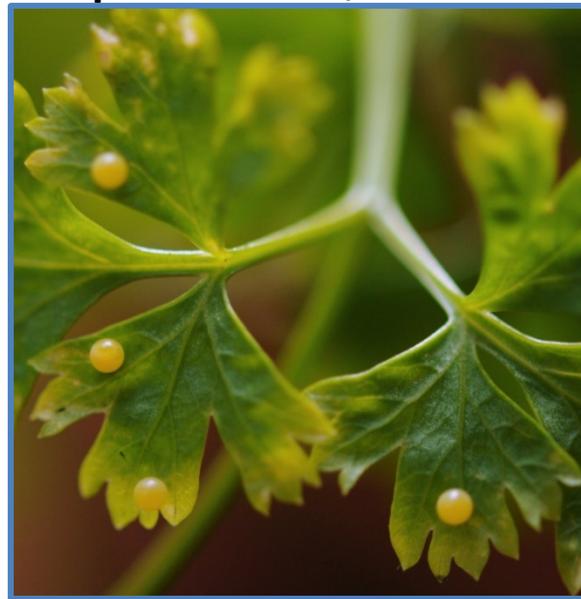
- Forewings are larger than the hind wings

## Body has 3 parts

- Wings, legs attached to thorax

# Butterfly Life Cycle - Eggs

- Eggs laid on larval host plant
- Many different egg-laying patterns; forms of egg



# Butterfly Life Cycle - Larva

- Larva's skin has limited elasticity.
- As larva grows, it has to shed the skin.
- Each molting stage is called an "instar"



s.

# Butterfly Life Cycle - Pupa



- The final instar transforms into a pupa (chrysalis)
- Covering is made of hardened protein
- Pupae often look like a twig or leaf, or hidden in duff
- Moths make cocoon spun from silk

# Butterfly Life Cycle - Emergence



Emerging butterfly pumps fluid from abdomen into wings.

Fluid flows thru veins to shape the wings

# Butterflies & Plants

Butterflies depend on

- Host plants—for larvae
- Nectar plants—for adult

Adult lays eggs on/near larval host plants



Some species rely on one species of plant for food, are vulnerable to habitat loss.

Others are generalists that will feed on variety of plants.

Butterfly or Moth?

# Butterfly or Moth?

- Time of day is a clue
  - But many moths fly during the day (diurnal)
- Moths can be colorful

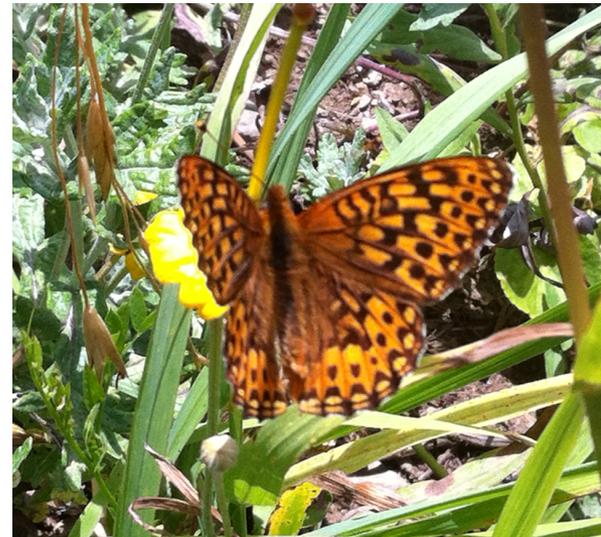


# Butterflies

- Butterflies rest with wings up or in “jet fighter” position



- Butterflies bask with wings spread



# Moths

Moths often rest with wings

or



# Butterfly or Moth?

- Butterfly: Slender antennae with clubbed end
- Moth: Feathery or pointed end



# Butterfly or Moth?

- Watch where they go when disturbed
  - Butterflies fly upward
  - Moths fly down and often disappear



# Washington Butterfly Species

- Objectives:
  - Names of common, easy to identify species
  - Help you get to right section of field guide for other species
  - See more butterflies; be aware of them when they're around you

## Main groups found in WA:

### **Skippers**

- Spreadwing skippers
- Grass skippers

### **“True Butterflies”**

- Swallowtails and parnassians
- Pierids—Whites and sulphurs
- Lycaenids—Coppers, hairstreaks, blues
- Nymphalids—Fritillaries, admirals, checkerspot, monarch, mourning cloak

# Spreadwing skippers



- 1.5-2" wingspan
- Dark gray or brown
- Stay close to the ground

# Grass skippers

Small and brown/tawny

Larvae eat grasses



# Woodland skipper

- >1" wingspan
- July & August
- Common in yards, parks in town



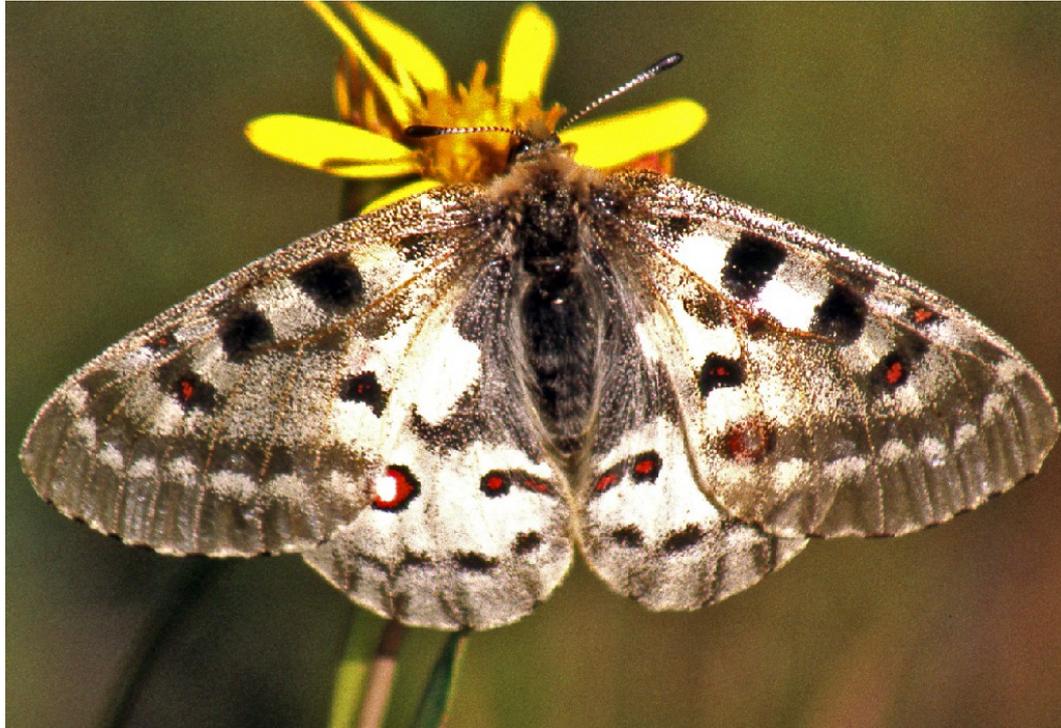
# SWALLOWTAILS



Western Tiger Swallowtail

>3.5"

# Parnassians



- Semi-transparent white
- Large red spots
- Found in countryside and mountain areas
- 2 similar species, found at different elevations
- 2.5 -- 3"

## Whites & Sulphurs: Pierids



### Cabbage White

- White upperside with black tips
- Two (female) or One (male) spots
- Very common butterfly in town
- 2"



## Sara Orange Tip

- Orange wing tips
- White or yellow wings
- Males are white; females yellow
- 1.5"

# Sulphurs



- Yellow, usually with some spots
- Hard to distinguish among species

# Coppers, Blues, Hairstreaks: Lycaenids



- Males are blue on the upperside; females brownish
- Underside usually grayish with pattern of white, black, and sometimes orange spots
- .75 – 1.5”

## Blues

# Coppers

- 1.25" – 1.5" wingspan
- Males and females look different
- Most have orange zigzag on upper hindwing





# Hairstreaks

- “Hair” refers to tails
- Some more noticeable than others
- May be broken off or absent
- 1” – 1.5” wingspan



# Brush-foot butterflies: Nymphalids



Lorquin's Admiral

- 3" wingspan
- Black on dorsal (upper) side
- Band of white rectangular spots
- Orange-brown wing tips

# Mourning Cloak



- 3" wingspan
- Winters in adult stage so seen in winter on warm days, early spring, late fall

# “Greater” and “Lesser” Fritillaries



Coronis fritillary (“greater fritillary”)

3” wingspan

Large spots on ventral (underneath)  
side of wings

Spots may be silvered or opalescent



Western meadow fritillary (“lesser  
fritillary”)

1.75” wingspan

Ventral pattern of mottled lavender and  
russet

# Checkerspots



- 1.75" – 2.25" wingspan
- White spots on black or orange
- Yellow or red antennae
- Several very similar species

Photo by Dave Shema

# Painted Lady



- 3" wingspan
- Orange center, black wing tips and edges. Photo by Dave Nunnallee
- Trailing end black spots
- Occasional population explosions in Mexico cause massive northward migrations

# Satyr anglewing



- Also called satyr comma because of comma-shaped mark on hindwing
- Irregular wing shape
- Ventral wings have cryptic color pattern
- 2.25"

# Satyrs: Ochre Ringlet



1.5" wingspan

# Common Wood Nymph



- 2" wingspan
- Brown with 2 eye spots on forewing
- Dark wood nymph similar but spots are unequal size

# Stay involved

## Washington Butterfly Association

Field trips and presentations

Novices welcome

Beginner-oriented group

<http://wabutterflyassoc.org>

## Stay involved

1. Cascade Butterfly Project needs volunteers, no experience necessary.

Help NPS monitor butterflies and hike beautiful trails. Weekdays.

2. Upload your photos of butterflies to *Butterflies and Moths of North America*. Experts will ID the bugs. [www.butterfliesandmoths.org](http://www.butterfliesandmoths.org)

## RESOURCES

- Butterflies of America—identification and photos <http://butterfliesofamerica.com/>
- Butterflies and Moths of America—identification and photos <http://www.butterfliesandmoths.org/>
- N. American Butterfly Ass'n <http://naba.org/>
- Pacific NW Moths—identification tool <http://pnwmoths.biol.wvu.edu/>

## BOOKS

- *Butterflies of Cascadia*, Robert Michael Pyle  
best guide to butterflies of Washington and Oregon
- *Life Histories of Cascadia Butterflies*, David James and David Nunnallee. Magnificent, awesome book with fantastic photos of every life stage of every butterfly found in Washington and Oregon; informative section about bf life history
- *Butterflies of North America*, Jim Brock and Kenn Kaufman

# Mountaineers lecture series

- Dave Nunnallee presentation about 'blues' and buckwheats
- Feb 14, 2018

# Introduction to the Natural World Butterfly ID Practice

# Butterfly 1

Western Tiger Swallowtail



# Butterfly 2

## Cabbage White



# Butterfly 3

Blue



# Butterfly 4

Cinnabar moth



# Butterfly 5

Lesser Fritillary



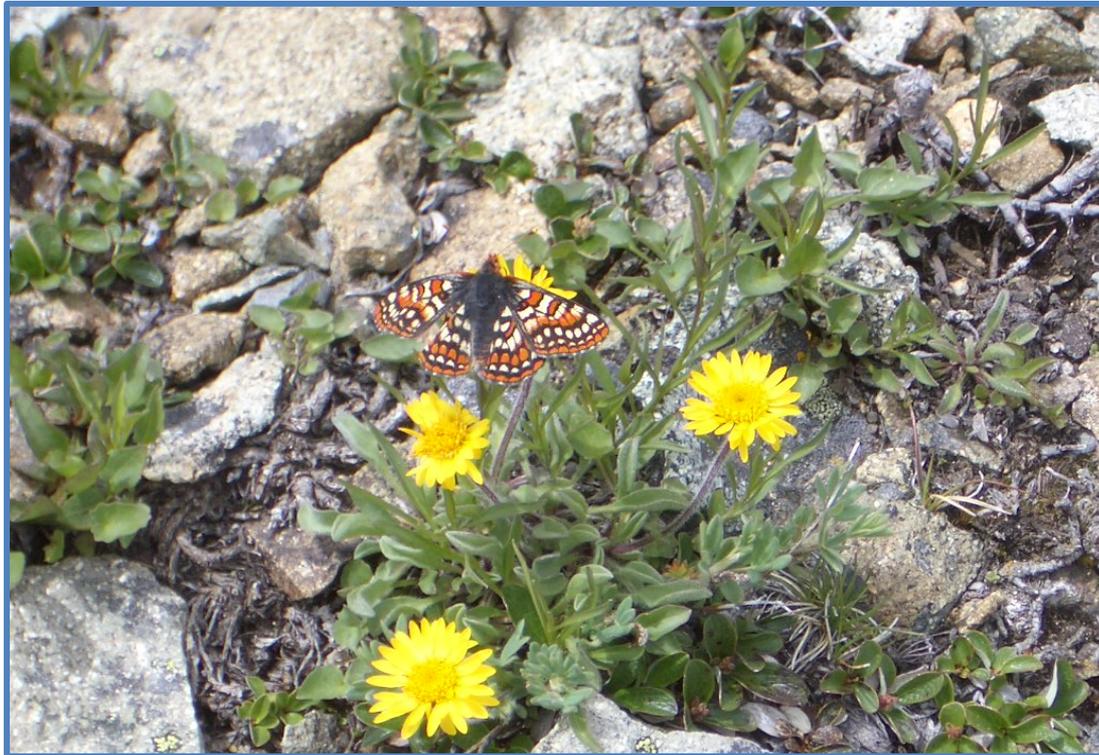
# Butterfly 6

## Greater Fritillary



# Butterfly 7

## Checkerspot



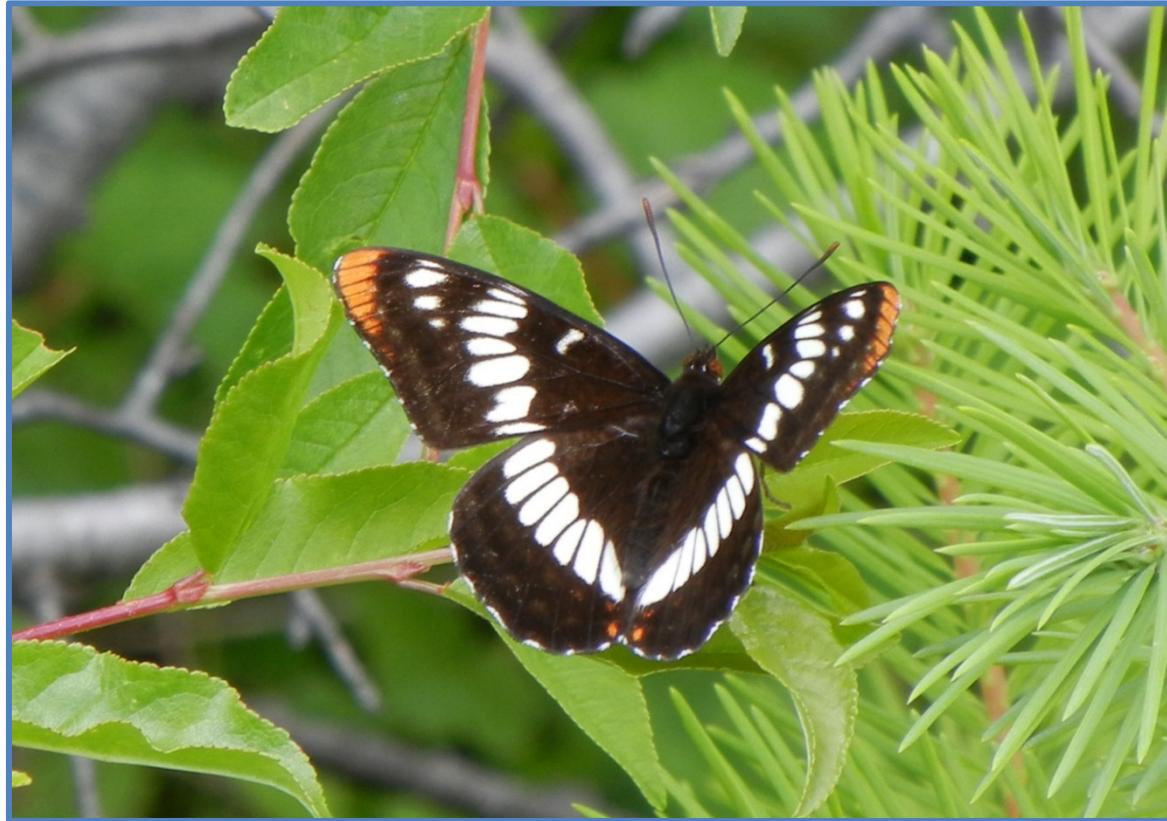
# Butterfly 8

Woodland skipper



# Butterfly 9

Lorquin's Admiral



# Butterfly 10

## Mourning Cloak



# Butterfly 11

Painted Lady



# Questions?

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