



Attracting Butterflies

(and moths, too!)

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agenda

- Life Cycle of Butterflies
- Kinds of Butterflies
- Needs of Wildlife & Butterflies
- Gardening for Butterflies





butterflies and moths

- How are they the same?
- How are they different?



similarities

- Four showy wings
- Scaly wings (Order Lepidoptera)
- Obvious antennae
- Complete (4-stage) metamorphosis




differences



◦ Butterflies

- Diurnal
- Club-like antennae
- Narrow bodies
- Front and back wings do not join



◦ Moths

- Mostly nocturnal
- Feathery antennae
- Plump, hairy bodies
- Front and back wings hook together



ecosystem

- Butterflies, moths, and caterpillars are all important contributors to a healthy ecosystem:
- Pollination
- Food web



Yellow-collared
scape moth



Yellow warbler

 did you know?

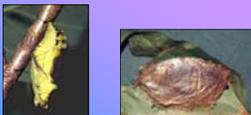
- There are 72 common species of butterflies in the Delaware valley
- There are 1,080 species of moths in the same area
- There's a third group of Lepidoptera called skippers



Delaware Skipper

 complete metamorphosis
Four Stages






1. Egg 2. Larva (caterpillar)

3. Pupa (chrysalis/cocoon) 4. Adult

 life cycle

- Most live one year from egg to death
- Most of life is usually egg, caterpillar, or pupa (over-wintering is easier)
- Single or multiple broods per year



 swallowtails







Black swallowtail
←

Eastern tiger swallowtail
↙

♀ ♂ ♀ ♂

 swallowtails





Pipevine swallowtail Spicebush swallowtail

Red-spotted purple
(not a swallowtail)

Host plants: wild fruit trees, parsleys, pipevine

 did you know?




early instar late instar

- The "parsley caterpillar" is the larva of the Black swallowtail
- Many caterpillars mimic bird droppings as early instars

 whites and sulfurs



Orange sulfur



Cabbage white



Cloudless sulfur

Host plants: mustard, clover

 gossamer wings



Spring azure



American copper



Gray hairstreak

Host plants: holly, sorrel, dogwood, sumac

 brush-foots



Great spangled fritillary



Red-spotted purple



Question mark



Painted lady



Red admiral



Mourning cloak

 did you know?

There are two "ladies" in our area



American Lady



Painted Lady





 brush-foots



Pearl crescent



Viceroy



Monarch

Host plants: violet, black cherry, milkweed
Adults may feed on rotting fruit, dung

 Did you know?



- Brush-foots have shortened front legs used for tasting food, including testing food plants before laying eggs

 sphinx moths



Hummingbird moth



White-lined sphinx moth

Host plants: ash, catalpa, tobacco, tomato

 silk moths



Cecropia



Luna

Host plants: deciduous trees

 lights off, please!

- Moths use the moon and stars to navigate
- They will circle a light bulb until they die from exhaustion
- Use motion detectors on outdoor lights



 bum rap

- Only about 1% of moths are pests in any way
- Only 1/10 of those (0.1% total) are serious pests
- The other 99% are beneficial



 needs of wildlife

- What are the needs of wildlife?

 needs of wildlife

- Food
- Water
- Cover & places to raise young
- Sustainable gardening



food

What do butterflies eat?



food

- Most adult butterflies eat nectar, some eat rotting fruit or sap
- Most caterpillars eat plant leaves or tender shoots (host plants)



did you know?

- Some butterflies get minerals from mud, dung, or carrion



You just can't get this stuff in nectar!

sources of water

- Nectar
- Dew & rain drops
- Puddles



cover

- Shrubs and trees shelter adults from wind, rain & predators
- They also provide cover for sleeping & mating
- Caterpillars and pupae also need cover



Skipper caterpillar

cover

- Shrubs for wind and rain
- Log piles for adults in winter
- Leaf litter, leaves on trees, and brush piles for caterpillars and chrysalises



chrysalis in leaf litter



Caterpillar curling a leaf



sustainable gardening

- Integrated Pest Management
 - Minimize pesticides
- Naturalized areas
- Native plants



gardening for butterflies

- Based upon what we've learned so far, what can you do to attract butterflies to your yard?



attracting butterflies

- Nectar plants for adults and host plants for caterpillars
- Puddles and "misterters" for water
- Shrubs, woodpiles, etc for shelter
- Look for eggs, caterpillars, and pupae when weeding, pruning & raking
- Plates of overripe fruit



gardening

- Assess your site: soil type, sun, moisture, temperature zone
- Make a plan
- Start small, then expand
- Plant in groups (en masse)



native plants

- There are native plants that are attractive to butterflies and other wildlife and are suitable for any gardening need
- The following are just some examples. See plant lists on website for many others, for growing conditions, and for botanical names



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trees

- Black cherry
- Sweet crab apple
- Flowering dogwood



 trees

- Sweetbay magnolia 
- River birch 
- Redbud 

 shrubs

- chokeberry 
- Redtwig dogwood 
- Flame azalea 

 shrubs

- Buttonbush 
- Sweet pepperbush 
- Blueberry 

 an inconvenient truth

- Butterfly bush is an invasive species in SE Pennsylvania
- It displaces native plants
- It is not a host plant
- It keeps butterflies from pollinating native plants



I said "Thanks, but no thanks. It's the shrub to nowhere!"

 vines

- Coral honeysuckle 
- American or Kentucky wisteria 
- Dutchman's pipe 

 vines

- virgin's bower 
- Trumpet creeper 
- virginia creeper 

 nectar flowers

- Multiple small flowers generally preferred to single, large flower

Compound Umbel



Composite flower



- More nectar, place to land

 milkweeds

- Bloom June- August
- Host plants, too!



Butterfly weed



Swamp milkweed



Common milkweed

 Joe Pye weed

- 3-8'
- July - September
- Mauve or white
- Tall or dwarf



 Verbena

- June - October
- Full sun



Rose verbena
6-12", dry



Blue vervain
36-60", moist

 aster

- 1-5'
- August - October
- Pink, white, purple, blue



 coneflower

- June - October
- Some are fragrant









 cup plant

- 4-8'
- June - September




 monarda

- June - September
- Tall or dwarf
- Hummingbirds






 culver's root

- 4-6'
- July-September
- Moist soils




 rudbeckia

- 2-6'
- Full sun to partial shade



Orange coneflower



Cutleaf coneflower



Gloriosa daisy

 ironweed

- 2-12'
- Full sun to partial shade
- Different species tolerate dry or moist soils



 annuals

- Not Native
- Non-invasive
- June - October
 - Zinnia
 - Cosmos
 - Tithonia







gardening tips

- Plant for a full season of flowers - Spring to Fall
- Create a complete habitat
- You can have a butterfly garden in almost any condition



summary

◦ Most plants are just as important as nectar plants if not more so



◦ The huge variety of butterfly plants suit any garden



◦ Go native!



questions?

For copies of presentation and other information, visit

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