New Jersey Butterflies

Everything that you know that just ain’t so!

40th Annual Rutgers Home Gardeners School
March 19, 2016
Butterfly Garden Necessities

1. **Plant native flowering plants** - Because many butterflies and native flowering plants have co-evolved over time and depend on each other for survival and reproduction, it is particularly important to install native flowering plants local to your geographic area. Native plants provide butterflies with the nectar or foliage they need as adults and caterpillars.

2. **Plant type and color is important** - Adult butterflies are attracted to yellow, white, pink, and purple blossoms that are flat-topped or clustered and have short flower tubes.

3. **Plant good nectar sources in the sun** - Your key butterfly nectar source plants should receive full sun from mid-morning to mid-afternoon. Butterfly adults usually feed only in the sun. If sun is limited in your landscape, try adding butterfly nectar sources to the vegetable garden.

4. **Plant for continuous bloom** - Butterflies need nectar throughout the adult phase of their life span. Try to plant so that when one plant stops blooming, another begins.

5. **Say no to insecticides** - Insecticides such as Roundup, Sevin, and diazinon are marketed to kill insects. Don't use these materials in or near the butterfly garden or better, anywhere on your property. Even "benign" insecticides, such as *Bacillus thuringiensis*, are lethal to butterflies (while caterpillars).

6. **HOWEVER MALATHION IS SAFE AND USED IN THE BUTTERFLY REARING COMMUNITY**

7. **Feed butterfly caterpillars** - If you don't "grow" caterpillars, there will be no adults. Bringing caterpillar foods into your garden can greatly increase your chances of attracting unusual and uncommon butterflies, while giving you yet another reason to plant an increasing variety of native plants. In many cases, caterpillars of a species feed on only a very limited variety of plants. Most butterfly caterpillars never cause the leaf damage we associate with some moth caterpillars such as bagworms, tent caterpillars, or gypsy moths.

8. **Provide a place for butterflies to rest** - Butterflies need sun for orientation and to warm their wings for flight. Place flat stones in your garden to provide space for butterflies to rest and bask in the sun.

9. **Give them a place for puddling** - Butterflies often congregate on wet sand and mud to partake in "puddling," drinking water and extracting minerals from damp puddles. Place coarse sand in a shallow pan and then insert the pan in the soil of your habitat. Make sure to keep the sand moist.
Milkweeds Most Frequently Used by Monarch in Eastern U.S.
1. Asclepias amplexicaulis
2. Asclepias arenaria
3. Asclepias asperula
4. Asclepias curassavica
5. Asclepias engelmanniana
6. Asclepias fascicularis
7. Asclepias hirtella
8. Asclepias incarnata
9. Asclepias latifolia
10. Asclepias ovalifolia
11. Asclepias pumila
12. Asclepias purpurascens
13. Asclepias quadrifolia
14. Asclepias speciosa
15. Asclepias stenophylla
16. Asclepias sullivantii
17. Asclepias syriaca
18. Asclepias tuberosa
19. Asclepias variegata
20. Asclepias verticillata
21. Asclepias viridiflora
22. Asclepias viridis
23. Calotropis procera

Indigenous Asclepias of New Jersey
1. Asclepias amplexicaulis
2. Asclepias exaltata
3. Asclepias lanceolata
4. Asclepias incarnata
5. Asclepias purpurascens
6. Asclepias quadrifolia
7. Asclepias rubra
8. Asclepias syriaca
9. Asclepias tuberosa
10. Asclepias variegata
11. Asclepias verticillata
12. Asclepias viridiflora

The new villain on the block seems to be “Tropical Milkweed.” With a little bit of luck Asclepias curassavica has a hardy zone up to 8B. Otherwise it stiff city when temperatures hit 10F. By planting it in your area will not stop the monarchs from migrating! External stimuli tiger the migration response and not the availability of milkweed.

Two interesting milkweeds to consider.
The Bishop’s Balls A. physocarpa and/or Gomphocarpus physocarpus
Sweet Vanilla Butterfly Flower Asclepias incarnata 'Soulmate'
# Suggested Butterfly Plantings

<table>
<thead>
<tr>
<th><strong>Perennials</strong></th>
<th><strong>Annuals</strong></th>
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</thead>
<tbody>
<tr>
<td>Asters - late summer to fall</td>
<td>Alyssum - summer to mid-fall</td>
</tr>
<tr>
<td>Bee Balm - Bergamot - summer through fall</td>
<td>Candy Tuft - spring to summer</td>
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<tr>
<td>Butterfly weed - summer through fall</td>
<td>Common Stock - spring to summer</td>
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<tr>
<td>Coreopsis - all summer</td>
<td>Cornflower - summer</td>
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<tr>
<td>Hollyhock - summer</td>
<td>Cosmos - late summer to fall</td>
</tr>
<tr>
<td>Lavender - summer</td>
<td>Cosmos - late summer to fall</td>
</tr>
<tr>
<td>Lupine - late spring to early summer</td>
<td>Lobelia - summer into fall</td>
</tr>
<tr>
<td>Mints - all summer</td>
<td>Marigold - summer into fall</td>
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<tr>
<td>Phlox - all summer</td>
<td>Mexican sunflower Sage - summer to fall</td>
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<tr>
<td>Purple coneflower - late summer into fall</td>
<td>Nasturtium - late summer</td>
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<tr>
<td>Shasta daisy - summer</td>
<td>Salvia - summer into fall</td>
</tr>
<tr>
<td>Thistles - late spring through fall</td>
<td>Verbena - spring to fall</td>
</tr>
<tr>
<td>Yarrow (mid to late summer)</td>
<td>Zinnia - mid-summer to fall</td>
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**Rick’s Picks**
- Double Play® Big Bang Spirea (Spirea)
- 'Silver Brocade' Artemisia (Artemisia stelleriana)
- Wild Senna (Cassia hebecarpa)
- 'Red Shift' Coreopsis
- 'Oranges and Lemons' Blanket Flower (Gaillardia x grandiflora)
- 'Solar Flare' Coneflower (Echinacea)
- 'Pow Wow Wild Berry' Coneflower (Echinacea purpurea)
- Little Annie coneflower (Echinacea purpurea)
- 'Warm Summer' Coneflower (Echinacea)
- Monarda, Coral Reef
- White turtlehead (Chelone glabra)

**Buddleia**
These hybrids produce less than 2% of viable seeds of traditional butterfly bushes so they are considered non-invasive varieties. The State of Oregon, which has a rigorous ban on Buddleia in
place, has recently amended their ban to allow these listed non-invasive cultivars. This list has the safest Buddleia you can feel comfortable with

Buddleia Lo & Behold® ‘Blue Chip’
Buddleia ‘Asian Moon’
Buddleia Lo & Behold® ‘Purple Haze’
Buddleia Lo & Behold® ‘Ice Chip’ (formerly ‘White Icing’)
Buddleia Lo & Behold® ‘Lilac Chip’
Buddleia ‘Miss Molly’
Buddleia ‘Miss Ruby’
Buddleia Flutterby Grande™ Blueberry Cobbler Nectar Bush
Buddleia Flutterby Grande™ Peach Cobbler Nectar Bush
Buddleia Flutterby Grande™ Sweet Marmalade Nectar Bush
Buddleia Flutterby Grande™ Tangerine Dream Nectar Bush
Buddleia Flutterby Grande™ Vanilla Nectar Bush
Buddleia Flutterby Petite™ Snow White Nectar Bush
Buddleia Flutterby™ Pink Nectar Bush
DEER ‘RESISTANT’ BUTTERFLY FLOWERS
Ageratum
Anise Hyssop
Asclepias
Astilbe
Alyssum
Baby's breath
Black-eyed Susan
Bleeding Hearts
Buddleia Davidii
Bellflower
Blue star anemone
Candytuft
Columbine
Coreopsis
Cosmos
Cornflower
Delphinium
Evening primrose
False indigo
Ferns & Ornamental Grasses provide hiding places
Feverfew
Foxglove
Gas plant
Globe Thistle
Goldenrod
Heliotrope
Joe-pye weed
Lavender
Lemon Balm
Lobelia
Marigold (Tagetes)
Mexican Mint
Mint
Monarda
Montauk Daisy
Oregano
Painted daisy
Perennial blue flax
Phlox -Moss Pinks
Purple cone flower
Tansy
Tiger lily
Turtlehead
Sage - Garden, Meadow, and Russian Sage
Shasta daisy
Spike gayfeather
Sweet william
Verbena
Veronica
Yarrow
Zinnia
Shade Plants for Butterflies

**Partial Shade**
Ageratum
Asters - May not get quite as large as their sunny cousins,
Catchfly
Columbine
Dill and Parsley are both good host for Black swallowtails
Dutchman's breeches
Foxglove
Daylilies
Dianthus - Some varieties do very well in the shade.
Globe Amaranth - gives a lot of color and nectar to the garden
Goldenrod
Impatiens
Lobelia
Marigolds - can do great with very little sun
Milkweeds Red-Swamp milkweed A. incarnata, Butterfly weed A. tuberosa
Monarda
Moonbeam Coreopsis
Nicotiana
Periwinkle
Pink turtlehead
Purple Coneflower
Rudbeckia
Salvia - Lady in Red
Shasta Daisy - Seems to do ok in partial shade.
Sweet Alyssum
Thyme
Violets

**Full Shade**
Bleeding heart
Shooting star
Ferns
Hosta
Plantain lily
Cardinal flower
Meadow rue
Seaside Suggestions for Butterflies

**Annuals for the Seashore**
Ageratum - sun
African Daisy - sun
Alyssum - sun
Dahlia - sun
Dianthus - sun
Gerbera Daisy - half day sun
Impatiens - shade - some sun
Marigolds - sun
Petunias - sun
Portulaca - sun
Salvia - sun
Snapdragons - sun
Vinca - sun - some shade
Zinnias – sun

**Perennials for the Seashore**
Achilleas - yarrow
Anaphalis - pearly everlasting
Anthemis - golden marguerite
Armeria - sea pink
Coreopsis - tick seed or pot of gold
Erigeron - fleabane
Gaillardia - blanket flower
Gypsophila - babies' breath
Hemerocallis - day lily
Hibiscus - Southern Belle – marshmallow (Native)
Timonium - sea lavender- hardy statice
Lythrum - loosestrife
Physostegia - false dragonshead, obedient plant
Rudbeckia - cone flower
Sedums
Veronica – speedwell

**Ground Covers for the Seashore**
Achillea species - yarrow
Armeria maritima - Thrift
Arctostaphylos uva-ursi - Bearberry
Calluna vulgaris - Scotch Heather
Fragaria vesca americana - American Strawberry
Gypsophila repens rosea - Rosy Creeping Gyp
Hemerocallis - Day lily
Iberis sempervirens - Candytuft
Plants to repel insect pests or attract beneficial insects include:

1. Sweet basil: repels harmful pests and insects, do not plant near rosemary.
2. Parsley, wards off harmful pests and insects do not plant near mint.
3. Chives: repels harmful pests and insects, do not plant near beans or peas.
4. Marigold: repels harmful pests and insects including nematodes, one of the best natural insect repellents, use this one everywhere.
5. Mint: repels harmful pests and insects, be careful they can take over the garden.
6. Dill: attracts beneficial insects and repels many harmful pests and insects, however do not plant near tomatoes or carrots, as it attracts tomato horn worms.
7. Petunias: trap many harmful pests and insects and attract beneficial insects like bees.
8. Tarragon: pests and insects do not like this plant, it is also known to enhance the growth and flavor of other plants grown with it.
9. Garlic: kills or repels many harmful insects, also has properties as a fungicide.
10. Rosemary: deters many pests and insects, do not plant near basil.
11. Oregano: repels many harmful insects can be used with most plants.
15. Lovage: similar to celery, considered a great companion plant, repels many harmful insects, also is said to improve the health of plants around it. Also attracts ground beetles (beneficial).

Do not plant these together:

- Do not plant tomatoes with potatoes or rotate to the same spot.
- Do not plant rosemary near basil.
- Do not plant dill near tomatoes or carrots.
Non-toxic and Homemade Remedies

1. **Soft-bodied insects (mites, aphids, mealybugs):**
   Mix one tablespoon canola oil and a few drops of Ivory soap into a quart of water. Shake well and pour into a spray bottle. Spray plant from above down, and from below up to get the underside of the leaves. The oil smothers the insects.

2. **Grubs:**
   For lawn or garden grubs, there is a natural remedy called milky spore. The granules are spread on the soil and cause the grubs to contract a disease that kills them. This natural control affects only the grubs, leaving the beneficial organisms unharmed. Milky spore multiplies over time and will sit inactive, waiting for grubs to infect. One treatment is said to last 40 years. The grubs are actually the larvae of Japanese beetles. So, when you kill the grubs you kill the beetle.

3. **Mites and other insects:**
   Mix two tablespoons of hot pepper sauce or cayenne pepper with a few drops of Ivory soap into a quart of water. Let stand overnight, then stir and pour into a spray bottle and apply as above. Shake container frequently during application.

4. **Earwigs, slugs, and other soft-bodied garden pests:**
   Sprinkle diatomaceous earth over plants and around edges of garden beds. The diatoms particles are very small and sharp – but only harmful to the small exoskeletons of insects, slugs and snails. Insects cannot become immune to its action, as it is a mechanical killer – not a chemical one.

5. **Fungal diseases:**
   Mix two tablespoons of baking soda into a quart of water. Pour into a spray container and spray affected areas. Repeat this process every few days until problem ceases.

6. **Powdery mildew:**
   Mix equal parts milk and water and spray on infected plants. Three treatments a week apart should control the disease.

7. **Insects and fungal diseases:**
   Combine one tablespoon of cooking oil, two tablespoons of baking soda and a few drops of Ivory soap into a quart of water. Pour into a spray container and apply as above.

8. **Insects on fruit trees:**
   Lime sulfur and dormant oil, available at nurseries and garden centers, can be sprayed on the trunk and branches of dormant fruit trees. This concoction will suffocate insect egg cases. Because the oily spray is heavy compared to the other water-based sprays, you'll need a pump sprayer. These are fairly inexpensive, and are available to rent from some nurseries. Only use this method while the tree is dormant, however, or it can kill the tree.

Commercial dormant oils may contain petroleum oil or kerosene. A less toxic method is to make your own. Mix 1 cup vegetable oil and 2 tbsp liquid soap in one gallon (4 liters) water. Mix the soap and oil first, then add the water. Shake often during use.
Resources

Rick’s sites
http://www.butterflyrick.com - Rick’s personal site
http://www.butterflywebsite.com – Over 3,00 pages of butterfly information
http://www.butterflyrescue.com – Butterfly Rescue International

Images for Butterflies of New Jersey
http://www.naba.org/chapters/nabanj/images.html

Native Butterfly Plants of New Jersey
http://www.npsnj.org/PDFs/articles/Native_Butterfly_Plants_NJNPS_list2.pdf

Native plants of NJ, NY, and PA
http://www.plantnative.org/rpl-nypanj.htm

Monarch Watch
Chip Taylor’s great site for all things Monarch. Keep up with populations every day of the year.

Finding, Collecting, and Growing Milkweed

Raising Butterflies
http://www.raisingbutterflies.org Great site on how to raise various species of butterflies.

The USGS site shows photos of North American butterflies at various stages in their lifecycle.
Searchable by State:

Association for Butterflies
http://afbeducation.org/ https://www.facebook.com/AssociationForButterflies/
Association for Butterflies was established to support butterfly farmers and hobbyists through education, mentoring, and research. We are dedicated to educating both farmers and the public in the area of conservation by promoting butterfly habitats and gardening, and to provide resources that ensure quality raising practices for healthy butterflies.

International Butterfly Breeders Association
International Butterfly Breeders Association, Inc. Founded in 1998, IBBA is the largest and oldest professional butterfly farming trade association. Membership brings valuable knowledge, training and business benefits.