Milkweed Butterflies

AKA Monarchs

Laurie Cameron

Decline in Population

- The population of these once-common, iconic orange-and-black butterflies has seen a rapid decline of nearly seventy percent in the past two decades.
- One reason is that the heart of monarch breeding range is the agricultural areas in the midwest where milkweed plants have given way to corn and soybean fields.
- According to the Center for Biological Diversity, it's estimated that monarch butterflies may have lost more than 165 million acres of habitat — an area about the size of Texas — including nearly one-third of their summer breeding grounds in the past 20 years.

Monarch butterflies go through four stages during one life cycle, and through four generations in one year.

Life cycle

- All butterflies have "complete **metamorphosis**." To grow into an adult they go through 4 stages:
- egg,
- larva,
- pupa (AKA chrysalis), and
- adult.
- Each stage has a different goal - for instance, caterpillars need to eat a lot, and adults need to reproduce.

Life Cycle & Migration

- In February and March, the final generation of hibernating monarch butterflies comes out of hibernation to find a mate.
  - They then migrate north and east in order to find a place to lay their eggs.
  - This starts stage one and generation one of the new year for the monarch butterfly.

Life Cycle & Migration: March and April

The eggs are laid on milkweed plants.

Life Cycle & Migration: March and April

They hatch into baby caterpillars, also called the larvae. It takes about four days for the eggs to hatch..

Life Cycle & Migration: March and April

Then the baby caterpillar doesn't do much more than eat the milkweed in order to grow.

Life cycle continued

- After about two weeks, the caterpillar will be fully-grown and find a place to attach itself so that it can start the process of metamorphosis.
- It will attach itself to a stem or a leaf using silk and transform into a chrysalis (pupa)

Life cycle continued

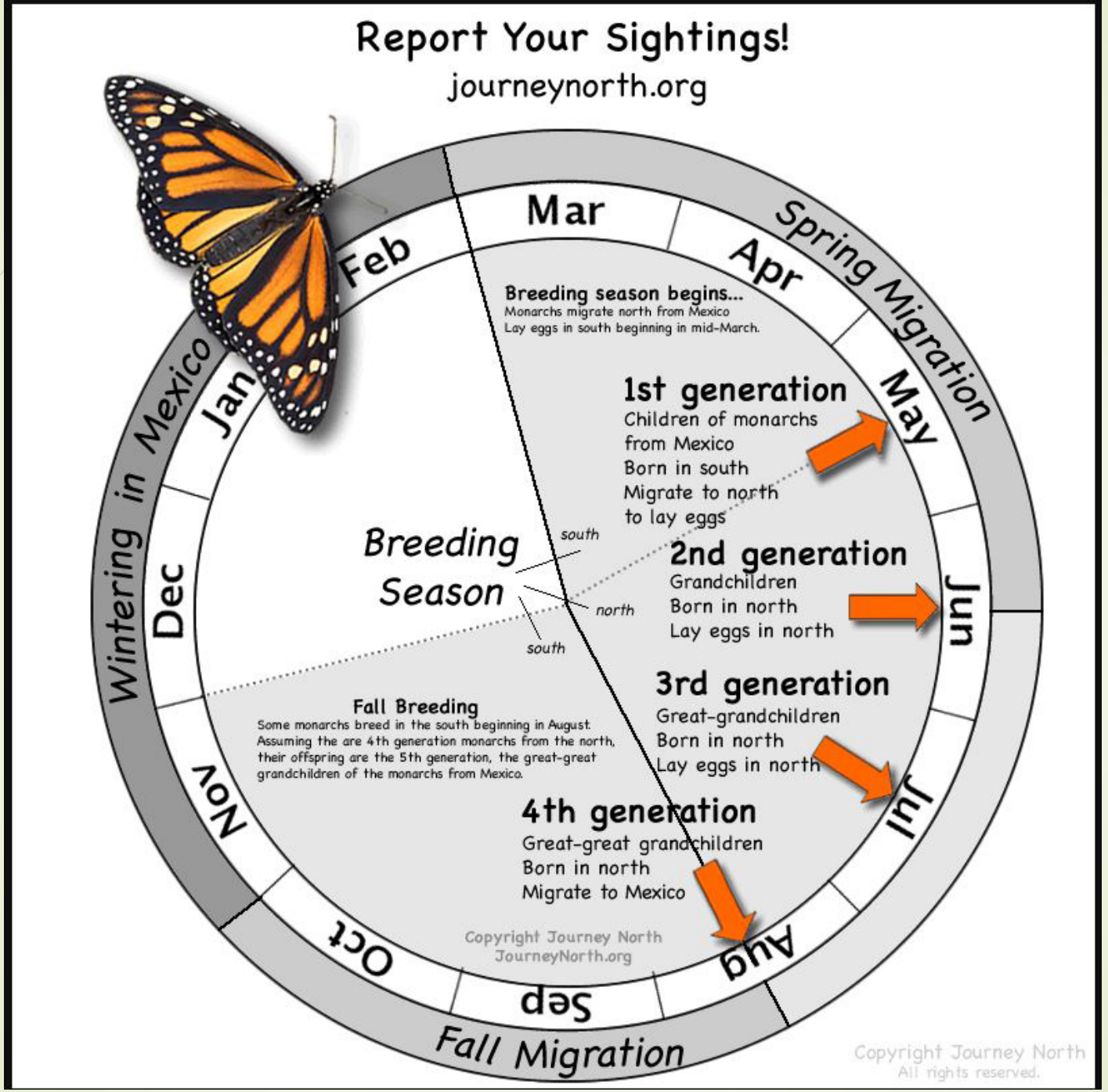
The butterfly will emerge from the pupa, do some stretching, and fly away.

Life cycle continued

- It will feed on flowers and just enjoy the short life it has left, which is only about two to six weeks.
- This first generation monarch butterfly will then die some weeks after laying eggs for generation number two.
- The second generation of monarch butterflies is born in May and June, and then the third generation will be born in July and August.

Fourth Generation

- The fourth generation of monarch butterflies is a little bit different than the first three generations.
- Born in September and October and goes through exactly the same process as the first, second and third generations except for one part.
- The fourth generation of monarch butterflies does not die after two to six weeks.
- Instead, this generation of **monarch butterflies migrates** to warmer climates like Mexico and California and will live for six to eight months until it is time to start the whole process over again.


Report Your Sightings!
journeynorth.org
Spring Migration
Fall Migration
Wintering in Mexico
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Breeding season begins...
Monarchs migrate north from Mexico
Lay eggs in south beginning in mid-March.
1st generation
Children of monarchs
from Mexico
Born in south
Migrate to north
to lay eggs
2nd generation
Grandchildren
Born in north
Lay eggs in north
3rd generation
Great-grandchildren
Born in north
Lay eggs in north
4th generation
Great-great grandchildren
Born in north
Migrate to Mexico
Breeding
Season
south
north
south
Fall Breeding
Some monarchs breed in the south beginning in August.
Assuming the are 4th generation monarchs from the north,
their offspring are the 5th generation, the great-great
grandchildren of the monarchs from Mexico.
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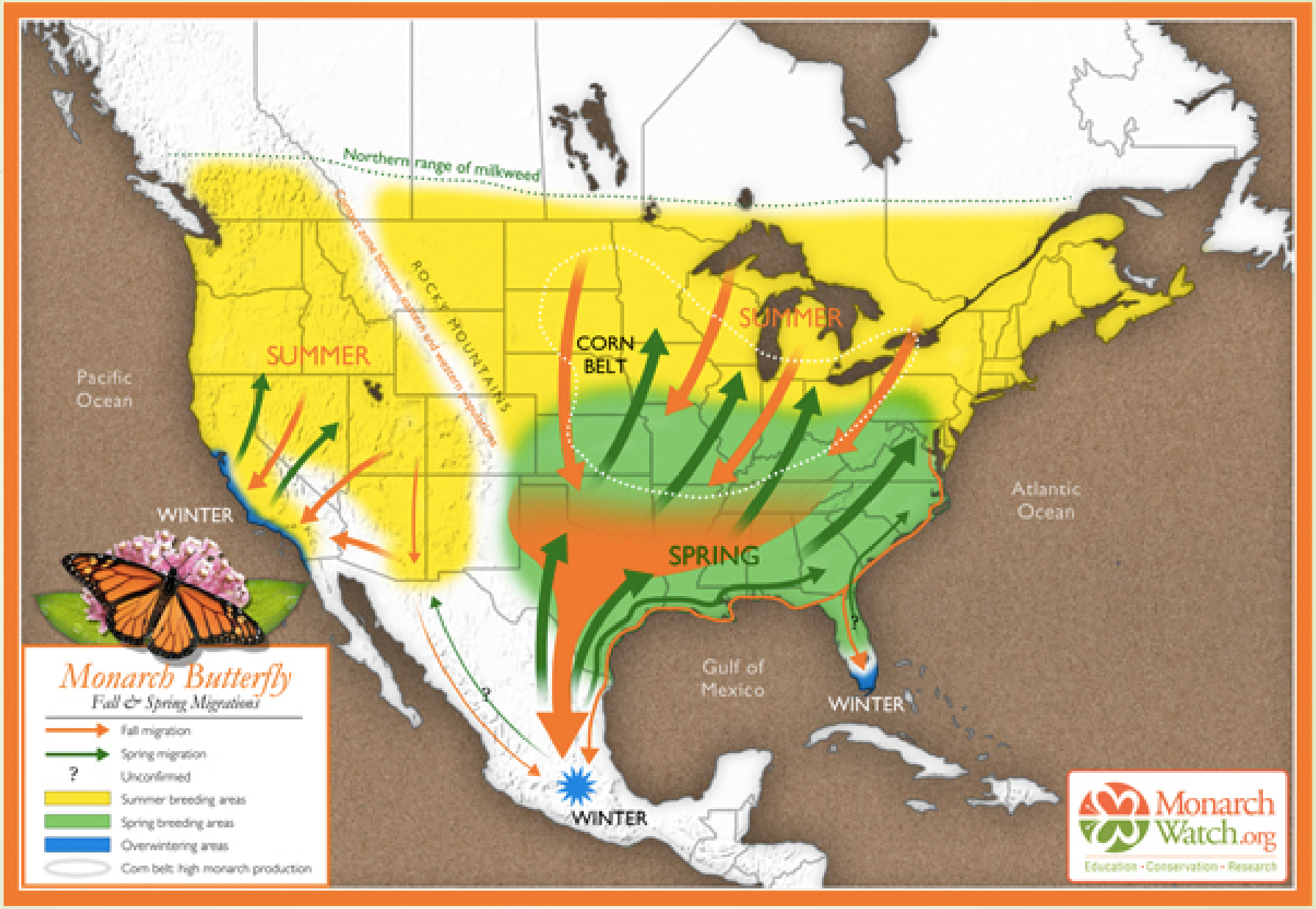
Planting the habitat

Monarch Joint Venture

- Include larval host plants. (Milkweeds). We have very few milkweeds growing here in the Verde Valley. We need more.
- Whenever possible, use native plants for your garden.
- Choose a diverse array of plants that flower at different times to attract butterflies throughout the growing season.
  - Plants that bloom early are critical for monarchs during the spring migration.
  - Plants that bloom mid-summer—???
  - Late blooming plants are critical during the monarch's long migration each fall.

Source:
https://monarchjointventure.org/images/uploads/documents/GardeningforMonarchs.pdf


Northern range of milkweed
Canada (some hostplants eastern and western populations)
ROCKY MOUNTAINS
SUMMER
CORN BELT
SUMMER
Pacific Ocean
Atlantic Ocean
WINTER
SPRING
Gulf of Mexico
WINTER
WINTER
Monarch Butterfly
Fall & Spring Migrations
Fall migration
Spring migration
? Unconfirmed
Summer breeding areas
Spring breeding areas
Overwintering areas
Corn belt: high monarch production
Monarch Watch.org
Education - Conservation - Research

Migration Patterns in Arizona

It was once believed that monarch butterflies East of the Rocky Mountains flew to the mountains near Mexico City for the winter and monarchs West of the Rockies flew to the coast of California.

Through Fall tagging in the Southwest (Arizona, Nevada, New Mexico, California deserts, Utah and Western Colorado), we have learned that this is not always the case.

To really understand their migration patterns, in this area a lot more research is needed.

Migration Patterns in Arizona

Queen


tag
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Monarch
Danaus plexippus
Painted Lady
Vanessa cardui
Viceroy
Limenitis archippus
Queen
Danaus gilippus

Milkweeds: NAU Study

Latifolia

Milkweeds: NAU Study

Linaria

Milkweeds: NAU Study

Augustifolia

Milkweeds: NAU Study

Subverticullata

Milkweeds: NAU Study

Asperula

Feeding Your Monarchs

Feeding Your Monarchs

Feeding Your Monarchs

- The characteristics of flowers may play a role in how they attract a butterfly for feeding.
- The flower has to be able to support the weight of the butterfly, and its legs have to be able to latch on to sit on the flower because butterflies don't hover while they feed (Boriqua 2009, Roth 2001).
- The shape of the flower or its blossom arrangement may also be a factor in attracting butterflies for feeding. Clustered flowers and flowers with spikes that have small, closely packed blooms may attract butterflies because they offer more sips of nectar in one visit.
- Daisy-type flowers might attract butterflies in this same way because the "button" in the center is really a group of miniature petal-less flowers packed close together (Roth 2001).
- But some large single flowers will attract butterflies too, although they have a limited amount of nectar in one flower. "Something important to think about is the length of the tube of the flower because the butterfly has to be able to reach its proboscis inside to drink the nectar"

Sources for Milkweed