

FUN FACTS of the MISSION BLUE BUTTERFLY

Get a refresh or learn a little bit more about the Mission Blue Butterfly (MBB)

● General Species Information

- Specimens were first collected in 1937 in the Mission District of San Francisco, which it was named after.
- Scientific name: *Icaricia icarioides missionensis*

● Locations/Habitat

- San Bruno Mountain hosts the largest population of MBBs.
- Live in coastal chaparral and coastal grassland habitats.
 - Some colonies are found in the fog belt of the nearby coastal mountain ranges.
- Colonies can be found at elevations ranging from 690 to 1,180 feet (210 to 360 m).

● Lifecycle

- It takes a full year to complete a MBB's lifecycle, therefore only one generation is produced roughly every 12 months.
- Approximately 90% of their life cycle is spent as caterpillars, with only 3% as an egg and 3% as adult butterflies.
- Eggs are laid one by one on lupine plants by female MBBs.

● Natural History

- MBBs rely heavily on 3 Lupine plant species, especially the Silver Lupine.
 - Lupines used MBBs as a host and nectar plant. For adults they feed on the nectar, and for laying eggs. After eggs hatch, the larvae eat the plant.
 - The three lupine species used by MBBs are:
 - Silver Lupine (*Lupinus albifrons*)
 - Summer Lupine aka White-leaf Bush Lupine, or Evergreen Lupine (*Lupinus formosus*)
 - Varied Lupine aka Varicolored Lupine or ManyColored Lupine (*Lupinus variicolor*)
- MBB caterpillars have a symbiotic relationship between native formicine ants.

- Non-native ants out compete native ants, which don't have the same symbiotic relationship.
 - Emphasizes the importance of native species.
 - The caterpillar stage is defenseless from predators. So the native ants protect the caterpillar from predators. In return, the caterpillar feeds the ants a sugary substance called "honeydew." This is created by a special organ that evolved over time in the caterpillar to facilitate this relationship.
- As a caterpillar, MBBs can be a host for parasitic wasp larvae. Adult wasps lay eggs inside the bodies of caterpillars. When the eggs hatch, the wasp larvae eat their way out of the caterpillar.

● Threats to MBBs

- Habitat loss
- Fungal Pathogen Outbreaks, affects lupine plant
- Non-native species, non-native grasses exclude native plants
- Harassment: invasion of their space; mitigation thru keeping visitors, dogs, etc. out of MBB habitat
- Poaching
- Predation
- Loss of Lupines
- Barriers to dispersal and gene flow
- Inbreeding depression
- Pesticides
- Parasites
- Desiccation
- Trampling by off-trail hikers or by cars parking offroad
- Lack of young lupine seedlings

● General Butterfly Information

- The Bay Area has the highest density of endangered butterfly species in the US.
 - In the San Francisco Bay Area there are 144 species of butterflies.