

Status

- Blood feeder
- Can transmit pathogens through bite

Mosquitoes



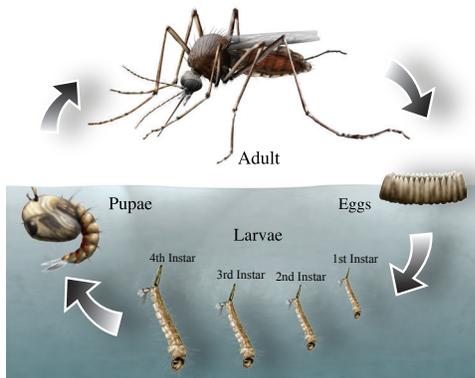
Adult Female Mosquito

General Information

Mosquitoes are the most dangerous animals on the planet. The disease-causing organisms (**pathogens**) they transmit (**vector**) through their bite kills more people and wild animals than all other animals combined. Mosquitoes are found on every continent except Antarctica. Of the 3,500 species of mosquitoes worldwide, 53 occur in California, 23 in Orange County. Some mosquito species are not vectors but their bites are still annoying.

Life Cycle

Mosquitoes have four stages in their life cycle: **egg**, **larva**, **pupa**, and **adult**. The first three stages are **aquatic**. The female mosquito lays eggs on or near a water surface; the eggs hatch a few hours or days later and the larvae (often called **wigglers** or **wrigglers**) emerge. The larvae feed on aquatic algae and bacteria. As they mature, they outgrow their skin, grow a new skin layer, and shed the old one, a process called **molting**. After the fourth growth-molt cycle, the mosquito enters the **pupal stage**. A few days later, the adult mosquito emerges from the pupal case and flies away. The process of changing body forms while maturing is called **metamorphosis**.



Egg raft



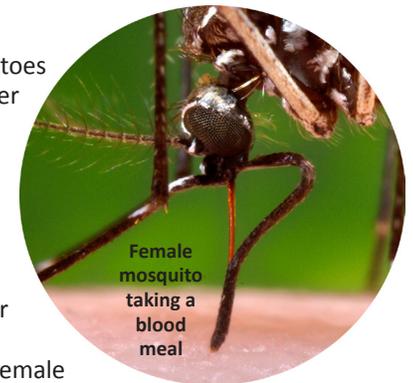
Larva



Pupa

Health Risks

Not all species of mosquitoes carry pathogens, but other species can carry several different types that can cause serious diseases. These pathogens are transmitted when the mosquito inserts its **proboscis** (a long, slender straw-like mouth part) to feed on blood. Only the female mosquito bites and sucks blood; she needs the blood meal for her eggs to develop (males feed on flower nectar). As she prepares to take blood, she injects a small amount of saliva that keeps the blood from clotting while she feeds. This saliva carries the pathogen; the body's reaction to saliva causes the itchy welts associated with mosquito bites. Diseases caused by pathogens that are vectored by mosquitoes include malaria, yellow fever, and dengue, among others. In 1999, West Nile virus was first **detected** in the United States and has sickened thousands of people since its arrival. Steps taken to reduce mosquito populations also reduce the risk of disease.



Female mosquito taking a blood meal

Mosquito Control

The best way to control mosquitoes is to target their aquatic stages and the easiest way to do this is to deny them the water they need to develop. This is why the Orange County Vector Control District asks the public to eliminate any standing water around the home or workplace and to report standing water that cannot be eliminated. Anything that will hold as little as 1/4 inch of water can support mosquito **reproduction** and should be emptied or drained. If standing water cannot be eliminated, it must be treated. Some treatment products prevent juvenile mosquitoes from breathing. Other products, such as **insect growth regulators**, keep juvenile mosquitoes from completing metamorphosis. Another strategy is to introduce mosquito-eating fish into water sources. Combinations of different strategies are often required to control mosquitoes effectively.

Protect Yourself

Female mosquitoes locate a blood meal by following the trail of **carbon dioxide gas** produced when you exhale. Window screens serve as a **barricade** to keep mosquitoes away from you. Make sure your window screens are in good condition and properly installed. If you must be outdoors when mosquitoes are most active (dawn and dusk), make sure you are wearing a proven repellent like DEET, Picaridin, or Oil of Lemon Eucalyptus.

