

# THE ULTIMATE MOSQUITO GUIDE

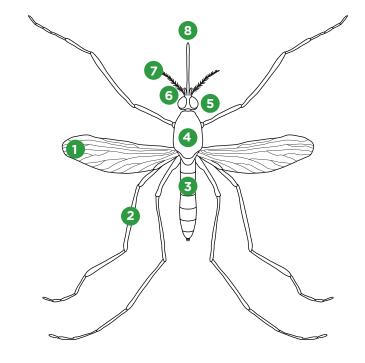
Mosquitoes are a nuisance that can turn your outdoor space into a war zone. But we'll give you the upper hand with these basics on mosquitoes.

# MOSQUITO BASICS

In any fight, it helps to know your enemy. This information will show you what they look like, their habitats and how the mosquito life cycle works.

#### **MOSQUITO ANATOMY**

- Wings
- 2 Legs
- 3 Abdomen
- 4 Thorax
- 5 Head
- 6 Compound eyes
- 7 Antennae
- 8 Proboscis



#### **SPECIES AND HABITAT**

Mosquitoes are found everywhere except Antarctica. Common habitats include swamps or marshes, forested areas, lowlands and anywhere that water is present.

Most common mosquitoes fall into three groups: *Culex, Anopheles* and *Aedes* species.

**CULEX:** always lays eggs in water; includes northern house mosquito; active at dawn/dusk; carries West Nile virus.

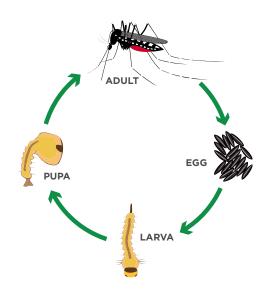
**ANOPHELES:** always lays eggs in water; includes common malaria mosquito; active at dawn/dusk; carries malaria.

**AEDES:** lays eggs in moist soil near water; includes Asian tiger mosquito; most active during daylight; carries Zika and chikungunya viruses.

# PERMANENT WATER MOSQUITOES VS. FLOODWATER MOSQUITOES

Some species always lay eggs in water (*Culex*, *Anopheles*), while others (*Aedes*) lay eggs near water in areas likely to eventually get wet. The eggs are able to dry out and can wait for floodwaters for a year or more. When covered by water, they begin to hatch.

#### **MOSQUITO LIFE CYCLE**



# COMMON MOSQUITO QUESTIONS

You asked. We answered. The following questions look at how these pests behave.

### DO MOSQUITOES BITE YEAR-ROUND?

Mosquitoes are active in warm weather, and most species are dormant in winter. For most of the United States, mid-March through late summer is peak season. Anytime the temperature is above 50 degrees Fahrenheit, bet on mosquitoes being active.

#### DO ALL MOSQUITOES BITE?

No, only female mosquitoes require blood meals; the proteins in blood help them lay more eggs. Male mosquitoes live off of nectar, plant sap and honeydew.

#### **HOW DO THEY BITE?**

The mosquito "bites" by piercing the skin with its proboscis. Inside the proboscis are two small tubes; one injects the enzymes that prevent clotting and dull the pain, while the other sucks up blood. Read about prevention tips on Page 10.

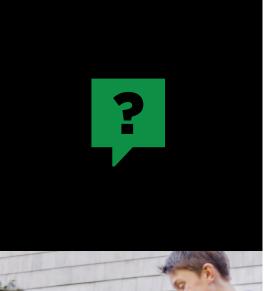
#### WHY DO MOSQUITO BITES ITCH?

Mosquito saliva has enzymes that prevent your blood from clotting and dull pain. The itching is caused by a mild allergic reaction to this compound.

#### **HOW DO MOSQUITOES FIND ME?**

Their antennae have sensors that track carbon dioxide plumes. When you breathe out (releasing carbon dioxide), the mosquito zeroes in. As it gets closer, it adds chemical cues from your skin to the mix, too.









### IS IT TRUE THAT MOSQUITOES ONLY BITE AT DUSK AND DAWN?

No. Some species are more active during twilight hours, while others will bite during daylight.

### CAN A MOSQUITO BITE MORE THAN ONCE?

Yes. Female mosquitoes need to feed every few days to keep producing eggs. They can live anywhere from two weeks to one month, which can equal quite a few bites.

### I OFTEN GET MORE BITES THAN OTHER PEOPLE. WHY?

We know that some people are more attractive to mosquitoes, but scientists aren't sure why. Perfumes, colognes and other strong scents may draw mosquitoes.

#### WHAT CAN I DO IF I'VE BEEN BITTEN?

According to the <u>National Library of Medicine</u>, you should:

- Use a calamine lotion or cortisone cream to soothe the skin.
- Apply ice packs and take ibuprofen or an antihistamine.
- Avoid scratching the bites, as this can lead to infection.
- For any questions about mosquito bites, talk to a qualified medical professional.

# MOSQUITO-BORNE DISEASES

According to the Centers for Disease Control and Prevention and the World Health Organization, mosquito-borne diseases continue to be a cause for concern. Here's information on diseases, their mosquito carriers and what risk they pose to you in the U.S.

#### MALARIA: *ANOPHELES* SPECIES

#### TRANSMISSION:

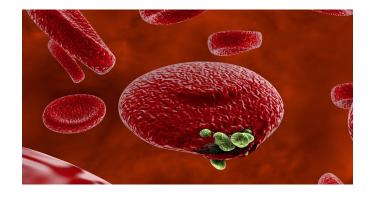
Mosquito bites, mother-to-child, blood transfusions, organ transplants, shared needles

#### **SYMPTOMS:\***

High fever, shaking, chills, flu-like symptoms (which can develop up to one year after exposure), anemia, jaundice

#### TREATMENT:

Taking antimalarial drugs before, during and after a trip to areas with malaria is often effective in preventing it; if you show signs of malaria, see a doctor to begin treatment

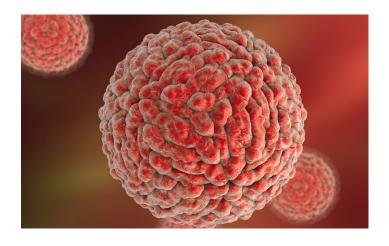


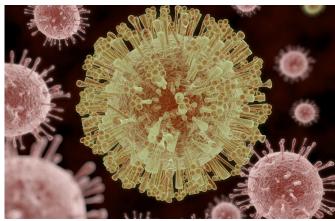
**VACCINE:** No

#### **FOUND:**

Africa, South America, Mexico, Asia and some of the Pacific Islands. In the U.S., outbreaks of malaria are rare. Travelers who return with the disease can possibly infect local mosquitoes. The mosquitoes can then spread it to other people. In rare cases, infected mosquitoes can enter the U.S. via airplane holds and could transmit the disease through biting.

Sources: The Centers for Disease Control and Prevention and the World Health Organization. \*If you are experiencing any of these symptoms, consult a qualified medical professional.





# DENGUE FEVER: AEDES SPECIES

**TRANSMISSION:** Mosquito bites

#### **SYMPTOMS:\***

No symptoms at all, or high fever plus two or more of the following: severe headache, joint pain, pain behind eyes, muscle/bone pain, rash, bleeding (nose, gums, easy bruising), low white blood cell count

#### TREATMENT:

No specific medication exists; rest coupled with analgesics (pain killers) and an acetaminophen-based fever reducer are helpful; seek medical treatment if symptoms become severe

**VACCINE:** No

#### **FOUND:**

Africa, Asia, the Pacific Islands, the Caribbean, South America and Mexico. In the U.S., most cases are travelers or immigrants who contracted the disease elsewhere. However, Hawaii has had several small outbreaks of dengue in recent years.

#### ZIKA VIRUS: AEDES SPECIES

#### **TRANSMISSION:**

Mosquito bites, mother-to-child, sexual contact, blood transfusions

#### **SYMPTOMS:\***

Fever, rash, red eyes, joint pain, flu-like symptoms or no symptoms at all; confirmed links to birth defects in babies and autoimmune disorders

#### TREATMENT:

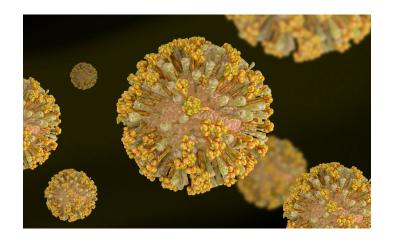
Rest, hydration, fever reducers

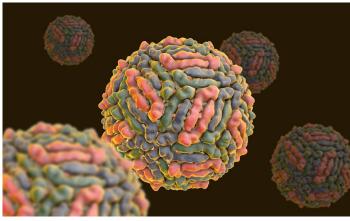
**VACCINE:** In progress

#### **FOUND:**

Africa, the Pacific Islands, the Caribbean, South America and Mexico. In the U.S., travelers have returned with the disease, which has been spread via sexual contact and mother-to-child. No locally contracted cases from mosquitoes have been reported.

Sources: The Centers for Disease Control and Prevention and the World Health Organization. \*If you are experiencing any of these symptoms, consult a qualified medical professional.





## CHIKUNGUNYA VIRUS: AEDES SPECIES

#### TRANSMISSION:

Mosquito bites, mother-to-child (in rare instances), blood transfusions (theoretical)

#### **SYMPTOMS:\***

Similar to dengue fever; includes fever and joint/muscle pain, headache, rashes, joint swelling

#### TREATMENT:

No specific medication; rest, hydration and fever/pain relievers will treat the symptoms

**VACCINE:** No

#### **FOUND:**

Africa, Asia, Europe, the Indian Ocean, the Pacific Islands, the Caribbean, Mexico and South America. There have been numerous cases of chikungunya reported in the U.S., but only 12 of them were locally transmitted. Florida documented a dozen cases in 2014. All other cases were travelers returning from areas where the virus is present.

# WEST NILE VIRUS: CULEX SPECIES

#### TRANSMISSION:

Mosquito bites, mother-to-child, blood transfusions, organ transplants, laboratory exposure

#### **SYMPTOMS:\***

Neurologic illness (headache, high fever, stiff neck, coma, seizures), fatigue, weakness, flu-like symptoms or no symptoms at all

#### TREATMENT:

Rest, pain relievers, fever reducers; in severe cases, medical treatment and hospitalization are required

**VACCINE:** No

#### **FOUND:**

Africa, Europe, the Middle East, North America and parts of Asia. In the U.S., it is possible to contract West Nile virus from the bite of an infected *Culex* mosquito.

# MOSQUITO PREVENTION TIPS + TRICKS



1. Wear light, loose clothing that leaves minimal exposed skin.



2. Use EPA-registered insect repellents with between 20 and 30 percent DEET.



**3.** Empty sources of standing water.



# ADDITIONAL PREVENTATIVE MEASURES

- Screen your windows and use mosquito netting.
- Avoid scented products and perfumes if you'll be outdoors.
- Keep your lawn or yard maintained.
- Fill in any low-lying areas of your yard.
- Clean your gutters often.
- Keep your pool properly maintained.



Click here to learn more.

# TERMANK



Keep this guide on hand to help answer common mosquito questions.