

Mosquitoes: the world's deadliest animals

Mosquitoes are no bigger than a paperclip, but they cause thousands of deaths every year. Their ubiquitous presence and frequent bites make them the world's most bothersome insects – and also the deadliest. It is therefore essential for people to learn about mosquitoes in order to protect themselves from them.

How to identify them

There are more than **3,000 species** of mosquitoes around the world, but major mosquito-borne diseases trace back to three mosquito categories.

Aedes Mosquitoes

- native to Africa and Asia
- now exist in other tropical areas and in Europe
- can transmit all arboviral diseases
- well-adapted to urban environments: thrive in water containers

Aedes aegypti (Yellow fever mosquitoes)

Dark-bodied, with white stripes on the legs

- strike early in the morning or late in the afternoon, when the temperature is cooler
- e.g. Yellow Fever, Dengue Fever

Aedes albopictus (Asian tiger mosquitoes)

Black-bodied, with white markings

- aggressive, persistent daytime biters which prefer human blood over other mammals'
- e.g. Zika, Chikungunya

200,000 infections and **30,000** deaths annually

390 million infections and **36,000** deaths every year

more than **900,000** suspected cases since 2015, with a **52%** mortality rate

between **53,000** and **330,000** cases each year, with a **12%** mortality rate

Culex Mosquitoes

Different subspecies of house mosquitoes

Varies from one subspecies to another: mostly gray with white, silver, green or iridescent blue scales

- the most common species in Western countries
- occur worldwide except in Extreme Northern areas
- opportunistic nighttime feeders which enter homes at dusk to feed and rest on walls and clothes
- West Nile Virus, Japanese Encephalitis

mainly occurs in the United States, with an average of **130** deaths a year

around **68,000** cases each year

Anopheles Mosquitoes

Malaria mosquitoes

Straight body held head down at a 45° degree angle, with dappled wings and long palps.

- very large group of different insects that live worldwide
- feed on people (and sometimes animals) during the evening
- the only vector of Malaria

in 2021, **247 million** cases of malaria (including **619,000** deaths)

Among the 430 species of Anopheles mosquitoes, only 30 to 40 are vectors of malaria

Behaviour: breeding and nesting

ADULT 4

The mosquito emerges from the pupal case and takes its first flight

Mosquitoes do not build nests: they use a wide range of habitats to rest and hide during the day

1 EGG

Female mosquitoes lay their elongated and raft-shaped eggs in still water

Mosquitoes can lay hundreds of eggs at a time

PUPA 3

The mosquito develops wings and legs

2 LARVA

Released from the egg, it feeds on microorganisms in the water

How to ward off mosquitoes

Preventing bites

Keeping mosquitoes away from exposed skin



Using an effective mosquito repellent (which must contain at least 20% of DEET) or Picaridin-based insect repellents and closely following label instructions



Covering gaps in clothing: wearing long sleeves and pants, tucking pants into socks... And treating clothes with repellents (often permethrin-based)



Sleeping under an Insecticide-Treated Net

Keeping mosquitoes away from local communities

- ☒ Emptying or covering flower pots, pet bowls...
- ☒ Cleaning drains and gutters
- ☒ Treating swimming pools properly
- ☒ Keeping yards clean and weed-free
- ☒ Using air conditioning if possible
- ☒ Installing nets and mosquito screens (and repairing holes regularly)

Mosquitoes are serious threats to public health because of all the diseases they can transmit. And even if good practices can help prevent bites, the danger is still there. This is why Envu is dedicated to providing solutions to control mosquitoes and protect people worldwide. To take action against the burden of Malaria and other mosquito-borne diseases, Envu works alongside leading institutions and local organizations all around the world to develop effective solutions that will protect populations. By fighting the mosquito threat today, we help communities thrive tomorrow.