

# Mosquitoes

- Mosquito (Family Culicidae)

## Identification:

Adult mosquitoes are small and fragile, ranging in body length from 3 to 6 mm. The head is small and globular with a large pair of compound eyes. Protruding from the head are long thin piercing-sucking mouthparts and a pair of antennae which are hairy in the female and feathery or bushy in the male. The thorax is deep but thin and the wings are long and narrow and held along the body when the insect is at rest. Mosquito wings characteristically have small scales along the veins and along the hind margin. The legs are long and thin and the body is held in a perched position when at rest. The abdomen is also long and thin.

Many species are not strong fliers and avoid strong wind while other species are capable of dispersing over a great distances. Many adult mosquitoes are active at dawn, dusk, or into the evening, but, some important urban pest species fly and feed during the day. The female mosquito usually requires a meal of vertebrate blood or plant juices for egg development. Male mosquitoes do not bite and normally feed on plant juices.

## General Information:

Mosquitoes are of concern in the school environment because many species are painful biters and/or are capable of transmitting certain diseases such as malaria, filariasis, yellow fever, dengue haemorrhagic fever and encephalitis. In the United States, the threat of developing encephalitis from mosquitoes is far greater than the threat from other mosquito vectored diseases. Encephalitis, meningitis and other diseases can develop from the bites of mosquitoes infected with certain viruses such as West Nile, St. Louis encephalitis, LaCrosse (California) encephalitis, and Eastern equine and Western equine encephalitis.

All mosquitoes undergo complete metamorphosis-egg, larva, pupa, and adult. The larvae are commonly known as wigglers, and the pupae as tumblers. Mosquitoes require water for larvae and pupae to develop, although a moist substrate may permit development of the pupa of some species. Eggs of some species may survive long periods out of water, under conditions varying from humid to dry but require water to hatch.

## Image (s)



**Figure 1**  
Mosquito adult.



**Figure 2**  
Avoid prolonged flooding of playing fields.



**Figure 3**  
Keep roadside ditches and draining areas clear of debris so that storm water drains off easily.

<b>Outdoors</b>			
<b>Suggested Thresholds</b>	<b>Nonchemical Control Options</b>	<b>Preferred Chemical Treatment(s)</b>	<b>Other Chemical Treatment Options</b>
As determined by public health authorities or one teacher, staff or student complaint.	Avoidance - Do not go outside when mosquitoes are active. Wear long pants and long sleeved shirts to avoid bites. Source Reduction - Eliminate any standing water where mosquito larvae and pupae can develop.	Repellents - Applied under parental supervision to individual before entering school property. Larvicides - If a water source cannot be eliminated, treat water with a larvicide containing methoprene, Bacillus thuringiensis israelensis or B. sphaericus bacteria. Treat only if mosquito larvae are present. Application by trained personnel ONLY.	Adulticides - Treat surfaces where mosquitoes rest, such as vegetation and the exterior walls of structures with a liquid residual adulticide. Practice area wide mosquito adult suppression through ultra low volume/fogging application of adulticides with specialized ground or aerial equipment. Adulticide application by properly trained and certified/licensed pest management professionals, public health personnel, or municipal public works personnel ONLY.
<b>Indoors</b>			
<b>Suggested Thresholds</b>	<b>Nonchemical Control Options</b>	<b>Preferred Chemical Treatment(s)</b>	<b>Other Chemical Treatment Options</b>
One teacher/staff/student complaint.	Exclusion - Maintain tight-fitting screens for doors and windows to prevent mosquito entry or keep windows and doors closed. Mechanical Control - Use flyswatter or hand to kill individual mosquitoes. Source Reduction - Eliminate any standing water where mosquito larvae and pupae can develop.	Repellents - Applied under parental supervision to individual before entering school property.	Adulticides - Use space or aerosol sprays to kill flying/resting adult mosquitoes indoors. Adulticide application by properly trained and certified/licensed pest management professionals, public health personnel, or municipal public works personnel ONLY.

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