



Mosquitoes

Mosquitoes are blood sucking insects that are responsible for the transmission of many diseases throughout the human and animal populations of the world. Within Australia there are more than 300 different species of mosquito but only a small number are of major concern. Several important human diseases are transmitted throughout Australia by these insects including Dengue fever, Australian encephalitis, Ross River virus disease and Barmah Forrest virus disease. In addition, mosquitoes can cause major disruptions, through their persistent biting, to occupational, recreational and social activities.



Family

Mosquitoes belong to the family of flies called Culicidae and are small fragile insects that have six delicate legs and two wings covered in scales. The head of a mosquito is equipped with a projecting proboscis which conceals and protects the long piercing and sucking mouthparts. These biting insects have a complex life cycle; the immature stage is totally aquatic and the adult is terrestrial. The adult female returns to a water habitat for a brief period to lay each batch of eggs. Mosquito species vary in their breeding habits, biting behaviour, host preferences and flight range. Most mosquitoes disperse less than two kilometres; some move only a few metres away from their original breeding place, others can fly some 5 or 10 kilometres, and a few species will disperse up to 50 kilometres downwind from the larval habitats.

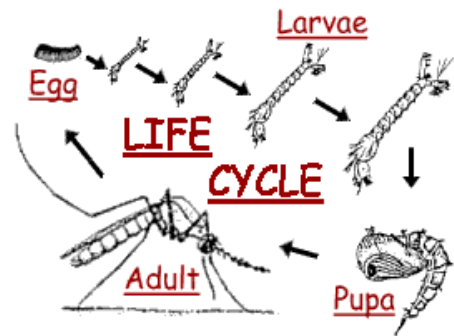
Habits

On average, a female mosquito will live 2-3 weeks, but the male's lifespan is shorter. Within their lifetime both adult male and female will feed on nectar and plant fluids, but it is only the female that will seek a blood meal. The majority of species require this blood meal as a protein source for egg development. Female mosquitoes are attracted to a potential host through a combination of different stimuli that emanate from the host. The stimuli can include carbon dioxide, body odours, air movement or heat. Upon locating a suitable host, the female will probe the skin for a blood capillary then inject a small amount of saliva containing chemicals which prevent the host's blood from clotting. This is often the pathway for potential pathogens such as viruses to enter a host. After engorging on the host's blood the female will find a resting place to digest her meal and develop eggs before flying off to deposit them in a suitable aquatic habitat.



Lifecycle

On hatching, the young larvae (wrigglers) feed continuously and grow through four different instars or moults. Larval development is dependent on the availability of food and prevailing conditions, particularly temperature, but generally takes at least one to two weeks. The final larval instar develops into an active comma-shaped pupa (tumbler) from which the adult mosquito emerges about 2 days later to feed, mate and develop eggs for the next generation.



Ways to Reduce Mosquitoes Problems

Dump or flush out any stagnant water sources in your yard.

Mosquitoes are often attracted to water, especially standing water.

- Use a push broom to distribute the water for small puddles on hard surfaces. Use a siphon pump for larger puddles.
- If you're inundated by mosquitoes due to standing water from street curbs, drainage ditches or other pools you cannot control, call the responsible public authority to explain that you believe the water has become a mosquito breeding source.
- Remove water from old tyres, tins, driveway puddles, clogged gutters, unfiltered fish ponds, empty plant pots or containers under pot plants.
- Little known fact Mosquitos can bread in less than 1mm of water!

Keep your grass mowed regularly and trim your shrubs.

Use a mosquito trapping system.

Mosquitoes can be effectively killed using a dedicated machine that employs **heat and carbon dioxide to attract the mosquitoes** and then entrap or kill those using nets, containers or chemicals. While these mosquito trapping systems can be expensive, they're quite effective, and worth looking into if you're committed to keeping your area mosquito-free.

- Mosquito trapping systems won't eliminate *all* of the mosquitoes from your yard. Every neighbourhood tends to have more than one species of mosquito breeding in the area, and different types of trapping systems cater to different species.
- Avoid using an electric "zapper" or fly traps generally the bugs killed are the non-harmful ones. It is also known mosquitoes are not attracted to UV light which most EFTs Electronic fly traps use.

Use citronella products to repel them.

Mosquitoes don't like to go near citronella oil.

- Burn a citronella candle or torch. The smoke in the air may help keep away some bugs.
- Plant a citronella plant in a pot on your porch. To use, you can snap off a twig and rub it over your skin and around the perimeter of your porch--the smell may discourage mosquitoes.
- Use citronella incense coils. Check for the other ingredients in these and don't sit in the line of the smoke from them, as any smoke inhalation is potentially unhealthy.

Insect-proof your home.

Check your screens and repair any that have holes or tears in them that would let mosquitoes fly in. Silicon caulk or screen patches work well. Use weather stripping to seal door gaps, especially under the doors. There's no sure way to prevent mosquitoes from coming in, but taking these measures can really help.

Wear chemical mosquito repellent.

Keeping mosquitoes away from your body is the best way to avoid getting bitten. Use insect repellent on uncovered skin surfaces and on your clothing when you're outdoors, especially during the day. When using sunscreen, apply it before insect repellent.

- Repellents containing 30% to 50% DEET (N,N-diethyl-m-toluamide) are the most popular type of repellents, and are recommended for adults and children over 2 months of age and are effective for several hours. Repellents with lower amounts of DEET offer shorter-term protection and must be applied more often.
- Protect infants less than 2 months of age by using a carrier draped with mosquito netting with an elastic edge for a tight fit rather using a repellent.

Treatment and Control

There are many methods of control that can be implemented to reduce the number of mosquitoes.

- Exopest can treat foliage and shady locations including breeding areas on the property, along with congregating and landing areas such as verandas, eaves & patios. Whilst this will reduce the numbers it cannot be expected to eliminate the problem only help reduce them. Great once off treatment for garden parties or summer BBQ's.
- It is possible that breeding can be happening from wetlands, flood zones or neighbouring properties from near or far away. Contact our office 8696 9000 to find out more.

- Local councils may use larvicides (pesticides that kill the larvae) which prevent mosquitoes from maturing to adults. In areas where there is a disease outbreak fogging may be considered as an option in order to kill the infected adult mosquito population. Other methods could include the use of parasites, predators or pathogens of mosquitoes to assist in reducing the population, but there is no biological control agent other than fish currently available for use against mosquitoes.

Summary

Simple measures can be taken by individuals to limit their contact with mosquitoes. Areas that are known to be infested with large numbers of mosquitoes should be avoided. Activities that are scheduled for outdoors, especially around dusk should be limited, as the biting activity of many mosquitoes will peak during this period. Clothing that has long sleeves and long pants should be worn when visiting areas that are infested with mosquitoes.

A [chemical repellent](#) that contains approx 20% DEET (diethyl toluamide) could be used on exposed areas of skin, but not repeatedly on young children. Windows and doors should be screened; water tanks also, using a small gauge mesh to exclude mosquitoes from these potential breeding sites. Empty all containers throughout the garden that hold water such as pot plant saucers, tyres, roof guttering and tins to prevent breeding. Grass should be kept short and remove leaf matter in shaded areas.

Bed nets are an effective barrier against biting insects at home or camping, and can now be treated safely with an insecticide. Insecticidal sprays, and coils and electric mats, for use around the house can help in keeping mosquitoes at bay.

EXOPEST can treat to reduce numbers by treating harbourages this will reduce the numbers and does not carry any pest free service period. Contact our office if you would like, an over the phone estimation.

