

INSIDE
THIS
ISSUE

Feeding habits of mosquitoes

Pet Rodents

Feeding habits of mosquitoes

It is well-known that mosquitoes bite and feed on blood. However, we should notice that normally only female mosquitoes feed on blood. All mosquitoes feed on nectar and other plant juices, but female mosquitoes usually require additional protein from a blood meal for the development of their ovaries and eggs. One blood meal is often required before a female mosquito lays each batch of eggs.

Mosquitoes detect the presence of blood source mainly by the carbon dioxide concentration, heat and body odour given out by the host animal. The higher the concentration of carbon dioxide, the greater the amount of heat or the stronger the odour an animal releases, the more attractive the animal will be to a host-finding mosquito.

According to the species of mosquito, blood-feeding females may prefer to feed on the blood of amphibians, reptiles, birds, mammals or particularly humans. Some species never attack human, and only the few species that frequently feed on human blood may create serious nuisance, or become the vectors for diseases such as Dengue fever, Japanese encephalitis, yellow fever and malaria.

Despite the fact that most female mosquitoes require blood for reproduction, exceptions do exist. For example, for the genus *Toxorhynchites*, the adults of both sexes feed solely on nectar. Mosquitoes of the genus *Malaya* are also famous for their extraordinary mode of feeding on regurgitated food from the mouth of ants.

Some species of mosquito, such as *Aedes*



Toxorhynchites splendens with modified proboscis: upper (male), lower (female)

albopictus, mainly feed outdoors while *Aedes aegypti* is an example of a mosquito that prefers to feed indoors.

Diversified feeding periods were also recorded for different mosquito species. For example, *Aedes albopictus*, the primary vector of Dengue fever in Hong Kong, usually attacks humans and animals during the daytime; while *Culex tritaeniorhynchus*, a classical vector of Japanese encephalitis, mainly attack pigs, cattle and humans at night and especially one hour after dark. In contrast, *Anopheles jeyporiensis*, a local malaria vector with high preference to human blood, most actively feeds between 11:00 pm and 02:00 am. The diversity in feeding habit may offer an advantage to the survival of mosquito species, because of the reduced competition for food source between mosquitoes.



Head of Aedes albopictus (female)



Culex tritaeniorhynchus (female)

The followings are some of the precautionary measures against mosquito bites:

- Screening of windows and doors;
- Using mosquito bed net for sleeping in a room without air conditioning;
- Putting on light-coloured, long-sleeved shirts and trousers when going outdoors;
- Applying insect repellents containing DEET on the clothes and exposed parts of the body. Before applying DEET, a small amount should be applied to a small area of the body to check for any allergic response.
- Avoiding taking rests near woods or under trees after outdoor exercises.

C. K. YUEN, Assistant Pest Controller

Pet Rodents

Rodents are one of the popular pets kept by people particularly in the Year of Rat as they are deemed a mascot to bring good fortune.

Rodents are mammals belonging to the order Rodentia. Rodents can be classified into squirrel-like rodents (Suborder Sciurmorpha), mouse-like rodents (Suborder Myomorpha) and cavy-like rodents (Suborder Caviomorpha). Rodents have 4 huge incisors distinguishing them from most other mammals. These teeth are continuously growing, which attribute to their gnawing behavior. The common pet rodent, hamster, is one of the mouse-like rodents, and so are our pest rodents, they belong to the Family Muridae.

The 3 species of commonly found commensal rodents regarded as pests in Hong Kong are the Norway rat (*Rattus norvegicus*), Ship rat (*Rattus rattus*) and House mouse (*Mus musculus*), belonging to the Subfamily Murinae. These commensal rodents form colonies but readily attack individuals from other colonies. 'White rodents' are also a popular pet and always mistaken as separate species of rodents. However, 'white rodents' are in fact the albino type of the commensal rodent pests, particularly the Norway rat and House mouse. Since 'white rodents' are reared in artificial environment, they are less aggressive and combative than their wild and normal forms. The average life span is about 2 years.



Albino House Mouse



Phodopus sungoris
(Dzungarian Dwarf Hamster)

Hamsters belong to the Subfamily Cricetinae. There are three main type of hamsters kept as pet. They are Gold or Syrian Hamster (*Mesocricetus auratus*), Dwarf Hamster (*Phodopus* spp.) and Chinese Hamster (*Cricetulus griseus*). They have a tiny tail and large cheek pouches. They are attractive because of their food collecting behavior - keeping food reserves in their cheek pouches. Like other species of rodents, hamsters exhibit grooming behaviour to get rid of dirt and old furs. They feed on a diet of seeds, grains, nuts etc. The commonly adopted hamsters in Hong Kong are Dwarf Hamsters (*Phodopus* spp.), which are the smallest hamsters. The gestation period of *P. sungoris* is about 20 days, after which an average of five youngsters is born. The average life span is about 3 years.



Chinchilla lanigera

The Chinchilla, also a common pet, is a cavy-like rodent belonging to the Family Chinchillidae. It originates in the south western part of South America. The most commonly adopted species is *Chinchilla lanigera*. Wild Chinchillas form colonies up to 100 individuals. The large eyes and big ears serve to warn them of the approach of predators in the wild. Their appealing appearance and friendly natures promoted their adoption. The average life span is about 15 years.

When adopting rodent pet, the ventilation and sanitary condition of the premises should be rendered well and always maintained at high standard. Close contact with the pet rodents, especially kissing them, should be avoided. The adopted rodent pets should be protected from other wild rodent species to avoid contraction of diseases. Special care should be taken when handling these pets. Threatening them can bring about an offensive and unfriendly bite in return. A vet should be consulted if the pet rodents develop signs of unhealthy symptoms or ectoparasites such as mites are detected.