

Mosquito and Pest Control in hotel premises



Vector-Borne Disease Section
MINISTRY OF HEALTH MALAYSIA
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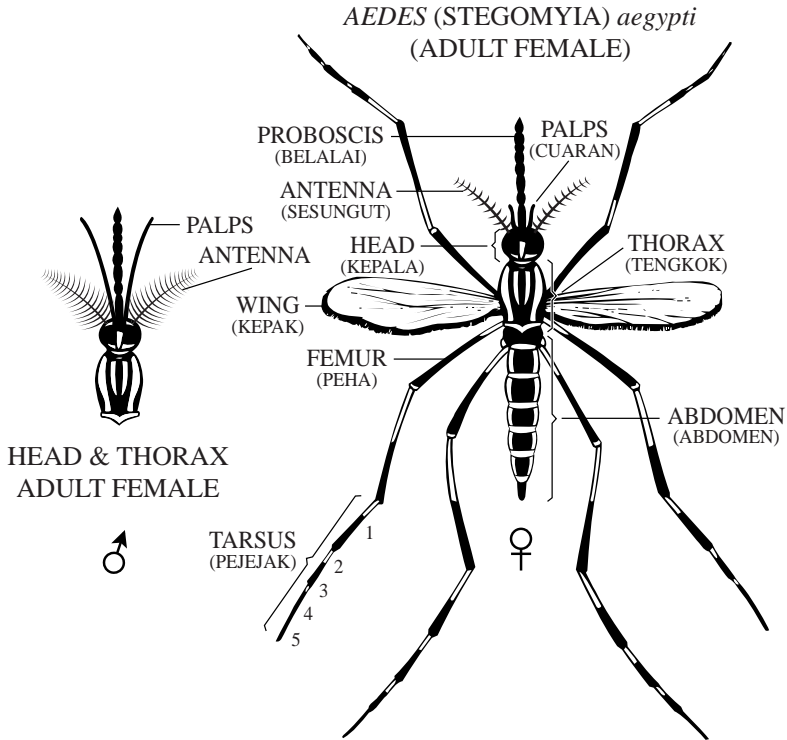
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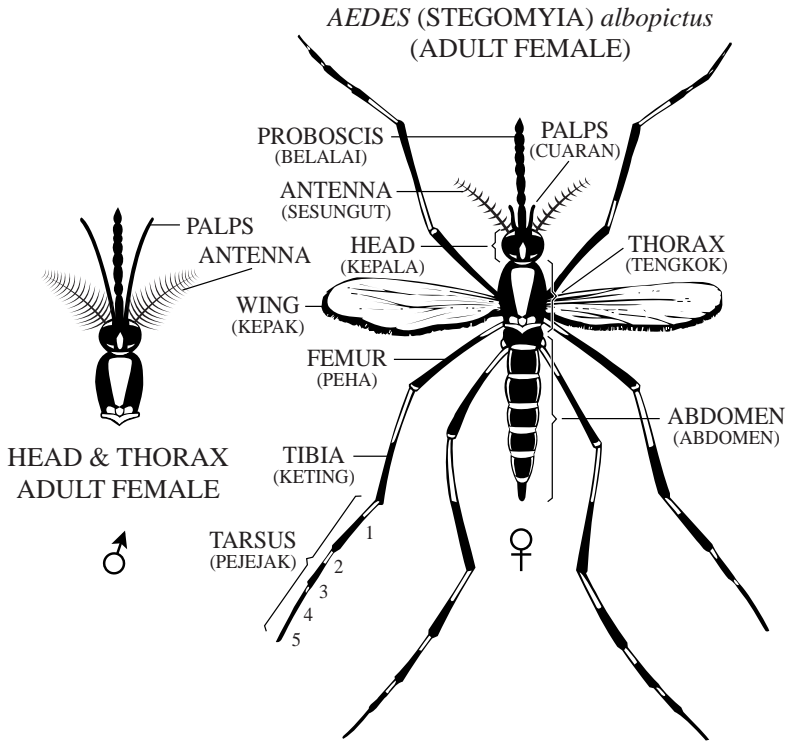
MINISTRY OF HEALTH

VECTORS OF DENGUE HAEMORRHAGIC FEVER IN MALAYSIA



(a) *AEDES AEGYPTI*

Thorax with silvery straight and curved lines (lyre-shaped). Adult mosquitoes (female) bite mainly during day and early evening and rest indoors on hanging clothes etc. in dark places. Adult readily feeds 2 or 3 times before laying eggs. It bites and partially feeds on several people before full blood meal. *Aedes aegypti* is also a vector of yellow fever.



(b) *AEDES ALBOPICTUS*

Thorax with single broad line. it is mostly an outdoor mosquito and mainly bites during day and early evening in the shady places, (eg. gardens, under trees) also comes indoor for a meal.

MOSQUITO AND PEST CONTROL IN HOTEL PREMISES

Hotel premises are ideal places for mosquito and pest infestations because they provide sources of food, water and harbourages for these vermins.

1. **Mosquito species :** *Aedes aegypti*
Aedes albopictus
Culex quinquefasciatus

2. **Sources of breeding :**
 - Within hotel premises
 - Flower vases/pots in lobby, reception areas.
 - Rock gardens (fountains, waterfalls).
 - Indoor gardens.
 - Swimming pools.
 - Ornamental pools.
 - Water cisterns in washrooms.
 - Outside hotel premises (within 200m radius)
 - Construction sites.
 - Unoccupied housing estates/apartment.

3. **Control measures :**
 - Within hotel rooms
 - Supply mosquito electric mats, aerosol spraycan in hotel rooms.
 - Apply Abate in water cistern in the washrooms.
 - Within hotel premises
 - Use mosquito coils during evening outdoor functions, poolside, roof top. The mosquito coils can be hung on trees or poles.

- Apply Abate in flower pots / vases.
- Misting / spraying.
- Outside hotel premises - Fogging at construction sites /
(within 200m radius) unoccupied housing units.

4. Health Education :

- Distribution of health education materials at check-in counters or insertion into local newspaper.
- If possible insertion of video clip on dengue into in-house TV channel.
- Make available health education materials in hotel rooms.

5. Pest Control Operators :

- 5.1. Employ licensed pest control operators for flies, cockroaches and rodent control in and around hotel premises.
- 5.2. Employ pest control operators for :
 - Misting at the lobby area, at convention halls, banquet halls.
 - Spraying at kitchen area, dining areas.
- 5.3. General outdoor spraying/fogging activities and rodent control (setting up rodent trap).
- 5.4. General weed control around hotel premises.
- 5.5. Clearing and larviciding of drains.

6. Garbage Disposal System :

Ensure refuse and garbage are stored, collected and disposed in sanitary manner.

Note : It is the responsibility of the hotel management to ensure that their premises are mosquito-free and insect-free. The Health Authorities will be checking regularly for pest infestations and carry out legislative control.

PEST CONTROL

Insect and rodent pests can carry food poisoning bacteria and can cause damage to food and premises.

Pests must be eradicated immediately as soon as they are detected.

Insects and rodents must never be accepted as normal in any food area.

1.1. Proofing

- (a) All food stores must be rodent proofed with metal plates.
- (b) All windows in food preparation and storage areas must be fitted with cleansable fly screens. The fly screens must be taken down and cleaned regularly.
- (c) External doors leading into kitchen areas must be kept closed or fitted with heavy duty plastic strips to prevent insects or birds coming in.
- (d) Gaps around services pipes leading into the kitchen must be sealed to prevent pests.
- (e) Manhole covers, gully grates, etc must be kept in good repair.
- (f) The tops of drain ventilation pipes must be fitted with wire balloons to prevent pests.

- (g) Ultra violet fly controller must be provided throughout the kitchen preparation, serving and storage areas and not placed directly above food preparation areas. They must be maintained regularly and the trays emptied frequently.
- (h) The Catering Manager or person-in-charge must check the structure of the building periodically and ensure that defects in the pest proofing are remedied immediately.
- (i) Any food suspected to be contaminated by insects or rodents must be discarded. Food equipment taken from long term storage must be checked and thoroughly cleaned before use.

1.2. Pest Control

- (a) All dry goods must be checked at the time of delivery for pest infestation or damage before being placed into the storage area.
- (b) All equipment being brought from storage, or new equipment, must be checked for pest infestations.
- (c) Keep open dry foods in pest proof containers with close fitting lids. Ensure that the lids are replaced after use and especially overnight.
- (d) Ensure that all stored goods are kept off the ground and clear of walls with adequate space between stock to enable regular inspection and cleaning.
- (e) Clear up all spillages immediately to prevent food debris accumulating.

- (f) The refuse receptacles within the kitchen area must have close fitting lids. Refuse receptacles outside the kitchen must be on hard standing surfaces, away from vegetation and be fitted with close fitting pest proof lids.
- (g) Any signs of pests or sitings of pests must be reported to the supervisor of that shift and recorded in the kitchen pest control book.

The supervisor will then ensure that the officer-in-charge or Catering manager is informed and the pest control specialists called in if necessary.

- (h) Ensure cleaning schedules are adequate and properly carried out. This should prevent the formation of residual deposits behind and beneath equipment. Clean conditions discourage pests.
- (i) Remove refuse and food waste from the kitchen as quickly as possible. Never leave waste overnight in the kitchen or adjoining rooms as it may attract pests and become a breeding place.
- (j) Discourage catering staff from feeding birds and stray animals particularly cats.
- (k) Report any defect in the building fabric that could be conducive to infestation and see that they are repaired.
- (l) Check inspection traps regularly and notify supervisor or officer-in-charge of any build up of pests.

REMEMBER

- CHECK ALL DELIVERIES FOR PEST DAMAGE OR INFESTATIONS.
- REPORT ANY SUSPICIOUS SIGNS OF PESTS IMMEDIATELY TO THE SUPERVISOR WHO MUST THEN INFORM THE CATERING MANAGER OR OFFICER-IN-CHARGE.
- NOTE ALL SUSPICIOUS SIGNS IN THE KITCHEN PEST CONTROL BOOK.
- INSECTS AND RODENTS MUST NEVER BE ACCEPTED AS NORMAL IN ANY FOOD PREMISES.

1.3. Pest Control Services

- (a) These are normally undertaken by either a commercial serving company or by the management.
- (a) Catering managers or officer-in-charge should be aware of the contract terms and specifications and maintain liaison with the officer nominated for pest control coordinations or supervisor within the unit.
- (a) Successful pest control demands a specialist knowledge of pests and pesticides. With the exception of approved aerosol insecticides, pesticides must not be used by untrained personnel.

1.4. Signs to look for : Rodent

- (a) Gnaw marks on packaging, food containers, stored equipment and building fabric.

- (b) Droppings.
- (c) Smear marks from the grease in the animals coat left on the building fabric along runs.
- (d) Runs in adjacent undergrowth.
- (e) Holes and nesting sites.
- (f) Foot prints, tail marks in dust.
- (g) Damage to the food itself.
- (h) The animals themselves.
- (i) Offensive odours may indicate an infestation.

(Ultra violet light is recommended to detect rodent urine).

(Refer to Ministry of Health “Guidelines for Rat Control”)

1.4. Signs to look for : Insects

Insects - including Silverfish, Flies, Cockroaches, Ants, Moths, Weevils, Beetles, Wasps, Mites, Psocids (Booklice)

- (a) Webbing on food packaging, in the food itself, on storage shelves or equipment.
- (b) The adult insect, pupae or larvae - dead or alive.
- (c) Small tunnels or holes in some food or packaging.

- (d) Moulded skins, faecal pellets, eggs or egg capsules (Cockroaches).
- (e) Offensive odours.
- (f) Insect Frass - these are small pieces of food debris produced as the insect or larvae feeds and is usually composed of chewed food particles.

Source : *Guidelines Mass Catering*
Ministry of Health Sept '96