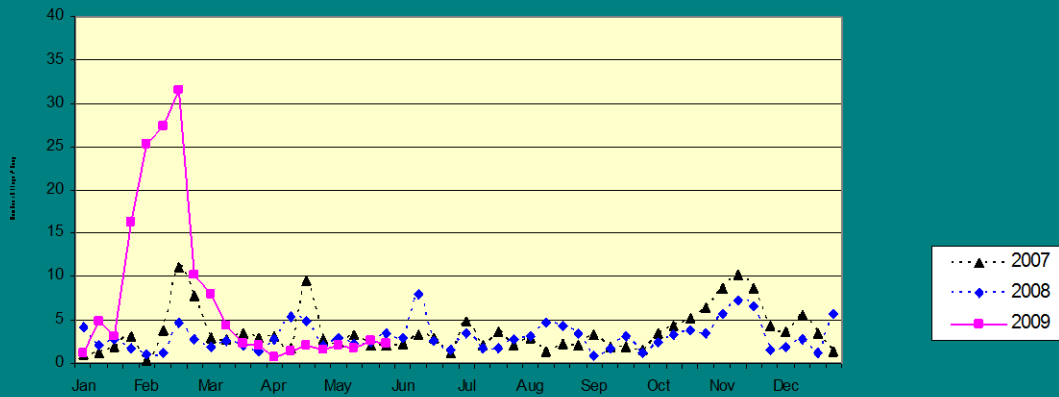


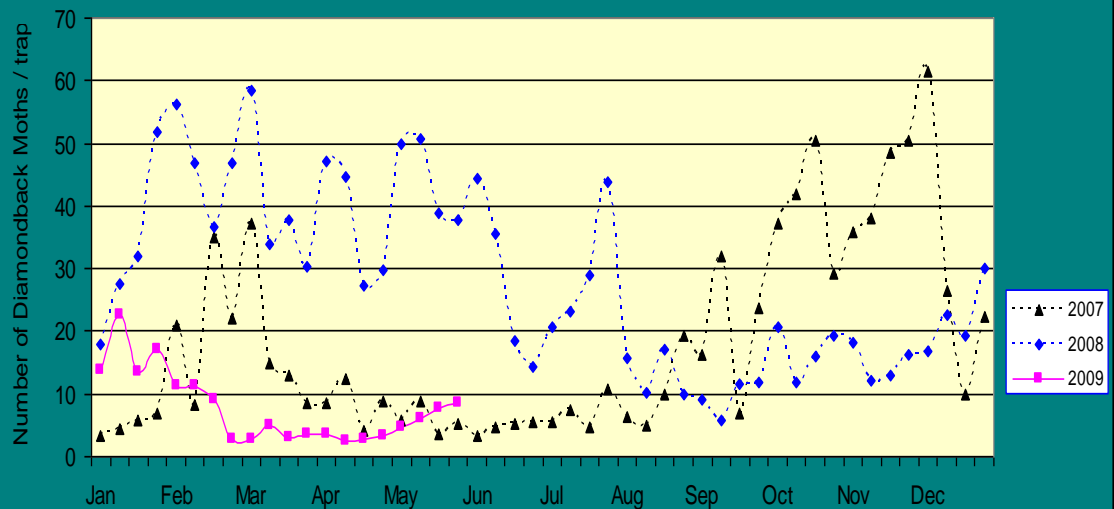
## Endemic Pest Surveillance: A – *Thrips* infestation on Orchid plants

Comments: The average thrips populations have been maintained at low levels



## Endemic Pest Surveillance: B - Diamond Back Moth infestation on Vegetables

Comments: The average DBM populations have slightly increased.



## Coconut Leaf Miner Beetle, *Promecotheca* spp.

*Promecotheca* spp. are a group of Coconut Leaf Miner Beetles found in Sri Lanka, Indonesia, Malaysia, Philippines, Thailand and recently in Singapore. The main hosts of this pest are coconut, areca and oil palms but are also reported to infest royal palms. Four of the 35 species are important pests of coconut palms. In Singapore, early this year, this pest beetle was found infesting some 30 Silver Date Palms, *Phoenix sylvestris* inflicting over 80% damage to the leaves at a location (Fig. 1).

The adult beetles take shelter in large numbers on the undersides of palm leaflets where the females excavate circular to oval cavities to lay eggs. In excavating the cavities the beetles bite through the lower leaf surface and tissues leaving the upper surface undamaged. Each female lays about 125 eggs that hatch in 9-12 days within the cavities. The hatched larvae feed on the adjoining leaf cells forming mine trails (Fig. 2). The larva (Fig. 4) as it grows widens the mine by feeding back and forth along the mine leaving excrement deposits in rows on either side of the mine. Mine trails may be joined to form dead leaf patches. Feeding during the 30-day larval stage is heaviest at the third larval instar. The pupae relatively immobile but capable of brisk wriggling movements remain inside the mines for the next 10-14 days. The adult (Fig. 3) maturing from the pupa may remain for 2-3 days inside the mine before cutting a semi-circular hole through the upper leaf surface to emerge generally in the early morning. The adult lives for about 80-90 days.

While larval feeding damage is characterised by blister mines along the leaflets of the lower mature leaves, the adults tend to feed on the palm spears. Initially feeding is concentrated on the distal ends of the frond leaflets but subsequently it is uniformly distributed as feeding streaks over the leaf crown. The damaged leaf ends dried up quickly and under heavy adults' feeding and the larval mines, the damage by the leaf miner beetles produced the scorched and ragged crowns. The damage to the leaves greatly reduce photosynthesis, accelerate leaf drop and in intensive palm cultivation as in plantations and avenues, palm death do occurs.

Systemic insecticides e.g. abamectin, chlorpyrifos, imidacloprid or profenofos are used with parasitoids to manage the pests in monocultures. Mineral oil and neem products may offer moderate reprieve from the pests for the gardens.



Fig. 1 : Severe leaf miner beetle damage to Phoenix palms.



Fig. 2 : Leaf ends damage (top) and larval mines caused by *Promecotheca* spp. (bottom).



Fig. 3 : Adult *Promecotheca* feeding on leaf.

Fig. 4 : Larva extracted from a mine trail.



## Pest Interceptions from Importing Countries (May 2009)

Three pest interceptions from exported plant consignments were fed back to AVA for May 2009. These are,

Commodity : *Nomaphila stricta* / *Hygrophila salicifolia*

Pest Intercepted : White flies, *Bemisia tabaci*

Intercepting Country : United Kingdom / France

Action taken by the importing country : Destruction

Commodity : *Cryptocoryne beckettii*

Pest Intercepted : Nematodes, *Hirschmaniella* sp.

Intercepting Country : France

Action taken by Importing country : Destruction

Commodity : *Anubias barteri*

Pest Intercepted : Nematodes, *Radopholus similis*

Intercepting Country : France

Action taken by Importing country : Laboratory test conducted

Exporters are advised to implement pest control management on farm with sticky traps and pesticide applications to control whiteflies infestations. Pre-shipment chemical dip treatments for whiteflies will further increase kill of the whitefly pupae on aquatic plants. In addition please apply nematicides in the aquarium beds to control the nematodes.

### **CONTACT US**

Please report any unusual occurrence of pests and diseases (new or severe occurrence) to Plant Health Laboratories, AVA. It would help to protect our plant industry and the garden city from new invasive pests or diseases. You can report your observations through:

Email : [AVA\\_Planthealth@ava.gov.sg](mailto:AVA_Planthealth@ava.gov.sg) or

Telephone: [63165168](tel:63165168) or [188](tel:188) or

Fax: [63161090](tel:63161090).

Please provide the location, plant hosts attacked and suspected pests or diseases to our officers to follow-up and confirm the situation if required.

Visit us at:

<http://www.ava.gov.sg/AgricultureFisheriesSector/PlantHealthServices/PlantHealthLabServices/index.htm>