



The Pests of Indo-Malayan Stingless Bees

Nur Aida Hashim
Shamsul Bahri Abd Razak
Norasmah Basari
Nur Hafizah Sharudin

Introduction



- Stingless bees are a group of eusocial insects which play an important role in the pollination process of plants, particularly wild flowers, in most tropical countries (Heard, 1999).
- The stingless bees constitute the Meliponini tribe of the family Apidae.
- Their nests are made from wax mixed with resin and gum; some species add mud collected by worker bees.

- Meliponiculture, a stingless bees beekeeping has become an important industry in Malaysia.
- The most common species of stingless bee domesticated for honey in Malaysia are:

Geniotrigona thoracica

Heterotrigona itama,

Tetragonula laeviceps

Lepidotrigona terminata

Tetrigona apicalis

Common domesticated stingless bees



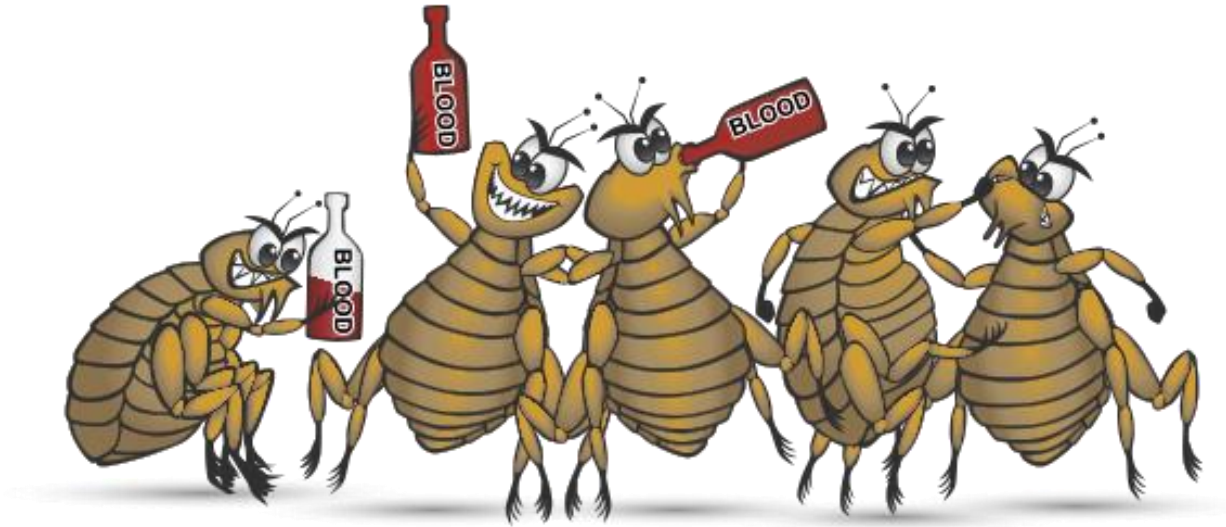
Photos by Fauziah Shariff

Meliponiculture

attract pests



Party



Pest

Any organism that interfere with human activities.

A pest is one that is judged by man to cause harm to himself, his crops, animals or his property.

Pests in Malaysian Meliponiculture

Major Pest

Frog
Lizard
Black soldier fly
Flower/sap beetle
Phorid fly

Minor Pest

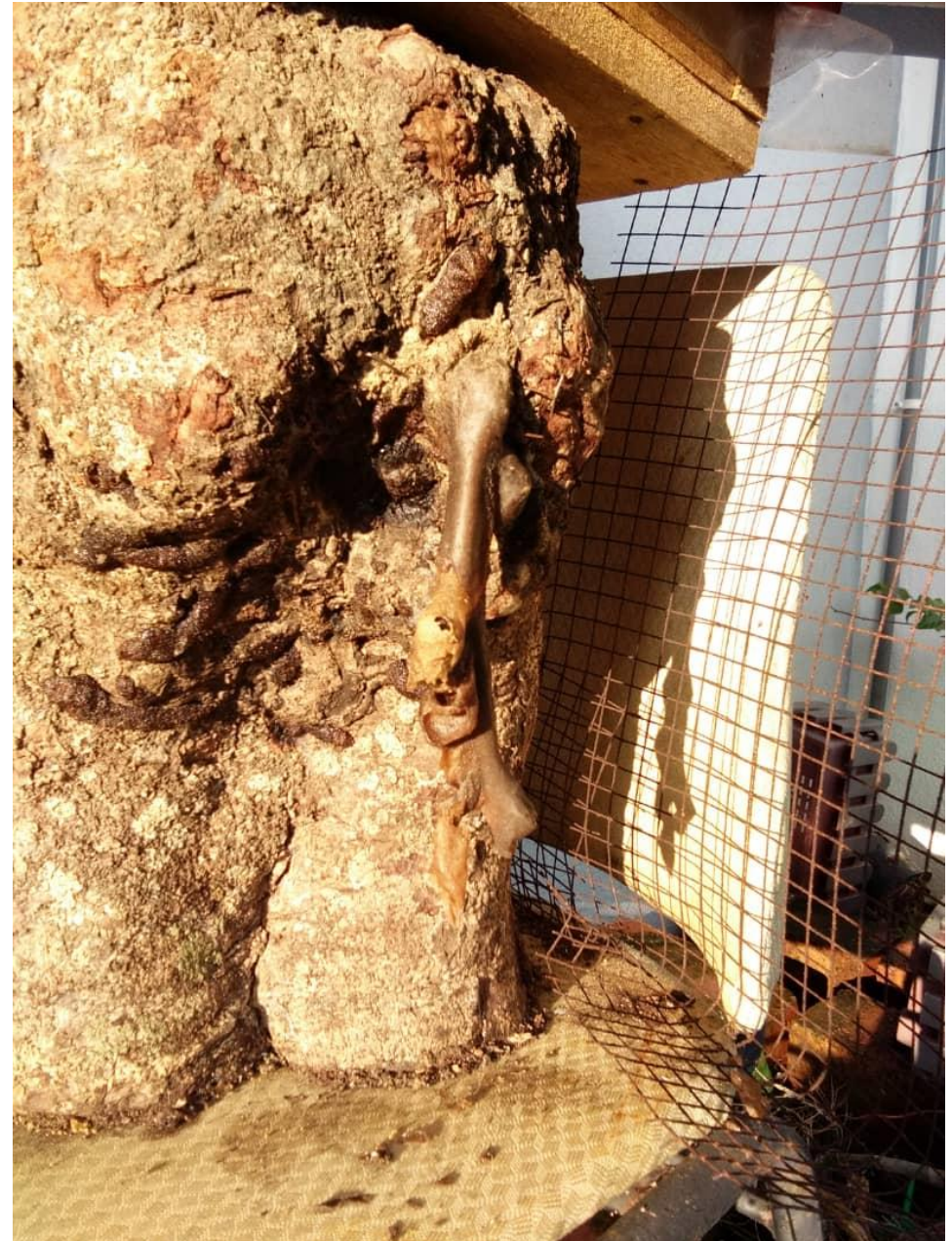
Wax moth
Ants
Termites
Resin bees
Assassin bug

Symbiotic

Mites –dry fruit mites
(*Carphoglyptus* sp.)

Banded bullfrog/ Chubby frog





Lalat Soldadu Hitam / Black Soldier Fly (BSF)

- *Hermetia illucens* (Family: Stratiomyidae)
- Known as beneficial insect- larva decomposed waste and used in animal feed
- Adult does not possess mouthparts – do not eat
- Do not transmit disease.



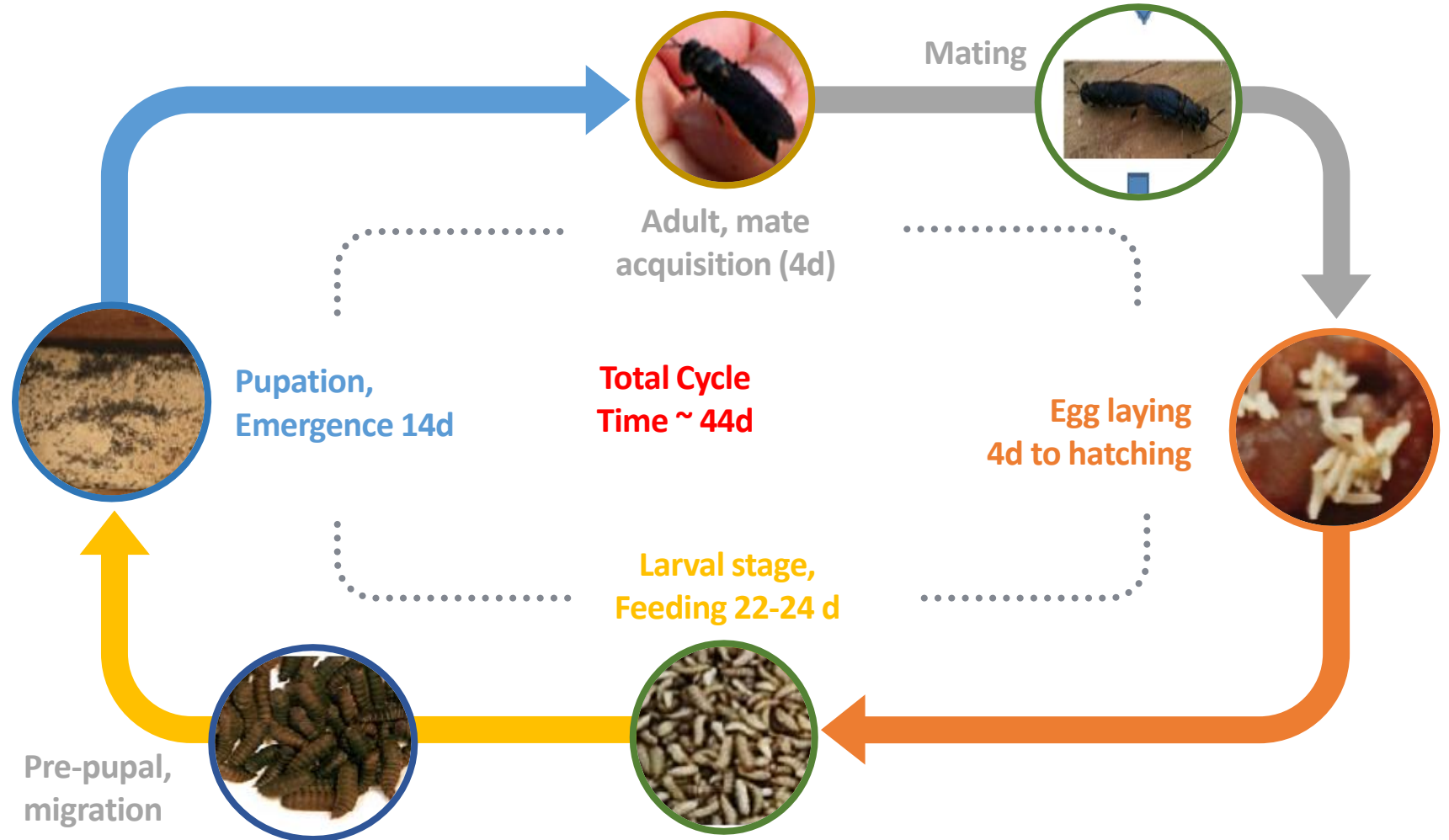


Black Soldier Fly – *Hermetia illucens*



BSF life cycle

- Approximately 30 to 40 days.
- Depending on environmental condition and diet diet.











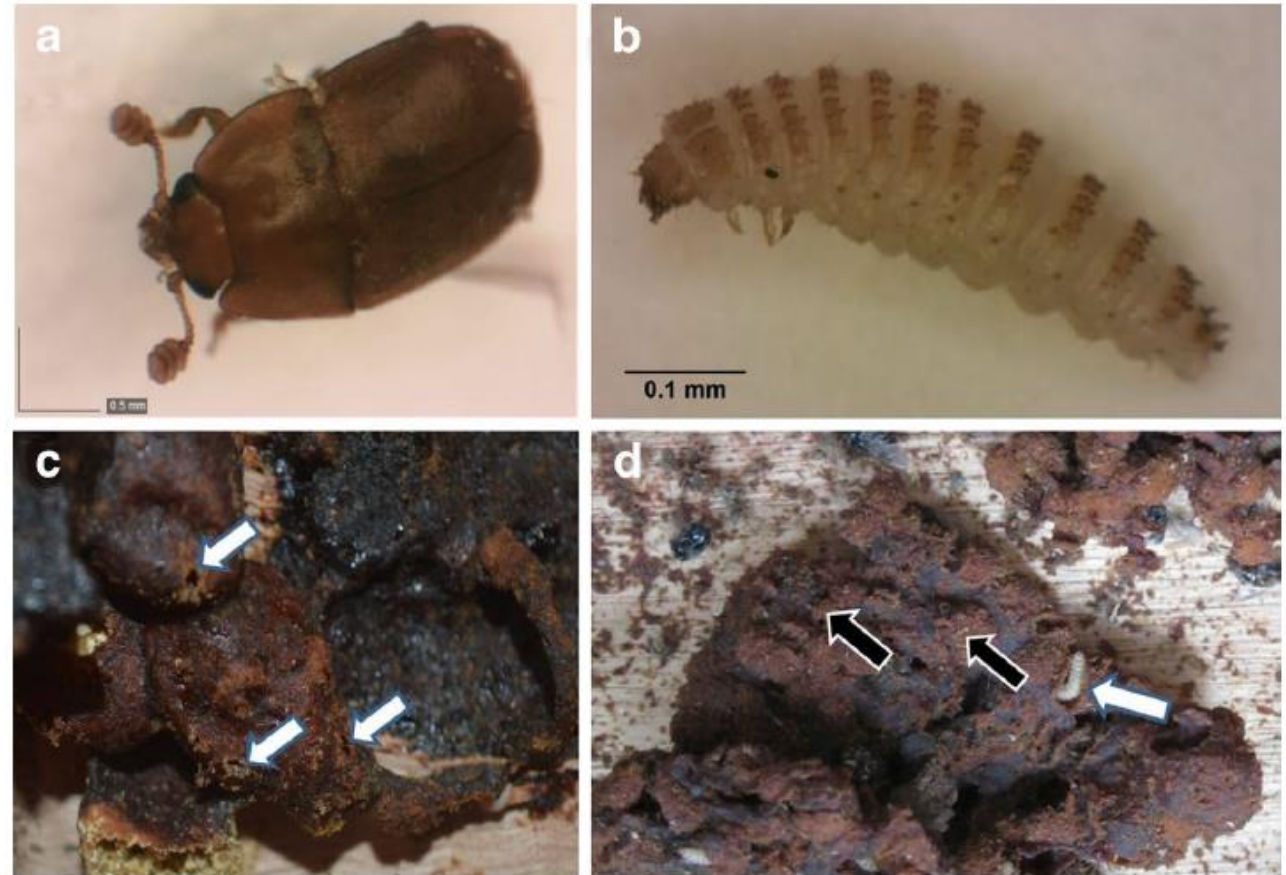




Flower/ sap beetle: *Haptoncus luteolus*



- *Haptoncus luteolus* (Coleoptera: Nitidulidae)
- Fruit pest (Yunus & Ho 1980; Audisio *et al.* 1990)
- Can be found on flowers, fruits, fungus and mushrooms, decomposed or died plant and animal tissues.



First report by Kumara *et al.* (2014), *H. luteolus* infested *Geniotrigona thoracica*, *Heterotrigona itama* dan *Tetragonula laeviceps* hives in Kelantan.

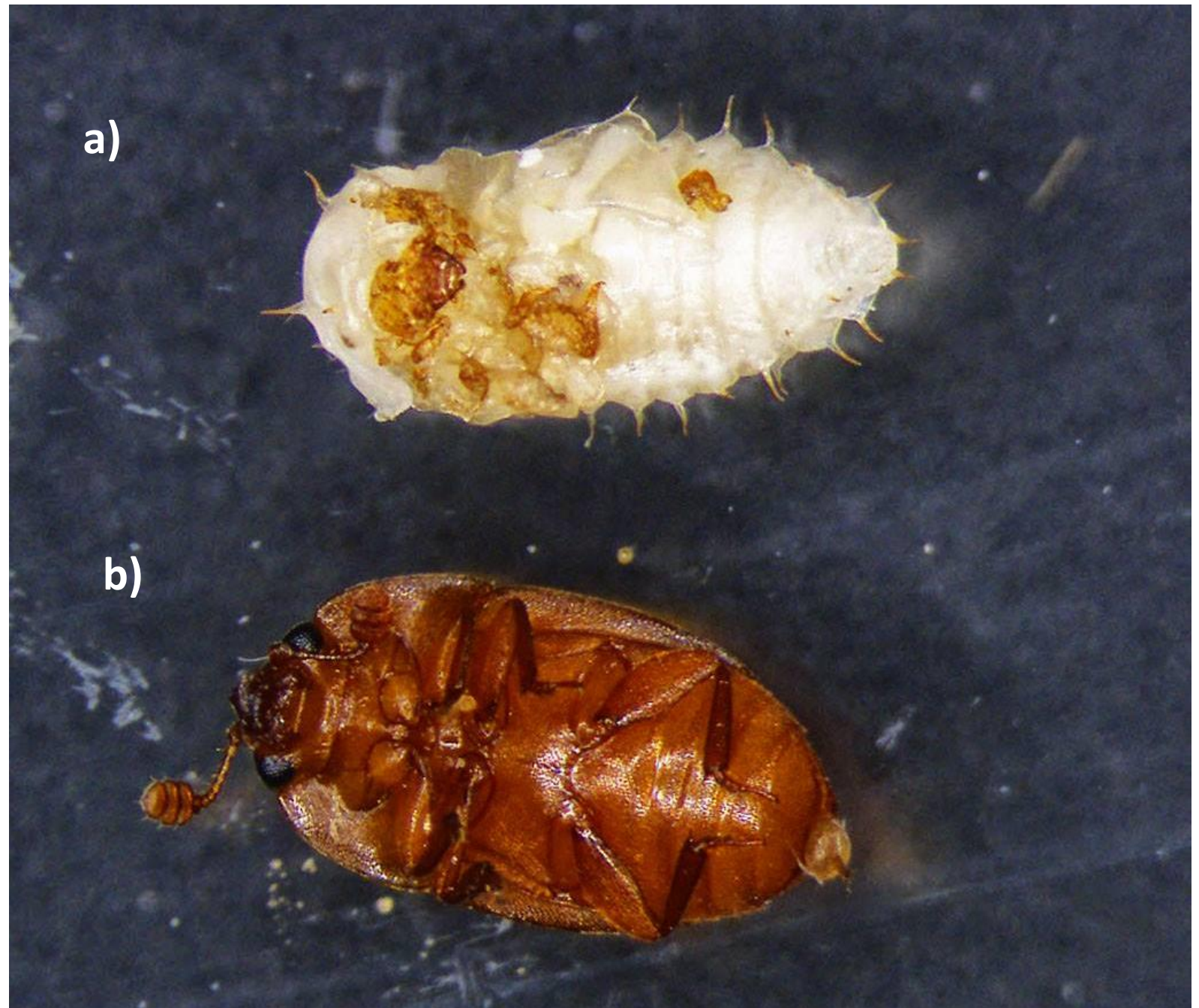
Haptoncus luteolus
cocoon



Haptoncus luteolus

a) pupa

b) adult



Phorid Fly



Fly trap



Termites

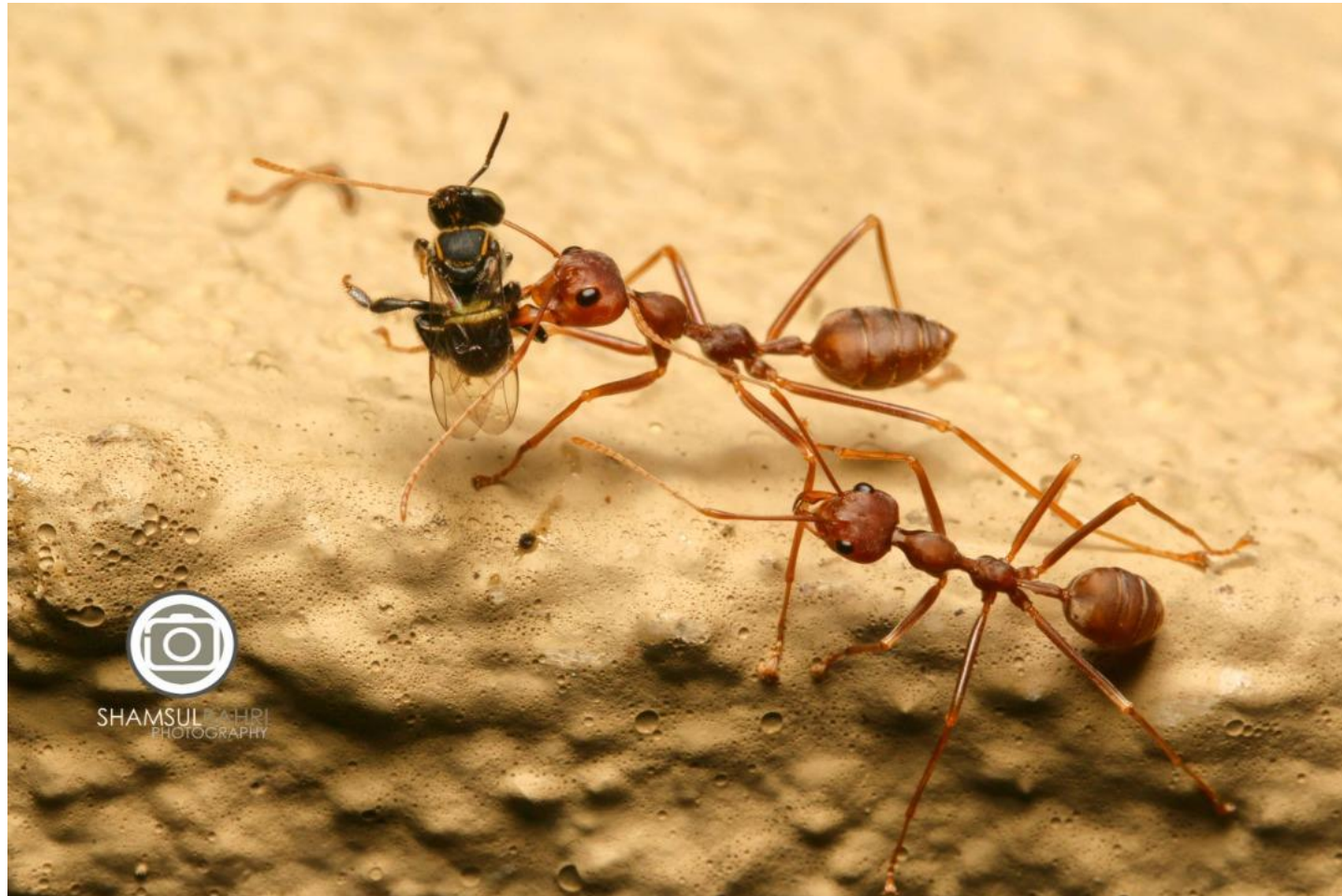




Assassin bug



Weaver ant- *Oecophylla* sp.



ASEAN

Pencuri sarang kelulut ditahan

April 24, 2018

KUALA NERANG, 23 April – Seorang penjawat awam antara tujuh yang ditahan selepas terbabit kes mencuri bongkah sarang kelulut dalam dua serbuan berasingan di sekitar daerah ini baru-baru ini.

Ketua Polis Daerah Padang Terap, DSP Noh Idris berkata, serbuan pertama pada 9 April lalu, apabila pasukannya menahan enam lelaki berumur 18 hingga 33 tahun di rumah tidak bernombor di Batu 20 1/2 Jalan Kuala Nerang, di sini.



DSP Noh Idris (kanan) melihat salah satu bongkah sarang kelulut yang dirampas dalam dua operasi berasingan di sekitar daerah pada 9 dan 15 April lalu. Seorang penjawat awam turut ditahan bersama enam yang lain kerana mencuri sembilan bongkah sarang kelulut dan memiliki sejumlah dadah jenis syabu. – Bernama

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Sarang kelulut pun kena 'rembat'

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UTAMA MUTAKHIR GLOBAL ARENA RAP/SELEBRITI BISNES METROTV



Dr Shamsul Bahri melihat kesan gergaji pada pokok yang menempatkan sarang kelulut. Sarang kelulut yang digunakan penuntut UMT untuk pengajian mereka sebelum dicuri (gambar kecil). FOTO insan UMT



Figure 1.3.7 Designs on hive stands(a-c) to prevent ants, lizard and other intruders access to bee hives

Preventative Measures for Healthy Hives

1. Seal cracks and crevices to prevent egg laying by the pests by using glue, silicon, net.
2. Burn logs and boxes which highly infested by pest - submerge in water
3. Treat soil surrounding infested hives – particularly the one infested with flies.
4. Do not expose the honey chamber of the hive for a long period during honey/bee bread harvesting.
5. Clean all tools particularly the one used for honey harvesting.
6. Prevent using straw to drink honey from the pots (hive).



Further works to be done

- Documenting all pests associated with Indo-Malayan stingless bees.
- Understanding the biology, ecology and behaviour of each pest.
- Effect of the pests on domesticated stingless bees colonies.
- Find solution to control the pests – using effective and safe method (traps, mechanical, biological)

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