

MALAYSIA MELIPONICULTURE :

Challenges and issues

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PEGAWAI PERTANIAN

BAHAGIAN PADI, TANAMAN INDUSTRI DAN FLORIKULTUR,
TITI GANTONG, BOTA, PERAK



Masterjii

Pest

Disease

Predators

Parasites

CHALLENGES AND ISSUES

Knowledge

Sources

Deforestation

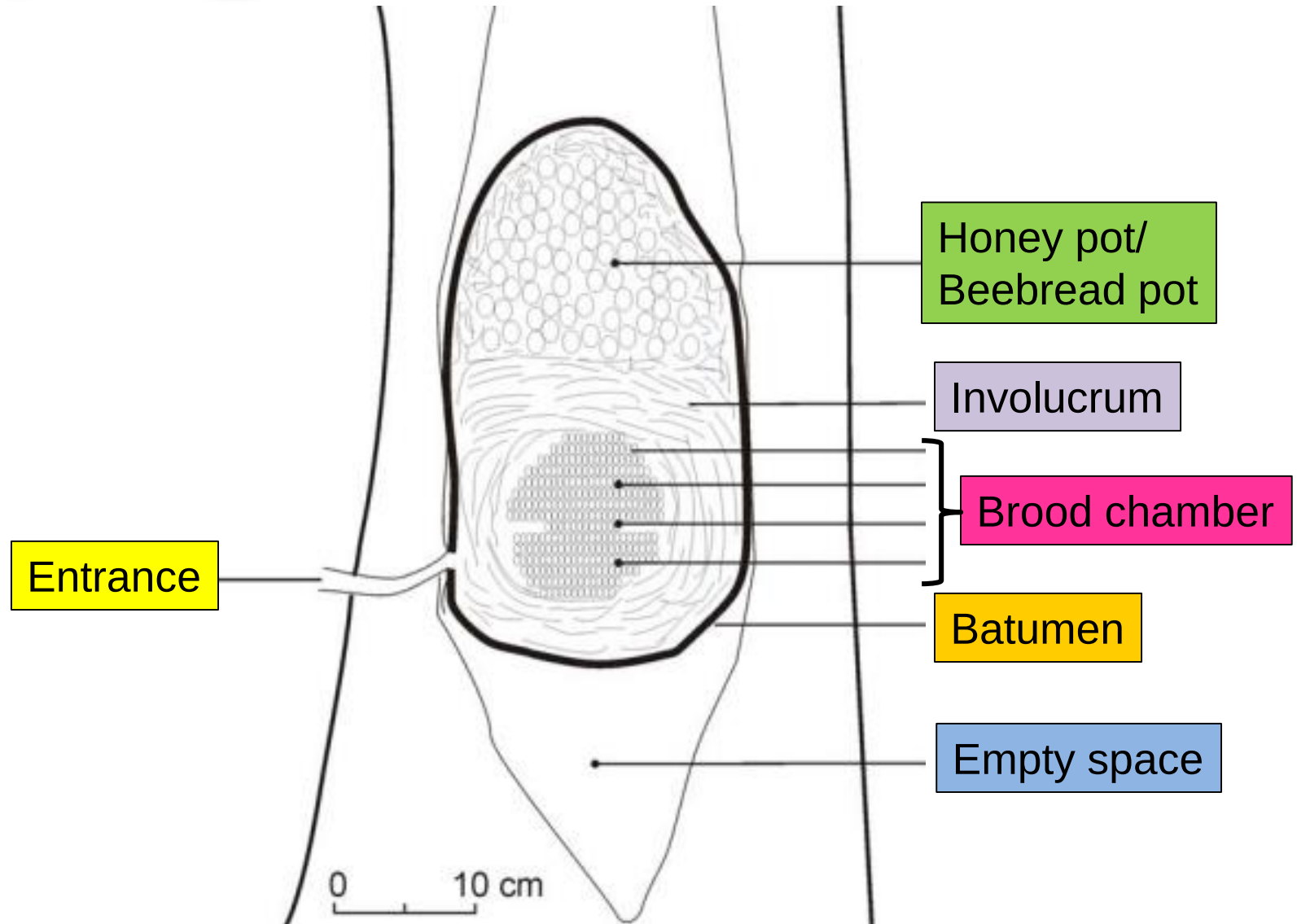
Pesticides

Nesting Sites

- Hollow trunks
- Cracks in rocks or human made buildings
- Unused panel doors
- Old and abandoned termites nest
- Underground (In the soil)



Nest Structure



Basic Needs For Stingless Bee



Shade

Resin

Nectar

Pollen

Water

Floral oil

Mineral

MELIPONISCAPE

BEESCAPE.....

None verbal instruction



NEST CONSTRUCTION

ENTRANCE

BATUMEN

HONEY POT

BEEBREAD POT

PILLARS

INVOLUCRUM

EGGS CELLS



RESIN?

NEST MAINTENANCE: TO CAULK CRACKS / NESTS

NEST DEFENSE

REPELLENT

TO PRODUCE PROPOLIS: ANTI FUNGUS/ANTI BACTERIA

SOFT STICKY PROPOLIS

Heterotrigona

Geniotrigona

Lepidotrigona

Sundatrigona

Tetragonula

HARD BRITTLE PROPOLIS

Homotrigona

Tetrigona

odontotrigona

Lophotrigona

Platytrigona

Tetragonilla

Tetragonula

Dipterocarp Trees

Mersawa Balau Kerawang

Almon Merawan Resak

Gerutu Cengal Seraya

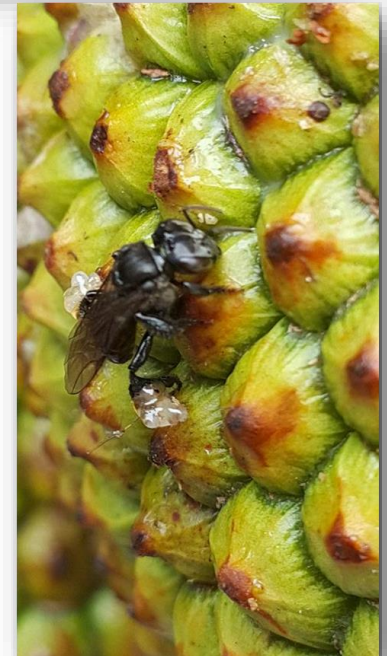
Keruing Melantai Giam

Selangan Batu Kapur

Meranti

RESIN?

WOUNDED TREE
BUDS
FRUITS



Black Soldier Fly

Hermetia illucens



Kumbang Debuqqa

Haptoncus luteolus



Kitaran Hidup

Dewasa hidup 5-8 hari. Mula mengawan 2 hari selepas muncul

Pupa (10 hari – sebulan)

Telur (4 hari)
Bertelur 500- 900 biji berdekatan bahan merepuk / organik.
Bertelur pada suhu melebihi 26 ° C dan pada kelembapan yang tinggi ($\geq 60\%$).

Pre pupa (7 hari)
Instar 6 . Mampu mencapai 27 mm panjang

Keseluruhan kitaran dari telur hingga dewasa mengambil masa lebih kurang 40-43 hari

Larva (13-18 hari)
Instar 1 - 5



MOHD RIBAN
KG JELUTONG, KEDAH
29 JUN 2016
200 LOG: 115 MUSNAH









IZHAR JOHARI
BUKIT WANG, KEDAH
29 JUN 2016
1000 LOG: > 300 MUSNAH





MOHD ARIFF ZAHARI
BATU KURAU, PERAK
3 JULAI 2016
JEMAAH BATU KURAU:
>< 300 LOG MUSNAH











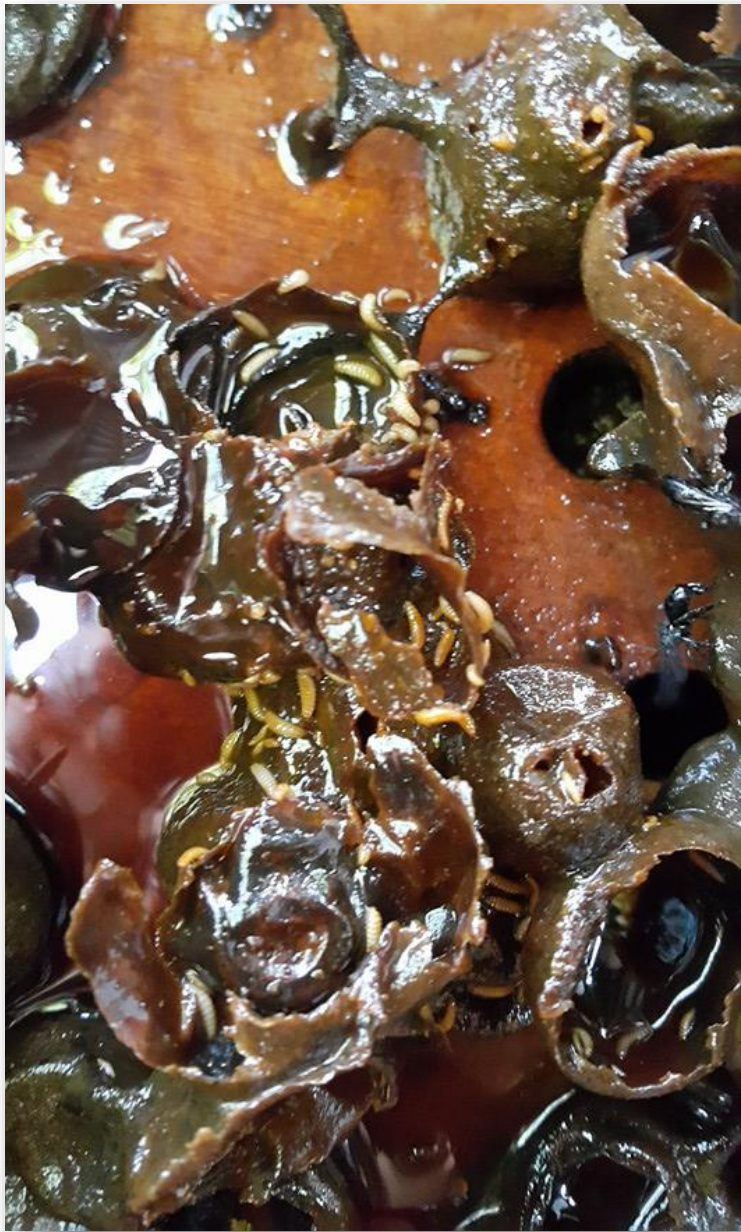












Titi Gantong, Perak

Topping

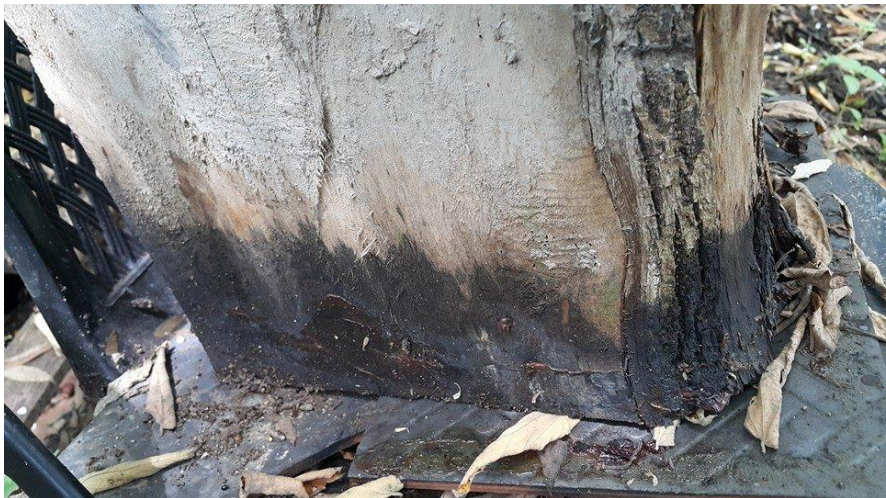
Log

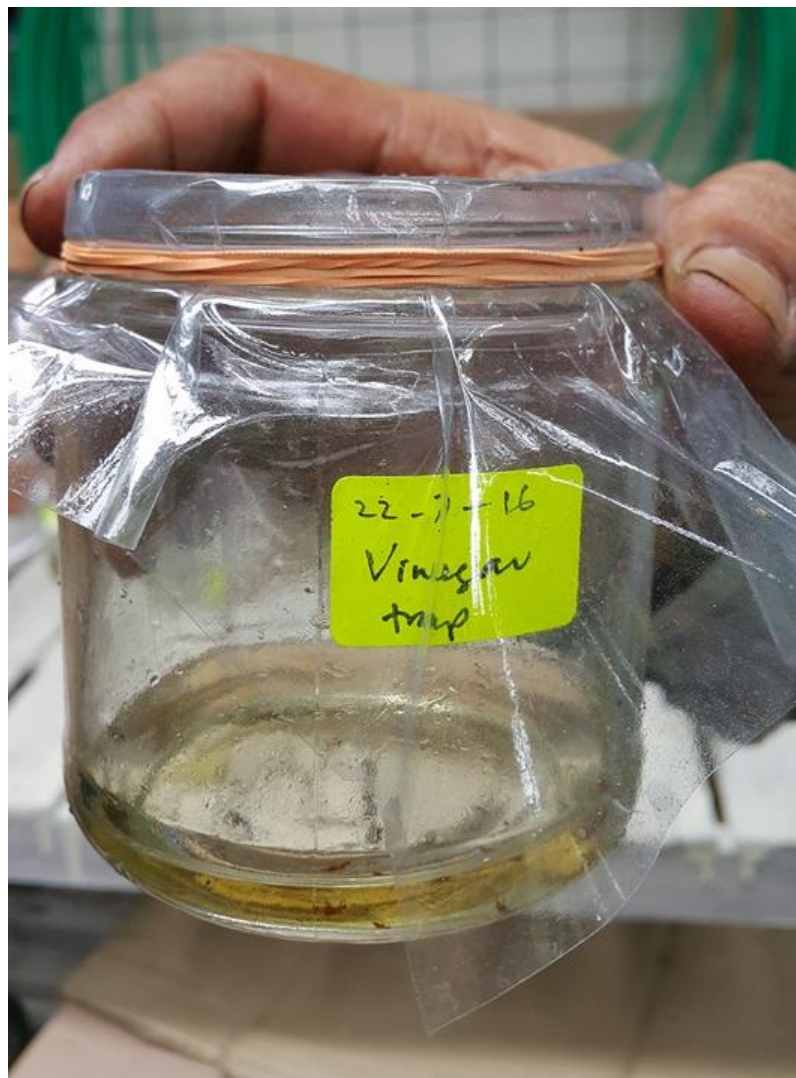








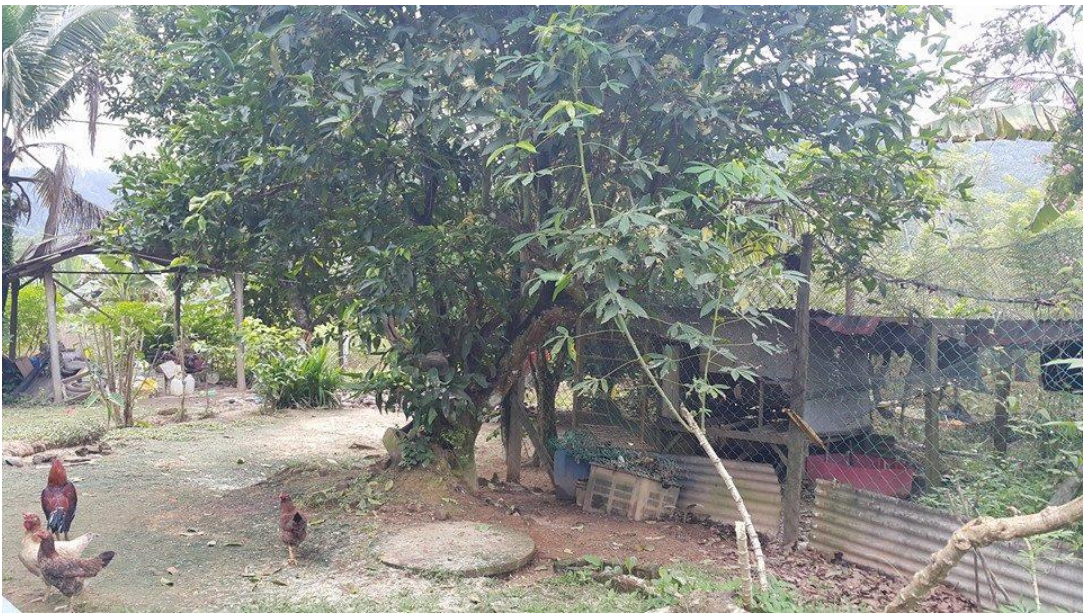












Pest Infestation Factors:

Extreme weather - melted honey pots

High population of BSF / Haptoncus

Rotten fruits / organic waste

Conducive environment – shade and high humidity

Near to animal husbandry area

Harvesting

Attack active colony!!!

PEMBEKAL LOG YANG RAKUS









Deforestation :
Diversity of stingless bee?
Pollinators ?





Fogging? Open burning?

Scarcity of source



Enough source



Scarcity of source



Enough source



Scarcity of source



Enough source





**TERIMA
KASIH**