Biosecurity for stingless native bees in Australia

Source: Jeremy Jones, University of New England NSW

NATIVE AUSTRALIAN BEES

What can you do?

There's a lot we don't know about biosecurity best practice for stingless bees, but the following steps can help keep your bees healthy:

1. Be aware of threats

- Know the major pests and diseases that can impact your native bees and educate others. (See: Pests for Australian stingless native bees factsheet.) As you become familiar with your colonies, you'll be able to recognise new or unusual symptoms or behaviours.

2. Use pest-free stock equipment

- When purchasing a hive or log of stingless bees, ensure the seller is reputable.
- Purchase equipment from pest-free and reliable sources.

3. Keep it clean

- Ensure hive tools are clean and free of debris or materials before and after use. Make sure you are using clean hive tools when working between hives. This can be done using a weak bleach solution (1:100 solution of normal household bleach:water) or hot soapy water to scrub tools to remove any excess wax, honey or debris.
- Pests and diseases can be carried between hives by European honey bees or native bees robbing honey. Make sure colonies that have suddenly died, or showed signs of fly and/or beetle infestations or brood diseases, are never left out for visiting bees to rob.
- If your hive is dead and absent of any live bees you can clean the hive and reuse the box. Remove the nest contents, scrub with a water and a stiff brush, disinfect and allow to completely dry before re-using.
- Use caution when opening hives in robbing conditions (e.g. when floral resources are low), bees may rob hives and infect colonies with any pests or diseases they may be carrying.

Tetragonula carbonaria pollen pots

Source: Dr Jenny Shanks, Plant Health Australia

4. Check your hives

- Monitor your colonies frequently.

If you see anything unusual, call the Exotic Plant Pest Hotline.

EXOTIC PLANT PEST HOTLINE
1800 084 881

How to check your hives

- Checking stingless bee colonies at least seasonally will give you a better chance of picking up pests and diseases early.
- Where possible choose warm, sunny days to observe the greatest colony activity.
- Avoid inspecting your hives during extreme weather events such as above 36°C or below 25°C.
- Be prepared. Plan what you are going to do, and have all the appropriate, clean equipment ready beforehand.
- Always be calm and methodical when inspecting.
- Inspecting your stingless bee colony should involve looking at all parts of the hive from the entrance activity to all the way inside including the brood if possible.

PHA22-003C

Source: Jeremy Jones, University of New England NSW

A stingless bee *(Tetragonula hockingsi)* hive

Source: Tim Heard, Australian Native Bee Association

- Check the level of activity at the hive entrance:
  - Are the bees flying or crawling?
  - Are they bringing in any pollen?
  - Are there large numbers of recently dead bees or brood near the entrance?
  - Is there any unusual activity or signs of disease?
  - Is the hive entrance closed, partially or fully?
- Observe for unusual bee behaviours, brood patterns and odours and check for other insects (including bees).
- Keep detailed records of your observations, these details can be handy if you find anything unusual:
  - Take photos of anything unusual.
  - Collect any unusual bees or pests into a tube, then label and seal it. Place this in the freezer for later diagnostics. Don't destroy anything unusual until you've had it checked out.
  - If you suspect anything unusual, report it to the **Exotic Plant Pest Hotline (1800 084 881).**
- Keep the area clean:
  - After inspecting your hives make sure you keep the area clean. Do not leave any bee products or empty hives exposed for other bees to rob. Old hive material is also susceptible to infestation by beetles such as native hive beetles and small hive beetles.

What to look for in your hives

- Any new pests:
  - Appearance of larvae (from beetles and flies) or adult beetles, flies, wasps anywhere in the hive.
  - Damage to pots and brood combs is often caused by pests such as small hive beetle, phorid fly and syrphid fly. These pests can especially be a problem in native bee hives weakened by lack of food or other diseases.
- Any unusual symptoms:
  - Unusual and unpleasant smells at the entrance or when opening the hive, particularly in the brood area.
  - Unusual behaviour such as weak or slow bees.
  - Unusual appearance of adult bees e.g. deformed wings.
  - Unusual appearance of expelled larvae e.g. yellow or brown/black in colour, or change to fluid like consistency.
  - Unusual appearance of brood e.g. brood cells are discoloured, sunken or perforated.
  - Significant colony or larval death.

An assassin bug preying on a stingless bee

Source: Tim Heard, Australian Native Bee Association

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