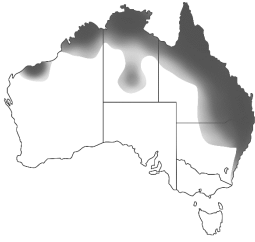


# Stingless Bee Propagation



Australian Native Bee Book, pg110

- Tetragonula carbonaria
- Tetragonula hockingsi
- Tetragonula davenporti
- Tetragonula mellipies
- Tetragonula sapiens
- Tetragonula clypearis

(Green species also found in PNG or S.E. Asia)

- Austroplebeia australis
- Austroplebeia cassiae
- Austroplebeia essingtoni
- Austroplebeia magna

*Austroplebeia cincta*

## NATURAL PROPAGATION

Stingless bees do not swarm the same as honey bees. Instead they set up a new nest site, stock it with food and then move in.

Can take weeks, months, or years!

So we need artificial propagation techniques

2 years and waiting for a queen

*A. australis*



### My mentors

Robert Luttrell

- More than 300 hives
- Commercial sales
- Educator
- Inventor



Allan Beil

(talking to Nick Powell)

- More than 300 hives
- *A. australis*
- Naturalist



Dr Tim Heard

- More than 300 hives
- Author / Educator
- Commercial sales
- Researcher



### Bees in S.E. QLD

*T. hockingsi*

- > 10,000 workers
- Coastal QLD
- Brisbane to Cape York
- Vigorous
- Trouble makers



*A. australis*

- Small or large colonies
- Drier Inland areas
- Found in most states
- Can handle droughts
- Shy
- Very gentle



*T. carbonaria*

- 10,000 workers
- Coastal
- Bundaberg to Bega
- Vigorous
- Less troublesome than hockingsi

## Boxes / Pests / Heat / Cold

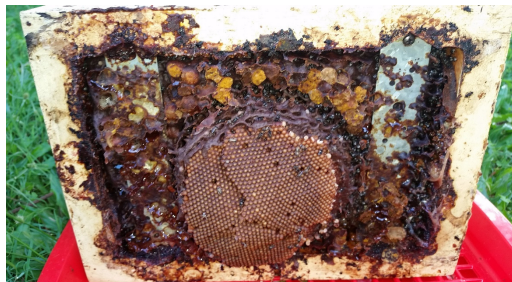
- > Need a better box than Apis. Sealed against pests and thick enough to insulate from heat and cold
- > Hard to transfer. Want a box to resist weather, to last 20 years plus



- Syrphid fly (left)
- Phorid fly (below)



### 1. Splitting or Division



- Divides a colony into 2 equal parts every 12 to 18 months
- Each box gets half the provisions and half the brood
- There are always queen cells and virgin queens
- Split when the hive contents are > 3kg (net) and the weather is kind
- Tim Heard is an early user of this technique. Tims first split in 1985 ushered in the modern era of stingless bee keeping in Australia

### Splitting Plate



### SPLITTING PROBLEMS

- Quoted success rates vary
  - 30% failures reported on social media (new beekeepers)
  - Tim Heard claims 94% success
  - Chris Fuller of Kin Kin native bees claims 85% success using splitting plates
- Pests
- Slumping
- Failure to Re-queen

### SUGGESTIONS

- Tape the box joins to stop pests
- Check for brood laying 8 weeks after splitting

## 2. Eduction or Budding



- Term invented by John Klumpp, Author of Australian Stingless Bees (2007)
- Unique Australian method
- Simply hook an empty box to the front of a strong colony
- Seen as gentle on bees, does not attract pests and no risk of slumping

### Problems

- More management needed
- Takes longer than splitting, may take 6 months to put brood in the front box

### Stimulating with “Rose Thorns” of native bee wax



- This is perfect example
- About 1 month old with honey and pollen storage
- I often cheat and add brood with a queen cell at this stage
- Reduces the sometimes 6 month wait to 2 to 3 months for a new colony

Eduction after 2 months. December / January 2018



### 3. Brood Transfer Method

The Brazilian Technique

- Take a section of brood from a strong colony and add to an empty box
- Place the box in a position to steal field workers (move a strong colony 5 to 10 metres away)
- Add a feeder
- Seen as a new method for Australia. Allan Beil and Robert Luttrell were early users in Australia. This technique is widespread and popular in Brazil



These two colonies are about 6 weeks difference in age. *T.carbonaria*, Brisbane, October 2017



## Brood Transfer Method

### Advantages

- Has minimum impact on donor hives
- Attracts few pests
- In theory allows multiple divisions a year
- Hybrid methods. Add brood & then hook up to a strong hive

### Disadvantages

- Requires more management
- New colonies can sometimes be weak
- It is a race against time to get the new queen laying before old workers die

## 4. Queen Transfers and Brood by Mail



### Brood by mail

- 1 Disc of brood = 1000 workers
- Convenient way to post a queen
- Can survive a week at room temperature
- For Queenless hives or to start educations
- (Not enough brood for the Brazilian technique)

## Cross Species Brood Graft



*T.hockingsi*



Brood cut out to start new colony



*T.carbonaria* brood added



*T.hockingsi* successfully converted to *T.carbonaria*. Brisbane, 2016



*A.cassiae* queen in *A.australis* colony about to lay an egg

### Queen Transfers

- Allan Beil does this
- Australis queens transfer easily
- Australis and cassiae queens are interchangeable
- Carbonaria queens can be exchanged
- Spraying with sugar water can improve success rates



## PARTING ADVICE

- 'When keeping stingless bees first welcome them to your family and make them your friends' (Giorgio Venturieri)
- Treat them gently
- Tape the box joins
- Don't spill honey
- Protect from weather extremes
- Keep the colonies strong. When dividing don't get greedy