NATIVE BEES

Keeping of native bees for fun or for pollination/ honey production.

One good reason to become more aware of Australian Native bees is that thousands of times every year the native bees are mistakenly killed as they are thought by many people who come across them to be flies, wasps, or ants or some dangerous insect that we should exterminate.

This is a sad thing to happen as it means that native bees have a harder time to survive, and it is hard enough as it is as their habitat, a place where their homes were located and their food source too, is continuously destroyed by development and alteration.

There are a few thousand different native bees in Australia and many of them are solitary while others live in small groups , and yet other species live together in hives with bee numbers well into their thousands.

One interest I have is to keep the bees that have a social habit, are stingless and collect sufficient honey to give us a taste of their honey.

More often than not, these stingless social, honey producing bees are often found in hollows in trees where they live quite comfortably and are protected against extremes of weather, bushfire and also against pests that may invade their nest to prey on the bees or their food stores such as the pollen they collect as well as their honey.

The main species worth keeping here in South East Queensland is the Trigona carbonaria which is a very small black bee measuring about 4mm long and 2mm wide with a triangular head. Its “face” is covered in small grey hairs, seen if you look close enough, often as they poke their heads out to see if it is time to start flying for the day..

These bees also tend to occupy any place that they find suitable as they are on the lookout for a new home, during the time of the year when they swarm. These places include holes in walls, in rock walls, in plant pots terracotta or plastic, in floors where there is a nice space for them to occupy and be protected against ants etc. Even polystyrene boxes.

Each native bee has a unique way of “nesting” or having a unique structured hive.

Basically the internal layout of a trigona carbonaria hive is as follows:

Brood

In the centre of the hive is a conical arrangement of brood (babies housed in a wax sphere (about 3 mm diam) and this brood chamber is usually about the size of a softball.The number of brood levels appear to be about 15 to 20 but is a continuous spiral from top to bottom except where the advancing frong is which is the start and end of a laying cycle. Research has shown that some native bee speciaes can live for over 10 months.

Food stores

Around this “brood-ball”are the **honey and pollen pots** which are much larger than those of the honeybee, and they are not arranged in an orderly fashion like the honeybee, but a semi-random arrangement of large pots of honey and pollen, that may be interconnected, while corridors are made throughout this maze of food chambers. Honey pots these can be recognised by their darker colour, while pollen pots are recognised by their paler colour as the pollen is usually from pale yellow to deep yellow but also brown and even purple according to the pollen colour in the flowers that they visit. The taste of the honey from the native bee is described as tangy and is much more runny than the honey bee honey. Only a small amount of honey is produced per year, somewhere between 500 grams and 1 kilo. Of

course pollen is a preferred food source for thew young and adults so often you may find that most of the space inside is filled with it.

Wooden frames cannot be placed in the box to encourage easy extraction of honey.

Wax made by the bees and used to construct the cells that store food honey and pollen for each individual bee as the larvae grow, as well as as the encasing around the developing larvae or immature bee until hatching of the pupae.

Propolis collected from trees to use as an ant deterrent, disinfectant and either mixed with wax or kept as is for windproofing hive

Waste is 'bee poo', and pupal cases, the only two things in the hive that cannot be recycled, everything else is recycled.

Food source for native bees.

The following list of plants: trees, shrubs, herbs is no means complete.

All the major native flowering plant groups of Australia are preferred by the bees, such as the :

Eucalyptus spp

Callistemon spp (Bottlebrush)

Banksia spp.

Xanthorrhea spp (Grasstrees)

Grevillea spp

Leptospermum spp (Small leaf tee trees)

Tristania spp (Brush Box)

Melaleuca spp (small and large leaf tee trees)

But they also forage on a range of introduced plants such as

Garlic chives,rapeseed, New Zealand Christmas bush, Orchid trees, sunjewels, nasturtiums

But a complete list cannot be made until observations have been made at times favourable for the native bees to visit the flowers of a range of native and introduced flowering plant species.

Honey bee impact on native bee populations.

As honeybees come from Europe and are suited to a much colder climate, they are up earlier in the morning and so get the' lions' share of the pollen and nectar that is found on the flowers. Of course an important consideration is that honey bees cannot get inside certain flowers with diameters small enough not to allow the honeybee.

Large pollen grains are not favoured, so plants like pumpkins are no good.