NZ bees

Angels of the environment

Contributed by Ngaire Hart

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My research with NZ bees.

I have a background in electronics and computer engineering (BE) and environmental science (MSc). Recently, I submitted my PhD thesis for examination with the School of Engineering at AUT University.

My research involved aspects of engineering, science and ancestral knowledge. I developed an image-based monitoring system for New Zealand's native bees, it is straightforward to use and aimed towards community scientists.

In the future, community scientists could lead the charge in environmental stewardship as more people become aware of the important role of NZ native bees.

Raising public awareness of NZ native bees is a vital step towards their conservation and protection. Most people are delighted to learn about NZ bees, what they look like, where they live, what they do and how we can support them.

Therefore, I am always excited to share my knowledge and experiences. I have also contributed to discussions about the devel-

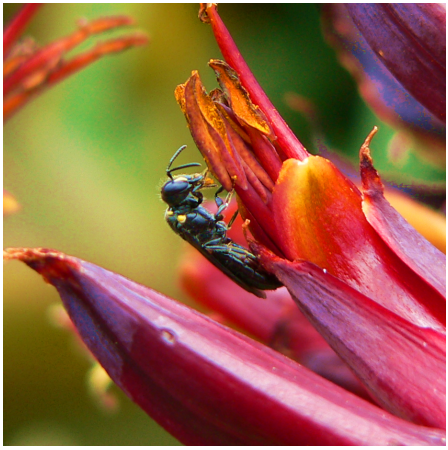

Figure 1: *A single native bee on a flax flower. These species, commonly called* `masked bees`*, construct their nests in wood; perhaps in the kōrari - the flower stalk of flax?*

opment of commercial honey bee keeping. But, not all bees are the same...and New Zealand's native bees are not honey bees.

Honey bees, native bees and the future.

Honey bees were introduced to NZ and they are important for agriculture and horticulture. Manuka honey is a significant enterprise in Northland and there are increasing numbers of managed honey bee colonies being placed into areas of native bush.

However, the impact this has on NZ native bees is not well understood. There are some unanswered questions, for example:

1. What is the *safe, sustainable, stocking level* of managed honey bee hives, when they are placed into native habitats?
2. When honey bees are introduced into native habitats, are there any impacts on NZ native bees?
3. Do honey bees and NZ native bees compete for food?
4. What are the consequences of a decline in populations of NZ native bees?
5. With little or no previous population data on native bees and no current data, how can the impacts of commercial bee keeping, on native bees be measured?

Some of these issues are difficult for scientists to answer. Therefore, if you are considering placing some honey bee hives on your property there are a few questions you could think about.

- Do your honey bees have enough forage all year round?
- Are you growing your own bee-food or do your bees travel to some-one else's property for food?
- Can you supply a good variety of plants for your honey bees? Successive flowering is ideal and helps to boost the health of all bees, including honey bees.
- Are there any populations of native bees nesting on your property at the moment?
- Are you able to identify them? Are there more than one species?
- Could you locate their nests or observe them foraging on flowers?
- Could you monitor any changes in native bees on your property? This is especially important to do before any hives have been added and then after they're removed.
- Do you have new ideas about bee stewardship or monitoring?

For more information on native bees, what they look like, how to find them, their life-cycles, protection and monitoring ideas, favourite foods and more...

Visit our new Facebook page dedicated to native bees @ https://www.facebook.com/NZBees/