

BRITTANY SUE MASON

Honeycomb Jewels

An ongoing interest in apiculture and perhaps a cross-pollination of concepts has joined art jeweller Brittany Sue Mason and geneticists Mackenzie Lovegrove and Gertje Petersen. Honeybees have been a topic of Brittany's work for some time, both in studio practice as well as in the "honey house". For the past year, Brittany has been working with a local beekeeper,¹ helping to prepare the hives for next season.



Figure 1. Brittany Sue Mason, *Honeycomb Necklace*, bronze, sterling silver, glass, beeswax.

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Through the hours spent scraping the honeycomb from the frames, I think of the similarities between finishing my jewellery work for sale. Each scrape of honeycomb from the wooden frame is like the file against the rough edge of freshly cut silver. Slowly the hive tool polishes the remaining beeswax against the frame, like burnishing the edges of metal to a shiny smooth finish. As the removed beeswax heats slowly on the stove, the smell of honey fills the room. Even hours after being home from work, I could still smell the scent of honey embedded into the fibres of my clothes. I thought how delightful it would be to capture this aroma and take it with you everywhere.

This sparked the beginning of my bee-inspired studio practice in early 2016. I was first intrigued by the hexagonal patterned structures of the honeycomb, surprised by the geometric shapes created by these tiny creatures. How could such a small organic life form construct such rigid and uniform patterns? The female worker bees produce malleable wax platelets from the wax glands on the underside abdomen sections. Mixed with oral glandular secretions, the wax produced by the worker bees is chewed and ready for use.² There is an architectural basis for this construction of regularly shaped and spaced parallel hexagon tunnels – to achieve maximum effective use of space.³



Figure 2. Work in process with organic honeycomb, glass gemstones.



Figure 3. Brittany Sue Mason, *Honeycomb Brooch*, bronze, sterling silver, stainless steel, glass, beeswax.



Figure 4. Work in process, pollen pollution.

Honeybees fulfill all the criteria for a eusocial society: a colony includes only overlapping generations of one family (dimorphism), a division of labour exists within the worker caste, and they have the ability to communicate messages about worthwhile food sources using motion signals.⁴

Listening to geneticists' research, I began to question my attendance as an artist, until I heard Mackenzie's description of the honeybees' ability to communicate using pheromone messaging. Mackenzie explained her research into the eusocial society of honeybees and specifically the presence of the Queen Mandibular Pheromone.⁵ The social structures and politics within communities of honeybees is surprisingly advanced! As an artist, I think jewellery is a form of non-verbal communication on many levels: between the maker, the wearer, and the viewer. As a maker, the issue of the honeybees weighs heavily on my heart; the wearer keeps the matter close to them by wearing the jewellery on their body and engaging potential viewers in the topic as well. Thinking back to my work with the bee-man and the aroma of honey in the air, I had an epiphany — honey-scented jewellery!

I sourced two brood chambers from a hive, thanks to the local beekeeper. I removed the honeycomb from each frame and cut thin cross-sections. The most aesthetically pleasing honeycombs were selected for bronze casting. The casting process adds to the preciousness of the forms by reinforcing the structural integrity and lasting permanence of the objects. The process of making remains obvious throughout this wearable series; casting directly from the organic beeswax, the knife edge on the back sides of the forms is still visible under the soft layer of protective wax. The gemstones embellishing the honeycomb structures are repurposed from my grandmother's costume jewellery and intended purely as decoration. Lastly, each object is gently dipped back into the natural beeswax I had extracted from the hive. The final dipping is intended to lightly coat the metal form, slowly warming

with the body heat of the wearer to release a sweet, subtle honey scent. The final incorporation of scent by the dipping of the forms references the queen honeybee's use of pheromones.

While slicing the honeycomb cross sections, I encountered a moment of serendipity. Upon overturning one of the frames, the ground was littered with a fine golden dust, delightfully rich in colour but springily pungent in smell. I began to buzz around like the honeybees, having the urge to collect and contain this pollen. I saw this golden powder as a special superfood, vitamins for the bees.⁶

This led me back to a talk given by Gertje Petersen. Gertje had described her studies into genetically breeding better commercial honeybees. She described the urgent issue, concerning honeybees' bee-health and longevity. She described how over the tens of thousands of years we have lived with bees, their genetic material has remained relatively unchanged compared to other species over time. Gertje hopes to design better-suited honeybees, specifically adapted to certain environmental situations or management ideals.

The idea of this super-bee, combined with my accidental pollen discovery, prompted my sudden addition of the *Pollen Pills* to this installation. The *Pollen Pills* design was based on vitamin capsules, but at a larger scale and using glass rather than plastic to magnify the deep golden dust. I decided to approach Anne Ryan⁷ for assistance with this vision. The capsules are constructed from glass test tubes, cinched at the centre to form a connection point. I chose to display the *Pollen Pills* on a small circular sterile metal tray, like you might see in the hospital. The metal tray sat upon an elegant wooden pedestal in the corner of the installation.

It was equally important to display my reference material with the finished jewellery. My installation evolved into a somewhat site-specific project, as it was my intention to display my work against a reflective surface. I wanted the viewer to see the jewellery in the round – from all angles, as the textures and patterns were of main interest throughout the process. I chose this location to incorporate the light and reflections offered by the mirror as backdrop. I had suspended three large neckpieces framed by two natural hive sections. Hovering closely in front of the mirror, I intentionally left just enough space for the viewer to sneak a peek around both sides of the work. The other three brooches were pinned to a hive frame. These were all suspended by fishing line



Figure 5. Brittany Sue Mason, *Pollen Pills*, pure pollen, handblown glass capsules.



Figure 6. Installation view during Art and Genetics Exhibition, HS Skinner Annex, Otago Museum.

to give the appearance of displays floating, like bees in the air. I also used two brood boxes as a plinth for another two brooches. The natural honeycomb remaining on the frames in the brood chambers released a beautiful honey smell with the warm heaters of the Skinner Annex. This was my first exhibition in which I was obliged to attach an allergy warning notice alongside my artwork!



Figure 7. Allergy warning.

Brittany Sue Mason immigrated to New Zealand in 2011, and completed her BFA at the Dunedin School of Art with a concentration on jewellery design & metalsmithing in, 2013. Her artwork is deeply influenced by the tiny textures and patterns of the natural world.

Brittany worked with geneticist **Mackenzie Lovegrove**, whose project involves trying to understand how honeybees evolved “eusociality”– the social structure where one female reproduces and the others rear her offspring. Mackenzie Lovegrove is a PhD student at the department of Biochemistry, University of Otago. Based in the Department’s Laboratory for Evolution and Development, she is researching how genetic pathways get co-opted into novel functions over evolutionary time.

1. Tudor Caradoc-Davies, “Brightwater Bees,” <http://www.brightwaterbees.co.nz/>.
2. Karl Weiss and Carlos Vergara, “On the Summit of Social Insect Life,” in *The Little Book of Bees*, trans. Douglas Haynes (Munich: Springer-Verlag, 2002) 119.
3. Mark Winston, *The Biology of the Honey Bee* (Cambridge: Harvard University Press, 1987) 81.
4. Weiss and Vergara, 2002, 107.
5. Colin Butler, “Queen Substance.” *Bee World*, Vol. 40 (1959) 269. Unique to the honeybee hives, when exposed to worker honeybees, this pheromone inhibits queen-rearing and ovary development by any bees except the queen honeybee.
6. Winston, 1987, 56-57. “Basically, pollen provides protein, lipids, vitamins and minerals ... Bees require pollen for growth and development.”
7. Ann works at the Scientific Glassblowing Department, Otago University.