

Ants as Engineers ... *Peter Muller*

Ants are a numerous and varied part of the natural world. The *Camponotus* genus is one of the most numerous Australian ants. They live in a variety of situations and habitats. I have often wondered, how much of ant behavior is instinct, and how much is deliberate?

Camponotus consobrinus Sugar Ants are one of the most familiar and easily recognized ant, because they are often seen in and around suburban homes, and have a distinctive orange and black body.



Like most ants, they are social insects, and live in colonies almost exclusively comprised of females. Sugar ants, like many other genera, have groups or castes of various sizes, usually referred to as majors (larger size) or minors (smaller size). They are thought to have different functions within the colony.

Sugar ants have their colony nest underground and have a distinctive mound of soil around the entrance holes.

Often the profile of the mound varies in urban areas, and is modified, because of disturbance, e.g. tracks and mowing in parks and gardens.

Is the profile (shape) just a result of random placement of soil particles excavated from their colony nest, or, is there deliberate placement with a distinctive shape of the object?



Construction of storm barriers and launching pads suggests deliberate action.



Storm Barriers

I have observed *C. consobrinus* building these storm barriers over nest entrance holes. It was in a wide, mowed strip of land, where the disturbance hadn't allowed the distinctive crater profile to develop. Sparse grass allowed sheets of water to form in heavy rain. My barometer had dropped significantly and a storm threatened. Rain and wind followed over 24 hrs.

After the storm had subsided the structure was dismantled

Launching pads.

The life cycle of ant colonies involves formation of new colonies. A couple of times a year, usually after rain in autumn and spring, winged queens and males fly out from the nest and mate. Once mated, the queen then finds a suitable place to dig a nest, and lay the first worker eggs to start off the new colony. These launching pads are structures to facilitate the nuptial flights of the queens and males, specifically for the purpose



Prescient action to construct purpose built structures or, instinct?

There are always more questions than answers!

References;

S.O. Shattuck 1999, *Ants: Their biology and Identification*, CSIRO Publishing

A.N. Andersen 1991, *The Ants of Southern Australia*, CSIRO Publishing

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