

HOW ANTS CHANGE THEIR QUEENS

NATURE'S STRANGE WAYS

A queen ant, marked by a notch in her armour in 1947, was still ruling her army in 1952.

In the army ant world, it's much like Kipling said about another kind of army:

“Boots—boots—boots—boots—movin' up and down again!”

In the mind of the distinguished U.S. animal behaviourist, Dr. Theodore C. Schneirla, when he began to study the mystery of the marching army ants in Central America a generation ago, the thought was not so much “boots—boots—boots—boots” as “why—why—why—why?”

Why did the army ants follow such a strict routine—marching for 16 days, with bivouacs at night, and then going into camp for 20 days? Why, among many other questions, were their armies run by queens, and why was one queen-type female selected to fill a commanding-general assignment in preference to some other queen type?

Instinct has much to do with it, of course, but Dr. Schneirla scoffs at the idea that merely saying “instinct” explains such a complex social organisation as a marauding ant army.

“It's instinct plus reactions to local environment,” said Dr. Schneirla, back now from a four-year visit to Barro Colorado Island, Panama Canal Zone, his eighth and last expedition for army ant research. “If you put them in a different environment they act differently. They aren't born knowing a whole, immutable plan of operations.”

Well, what sets off the reactions to local environment? What is the main influence that drives the army? It's various odours, and the most important odour of all is the queen odour, which the ants find exciting.

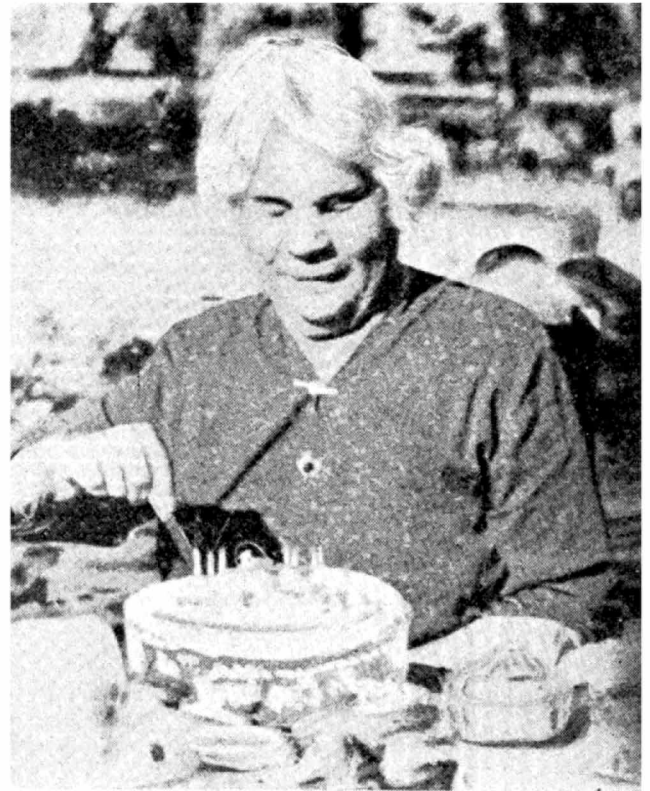
The queen rules an army, or community, of about 40,000 ants and provides recruits and replacements for casualties by laying batches of 25,000 eggs every 45 days. These eggs all will produce females which will spend their lives as virgin work-soldiers.

The eggs are laid at the end of a 20-day encampment period. They immediately hatch into wriggling, worm-like larvae which exude an odour—later lost—that excites the adult worker ants to go foraging and battling for enemy-ant and wasp eggs and the like in their characteristic, tree-like pattern of columns.

Every night the army moves to a new bivouac, carrying the larvae with it, for it soon exhausts all the food in one neighbourhood.

At a certain time each year, the queen lays male eggs, 1,500 of them, and queen-type eggs (only six).

The males fly away, as they have to do to become potent, and a few of them find other ant armies and mate with queens there. At this time also each army divides in two. One group goes with one of the new queen-types whose scent is especially exciting. The other usually continues to follow the old queen. Sometimes, though, the old queen is deposed.



Mrs. Ellie Mary Goolagong, who was born at Condobolin, celebrating her 90th birthday. Once an active horse-woman, swimmer and diver, she has reared a big family of children, grandchildren and great-grandchildren.