

## **INSIDE THE ROYAL CELL: OBSERVATIONS ON FOUNDER AND FOUNDESS BEHAVIOR IN LOWER TERMITES (ISOPTERA: RHINOTERMITIDAE, *COPTOTERMES FORMOSANUS*, *RETICULITERMES SPERATUS* )**

**AKIHIRO OHNO, MIGIFUMI OHZONO AND MASAYOSHI TATSUKAWA**

Research Laboratory, Sanix Incorporated, Japan

**Abstract** The cryptic habits in lower termites of the family Rhinotermitidae make any understanding of their behavior a difficult task. The secretive nature of their search and foraging behaviors has limited our understanding of these economically significant termites for decades. The behaviors of the founding royal pair (king and queen) is even more rarely observed. Recently, we have the unique opportunity to film two significant aspects of behaviors in the royal pairs from two different species of lower termite.

In *Coptotermes formosanus* we were able to observe the royal pair mating, and subsequently observe the queen laying an egg after which the king collected the egg and took it away to a nursery somewhere in the "nest" of the young colony. In *Reticulitermes speratus* we were fortunate enough to capture the complete sequence of eclosion of a young nymphal termite from its egg. What is most remarkable about this footage was the tremendous effort invested by the king and queen in assisting with the emergence of their young. The footage shows parental care on the part of this species, and suggests a greater role for workers in the nurseries of termites than previously imagined.

**Key Words** Habits, Rhinotermitidae, *Coptotermes formosanus*, royal pair mating, *Reticulitermes speratus*