



2012 Nutting Research Grant Announcement

The winner of the 2012 William L. and Ruth D. Nutting Research Grant for basic termite biology is **Tamara Hartke**. Dr. Hartke was chosen from among four applicants, and will receive a \$2500 grant to support her proposed research project. Tamara is a member of the NAS-IUSSI and graduated with a B.S. degree from North Dakota State University in 1996, a M.S. degree from Sul Ross State University in 2005, and a Ph.D. degree in Biology from Northeastern University in 2010. After graduation from Northeastern University, she conducted post-doctoral research on parentage analysis in polygamous colonies of *Nasutitermes corniger* under the direction of Dr. Rebeca Rosengaus at Northeastern. Currently, she is an Australia Awards Endeavour Fellow at the University of Western Australia studying termites as a model system to study sexual vs natural selection under the supervision of Dr. Boris Baer.

Because our knowledge of termite reproductive biology is very limited, as is our understanding of the evolution of termite mating systems and pre- and post-copulatory sexual selection, her project in Australia is to study “The secret life of termite sperm: Exploring the interactions between male and female reproductive traits in termites.” Her research will investigate (1) sperm activity in the female reproductive system and (2) sperm use. Her research will involve numerous taxa to represent early (*Mastotermes darwiniensis* and *Kaloterme hilli*), intermediate (*Coptotermes michaelsoni*), and recently (*Amitermes heterognathus*) diverged taxa. Her proposed project promises to clarify some of the physiological aspects of male and female reproductive structures and the interaction between male and female components. Specifically she will examine changes in sperm activity upon exposure to the female reproductive tract, using microscopy and metabolic analysis, and investigate sperm use in the production of fertilized eggs.

Although the other candidates for the grant had very strong proposals, Tamara’s discrete, highly feasible and well-articulated research plan was the top choice of the selection committee (Michael Haverty, Colin Brent, Edward Vargo, and Phillip Starks).