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*Cuticular compounds mediate queen recognition in subterranean termites (*Reticulitermes flavipes*)*

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Chemical mediation of reproductive caste is common in many eusocial insects. Functionally sterile workers identify and tend queens or kings within the colony using unique volatile or contact based chemicals. Many of these signals in ants, bees and wasps consist of reproductive-specific cuticular hydrocarbons. In termites, recognition and tending behavior towards queens and kings is not well-studied and no recognition pheromones have been identified to date. Egg recognition pheromones and cuticular hydrocarbons indicating fertility have been identified in a few termites, but there is little information regarding queen and king tending behavior. We investigated the recognition and tending behavior of reproductive individuals in the eastern subterranean termite *Reticulitermes flavipes*. In many termites, including subterranean species, individuals will sometimes shake violently while remaining in place. Although this behavior sometimes occurs in response to various stimuli, it occurs quite conspicuously and frequently in close proximity to reproductively active individuals. Using behavioral assays and classical chemical ecology techniques, we documented the strong behavioral response of termites towards neotenic (secondary) queens, kings, workers, and soldiers, and investigated the potential chemical sources for queen recognition. Results of these ongoing analyses will be presented.