

Hygienic behavior in the stingless bees *Melipona beecheii* and *Scaptotrigona pectoralis* (Hymenoptera: Meliponini)

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ABSTRACT. Hygienic behavior, a trait that may confer resistance to brood diseases in the honey bee *Apis mellifera*, was studied in two species of stingless bees in Mexico. Eight colonies each of *Melipona beecheii* and *Scaptotrigona pectoralis* were tested for hygienic behavior, the removal of dead or diseased brood, by freeze killing a comb of sealed cells containing pupae. Both species detected and removed dead brood. However, removal rates differed between species. In *M. beecheii* colonies, workers took 2-9 days to remove 100% of the dead brood (4.4 ± 2.0 days, mean \pm SD), while *S. pectoralis* removed all dead brood in less than 3 days (2.3 ± 0.6 days, mean \pm SD). We conclude that hygienic behavior is not unique to *A. mellifera*, and is not solely an adaptation for the reuse of brood cells as occurs in honey bees but not stingless bees. Although stingless bees do not reuse brood cells, space is limited. The removal of dead brood may be necessary to allow new cells to be constructed in the same place.

Key words: Hygienic behavior; *Melipona beecheii*;
Scaptotrigona pectoralis; Stingless bees; Meliponini