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SURGICAL INTERVENTION IN QUEENS OF *SCAPTOTRIGONA DEPILIS* (APIDAE, MELIPONINI) FOR SPERMATHECA REMOVAL

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Surgical interventions are not common approaches for research in insects due to their small size and poorly known anatomical systems. However, when it works always provide a good methodology for physiological studies. A surgical intervention in mated queens of *Scaptotrigona depilis* is reported, aiming to obtain one that lays unfertilised eggs, which develop into male offspring. For that, queens were placed in an artificial inseminator and narcotized with carbon dioxide (CO_2). We tested two different regions for incision in two groups of two queens. For the first group, despite the fact that the spermatheca were easily exposed, when the last sclerotized sternite of queens' abdomens was cut this procedure damaged them and they died. For the second group, an incision in the lateral pleura between the two final abdominal sternites showed the best results regarding the queens' survival. We repeated this proceeding with five other queens. Using a U-shape tool, it was possible to remove the spermatheca and apparently the internal organs were not damaged. The incision was dried before the queen was placed alone in a Petri dish for two hours, and then introduced in a confined small colony. Three out of seven queens survived for 8 days in this condition. However, when they were introduced in free-foraging colonies they did not lay eggs, and were probably executed by the workers. A higher precision during the spermathecal removal is necessary. Despite our negative results, we showed that queens are quite resistant to surgical interventions and may have a powerful cicatrisation process.

Keywords: stingless bees; insect surgery; queen anatomy.

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