

Influence of the Vegetation Cover on the Efficiency of Pitfall Traps to Dung Beetles (Coleoptera, Scarabaeidae)

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Dung beetles are known to play an important role in terrestrial ecosystems, due to the benefits provided to pasture lands. They can also be used as bioindicator organisms. Pitfall traps, baited with dung, are one of the most used methods to survey this group of beetles. Several factors interfere on the efficiency of these traps to dung beetles; however, many of these were not yet properly studied. One factor is the influence of the vegetation cover surrounding the pitfall traps. The objective of this experiment was to verify the influence of vegetation cover surrounding the trap on its efficiency. The experiment was deployed in a *Urochloa decumbens* (Stapf) pasture land (20°22'41.06"S 51°25'14.78"W) belonging to the Research Farm of UNESP university, in Selvíria, state of Mato Grosso do Sul, Brazil. Dung-baited pitfall traps were paired; one trap had all vegetation removed within a 30 cm radius ("clean" trap), while soil cover was kept in the other trap ("dirty" trap). Traps were run biweekly from November until December 2011 (12 collections). Dung beetle species were grouped into guilds and size (small, medium and large). The eight most abundant trapped species, guilds and size groups were analyzed statistically. *Dichotomius bos*, *Ontherus appendiculatus*, *Genieridium bidens*, *Trichillum externepunctatum*, tunnelers, medium and large beetles were significantly more trapped in the dirty traps, while for all other species and groups there were no significant differences between traps. Those results were unexpected, considering that most of the analyzed species usually walk until they find the odor source, where a cleaner path to it would facilitate food location. It seems that some dung beetle species might avoid cleaner ground spots, where they could be more easily spotted by large natural enemies, such as mammals, birds and amphibians. The main conclusion is that vegetation cover surrounding traps should be kept while surveying for dung beetles with pitfall traps.

Keywords: sampling protocol; pasture land; rollers