

Invasion and Establishment of *Digitonthophagus gazella* (F.) (Coleoptera, Scarabaeidae) in an Atlantic Forest Fragment in Southern Brazil

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Dung beetles (Coleoptera, Scarabaeidae) are insects beneficial to pasture lands. The activity of burying cattle dung enhances the soil properties, and help controlling flies and nematodes of veterinary importance. In addition, they are indicators of forest conservation. *Digitonthophagus gazella* (F.) is a dung beetle of African origin and inhabiting typically open habitats. This species was introduced into Brazil allegedly to help in the cow dung removal from pastures. There is however evidence, based on a few projects addressing this issue, that the introduction of *D. gazella* impacted negatively the native dung beetle fauna present in pastures. The objective of this research is to evaluate the ability of *D. gazella* to invade and establish itself in a closed forest. The experiment is being conducted at the Teaching and Research Farm of UNESP university, and located in Selvíria, state of Mato Grosso do Sul, Brazil. We deployed a transect of 13 cattle dung baited pitfall traps running from the center of a *Urochloa decumbens* (Stapf) pasture to the center of an Atlantic forest fragment (20°22'55.3"S 51°24'37.8"W). Collections and rebaiting were done biweekly. We also caged pairs of *D. gazella* both in the fragment and in the pasture (this as a control), to verify if they are able to reproduce in the forest. So far, in 31 collections, only one *D. gazella* specimen was trapped inside the forest, and just 10 m from its border. Cow dung used to feed the caged beetles was consumed in a significantly higher level in the pasture than in the forest. Partial results suggest that *D. gazella* has a somewhat low ability in invading a closed forest. Additionally, the much lower food consumption in the forest appears to indicate that environment factors characteristic of closed areas are hindering the development of this African beetle in the fragment. If these results are confirmed, a possible impact of this exotic dung beetle in closed forests might be negligent.

Keywords: dung beetles; pitfall trap; Atlantic forest fragment