Impact of the introduction of Digitonthophagus gazella (Coleoptera: Scarabaeidae) on the native fauna of coprophagous Scarabaeidae in Brazil

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Dung pads are a food source to many insects, mainly Coleoptera, Diptera and Isoptera, including several nematodes and flies associated with cattle, especially the horn fly, Haematobia irritans, one of the main pests of Brazilian cattle. Coprophagous Scarabaeidae (CS) while burrowing pads improve nutrient cycling, soil structure and forage growth for cattle, besides acting as efficient biological control agents of flies and nematodes of veterinary importance. Digitonthophagus gazella (DG) is an exotic CS to Brazil, and it was first registered at the UNESP Farm in Selvíria (Mato Grosso do Sul state) in 1993. Since 1989 CS are being weekly collected in a light trap in order to evaluate the impact of DG on the native fauna of CS. The diversity of species dropped sharply after DG invaded the area, which increased slightly three years later. For the majority of paracoprid species there was a reduction in the population density after DG was detected, while for some endocoprid species it increased. Some paracoprid species, considered common before DG colonized the area, are either not trapped anymore or in only small numbers. Ten years after DG invaded the Farm, it is still not clear if a new equilibrium was reached.