

Occurrence of *Ophiocordyceps myrmicarum* on a non-Formicidae insect in integrated crop-livestock farming systems

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An enzootic is reported of *Ophiocordyceps myrmicarum* in field populations of a non-Formicidae insect, the brown shield stink bug *Scaptocoris castanea* (Hemiptera: Cydnidae). An on-farm epidemiological study was conducted in three previously established integrated crop-livestock systems (ICLSs), seen as sustainable approaches to farming intensification and characterized by rotation or succession of crops and pastures, as follows: (1) 4 years of annual crops (soybean in the summer and a cover crop in the winter), followed by 4 years of pasture (*Panicum maximum* and *Cajanus cajan* consortium); (2) 4 years of pasture and 4 years of annual crops (same species as before); (3) 3 years of pasture (*Brachiaria brizantha*) and 1 year of annual crops (same as before); as well as areas with either continuous pasture (*Brachiaria decumbens*) or continuous annual crops (same as before). The incidence of this fungus on *S. castanea* was monitored over a 2 years period, and areawide average infection levels of nymphs and adults were in the 39.7 - 89.6% and 65.0 - 98.1% ranges, respectively. Although the number of infected bugs was positively correlated to insect density, different ICLSs had minimal influence on the incidence of the disease. This is the first report of *O. myrmicarum* in its anamorphic stage (*Hirsutella*-like) causing infection on burrowing bugs, and the observed infection levels reported under different farming systems could lead to interest in assessment of its potential as a biological control agent of *S. castanea*, a severe pest of many pastures and crops in the Neotropical region.

Palavras-chave: *Hirsutella*; *Scaptocoris*; epizootiology

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