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Short Communication

Hypatropis inermis (Hemiptera, Pentatomidae): first record on rice crops

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ABSTRACT

This study reports for the first time the occurrence of *Hypatropis inermis* on upland rice crops (variety Cambará), in Novo Progresso, state of Pará, Brazil (7°07'45.71"S 55°23'21.13"W). The inventory of insect pests was conducted between November 2010 and March 2011 with entomological sweep nets and visual search on stems of rice plants. This record indicates that rice crops may represent important feeding and mating sites for this species.

Stink bugs of the genus *Hypatropis Bergroth*, 1981 are widely distributed and are found in Central and South America (Fernandes & Grazia, 1996; Grazia & Schwertner, 2008). *Hypatropis* has been considered related to *Glyphepomis* Berg, 1981, *Mecocephala* Dallas, 1851, Tibraca Stål, 1860, and *Paramecocephala* Benvegnú, 1968 (Fernandes & Grazia, 1996), and also to *Amauromelpia* Fernandes & Grazia, 1998, *Hypanthracos* Grazia & Campos, 1996, *Luridocimex* Grazia et al., 1998, *Parahypatropis* Grazia & Fernandes, 1996, *Paratibraca* Campos & Grazia, 1995, and *Stysiana* Grazia et al., 1999 (Schwertner et al. 2002). Among all these genera, *Hypatropis* is placed in a monophyletic group with *Amauromelpia* and *Luridocimex* (Grazia & Fernandes 1996; Fernandes & Grazia 1998; Grazia et al. 1998).

Hypatropis includes five recognized species: *Hypatropis australis* Fernandes & Grazia, 1996, *Hypatropis inermis* (Stål, 1872), *Hypatropis rolstoni* Fernandes & Grazia, 1996, *Hypatropis similis* Fernandes & Grazia, 1996, and *Hypatropis sternalis* (Stål, 1869) (Fernandes & Grazia, 1996; Klein et al., 2013).

Host plant records are only available for two species of *Hypatropis*: *H. sternalis* has been found on rice crops, *Oryza sativa* L., in Argentina (Quintanilla et al., 1976), and *H. inermis* was reported hibernating in tussocks of donkey-tail grass, *Andropogon bicornis* L., on rice production areas in southern Brazil (Klein et al., 2013). However, there are no published studies on the biology of any species of *Hypatropis*. In Brazil, *H. inermis* has been recorded from the states of Pará, Rio de Janeiro, São Paulo, Santa Catarina, and Rio Grande do Sul (Fernandes and Grazia, 1996).

In accordance to the Companhia Nacional de Abastecimento do Brasil (CONAB, 2014), rice cultivation in the state of Pará has been recorded since 1976-1977, and mainly in the North (Lopes et al., 2004). However, planting of upland rice in the Southwest is recent (less than 10 years) (Azevedo, 2009; Silva and Magalhães, 1981). For this reason, few entomological inventories have been conducted in rice cultivars of this region, and our work is the first conducted in a standardized manner.

Specimens of *Hypatropis inermis* were collected on upland rice crops (variety Cambará), in Novo Progresso, state of Pará, Brazil (7°07'45.71"S 55°23'21.13"W), during an inventory of insect pests conducted between November 2010 and March 2011 with entomological sweep nets and visual search on stems of rice plants. The sampling effort included 16 collecting points visited weekly, covering 400 meters in four transects of 100 meters, distant 25 meters from each other.

Thirty-two specimens of *H. inermis* (15 males and 17 females) were collected. Insects were found only during the reproductive stage of the crop, always on stems of rice, and most of the times with the head pointed downwards, similarly to the feeding position reported for the rice stalk stink bug, *Tibraca limbativentris* Stål, 1860 (Pentatomidae) (Panizzi, 2000) (Fig. 1A). Furthermore, it was observed that *H. inermis* uses rice plants as a mating site (stink bugs in copula) (Fig. 1B). We also emphasize the small size of *H. inermis* compared to *T. limbativentris*, which allows for a quick distinction between the two species (Fig. 1C).

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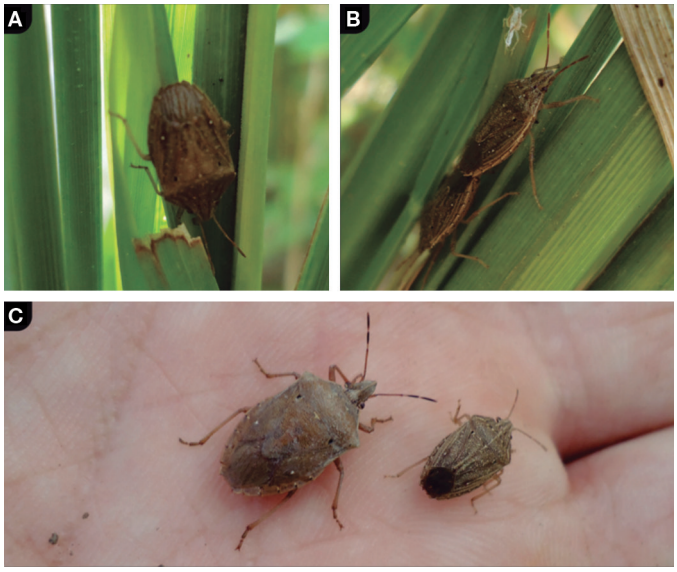

Figure 1. *Hypatropis inermis* (small rice stem stink bug). A - Feeding position with head down; B - Male and female mating on rice stems; C - Comparison between the size of *H. inermis* (right) and *Tibraca limbativentris* (left).

This record indicates that rice crops may represent important feeding and mating sites of this species. Additionally, considering that *H. inermis* has been found in tussocks of donkey-tail grass in areas surrounding rice crops at the state of Rio Grande do Sul, Brazil, it is possible that this species migrates to the rice crop during their reproductive period, as has been shown, for example, for *Oebalus poecilus* (Dallas, 1851) (Pentatomidae) (Albuquerque, 1993; Klein et al., 2013).

There are no specific studies published on the biology of *H. inermis*, and the few studies that cite this species are entomological inventories of sites where the species was found (Fernandes and Grazia, 1996; Klein et al., 2013; Quintanilla et al., 1976). Therefore, considering the economic importance of rice crops in Brazil, we recommend careful monitoring in rice growing regions and studies on the biology, morphology, and ecology of *H. inermis* in different host plants. In addition, more studies are needed to assess the damage that the small rice stem stink bug may cause to different rice varieties, mainly to investigate whether this species can be a potential pest of rice crops in the future.

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Conflicts of interest

The authors declare no conflicts of interest.

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