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Occurrence of the parasitoid *Anastatus* sp. in eggs of *Leptoglossus zonatus* under the maize in Brazil

Ocorrência do parasitóide *Anastatus* sp em ovos de *Leptoglossus zonatus* em milho no Brasil

Carlos Henrique Marchiori[1]

- NOTE -

ABSTRACT

*The objective of this study was to report, for the first time in Brazil, the occurrence of the parasitoid **Anastatus** sp. (Hymenoptera: Eupelmidae) in eggs of **Leptoglossus zonatus** (Hemiptera: Coreidae) on maize **(Zea mays** L.) in Itumbiara County, State of Goias, Brazil (18°25'S; 49°13'W). Percent parasitism was 6.9%.*

Key words: *Anastatus, **Zea mays**, Leptoglossus zonatus, crop pest, parasitoid.*

RESUMO

*O objetivo dessa nota é registrar a primeira ocorrência, no Brasil, do parasitóide **Anastatus** sp. (Hymenoptera: Eupelmidae) em ovos de **Leptoglossus zonatus** (Hemiptera: Coreidae) em cultivar de milho em Itumbiara, Estado de Goiás (18°25'S; 49°13'W). A porcentagem de parasitismo foi de 6,9%.*

Palavras-chave: *Anastatus, Zea mays, **Leptoglossus zonatus**, praga agrícola, parasitóide.*

The family Eupelmidae presents its highest diversity in the Neotropical region and comprises three subfamilies: Calosotinae, Neanastatinae and Eupelminae. Many species of these subfamilies are distributed in tropical and subtropical regions around the world. The majority of the Calosotinae and Neanastatinae attack larvae of Coleoptera borers while the Eupelminae parasitize a wide range of hosts, which include eggs of spiders and immature stages of Orthoptera, Blattaria, Mantodea, Hemiptera, Homoptera, Neuroptera, Coleoptera, Diptera, Lepidoptera and Hymenoptera. Many species are polyphagous, accepting a diversity of hosts of similar appearance that occupy a common ecological niche (GRISSEL & SCHAUFF, 1990).

Species of Eupelmidae, especially those that attack eggs of insects, develop as idiobionts endoparasitoids. Several species have been used in biological control programs (GRISSELL & SCHAUFF, 1990; PERIOTO & TAVARES, 1999). Many species in the genus ***Anastatus*** are primary endoparasitoids of eggs on a wide range of insects, including Blattaria, Hemiptera, Homoptera, Lepidoptera, Mantodea, Neuroptera, Orthoptera, Heteroptera and Phasmida (HANSON & GAULD, 1995).

Leptoglossus zonatus commonly known as maize bug also occur on sorghum, bean, soybean, tomato and citrus. It sucks grains and fruits causing wilting and decay, thus reducing yield. It is more important for maize, on which losses may reach 15%. This hemipterous has

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already been found in Mexico, Central and South America and occurs mainly from December to April (ZUCCHI et al., 1993).

The objective of this scientific study was to report, for the first time in Brazil, the occurrence of the parasitoid ***Anastatus*** sp. parasitizing eggs of ***L. zonatus***.

The experiment was carried out at the College of Agronomy Farm, located in Itumbiara County, State of Goias, Central Brazil (18°25'S; 49°13'W). Samples were obtained in a 44 m x 22 m maize (***Zea mays*** L.) field plot, where 50 ears of maize (cultivar Dekalb 601) were randomly harvested, individualized in plastic bags and taken to the laboratory of the Instituto Luterano de Ensino Superior (Lutheran Institute of Superior Teaching) for Hemiptera eggs collection. The presence of eggs (egg masses oviposited on a straight line) was verified on each single ear of maize. In order to obtain parasitoids, each egg mass was placed near a small piece of maize leaf sheath inside a glass flask that was maintained in the laboratory, at room temperature, until emergence of parasitoids and/or nymphs of the insect pest.

Samplings were weekly performed from December 2001 to February 2002. Percent parasitism was computed by using the following formula: P=(parasitized eggs/total eggs) x 100.

Seventy-two eggs of ***L. zonatus*** were collected in January 15 of 2002, from which five parasitoids of the genus ***Anastatus*** (Hymenoptera: Eupelmidae) emerged. The prevalence of parasitism observed was 6.9%. The use of chemicals in controlling crop pests may result in increased production costs as well as in damages to the environment and to human health. TORRES et al. (1996) indicated the occurrence of ***Anastatus*** spp. in eggs of ***Podisus nigrispinus*** (DALLAS) (Heteroptera: Pentatomidae) collected in plantations of ***Eucalyptus*** sp. in the State of Minas Gerais, Brazil. JONES (1993) also reported parasitism of the genera ***Anastatus*** on eggs of ***L. zonatus*** in Arizona (EUA).

The identification of natural enemies by the basic research may become an important alternative in the control of this pest. The groups of parasitoids that occur on maize could be selected for future studies aiming their use as agents of biological control of maize insect pests (HANSON & GAULD, 1995).

These results contribute to the knowledge of the parasitoids occurring in the State of Goias. This is the first report of the occurrence of ***Anastatus*** sp. parasitizing immature stages of ***L. zonatus*** in Brazil.

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