

SHORT COMMUNICATION

Egg parasitoids of *Edessa meditabunda* (Fabricius) (Pentatomidae) in lettuce crop

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ABSTRACT. Egg parasitoids of *Edessa meditabunda* (Fabricius) (Pentatomidae) in lettuce crop. This study evaluated the occurrence of parasitoids in eggs of the stink bug, *Edessa meditabunda* (Fabricius, 1794) (Heteroptera, Pentatomidae) found on lettuce crop in Mato Grosso State, Brazil. Samples were collected in the vegetable garden “Cheiro Verde”, in the municipality of Tangará da Serra, in curly lettuce. A bed of lettuce was selected randomly, where the eggs of *E. meditabunda* were collected. Five-hundred and seventy eight eggs of *E. meditabunda* were collected, 86.3% of them parasitized by *Telenomus podisi* Ashmead, 1893 (Hymenoptera, Platygastridae), *Trissolcus urichi* Crawford, 1913 (Hymenoptera, Platygastridae) and *Neorileya albipes* Girault, 1913 (Hymenoptera, Eurytomidae), representing respectively 57.0%, 38.2% and 4.8% of the emerged individuals. This is the first record of these three species parasitizing eggs of *E. meditabunda* in lettuce.

KEYWORDS. Biological control; Eurytomidae; *Neorileya albipes*; Platygastridae; *Telenomus podisi*.

Lettuce is the most appreciated vegetable for consumption *in natura* in Brazil (Moretti & Mattos 2006). For this reason, this culture has a great economic importance. Insect pests attacking vegetable crops is a common problem found by farmers, because various species find optimal conditions for survival on these crops (Cortez & Teixeira 2005; Imenes *et al.* 2000).

Several pentatomid species attacking plant crops have been recorded in horticulture (Panizzi 2000). A study carried out in the state of Mato Grosso showed the occurrence of *Edessa meditabunda* (Fabricius, 1794) (Heteroptera, Pentatomidae) on lettuce. The authors found 1099 adults from September to November (Krinski *et al.* 2012). Krinski & Pelissari (2012) found this species of stink bug attacking four types (cultivars) of lettuce in the state of Pará. These studies show that *E. meditabunda* is a potential insect pest, especially in vegetable gardens (Krinski 2013).

There are many natural enemies that act efficiently in the regulation of insects, in lettuce crops, such as several species of predators of the orders Coleoptera, Diptera and Neuroptera (Riquelme 1997). However, studies with parasitoids of the order Hymenoptera are scarce. Therefore, this study evaluated the occurrence of egg parasitoids of the stinkbug *E. meditabunda* in a lettuce crop.

The surveys were accomplished in the vegetable garden “Cheiro Verde” (14°37'13”S and 57°28'46”W) located in the central region of Tangará da Serra, state of Mato Grosso, on curly lettuce, in September, October and November 2009. A bed (about 40 m x 1,25 m) was selected randomly and eggs of *E. meditabunda* were collected and recorded.

The eggs were placed in Petri dishes with moistened paper towel and maintained at 26 ± 1°C, photophase of 14 hours. The emerged parasitoids were counted and stored in 70% ethanol. Voucher specimens were sent for identification and deposited in the entomological collection of the *Museo de La Plata*, in Buenos Aires, Argentina.

Five-hundred and seventy eight eggs of *E. meditabunda* were collected, 86.3% of them parasitized by *Telenomus podisi* Ashmead, 1893 (Hymenoptera, Platygastridae), *Trissolcus urichi* Crawford, 1913 (Hymenoptera, Platygastridae) and *Neorileya albipes* Girault, 1913 (Hymenoptera, Eurytomidae), representing respectively 57.0%, 38.2% and 4.8% of the emerged individuals.

This is the first record of *T. podisi* parasitizing eggs of *E. meditabunda* in the state of Mato Grosso. Nevertheless, these parasitoids were found in eggs of other pentatomids in soybeans, such as *Nezara viridula* (Linnaeus, 1758), *Dichelops melacanthus* (Dallas, 1851), *Euschistus heros* (Fabricius,

1798), *Thyanta perditor* (Fabricius, 1794), *Piezodorus guildinii* (Westwood, 1873), *Podisus connexivus* Bergroth, 1891 and *Podisus nigrispinus* (Dallas, 1851) (Corrêa-Ferreira & Moscardi 1995; Medeiros *et al.* 1997ab; Pacheco & Corrêa-Ferreira 2000; Godoy *et al.* 2005).

Regarding *T. urichii*, there are records of this species parasitizing eggs of *E. meditabunda* and other stinkbugs in soybeans, such as *E. heros*, *P. guildinii*, *P. nigrispinus*, *T. perditor* and *Acrosternum aseadum* Rolston 1983 (Corrêa-Ferreira & Moscardi 1995; Medeiros *et al.* 1997a). However, this is the first report of its occurrence in lettuce.

Species of *Neorileya* were found in eggs of *E. meditabunda* (Medeiros *et al.* 1997b), *E. heros* and *P. guildinii* in soybeans (Godoy *et al.* 2005) and *Holhymenia rubiginosa* Breddin, 1904, in passion fruit (Kolberg 2007), whereas *Neorileya ashmeadi* Crawford 1913, was found parasitizing eggs of the coreids *Spartocera dentiventris* (Berg, 1884) in tobacco (Santos *et al.* 2001; Canto-Silva & Romanowski 2003) and *Leptoglossus gonagra* (Fabricius, 1775) (Maes & Goellner-Scheiding 1993). For *N. albipes*, this is the first report in *E. meditabunda* eggs in lettuce, although it has been found by Golin *et al.* (2011) in this same host on the rattlepod, *Crotalaria spectabilis* Roth 1821 (Leguminosae).

The percentage of natural parasitism found in this study was high, showing the great activity of native parasitoids on eggs of *E. meditabunda*. Thus, the preservation of natural enemies is indispensable in order to establish biological balance and to reduce production costs (Bueno 2005). This demonstrates that conservation of natural enemies is a very important practice, especially because lettuce is one of the crops that most require pesticides (Anvisa 2011).

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