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SCIENTIFIC NOTE

Record of *Podisus nigrispinus* (Dallas) (Hemiptera: Pentatomidae) Preying on *Metrogaleruca obscura* Degeer (Coleoptera: Chrysomelidae)

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Abstract

Asopines are predators of insects, with several species with potential as biocontrol agents of a number of pests. *Metrogaleruca obscura* (Degeer), a neotropical species of Galerucini, was introduced in Malaysia, Asia, and Mauritius, Africa, to control the spread of *Cordia curassavica* (Boraginaceae), a native plant of the neotropics. The occurrence of *Podisus nigrispinus* (Dallas) preying on *M. obscura* is recorded, and *Cordia verbenacea* (Boraginaceae) is mentioned as a host plant for *M. obscura*. A list of Chrysomelidae attacked by asopines in the neotropical region is also presented.

Many chrysomelids are important as agricultural pests or beneficial biocontrol agents of weeds (Jolivet 1997). *Metrogaleruca obscura* (Degeer) belongs to a group that includes genera of interest to agriculture, such as *Diabrotica*, *Acalymma* and *Cerotoma*. This species was also reported as *Schematiza cordiae* Barber (Wilcox 1971). It occurs in the West Indies, Venezuela, Suriname, French Guiana, Brazil (states of Amapá, Pará, Maranhão, Tocantins, Pernambuco, Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Santa Catarina and Rio Grande do Sul), Bolivia, Paraguay, and Argentina (province of Salta) (Wilcox 1971, Moura 2008).

Metrogaleruca obscura was successfully introduced in Malaysia (Simmonds 1980), Mauritius Islands (= Mauritius) and Africa (Ung *et al* 1979, Denoth *et al* 2002, Greathead 2003) to reduce the spread of *Cordia curassavica* (Boraginaceae), a native plant of the neotropics.

Reports on predation of neotropical chrysomelids by pentatomid asopines are scarce and restricted to the subfamilies Chrysomelinae, Galerucinae, Cassidinae and Criocerinae (Table 1), which have individuals that generally feed on host leaves. Most other subfamilies of Chrysomelidae have no records of asopines as predators, probably because their biology is poorly known. The information available is restricted to those species of economic interest of which larvae usually have subterranean and/or nocturnal habits or are protected by structures, such as a scatoshell or fecal shield (Cox 1996). They may present cicloalexy, a defensive behavior against predators in which larvae form a circle when resting to remain aggregated (Jolivet *et al* 1990).

Asopines prey mainly slow moving insects with soft body, primarily larvae of Lepidoptera (Medeiros *et al* 2003), Coleoptera and Hymenoptera. Specifically with regard to *M. obscura*, there are records of predation by *Heteroscelis servillei* Laporte (Hemiptera: Pentatomidae) in the West Indies (Callan 1948, Simmonds 1949, Herting 1973) and by *Afrius williamsi* Miller (Hemiptera: Pentatomidae) in Mauritius (Miller 1951, Tomas 1994).

This contribution aims to present a new record of predation of *M. obscura* and provide a list of chrysomelids that are preyed by asopines on the neotropics.

Specimens of *M. obscura* were collected in February

Table 1 Species of Chrysomelidae with their predators in the neotropics.

Subfamily/species	Predators	References
Chrysomelinae		
Microtheca ochroloma Stal	*Stiretrus decastigmus* (Herrich-Schaeffer)	Poncio *et al* (2010)
Phaedon pertinax Stal	*S. erythrocephalus* (Lepeletier & Serville)	Bondar (1953)
Platyphora fasciatomaculata (Stal)	*Stiretrus* sp.	Medeiros *et al* (1996)
Cassidinae		
Acromis spinifex (L.)	*S. decemguttatus* (Lep. & Serv.) *S. decastigmus* (Herrich-Schaeffer)	Bondar (1953)
Botanochara sedecimpustulata (Fabricius)	*S. decemguttatus* (Lep. & Serv.) *S. decastigmus* (Herrich-Schaeffer)	Bondar (1953)
Zatrephina lineata (Fabricius)	*S. decemguttatus* (Lep. & Serv.) *S. decastigmus* (Herrich-Schaeffer)	Bondar (1953)
Galerucinae		
Cacoscelis marginata (F.)	*Stiretrus* sp.	Lordello (1952)
Coelomera lanio (Dalman)	*Oplomus catena* (Drury)	Silveira *et al* (2002)
Metrogaleruca obscura (Degeer)	*Heteroscelis servillei* Laporte	Callan (1948), Simmonds (1949), Herting (1943)
	Podisus nigrispinus (Dallas)	NEW RECORD
Diabrotica speciosa (Germar)	*Oplomus cruentus* (Burmeister)	Lima (1968)
Pedilia sp.	*P. aenescens* (Stal)	Duckett (1989)
Criocerinae		
Lema apicalis Lacordaire	*Podisus* sp.	Medeiros *et al* (1996)
Lema reticulosa Clark	*Podisus* sp.	Medeiros *et al* (1996)

2008 at the Centro Pluridisciplinar de Pesquisas Químicas, Biológicas e Agrícolas (CPQBA), Universidade Estadual de Campinas, Campinas, state of São Paulo, Brazil, defoliating leaves of *Cordia verbenacea* (Boraginaceae). This plant, originally described from the state of Rio de Janeiro, Brazil, is distributed in Brazil (from Rio de Janeiro to Rio Grande do Sul states), Bolivia, Paraguay, and Argentina. It is popularly known as black sage and widely used as a medicinal plant with anti-inflammatory action.

Two asopine species were observed preying on individuals of *M. obscura*: *H. servillei* and *Podisus nigrispinus* (Dallas), with the first record of the last species preying on this chrysomelid beetle.

The potential medical importance of *C. verbenacea* makes necessary to study predators of *M. obscura* to reduce or eliminate damage caused by herbivory. *Metrogaleruca obscura* has been registred only in *Cordia* species as host plants.

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