Presence of Hemencyrtus herbertii Ashmead (Hymenoptera: Encyrtidae) parasitoid in the city of Goiânia Goiania, Goias, Brazil

Carlos Henrique Marchiori¹

¹ Instituto Federal Goiano

Abstract

Since study verified the presence of parasitoid Hemencyrtus herbertii Ashmead (Hymenoptera: Encyrtidae) in the city of Goiânia, Goiás, Brazil, in immature stages of Sarcodexia lambens (Wiedemann) (Diptera: Sarcophagidae). The pupae were obtained by the flotation method. They were individually placed in gelatin capsules until the emergence of flies or their parasitoids. In December 2013, six pupae were obtained from which were collected two specimens H. herbertii in two papae of S. lambens. The percentage of parasitism was observed in 33.0%.

The natural regulators can be used, such as parasitoids that are the responsible agents for the reduction of the insects pests populations (Vilela et al., 1999). Parasitoids are responsible for reducing the populations of flies that proliferate on various substrates. Evaluation of these species for natural control over these insects is important for enabling studies that aim towards subsequent selection of species for use in biological control programs (Marchiori et al., 2002).

Since study verified the presence of parasitoid Hemencyrtus herbertii Ashmead (Hymenoptera: Encyrtidae) in Goiânia, Goiás, Brazil, in immature stages of Sarcodexia lambens (Wiedemann) (Diptera: Sarcophagidae).

The study was conducted in December of 2013, at the Universidade Federal de Goiás, region central of Goiás, in the city of Goiânia. The flies were collected by using traps (Ferreira, 198), made of dark cans measuring 19 cm in height and 9 cm in diameter, with two openings resembling blinders, located in the lowest third of the can, to allow flies to enter. The top of the can was connected to a nylon funnel that was open at both ends, with the base pointing down. This was wrapped in plastic bags, so that when they were
removed, the flies and parasitoids could be collected. The following items were used as
bait: cattle kidneys which were placed inside the cans, over a layer of earth. Five traps
were used and they were hung on trees at a height of one meter above the ground, two
meters apart from each other.

The insects collected were taken to the laboratory, sacrificed with ethyl ether and kept in
70% alcohol for further identification. To obtain the parasitoids, the contents of the traps
were placed in plastic containers with a layer of sand for use as a substrate for
transformation of the larvae into pupae. This sand was sifted after being in the fields for
15 days and the pupae were extracted from it and were individually placed in gelatin
capsules in order to obtain the flies and/or parasitoids.

In December 2013, six pupae were obtained from *S. lambens* of which were collected
two specimens *H. herbertii* in two pupae. The percentage of parasitism was observed in
33.0%. Hemencyrtus herbertii behaves as parasitoid larvae, developing internally in the
host body and emerging from the puparium (Noyes, 1980). *Sarcodexia lambens* was the
fly that had a higher percentage of parasitism, 29.4% (Rocha and Mendes, 1996).
*Sarcodexia lambens* is widely distributed in the Americas, being found from the southern
United States to Argentina (Lopes and Leite, 1989).

Parasitoids are responsible for reducing the populations of flies that proliferate on
various substrates. Evaluation of these species for natural control over these insects is
important for enabling studies that aim towards subsequent selection of species for use
in biological control programs.

References

Ferreira, M.J.M., 1978 Sinantropia de dípteros muscóideos de Curitiba, Paraná:
Lopes, H.S., Leite, A.C.R., 1989. Morphology of the egg of Sarcodexia lambens (Diptera:
Noyes, J.S., 1980. A review of genera of Neotropical Encyrtidae (Hymenoptera:
Rocha, U.R., Mendes, J., 1996. Pupation of Dermatobia hominis (L. Jr., 1781) (Diptera:
Cuterebridae) associated with Sarcodexia lambens (Wiedemann, 1830) (Diptera: