



FIRST RECORD OF *HOPLOPYGA BRASILIENSIS* (GORY AND PERCHERON) (COLEOPTERA, MELOLONTHIDAE, CETONIINAE) IN NESTS OF *CORNITERMES CUMULANS* (KOLLAR) WITH BIOLOGICAL ASPECTS OF THE GUEST

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INTRODUÇÃO

Cornitermes cumulans (Kollar) (Isoptera: Termitidae: Nasutitermitinae) is a mound termite species known for its high incidence in Cerrado (Brazilian savana) and pasturelands. Several invertebrates can be found in nests of *C. cumulans*, mainly arthropods of the classes Arachnida, Chilopoda, Diplopoda and Insecta (Costa *et al.*, ., 2009), including larvae of Melolonthidae (Coleoptera: Scarabaeoidea) (Rosa *et al.*, ., 2008). The Brazilian fauna of Melolonthidae comprises approximately 1,008 species (with edaphicolous habits) of four sub-families: Cetoniinae, Dynastinae, Melolonthinae and Rutelinae (*sensu* Morón, 2004). Some Cetoniinae are commonly found associated with ants (Alpert, 1994) or termites (Luederwaldt, 1911).

Hoplopyga Thomson (Cetoniinae: Gymnetini) contains about 20 species distributed from Mexico to Argentina (Micó *et al.*, ., 2001). Adults can be found in decaying fruit (especially banana), on leaves and in nests of termites (Micó *et al.*, ., 2001). Larvae are known to feed on rotten wood and organic detritus (Micó *et al.*, ., 2001). The only study to provide biological information on a species of termitophilous *Hoplopyga* was performed exactly 100 years ago by Luederwaldt (1911).

OBJETIVOS

There is little data on the ecology and biology of *Hoplopyga* species. In this work we report the occurrence of *H. brasiliensis* (Gory and Percheron) in a nest of *C. cumulans* and provide new information on the biology of this beetle.

MATERIAL E MÉTODOS

Larvae of *H. brasiliensis* were found inside a nest of *C. cumulans* (20° 51' 24" S; 42° 48' 10" W; 720 m) in March of 2010 at Coimbra, state of Minas Gerais, Brazil. We collected 44 larvae in the cavity of the nest. Three larvae died during handling and other five were killed in boiling water and fixed in ethanol 70%. The weight and dimensions (length and width of the body and cephalic capsule width) of 36 larvae were determined following the methods of Rodrigues *et al.*, . (2010). After obtaining the biometric data, we placed one larva in a separate plastic container (500 mL) filled with humus (similar to the methods of Arce - Pérez & Morón, 1999). Humus in the containers was substituted once a week until the larvae pupate.

After obtaining imagos, couples were formed and transferred to styrofoam recipients containing humus, pieces of the *C. cumulans* nest and fermented banana (method adapted from Arce - Pérez & Morón, 1999). The reci-

ipients were covered with a screen and surveyed every day to record mortality.

RESULTADOS

We found third instar larvae of *H. brasiliensis* aggregated at the bottom of the nest surrounded by a lot of their own feces. They had cephalic capsules with mean widths of 3.13 mm, 23.96 mm in length by 8.75 mm in width and weighing 1,291.69 mg. The larvae had an average of 144.60 active days and 61.20 inactive days housed inside their pupal chambers. Counting from the day in which larvae were removed from the nest of *C. cumulans*, the approximate duration of the remaining larval stage was 195.00 days under laboratory conditions. The beetles constructed pupal chambers with a mixture of soil, feces and debris. The chambers had an oval shape with mean dimensions of 20.36 mm of length, 14.95 mm of width and wall thickness of 1.2 mm. Pupae of *H. brasiliensis* were observed during October and remained in this stage for about 16.20 days until reaching the adult stage. Pupae had a yellow color with robust body, with dimensions of 18.10 mm of length by 10.0 mm of width and weighing 638.19 mg.

Imagos began to emerge in October and remained inside their pupal chambers for about 22 days. Adults survived 42.40 days on average in the lab. Although the complete cycle (egg to adult) was not observed, we can say that the period from third instar, when they were removed from the nests of *C. cumulans*, until becoming adults lasted about 222 days, suggesting the occurrence of at least one generation per year.

In Brazil, nests of *C. cumulans* are commonly found in open areas such as the Cerrado or pasturelands. The high abundance and characteristics (stable temperature, moisture and aggregation of resources) of the nests of *C. cumulans* may provide an environment (or micro - habitat) ideal for *H. brasiliensis*. Of the more than 20 species of *Hoplopyga*, currently only *H. albiventris* (Gory and Percheron) (Luederwaldt, 1911), *H. brasiliensis* (present study) and *H. singularis* (Gory and Percheron) (Micó *et al.*, ., 2001) are known to be associated with termites.

CONCLUSÃO

Although we provide relevant information on the biology of *H. brasiliensis*, little is still known on the life history of other Neotropical Cetoniinae. This is even more pronounced for species that live together with ants or termites.

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