



***Megasoma actaeon* (Linnaeus) (Scarabaeidae: Dynastinae): first record for Maranhão state, northeastern Brazil**

Reinaldo L Cajaiba<sup>1\*</sup>, Kleber S Pereira<sup>1</sup>, Jesuino S Martins<sup>1</sup>, Elson S Sousa<sup>1</sup>, Wully B Silva<sup>2</sup>

**Abstract**

A single female of *Megasoma actaeon* (Linnaeus) was collected in urban area in Buriticupu, state of Maranhão, Brazil, being the first record of the species in a novel ecosystem. Considerations about this kind of refuge for the species are also presented.

**Key-words:** Distribution; horn beetles; *Megasoma*

***Megasoma actaeon* (Linnaeus) (Scarabaeidae: Dynastinae): primeiro registro para o estado do Maranhão, nordeste do Brasil.** Uma única fêmea de *Megasoma actaeon* (Linnaeus) foi coletada numa área urbana em Buriticupu, estado do Maranhão, Brasil, sendo o primeiro registro da espécie em um novo ecossistema. Considerações sobre este tipo de refúgio para as espécies também são apresentadas.

**Palavras-Chave:** Distribuição; Besouros de chifre; *Megasoma*

---

<sup>1</sup> Laboratory of Ecology and Conservation, Federal Institute of Education, Science and Technology of Maranhão, R. Dep. Gastão Vieira, 1000, 65393-000, Buriticupu, MA, Brazil.\* E-mail correspondence: reinaldocajaiba@hotmail.com

<sup>2</sup> University of Taquari Valley, R. Avelino Tallini, 95900-000, Lajeado, RS, Brazil

## 1. Introdução

The genus *Megasoma* Kirby consists of 14 species of moderately-sized to very large beetles in the tribe Dynastini (Coleoptera, Scarabaeidae, Dynastinae). They are collectively known as “elephant beetles” because the size of several species are very large (approximately 10 cm). Species in the genus are found from the southwestern United States to northern Argentina. Four species are found only in South America, seven species are found in northern Mexico and the southwestern United States, and the remaining three species occur in southern Mexico and Central and South America (RATCLIFFE; MORÓN, 2005).

*Megasoma actaeon* (Linnaeus) has the widest distribution of any species or subspecies of *Megasoma*, and it is widely distributed throughout tropical South America (Bolivia, northern Brazil, Colombia, Ecuador, Guyana, Peru, Venezuela) (CHRISTIANSEN, 2006). Males of *M. actaeon* bear a long frontal horn with a bifurcate apex, as in all known species of *Megasoma*, with a strong, broad tooth near the basis, and two massive, anteriorly projecting lateral pronotal horns. The pronotal disc is smooth, and there is no discal horn (as in, e.g., *Megasoma anubis* Chevrolat, *Megasoma gyas* Herbst, *Megasoma thersites* LeConte, or *Megasoma pachecoi* Cartwright) or pit, but a central swelling. Females have a strongly wrinkled pronotal and elytral surface and a distinct tubercle centrally on the frons (CHRISTIANSEN, 2006).

In the Brazilian list of endangered fauna (MACHADO et al., 2008), subspecies of *Megasoma* were considered vulnerable to extinction (LUZZI et al., 2016). However, the immature stages, biology, and life cycle of the species of *Megasoma* are poorly known (RATCLIFFE; MORÓN, 2005).

The record of the female of *M. actaeon* (approximately 112 mm) was fortuitous obtained in June 2017 (dry season) in the urban area of the municipality of Buriticupu, Maranhão state, after having suffered a collision with a vehicle (Figure 1), increasing the occurrence of this species for Brazil. The municipality of Buriticupu is situated at lat 04°20'45" S and long 46°24'04" W in the Amazônia of Maranhão at a mean altitude of 200

m (LIMA et al., 2018) (Figure 2). The hot and wet is the characteristic weather, however, associated with a transition between the Amazonia super-humid and the semiarid northeastern weather. There is a 6 month dry season and an annual mean precipitation of 1 800 mm (LIMA et al., 2017). The registration of this species in Buriticupu increases the occurrence for Brazil. The material examined was deposited in the Biology Laboratory of the Federal Institute of Maranhão, Buriticupu.

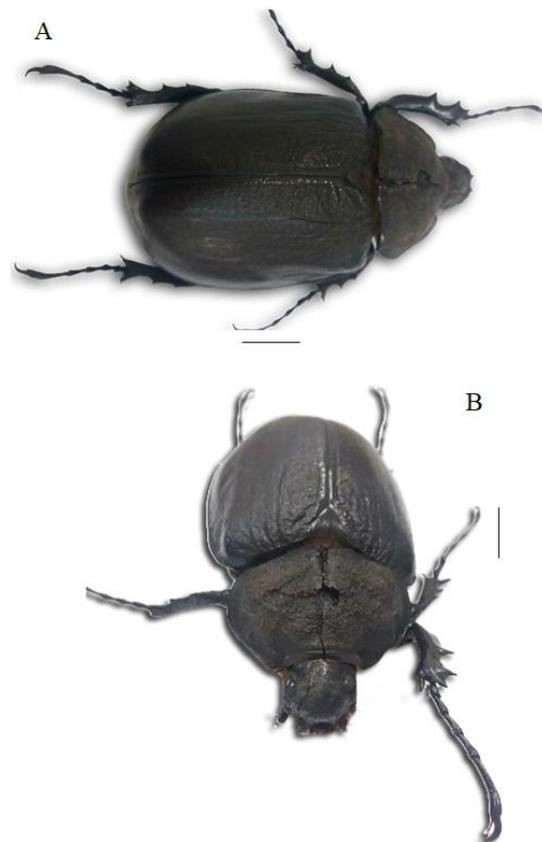
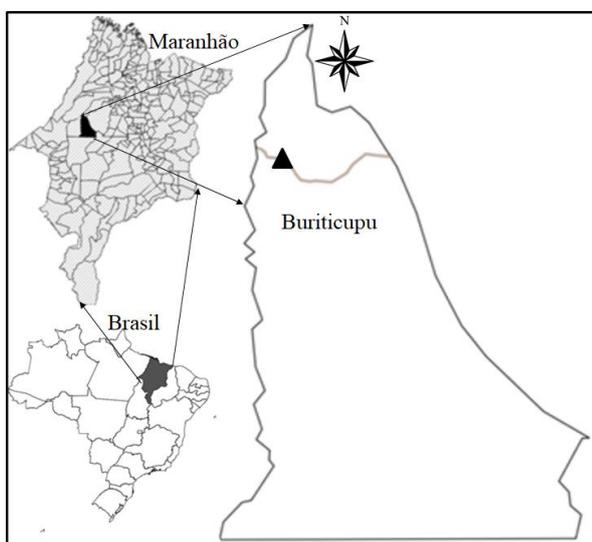


Figure 1 – *Megasoma actaeon*, female specimen collected at Buriticupu, Maranhão, northeastern Brazil, June 2017, A: lateral view; B: frontal view. Scales = 0.5 cm (Photo RLC).

## 2. Discussion and Final Remarks

In Brazil, one of the priorities of the agencies responsible for biodiversity conservation, as well as researchers, it is to obtain concrete and updated data on the geographical distribution of species (CAJAIBA; SILVA, 2017). Little is known about the biology and ecology of these insects

(RATCLIFFE; MORÓN, 2005) and few are the data to estimate the size and health of the current population that are vulnerable to extinction (MACHADO et al., 2008). However, the presence of *M. actaeon* in the region facilitates the opportunity of further studies to better understand species and to create conservation strategies (LUZZI et al., 2016).



**Figure 2** – Location of the municipality of Buriticupu, Maranhão. The triangle represents the urban perimeter.

The presence of *M. actaeon* in an urban area may be associated with the presence of green areas (new ecosystems) in these landscapes, such as parks, wetlands, cemeteries, and urban forests range. Urban green areas, although representing the most human-dominated ecosystems, are increasingly being recognized for their role in generating critical ecosystem services that are important for human well-being and society at large (ERNSTSON et al., 2010; CAJAIBA; SILVA, 2017). Thus, the effort for habitat conservation is the main guarantee for the preservation of this subspecies and biodiversity of region as well (SANTOS et al., 2013; CAJAIBA; SILVA, 2015).

As deforestation rates are increasingly increasing, the risk for the extinction of species, communities and ecosystems is rapidly rising. By keeping areas secure from further fragmentation

and reduction, important supplies of food resources and nesting locations for a variety of beetle species can be available. We know that generalizations are difficult in the absence of detailed studies of natural history of many species, but the protection of relatively large areas of forest might secure a substantial fraction of the forest affiliated beetle fauna (CAJAIBA et al., 2016).

### Divulgação

This article is unpublished and is not being considered for any other publication. The authors and reviewers did not report any conflict of interest during their evaluation. Therefore, the *Scientia Amazonia* magazine owns the copyrights, has the approval and the permission of the authors for disclosure, of this article, by electronic means.

### Referências

- ANDRADE, R. P. & HERNÁNDEZ-RUZ, E. J. *Sylvilagus brasiliensis* (Linnaeus 1758) (Mammalia, Lagomorpha, Leporidae): First Record for Uruará, South Western Para State, Amazonia, Brazil. **International Journal of Research Studies in Biosciences**, v. 5, p. 1-3, 2017.
- CAJAIBA, R. L., CABRAL, J. A., SANTOS, M. A minimal invasive method to forecast the effects of anthropogenic disturbance on tropical cave beetle communities. **Neotropical Entomology**, v. 45, p. 139-147, 2016.
- CAJAIBA, R. L. & SILVA, W. B. Levantamento de entomofauna em arborização urbana no município de Uruará, Pará, norte do Brasil. **Biota Amazônia**, v. 7, p. 69-73, 2017.
- CAJAIBA, R. L., SILVA, W. B. Abundância e Diversidade de Coleópteros de Solo em Fragmentos de Capoeira ao Entorno da Zona Urbana do Município de Uruará-PA, Brasil. **EntomoBrasilis**, v. 8, p. 30-37, 2015.
- CAJAIBA, R. L., SILVA, W. B. Diversidade e sazonalidade de Cydnidae (Insecta: Hemiptera: Heteroptera) em diferentes ecossistemas no estado do Pará, norte do Brasil. **Revista Brasileira de Biociências**, v. 15, p. 32-37, 2017.
- CHRISTIANSEN, P. Somatic Proportions in Genus *Megasoma* (Scarabaeidae: Dynastinae): *Megasoma actaeon*. **Annals of the**



CIÊNCIAS BIOLÓGICAS  
NOTA CIENTÍFICA

**Scientia Amazonia, v. 8, n.1, CB13-CB16, 2019**

Revista on-line <http://www.scientia-amazonia.org>

ISSN:2238.1910

**Entomological Society of America**, v. 99, p. 342-351, 2006.

ERNSTSON H., BARTHEL, S.; ANDERSSON, E. & BORGSTRÖM, S. Scale-crossing brokers and network governance of urban ecosystem services: the case of Stockholm. **Ecology and Society**, v. 15, p. 1-25, 2010.

LIMA J. S., MARTINS, J., PEREIRA, K., SOUSA, E. & CAJAIBA, R. L. Composição gravimétrica de resíduos sólidos em escolas públicas e privadas no município de Buriticupu, MA. **Scientia Amazonia**, v. 6, p. 11-16, 2017.

LIMA, J. S., MARTINS, J., PEREIRA, K.S., SOUSA, E.S., CAJAIBA, R. L. Educação ambiental em resíduos sólidos em escolas no município de Buriticupu-MA. **Scientia Amazonia**, v. 7, p. 122-127, 2018.

LUZZI, J. R., MACIEL, T. & BARBOSA, B. Ocorrência de *Megasoma gyas gyas* (Herbst, 1785) (Coleoptera: Scarabaeidae) em perímetro urbano. **Entomotropica**, v. 31, p. 60-63, 2016.

MACHADO A. B. M., DRUMMOND, G. & PAGLIA, A. **Livro Vermelho da Fauna Brasileira Ameaçada de Extinção**. 1 ed. Brasília, DF: MMA; Belo Horizonte, MG: Fundação Biodiversitas, 1420p, 2008.

RATCLIFFE, B. C. & MORÓN, M. Larval descriptions of eight species of *Megasoma kirby* (Coleoptera: Scarabaeidae: Dynastinae) with a key for identification and notes on biology. **The Coleopterists Bulletin**, v. 59, p. 91-126, 2005.

SANTOS, W. E., ALVES, A., FARIAS, R. & CREÃO-DUARTE, A. *Megasoma gyas rumbucheri* Fischer, 1968 (Coleoptera: Scarabaeidae: Dynastinae): first record from a Conservation Unit in Brazil. **Entomotropica**, v. 28, p. 233-235, 2013.