

The Cholini (Curculionidae: Coleoptera) in the Museu Goeldi Collection Cholini (Curculionidae: Coleoptera) na Coleção do Museu Goeldi

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Resumo: Este trabalho avalia o número de espécies de gorgulhos da tribo Cholini depositados na Coleção Entomológica do Museu Paraense Emílio Goeldi (MPEG). Na Amazônia Brasileira são registradas 53 espécies de Cholini, das quais 51 pertencem à subtribo Cholina e duas à Subtribo Rhinastina (Wibmer; O'Brien, 1986). Na coleção do MPEG foram identificadas 23 espécies distribuídas em quatro gêneros (*Cholus* Germar, 1824; *Homalinotus* Sahlberg, 1823; *Odontoderes* Sahlberg, 1823 e *Ozopherus* Pascoe, 1872), todos da subtribo Cholina. Associações de *Homalinotus validus* (Olivier, 1790) com *Attalea maripa* (Aubl.) Mart. (inajá) e de *Homalinotus depressus* (Linnaeus, 1758) com babaçu (*Attalea* sp.) foram registradas pela primeira vez na biologia desses besouros. Somente 43% das espécies de Cholini da Amazônia brasileira estão representadas na coleção do MPEG, indicando que o material foi coletado, casualmente. Novos esforços de coleta, focalizando a relação dos besouros com as plantas hospedeiras, poderiam aumentar, significativamente, a representação de Cholini e de Curculionidae na coleção do MPEG.

Palavras - Chave: Cholini; Coleção; Diversidade; Biologia; Distribuição geográfica; Museu Paraense Emílio Goeldi - Coleção Entomológica; Coleóptera; Curculionidae.

Abstract: This paper evaluates the number of species of weevils of the tribe Cholini in the Entomological Collection of the Museu Paraense Emílio Goeldi (MPEG). Fifty - three species of Cholini are recorded for Brazilian Amazonia, of which 51 belong to the subtribe Cholina and two the subtribe Rhinastina (Wibmer; O'Brien, 1986). Twenty - three species were identified in the MPEG collection, distributed in four genera (*Cholus* Germar, 1824; *Homalinotus* Sahlberg, 1823; *Odontoderes* Sahlberg, 1823 e *Ozopherus* Pascoe, 1872), all in the subtribe Cholina. Association of *Homalinotus validus* (Olivier, 1790) with *Attalea maripa* (Aubl.) Mart. (inajá or maripa palm) and of *Homalinotus depressus* (Linnaeus, 1758) with babassu (*Attalea* sp.) were recorded for the first time in the biology of these beetles. Only 43% of the Cholini species in the Brazilian Amazon are present in the MPEG holdings, indicating the material was casually collected. A new collecting effort focusing on their relationship with host plants would significantly increase the representation of Cholini and Curculionidae in the MPEG collection.

Key Words: Cholini; Collection; Diversity; Biology; Geographic distribution; Museu Paraense Emílio Goeldi - Entomological Collection; Coleoptera; Curculionidae.

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INTRODUCTION

This paper evaluates the number of species of weevils in species of the tribe Cholini (Coleoptera, Curculionidae) deposited in the Entomological Collection of the Museu Paraense Emílio Goeldi (MPEG), in Belém, Pará State, northern Brazil.

The MPEG collection holds 10,418 specimens of Curculionidae, of which only 6,725, or 55% have been identified to genus or species level (215 genera and 131 species) Costa *et al.*, 2000. This centenary collection is vital to studies in biodiversity, systematics and evolution of Amazonian insects, and includes material from regions already affected by human intervention such as Carajás and Tucuruí, Pará State. However, many insect orders, including Coleoptera, have not been properly studied due to the lack of specialists in the region.

The Curculionidae (weevils) are the most diverse family in the entire animal kingdom. No less than thirty - one subfamilies are recorded in Brazil, in a total of 4,934 species grouped into 648 genera (Vanin, 1999). The tribe Cholini itself includes 53 species in the Amazonian region, 51 of the subtribe Cholina and two of Rhinastina (Wibmer; O'Brien, 1986). A third subtribe, Cholomina, has not been recorded in the area.

METHODS

Adult specimens of Cholini deposited in the Entomological Collection of the MPEG were examined. Identification relied on published genus - and species - level keys (Vaurie, 1973 a, b, 1974 a, b, 1975, 1976 a, b, 1977, 1978), original descriptions and comparison with previously identified material from the entomological collections of the Museu Paraense Emílio Goeldi and Museu de Zoologia da Universidade de São Paulo (MZUSP). Classification followed Wibmer; O'Brien, 1986.

The species distribution map was based on information from the labels of the examined material.

Description on labels (Table 1) included the following items: total number of specimens, country, state, city, locality, number of specimens by sex and biological information (Papavero, 1994). Specimens with locality information limited to the name of the country or state were not recorded on the map. Specimens presumed from localities in Brazilian Amazonia are listed in Table 2 under the category Amazonian species; all others were placed under non - Amazonian species.

RESULTS AND DISCUSSION

A total of 254 specimens were examined and identified as belonging to 23 species of the subtribe Cholina (Table 1). As a registry of the entomological fauna of Brazilian Amazonia, the Museu Paraense Emílio Goeldi collection includes, respectively, 43% and 45% of the diversity of Cholini and Cholina for this region.

The material examined were collected almost exclusively in Brazilian Amazonia, along the Amazon river and in the vicinities of the city of Belém. Only two specimens were not collected in Brazil, one of *Cholus calamita* (Pascoe, 1872) from Colombia and one of *Cholus rana* (Fabricius, 1801) from Peru (Table 1, Figure 1).

Among the genera of Cholina recorded for Brazilian Amazonia, only the monotypic *Ozopherus* Pascoe, 1872 is fully represented in the Museu Paraense Emílio Goeldi collection. The genera *Cholus* Germar, 1824, *Homalinotus* Sahlberg, 1823 and *Odontoderes* Sahlberg, 1823 respectively include 64%, 42% and 10% of the diversity of species recorded for this region. The genera, *Ameris* Dejean, 1821 and *Lobaspis* Chevrolat, 1881 are absent from the collection (Table 2).

Biological information on the material examined referred to *Homalinotus depressus* (Linnaeus, 1758) and *Homalinotus validus* (Olivier, 1790), being both associated with babassu palm (*Attalea* sp.) and *Attalea maripa* (Aubl.) Mart. (inajá or maripa palm) trees.



Table 1. Specimens of the tribe Cholini in the MPEG Entomological Collection.

Cholus annulatus (Linnaeus) 1758. 1 specimen. BRASIL. Goiás: São Sebastião, Dianópolis (1 ♀).

Cholus boisduvali Boheman, 1836. 1 specimen. BRAZIL. Pará: Rio Paru de Oeste, Maloca Tiryó (1 ♂).

Cholus calamita Pascoe, 1872. 2 specimens. BRAZIL. Pará: Serra Norte, Caldeirão (1 ♂). COLOMBIA (no locality) (1 ♀).

Cholus coloreus Vaurie, 1976. 1 specimen. BRAZIL. Amapá: Calçoene (1 ♂).

Cholus conspicillatus Chevrolat, 1881. 3 specimens. BRAZIL. Amazonas: Maraã, Ilha Jaragui (1 ♀); Itaquatiara, Rio Urubu (1 ♂). Rondônia: Ouro Preto do Oeste, Rio Santa Helena road (1 ♀).

Cholus jekelii (Kirsch) 1875. 7 specimens. BRAZIL. Acre: Rio Branco (2 ♂, 5 ♀).

Cholus laticollis (Olivier) 1807. 26 specimens. BRAZIL. Pará: Belém, Mocambo (5 ♂, 1 ♀), Utinga (4 ♂, 3 ♀); Benevides (7 ♂, 4 ♀); Santo Antônio do Tauá (1 ♀); (no locality) (1 ♂).

Cholus notabilis Pascoe, 1872. 2 specimens. BRAZIL. Pará: Tucuruí, Igarapé Maguari (1 ♂); Ilha das Onças (1 ♀).

Cholus nyblaei Boheman, 1836. 2 specimens. BRAZIL. Amapá: Porto de Santana (2 ♀).

Cholus patruelis Chevrolat, 1882. 7 specimens. BRAZIL. Acre: Rio Branco, Armadilha Malayse, Terra firme (1 ♂). Amazonas: Tefé (1 ♂). Pará: Barcarena (1 ♂); Belém (2 ♂); Cassiporé (2 ♀).

Cholus rana (Fabricius) 1801. 5 specimens. BRAZIL. Pará: Belém (1 ♀; Bujaru (1 ♂); Mocambo (1 ♂, 1 ♀). PERU: Iquitos, (no locality) (1 ♂).

Cholus repetitus Chevrolat, 1882. 1 specimen BRAZIL. Pará: Monte Dourado (1 ♂).

Cholus sagittarius Vaurie, 1976. 5 specimens. BRAZIL. Mato Grosso: Fazenda Buruti (1 ♂, 3 ♀); Chapada dos Guimarães (1 ♂).

Cholus sparsus (Gyllenhal) 1836. 6 specimens. BRAZIL. Amapá: Rio Calçoene, Igarapé Tigre (1 ♀; Serra Lombardi, Limão (2 ♂, 1 ♀). Pará: Cassiporé (1 ♂); Monte Dourado (1 ♂).

Cholus trilineolatus Klima, 1936. 2 specimens. BRAZIL. Pará: Serra Norte, Pojuca acampamento (1 ♂); Rio Gelado (1 ♂).

Cholus trizonatus Guenther, 1943. 2 specimens. BRAZIL. Acre: Rio Branco (1 ♂, 1 ♀).

Homalinotus depressus (Linnaeus) 1758. 64 specimens. BRASIL. Amapá: Rio Matapi (1 ♂). Maranhão: Lago Verde (3 ♂, 3 ♀); Peritoró (1 ♂). Pará: Acará (2 ♂, 1 ♀); Belém (1 ♂, 2 ♀); Muaná (1 ♂); São João de Pirabas (1 ♂); Serra Norte (1 ♂, 2 ♀); Soure (1 ♂); Tucuruí (1 ♂, 1 ♀), Tucuruí, on inaja palm (6 ♂, 2 ♀), Tucuruí, on babassu palm (1 ♂), Bagagem (2 ♂, 1 ♀), Chiqueirão (2 ♀), Chiqueirinho (1 ♂), Cocal (1 ♂, 2 ♀), Ilha (5 ♀), Jacundá (11 ♂, 5 ♀), Saúde (1 ♂). Tocantins: Itaguatins (2 ♀).

Homalinotus humeralis (Gyllenhal) 1836. 3 specimens. BRAZIL. Pará: Breves (1 ♂); Tucuruí, Ilha (1 ♂), Saúde (1 ♂).

Homalinotus nodipennis (Chevrolat) 1878. 1 specimen. BRAZIL. Pará: Óbidos (1 ♂).

Homalinotus praelongus Vaurie, 1973. 1 specimen. BRAZIL. Pará: Acará, Ilha do Combu (1 ♂).

Homalinotus validus (Olivier) 1790. 107 specimens. BRAZIL. Maranhão: Lago Verde (9 ♂, 13 ♀), Lago Verde, on babassu palm (1 ♂). Pará: Acará, Ilha de Combu (3 ♂, 1 ♀); Belém (1 ♂); São Miguel do Guamá (1 ♂); Tucuruí (2 ♀), Tucuruí, on inaja palm (6 ♂, 5 ♀), Bagagem (6 ♂, 4 ♀), Cocal (3 ♂, 2 ♀), Canoal (1 ♂, 4 ♀), Chiqueirão (1 ♂), Chiqueirinho (1 ♂, 3 ♀), Ilha II (2 ♂, 1 ♀), Jacundá (15 ♂, 10 ♀). Tocantins: Itaguatins (8 ♂, 4 ♀).

Odontoderes morbillosus (Drury) 1782. 1 specimen. BRAZIL. Pará: Serra Norte (1 ♂).

Ozopherus muricatus Pascoe, 1872. 4 specimens. BRAZIL. Amazonas: Manaus (1 ♀). Pará: Belém (2 ♂); (no locality) (1 ♀).

Table 2. Number of species of Cholina known for the Amazonian Region and number of species represented in the MPEG collection.

Genus	Amazonian species	Species in MPEG collection
<i>Ameris</i>	1	0
<i>Cholus</i>	25	16
<i>Homalinotus</i>	12	5
<i>Lobaspis</i>	2	0
<i>Odontoderes</i>	10	1
<i>Ozopherus</i>	1	1



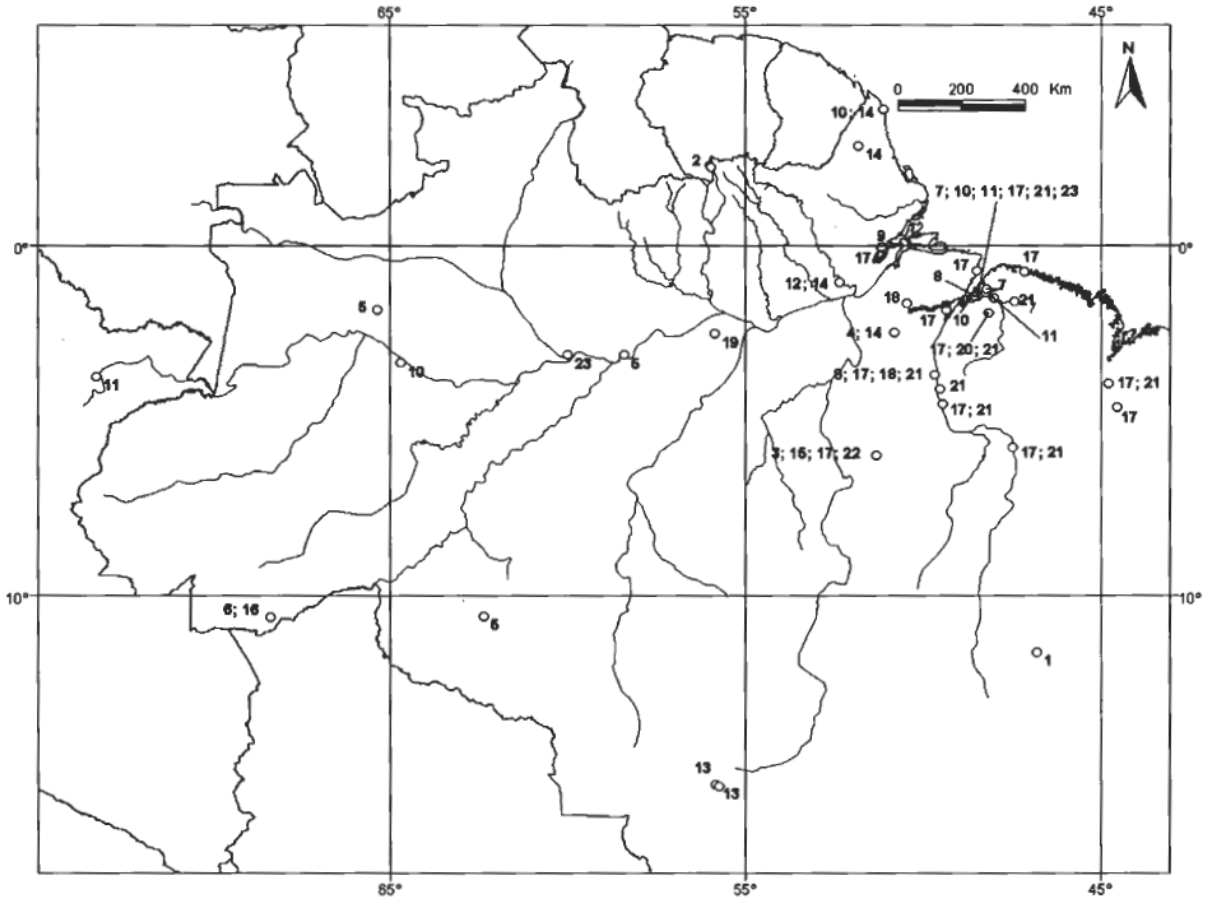


Figure 1. Localities recorded for species of Cholini in the MPEG collection: 1. *Cholus annulatus*; 2. *C. boisduvali*; 3. *C. calamita*; 4. *C. coloreus*; 5. *C. conspicillatus*; 6. *C. jekeli*; 7. *C. laticollis*; 8. *C. notabilis*; 9. *C. nyblaei*; 10. *C. patruelis*; 11. *C. rana*; 12. *C. repetitus*; 13. *C. sagittarius*; 14. *C. sparsus*; 15. *C. trilineolatus*; 16. *C. trizonatus*; 17. *Homalinotus depressus*; 18. *H. humeralis*; 19. *H. nodipennis*; 20. *H. praelongus*; 21. *H. validus*; 22. *Odontoderes morbillosus*; 23. *Ozopherus muricatus*.

However, the collection labels did not include details on which part of the tree anatomy (flower, fruit, stipe or leaf) the weevils were collected (Table 1). The association of *Homalinotus depressus* with babassu and *Homalinotus validus* with inajá represent new records of host plants for these species.

CONCLUSIONS

In the Entomological Collection at Museu Paraense Emílio Goeldi are represented 43% of the species of the Cholini tribe known for the Brazilian Amazonia.

The association of *Homalinotus depressus* with babassu and *Homalinotus validus* with inajá palm tree are new records of host plants for these weevils.

The specimens of Cholini in the Museu Paraense Emílio Goeldi collection were casually collected and little biological or ecological information has been recorded on them. Specific collecting of weevils, especially directed toward host plants, and an exchange of material with other institutions would greatly increase the representation of Cholini and Curculionidae in the collection.

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