

Cholini (Coleoptera: Curculionidae: Molytinae) housed in the Invertebrate Collection of the Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil

Márcio Luís Leitão BARBOSA¹, Isabela Andrade FERREIRA², Claudio Ruy Vasconcelos da FONSECA³,
Fernando Bernardo Pinto GOUVEIA⁴

ABSTRACT

In Brazilian Amazonia, Cholini (Coleoptera, Curculionidae, Molytinae) is represented by 53 species distributed in seven genera: *Ameris* Dejean, 1821; *Cholus* Germar, 1824; *Homalinotus* Sahlberg, 1823; *Lobaspis* Chevrolat, 1881; *Odontoderes* Sahlberg, 1823; *Ozopherus* Pascoe, 1872 and *Rhinastus* Schoenherr, 1825. This work documents the species of Cholini housed in the Invertebrate Collection of the Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil and gives the geographical and biological data associated with them. A total of 186 Cholini specimens were identified as belonging to 14 species (13 from Brazilian Amazonia) and five genera (*Cholus*, *Homalinotus*, *Odontoderes*, *Ozopherus* and *Rhinastus*). Only 24% of the Cholini species reported from Brazilian Amazonia are actually represented in the INPA collection, underscoring the need for a more systematical collecting based on available biological information. The known geographical distribution was expanded for the following species: *Cholus granifer* (Chevrolat, 1881) for Brazil; *C. pantherinus* (Olivier, 1790) for Manaus (Amazonas); *Cholus parallelogrammus* (Germar, 1824) for Piraquara (Paraná); *Homalinotus depressus* (Linnaeus, 1758) for lago Janauacá (Amazonas) and rio Tocantins (Pará); *H. humeralis* (Gyllenhal, 1836) for Novo Airão, Coari (Amazonas) and Porto Velho (Rondônia); *H. nodipennis* (Chevrolat, 1878) for Carauari, Lábrea (Amazonas) and Ariquemes (Rondônia); *H. validus* (Olivier, 1790) for rio Araguaia (Brasil), Manaus (Amazonas), rio Tocantins (Pará), Porto Velho and BR 364, Km 130 (Rondônia); *Odontoderes carinatus* (Guérin-Méneville, 1844) for Manaus (Amazonas); *O. spinicollis* (Boheman, 1836) for rio Uraricoera (Roraima); and *Ozopherus muricatus* Pascoe, 1872 for lago Janauacá (Amazonas). *Homalinotus humeralis* is reported for the first time from “urucuri” palm, *Attalea phalerata* Mart. ex Spreng.

KEYWORDS: Amazonia, Biology, Collection, Diversity, Geographical distribution.

Cholini (Coleoptera: Curculionidae, Molytinae) depositados na Coleção de Invertebrados do Instituto Nacional de Pesquisas da Amazônia

RESUMO

Na Amazônia brasileira, Cholini (Coleoptera, Curculionidae, Molytinae) é representada por 53 espécies, distribuídas em sete gêneros: *Ameris Dejean*, 1821; *Cholus* Germar, 1824; *Homalinotus* Sahlberg, 1823; *Lobaspis* Chevrolat, 1881; *Odontoderes* Sahlberg, 1823; *Ozopherus* Pascoe, 1872 e *Rhinastus* Schoenherr, 1825. Este trabalho documenta as espécies de Cholini depositadas na Coleção de Invertebrados do Instituto Nacional de Pesquisas da Amazônia, Manaus, Brasil, além de apresentar a distribuição geográfica e informações sobre a biologia dessas espécies. Foram identificados 186 espécimes de Cholini, pertencentes a 14 espécies (13 da Amazônia brasileira) e cinco gêneros (*Cholus*, *Homalinotus*, *Odontoderes*, *Ozopherus* e *Rhinastus*). Somente 24% das espécies de Cholini registradas para a Amazônia brasileira estão representadas na coleção do INPA, ressaltando a necessidade de um esforço de coleta sistemático baseado na informação biológica disponível. Foi ampliada a distribuição geográfica conhecida das seguintes espécies: *Cholus granifer* (Chevrolat, 1881) para Brasil; *C. pantherinus* (Olivier, 1790) para Manaus (Amazonas); *Cholus parallelogrammus* (Germar, 1824) para Piraquara (Paraná); *Homalinotus depressus* (Linnaeus, 1758) para lago Janauacá (Amazonas) e rio Tocantins (Pará); *H. humeralis* (Gyllenhal, 1836) para Novo Airão, Coari (Amazonas) e Porto Velho (Rondônia); *H. nodipennis* (Chevrolat, 1878) para Carauari, Lábrea (Amazonas) e Ariquemes (Rondônia); *H. validus* (Olivier, 1790) para rio Araguaia (Brasil), Manaus (Amazonas), rio Tocantins (Pará), Porto Velho e BR 364, Km 130 (Rondônia); *Odontoderes carinatus* (Guérin-Méneville, 1844) para Manaus (Amazonas); *O. spinicollis* (Boheman, 1836) para rio Uraricoera (Roraima) e *Ozopherus muricatus* Pascoe, 1872 para lago Janauacá (Amazonas). *Homalinotus humeralis* é associado pela primeira vez com a palmeira urucuri *Attalea phalerata* Mart. ex Spreng.

PALAVRAS-CHAVE: Amazônia, Biologia, Coleção, Diversidade, Distribuição geográfica.

¹ Instituto Nacional de Pesquisas da Amazônia. marciolb@inpa.gov.br

² Instituto Nacional de Pesquisas da Amazônia. isabellaandrade@hotmial.com

³ Instituto Nacional de Pesquisas da Amazônia. rclaudio@inpa.gov.br

⁴ Instituto Nacional de Pesquisas da Amazônia. fpinto@inpa.gov.br

INTRODUCTION

Curculionidae is the most diverse family in the entire animal kingdom, concerning the number of species, represented by about 4,500 genera and 50,000 described species (Costa *et al.* 1988; Kuschel 1995; Vanin 1999). Thirty-one subfamilies are recorded for Brazil, with 4,934 species placed in 648 genera (Wibmer and O'Brien 1986).

The Cholini belongs to Molytinae, the second largest subfamily in terms of numbers of species recorded from Brazil (1,146 species and 56 genera) (Wibmer and O'Brien 1986). That tribe is composed of three subtribes: Rhinastina, characterized by having the first tarsomere apically wider than the second; Cholina, characterized by having the first tarsomere apically not wider than the second and Cholomina, characterized by having the middle and hind tibiae fringed with setae only at the apex (Vaurie 1976b).

In Brazilian Amazonia, Cholini is represented by seven genera and 53 species, of which 51 belong to Cholina: *Ameris* Dejean, 1821 (1 species), *Cholus* Germar, 1824 (25 spp.), *Homalinotus* Sahlberg, 1823 (12 spp.), *Lobaspis* Chevrolat, 1881 (2 spp.), *Odontoderes* Sahlberg, 1823 (10 spp.) and *Ozopherus* Pascoe, 1872 (1 sp.), and two species belong to the Rhinastina: *Rhinastus* Schoenherr, 1825 (Valente *et al.* 2005).

Species of *Homalinotus*, *Amerhinus*, *Cholus* and *Odontoderes* are associated with palms trees *Attalea* Kunth, *Oenocarpus* Mart., *Cocos* L., *Elaeis* Jacq., *Syagrus* Mart., *Acrocomia* Barb. Rodr. and *Diplolathemium* Mart., some of them reported as pests (Lepesme 1947; Silva *et al.* 1968; Vaurie 1973a, b, 1974, 1975, 1976b; Giblin-Davis 2001; Valente and Vanin 2002; Valente *et al.* 2005; Lemos *et al.* 2007).

The INPA's Coleoptera collection has about 2,000,000 specimens (Costa *et al.* 2000), 86,750 are mounted and 46,370 identified at least to genera level (Henriques, personal communication). Given the small number (22 genera and 24 species) of identified weevils at INPA (Costa *et al.* 2000), in addition to the general demand for taxonomic expertise in Brazil, such studies are of particular importance when biological reference collections are needed by applied sciences, such as for biotechnology research.

Considering the attention that biological collections of the Instituto Nacional de Pesquisas da Amazonia (INPA) have received in recent years, the purpose of this paper was to document the species of Cholini deposited in the Invertebrate Collection of INPA and to present the geographical and biological data associated with them.

MATERIAL AND METHODS

Adults of Cholini were identified based on Vaurie's (1973a, b, 1974, 1975, 1976a, b, 1977, 1978) revisions. The classification of the Cholini follows Wibmer and O'Brien

(1986). For the palm trees we adopted the names used in Henderson *et al.* (1995).

The information provided in the section Material examined includes, if available, the following data: total number of specimens, country, state, city, date of collection, biological information, collector and number of specimens by sex. Localities are given in north-south order (Papavero and Martins 1994). This data was used to prepare the distribution map and also to compile information on life histories. Complementary information not provided on labels is presented between square brackets.

Coordinates of the collecting sites were obtained from Google Earth™ 4.3.7284.3916 (beta). The geographical data were plotted with PanMap Version 0.9.6 (Diepenbroek *et al.* 2002).

MATERIAL EXAMINED

Cholus granifer (Chevrolat, 1881) (Figure 1A). 2 specimens. BRASIL (new record). Amazonas: [Maraã], Serra dos Porcos, 0°25'N / 69°22'O, viii.1977 (Franklin, Moore) (2♀).

Cholus pantherinus (Olivier, 1790) (Figure 1B). 2 specimens. BRASIL. Amazonas: Manaus (new record), Reserva Ducke, 25.x.1978 (J. Arias, N. Penny) (1♂). Pará: Óbidos, Fazenda Pajurá, 01°37'21"S / 55°23'14"W, 05-11.ix.2001 (J.A. Rafael) (1♀).

Cholus parallelogrammus (Germar, 1824) (Figure 1C). 2 specimens. BRASIL. Rio de Janeiro: Rio de Janeiro, 01.ii.1980 (Artemio Silva) (1♀); Paraná: Piraquara (new record), Manancial da Serra Mar, 08-15.xii.2006 (J.A. Rafael) (1♂).

Cholus spp. 26 specimens. No data (1). BRASIL. Amazonas: Lago Amaná, 01.v.1980 (Robin Best) (1); Fonte Boa, Estr[ada] Mamopina, 02°32'27"S / 66°04'08"W, 21-24.ix.2005 (J.A. Rafael, F.F. Xavier F.) (1); Tonantins, igarapés manaquinha, 02°50'15"S / 67°46'30"W, 16-20.ix.2005 (J.A. Rafael, F.F. Xavier F.) (2); Itacoatiara, km 80, 20.v.1976 (Nilce) (1); Rio Solimões, 05.v.1980 (Robin Best) (1); Alto Solimões, Benjamim Constant, Universidade [Federal] do Amazonas, 24-31.viii.2001 (A. Colleto) (2), *ditto*, Guanabara II, 04°20'35"S / 69°20'30"W (lacking date and collector) (1); Médio Purus, 10.x.1979 (J. Campbell) (1); Reserva Ducke, v.1968 (E.V. Silva, A. Faustino) (1), *ditto*, 09.ix.1986 (Ulysses Luís) (1), *ditto*, 23.iii.1982 (J.A. Rafael) (1), *ditto*, 16.xi.1981 (1), *ditto*, AM 010, 02°55'51"S / 59°58'59"W, 08.iii.2007 (M.C.B. Feitosa) (1), *ditto* (lacking date and collector) (1); Manaus, Instituto Tefé, 19.iv.1961 (Eduardo) (1), [conjunto] Petro, 24.v.1982 (J.W. Morais) (1), Campus [da] Universidade [Federal do Amazonas], 17.ii.1979 (J.A. Rafael) (1). Mato Grosso: [Aripuanã], R[eserva] Humboldt, Estrada do Porto, 24.i.1976 (L. Albuquerque) (1). Rondônia:

Porto Velho, 2.vi.1979 (J. Campbell) (1), *ditto*, 08.ii.1979 (1), *ditto*, 30.ii.1979 (1), *ditto*, 31.iii.1979 (2).

Homalinotus coriaceus (Gyllenhal, 1836) (Figure 1D). 2 specimens. BRASIL. *Pará*: João Pessoa, 09.x.1976 (Victor [Py]Daniel) (1♂), *ditto*, 1978 (1♀).

Homalinotus depressus (Linnaeus, 1758) (Figure 1E). 30 specimens. No data (3♂, 2♀). BRASIL. *Amazonas*: Manaus, INPA, Est[rada] do Aleixo, km 4, 18.v.[19]77 (L. Albuquerque) (1♂), *ditto*, 27.iv.1976 (A.P.A. Luna Dias) (1♀); Lago Janauacá (new record), 20.iv.1978 (R. Best) (1♂). *Pará*: Tucuruí, Bagagem, 04.viii.1980 (eq. Nunes de Mello) (4♂), *ditto*, 05.viii.1980 (3♂, 1♀), *ditto*, Ilha Chorona, 17.viii.1980 (1♀), *ditto*, Puraquequara, 11.viii.1980 (Nunes de Mello) (8♂, 1♀); R[io] Tocantins (new record), próx[imo] à cid[ade] de N[azaré dos] Patos, 13.iv.1981 (lacking collector) (2♂), *ditto*, próx[imo] à cid[ade] de Muru (1♂), *ditto*, próx[imo] à cid[ade] Jatobal, 23.iii.1981 (1♂).

Homalinotus humeralis (Gyllenhal, 1836) (Figure 1F). 9 specimens. BRASIL. *Amazonas*: [Novo Airão] (new record), P[ar]q[ue] Nac[ional] do Jaú, Rio Jaú-Meriti (wrote Neriti) N. E., 2°18'S / 64°39' W, 08-09.vi.1994 (C.S. Motta *et al.*) (1♀); Manaus, Reserva Ducke, 3.ii.1995 (M.G.V. Barbosa) (1♂), *ditto*, i.1996 (1♀), *ditto*, 07-09.vi.2010 (A. Agudelo) (1♂); Campus Universitário [da Universidade Federal do Amazonas], 05.xii.1978 (J.A. Rafael) (1♂); Coari (new record), comunidade São Francisco, 04°01'31"S / 63°07'58.2"W, 13.v.2009, em flores secas de urucuri *Attalea phalerata* (G.L. da S. Monte) (1♂, 1♀). *Pará*: Tucuruí, Bagagem, 04.viii.1980 (eq. Nunes de Mello) (1♂). *Rondônia*: Porto Velho (new record), 30.viii.1979 (J. Campbell) (1♂).

Homalinotus hystrix (Olivier, 1790) (Figure 1G). 1 specimen. [BRASIL]. [*Amazonas*]: [Manaus] (lacking date) (Heike Kückmeister) (1♀).

Homalinotus nodipennis (Chevrolat, 1878) (Figure 1H). 32 specimens. Berv/03, no other data (1♀). [BRASIL]. [*Amazonas*]: Manaus (lacking date) (Heike Kückmeister) (2♀). BRASIL. *Amazonas*: 60 Km N. Manaus, fazenda esteio, cidade Powel, ZF-3, km 23, 01.ii.1985 (B. Klein) (1♀), *ditto*, Res. 1112, 2°23'03" S / 59°51'15" W, 15.vii.1986 (1♀), *ditto*, Agropecuária da Suframa, 23.iv.1981 (D. Costich) (1♀); Manaus, 01.ix.1963 (F. Almeida, A. Netto) (1♀), 11.iv.1962 (lacking collector) (2♀), *ditto*, Reserva Ducke (lacking date and collector) (1♀), *ditto*, 31.ix.1986 (Luis Ulysses) (1♀), *ditto*, 06.viii.2002 (E.F. Soares, A.L. Pinheiro) (1♀), *ditto*, 09.x.2002 (A.L. Pinheiro; E.F. Soares) (1♀), *ditto*, 06.xi.2002 (2♀), *ditto*, 18.xii.2002 (1♀), *ditto*, 19.xii.[20]03 (1♀), *ditto*, AM 010 02°55'51" S / 59°58'59" W, próximo da trilha do Igarapé Acará, 06-09.iii.2008 (G.P.S. Dantas) (1♀); Carauari (new record), 5°05'27" S / 67°10'57" W, vii. 2005 ([F.F.] Xavier Filho) (1♀); Manicoré, Cachoeira, 05°29'44" S / 60°49'21" W, 1,80 m floresta úmida, ix.2004 (Silva, Pena)

(1♂, 1♀), *ditto* (Henriques *et al.*) (1♂); Novo Aripuanã, 05°15'53" S / 60°07'08" W, 1,80 m floresta úmida, ix.2004 (Henriques Silva, Pena) (2♂, 1♀); Lábrea (new record), Ramal Apaeral, km 09, sítio São Raimundo 07°19'10" S / 64°40'07" W, vi.2006 (F.F. Xavier Fº) (1♂, 5♀). *Rondônia*: Ariquemes (new record), Rio J[ui]-Paraná, 09° 44' S / 61°52' W, 28.x.198? (J.A. Rafael) (1♂).

Homalinotus validus (Olivier, 1790) (Figure 1I). 50 specimens. No date (2♀, 1♂). BRASIL. *Amazonas*: Manaus (new record), INPA, Aleixo, 15.v.1976 (Eduardo) (1♂), *ditto*, 14.v.1976 (Mario Dantas) (1♀), São Lázaro, Rua Nova, 20.x.2008 (M.L.L. Barbosa) (1♂), Reserva Ducke, v.1968 (Faustino) (1♂); *Pará*: Tucuruí, Bagagem, 4.viii.1980 (Nunes de Mello eq) (7♂, 2♀), *ditto*, 05.viii.1980 (1♂, 1♀), *ditto*, Puraquequara, 11.viii.1980 (5♂, 7♀), *ditto*, Ilha Chorona, 7.viii.1980 (4♂, 4♀); R[io] Tocantins (new record), próx[imo] à cid[ade] N[azaré dos] Patos, 13.iv.1981 (lacking collector) (3♂), *ditto*, 21.iv.1981 (1♂, 1♀), *ditto*, próx[imo] à cid[ade] Jatobal, 23.iii.1981 (1♂); Rio Araguaia (new record), margem esquerda, 12.iii.1981 (lacking collector) (2♂). *Rondônia*: Porto Velho (new record), 10.viii.1979 (J. Campbell) (1♀); Br 364, Km 130 (new record), 16.ii.1982 (Jorge Arias) (2♀), *ditto*, 3.iii.1982 (1♀).

Odontoderes bilineatus (Lacordaire, 1866) (Figure 1J). 1 specimen. [BRASIL]. [*Amazonas*]: [Manaus] (lacking date) (Heike Kückmeister) (1♀).

Odontoderes carinatus (Guérin, 1844) (Figure 1K). 5 specimens. BRASIL. *Amazonas*: Manaus (new location), Reserva Ducke, 14.iii.1997 (B.C. Ratcliff) (1♂), *ditto*, ii.1995 (M.G.V. Barbosa) (1♀), *ditto*, 23.iii.1982 (J.A. Rafael) (1♂); Manicoré, cachoeira, 05°29'44" S / 60°49'21" W, solo floresta úmida, ix.2004 (Silva, Pena) (1♀); lateral oeste (lacking date and collector) (1♀).

Odontoderes spinicollis (Boheman, 1836) (Figure 1L). 10 specimens. [BRASIL]. [*Amazonas*]: Manaus (lacking date) (Heike Kückmeister) (1♀). BRASIL. *Roraima*: Rio Uraricoera (new record), Ilha de Maracá, 02-13.v.1987 (J.A. Rafael, J.E.B. Brasil, L.S. Aquino) (1♂). *Amazonas*: Reserva Ducke, 3.xii.1995 (M.G.V. Barbosa) (1♀), *ditto*, xi.2008 (F.B.P. Gouveia) (1♀); Manaus, 19.viii.1978 (lacking collector) (1♀), *ditto*, Parque das Laranjeiras, 22.vii.1981 (J. Arias) (1♀), *ditto*, Campus do INPA, xi.1981 (L. Gondin) (1♀); Itacoatiara, AM 010, Km 215, Faz[enda] Aruana, 27-28.ix.1992 (C.S. Motta, F.A. Peralta, R.S.G. Hutchings, B.R. Teles, N. Hamada) (1♀); Benjamin Constant, sítio do Damião, 04°24'41" S / 70°02'30" W, 08-10.ix.2005 (J.A. Rafael, F.F. Xavier Fº) (1♀). *Rondônia*: Guajará-Mirim, Rio Ouro Preto, Bananal, 10°58'23" S / 65°05'39" W, 20-27.x.1995 (J.A. Rafael, A.L. Henrique) (1♀).

Odontoderes sp. 1 specimen. BRASIL. *Amazonas*: Manaus, Reserva Ducke, 16.ix.1986 (Ulysses Luís) (1).

Ozopherus muricatus Pascoe, 1872 (Figure 1M). 12 specimens. No date (1). BRASIL. Amazonas: Reserva da Campina, 60 km. N Manaus, 05.viii.1977 (lacking collector) (1); Manaus, 11.i.1978 (B.C. Ratchiffe) (1), *ditto*, INPA – Sede, 04.i.1989 (D. Azevedo) (1), *ditto*, campus INPA, 10.iii.1988 (J. Ribeiro) (1), Camp[us] INPA, 16.iii.[19]88 (A.C. Ferreira) (1); Reserva Ducke, 23.xii.1978 (J.A. Rafael) (1), *ditto*, 2°55' S / 59°59' W, [lago] Acará, iv.1997 (R.L.M. Ferreira) (1), *ditto*, 01.vii.1978 (Anthony Anderson) (1); AM 010, Km 28, 18.iii.1990 (M.L. Oliveira) (1); Lago Janauacá (new record), 20.iv.1978 (R. Best) (1); Novo Airão, Praia Sarará, 07.ix.2007 (C.P. Damasceno) (1).

Rhinastus latisternus Guérin-Méneville, 1844 (Figure 1N). 1 specimen. No date (1♂).

RESULTS AND DISCUSSION

186 Cholini specimens were identified; 159 to species level and 27 to genera level. Fourteen species (13 from Brazilian Amazonia) in five genera were recognized. The Cholina has 13 identified species in four genera (*Cholus*, *Homalinotus*, *Odontoderes* and *Ozopherus*). The Rhinastina is represented only by *Rhinastus latisternus* (Guérin-Méneville, 1884) (Table 1, Figure 1).

Table 1 - Number of genera and species of Cholini recorded for Brazilian Amazonia and number of genera and species represented in the Invertebrate Collection of the Instituto Nacional de Pesquisas da Amazônia.

Subtribes / Genera	Species recorded for Brazilian Amazonia (Valente <i>et al.</i> 2005)	Species housed at INPA	
		Amazonian species	Non Amazonian species
<i>Cholina</i>			
<i>Ameris</i>	1	0	0
<i>Cholus</i>	25	2	1
<i>Homalinotus</i>	12	6	0
<i>Lobaspis</i>	2	0	0
<i>Odontoderes</i>	10	3	0
<i>Ozopherus</i>	1	1	0
<i>Rhinastina</i>			
<i>Rhinastus</i>	2	1	0
Total	53	13	01

The Cholini reported to the Brazilian Amazonia are represented at Invertebrate Collection of INPA by five genera and 13 species (Table 1), corresponding to 71% of the genera and 24% of the species of Cholini known to occur in this region, suggesting the material was collected unsystematically. This is comparable to Valente *et al.* (2005), who reported for the entomological collection of the Museu Paraense Emílio

Goeldi (MPEG) four genera and 23 species, corresponding to 57% of the genera and 43% of the species of Cholini known to occur in Brazilian Amazonia. Valente *et al.* (2005) suggested and we agree that further collecting effort, if focused on the relationships of beetles and host plants, would significantly increase the representativeness of the Cholini in the collection.

Cholini specimens at INPA were collected almost exclusively in Brazilian Amazonia, mostly in the State of Amazonas. Only four specimens were collected in other regions, two *Cholus parallelogrammus* (Germar, 1824) in the States of Paraná (Piraquara) and Rio de Janeiro (Rio de Janeiro) and two *Homalinotus coriaceus* (Gyllenhal, 1836) in the State of Paraíba (João Pessoa) (Figure 2). The label data expand the known distribution for the following species: *Cholus granifer* (Chevrolat, 1881) for Brazil; *C. pantherinus* (Olivier, 1790) for Manaus (Amazonas); *Cholus parallelogrammus* (Germar, 1824) for Piraquara (Paraná); *Homalinotus depressus* (Linnaeus, 1758) for lago Janauacá (Amazonas) and rio Tocantins (Pará); *H. humeralis* (Gyllenhal, 1836) for Novo Airão, Coari (Amazonas) and Porto Velho (Rondônia); *H. nodipennis* (Chevrolat, 1878) for Carauari, Lábrea (Amazonas) and Ariquemes (Rondônia); *H. validus* (Olivier, 1790) for Manaus (Amazonas), rio Tocantins (Pará), rio Araguaia (Brasil), Porto Velho and BR 364, Km 130; *Odontoderes carinatus* (Guérin-Méneville, 1844) for Manaus (Amazonas); *O. spinicollis* (Boheman, 1836) for rio Uraricoera (Roraima); and *Ozopherus muricatus* Pascoe, 1872 for lago Janauacá (Amazonas) (see section “Material examined”, for details).

Among the genera of Cholini recorded from Brazilian Amazonia, only the monobasic *Ozopherus* is fully represented at INPA. *Cholus*, *Homalinotus*, *Odontoderes* and *Rhinastus* are represented, respectively by 8%, 50%, 30% and 50% of the diversity of the species recorded for this region (Table 1). *Ameris* and *Lobaspis* (both not represented at INPA) and *Ozopherus* have the same percentages at MPEG (Valente *et al.* 2005); *Cholus*, *Homalinotus* and *Odontoderes* are represented, respectively, by 64%, 42% e 10% at MPEG, and *Rhinastus* is represented just at INPA.

Only two specimens (male and female) of *H. humeralis* have biological data associated with them. This is the first record of *H. humeralis* being associated with the inflorescence of the “urucuri” palm, *Attalea phalerata* Mart. ex Spreng. Santos *et al.* (2003) mentioned that another *Homalinotus*, *H. depressus*, had been collected in the canopy of the same palm species. Some other species of *Homalinotus* are associated with other species of *Attalea*: *H. coriaceus* was collected on “piassaba” *Attalea funifera* Mart. ex Spreng., *A. piassabossu* Bondar (hybrids of *A. funifera* x *A. oleifera*, according to Henderson *et al.* 1995), and “catolé” *A. oleifera* Barb. Rodr. (Vaurie 1973b); *H. depressus* was collected on “babassu” *Attalea*

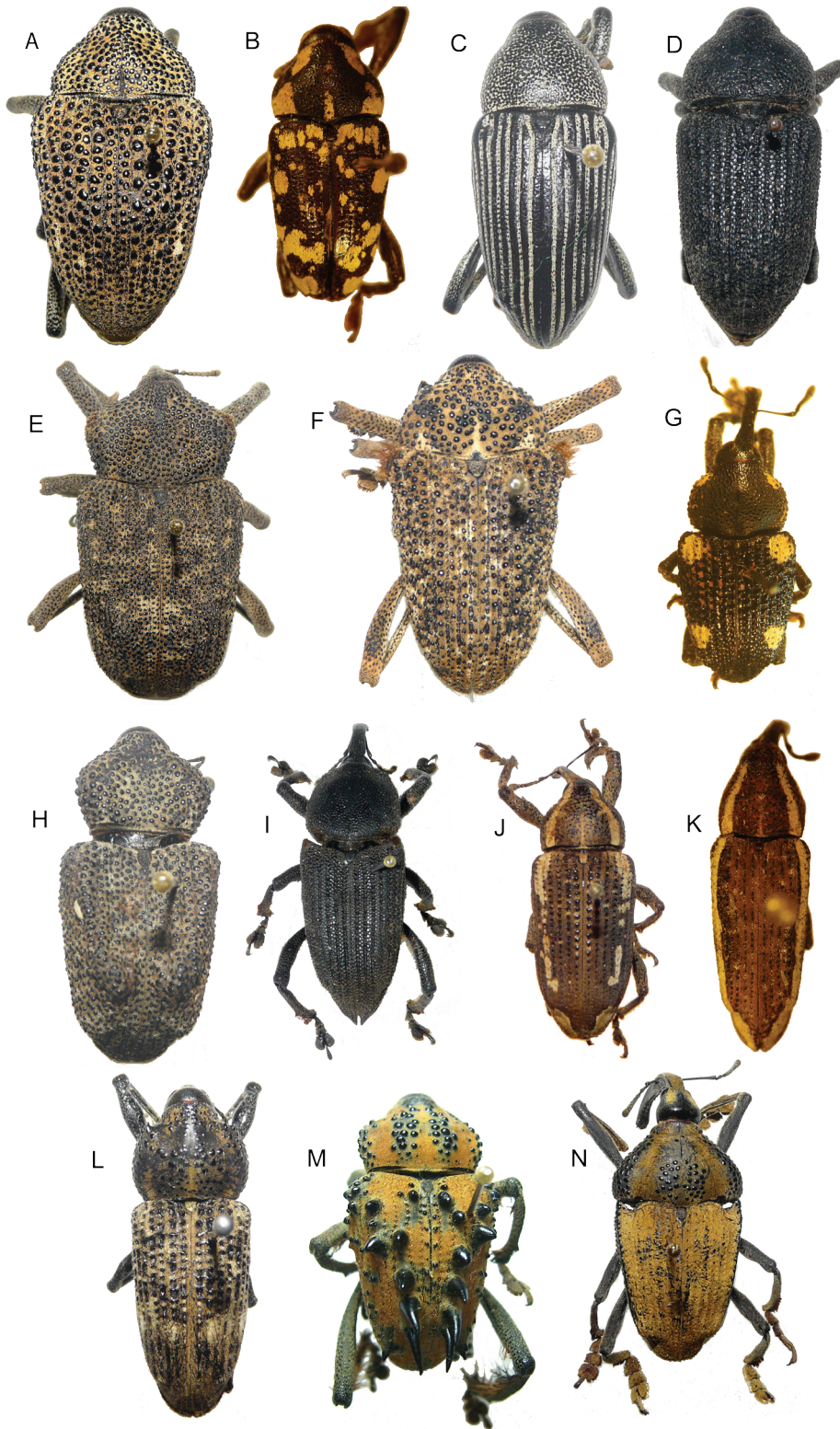


Figure 1 - Species of Cholini housed in the Invertebrate Collection of the Instituto Nacional de Pesquisas da Amazônia. A. *Cholus granifer*; B. *C. pantherinus*; C. *C. parallelogrammus*; D. *Homalinotus coriaceus*; E. *H. depressus*; F. *H. humeralis*; G. *H. hystrix*; H. *H. nodipennis*; I. *H. validus*; J. *Odontoderes bilineatus*; K. *O. carinatus*; L. *O. spinicollis*; M. *Ozopherus muricatus*; N. *Rhinastus latisternus*. Photos by G. L. da S. Monte.

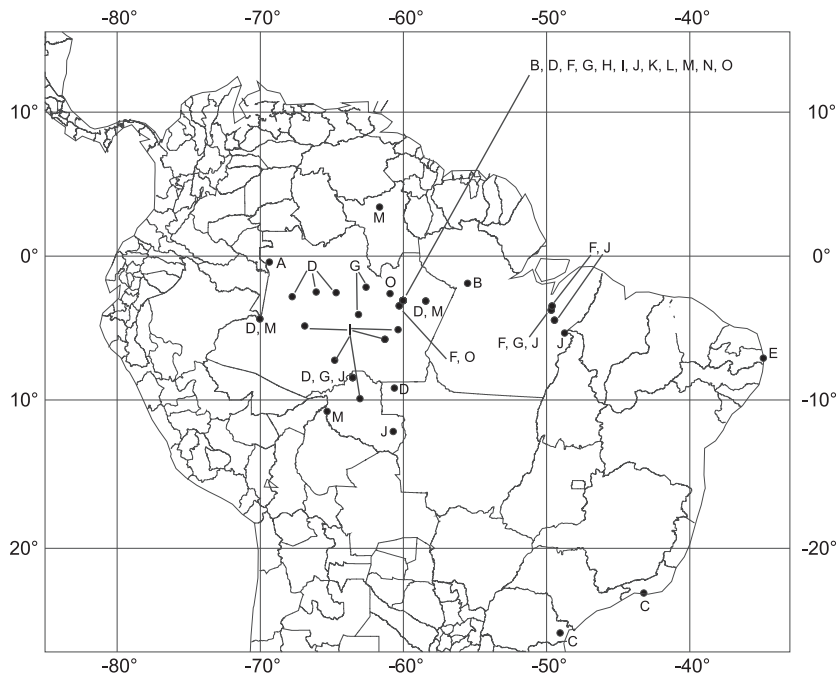


Figure 2 - Map of geographical distribution of the Cholini species housed in the Invertebrate Collection of the Instituto Nacional de Pesquisas da Amazônia: A. *Cholus granifer*; B. *C. pantherinus*; C. *C. parallelogrammus*; D. *Cholus* spp.; E. *Homalinotus coriaceus*; F. *H. depressus*; G. *H. humeralis*; H. *H. hystrix*; I. *H. nodipennis*; J. *H. validus*; K. *Odontoderes bilineatus*; L. *O. carinatus*; M. *O. spinicollis*; N. *Odontoderes* sp.; O. *Ozopherus muricatus*.

sp. (Valente *et al.* 2005), on flowers of “inajá” *A. maripa* (Aubl.) Mart.) (Valente and Vanin 2002; Valente *et al.* 2005), and in the canopy of *A. phalerata* (Santos *et al.* 2003); *H. fasciatus* (Desbrochers, 1910) was collected on flowers of *A. maripa* (Valente 2009); *H. nodipennis* was collected on “babassu” *A. speciosa* Mart. ex Spreng. *Homalinotus validus* adults make holes in the unopened spathes or sheaths and in the little fruits of *A. speciosa* (Silva *et al.* 1968); the specimens were collected on flowers of *A. maripa* (Valente 2009) and in the canopy of *A. phalerata* (Santos *et al.* 2003); *H. validus* is also an inhabitant of “jaci” *A. butyracea* (Mutis ex L. f.) Wess. Boer (Pineda *et al.* 2003).

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