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## A CATALOGUE OF CEPHALOTINI ANT TYPES (HYMENOPTERA: FORMICIDAE: MYRMICINAE) DEPOSITED IN THE MUSEU DE ZOOLOGIA DA UNIVERSIDADE DE SÃO PAULO, BRAZIL

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### ABSTRACT

*The Hymenoptera laboratory of the Museu de Zoologia da Universidade de São Paulo (MZSP) houses one of the most representative collections of Neotropical ants worldwide. This is due to the wide geographical distribution of its specimens, and also because of the comparatively large number of types and taxa represented. The catalogue, following the general recommendations of the International Code of Zoological Nomenclature, lists types of the tribe Cephalotini deposited in the collection of MZSP; also providing information regarding labels, original publications, state of conservation of specimens, taxonomic status of listed species, and their current classification when different from the original. An index for the listed taxa is also provided. In total, the catalogue lists types of 43 nominal species, of which 23 are still valid, from the two recognized genera Cephalotes and Procryptocerus (four represented by holotypes, 17 by holotypes and paratypes, 15 by paratypes, five by syntypes, one by a lectotype and one by a neotype).*

KEY-WORDS: Catalogue; Hymenoptera; Ant Types; Cephalotini; MZSP.

### INTRODUCTION

Zoological collections are considered important tools for the identification of ants by comparison and serve as depositories for type specimens, typically representing local and/or regional faunas (Lauk *et al.*, 2003). The Museu de Zoologia da Universidade de São Paulo (MZSP) holds one of the most important collections of ants worldwide (Brandão, 2000), with emphasis on the Neotropical region.

Our aim is to encourage further studies and also to avoid unnecessary movement of valuable,

sometimes unique, specimens, and at the same time follow recommendation 72F of the ICZN (1999) about institutional responsibility: “every institution in which name-bearing types are deposited should make them accessible for studies, publish lists of name-bearing types in its possession or custody, and so far as possible, communicate information concerning name-bearing types”. The present catalogue is the sixth of a series aiming to list all ant types hereby deposited. We have published thus far catalogues of the types of Attini (Klingenberg & Brandão, 2005), “Poneromorph” ants (Scott-Santos *et al.*, 2008), Pseudomyrmecinae

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(Brandão *et al.*, 2010), “Dorylomorph” ants (Esteves *et al.*, 2011), and Dacetini and Solenopsidini (Ulysséa & Brandão, *in press*).

The tribe Cephalotini is endemic to the Neotropical region and includes two genera, *Cephalotes* Latreille (1802) with 131 valid species (De Andrade & Baroni Urbani, 1999; Bolton, 2007) (the second largest endemic ant genus in the Neotropics) and *Procrystocerus* Emery (1887) with 45 valid species (Bolton, 2007). The taxonomy of Cephalotini is comparatively well studied, in particular because of the recent revisions of *Cephalotes* made by De Andrade & Baroni Urbani (1999) and of Central American *Procrystocerus* by Longino & Snelling (2002).

The ant tribe Cephalotini is a group of Neotropical stem-nesting species (Longino & Snelling, 2002), sometimes referred to as turtle ants. In general, cephalotines are arboreal, slow, with body shape slightly flattened ventrally with dorsal spines or angles on the mesosoma, petiole and postpetiole (Fernández, 2003). *Cephalotes* has as its main features a diet based largely on pollen (a very abundant resource that is dispersed by wind over leaves), nests enlarged from pre-existing plant cavities, flat and bizarre appearance, and behave like a caste of soldiers devoted essentially to nest defense. In *Procrystocerus* the workers are strictly monomorphic (Wheeler, 1984) and can be separated from *Cephalotes* by a combination of characters: antennal scrobes extending back almost to vertexal margin, eyes situated below the scrobe, frontal carinae not covering the genae from above, pronotum without spines or teeth, metatarsus not compressed, and petiole and postpetiole without projecting spines, teeth, or tubercles (De Andrade & Baroni Urbani, 1999; Longino & Snelling, 2002).

The purpose of the present catalogue is to list the Cephalotini type specimens deposited in the MZSP, and also to provide label information, conservation status of the specimens, and the current taxonomic situation of the correspondent nominal species, according to the International Code of Zoological Nomenclature (1999).

## MATERIAL AND METHODS

For the building of this catalogue, information from labels associated to Cephalotini ant types in MZSP was compared with the original descriptions listed in Antweb.org (Fisher, 2012). The nomenclature of Cephalotini type specimens was updated following the International Code of Zoological Nomenclature (1999).

The combination of type names within genera and species is quoted in alphabetical order. The following abbreviations are used: col. = collector, coll. = collection, leg. = legitimate, g. = gyne, m. = male, s. = soldier, w. = worker; to indicate conservation status of the specimens, the following abbreviations are used: A = antenna, A1 representing the left antenna; A2 representing the right antenna; L = leg, L1, L2 and L3 representing the left legs and L4, L5 and L6 the right legs and W = wing, W1 and W2 representing the anterior and posterior left wings respectively, and W3 and W4 representing the right wings.

To record information related to the MZSP Cephalotini types, the following order is hereby adopted: species name, author, publication year, page numbers, type category, number of type specimens of each sex or caste, country, state/province, city, locality, collecting date, collector, original collection name, collection number or collection code (in the original language). When necessary, we comment on the conservation conditions of the types, indicating broken or missing body parts. We also present the taxonomic status for each entry. Additional information (corrections or clarifications) and data present in publications, but not recorded in labels, are presented in brackets. Also, we provide an index of all valid names listed in the current catalogue and, when necessary, their respective synonyms. Taxonomic information about the species listed here can be found in Bolton (2007, version: July 1, 2011).

## RESULTS

The present catalogue includes types of 43 nominal species (23 valid), including 544 individuals (463 workers, 42 soldiers, 33 gynes and six males) of the two recognized Cephalotini genera (*Cephalotes* and *Procrystocerus*). Four Cephalotini species are represented in the MZSP by holotypes only, 17 by holotypes and paratypes, 15 by paratypes, five by syntypes, one by a lectotype and one by a neotype.

### Subfamily Myrmicinae Tribe Cephalotini Genus *Cephalotes* Latreille

*Hypocryptocerus haemorroidalis* subsp. *auricomus*  
Wheeler, W.M. 1936: 202. Syntype: 1 w. R[EPUBLIC] DOM[INICAN], Sánchez, 1116.v.[19]15, Gift of M.W. Wheeler, 22624. Syntype: 1 w. R[EPUBLIC] DOM[INICAN],

- San Lorenzo, 2729.vi.[19]15, Gift of W.M. Wheeler, 22624. Combination in *Zacryptocerus*: Brandão, 1991: 384; in *Cephalotes*: Baroni Urbani, 1998: 328. Raised to species: De Andrade & Baroni Urbani, 1999: 89.
- Cephalotes betoi* De Andrade & Baroni Urbani, 1999: 347. Holotype: 1 w. Paratypes: 12 s., 183 w. BRASIL, Distrito Federal, Reserva Biológica de Águas Emendadas, 2730.vi.1991, C.R.F. Brandão, M.L. Françoso & A.A. Reis cols, Isca [de] sardinha (dia-solo), berlese, isca [de] mel (dia-vegetação), tronco 03 cm. Paratypes: One worker missing L1 (femur); other missing L1 (femur); other missing L1 (tarsus); other missing L1 (tibia); other missing L3 (tarsus).
- Cryptocerus bivestitus* Santschi, 1922: 254. Paratype: 1 w. ARGENTINA, Catamarca, Hualfin, Weiser leg. Missing part of gaster. Combination in *Paracryptocerus* (*Harnedia*): Kempf, 1958: 38; in *Zacryptocerus*: Brandão, 1991: 384; in *Cephalotes*: De Andrade & Baroni Urbani, 1999: 677. *Comment*: With additional label “Co-(topo) type”.
- Paracryptocerus* (*Paracryptocerus*) *borgmeieri* Kempf, 1951: 211. Paratype: 1 w. ARGENTINA, Misiones [Province], Iguazu, [no date], N. Kusnezov [col.], [Coll. T. Borgmeier] 5330. Combination in *Zacryptocerus*: Brandão, 1991: 385; in *Cephalotes*: Baroni Urbani, 1998: 323.
- Paracryptocerus* (*Harnedia*) *coffae* Kempf, 1953: 81. Holotype: 1 w. Paratypes: 3 g., 2 m., 2 s., 11 w. COLOMBIA, Cundinamarca, Tibacuy, 1500 m, [Granja Cafetera “Alberto J. Williamson”], [Ninho em ramo verde de cafeeiro], *Coffea arabica* L., 13.iii.1952, Bernel [and] Mendoza [cols], n. 335, 337. Holotype: Missing L5 (tarsus). Paratypes: One gyne, disarticulated head, missing A1, A2 (funiculus), L1 (tarsus), L4, L5 (tarsus), part of gaster; one disarticulated male genitalia; other has only head; one worker missing A2, L1, L5 (femur), L6 (tarsus). Combination in *Zacryptocerus*: Brandão, 1991: 385; in *Cephalotes*: De Andrade & Baroni Urbani, 1999: 560.
- Cephalotes decempinosus* Santschi, 1920: 148. Lectotype: 1 w. GUYANE FRANÇAISE, S[ain]t-Jean-du-Maroni, [no date, no col.], Collection Le Moul, 3805. Junior synonym of *Cephalotes marginatus*: De Andrade & Baroni Urbani, 1999: 124.
- Cephalotes decolor* De Andrade, in De Andrade & Baroni Urbani, 1999: 512. Holotype: 1 w. Paratypes: 3 s., 16 w. VENEZUELA, Sucre, Parque Nacional Mochima, 50 m, 02.x.1986, E. Canello & [C.R.F.] Brandão [cols]. Paratype: One worker missing head.
- Cephalotes dentidorsum* De Andrade, in De Andrade & Baroni Urbani, 1999: 734. Holotype: 1 w. PERU, Valle Chanchamayo, 800 m, 01.viii.1939, Weyrauch leg., 193.
- Paracryptocerus* (*Harnedia*) *fleddermanni* Kempf, 1958: 87. Holotype: 1 s. Paratype: 1 w. [BRAZIL], S[ão] P[aulo], S[ão] Sebastião, 30.i.1955, B. Fledderman, #3. Holotype: missing A1, L1 and L2 (tarsus), L3 (tibia), L4 (tarsus). Paratype: missing L3 (tarsus). Paratype: 1 w. [BRAZIL], S[ão] P[aulo], S[ão] Sebastião, 05.ii.1953, W. Kempf leg., 751. Missing L2 (tarsus). Junior synonym of *Cephalotes notatus*: Kempf, 1967: 367. *Comment*: We also found in the collection five workers and one soldier labeled as metatypes ([BRAZIL], S[ão] P[aulo], S[ão] Sebastião, 06.iii.1958, W. Kempf, 2376, n° 392, Kempf det.).
- Cryptocerus fossithorax* Santschi, 1921: 125. Cotype [syntype]: 1 w. [ARGENTINA, Río Negro], Viedna, [no date, Dr. Hildemann col.]. Combination in *Paracryptocerus* (*Harnedia*): Kempf, 1958: 58; in *Zacryptocerus*: Brandão, 1991: 386; in *Cephalotes*: De Andrade & Baroni Urbani, 1999: 635.
- Cryptocerus peltatus* st. *ellenriederi* var. *gaudens* Santschi, 1922: 255. Paratype: 1 s. ARGENTINA, Alta Gracia, La Granja, Sierra de Córdoba, February [ii].1921, C. Bruchi leg. Unavailable name; material referred to *Cephalotes jheringi* by Kempf, 1958: 50.
- Cephalotes liepini* De Andrade & Baroni Urbani, 1999: 398. Holotype: 1 w. Paratypes: 1 g., 7 w. BRASIL, Go[iás], Alvorada do Norte, Faz[enda] Mattos, 0812.vii.1991, S.T.P. Amarante & C.F. Martins cols (3 w – bandeja d’água), C.R.F. Brandão col. (poço, isca – mel, dia – vegetação).
- Cryptocerus liogaster* Santschi, 1916: 381. Paratype: 1 w. ARGENTINA, Five[s] Lille, Bruch leg., C.B. 3877. Missing L2 and L3. Combination in *Paracryptocerus* (*Harnedia*): Kempf, 1958: 25; in *Zacryptocerus*: Brandão, 1991: 386; in *Cephalotes*: De Andrade & Baroni Urbani, 1999: 658.
- Paracryptocerus* (*Paracryptocerus*) *manni* Kempf, 1951: 228. Holotype: 1 w. Paratype: 1 w. [BRAZIL], Est[ado do] Pará, Cach[oeira] Breu, x.[19]28, Sampaio [col., Coll. T. Borgmeier]. Holotype: Missing L3 and L5 (tarsus). Paratype: Missing A2 (funiculus). Combination in

- Zacryptocerus*: Brandão, 1991: 387; in *Cephalotes*: De Andrade & Baroni Urbani, 1999: 237.
- Cryptocerus varians* subsp. *marginata* Wheeler, W.M. & Mann, 1914: 39. Lectotypes [syntypes]: 2 s., 1 w. Paratypes [syntypes]: 3 w. HAITI, Diquini, [no date], W.M. Mann. Lectotypes: Two soldiers missing L3 (tarsus); one worker missing L1 and L2 (tarsus). Paratypes: One worker missing L3 (tarsus); other missing head. Junior synonym of *Cephalotes pallens*: Kempf, 1958: 151. Replacement name: *Cephalotes decoloratus* De Andrade, in De Andrade & Baroni Urbani, 1999: 508. *Comment*: The specimens were labeled incorrectly and, following the recommendations of the ICZN, we consider these specimens as syntypes.
- Cephalotes nilpiei* De Andrade, in De Andrade & Baroni Urbani, 1999: 381. Holotype: 1 w. Paratypes: 2 s., 9 w. [BRASIL, Rio de Janeiro], P[ar]q[ue], Naç[ional de] Itatiaia, 9501000 m, 15.xii.1966, H. Reichardt col. Paratypes: One worker missing L1 (tarsus); one soldier missing L1 (tibia), L3 (tarsus).
- Cephalotes pallidoides* De Andrade, in De Andrade & Baroni Urbani, 1999: 480. Holotype: 1 s. Paratypes: 1 m., 8 w. BRASIL, M[at]o G[rosso], Rio Papagaio, Utiariti (325 m), vii.[1]961, K. Lenko col., 1691. Paratype: One male missing A1.
- Cephalotes pallidus* De Andrade, in De Andrade & Baroni Urbani, 1999: 473. Paratypes: 2 s., 7 w. B[RITISH] G[UIANA], Kartabo, Jul.[vii], Aug.[viii].1920, W.M. Wheeler [col.]. Paratypes: One worker missing L3 tarsus; other missing A1 (part of funiculus); other missing L1 (tibia).
- Cephalotes palustris* De Andrade, in De Andrade & Baroni Urbani, 1999: 322. Paratype: 1 w. B[RITISH] G[UIANA], Kartabo, jul.aug.[vii.viii]1920, W.M. Wheeler [col.]. *Comment*: There is a label with misidentification determined by W. Kempf as *Cryptocerus pavonii*.
- Paracryptocerus (Harnedia) patei* Kempf, 1951: 235. Paratypes: 2 s., 3 w. COLOMBIA, S[outh] A[merica], [locality unknown; taken from imported orchids of the genus *Cattleya*, in Hoboken, New Jersey, USA], in *Cattleya* 10.iv.[19]46, Hoboken-5773, 468631, [Coll. T. Borgmeier]. One soldier missing L6 (tibia). Combination in *Zacryptocerus*: Brandão, 1991: 387; in *Cephalotes*: De Andrade & Baroni Urbani, 1999: 517.
- Cephalotes pavonii* Latreille, 1809: 132. Neoholotype [Neotype]: 1 w. PERU, Victoria, Junín, 01.vii.1938, W.F. Walker [leg.]. Combination in *Paracryptocerus*: Kempf, 1951: 222; in *Zacryptocerus*: Brandão, 1991: 387; in *Cephalotes*: Baroni Urbani, 1998: 326; De Andrade & Baroni Urbani, 1999: 325. *Comment*: bears a label saying "*Paracryptocerus pavonii* Latreille", W.W. Kempf det.
- Cephalotes persimilis* De Andrade, in De Andrade & Baroni Urbani, 1999: 441. Holotype: 1 s. Paratypes: 1 s., 1 w. [BRAZIL], Ba[h]ia, Feira de Santana, Tanquinho, 08.xii.1953, C.R. Gonçalves [col.]. Paratype: One worker missing L2 and L3, disarticulated postpetiole and gaster.
- Cephalotes persimplex* De Andrade, in De Andrade & Baroni Urbani, 1999: 449. Paratypes: 1 g., 1 s., 1 w. BOLIV[IA], Reyes, Mulford Biol[ogical] Exp[edition], [x.]19211922, W.M. Mann col. One gyne missing L3 (tibia); one soldier missing L3 (tarsus); one worker missing L3 (tibia).
- Cephalotes pileini* De Andrade, in De Andrade & Baroni Urbani, 1999: 385. Paratypes: 1 s., 1 w. [ARGENTINA], Córdoba, La Carlota, Silvestri [col.], 4359.
- Cryptocerus (Cyathocephalus) rohweri* Wheeler, W.M. 1916: 32. Paratypes: 1 s., 1 w. [UNITED STATES OF AMERICA], Ariz[ona], [Santa Catalina Mountains], Buchman Can[yon], *Cercidium torreyanum*, M[er.] Chrisman col., Hopk U.S. 10193. Combination in *Cryptocerus (Cryptocerus)*: Smith, M.R. 1947: 34; in *Paracryptocerus (Harnedia)*: Smith, M.R. 1951: 825; in *Zacryptocerus*: Smith, D.R. 1979: 1403; in *Cephalotes*: De Andrade & Baroni Urbani, 1999: 568.
- Paracryptocerus (Paracryptocerus) simillimus* Kempf, 1951: 184. Paratypes: 3 s., 5 w. B[RITISH] G[UIANA], Kartabo, Jul.Aug.[vii.viii].1920. W.M. Wheeler Collection. One soldier missing L2 (tarsus); other missing L1 (tarsal claw); one worker missing L3 (tibia); other missing L2 and L3 (tibia), postpetiole and gaster; other disarticulated head, mesosoma and gaster, missing L3, L4, L5 and L6; other missing L2 and L5 (tibia). Combination in *Zacryptocerus*: Brandão, 1991: 388; in *Cephalotes*: De Andrade & Baroni Urbani, 1999: 208.
- Paracryptocerus (Harnedia) sobrius* Kempf, 1958: 119. Holotype: 1 s. Paratypes: 5 g. GUATEMALA, [intercepted by U.S. Plant Quarantine Inspectors at Hoboken New Jersey on imported *Epidendrum aromaticum*], *Epidendrum aromaticum* pseudobulbs. 14.v.[19]46, Hoboken-6238, 468236. Holotype: missing L1 (tibia) and L2 (tarsus). Paratypes: One gyne missing wings, part of gaster and L2 (tarsus); other missing



wings, L2 (tarsus), L3 (tibia); other missing part of the head; other missing part of W1, W2, W3. Combination in *Zacryptocerus*: Hespeneide, 1986: 395; in *Cephalotes*: De Andrade & Baroni Urbani, 1999: 602.

*Zacryptocerus solidus* Kempf, 1974: 73. Holotype: 1 w. [BRASIL], Am[azonas], Manaus, Col[ônia] S[an]to Antônio, 11.vi.1971, [Coll.] INPA #16, [WWK n°] 6666. Combination in *Cephalotes*: De Andrade & Baroni Urbani, 1999: 183.

*Cephalotes toltecus* De Andrade, in De Andrade & Baroni Urbani, 1999: 579. Holotype: 1 s. Paratypes: 3 s., 6 w. MEX[ICO], Jalisco, 19 mi NW Magdalena, 3000' nesting in vine, 01.viii.1971, R.J. Hamton col.

*Zacryptocerus ustus* Kempf, 1973: 450. Holotype: 1 w. Paratype: 1 w. [BRAZIL], M[inas] G[erais], Pedra Azul, 800 m, xi.1972, [C.A.C.] Seabra [and] M. Alvarenga [leg.], [Coll. W.W. Kempf], [n°] 8816. Combination in *Cephalotes*: De Andrade & Baroni Urbani, 1999: 283.

*Hypocryptocerus haemorrhoidalis* subsp. *vinosus* Wheeler, W.M. 1936: 202. Syntypes: 3 w. HAITI, M[oun]t Rochelois, [nesting in a beech, very pugnacious], W.J. Eyerdam, Gift of W.M. Wheeler, 21088. One worker missing L4 and L6 (tarsus). Combination in *Zacryptocerus*: Brandão, 1991: 384; in *Cephalotes*: De Andrade & Baroni Urbani, 1999: 98. Raised to species: De Andrade & Baroni Urbani, 1999: 98.

*Cryptocerus wheeleri* Forel, 1901: 126. Lectotype [syntype]: 1 s. Paratype [syntype]: 1 w. MEX[ICO], Mor[elos], Cuernavaca, in *Tillandsia* sp., xii.1900, W.M. Wheeler. Paratype: one worker disarticulated head, missing L5 (tarsus) and L6. Combination in *Paracryptocerus* (*Harnedia*): Kempf, 1958: 132; in *Zacryptocerus*: Hespeneide, 1986: 395; in *Cephalotes*: De Andrade & Baroni Urbani, 1999: 574. *Comment*: In the original publication Forel (1906) failed to designate a type among the described specimens, but they were mistakenly labeled as Lectotype (1 s.) and paratypes (1 w.); De Andrade & Baroni Urbani (1999) considered these specimens as lectotype and paralectotype, but did not comment on the decision. Following Article 74 and the recommendations, 74.7.2, 74.7.3 and 74C of the ICNZ, we do not consider these specimens as lectotype and paralectotype, but as syntypes. *Comment*: *Cryptocerus pilosus* r. *fiebrigi* Forel, 1906: 235 labeled as cotypes (2 g., 2 m., 2 w. ARGENTINA, Alta Garcia, La Granja, Sierras de Cordoba, 03.ii.1925, C. Bruch leg.).

*Comment*: This locality is not listed in the original publication; we do not consider these specimens as types.

### Genus *Procryptocerus* Emery

*Procryptocerus sulcatus* subsp. *curvistriatus* Kempf, 1949: 425. Holotype: 1 w. BRASIL, Espírito Santo, Santa Teresa, [1928], O. Conde leg., [Coll. Borgmeier]. Raised to species: Kempf, 1964: 243. Name valid: *Procryptocerus curvistriatus*.

*Procryptocerus gibbosus* Kempf, 1949: 423. Holotype: 1 w. Paratype: 1 w. BRASIL, Espírito Santo, Santa Teresa, [08.xii.1928], O. Conde leg., Coll. Borgmeier, nr. 4293.

*Procryptocerus kemphi* Longino & Snelling, 2002: 18. Paratype: 1 w. PANAMÁ: Panamá Pr[ovince], Cerro Campana, 850 m, 08°40'N, 79°56'W, 26.vi.1977, H.A. Hespeneide [col.], [barcode] LACM ENT 141597. Missing L2 (tibia).

*Procryptocerus lenkoi* Kempf, 1969: 283. Holotype: 1 w. Paratypes: 8 g., 3 w. BRAZIL, S[ão] P[aulo], Barueri, 17.ii.1962, K. Lenko col., [DZSP] 4439 [WWK]. Paratype: 1 g. BRASÍLIEN [BRAZIL, Santa Catarina], Nova Teutônia, 27°11'B, 52°23'L, [no date], Fritz Plaumann [col.], 193. Missing L2 and wings.

*Procryptocerus marginatus* Borgmeier, 1948: 201. Paratypes: 11 g., 2 m., 9 w. [BRAZIL], Bahia, Uruçuca, 1947, P. Silva [col.], #566. One gyne missing wings and L3; other missing W1. *Comment*: one worker bears a label saying lectotype, but according the original publication, all these specimens are paratypes.

*Procryptocerus montanus* Kempf, 1957: 400. Holotype: 1 w. Paratypes: 3 g., 1 m., 132 w. [BRAZIL], S[ão] P[aulo], Campos do Jordão, [bairro Jardim Britânia, Abernêssia, Parque do Convento Franciscano], x.1949, 12.x.1956, 16.x.1956, 14.xi.1956, Kempf n. 1610, 1614, 1645. Paratypes: One gyne missing wings; one worker disarticulated gaster, missing L6; other missing L3; other missing L2 (femur), other missing L6 (tibia); other missing L1 (tarsus); other missing L6 (tarsus). Paratype: 1 w. [Brazil], S[ão] Paulo, [x].1950 [in original publication says 1949], I. Krebsbach [leg.].

*Procryptocerus nolini* Longino & Snelling, 2002: 22. Paratype: 1 w. COSTA RICA, [Province] Heredia, Est[ación] Biol[ógica] La Selva, 50150 m, 10°26'N, 84°01'W [in original publication

says 84°00'W], apr[il] [iv].1993, INBioOET, J. Longino #34755, [barcode] INBIO CRI001238545.

*Procryptocerus seabrai* Kempf, 1964: 248. Holotype: 1 w. [BRAZIL], S[ão] P[aulo], Boracéia, [Biological Station near Salesópolis], 05.ii.1960, F. Lane [col.], 3477. Paratype: 3 w. [Brazil, Rio de Janeiro], G[uana]b[ara], Floresta Tijuca, 29.xi.1959, C.A.C. Seabra [leg.].

*Procryptocerus tortuguero* Longino & Snelling, 2002: 28. Paratype: 2 w. C[OSTA] R[ICA], Province Limon, Tortuguero, <5m, 10°32'N, 83°31'W, wet forest, in dead branch, 0105. jul[y].1985, J. Longino, #382, [barcode] LACM ENT 141744.

*Procryptocerus victoris* Kempf, 1960: 437. Holotype: 1 w. Paratypes: 13 w. [BRAZIL], S[ão] P[aulo], Santos highway], Alto da Serra, 15.viii.1958, Kempf & Santos [cols], 2599. Paratype: One worker missing head and L4; other missing L3.

*Procryptocerus virgatus* Kempf, 1964: 250. Holotype: 1 w. REPUBLIC OF ECUADOR, R. Pastozo, 1700 m, 08.iv.1958, Dr. W. Weyrauch col. *Comments*: We found three pins labeled as paratypes, cotypes and lectotypes (*Procryptocerus subpilosus* st. *lepidus* Forel, 1908: 355. Paratypes: 3 w. [BRAZIL, Santa Catarina], Nr. 2096. Cotype: 1 w. [BRAZIL, Santa Catarina], 2096, det. Kempf. Lectotypes: 2 w. [BRAZIL, Santa Catarina], 2690, Forel det. Raised to species (*Procryptocerus lepidus*) Kempf, 1964). But the locality recorded on the labels is different from that of the original publication. We do not consider these specimens as types.

## RESUMO

O acervo de Formicidae do Laboratório de Hymenoptera do Museu de Zoologia da Universidade de São Paulo (MZSP) abriga uma das coleções mais representativas de formigas Neotropicais, devido à ampla distribuição geográfica dos espécimes nela depositados e também pela grande quantidade de tipos e táxons que abriga. No presente catálogo, seguindo as recomendações gerais do Código Internacional de Nomenclatura Zoológica, apresentamos uma lista dos tipos da tribo Cephalotini depositados na coleção do MZSP, reproduzindo também informações contidas nos rótulos e nas publicações originais, o estado de conservação dos espécimes, o status taxonômico bem como sua atual classificação, quando diferente da original, além de um índice para os táxons catalogados. No total o catálogo lista 43 espécies nominais, das quais 23

são ainda válidas dos dois gêneros reconhecidos, *Cephalotes* e *Procryptocerus* (representadas por quatro holótipos, 17 holótipos com parátipos, 15 parátipos, cinco sintipos, um lectótipo e um neótipo).

PALAVRAS-CHAVE: Catálogo; Hymenoptera; Tipos de formigas; Cephalotini; MZSP.

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## APPENDIX

**Index I:** Currently valid names of the listed taxa, followed by their original names (if applicable)

- Cephalotes auricomus* – *Hypocryptocerus haemorroidalis* subsp. *auricomus*  
*Cephalotes betoi*  
*Cephalotes bivestitus* – *Cryptocerus bivestitus*  
*Cephalotes coffeae* – *Paracryptocerus (Harnedia) coffeae*  
*Cephalotes decolor*  
*Cephalotes decoloratus* – *Cryptocerus varians* subsp. *marginata*  
*Cephalotes dentidorsum*  
*Cephalotes fossithorax* – *Cryptocerus fossithorax*  
*Cephalotes jheringi* – *Cryptocerus peltatus* st. *ellenriederi* var. *gaudens*  
*Cephalotes liepini*  
*Cephalotes liogaster* – *Cryptocerus liogaster*  
*Cephalotes manni* – *Paracryptocerus (Paracryptocerus) manni*  
*Cephalotes marginatus* – *Cephalotes decemspinus*  
*Cephalotes nilpiei*  
*Cephalotes notatus* – *Paracryptocerus (Harnedia) fleddermanni*  
*Cephalotes pallidoides*  
*Cephalotes pallidus*  
*Cephalotes palustris*  
*Cephalotes patei* – *Paracryptocerus (Harnedia) patei*  
*Cephalotes pavonii*  
*Cephalotes persimilis*  
*Cephalotes persimplex*  
*Cephalotes pileini*  
*Cephalotes rohweri* – *Cryptocerus (Cyathocephalus) rohweri*  
*Cephalotes simillimus* – *Paracryptocerus (Paracryptocerus) simillimus*  
*Cephalotes sobrius* – *Paracryptocerus (Harnedia) sobrius*  
*Cephalotes solidus* – *Zacryptocerus solidus*  
*Cephalotes toltecus*  
*Cephalotes ustus* – *Zacryptocerus ustus*  
*Cephalotes vinosus* – *Hypocryptocerus haemorrhoidalis* subsp. *vinosus*  
*Cephalotes wheeleri* – *Cryptocerus wheeleri*  
*Procryptocerus sulcatus* subsp. *curvistriatus* – *Procryptocerus sulcatus* subsp. *curvistriatus*  
*Procryptocerus gibbosus*  
*Procryptocerus kempfi*  
*Procryptocerus lenkoi*  
*Procryptocerus marginatus*  
*Procryptocerus montanus*  
*Procryptocerus nolini*  
*Procryptocerus seabraei*  
*Procryptocerus tortuguero*  
*Procryptocerus victoris*  
*Procryptocerus virgatus*



**Index II:** List of cited synonyms or new combinations, followed by the respective valid names

*Hypocryptocerus haemorrhoidalis* subsp. *auricomus* – *Cephalotes auricomus*  
*Cryptocerus bivestitus* – *Cephalotes bivestitus*  
*Paracryptocerus (Paracryptocerus) borgmeieri* – *Cephalotes borgmeieri*  
*Paracryptocerus (Harnedia) coffeae* – *Cephalotes coffeae*  
*Cephalotes decemspinus* – *Cephalotes marginatus*  
*Paracryptocerus (Harnedia) fleddermanni* – *Cephalotes notatus*  
*Cryptocerus peltatus* st. *ellenriederi* var. *gaudens* – *Cephalotes jheringi*  
*Cryptocerus liogaster* – *Cephalotes liogaster*  
*Paracryptocerus (Paracryptocerus) manni* – *Cephalotes manni*  
*Cryptocerus varians* subsp. *marginata* – *Cephalotes decoloratus*  
*Paracryptocerus (Harnedia) patei* – *Cephalotes patei*  
*Cryptocerus (Cyathocephalus) rohweri* – *Cephalotes rohweri*  
*Paracryptocerus (Paracryptocerus) simillimus* – *Cephalotes simillimus*  
*Paracryptocerus (Harnedia) sobrius* – *Cephalotes sobrius*  
*Zacryptocerus solidus* – *Cephalotes solidus*  
*Zacryptocerus ustus* – *Cephalotes ustus*  
*Hypocryptocerus haemorrhoidalis* subsp. *vinosus* – *Cephalotes vinosus*  
*Cryptocerus wheeleri* – *Cephalotes wheeleri*  
*Procryptocerus sulcatus* subsp. *curvistriatus* – *Procryptocerus sulcatus* subsp. *curvistriatus*