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CATALOGUE OF THE DOLICHODERINAE, FORMICINAE AND MARTIALINAE (HYMENOPTERA: FORMICIDAE) TYPES DEPOSITED AT THE MUSEU DE ZOOLOGIA DA UNIVERSIDADE DE SÃO PAULO, BRAZIL

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ABSTRACT

This catalogue lists types of three ant subfamilies (Dolichoderinae, Formicinae and Martialinae) housed in the Formicidae Collection of the Hymenoptera Laboratory, Museu de Zoologia da Universidade de São Paulo (MZSP), Brazil. It provides label information, morphological condition of specimens, nomenclatural changes, and type status, following recommendations of the International Code of Zoological Nomenclature (ICZN). Here we present information on types of 101 nominal species, of which 96 are still valid. Eight species are only represented by holotypes, 27 species only by paratypes, seven by holotypes and paratypes, 56 species by syntypes, two species by paralectotypes and one species by a lectotype and paralectotypes. With this issue we complete the publication of information regarding all MZSP ant types, summing 4,741 specimens of 892 nomenclaturally valid species.

KEY-WORDS: Types; Collection; MZSP; Ants.

INTRODUCTION

Natural history museum collections have been recognized as rich sources of data that can contribute to a wide range of studies (Burgman *et al.*, 1995; Wheeler *et al.*, 2004; Johnson *et al.*, 2011) due to its role as repositories of inventories (Lister & Climate Change Research Group, 2011) and cradle of the

description, nomenclature and classification of biodiversity on Earth. The Ant Collection of the Museu de Zoologia da Universidade de São Paulo (MZSP) is one of the leading collections of Neotropical ants in number of types, species and specimens, as well as geographic coverage (Brandão, 2000). The earliest records in the collection correspond to material collected by Hermann von Lüderwaldt and Hermann von

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Ihering at the beginning of the XX century (Klingenberg & Brandão, 2005). In 1977, the acquisition of the Walter Wolfgang Kempf and Thomaz Borgmeier collections has considerably increased the collection size (Brandão, 1991). Since then, collection curators, students and several collaborators and associates have added important material to it (Esteves *et al.*, 2011), either from inventories or as a result of taxonomic studies.

The present catalogue is the eighth in a series of papers that attempted to disclose all type specimens deposited at the MZSP ant collection. For the past eleven years, several students, technicians and scientists have contributed to the publication of seven catalogues, which include the fungus-growing ants (Myrmicinae: former Attini) (Klingenberg & Brandão, 2005); poneromorphs (Amblyoponinae, Ectatomminae, Heteroponerinae, Ponerinae and Proceratiinae) (Scott-Santos *et al.*, 2008); Pseudomyrmecinae (Brandão *et al.*, 2010); dorylomorphs (Aenictinae, Ecitoninae, Cerapachyinae and Leptanilloidinae) (Esteves *et al.*, 2011); Dacetini and Solenopsidini (Ulysséa & Brandão, 2013); Cephalotini (Prado & Brandão, 2013); and of 12 traditional Myrmicinae tribes (Adelomyrmecini, Basicerotini, Blepharidattini, Crematogastrini, Formicoxenini, Lenomyrmecini, Myrmicini, Phalacromyrmecini, Pheidolini, Stegomyrmecini, Stenammini and Tetramoriini) (Ulysséa *et al.*, 2015). Altogether, we gathered information on 892 name-bearing types and 4,741 specimens (Table 1). This represents one of the best assemblages of ant types worldwide, and arguably the richest ant collection in South America. In general, preservation conditions of type specimens and specimens are excellent.

Our catalogue series aim to foster future studies on the Neotropical ant fauna and to provide evidence of the remarkable ant collection housed at the MZSP. It also complies with what is recommended by the International Code of Zoological Nomenclature, in

regards to institutional responsibility of type depositories (recommendation 72F, ICZN, 1999): “Every institution in which name-bearing types are deposited should (...) make them accessible for study, and publish lists of name-bearing types in its possession or custody”.

Here, we provide label information and conservation status of Dolichoderinae, Formicinae and Martialinae type specimens deposited at the MZSP. We also present an index of all the valid names listed in the present catalogue and their respective original combination and synonyms. The complete information regarding all names listed here can be found in Bolton (2016).

Finally, the present publication shall be followed by updates, the first listing names and making available images of the ant types issued in this catalogue series, and every time the collections amasses a significant number of ant type specimens. Also, we will update the classification adopted along the series, in special regarding the Myrmicinae tribal arrangement, which changed significantly lately, but may change further soon.

MATERIAL AND METHODS

Type specimen information is recorded as follows: original name combination, author, publication year, page number, type category, number of specimens of each sex or caste, place of collection, date, collector, original depository, collection number or collection code, conservation status (*i.e.*, presence of broken or missing body parts), and taxonomic history.

Original name combinations are listed in alphabetical order by species name within the genus, tribe and subfamily they are currently classified. The terminology used for name-bearing types follows the International Code of Zoological Nomenclature (ICZN, 1999).

TABLE 1: Summary of the numbers presented at the MZSP ant types catalogues. Abbreviations meaning: N = number of individuals, SPP = species, H = holotype only, H + P = holotype and paratype, P = paratype only, S = syntype, L = lectotype, L + PL = lectotype and paralectotype, PL = paralectotype, NE = neotype.

Ant types	N	SPP	H	H + P	P	S	L	L + PL	PL	NE
I. Attini	588	105	4	12	13	74	0	2	0	0
II. poneromorphs	410	112	24	19	32	35	2	0	0	0
III. Pseudomyrmecinae	128	37	3	2	21	10	1	0	0	0
IV. dorylomorphs	584	141	13	17	43	67	0	0	1	0
V. Cephalotini	544	43	4	17	15	5	1	0	0	1
VI. Dacetini and Solenopsidini	926	141	23	37	42	31	1	4	3	0
VII. Other Myrmicinae	1038	212	12	28	102	65	0	5	0	0
VIII. Formicinae, Dolichoderinae and Martialinae	523	101	7	9	27	56	0	1	2	0
Σ	4741	892	90	141	295	343	5	12	6	1

For each type specimen, label information was completely transcribed, and also contrasted with data published in the original description – easily found on AntWiki and AntCat websites (www.antwiki.org and www.antcat.org, respectively) – and with records listed in Thomaz Borgmeier, Walter Wolfgang Kempf, and MZSP collection catalogues. All supplemental information retrieved from these additional sources is presented within brackets; for the sake of clarity, further information gathered from other sources were also added.

The following abbreviations were used: Coll. = collection; Coll. Borgm. = Tomáz Borgmeier Collection; Coll. Bruch = Carlos Bruch Collection; Coll. Kempf = Walter Wolfgang Kempf Collection; MP = Museu Paulista, whose Zoological section became the present MZSP in 1939; W = worker; G = gyne (Feitosa & Brandão, 2008); M = male; col(s). = collector(s); leg. = legit.

Further, abbreviations were adopted to indicate the conservation status of a specimen as follows: A = antenna, A1 = left antenna, A2 = right antenna; W = wing, W1 = anterior left wing, W2 = posterior left wing, W3 = anterior right wing, W4 = posterior right wing; L = leg, L1, L2 and L3 represent respectively the left legs and L4, L5 and L6 the right legs.

RESULTS AND DISCUSSION

This catalogue presents information on 523 specimens (485 workers, 26 gynes, and 12 males), which are name-bearing types of 101 species (96 valid, one *nomen nudum*, and four unavailable names). Eight names are typified only by holotypes, 27 only by paratypes, seven by holotypes and paratypes, 56 by syntypes, two by paralectotypes, and one species by a lectotype and paralectotypes. In total, 17 genera and three subfamilies are represented by these types in the MZSP Ant Collection: Dolichoderinae – *Anillidris*, *Azteca*, *Dolichoderus*, *Dorymyrmex*, *Forelius*, *Gracilidris*, *Leptomymex*, *Linepithema*, *Tapinoma* and *Technomyrmex*; Formicinae – *Acropyga*, *Brachymyrmex*, *Camponotus*, *Lasius*, *Myrmelachista* and *Nylanderia*; and Martialinae – *Martialis* (Appendix 1).

Subfamily Dolichoderinae

Tribe Dolichoderini

Genus *Dolichoderus* Lund, 1831:130

Monacis andina Kempf, 1962:36. Holotype: 1W, Paratypes: 6W, PERU, C[entral] Pichita Calu-

ga, 2,150 m, 18.ix.1960, W. Weyrauch [leg.], #1145. Combination in *Dolichoderus* by Shattuck, 1992:77.

Dolichoderus bidens var. *bahiana* Santschi, 1921b:101. Cotypes[Syntypes]: 3W, BRAZIL, Ba[hia], Ilhéus, iv.1919, E. Garbe col., #2182. One worker with disarticulated L3. Combination in *Hypoclinea* by Kempf, 1972:119; in *Dolichoderus* by Shattuck, 1992:77. Junior synonym of *Dolichoderus bidens* (Linnaeus, 1758) by Mackay, 1993:40.

Hypoclinea curviloba Lattke, 1987:259. Paratype: 1W, COLOMBIA, Chocó, Rio between S[an] Juan and Rio Baudó, 20.ii.1976, R.R. Wilkerson leg. Worker with disarticulated L3 and gaster. Combination in *Dolichoderus* by Shattuck, 1992:77.

Dolichoderus debilis var. *rufescens* Mann, 1912:40. Cotypes[Syntypes]: 2W 1G, BRAZIL, [Pará], Amazonas, Madeira-Mamoré, Mann & Baker [legs.], RR. Co. Camp. 41. One worker missing gaster. Combination in *Monacis* by Kempf, 1959:252; in *Dolichoderus* by Shattuck, 1992:77. Raised to species by Kempf, 1959:252.

Hypoclinea epetρεία Lattke, 1987:262. Paratypes: 4W, VENEZUELA, T[erritório] F[ederal] Amazonas dept., Río Negro, Río Baria, 140 m, 00°55'N/66°10'W, 03.viii.1984, L.J. Joly & T.J. Demarmela [leg.]. Combination in *Dolichoderus* by Shattuck, 1992:77.

Dolichoderus germaini subsp. *garbei* Forel, 1911:305. Syntypes: 11W, BRAZIL, Ba[hia], Joazeiro[Juazeiro], xi.1907, E. Garbe [leg.], MP 14206. One worker only with gaster; two workers missing A2. Combination in *Hypoclinea* by Kempf, 1972:119; in *Dolichoderus* by Shattuck, 1992:77. Junior synonym of *Dolichoderus diversus* Emery, 1894 by Mackay, 1993:50.

Dolichoderus gibbosus var. *integra* Forel, 1911:306. Syntypes: 6W, [BRAZIL], Goiaz[Goiás], although the original publication says São Paulo state], Crixas, 1908, Dietz [leg.], MP 10869. 1W, [same location and date], Luderwaldt [leg.]. Worker with disarticulated head, mesosoma, gaster and legs, and missing A2. Combination in *Hypoclinea* by Kempf, 1972:120; in *Dolichoderus* by Shattuck, 1992:77. Subspecies of *D. quadridenticulatus* (Roger, 1862) by Shattuck, 1992:77. Junior synonym of *D. quadridenticulatus* by Mackay, 1993:86.

Monacis inpai Harada, 1987:600. Paratype: 1W, BRAZIL, Am[azonas], Manaus, Z.F.3, km 24, Faz[enda] Esteio, Florestal, 18.iii.1983, A.Y.

Harada col. Combination in *Dolichoderus* by Shattuck, 1992:77.

Dolichoderus lauræ Mackay, 1993:67. Paratypes: 2W, COLOMBIA, Risivalda, mistrato, 980 m, 30.viii.[19]91, F. Fernandes [leg.], #16141.

Monacis lobicornis Kempf, 1959:267. Holotype: 1W, Paratypes: 76W, [BRAZIL], S[anta] C[atarina], Blumenau, 12.x.1921, M. Witte [leg.], Coll. Borgm. Nr. 180, One worker only with gaster. Paratypes: 7W, [BRAZIL], Goiás, Anápolis, W. Kempf [leg.], 12.ii.1958, [Coll. Kempf Nr.] 2261. Combination in *Dolichoderus* by Shattuck, 1992:77.

Monacis omacantha Kempf, 1972:251. Holotype: 1W, Paratypes: 10W, [BRAZIL], Am[azonas], Manaus, Res[erva] Ducke, 04.vi.1969, INPA #15, #21, #6648, #6688. Paratypes: 7W, [same location], 20.v.1971, #4, #9, 6559, 6579. Combination in *Dolichoderus* by Shattuck, 1992:77.

Dolichoderus piceus Mackay, 1993:81. Paratype: 1W, COLOMBIA, Valle [de Cauca], Represa Calima, 21.iii.1967, R. Root & W. Brown [legs.].

Monacis setosa Kempf, 1959:267. Holotype: 1W, [BRAZIL], Pará, Cachoeira do Breu, J. Sampaio [leg.], x.[19]28. Combination in *Dolichoderus* by Shattuck, 1992:77.

Dolichoderus tristis Mann, 1916:463. Syntype: 1W, BRAZIL, [Pará], Abuná, Rio Madeira, Mann and Baker [legs.]. Syntype: 1W, [same location], Madeira-Mamoré, R.R. Co. Camp 30 m, MCZ 46-9103. Worker missing L2 and L3. Combination in *Monacis* by Kempf, 1959:256; in *Dolichoderus* by Shattuck, 1992:77.

Monacis validus Kempf, 1959:244. Holotype: 1W, Paratypes: 3W 1G, COSTA RICA, Zent, Limón, 20.i.1957, F. Lara E. [leg.], en cacao. Paratypes: 10W, [PANAMA], Río Chinillo, 06.iv.1913[original publication says 1923], W.M. Wheeler [leg.]. Paratype: 1G, [PANAMA], Canal Zone 3, 06.iv.1923, #304, W.M. Wheeler [leg.]. Combination in *Dolichoderus* by Shattuck, 1992:77.

Dolichoderus voraginosus Mackay, 1993:106. Holotype: 1W, [BRAZIL], S[ão] P[aulo], Agudos, C. Gilberti [leg.], v.1959. Comment: We found at the MZSP ant collection specimens of *Dolichoderus septemspinus* var. *pallidipes* [3W, British Guiana, Brartica distr. Kalecoon], and of *Formica bispinosa* var. *lucidior* [2W 2G, Panama, Los Sabana, 17.xi.1911, Wm. M. Wheeler leg.] labeled as “cotypes”, although these names have never been formally published. These specimens can not thus be treated as types.

Tribe Leptomyrmecini

Genus *Anillidris* Santschi, 1936a:414

Anillidris bruchi Santschi, 1936a:414. Typus[Syntypes]: 3W, ARG[ENTINA], Misiones Est., Exp. Loreto, 09.ix.[1]933[original publication says 1934], Dr. A.A. Oglobin [leg.]. Combination in *Linepithema* by Kempf, 1972:135; in *Anillidris* by Shattuck, 1994:3. Comment: The MZSP ant collection has one gyne and one male labeled as “cotypes”; as these specimens were not mentioned at the original publication we do not consider them as types.

Genus *Azteca* Forel, 1878:384

Azteca aesopus Forel, 1908:392. Cotypes[Syntypes]: 4W, [Coll. Borgm.] Nr. 2155. Comment: According to Borgmeier’s catalogue the label information is “BRAZIL, Espírito Santo, Porto Cachoeira, E. Garbe col., 01.xii.1905”, but the original publication says “São Paulo, v. Ihering col.”.

Azteca alfari var. *mixta* Forel, 1908:386. Cotypes[Paralectotypes]: 4W, [Coll. Borgm.] Nr. 2153. One worker missing L3 tarsi. Junior synonym of *Azteca alfari* Emery, 1893 by Longino, 1989:5. Comment: According to Borgmeier’s catalogue the label information is “BRAZIL, Rio de Janeiro, Rio Sapopemba, 31.i.1906, Wacket leg.”, but the original publication says “San Bernardino, Paraguay or São Paulo, Brazil”. Longino (1989) designated the paralectotypes without studying or mentioning the specimens deposited at the MZSP ant collection.

Azteca andreae Guerrero, Delabie & Dejean, 2010:54. Paratype: 1G, FRENCH GUIANA, [Sinnamary], Paracou [Research Station, 05°22’39”N/52°57’35”W], 24.vii.2008, Dejean, A. et al. col., hand collecting. Dealated gyne missing A1. Comment: At the MZSP ant collection there is one worker labelled as paratype, that can not be considered as type as the original publication did not mention this specimen.

Azteca diabolica Guerrero, Delabie & Dejean, 2010:56. Paratype: 1G, PANAMA: San Lorenzo forest, 09°16’47.58”N/79°58’29.94”W, Ibisca [project], 17.x.2003, J. Schmidl [leg.], fog[ging] J-2.

Azteca goeldii Forel, 1906:245. Cotype[Syntype]: 1W, [BRAZIL, Acre, Aldeia Indígena] Porto

Alegre, [Rio] Purus, Huber [leg., Coll. Borgm.] Nr. 3901.

Azteca goeldii st. *croceiscapa* Forel, 1915:361. Cotypes[Syntypes]: 4W, [BRAZIL, São Paulo, Franca, Garbe col., ii.2011, Coll. Borgm.] Nr. 2164. One worker missing A1 and A2 funiculus. *Nomen nudum* attributed to Emery (Bolton, 1995).

Azteca iheringi Forel, 1915:359. Cotypes[Syntypes]: 4W, [BRAZIL, Minas Gerais, Pirapora, vi.1912, E. Garbe col., Coll. Borgm.] Nr. 2163. One worker missing A2, L1, L2 and L3; one worker missing A2.

Azteca merida Longino, 1991:1589. Paratype: 1G, V[ENE]Z[UELA], E[sta]do Trujillo, 14 km ESE Bocon, 09°12'N/70°09'W, 1,500-1,850 m, 25.viii.1987, ex *Cecropia palmatisecta*, Longino nº 1860-s. Dealated gyne.

Azteca paraensis var. *bondari* Borgmeier, 1937:250. Cotypes[Syntypes]: 6W 1G, [BRAZIL, Bahia, G. Bondar leg., ii.1930, Coll. Borgm.] Nr. 5265. Cotypes[Syntypes]: 3W, [BRAZIL, Bahia, Água Preta, 1933, Borgmeier leg., Coll. Bondar] Nr. 1842. Dealated gyne; one worker missing L1 tarsi. Comment: Borgmeier (1937) treated part of the specimens as types and part as paratypes, and did not designate one specimen as holotype. We consider them all as syntypes.

Azteca snellingi Guerrero, Delabie & Dejean, 2010:61. Paratype: 1W, PANAMÁ, Panama City, Parque Metropolitano, 26.ii.2008, N.B. Espirito Santo & S.P. Ribeiro [legs.].

Azteca ulei var. *gibbifera* Forel, 1908:392. Cotypes[Syntypes]: 4W, [BRAZIL, São Paulo, Ilha Vitória, F. Gunther leg., iv.1906, Coll. Borgm.] Nr. 2150, [MP 2492]. Junior synonym of *Azteca muelleri* Emery, 1893 by Longino, 1991:1591.

Genus *Dorymyrmex* Mayr, 1866:494

Dorymyrmex goeldii subsp. *fumigatus* Forel, 1908:385. Syntypes: 6W, [BRAZIL, São Paulo], Ypiranga[Ipiranga, date illegible], Lima col. One worker missing L1 and L4; one worker missing gaster.

Dorymyrmex jheringi Forel, 1912:39. Syntypes: 4W, [BRAZIL, São Paulo, Franca, E Garbe leg.], MP 15.822. One worker missing L3 and L4. Combination in *Dorymyrmex (Conomyrma)* by Forel, 1913:243; in *D. (Ammomyrma)* by Kusnezov, 1952:429; in *Conomyrma* by Kempf, 1972:79; in *Dorymyrmex* by Shattuck, 1992:85.

Genus *Forelius* Emery, 1888:389

Forelius andinus Kusnezov, 1957:15. Paratypes: 7W 2G, ARGENTINA, Prov[ince] Salta, S[an] Antonio de los Cobres, 3,800 m, N.K.[Nicolas Kusnezov leg.]. One worker missing part of A1 funiculus.

Forelius bahianus Cuzzo, 2000:227. Holotype: 1W, Paratypes: 4W 1G, BRAZIL, Bahia, [Ilhéus], Olivença, [x.]1997. Gyne only with mesosoma; two workers missing gaster.

Forelius damiani Guerrero & Fernández, 2008:53. Paratype: 1W, COLOMBIA: Magdalena, Santa Marta, Sector Puerto Mosquito Sierra Nevada de Santa Marta, 11°10'23.6"N/74°10'45"W, 90 m, Pitfall, 24-26.ii.2007, D. Ramírez leg., bosque muy seco Tropical (bms-T). Worker missing A1.

Forelius maranhaoensis Cuzzo, 2000:255. Holotype: 1W, BRAZIL, Maranhão, S[ão] Luís [do] Maranhão, 1982, Wanda M. Villioti col. Worker missing L2 and A1 funiculus. Paratype: 1W, BRAZIL, Bahia, S[an]ta Rita de Cássia, Riacho Veredão 13, 18.viii.1991, Brandão, C.R.F. col. Paratypes: 2W, BRAZIL, Bahia, Estrada Planaltino, M. Souza, 30.xi.1990, 16 hs, Brandão & Diniz [legs.]. Two workers missing gaster. Paratypes: 7W, BRAZIL, Goiás, Alvorada do Norte, Faz[enda] Matos, 08-12.vii.1991, Brandão, C.R.F. col., 22, isca sardinha, dia-solo; pitfall, estação 12; 19, isca sardinha, dia-vegetação.

Genus *Gracilidris* Wild & Cuzzo, 2006:59

Gracilidris pombero Wild & Cuzzo, 2006:62. Paratype: 1W, PARAGUAY, Pte Hayes, 5 km SSE Pozo Colorado, 23°33'S/58°46'W, 140 m, 05.xii.2002. A.L. Wild [leg.], #AW 1766, Humid Chaco, grazed *Copernicia* Forest, Nest in soil.

Genus *Leptomyrmex* Mayr, 1862:652

Leptomyrmex relictus Boudinot, Probst, Brandão, Feitosa & Ward, 2016:663. Holotype: 1W, BRAZIL, Goiás, Niquelândia, Serra da Mesa, 14°20'39.5"S/48°10'21.1"W, 16.xi.2013, Cerrado s.s.[*stricto sensu*], inside nest of *Cornitermes silvestrii* Emerson, 1949. Paratypes: 1W 2M, [same data and colony as holotype], R06 [one

worker]; TC08[one worke] and DEO2013-030 [one male]. Two workers with disarticulated L5.

Genus *Linepithema* Mayr, 1866:496

Linepithema anathema Wild, 2007:27. Holotype: 1W, BRAZIL, M[inas] G[erais], 2 km S. Monte Verde, 22°54'S/46°03'W, 1,900 m, 26.viii.1996, under stone in shrubland, Ward, P.S. [leg.], PSW#13155. Worker missing gaster.

Linepithema cryptobioticum Wild, 2007:41. Paratype: 1W, PARAGUAY, Boquerón, Enciso, 21°12'S/61°40'W, M. Leponce & T. Delsinne [legs.], #7597, Dry Chaco in sifted litter.

Linepithema neotropicum Wild, 2007:91. Paratypes: 1W 1G 1M, PARAGUAY, Canindeyú, Res[erva Natural del Bosque] Mbaracayú, Jejuimi, 170 m, 24°08'S/55°32'W, 25.xi.2002. A.L. Wild [leg.], #AW1718.

Linepithema pulex Wild, 2007:105. Paratypes: 2W 1M, PARAGUAY, Canindeyú, Res[erva Natural del Bosque] Mbaracayú, Jejuimi, 170M, 24°08'S/55°32'W, 12.xi.2002, A.L. Wild [leg.], base of *Philodendron*, Humid subtropical tall forest, acc. no. AW1678, #AW1678.

Linepithema tsachila Wild, 2007:109. Paratypes: 2W 1M, ECUADOR, Pichincha, ENDESA forest res., 00°06'N/79°02'W, 700 m, 05.xii.2003, A.L. Wild [leg.], 2° growth forest nest in rotting center of live tree, #AW2212.

Iridomyrmex riograndensis Borgmeier, 1928b:64. Lectotype: 1W, Paralectotypes: 4W, BRAZIL, Rio Grande do Sul, N[eu] Würtemberg, x.1914, [E.] Garbe leg., MP 19.113. Syntypes[Paralectotypes]: 8W, [BRAZIL, Rio Grande do Sul], MP 19.118. Combination in *Linepithema* by Shattuck, 1992:16. Junior synonym of *Linepithema humile* (Mayr, 1868) by Wild, 2004:1207.

Iridomyrmex melleus succineus Forel, 1908:396. Syntypes: 4W, [BRAZIL, São Paulo, Alto da Serra, H. Luderwaldt leg., MP] 5607. Combination in *Linepithema* by Shattuck, 1992:16. Junior synonym of *Linepithema iniquum* (Mayr, 1870:392) by Wild, 2007:68.

Tribe Tapinomini

Genus *Tapinoma* Foerster, 1850:43

Tapinoma amazonae Wheeler, 1934b:185. Types[Syntypes]: 2W, BRAZIL, Pará, Baker, gift

of W.M. Wheeler, MCZ 13-19, 21372. One worker missing A1.

Genus *Technomyrmex* Mayr, 1872:147

Tapinoma fulvum Wheeler, 1934b:184. Cotypes[Syntypes]: 3W, [PANAMA], Barro Colorado, I.C.Z.; 25.vi.[19]24, n° 5-5-8, W.M. Wheeler [leg.]. Combination in *Technomyrmex* by Shattuck, 1992:161. Senior synonym of *Technomyrmex fulvum* subsp. *sublucidum* (Wheeler, 1934b):185 by Bolton, 2007:120.

Subfamily Formicinae

Tribe Camponotini

Genus *Camponotus* Mayr, 1861:35

Camponotus abdominalis subsp. *cupiens* Forel, 1908:410. Syntypes: 4W, [BRAZIL], SP[São Paulo], Camp.[Campos] do Jordão, xii-1905, H. Luederwaldt [leg.], Coll. Borgm. Nr. 2206. One worker missing A2. Junior synonym of *C. atriceps* (Smith, 1858) by Hashmi, 1973:82.

Camponotus (Myrmoturba) bonariensis st. *garbei* Santschi, 1922:102. Syntypes: 3W, [BRAZIL, Paraná, Castro, vii.15, E. Garbe leg., Coll. Borgm. Nr.] 2241. 1W 1G, [BRAZIL, Paraná, Castro, vii.15, E. Garbe leg., Coll. Borgm. Nr.] 2796. One worker missing L6 3° to 5° tarsus [2796]. Combination in *C. (Tanaemyrmex)* by Emery, 1925:79.

Camponotus (Neomyrmambly) compositor Santschi, 1922:111. Syntypes: 5W, [BRAZIL, São Paulo], Ilha Alcatrazes, SP, [H.] Luederwaldt [leg.], MP 20202. 1W, [BRAZIL], SP[São Paulo], I.[Island] Alcatrazes, x-1920, [H.] Luederwaldt [leg.], MP 20202, Coll. Borgm. Nr. 2507. One worker missing A1 last antennomer; one worker missing A1 last three antennomers; one worker missing L2 femur to tarsi [2507]. Combination in *C. (Myrmaphaenus)* by Emery, 1925:155.

Camponotus (Hypercolobopsis) coptobregma Kempf, 1968:411. Paratypes: 4W, BRASIL, Amazonas, Manaus, [km 21 of the Manaus-Itacoatiara road], viii.1962, K. Lenko – col., #2300. One worker just with head and collapsed gaster; one worker just with head, petiole and gaster; one worker missing A1 funiculus, A2 and L5 femur to tarsi; one worker missing A1 4° to 11° antennomer, A2 last 5 antennomers, L1 and L2 tarsi, and L3 2° to 5° tarsus.

- Camponotus (Myrmobrachys) crassus* st. *amazonicus* Santschi, 1922:122. Syntypes: 1W 1G, [BRAZIL], BA[Bahia], Ilhéus, iv-1919, [E.] Garbe [leg.], MP 19993, Coll. Borgm. Nr. 3230. Worker missing A1 last 5 antennomers and A2 funiculus. Misspelled *amazonensis* by Emery, 1925:163.
- Camponotus (Myrmobrachys) crassus* st. *amazonicus* var. *chrysothrix* Santschi, 1922:123. Syntypes: 1W, [BRAZIL], BA[Bahia], Juazeiro, xi-1913, [E.] Garbe [leg.], MP 18711, Coll. Borgm. Nr. 2797. 1W, [BRAZIL], BA[Bahia], Juazeiro, xi-1913, [E.] Garbe [leg.], MP 18711, Coll. Borgm. Nr. 2229. One worker missing L1 3° to 5° tarsus [2797]. Unavailable name, see Bolton, 1995:92.
- Camponotus (Myrmobrachys) crassus* var. *delabiatus* Santschi, 1925:247. Syntypes: 2W, BRAS. [BRAZIL], Para[Pará], Monte Alegre, coll. Reichensperger, Coll. Borgm. Nr. 550. One worker missing A2, femur to tarsi of all right legs; one worker missing tarsi of L3 and L6.
- Camponotus (Myrmobrachys) crassus* var. *picticornis* Santschi, 1936a:421. Syntype: 1W, ARG.[ARGENTINA], Misiones, Est. Exp. Loreto, [11. iv.1932], Dr. A.A. Oglobin [leg.], 1992, [nest in dry twig]. Junior synonym of *C. crassus* Mayr, 1862 by Wild, 2007:47.
- Camponotus dalmasi* Forel, 1899:145. Syntype: 1W, COLOMBIE[COLOMBIA], Sta[Santa] Marta, [MP] 3344, 1899, "nid de termites avec" *Crematogaster*. Specimen missing the last tarsi of L1, L2 and L3. Combination in *C. (Myrmorhachis)*: Forel, 1914:274; in *C. (Myrmocladoecus)* by Emery, 1925:166; Wheeler, 1934a:424.
- Camponotus (Myrmaphaenus) escherichi* Menozzi, 1926:71. Syntype: 1W, [BRAZIL], SP[São Paulo], Mogi das Cruzes, 1926, Escherich [leg.], Coll. Borgm. Nr. 4257. Worker missing A1. Junior primary homonym of *C. escherichi* Emery, 1925:97. Replacement name: *C. fallatus* Bolton, 1995:98.
- Camponotus (Dendromyrmex) fabricii* var. *acoma* Forel, 1908:418. Syntypes: 4W, [BRAZIL], Espírito Santo, H. v. Ihering, Coll. Borgm. Nr.] 2217. Combination in *Dendromyrmex*: Emery, 1925:173. Junior synonym of *C. nidulans* (Smith, 1860) by Fernández, 2002:65.
- Camponotus fastigatus* subsp. *vagulus* Forel, 1908:403. Syntypes: 3W, [BRAZIL], SP[São Paulo], Bauru, 09-xi-1906, [O.] Dreher, MP 5976, Coll. Borgm. Nr. 2215. 5W, [BRAZIL], São Paulo, Bauru, 09-xi-1906, O. Dreher, MP] 5976. One worker missing L5 femur to tarsi [2215]; one worker missing A1 [2215]; one worker missing head [2215]; one worker with disarticulated gaster glued on the same triangle [5976]; one worker represented just by gaster [5976]. Combination in *C. (Myrmaphaenus)* by Emery, 1925:155. Raised to species by Wild, 2007:50.
- Camponotus fastigatus* subsp. *verae* Forel, 1908:403. Syntypes: 3W, [BRAZIL], SP[São Paulo], Ilha S.[São] Sebastião, 1906, [Fr.] Günther, MP 5392, Coll. Borgm. Nr. 2209. 5W, [BRAZIL], São Paulo, Ilha São Sebastião, 1906, Fr. Günther, MP] 5392. One worker missing L3 tarsi; one worker missing L3 2° to 5° tarsus [2209]; one worker missing the last 5 antennomers of A1 and A2; one worker missing A1 and A2 last 7 antennomers. Combination in *C. (Myrmaphaenus)* by Emery, 1925:155.
- Camponotus (Neomyrmamblys) genatus* Santschi, 1922:114. Syntypes: 2W 1G 1M, [BRAZIL], São Paulo, Ypiranga[Ipiranga, H. Luederwaldt leg., MP] 18936. Combination in *C. (Myrmaphaenus)* by Emery, 1925:155. Comment: There is one pin labeled as syntype and as Coll. Borgm. Nr. 2866 which correspondent specimens are missing. According T. Borgmeier's catalogue, they should be one gyne and one male.
- Camponotus iheringi* Forel, 1908:412. Syntypes: 3W, [BRAZIL], SP[São Paulo], Bauru, 09-xi-1906, [O.] Dreher, MP 5969. 2W, [BRAZIL], SP[São Paulo], Bauru, 09-xi-1906, [O.] Dreher, MP 5969, Coll. Borgm. Nr. 2214. 1W, [BRAZIL], SP[São Paulo], Bauru, 09-xi-1906, [O.] Dreher, MP 5969, Coll. Borgm. Nr. 2850. 4W, [BRAZIL], São Paulo, São Paulo, Ipiranga, 08.x.1906, J. Lima leg., MP] 5572. One worker missing A2 last 5 antennomers [2214]. Combination in *C. (Myrmamblys)* by Forel, 1914:271; in *C. (Myrmobrachys)* by Emery, 1920:260. Misspelled as *iheringi* by Emery, 1925:165. Senior synonym of *C. (Myrmobrachys) iheringi* var. *ba-julus* Emery, 1925 by Wild, 2007:47.
- Camponotus (Neomyrmamblys) iridis* Santschi, 1922:115. Syntypes: 3W, [BRAZIL], BA[Bahia], Ilhéus, [E.] Garbe [leg.], MP 20020. One worker missing A2. Combination in *C. (Myrmaphaenus)* by Emery, 1925:155.
- Camponotus kaura* Snelling & Torres, 1998:5. Paratypes: 3W, PUERTO RICO, Caño Gorda, nr Guánica, [0-20 m], 26 Oct 1991, [R.R.] Snelling, [J.A.] Torres and [M.] Canals, Coll. RRS 91-15, in mangrove thicket, ex dead wood of

- black mangrove *Avicennia germinans*. 2W 1G, PUERTO RICO, Caño Gorda, nr Guánica, [0-20 m], 26 Oct 1991, [R.R.] Snelling, [J.A.] Torres and [M.] Canals, RRS 91-17, in mangrove thicket, ex dead wood of black mangrove *Avicennia germinans*.
- Camponotus (Myrmothrix) lenkoi* Kempf, 1960a:398. Paratypes: 2W, [BRAZIL], Amapá, Rio Amapari, km 185, 09.vii.1959, John Lane col. One worker missing L6 tarsi; one pin missing specimen.
- Camponotus (Pseudocolobopsis) luederwaldti* Santschi, 1922:118. Syntypes: 5W, [BRAZIL], SP[São Paulo], Ilha Alcatrazes, x-1920, [H.] Luederwaldt [leg.], Coll. Borgm. Nr. 2492. One worker missing A1; one worker missing L5 femur to tarsi; one worker with disarticulated gaster glued on the same triangle. Junior synonym of *C. macrocephalus* Emery, 1894 by Kempf, 1968:408; of *C. geralensis* Emery, 1920 by Shattuck & McArthur, 1995:122.
- Camponotus maritimus* Ward, 2005:10. Paratypes: 2W, USA [UNITED STATES OF AMERICA], CA[California], San Mateo Co.[County], Jasper Ridge, 37°24'N/122°14'W, 150 m, 03.iv.2004, Ward, P.S. #15202, under stone, oak woodland.
- Camponotus maculatus* subsp. *guatemalensis* var. *scheffleri* Forel, 1908:407. Syntypes: 1W, [BRAZIL], SP[São Paulo], Campos de Jordão, [08.ii.06, H. Luederwaldt leg.], MP 2407, Coll. Borgm. Nr. 2837, [nest in soil]. 2W 1G, [BRAZIL], SP[São Paulo], Campos de Jordão, [08.ii.06, H. Luederwaldt leg.], MP 2407, Coll. Borgm. Nr. 2252, [nest in soil]. One worker with collapsed head, mesosoma and gaster [2252]; one worker missing L4 femur to tarsi [2252]; gyne missing A2 last 10 antennomers [2252]; one worker missing A2 last 8 antennomers and L1 tibia to tarsi. Unavailable name by Bolton, 1995:122. Comment: 4W and 2G with MP's number [2407] but without type and locality labels. As the original publication, the MP's and T. Borgmeier's catalogues did not mention the number of specimen belonging to the type series, we do not consider these seven specimens as syntypes.
- Camponotus maculatus* subsp. *spengleri* Forel, 1908:406. Syntypes: 2W, [BRAZIL], RJ[Rio de Janeiro], Campos Itatiaia, [16.iv.1906, H.] Luederwaldt [leg.], MP 2697, [nest under stone]. 6W, [BRAZIL], Rio de Janeiro, Campos Itatiaia, 16.iv.1906, H. Luederwaldt leg., MP] 2697, [nest under stone]. 4W, [BRAZIL], RJ[Rio de Janeiro], Campos Itatiaia, 16-iv-1906, Luderw. [H. Luederwaldt leg.], MP 2697, Coll. Borgm. Nr. 2202. One worker missing A1 funiculus [2202]; one worker missing L4; one worker missing L6 trochanter to tarsi, petiole and gaster; one worker just with part of mesosoma, middle and posterior legs. Combination in *C. (Tanaemyrmex)* by Emery, 1925:82. Currently subspecies of *C. picipes* (Olivier, 1792) by Emery, 1920:233.
- Camponotus melanoticus* var. *catharinae* Santschi, 1939:323. Syntypes: 2W, [BRAZIL], SC[Santa Catarina], Ibirama[ex-Hammonia], 1915, [H.] Luederwaldt [leg.], MP 18990, Coll. Borgm. Nr. 2836, [nest under bark]. Combination in *C. (Tanaemyrmex)* by Kempf, 1972:69.
- Camponotus (Myrmoturba) melanoticus* st. *valerius* Santschi, 1922:99. Syntypes: 4W, [BRAZIL], RS[Rio Grande do Sul], N. Wuertenberg[Neu Württemberg, today Panambi], x-1914, E. Garbe [leg.], MP 19103, Coll. Borgm. Nr. 2237. 3W [BRAZIL], RS[Rio Grande do Sul], N. Wuertenberg[Neu Württemberg, today Panambi], x-1914, E. Garbe [leg.], MP 19107, Coll. Borgm. Nr. 2243. One worker missing L5 femur to tarsi [19103]; one worker missing L5 tibia to tarsi [19103]; one worker missing L3 tibia to tarsi [19103]; one worker missing L2 tibia to tarsi; one worker missing L6 2° to 5° tarsus. Combination in *C. (Tanaemyrmex)* by Emery, 1925:81.
- Camponotus (Myrmobrachys) ogloblini* Santschi, 1934:32. Syntype: 1W, ARG.[ARGENTINA], Misiones, Est. Exp. Loreto, [20.iv.33], Dr. A.A. Oglobin [leg.], 2030, [nest under bark]. Missing A1 last two antennomers. Junior synonym of *C. mus* Roger, 1863 by Kempf, 1978:37.
- Camponotus (Myrmobrachys) phytophilus* Wheeler, 1934b:207. Syntypes: 4W, [MEXICO, Morelos], Cuernavaca, 22.vi.29, Till. Circinnata.[in *Tillandsia cincinnata*], gift of M. Wheeler, MCZ 12-15, 21600. One worker missing A1 and L3 tarsi.
- Camponotus (Tanaemyrmex) polymorphicus* Mackay, López-Castro & Fernández, 2002:422. Paratypes: 2W 1G, COLOMBIA, Cundinamarca, Mpio. Chochontá, 05°01'N/73°42'W, 2,700-2,800 m, viii-2000, Camilo Lopez Castro [leg.], #19757, nest in soil and in living frailejón. One gye missing A1 and A2 funiculus, petiole and gaster; one gyne missing A1, A2 last antennomers, W2, L4 femur to tarsi, L5 2° to 5° tarsus, and L6 trochanter to tarsi.

- Camponotus punctulatus* subsp. *termitarius* Emery, 1902:297. Syntype: 1W, [BRAZIL], Rio Grande do Sul, St[São] Leopoldo, [MP] 3981, [living in termite nest, especially *Eutermes* and *Anoplotermes*, rarely in *Cornitermes*]. Combination in *C. (Myrmoturba)* by Forel, 1913:249; in *C. (Tanaemyrmex)* by Emery, 1925:79. Raised to species by Wild, 2007:48.
- Camponotus (Myrmoturba) punctulatus* r. *minutior* var. *mediorufa* Forel, 1913:249. Syntype: 1W, REP. ARGENTINA, Prov. San Luiz, [Coll.] C. Bruch. Unavailable name. Material referred to *C. punctulatus cruentus* Santschi, 1922 by Santschi, 1922:104. Comment: At MZSP Ant Collection there are three workers from the type locality [2W, REP. ARGENTINA, Prov. San Luiz, C. Bruch; and 1W, REP. ARGENTINA, Prov. Mendoza, 10.v.12, C. Bruch] but not labeled as types. We were not able to infer about the status of this material since Forel (1913) did not specify the number of type specimens.
- Camponotus (Tanaemyrmex) reburrus* Mackay, in Mackay & Barriga, 2012:2. Paratypes: 1W 1M, ECUADOR, Orellana, Yasuni Research Station, 00°40'S/76°23'W, 200 m, 19-i-2009, P. Barriga and G. Alvia [leg.], #2009-021, nest in internodes of *Cecropia*. Male missing last two antennomers.
- Camponotus (Myrmosphincta) reinaldi* Kempf, 1960b:456. Holotype: 1W, [BRAZIL], SP[São Paulo], Agudos, v-1958, R. Mueller [leg., Coll. Kempf] 2505. Paratype: 1W, [BRAZIL], SP[São Paulo], Agudos, v-1958, R. Mueller [leg., Coll. Kempf] 2505. Worker missing L3 tarsi. Comment: The holotype is a soldier (major worker) and the paratype a minor worker, both are in the same pin (Kempf, 1960b); has just labeled the holotype.
- Camponotus (Myrmobrachys) senex* subsp. *textor* var. *obscuripes* Borgmeier, 1929:214. Syntypes: 5W, [BRAZIL], Rio de Janeiro, GB[Guanabara, today Rio de Janeiro], Manguinhos, 30-xii-1922, A. Lutz [leg.], Coll. Borgm. Nr. 413. One worker missing L6 tarsi; one worker missing A2 last 4 antennomers and L6 tarsi; one worker missing A1 last 8 antennomers, A2 funiculus, L1 femur to tarsi, L5 4° and 5° tarsus. Unavailable name, see Bolton, 1995:114.
- Camponotus (Pseudocolobopsis) subtruncatus* Borgmeier, 1929:212. Lectotype[Syntype]: 1W, [BRAZIL], RJ[Rio de Janeiro], Petrópolis, xi-1918, T. Borgmeier [leg.], Coll. Borgm. Nr. 57, [in dry bamboo log]. Syntypes: 2W 1G, [BRAZIL], RJ[Rio de Janeiro], Petrópolis, xi-1918, T. Borgmeier [leg.], Coll. Borgm. Nr. 57. Gyne with some parts of body collapsed; one worker missing A1 last 5 antennomers and A2 funiculus; one worker missing L3 trochanter to tarsi; one worker missing L6 tibia and tarsi. Comment: William P. Mackay returned to the MZ one syntype labeled by him as lectotype dated 1998. Since this new type status was never published, we consider this specimen as part of the syntype series.
- Camponotus (Neocolobopsis) scrobifer* Borgmeier, 1928b:66. Syntypes: 2W, [BRAZIL], SP[São Paulo], Guarujá, 28-viii-1910, H. v. Jhering [leg.], Coll. Borgm. Nr. 3984, [in wood]. One worker with disarticulated head and part of A1 funiculus, both glued on the triangle; one worker missing A1, L2 tibia to tarsi, L3 femur to tarsi, L5 2° to 5° tarsus and L6 last tarsus. Junior synonym of *C. coriolanus* Forel, 1912 by Kempf, 1968:410.
- Camponotus (Tanaemyrmex) taniae* Mackay & Delsinne, 2009. Paratypes: 2W, PARAGUAY, Boqueron, [Presidente Hayes, Parque Nacional Teniente Enciso 2, [21.1374°S/61.50954°W, 24-25.ix.2003], Thibaut Delsinne [leg.], #11577, [dry chaco, pitfall trap].
- Camponotus taino* Snelling & Torres, 1998:8. Paratypes: 3W, PUERTO RICO, El Verde [Field Station], Rio Grande, 200 m el., 25 July 1989, RRS#89-29b, [R.R.] Snelling & [J.A.] Torres Coll., "Tambonuco" rainforest, ex dead branch on tree. One worker missing A1 last three antennomers.
- Camponotus trapeziceps* Forel, 1908:405. Syntypes: 2W, [BRAZIL], S.[São] Paulo, Ipiranga, [24. xi.05], J. Lima [leg., MP] 2250, [nesting in soil, 10-15 cm]. 5W 4M, [BRAZIL, São Paulo, Ipiranga, 24.xi.05, J. Lima leg., MP] 2250, [nesting in soil, 10-15 cm]. 3W, [BRAZIL], S.[São] Paulo, Ipiranga, [26].i-1907, Luderw. [H. Lüderwaldt leg.], MP 11239, Coll. Borgm. Nr. 2219. 3W 1G, [BRAZIL, São Paulo, Ipiranga, H. Lüderwaldt leg., MP] 7342. One worker missing A1 and A2; one worker missing A2; one male not completely emerged; one worker missing L3 2° to 5° tarsus [2219]; one worker missing A2 last 4 antennomers [7342]; gyne de-lated missing the last 5 antennomers of A1 and A2 [7342]. Combination in *C. (Myrmamblys)* by Forel, 1914:272; in *C. (Neomyrmamblys)* by Santschi, 1921a:311; in *C. (Myrmaphaenus)* by Emery, 1925:156.

Camponotus (Myrmothrix) wheeleri Mann, 1916:477. Syntype: 1W, [BRAZIL, Rondônia, ex Mato Grosso], Madeira-Mamore RR.[Railroad] Co. Camp 41, [306 km of Porto Velho], Rio Madeira, [W.M.] Mann & [F.] Baker [legs.], 9117. Combination in *C. (Myrmoplastypus)* by Santschi, 1921a:311.

Comment: The MZSP Ant Collection received from William P. Mackay a number of *Camponotus* specimens (listed below) labeled as holotype or paratype. These specimens are not considered types as the names have not been formally published thus far.

Camponotus acutus Mackay, 2003. Paratype: 1W, TX, Jeff Davis Co., McIves Ranch, 30°37'06"N/104°01'03"W, 1,732 m, 02-vii-97, W. & E. Mackay, #17517, in branches.

Camponotus amblynodis Mackay, 1999. Paratype: 1W, COLOMBIA, Hulia, Rivera, 28 Dec. 83, W. & E. Mackay, #7118.

Camponotus angulophrys Mackay, 2002. Paratypes: 2W 1G 1M, Kartabo, B.G., Jul. Aug. 1920, W.M. Wheeler, #444.

Camponotus caesariatus Mackay, 2003. Paratype: 1W, Avispas, PERU, Madre de Dios, 400 m, X-1/15-62, Pena.

Camponotus fernandezii Mackay, 2003. Paratype: 1W, COLOMBIA, Amazonas, Cagueta, Araracuara, x-94, G. Gangi Leg., GG327.

Camponotus fissurinus Mackay, [no date]. Paratype: 1W, JAMAICA, St. James, Porto Elelfo, 18°28'N/77°53'W, 75 m, 11-iii-1984, J. Longino, #1120.

Camponotus flavobregmus Mackay, 2003. Paratype: 1W, COLOMBIA.

Camponotus gigantus Mackay, [no date]. Paratype: 1W, PANAMA, Bocas del Toro, 3 km W. Cont. Div. at Fortuna Hwy., el 1,000 m, 15 VI 1994, A.R. Gillogly.

Camponotus ithypilis Mackay, 2002. Paratypes: 1W 1G, MEX, Hgo., 2 km W Orizatlán, 245 m, 08 Jun.1988, W. Mackay, #1091, nest in hollow twig.

Camponotus mariae Mackay, 2003. Paratype: 1W, DOMINICAN REPUBLIC, Botanical Garden, Mountain Isabel de Torres nr Puerto Plata, 28-v-1995, M. de Andrade.

Camponotus platychlaens[?] Mackay, [no date]. Paratypes: 2W, COLOMBIA, Hulia, 1 km NE Rivera, 7 July 85, W. & E. Mackay, #7403.

Camponotus rubrigenys Mackay, 2002. Paratypes: 2W, M. Bates, Bonacca ls., Hond., iv-35.

Camponotus virgatus Mackay, 1998. Holotype: 1W, Paratypes: 4W 1G, BRASIL, MG do Sul, 12 KS Area-ga, 16 Oct 1989, W.P. Mackay, #12571, nest in twig.

Camponotus wettereri Mackay, 2003. Paratype: 1W, CA, Santa Cruz, 22-v-98, J. Wetterer, MB4.

Camponotus yanoviaki Mackay, 2004. Paratypes: 2W, PERU, Loreto, 28 km S Iquitos, 03.75°S/73.25°W, 18-vi-2004, S. Yanoviak, from hollow twig primary White sand forest.

Tribe Lasiini

Genus *Lasius* (Fabricius, 1804:415)

Acanthomyops bureni Wing, 1968:135. Syntypes: 6W, [UNITED STATES OF AMERICA], Wis.[Wisconsin, Barron County], Comstock, Aug.16.1941, Wm. F. Buren [leg.]. One worker missing A1 last two segments of the funiculus, L1, L3 and L6 tibia and tarsi, L5 2° to 5° tarsus; one worker missing L5 tibia and tarsi; one worker missing L5 and L6 tarsi. Combination in *Lasius* by Ward, 2005:13.

Lasius (Acanthomyops) pubescens Buren, 1942:405. Paratypes: 7W, [UNITED STATES OF AMERICA], Min.[Minnesota], Jenkins, Aug.11.1941, Wm. Buren [leg., taked from a sandy low mound nest in open woodlands]. One worker missing L1 and L5 2° to 5° tarsus. Combination in *Acanthomyops* by Creighton, 1950:433; in *Lasius* by Ward, 2005:13.

Lasius xerophilus Mackay & Mackay, 1994:37. Paratypes: 2W 1M, [UNITED STATES OF AMERICA], N.W.[New Mexico], Otero Co.[County], White Sands Nat.[National] Mon.[Monument], 25 July 1992, W. Mackay [leg.], #16042, nest in soil, small mound > 10 cm. Male missing L2 tarsi.

Genus *Nylanderia* Emery, 1906:133

Paratrechina burgesi Trager, 1984:483. Holotype: 1W, PERU, Machupichu, 2,600-2,800 m,

28.Feb.-01.Mar.67, W.L. Brown [leg.], H-176. Combination in *Nylanderia* by LaPolla *et al.*, 2010:127.

Paratrechina (Nylanderia) troglodytes Weber, 1934:58. Syntype: 1W, CUBA, near Casa Harvard, Soledad, Cienfuegos, Aug.30, 1933, N.A. Weber [leg.], 31. Junior synonym of *P. myops* Mann, 1920 by Brown, 1955:135. Combination in *Nylanderia* by LaPolla *et al.*, 2010:127.

Tribe Myrmelachistini

Genus *Brachymyrmex* Mayr, 1868:163

Brachymyrmex brasiliensis Ortiz & Fernández, 2014:22. Holotype: 1W, BRAZIL, São Paulo, Ubatuba, Parque Estadual da Serra do Mar, Núcleo Santa Virgínia, 23°19'S/45°06'W, 870-1,000 m, 22 Apr 2005, col. M. Uehara, USNM 00757748. Comment: In the original publication, the holotype locality is mistakenly informed as "Brazil, Rio de Janeiro, Nova Friburgo, Fazenda Barreto, 22°9'40.4712"S/42°31'27.4866"W, 1,068 m, 11-12 Jun 2011, col. T.M.S. Mesquita".

Brachymyrmex delabiei Ortiz & Fernández, 2014:24. Holotype: 1W, BRAZIL, São Paulo, Tapiraí, 24°01'55.5"S/47°27'56"W, 08-14 Jan 2001, col. R.R. Silva & Eberhardt, Transecto 1 Winkler 23, USNM ENT 00757718. Missing A1 last antennomers, L2 coxa to tarsi, L3 trochanter to tarsi.

Brachymyrmex feitosa Ortiz & Fernández, 2014:27. Holotype: 1W, Paratypes: 2W, Floresta da Tijuca, D. Federal, Brasil, 16.xii.1959, C.A. Campos Seabra [leg.], Coleção Campos Seabra, USNM ENT 00757694. One paratype missing L1 femur to tarsi.

Brachymyrmex longicornis var. *hemiops* Santschi, 1923:668. Syntypes: 2W, [BRAZIL], S.[São] Paulo, Ipiranga, 07-iii-1906, [H.] Luederwaldt [leg.], MP 2371, Coll. Borgm. Nr. 2785. 2W, [BRAZIL, São Paulo, Ipiranga, 07-iii-1906, H. Luederwaldt leg., MP] 2371. One worker missing L1 and L4 5° tarsus [2785]; one worker with collapsed body, missing A1 and A2 [2785]; one worker missing A1 last 5 antennomers, A2 last three antennomers, L1 and L4 5° tarsus; one worker with collapsed body.

Brachymyrmex (Bryschia) micromegas Emery, in Santschi, 1923:675. Paralectotypes: 2W, [BRAZIL], SP[São Paulo], S[São] Paulo, Ipiranga, [xii.12, J. Lima & H. Luederwaldt leg.], MP 17326. 2W, [BRAZIL, São Paulo, São Paulo, Ipiranga,

xii.12, J. Lima & H. Luederwaldt leg.], MP 17326. One worker missing A1 last 5 antennomers, A2 funiculus, L4 2° to 4° tarsus [USNM ENT 00757824]; one worker missing A1, A2, L2 and L3 tibia and tarsi, L5 3° to 5° tarsus, L6 trochanter to tarsi [USNM ENT 00757825]; one worker missing A1 and L3 tarsi [USNM ENT 00757827]; one worker missing L3 4° and 5° tarsus [USNM ENT 00757826]. Comment: Three major workers and 11 minor workers from original type series [BRAZIL, São Paulo, São Paulo, Ipiranga, xii.12, J. Lima & H. Luederwaldt leg., MP 17326] were not designated as paralectotypes by Ortiz & Fernández (2014), but according to the International Code of Zoological Nomenclature (1999) we also should consider them as paralectotypes.

Genus *Myrmelachista* Roger, 1863:162

Myrmelachista arthuri var. *brunneiceps* Forel, 1908:397. Syntypes: 1W, [BRAZIL], SP[São Paulo], S.[São] Paulo, Ipiranga, [Mata do Governo, 08.x.06, J.] Lima leg., MP 5587. 10W, [BRAZIL, São Paulo, São Paulo], Ypiranga[Ipiranga], H. Luederwaldt [leg., MP] 5587. 4W, [BRAZIL], SP[São Paulo], S.[São] Paulo, M. d. Governo, 08-x-1906, MP 5587, Coll. Borgm. Nr. 2264. Two workers missing A1; one worker missing A2; one worker missing L1 tibia and tarsi; one worker missing L2 5° tarsus, L4 3° to 5° tarsus and L6 4° and 5° tarsus; one worker missing L3 5° tarsus, L5 femur to tarsi, L6 4° and 5° tarsus; one worker missing L1 tibia and tarsi. Comment: The species name *o* is misspelled in the syntypes labels as var. *brunnea*.

Myrmelachista (Decamera) catharinae var. *petropolitana* Santschi, 1936b:204. Syntypes: 3W, [BRAZIL, Rio de Janeiro, Petrópolis, Borgmeier. Combination in *M. (Hincksidris)*: Kempf, 1972:149. One worker missing A1 and A2 funiculus.

Myrmelachista guyanensis Wheeler, 1934b:198. Syntypes: 3W, B.G. [BRITISH GUYANA, today GUYANA], Kartabo, Jul. Aug. 1920, W.M. Wheeler Collection, M.C.Z. Cotype 13-15 21420, [nesting in dead twigs]. One worker missing L1 and L2 femur to tarsi.

Myrmelachista reticulata Borgmeier, 1928a:37. Syntypes: 5W 3G, [BRAZIL, Rio Grande do Sul], N[Nova] Petrópolis, 14-i-1927, P. Buck S.J. [leg.], Coll. Borgm. Nr. 1406. Combination

in *M. (Hincksidris)* by Kempf, 1972:150. One worker missing A1 funiculus; one worker only with gaster.

Myrmelachista (Decamera) schachovskoi Kusnezov, 1951:359. Paratypes: 8W, [ARGENTINA], Neuquén, S.[San] Martín de los Andes, N. Kusnezov [leg.]. Combination in *M. (Hincksidris)* by Kempf, 1972:150. One worker missing A1.

Tribe Plagiolepidini

Genus *Acropyga* Roger, 1862:242

Acropyga paramaribensis Borgmeier, 1933:263. Syn-types: 3W 3G, [SURINAM], Paramaribo, G.H. Buenzli [leg., in coffee plantation]. Combination in *A. (Rhizomyrma)* by Kempf, 1972:17. Junior synonym of *A. exsanguis* (Wheeler, 1909) by LaPolla, 2004:47. One gyne missing W2; one gyne dealated missing A1 funiculus.

Acropyga (Rhizomyrma) pickeli Borgmeier, 1927:287. Syntypes: 3W 1G, [BRAZIL, Paraíba, Bananeiras, ix.1927, B. Pickel O.S.B. leg., Coll. Borgm. Nr.] 1732. Junior synonym of *A. decedens* (Mayr, 1887) by Costa Lima, 1931:7. Revived from synonymy by Borgmeier, 1932:238. Junior synonym of *A. goeldii* Forel, 1893 by LaPolla, 2004:50. Gyne dealated.

Subfamily Martialinae

Genus *Martialis* Rabeling & Verhaagh, 2008:14913

Martialis heureka Rabeling & Verhaagh, 2008:14913. Holotype: 1W, BRAZIL, AM[Amazonas], EM-BRAPA, km 28, hwy [highway] AM010, 30 km Manaus, 02°53'S/59°59'W, elev. 40-50 m, C. Rabeling [leg.], ex leaf litter at dusk primary lowland rainforest, CR030509-01, CASENT 0106181. Worker missing funiculus and right legs.

RESUMO

Este catálogo inclui os tipos de formigas de três subfamílias (Dolichoderinae, Formicinae and Martialinae) depositados na Coleção de Formicidae do Laboratório de Hymenoptera, Museu de Zoologia da Universidade de São Paulo (MZSP), Brasil. Apresentamos a informação de rótulos e sobre a condição morfológica dos espécimes, bem como as eventuais mudanças nomenclaturais e novos status taxonômicos seguindo as recomendações do Código

Internacional de Nomenclatura Zoológica. Listamos os tipos de 101 espécies de formigas (sendo 96 atualmente válidas); oito espécies listadas são representadas somente por holótipos, 27 por parátipos, sete por holótipos e parátipos, 56 apenas por sintipos, duas espécies por paralectótipos e uma espécie pelo lectótipo e paralectótipos. O presente trabalho completa a série de publicações sobre os tipos de formigas da coleção do MZSP, que inclui 4.741 espécimens tipo de 892 espécies nomenclaturalmente válidas.

PALAVRAS-CHAVE: Tipos; Coleção; MZSP; Formiga.

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APPENDIX 1: Currently valid names of the listed taxa, followed by their original names and synonyms (if applicable).

Subfamily	Tribe	Valid species name	Original name	Synonym
<i>Genus</i>				
Dolichoderinae				
Dolichoderini				
	<i>Dolichoderus</i>	<i>D. andinus</i>	<i>Monacis andina</i>	
		<i>D. bidens</i>	<i>D. bidens</i> var. <i>bahiana</i>	
		<i>D. curvilobus</i>	<i>Hypoclinea curviloba</i>	
		<i>D. diversus</i>	<i>D. germaini</i> subsp. <i>garbei</i>	
		<i>D. epetreius</i>	<i>Hypoclinea epetreia</i>	
		<i>D. inpai</i>	<i>Monacis inpai</i>	
		<i>D. laurae</i>		
		<i>D. lobicornis</i>	<i>Monacis lobicornis</i>	
		<i>D. omacanthus</i>	<i>Monacis omacantha</i>	
		<i>D. piceus</i>		
		<i>D. quadridenticulatus</i>	<i>D. gibbosus</i> var. <i>integra</i>	
		<i>D. rufescens</i>	<i>D. debilis</i> var. <i>rufescens</i>	
		<i>D. setosus</i>	<i>Monacis setosa</i>	
		<i>D. tristis</i>		
		<i>D. validus</i>	<i>Monacis validus</i>	
		<i>D. voraginosus</i>		
Leptomyrmecini				
	<i>Anillidris</i>	<i>A. bruchi</i>		
	<i>Azteca</i>	<i>A. aesopus</i>		
		<i>A. alfari</i>	<i>A. alfari</i> var. <i>mixta</i>	
		<i>A. andreae</i>		
		<i>A. diabolica</i>		
		<i>A. goeldii</i>		
		<i>A. iberingi</i>		
		<i>A. merida</i>		
		<i>A. muelleri</i>	<i>A. ulei</i> var. <i>gibbifera</i>	
		<i>A. paraensis bondari</i>		
		<i>A. snellingi</i>		
	<i>Nomen nudum</i>		<i>A. goeldii</i> st. <i>croceiscapa</i>	
	<i>Dorymyrmex</i>	<i>D. goeldii fumigatus</i>		
		<i>D. jberingi</i>		
	<i>Forelius</i>	<i>F. andinus</i>		
		<i>F. bahianus</i>		
		<i>F. damiani</i>		
		<i>F. maranhaoensis</i>		
	<i>Gracilidris</i>	<i>G. pombero</i>		
	<i>Leptomyrmex</i>	<i>L. relictus</i>		
	<i>Linepithema</i>	<i>L. anathema</i>		
		<i>L. cryptobioticum</i>		
		<i>L. humile</i>	<i>Iridomyrmex riograndensis</i>	
		<i>L. iniquum</i>	<i>Iridomyrmex iniquum succineus</i>	
		<i>L. neotropicum</i>		
		<i>L. pulex</i>		
		<i>L. tsachila</i>		
Tapinomini				
	<i>Tapinoma</i>	<i>T. amazonae</i>		
	<i>Technomyrmex</i>	<i>T. fulvus</i>		
Formicinae				
Camponotini				
	<i>Camponotus</i>	<i>C. atriceps</i>	<i>C. abdominalis cupiens</i>	
		<i>C. bonariensis garbei</i>		
		<i>C. compositor</i>		

Subfamily	Tribe	Genus	Valid species name	Original name	Synonym
			<i>C. coptobregma</i>		
			<i>C. coriolanus</i>	<i>C. scrobifer</i>	
			<i>C. crassus</i>	<i>C. crassus picticornis</i>	
			<i>C. crassus amazonicus</i>		
			<i>C. crassus delabiatus</i>		
			<i>C. dalmasi</i>		
			<i>C. fallatus</i>	<i>C. escherichi</i>	
			<i>C. fastigatus verae</i>		
			<i>C. genatus</i>		
			<i>C. geralensis</i>	<i>C. luederwaldti</i>	<i>C. macrocephalus</i>
			<i>C. iheringi</i>	<i>C. iheringi</i>	<i>C. iheringi bajulus</i>
			<i>C. iridis</i>		
			<i>C. kaura</i>		
			<i>C. lenkoi</i>		
			<i>C. maritimus</i>		
			<i>C. melanoticus catbarinae</i>		
			<i>C. melanoticus valerius</i>		
			<i>C. nidulans</i>	<i>C. fabricii acoma</i>	
			<i>C. ogloblini</i>		
			<i>C. phytophilus</i>		
			<i>C. picipes spengleri</i>	<i>C. maculatus spengleri</i>	
			<i>C. polymorphicus</i>		
			<i>C. reburrus</i>		
			<i>C. reinaldi</i>		
			<i>C. subtruncatus</i>		
			<i>C. taniae</i>		
			<i>C. taino</i>		
			<i>C. termitarius</i>	<i>C. punctulatus termitarius</i>	
			<i>C. trapeziceps</i>		
			<i>C. vagulus</i>	<i>C. fastigatus vagulus</i>	
			<i>C. wheeleri</i>		
		Unavailable name		<i>C. crassus amazonicus chrysothrix</i>	
				<i>C. maculatus guatemalensis</i>	
				<i>scheffleri</i>	
				<i>C. punctulatus</i> r. <i>minutior</i> var.	
				<i>mediorufa</i>	
				<i>C. senex textor obscuripes</i>	
	Lasiini				
		<i>Lasius</i>	<i>L. bureni</i>	<i>Acanthomyops bureni</i>	
			<i>L. pubescens</i>		
			<i>L. xerophilus</i>		
		<i>Nylanderia</i>	<i>N. burgesi</i>	<i>Paratrechina burgesi</i>	
			<i>N. myops</i>	<i>P. troglodytes</i>	
	Myrmelachistini				
		<i>Brachymyrmex</i>	<i>B. brasiliensis</i>		
			<i>B. delabiei</i>		
			<i>B. feitosai</i>		
			<i>B. longicornis hemiops</i>		
			<i>B. micromegas</i>		
		<i>Myrmelachista</i>	<i>M. arthuri brunneiceps</i>		
			<i>M. catharinae petropolitana</i>		
	Plagiolepidini				
		<i>Acropyga</i>	<i>A. exsanguis</i>	<i>A. paramaribensis</i>	
			<i>A. goeldii</i>	<i>A. pickeli</i>	
	Martialinae				
		<i>Martialis</i>	<i>M. heureka</i>		