Papéis Avulsos de Zoologia

Museu de Zoologia da Universidade de São Paulo

Volume 57(23):295-311, 2017 **www.mz.usp.br/publicacoes** **ISSN impresso: 0031-1049**
www.revistas.usp.br/paz **ISSN *on-line:* 1807-0205**

Catalogue of the Dolichoderinae, Formicinae and Martialinae (Hymenoptera: Formicidae) types deposited at the Museu de Zoologia da Universidade de São Paulo, Brazil

Mônica Antunes Ulysséa[1,2,4]
Lívia Pires do Prado[3,5]
Carlos Roberto F. Brandão[1,2,6]

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

1. Universidade de São Paulo (USP), Museu de Zoologia (MZSP), Laboratório de Hymenoptera. Avenida Nazaré, 481, Ipiranga, CEP 04263-000, São Paulo, SP, Brasil.
2. Programa de Pós-Graduação em Sistemática, Taxonomia e Diversidade Animal, MZSP.
3. Museu Paraense Emílio Goeldi (MPEG), Centro de Ciências da Terra e Ecologia (CCTE), Laboratório de Morfologia e Ecologia Funcional de Formigas e Programa de Capacitação Institucional do CNPq. Avenida Perimetral, 1.901, Terra Firme, CEP 66077-830, Belém, PA, Brasil.
4. E-mail: monicaulyssea@gmail.com
5. E-mail: livia.pires7@gmail.com
6. E-mail: crfbrand@usp.br

http://dx.doi.org/10.11606/0031-1049.2017.57.23

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
∑	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 retrived 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 lectopype 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, Leptomyrmex, 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 Caluga, 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 epetreia 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 laurae Mackay, 1993:67. Paratypes: 2W, COLOMBIA, Risavalda, 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], Abunã, 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 septemspinosus* 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], Missiones 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 Cuezzo, 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 Cuezzo, 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 & Cuezzo, 2006:59

Gracilidris pombero Wild & Cuezzo, 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.], 2º 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 Colo[rado], I.C.Z.; 25.vi.[19]24, nº 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 3º to 5º tarsus [2796]. Combination in *C.* (*Tanaemyrmex*) by Emery, 1925:79.

Camponotus (*Neomyrmamblys*) *compositor* Santschi, 1922:111. Syntypes: 5W, [BRAZIL, São Paulo], Ilha Alcatrazes, SP, [H.] Lüderwaldt [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 21of 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 4º to 11º antennomer, A2 last 5 antennomers, L1 and L2 tarsi, and L3 2º to 5º 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 3º to 5º 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], Missiones, 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 2º to 5º 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. *bajulus* 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 Amaparí, 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.] Lüderwaldt [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. Lüderwaldt leg.], MP 2407, Coll. Borgm. Nr. 2837, [nest in soil]. 2W 1G, [BRAZIL], SP[São Paulo], Campos de Jordão, [08.ii.06, H. Lüderwaldt leg.], MP 2407, Coll. Borgm. Nr. 2252, [nest in soil]. One worker with collapsed head, mesossoma 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.] Lüderwaldt [leg.], MP 2697, [nest under stone]. 6W, [BRAZIL, Rio de Janeiro, Campos Itatiaia, 16.iv.1906, H. Lüderwaldt leg., MP] 2697, [nest under stone]. 4W, [BRAZIL], RJ[Rio de Janeiro], Campos Itatiaia, 16-iv-1906, Luderw. [H. Lüderwaldt 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 mesossoma, 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 2º to 5º tarsus. Combination in *C.* (*Tanaemyrmex*) by Emery, 1925:81.

Camponotus (*Myrmobrachys*) *ogloblini* Santschi, 1934:32. Syntype: 1W, ARG.[ARGENTINA], Missiones, 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 2º to 5º 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. Mendonza, 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 4º and 5º 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 disaticulated head and part of A1 funiculus, both glued on the triangle; one worker missing A1, L2 tibia to tarsi, L3 femur to tarsi, L5 2º to 5º 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, [21.13747°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 2º to 5º tarsus [2219]; one worker missing A2 last 4 antennomers [7342]; gyne dealated 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.* (*Myrmoplatypus*) 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., Mclves 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 fernandezi Mackay, 2003. Paratype: 1W, COLOMBIA, Amazonas, Cagueta, Araracuara, x-94, G. Gangi Leg., GG327.

Camponotus fissurinatus 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 platyclyaens[?] 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 Areaga, 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 2º to 5º 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 2º to 5º 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 feitosai 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 5º 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 5º tarsus; one worker with collapsed body.

Brachymyrmex (*Bryscha*) *micromegas* Emery, in Santschi, 1923:675. Paralectotypes: 2W, [BRAZIL], SP[São Paulo], S[São] Paulo, Ipiranga, [xii.12, J. Lima & H. Lüderwaldt leg.], MP 17326. 2W, [BRAZIL, São Paulo, São Paulo, Ipiranga, xii.12, J. Lima & H. Lüderwaldt leg.], MP 17326. One worker missing A1 last 5 antennomers, A2 funiculus, L4 2º to 4º tarsus [USNM ENT 00757824]; one worker missing A1, A2, L2 and L3 tibia and tarsi, L5 3º to 5º tarsus, L6 trochanter to tarsi [USNM ENT 00757825]; one worker missing A1 and L3 tarsi [USNM ENT 00757827]; one worker missing L3 4º and 5º 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. Lüderwaldt 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. Lüderwaldt [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 5º tarsus, L4 3º to 5º tarsus and L6 4º and 5º tarsus; one worker missing L3 5º tarsus, L5 femur to tarsi, L6 4º and 5º 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] Martin 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. Syntypes: 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], EMBRAPA, 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 síntipos, 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.

ACKNOWLEDGMENTS

We are grateful to Roberto Guerrero for helping us to clear up the terminology of some *Azteca* species' types; Antônio dos Santos Silva who helped us to clear up the terminology applied to some type specimens; Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP Proc. 2012/21309-7) for financial support to M.A. Ulysséa; Programa de Capacitação Institucional do CNPq (MPEG/MCTI, CNPq/PCI-DC 313168/2016-4) for financial support to Prado, L.P.; and the reviewers for providing comments and corrections on the manuscript. Carlos Roberto F. Brabdão is grateful to Programa de Capacitação em Taxonomia – PROTAX (Processo CNPQ 440574/2015-3; FAPESP 2016/50378-8). We extend our recognition to all students, technicians, researchers and colleagues that contributed to enrich our holding for more than 100 years of summed work.

REFERENCES

Bolton, B. 1995. *A New General Catalogue of the Ants of the World.* Version 01.i.2013. Cambridge, USA, Harvard University Press. 504p.

Bolton, B. 2007. Taxonomy of the dolichoderine ant genus *Technomyrmex* Mayr (Hymenoptera: Formicidae) based on the worker caste. *Contributions of the American Entomological Institute,* 35(1):1-150.

Bolton, B. 2016. *An online catalog of the ants of the world.* Available at: www.antcat.org. Access in: 03/04/2017.

Borgmeier, T. 1927. Um caso de trophobiose entre uma formiga e um parasita do caféeiro. *Boletim do Museu Nacional,* 3:285-289.

Borgmeier, T. 1928a. Einige neue Ameisen aus Brasilien. *Zoologischer Anzeiger,* 75:32-39.

Borgmeier, T. 1928b. Algumas formigas do Museo Paulista. *Boletim Biologico, Laboratório de Parasitologia da Faculdade de Medicina de São Paulo,* 12:55-70.

Borgmeier, T. 1929. Zur Kenntnis der brasilianischen Ameisen. *Eos. Revista Española de Entomología,* 5:195-214.

Borgmeier, T. 1932. A proposito de *Acropyga pickeli* Borgm. (1927) (Hym. Formicidae). *Revista de Entomologia,* 2:238-239.

Borgmeier, T. 1933. Nota prévia sobre *Acropyga paramaribensis. Revista de Entomologia,* 3:263.

Borgmeier, T. 1937. Formigas novas ou pouco conhecidas da América do Sul e Central, principalmente do Brasil (Hym. Formicidae). *Archivos do Instituto de Biologia Vegetal,* 3:217-255.

Boudinot, B.E.; Probst, R.S.; Brandão, C.R.F.; Feitosa, R.M. & Ward, P.S. 2016. Out of the Neotropics: newly discovered relictual species sheds light on the biogeographical history of spider ants (*Leptomyrmex,* Dolichoderinae, Formicidae). *Systematic Entomology,* 41:658-671.

Brandão, C.R.F. 1991. Adendos ao catalogo abreviado das formigas da região Neotropical. *Revista Brasileira de Entomologia,* 35:319-412.

Brandão, C.R.F. 2000. Major regional and type collections of ants (Formicidae) of the world and sources for the identification of ant species. *In:* Agosti, D.; Majer, J.D.; Alonso, L.E. & Schultz, T.R. (Eds.). *Ants – Standard methods for measuring and monitoring biodiversity.* Washington, Smithsonian Institution Press. p. 172-185.

Brandão, C.R.F.; Esteves, F.A. & Prado, L.P. 2010. A catalogue of the Pseudomyrmecinae ants type specimens (Hymenoptera, Formicidae) deposited in the Museu de Zoologia da Universidade de São Paulo, Brazil. *Papéis Avulsos de Zoologia,* 50(45):693-699.

Brown Jr., W.L. 1955. *Nylanderia myops* (Mann), new combination. *Psyche,* 62:135-136.

Buren, W.F. 1942. New ants from Minnesota, Iowa, and Wisconsin. *Iowa State College Journal of Science,* 16:399-408.

Burgman, M.A.; Grimson, R.C. & Ferson, S. 1995. Inferring threat from scientific collections. *Conservation Biology,* 9:923-928.

Costa Lima, A. 1931. A proposito da *Acropyga pickeli* Borgm., 1927 (Hymenoptera: Formicoidea). *Boletim Biológico,* 17:2-9.

Creighton, W.S. 1950. The ants of North America. *Bulletin of the Museum of Comparative Zoology at Harvard College,* 104:1-585.

Cuezzo, F. 2000. Revisión del género *Forelius* (Hymenoptera: Formicidae: Dolichoderinae). *Sociobiology,* 35:197-275.

Emery, C. 1888. Über den sogenannten Kaumagen einiger Ameisen. *Zeitschrift für Wissenschaftliche Zoologie,* 46:378-412.

Emery, C. 1893. Studio monografico sul genere *Azteca* Forel. *Memorie della Reale Accademia delle Scienze dell'Istituto di Bologna,* 5(3):119-152.

Emery, C. 1894. Studi sulle formiche della fauna Neotropica. *Bullettino della Società Entomologica Italiana,* 26:137-241.

Emery, C. 1902. *In:* Wasmann, E. Neues über die zusammengesetzten Nester und gemischten Kolonien der Ameisen. (Fortsetzung aus nº 14/15.) *Allgemeine Zeitschrift für Entomologie,* 7:293-298.

Emery, C. 1906. Note sur *Prenolepis vividula* Nyl. et sur la classification des espèces du genre *Prenolepis. Annales de la Société Entomologique de Belgique,* 50:130-134.

Emery, C. 1920. Le genre *Camponotus* Mayr. Nouvel essai de sa subdivision en sous-genres. *Revue Zoologique Africaine,* 8:229-260.

Emery, C. 1925. Hymenoptera, Fam. Formicidae, subfam. Formicinae. *In:* Wytsman, P. *Genera Insectorum. Fasc. 183.* Bruxelles. 302p.

Esteves, F.A.; Brandão, C.R.F. & Prado, L.P. 2011. The type specimens of "dorylomorph" ants (Hymenoptera, Formicidae: Aenictinae, Ecitoninae, Cerapachyinae, Leptanilloidinae) deposited in the Museu de Zoologia da Universidade de São Paulo, Brazil. *Papéis Avulsos de Zoologia,* 51(22):341-357.

Fabricius, J.C. 1804. *Systema Piezatorum, secundum ordines, genera, species, adiectis synonyms locis, observationibus, descriptionibus.* Brunsvigae, apud Carolum Reichard. 439p.

Feitosa, R.M. & Brandão, C.R.F. 2008. A taxonomic revision of the Neotropical myrmicine ant genus *Lachnomyrmex* Wheeler (Hymenoptera: Formicidae). *Zootaxa,* 1890:1-49.

Fernández, F. 2002. Revisión de las hormigas *Camponotus* subgénero *Dendromyrmex. Papéis Avulsos de Zoologia,* 42:47-101.

Foerster, A. 1850. *Hymenopterologische Studien. 1. Formicariae.* Aachen, Ernst Ter Meer. 74p.

Forel, A. 1878. Études myrmécologiques en 1878 (première partie) avec l'anatomie du gésier des fourmis. *Bulletin de la Société Vaudoise des Sciences Naturelles,* 15:337-392.

Forel, A. 1893. Formicides de l'Antille St. Vincent. Récoltées par Mons. H.H. Smith. *Transactions of the Entomological Society of London,* 1893:333-418.

Forel, A. 1899. *Biologia Centrali-Americana; or, contributions to the knowledge of the fauna and flora of Mexico and Central America. Insecta. Hymenoptera. 3 (Formicidae).* London. 169p.

Forel, A. 1906. Fourmis néotropiques nouvelles ou peu connues. *Annales de la Société Entomologique de Belgique,* 50:225-249.

Forel, A. 1908. Ameisen aus Sao Paulo (Brasilien), Paraguay, etc. Gesammelt von Prof. Herm. v. Ihering, Dr. Lutz, Dr. Fiebrig, etc. *Verhandlungen der k.k. Zoologisch-Botanischen Gesellschaft in Wien,* 58:340-418.

Forel, A. 1911. Ameisen des Herrn Prof. v. Ihering aus Brasilien (Sao Paulo usw.) nebst einigen anderen aus Südamerika und Afrika (Hym.). *Deutsche Entomologische Zeitschrift,* 1911:285-312.

Forel, A. 1912. Formicides Néotropiques. Part 6. 5me sous-famille Camponotinae Forel. *Mémoires de la Société Entomologique de Belgique,* 20:59-92.

Forel, A. 1913. Fourmis d'Argentine, du Brésil, du Guatémala & de Cuba. Reçues de MM. Bruch, Prof. v. Ihering, Mlle Baez, M. Peper et M. Rovereto. *Bulletin de la Société Vaudoise des Sciences Naturelles,* 49:203-250.

Forel, A. 1914. Le genre *Camponotus* Mayr et les genres voisins. *Revue Suisse de Zoologie,* 22:257-276.

Forel, A. 1915. Formicides d'Afrique et d'Amérique nouveaux ou peu connus. II^{e} partie. *Bulletin de la Société Vaudoise des Sciences Naturelles,* 50:335-364.

Guerrero, R.J. & Fernández, F. 2008. A new species of the ant genus *Forelius* (Formicidae: Dolichoderinae) from the dry forest of Colombia. *Zootaxa,* 1958:51-60.

Guerrero, R.J.; Delabie, J.H.C. & Dejean, A. 2010. Taxonomic contribution to the aurita group of the ant genus *Azteca* (Formicidae: Dolichoderinae). *Journal of Hymenoptera Research,* 19:51-65.

Harada, A.Y. 1987. Uma nova espécie do gênero *Monacis* Roger, da Amazônia (Hymenoptera: Formicidae). *Acta Amazonica,* 16(17):599-606.

Hashmi, A.A. 1973. A revision of the Neotropical ant subgenus *Myrmothrix* of genus *Camponotus. Studia Entomologica,* 16:1-140.

ICZN – International Commission on Zoological Nomenclature. 1999. *International Code of Zoological Nomenclature.* 4. ed. London. Available at: www.nhm.ac.uk/hosted-sites/iczn/code. Access in: 22/08/2016.

Johnson, K.G.; Brooks, S.J.; Fenberg, P.B.; Glover, A.G.; James, K.E.; Lister, A.M.; Michel, E.; Spencer, M.; Todd, J.A.; Valsami-Jones, E.; Young, J.R. & Stewart, J.R. 2011. Climate Change and Biosphere Response: Unlocking the Collections Vault. *BioScience,* 61(2):147-153.

Kempf, W.W. 1959. A revision of the Neotropical ant genus *Monacis* Roger (Hymenoptera: Formicidae). *Studia Entomologica,* 2:225-270.

Kempf, W.W. 1960a. Insecta Amapaensia – Hymenoptera: Formicidae. (Segunda contribuição.) *Studia Entomologica,* 3:385-400.

Kempf, W.W. 1960b. Miscellaneous studies on Neotropical ants. *Studia Entomologica,* 3:417-466.

Kempf, W.W. 1962. Miscellaneous studies on neotropical ants. II. (Hymenoptera, Formicidae). *Studia Entomologica,* 5:1-38.

Kempf, W.W. 1968. Miscellaneous studies on Neotropical ants. 4. *Studia Entomologica,* 11:369-415.

Kempf, W.W. 1972. Catálogo abreviado das formigas da Região Neotropical. *Studia Entomologica,* 15:3-344.

Kempf, W.W. 1978. Five new synonyms for the Argentine ant fauna. *Studia Entomologica,* 20:35-38.

Klingenberg, C. & Brandão, C.R.F. 2005. The type specimens of fungus growing ants, Attini (Hymenoptera, Formicidae, Myrmicinae) deposited in the Museu de Zoologia da Universidade de São Paulo, Brazil. *Papéis Avulsos de Zoologia,* 45(4):41-50.

Kusnezov, N. 1951. *Myrmelachista* en la Patagonia. *Acta Zoologica Lilloana,* 11:353-365.

Kusnezov, N. 1952. El estado real del grupo *Dorymyrmex* Mayr (Hymenoptera, Formicidae). *Acta Zoologica Lilloana,* 10:427-448.

Kusnezov, N. 1957. Nuevas especies de hormigas (Hymenoptera, Formicidae). *Revista de la Sociedad Uruguaya de Entomología,* 2:7-18.

LaPolla, J.S. 2004. *Acropyga* of the world. *Contributions of the American Entomological Institute,* 33(3):1-130.

LaPolla, J.S.; Brady, S.G. & Shattuck, S.O. 2010. Phylogeny and taxonomy of the *Prenolepis* genus-group of ants. *Systematic Entomology,* 35:118-131.

Lattke, J.E. 1987. Notes on the ant genus *Hypoclinea* Mayr, with descriptions of three new species (Hymenoptera: Formicidae). *Revista de Biología Tropical,* 34:259-265.

Lister, A.M. & Climate Change Research Group, 2011. Natural history collections as sources of long-term datasets. *Trends in Ecology and Evolution,* 26(4):153-154.

Longino, J.T. 1989. Taxonomy of the *Cecropia*-inhabiting ants in the *Azteca alfari* species group (Hymenoptera: Formicidae): evidence for two broadly sympatric species. *Contributions in Science,* 412:1-16.

Longino, J.T. 1991. Taxonomy of the *Cecropia*-inhabiting *Azteca* ants. *Journal of Natural History,* 25:1571-1602.

Lund, P.W. 1831. Lettre sur les habitudes de quelques fourmis du Brésil, adressée à M. Audouin. *Annales des Sciences Naturelles,* 23:113-138.

Mackay, W.P. 1993. A review of the New World ants of the genus *Dolichoderus* (Hymenoptera: Formicidae). *Sociobiology,* 22:1-148.

Mackay, W.P. & Barriga, P.A. 2012. A new species of Neotropical carpenter ant in the genus *Camponotus,* apparently without major workers. *Psyche,* 2012: 5p. DOI.

Mackay, W.P. & Delsinne, T. 2009. A new species of carpenter ant from Paraguay, with a key to the New World members of the *maculatus* species complex. *Sociobiology,* 53:487-498.

Mackay, W.P. & Mackay, E.E. 1994. *Lasius xerophilus,* a new ant species from White Sands National Monument, New Mexico. *Psyche,* 101:37-43.

Mackay, W.P.; López-Castro, C. & Fernández, F. 2002: A new, high altitude Colombian species of the ant genus *Camponotus* with dimorphic males and females. *Sociobiology,* 40:421-430.

Mann, W.M. 1912. Parabiosis in Brazilian ants. *Psyche,* 19:36-41.

Mann, W.M. 1916. The Stanford expedition to Brazil, 1911. John C. Branner, director. The ants of Brazil. *Bulletin of the Museum of Comparative Zoology at Harvard College,* 60:399-490.

Mann, W.M. 1920. Additions to the ant fauna of the West Indies and Central America. *Bulletin of the American Museum of Natural History,* 42:403-439.

Mayr, G. 1861. *Die Europäischen Formiciden.* Wien, Carl Gerold's Sohn. 80p.

Mayr, G. 1862. Myrmecologische Studien. *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien,* 12:649-776.

Mayr, G. 1866. Myrmecologische Beiträge. *Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften in Wien. Mathematisch-Naturwissenschaftliche Classe. Abteilung I,* 53:484-517.

Mayr, G. 1868. Formicidae novae americanae collectae a Prof. P. de Strobel. *Annuario della Società dei Naturalisti Modena,* 3:161-178.

Mayr, G. 1870. Formicidae novogranadenses. *Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften in Wien. Mathematisch-Naturwissenschaftliche Classe. Abteilung I,* 61:370-417.

Mayr, G. 1872. Formicidae Borneenses collectae a J. Doria et O. Beccari in territorio Sarawak annis 1865-1867. *Annali del Museo Civico di Storia Naturale,* 2:133-155.

Mayr, G. 1887. Südamerikanische Formiciden. *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien,* 37:511-632.

Menozzi, C. 1926. Neue Ameisen aus Brasilien. *Zoologischer Anzeiger,* 69:68-72.

Olivier, A.G. 1792. Encyclopédie méthodique. Histoire naturelle. Insectes. Tome 6. (pt. 2). *Panckoucke,* 369-704.

Ortiz, C.M. & Fernández, F. 2014. *Brachymyrmex* species with tumuliform metathoracic spiracles: description of three new species and discussion of dimorphism in the genus (Hymenoptera, Formicidae). *ZooKeys,* 371:13-33. DOI.

Prado, L.P. & Brandão, C.R.F. 2013. Catalogue of Cephalotini ant types (Hymenoptera, Formicidae, Myrmicinae) deposited in the Museu de Zoologia da Universidade de São Paulo, Brazil. *Papéis Avulsos de Zoologia,* 53(4):187-209.

Rabeling, C.; Brown, M. & Verhaagh, M. 2008. Newliy discovered sister lineage sheds light on early ant evolution. *Proceedings of the National Academy of Sciences of the United States of America,* 105:14913-14917.

Roger, J. 1862. Einige neue exotische Ameisen-Gattungen und Arten. *Berliner Entomologische Zeitschrift,* 6:233-254.

Roger, J. 1863. Die neu aufgeführten Gattungen und Arten meines Formiciden-Verzeichnisses, nebst Ergänzung einiger früher gegeben Beschreibungen. *Berliner Entomologische Zeitschrift,* 7:131-214.

Santschi, F. 1921a. Retouches aux sous-genres de *Camponotus. Annales de la Société Entomologique de Belgique,* 61:310-312.

Santschi, F. 1921b. Ponerinae, Dorylinae et quelques autres formicides néotropiques. *Bulletin de la Société Vaudoise des Sciences Naturelles,* 54:81-103.

Santschi, F. 1922. *Camponotus* néotropiques. *Annales de la Société Entomologique de Belgique,* 62:97-124.

Santschi, F. 1923. Revue des fourmis du genre *Brachymymex* Mayr. *Anales del Museo Nacional de Historia Natural de Buenos Aires,* 31:650-678.

Santschi, F. 1925. Nouveaux formicides brésiliens et autres. *Annales et Bulletin de la Société Entomologique de Belgique,* 65:221-247.

Santschi, F. 1934. Fourmis de Misiones et du chaco argentin. *Revista de la Sociedad Entomológica Argentina,* 6:23-34.

Santschi, F. 1936a. Fourmis nouvelles ou intéressantes de la République Argentine. *Revista de Entomologia,* 6:402-421.

Santschi, F. 1936b. Contribution à l'étude des fourmis de l'Amerique du Sud. *Revista de Entomologia,* 6:196-218.

Santschi, F. 1939. Etudes et descriptions de fourmis néotropiques. *Revista de Entomologia,* 10:312-330.

Scott-Santos, C.P.; Esteves, F.A. & Brandão, C.R.F. 2008. Catalogue of "poneromorph" ant type specimens (Hymenoptera, Formicidae) deposited in the Museu de

Zoologia da Universidade de São Paulo, Brazil. *Papéis Avulsos de Zoologia,* 48(11):75-88.

Shattuck, S.O. 1992. Generic revision of the ant subfamily Dolichoderinae (Hymenoptera: Formicidae). *Sociobiology,* 21:1-181.

Shattuck, S.O. 1994. Taxonomic catalog of the ant subfamilies Aneuretinae and Dolichoderinae (Hymenoptera: Formicidae). *University of California Publications in Entomology,* 112:1-241.

Shattuck, S.O. & McArthur, A.J. 1995. Generic placements of Australian ants described by W.F. Erichson. *Journal of the Australian Entomological Society,* 34:121-123.

Smith, F. 1858. *Catalogue of Hymenopterous Insects in the Collection of the British Museum.* 6 Formicidae, 216p.

Smith, F. 1860. Descriptions of new genera and species of exotic Hymenoptera. *Journal of Entomology,* 1:65-84.

Snelling, R.R. & Torres, J.A. 1998. *Camponotus ustus* Forel and two similar new species from Puerto Rico. *Contributions in Science,* 469:1-10.

Trager, J.C. 1984. A new *Paratrechina* from Machu Picchu, Peru. *Florida Entomologist,* 66:482-486.

Ulysséa, M.A. & Brandão, C.R.F. 2013. Catalogue of Dacetini and Solenopsidini ant type specimens (Hymenoptera, Formicidae, Myrmicinae) deposited in the Museu de Zoologia da Universidade de São Paulo, Brazil. *Papéis Avulsos de Zoologia,* 53(4):187-209.

Ulysséa, M.A.; Prado, L.P. & Brandão, C.R.F. 2015. Type specimens of the traditional Myrmicinae (Hymenoptera: Formicidae) ant tribes deposited in the Museu de Zoologia da Universidade de São Paulo, Brazil: Adelomyrmecini, Basicerotini, Blepharidattini, Crematogastrini, Formicoxenini, Lenomyrmecini, Myrmicini, Phalacromyrmecini, Pheidolini, Stegomyrmecini, Stenammini and Tetramoriini. *Papéis Avulsos de Zoologia,* 55:75-204.

Ward, P.S. 2005. A synoptic review of the ants of California. *Zootaxa,* 936:1-68.

Weber, N.A. 1934. Notes on Neotropical ants, including the descriptions of new forms. *Revista de Entomologia,* Rio de Janeiro, 4:22-59.

Wheeler, Q.D.; Raven, P.H. & Wilson, E.O. 2004. Taxonomy: impediment or expedient? *Science,* 303:285.

Wheeler, W.M. 1909. Ants collected by Prof. F. Silvestri in Mexico. *Bollettino del Laboratorio di Zoologia generale e agraria della R. Scuola Superiore d'Agricoltura in Portici,* 3:228-238.

Wheeler, W.M. 1934a. Some aberrant species of *Camponotus (Colobopsis)* from the Fiji Islands. *Annals of the Entomological Society of America,* 27:415-424.

Wheeler, W.M. 1934b. Neotropical ants collected by Dr. Elisabeth Skwarra and others. *Bulletin of the Museum of Comparative Zoology at Harvard College,* 77:157-240.

Wild, A.L. 2004. Taxonomy and distribution of the Argentine ant, *Linepithema humile* (Hymenoptera: Formicidae). *Annals of the Entomological Society of America,* 97:1204-1215.

Wild, A.L. 2007. Taxonomic revision of the ant genus *Linepithema. University of California Publications in Entomology,* 126:1-151.

Wild, A.L. & Cuezzo, F. 2006. Rediscovery of a fossil dolichoderine ant lineage (Hymenoptera: Formicidae: Dolichoderinae) and a description of a new genus from South America. *Zootaxa,* 1142:57-68.

Wing, W.M. 1968. Taxonomic revision of the Nearctic genus *Acanthomyops. Cornell University Agricultural Experiment Station Memoir,* 405:1-173.

Aceito em: 19/01/2017
Publicado em: 13/06/2017
Editor Responsável: Kelli dos Santos Ramos

Produzido e diagramado na Seção de Publicações do Museu de Zoologia da Universidade de São Paulo

Os periódicos Papéis Avulsos de Zoologia e Arquivos de Zoologia estão licenciados sob uma Licença CC-BY da Creative Commons.

Publicado com o apoio financeiro do Programa de Apoio às Publicações Científicas Periódicas da USP

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

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

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