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THE TYPE SPECIMENS OF FUNGUS GROWING ANTS, ATTINI (HYMENOPTERA, FORMICIDAE, MYRMICINAE) DEPOSITED IN THE MUSEU DE ZOOLOGIA DA UNIVERSIDADE DE SÃO PAULO, BRAZIL

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ABSTRACT

We present here a list of the Attini type material deposited in the Formicidae collection of the Museu de Zoologia da Universidade de São Paulo (MZSP), Brazil. In total, the Attini (fungus-growing and leaf-cutting ants) collection includes types of 105 nominal species, of which 74 are still valid, whereas 31 are considered synonyms. The majority of the types in the MZSP collection are syntypes (74), but in the collection there are 4 species represented only by holotypes, 12 by holotypes and paratypes, 13 species only by paratypes, and 2 species by the lectotype and one paralectotype as well. All holotypes and paratypes refer to valid species. The aim of this type list is to facilitate consultation and to encourage further revisionary studies of the Attini genera.

KEYWORDS: Insects, Hymenoptera, Myrmicinae, Attini, types, MZSP.

INTRODUCTION

The Formicidae collection housed in the Museu de Zoologia da Universidade de São Paulo (MZSP) is one of the most representative for the Neotropical region in number of types and ant species, as well as for the geographic coverage. The earliest records correspond to material collected by Hermann von Lüderwaldt and Hermann von Ihering, at the beginning of the XX century, when the collections still belonged to the Museu Paulista da Universidade de São Paulo (also known as Museu do Ipiranga), as part of its Zoological Section. These specialists maintained strong ties with colleagues from abroad, sending and exchanging material to/with Carlo Emery, Auguste

Forel, F. Santschi, and in a lesser extent, to/with William M. Wheeler, Gustav Mayr, Carlo Menozzi, and Marion R. Smith. Several species collected in Brazil were named by these authors, who often sent back to São Paulo type specimens. In 1939, the Zoological section of the Museu Paulista was transferred to the São Paulo State Secretary of Agriculture and Commerce, as its Zoological Department, to a building planned to receive the collections and laboratories, in the same block where the Museu Paulista is located.

At this time, Karol Lenko (1914-1975) worked for the MZSP as curator of the ant collection, trading specimens with Thomas Borgmeier (1892-1975) and Walter Wolfgang Kempf (1920-1976), both Franciscan friars that published important revisionary works,

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including the descriptions of several fungus growing ant taxa. In 1969, the Department was transferred to the University of São Paulo, as its Museu de Zoologia; K. Lenko retired at this time.

After Father Kempf returned for his Ph. D. studies in Cornell University, in the late 1940's, Father Borgmeier gave him his personal collection and library on ants, publishing afterwards mostly on Phoridae (Diptera) ant parasites. The collection of reprints came from Hermann von Ihering, who once offered to sell it to Borgmeier, who did not have the means to buy it at the time. One year later, Borgmeier got a large box from the mail, containing the entire reprint collection, bought by a donator who insisted in remaining anonymous. Much later, Borgmeier learned that Julius Arp, an amateur lepidopterologist and industrialist, had paid for the collection and sent it to him. Borgmeier founded the *Revista de Entomologia* in 1931, where he published most of his contributions; publishing the last volume (22) in 1951.

Kempf and Borgmeier founded in 1958 the scientific magazine *Studia entomologica*, edited by Kempf until volume 19, published in 1976. The last volume (20) was edited by Lauro Travassos Filho, and published in 1978. Father Kempf lived in many cities, mostly in southern Brazil, before retiring from his duties in the Church, in 1973. He then moved to Brasília, and was nominated Visiting Professor of the Universidade de Brasília in 1975. Kempf lived there until his unexpected death while attending an International Congress of Entomology, in Washington, D.C. in August, 1976, the night before he was scheduled to present a paper on a biogeographical account on the ants of the São Paulo State.

The Borgmeier-Kempf ant collection and library was bought by the MZSP from the Franciscan order, by means of a Brazilian agency CNPq grant (Conselho Nacional de Desenvolvimento Científico e Tecnológico), in the name of Dr. Nelson Papavero, then head of the Entomology section of the MZSP, in 1977. The State of São Paulo Foundation for the Endowment of Sciences (FAPESP) financed the transport of the collection, library and optical equipment from Brasília to the city of São Paulo.

Since then, the ant collection has been receiving material from many projects, in special those conducted by Carlos Roberto F. Brandão, hired as curator in 1981, and collaborators. Many colleagues have also contributed extensively, depositing much material in the MZSP, including numerous types.

Brandão (1982) published a very crude list of the MZSP Attini type material (at least specimens

labeled as such) in the newsletter *Attini*. Since this publication ceased some years ago, and several colleagues still ask for loans based on this publication, we decided to update and complete the list. Readers may find in the literature references to other type specimens supposedly deposited here, although the list we present corresponds to the actual specimens we found in the collection.

In order to avoid unnecessary duplication, we follow, throughout this paper, the same reference listing adopted by Ward *et al.* (1996), including the notations employed to differentiate publications by the same authors in the same year, citing only the references that do not appear in Ward *et al.* (*op. cit.*). The names are listed as they were published originally, but under the genera the species are now accepted to belong to, and in alphabetical order of species. To facilitate consultation, we added a list with the names as accepted nowadays followed by the respective cited synonyms.

We use the following codes to identify sexes and castes of the type individuals: w = worker, m = male, g = gyne. We copied the labels, including between parentheses or brackets further information not given in the labels, but that we were able to complete from original descriptions or field book notes, providing comments whenever necessary. Numbers given between parentheses correspond to handwritten catalogues also deposited in the MZSP, listing specimens deposited originally in the collections of the Museum itself (MP # referring to Museu Paulista), T. Borgmeier (Coll. Borgmeier), K. Lenko and W.W. Kempf collections. Sometimes we were not able to determine from which collections the numbers came from, although we are sure they do not belong either to Museu Paulista or Borgmeier collections.

Genus *Acromyrmex* Mayr, 1865

Atta (Acromyrmex) aspersa dimidiata Forel, 1911e:292. Syntypes, 5 w, 1 g. Brazil, São Paulo, São Paulo, Ipiranga. [H. Luderwaldt col.; 8.xii.1908], (MP # 14190/Coll. Borgmeier # 2720) (combination in *Acromyrmex*; Emery, 1922). Junior synonym of *Acromyrmex laticeps nigrosetosus* (Forel, 1908), (see Gonçalves, 1961:146).

Acromyrmex aspersus var. *insularis* Santschi, 1925d:242. Syntype, 1 w. Brazil, São Paulo, Ilha São Sebastião; [Günther coll.; iv.1906], (MP2489/Coll. Borgmeier 1994). [mislabelled as *Acromyrmex mesonotalis* var. *insularis* Santschi]. Junior synonym of *Acromyrmex crassipinus* Forel, 1909a (see Gonçalves 1961:139).

Acromyrmex (Moellerius) balzani var. *senex* Santschi, 1925b("1924"):19. Syntypes, 3 w. Brazil, Minas Gerais, Pirapora, E. Garbe col.; vi.1912, MP # 18463. Junior synonym of *Acromyrmex (Moellerius) landolti landolti* (Forel, 1885), (see Gonçalves, 1961:120).

Acromyrmex bucki Wasmann, 1931:106. Syntypes, 4 w. Brazil, Rio Grande do Sul, Porto Alegre; Buck, col. 27.viii.1924. Junior synonym of *Acromyrmex lobicornis* (Emery, 1888c), (see Gonçalves, 1961:148).

Acromyrmex coronatus st. *andicola* var. *flavescens* Santschi 1925d:239. Syntype 5 w. Brazil, Goiás, Grinas. Dietz col.; [19.iii.1908], (MP # 10868/Coll. Borgmeier # 1992/2723). Unavailable name Bolton (1995b:55); material referred to *Acromyrmex coronatus* (Fabricius, 1804), (see Gonçalves 1961:135).

Acromyrmex coronatus st. *moellei* var. *obscurior* Santschi. 1925d:240. Syntype 1 w. Brazil, Santa Catarina, Itajai; [xii.1914], (MP # 18993/Coll. Borgmeier # 2722). Unavailable name Bolton 1995b:56; material referred to *Acromyrmex coronatus* (Fabricius, 1804), (see Gonçalves, 1961:135).

Acromyrmex diasi Gonçalves 1983a("1982"):483. Syntypes, 3 g. Brazil, Distrito Federal, Reserva Ecológica IBGE, Brasília; D. Dias col.; 2.xi.1978; (Coll. Borgmeier # 2305).

Acromyrmex (Moellerius) landolti var. *nivalis* Santschi 1922c; 362. Syntypes, 5 w. Brazil, Mato Grosso, São Luiz, Cáceres, [Campo]; [xi.1917], (MP # 19601/Coll. Borgmeier # 2902). Junior synonym of *Acromyrmex (Moellerius) landolti landolti* (Forel, 1884), see Gonçalves, 1961:120); of *Acromyrmex (Moellerius) balzani*, Fowler 1988:284.

Acromyrmex lundii st. *boliviensis* var. *nigripes* Santschi, 1929d. Syntypes, 9 w, 2 g. Argentina, Tucumán, Santa Ana; Dr. Rempski col. (no col. date), (Coll. Borgmeier # 5463). Unavailable name Bolton (1995b:56).

Acromyrmex rugosus st. *bigener* Santschi 1925d:243. Syntypes, 1 w, 1 g, 1 m. Brazil, Pará, Monte Alegre; P. Mones O.F.M. col.; (no date), (Coll. Borgmeier # 559/Ex. Coll. Reichensperger). Junior synonym of *Acromyrmex rugosus rugosus* (Smith, 1858), (see Gonçalves, 1961:159).

Acromyrmex rugosus var. *navarroi* Borgmeier, 1937b:249. Syntypes, 5 w. Brazil, São Paulo, Descalvado. Navarro

de Andrade col.; v.1935. Junior synonym of *Acromyrmex rugosus rochai* (Forel, 1904), (see Gonçalves, 1961:162).

Acromyrmex rugosus var. *vestitus* Santschi 1925a:380. Syntypes, 3 w. Brazil, Minas Gerais, Pirapora; E. Garbe col.; vi.1912. (MP # 20648, although this number corresponds to a different specimen/Coll. Borgmeier # 2269). Junior synonym of *Acromyrmex rugosus rugosus* (Smith, 1858), (see Gonçalves, 1961:159).

Atta (Acromyrmex) subterranea var. *brunnea* Forel, 1912f:181. Syntypes, 1 w, 1 g. Brazil, São Paulo, São Paulo, Ipiranga; H. Lüderwaldt col.; [18.i.1908], (MP # 10506/Coll. Borgmeier # 1970). (see Gonçalves, 1961:167).

Acromyrmex subterranea var. *depressoculis* Forel 1913 m:237. Syntypes, 6 w. Brazil, Santa Catarina, Ibirama; Lüderwaldt col.; viii.1910. (MP # 15478/Coll. Borgmeier # 2869). Junior synonym of *Acromyrmex muticinodus* (Smith, 1858), (see Gonçalves, 1967a:20).

Acromyrmex subterraneus var. *eidmanni* Santschi, 1937f:232. Syntypes, 4 w, 1 g, 1 m. Brazil, Rio de Janeiro, Mendes; H. Eidmann col.; 1933. (Coll. Borgmeier # 5882). Junior synonym of *Acromyrmex subterraneus* st. *molestans* Santschi, 1925 (Gonçalves, 1961:168).

Acromyrmex subterraneus var. *peruvianus* Borgmeier, 1940:606. Syntypes, 9 w. 5 m. Peru, [La Libertad], Cartabo; Weyrauch col.; 1939.

Genus *Apterostigma* Mayr, 1865

Apterostigma acre Lattke, 1997:133. Holotype w, Paratypes 1 g, 1 m (no. 416). Brazil, São Paulo; I.P. Nogueira (sic) col.; (no date).

Apterostigma angustum Lattke, 1997:138. Paratype, 1 w. Venezuela. Tá[chira], 1100 m, Uribante, Caparo, ca. Siberia, 7°50'N, 71°49'W; J. Lattke col.; 28.viii.1988.

Apterostigma auriculatum Wheeler, 1925a:49. Syntypes, 3 w. Trinidad, Port of Spain, 4 Roads Pt.; R. Thaxter col.; (no date).

Apterostigma bruchi Santschi, 1919f:49. Syntype, w. [Argentina], La Plata; Bruch col.; (no date).

Apterostigma carinatum Lattke, 1997:145. Paratype, w. Colombia, Valle, Rio Tatabro; P. Chacón col.; 5.ix.1993.

Apterostigma convexum Lattke, 1997:149. Paratype, 1 w. Venezuela, Am[zonas], Cerro Marawaka; J.E. Lattke col.; 8.iii.1985.

Apterostigma fallax Borgmeier, 1934:105. Syntypes, 6 w, 1 g. Suriname, Paramaribo; Buenzli, col.; (no date). Junior synonym of *Apterostigma urichii* Forel, 1893 (see Lattke, 1997:217).

Apterostigma jubatum Wheeler, 1925a:47. Syntypes, 3 w. British Guiana, Kartabo; W.M. Wheeler col.; vii/viii.1920. Junior synonym of *Apterostigma robustum* Emery 1896 Weber 1958d), revived from synonymy (Lattke, 1997:158).

Apterostigma luederwaldti Santschi, 1923d:66. Syntype, w. Brazil, São Paulo, São Paulo, Horto Botânico; H. Luederwaldt, col.; (no date); (no. 2959). Junior synonym of *Apterostigma steigeri* (Lattke, 1997:171).

Apterostigma reburrum Lattke, 1997:166. Paratype, 1 w. Colombia, Ant[ioquia]. Providencia Est. Biologica, Zona Buenos Aires; C. Kugler col.; 30/31.xii.1977.

Apterostigma serratum Lattke, 1997:168. Holotype, w, Paratypes 1 g, 1 m. Brazil, Minas Gerais, Viçosa; A. Mayhé-Nunes col.; 12.ii.1993.

Apterostigma tholiforme Lattke, 1997:173. Paratype, 1 w. Ecuador, Pichincha, Centro Cient. R. Palenque; S. Sandoval col.; 20.xii.1980.

Apterostigma tropicosa Lattke, 1997:175. Holotype, w. Brazil, Amazonas, Manaus, BR 174; G.A.R. [Melo]. col.; 5.ix.1991.

Note: We found in the MZSP collection specimens of *Apterostigma andense* and *Apterostigma goniodes* labeled as paratypes, although they were not listed in the respective original descriptions (Lattke, 1997), and hence can not be treated as type specimens.

Genus *Atta* Fabricius 1804

Atta silvai Gonçalves, 1983b:174. Syntypes, 9 w. Brazil, Bahia, Marauí; Pedrito Silva, col.; 4.ix.1969. Junior synonym of *Atta laevigata* (F. Smith) (Delalie, 1998:340).

Genus *Cyphomyrmex* Mayr, 1862

Cyphomyrmex bruchi Santschi, 1917f:282. Paratype, 1 w. Argentina, Buenos Aires, La Plata; C. Bruch col.; no. 631.

Cyphomyrmex cornutus Kempf, 1968a:35. Paratypes, 20 w, 4 g. Colombia, Valle, 3,2 km E Rio Aguaclara on old Cali Road; R.B. Root, W.L. Brown cols.; 1967. Paratypes, 10 w, 2 g. Colombia, Valle, Mun. Buenaventura. R.B. Root, W.L. Brown cols.; 16/17.iii.1967.

Cyphomyrmex daguerrei Santschi, 1933f:118. Paratype, 1 w. Argentina, Buenos Aires, Rosas, F.C. Sud; Juan B. Daguerre col.; (no date).

Cyphomyrmex kirbyi Mayr, 1887:557. Paratypes, 2 w. Colombia, N. Granada; G. Mayr col.; (no date).

Cyphomyrmex morschi, Emery, 1888c("1887"):360. Syntype, w. Brazil, Rio Grande do Sul; v. Ihering col.; (no date), (MP # 11419).

Cyphomyrmex nemei Kusnezov, 1957e:7. Syntypes, 2 m. Paratypes, 1 g, 5 m. Argentina, Salta, Reserva Nacional Estancia El Rey; N. Kusnezov col.; 17.ii.1953.

Cyphomyrmex ocellus Kempf, 1964d:41. Holotype, g. Paratypes, 1 m, 4 g. Brazil, Santa Catarina, Nova Teutônia; F. Plaumann, col.; 1960 (col. Kempf 3918). Paratypes, 4 g, 4 m. Brazil, São Paulo, Barueri; K. Lenko col.; 17.x.1958. (no. 698).

Cyphomyrmex olitor Forel 1893h:605. Syntypes, 6 w. 1 g. Argentina, Tucumán, Quebrada Cainzo, Tafi Viejo; N. Kusnezov col.; iv.1948; (no. 1595).

Atta (Cyphomyrmex) olitrix lectus Forel, 1911e:295. Syntypes, 11 w. Brazil, São Paulo, São Paulo, Ipiranga; H. Luederwaldt col.; [18.iv.1903], (MP # 12714/Coll. Borgmeier # 290).

Cyphomyrmex paniscus Wheeler, 1925a:42. Paratypes, 1 w, 1 g. Brazil; (no further data).

Cyphomyrmex peltatus Kempf, 1966("1965"):181. Holotype, w. Brazil, Santa Catarina, Ibicaré; F. Plaumann, col.; ix.1960 (no. 3654). Paratypes, 5 w, 1 g. Brazil, Santa Catarina, Ibicaré; F. Plaumann, col.; ix.1960. (no. 3654). Paratypes, 2 w, 2 g. Brazil, Rio Grande do Sul, B. Cotejipe; F. Plaumann, col.; vii.1960. (no. 3768). Paratypes, 2 w. Brazil, Rio Grande do Sul, Boqueirão; F. Plaumann, col.; ix.1960. (no. 3610). Paratype, 1 w. Brazil, Santa Catarina, Chapecó; F. Plaumann, col.; v.1957. Paratypes, 5 w, 1 g. Brazil, Santa Catarina, Seara; F. Plaumann, col.; vii.1958. (no. 2704). Paratypes, 15 w. Brazil, Santa Catarina, Nova Teutônia, F. Plaumann, col.; x.1953, iv.1954, x.1955, vi.vii.1959, vi.1960, vi.1963, 195?.

Cyphomyrmex plaumanni Kempf, 1962b:31. Holotype, w. Brazil, Santa Catarina, Nova Teutônia; F. Plaumann col.; x.1955. Paratype, 1 w. Brazil, Rio Grande do Sul, Erechim; F. Plaumann col.; vii.1960. Paratypes, 2 w. Brazil, Paraná, Rio Azul; F. Plaumann col.; ix.1960.

Cyphomyrmex rimosus breviscapus Weber, 1940b:412. Syntypes, 2 w. Panama, Barro Colorado, Canal Zone, NO; N.A. Weber col.; 1938. Junior synonym of *Cyphomyrmex minutus* Mayr, 1862 (Snelling & Longino 1992:489).

Cyphomyrmex rimosus cochunae Kusnezov, 1949d:439. Syntypes, 5 w. Argentina, Tucumán, Quebrada de la Sosa; N. Kusnezov col.; (no date). Junior synonym of *Cyphomyrmex rimosus* Spinola 1851, (Snelling & Longino 1992:489).

Cyphomyrmex rimosus r. dentatus Forel, 1901d:124. Syntype, 1 w. Mexico, Morelos, Cuernavaca; W.M. Wheeler col.; (no date). Junior synonym of *Cyphomyrmex flavidus* Pergande, 1896 (Snelling & Longino 1992:485).

Cyphomyrmex rimosus venezuelensis Weber, 1938b:188. Syntypes, 2 w. Venezuela, Ciudad Bolívar; N.A. Weber col.; 30.i.1935. Junior synonym of *Cyphomyrmex rimosus* Spinola 1851, (Snelling & Longino 1992:489).

Cyphomyrmex wheeleri Forel 1900h:282. Syntypes, 3 w. USA, Texas, Austin; W.M. Wheeler; (no date). (no. 1-3 9225).

Genus *Mycetagroicus* Brandão & Mayhé-Nunes, 2001

Mycetagroicus cerradensis Brandão & Mayhé-Nunes, 2001:644. Holotype, w. Paratypes, 38 w. São Paulo, Rancharia. E. Amante; 5.x.1969. Brazil, Paratypes, 2 w. Brazil, Distrito Federal: Brasília, W.L. & Brown, D.E. 13-14.v.1971. Paratypes, 20 w. Brazil, Goiás: Faz. Cachoeirinha, Jataí, Exp. Dept. Zool. 20.vii.1964. Paratypes, 3 w. Brazil, Mato Grosso do Sul: Fazenda Fortaleza, J.L.M. Diniz, 19.ii.1976. Paratypes, 2 w. Brazil, Minas Gerais: Paraopeba, J.A. Barcelos, iii.1990. Paratypes, 2 w. Brazil, Minas Gerais: Lassance, P. Pacheco, 18.ix.1985.

Mycetagroicus triangularis Brandão & Mayhé-Nunes, 2001:649. Holotype w. Paratypes, 2 w. Brazil, Mato Grosso, Gustavo Dutra; C.R. Gonçalves, col.; 25.x.1953. Paratype g. Brazil, Distrito Federal: Brasília, Fazenda Água Limpa, T. Schultz, 2.viii.1988. Paratype, g. Brazil, Bahia, Encruzilhada, Seabra & Alvarenga col.; xi.1972 (Kempf # 8869).

Mycetagroicus urbanus Brandão & Mayhé-Nunes 2001:657. Holotype w. Paratypes, 3 w. Brazil, São Paulo, São Paulo, Ibirapuera Park; C.R. Gonçalves, col.; 15.iii.1968.

Genus *Mycetarotes* Emery, 1913c

Mycetarotes acutus Mayhé-Nunes, 1995. Holotype, w. Brazil, Amazonas, Manaus; E.F. Morato col.; iii.; 1991.

Mycetarotes carinatus Mayhé-Nunes, 1995. Holotype, w. Paratypes, 6 w. Brazil, Rio Grande do Sul, Paulo de Frontin; A. Mayhé-Nunes col.; 29.xii.1997.

Atta (Mycocepurus) lüderwaldti Forel, 1911e. Syntypes, 6 w. Brazil, São Paulo: São Paulo, Ipiranga; H. Lüderwaldt col.; 23.iii.1909, MP 12692. Junior synonym of *Mycetarotes parallelus* (Emery, 1906), (Kempf 1960d:279).

Mycetarotes senticosus Kempf, 1960d:282. Holotype, w. Brazil, São Paulo: Federal Highway São Paulo-Curitiba, km 40; W.W. Kempf col.; 7.v.1960. Paratypes, 2 w. Brazil, Santa Catarina: Chapecó; F. Plaumann col.; xii.1957. Brazil, Rio de Janeiro: Petrópolis; W.W. Kempf col.; 21.iv.1945.

Genus *Mycetophylax* Emery 1913c

Mycetophylax brittoni var. *littoralis* Weber, 1937:401. Syntype, w. Trinidad, Mayaro Bay, B.W.I.; N.A. Weber col.; [1.iii.1935]. Junior synonym of *Mycetophylax conformis* (Mayr, 1884), (Kempf 1962b:34).

Mycetophylax cristulatus var. *emmae* Santschi, 1929d:304. Syntype, w. Argentina, Catamarca, Nascimento; Weiser col.; (no date).

Genus *Mycetosoritis* Wheeler, 1907d

Mycetosoritis explicata Kempf, 1968b:401. Holotype, w. Brazil, Goiás: Anápolis; W.W. Kempf col.; 15.iii.1968.

Genus *Mycocepurus* Forel, 1893h

Trachymyrmex attaxenus Menozzi in Eidmann 1936b:85. Syntypes, 2 w, 2 g. Brazil, Rio de Janeiro, Mendes; Dr. Eidmann col.; 19.ix.1933. Junior synonym of *Mycocepurus smithii* Forel, 1893 (Kempf, 1963b:425).

Mycocepurus bolivianus Weber 1938b:155. Syntype, w. Bolivia, Beni, Rurrenabaque; W.H. Mann col.; x.1921. Junior synonym of *Mycocepurus smithii* Forel, 1893 (Kempf 1963b:425).

Mycocepurus curvispinosus MacKay. 1998:423. Paratype, 1 w. Mexico, Chiapas. 24 km SW Cintalpa, 710 m; W. MacKay col.; 2 vi.1988.

Mycocepurus goeldii st. *gentiles* Santschi, 1925b ("1924"). Syntype, w. Brazil, Minas Gerais, Pirapora; E. Garbe col.; (no date). Junior synonym of *Mycocepurus goeldii* Forel 1893 (Kempf 1963b:420).

Mycocepurus reconditus Borgmeier 1937b:246. Syntypes, 2 w, 1 g. Brazil, Bahia, Água Preta [= Uruçuca] G. Bondar col.; v.1936. Junior synonym of *Mycocepurus smithii* Forel 1893 (Kempf 1963b:425).

Atta (Mycocepurus) smithi var. *borinquenensis* Wheeler, 1907d:718. Syntype, w. Puerto Rico, [Vega Beja, Arcibo], Utuado, [Monte Mandios]; W.M. Wheeler col.; (no date). Junior synonym of *Mycocepurus smithii* Forel, 1893 (Kempf 1963b:425).

Atta (Mycocepurus) smithi var. *tolteca* Wheeler, 1907d:718. Syntypes, 4 w. Mexico, Jalisco, Tuxapan. J.F. McClendon col. (no date). Junior synonym of *Mycocepurus smithii* Forel, 1893 (Kempf 1963b:425).

Mycocepurus smithi var. *trinidadensis* Weber, 1937:378. Syntype, w. Trinidad, Northern Range B.W.I.; N.A. Weber col.; 23.vi.1935. Junior synonym of *Mycocepurus smithii* Forel, 1893 (Kempf 1963b:425).

Mycocepurus tardus Weber, 1940b:416. Syntype, w. Panama, Barro Colorado, Canal Zone; N.A. Weber col.; 1938.

Genus *Myrmicocrypta* Smith, 1860c

Myrmicocrypta buenzlii Borgmeier, 1934:134. Syntype, w. Suriname, Paramaribo; Buentzli col.; (no date) (see Kempf 1961b:517).

Myrmicocrypta microphthalma Borgmeier, 1948a:202. Syntypes, 50 w, 1 g. Peru, Valle Chanchamayo; Weyrauch col.; 1.viii.1939.

Myrmicocrypta spinosa Weber 1937:382. Syntypes, 2 w. British Guiana, betw[een] R. Cuyuni & R. Mararuni; N.A. Weber col.; 7.ix. 1935; (no. 354).

Myrmicocrypta urichi Weber, 1937:379. Syntypes, 2 w. Trinidad, Mayaro Bay, B.W.I.; N.A. Weber col.; [9.iii.1935], (no. 55).

Myrmicocrypta weyrauchi Borgmeier 1948a:204. Syntypes, 11 w. 1 g. Peru, Valle Chanchamayo; Weyrauch col.; 1.viii.1939, (no. 28).

Genus *Sericomyrmex* Mayr, 1865

Sericomyrmex amabilis Wheeler, 1925e:166. Syntypes, 3 w. Panama, Barro Colorado, Canal Zone; W.M. Wheeler col.; 8.iii.1924, (no. 838).

Sericomyrmex beniensis Weber, 1938b:182. Syntypes, 2 w. Brazil, GB [Rio de Janeiro], Rio de Janeiro; Werneck col.; iii.1923; (Coll. Borgmeier # 4203).

Sericomyrmex bondari Borgmeier, 1937b:248. Syntypes, 4 w. Brazil, Bahia, Água Preta [= Uruçuca]; G. Bondar col.; [v.1936]; (Coll. Borgmeier # 5779).

Sericomyrmex diego Forel, 1912f:192. Syntype, w. Colombia; (no further data), (Coll. Borgmeier # 3813).

Sericomyrmex harekulli arawakensis Weber, 1937:399. Syntypes, 2 w. British Guiana, R. Mazaruni; N.A. Weber col.; viii-ix.1935.

Sericomyrmex luederwaldti Santschi, 1925b("1924"):15. Syntypes, 4 w. Brazil, Minas Gerais, Pirapora; [E. Garbe col.]; (no date).

Sericomyrmex lutzii Wheeler, 1916c:9. Syntypes, 1 w. 1 g. British Guiana, Roraima, Kauwa Creek; A. Crampton col.; 13.viii.1911; (no. 3907).

Sericomyrmex moreirai Santschi, 1925b:16. Syntype. w. Brazil, Rio de Janeiro; Moreira col.; (no date); (Coll. Borgmeier # 3803); Syntypes, 3 w. Brazil, Rio de Janeiro; Werneck col.; iii.1923; (Coll. Borgmeier # 4203).]

Sericomyrmex scrobifer Forel, 1911e:296. Syntypes, 6 w. Brazil, São Paulo, [São Paulo] Ipiranga; [H.Lüderwaldt col.]; (no date).

Sericomyrmex zacapanus Wheeler, 1925a:54. Syntypes, 3 w. Guatemala, Zacapa; W.M. Wheeler, col.; 15.xii.1911.

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Trachymyrmex agudensis Kempf, 1967a("1966"):124. Holotype, w; Paratype, w. Brazil, São Paulo, Agudos; C. Gilbert col.; v.1959.

Atta (Trachymyrmex) arizonensis Wheeler, 1907d:710. Syntypes, 3 w. USA, Arizona, Hunters Canon; (no date).

Trachymyrmex carib Weber, 1945:61. Syntype, w. Panama, Barro Colorado, Canal Zone; N.A. Weber col.; 1938; (no. 829).

Trachymyrmex compactus Mayhé-Nunes & Brandão, 2002:673. Holotype, w. Suriname, Maripaheuvell; J. van der Drift col.; [September] 1959.

Myrmicocrypta cucumis Mann, 1922:45. Syntypes, 2 w. Honduras, Progreso, W.M. Mann col; (no col. date). Weber, 1958b. Junior synonym of *Trachymyrmex bugnioni* Forel 1912 (see Weber, 1967, p. 273).

Trachymyrmex dichrous Kempf, 1967a("1966"):126. Holotype, w; Paratypes, 5 w. Brazil, Goiás, Anápolis, W. Kempf, col.; 4-7.i.1966. (Kempf # 4230, 4199). Paratype, w. Brazil, Mato Grosso, Chapada; Fr. Canuto col.; v.1959. Paratype, w. Brazil, São Paulo, Agudos; W. Kempf col.; 13.xii.1955 (Kempf # 1493).

Trachymyrmex (Acromyrmex) iberingi var. *cordovanus* Bruch, 1921:202. Syntype, w. Argentina; Cordoba Alta Gracia; Bruch col.; [25.iii.1921]; (no. 3878). combination in *Trachymyrmex*; Kempf, 1972; combination in *T. tucumanus*; Santschi, 1922.

Trachymyrmex morgani Weber, 1940b: Syntype, w. Panama, Barro Colorado, canal Zone, N.A. Weber col. 14; 22, vi, 1938. Junior synonym of *Trachymyrmex bugnioni* Weber, 1945 (see Weber, 1967, p. 237).

Trachymyrmex nogalensis Byars, 1951:109. Paratypes, 3 w. [USA, Arizona], Nogales Ariz; Nogales col.; 10.i.1946.

Atta (Trachymyrmex) oetkeri Forel, 1908h:352. Syntype, g. (no date). Syntypes, 7 w. Brazil, São Paulo, [São Paulo] Ipiranga; (no date) (# 593, 313, 5593). (combination in *Trachymyrmex*, Gallardo 1916).

Sericomyrmex opulentus Mann, 1922:48. Lectotype, w. Paralectotypes, 11 w. (designated by Mayhé-Nunes & Brandão, 2002). Honduras, San Juan Pueblo; W.M. Mann col.; 2.iii.1920. (combination in *Trachymyrmex* Weber, 1958).

Trachymyrmex papulatus Santschi, 1922c:359. Syntype, w. Argentina, Cordoba, Tantiviejo (Durione); (no date) (no. 3815).

Trachymyrmex phaleratus Wheeler, 1925a:39. Syntypes, 3 w. British Guiana, Kartabo; W.M. Wheeler col.; vii-viii.1930.

Trachymyrmex phippsi Weber, 1937:405. Syntypes, 2 w. British Guiana, Oronoque R. 2°42'N; N.A. Weber col.; 30.vii.1936. Junior synonym of *Trachymyrmex diversus* Mann, 1916 (see Weber 1967:274).

Trachymyrmex pruinosus spinosior Santschi, 1922c:359. Syntype, w. Argentina, Cordoba, Alta Gracia, Bruch col.; (no date); (no. 3879).

Trachymyrmex relictus Borgmeier, 1934:107. Paratypes, 42 w. 2 g, 1 m. Suriname, Paramaribo; G.H. Bünzli col.; 1930/1931. Syntypes, 4 w. Trinidad, B.W.I., Nariva Swamp; N.A. Weber, col.; 22.iv.1935.

Trachymyrmex ruthae Weber, 1937:402. Syntypes, 1 w. 1 g. Trinidad, B.W.I., Foothills, N of Tunapuna; N.A. Weber col.; [24.vii.1935]; (no. 245).

Trachymyrmex smithi Buren, 1944b:5. Paratypes, 12 w. Mexico, Coahuila, La Rosa; E. Buren col.; 8.xi.1942.

Trachymyrmex smithi neomexicanus Cole, 1952a:159. Paratypes, 3 w. USA, New Mexico, Las Cruces; A.C. Cole col.; 15.ix.1951.

Trachymyrmex tucuche Weber, 1938b:197. Syntype, w. Trinidad, B.W.I., Northern Range, El. Tucuche; N.A. Weber col.; 15.xii.1934; (no. 29a). Junior synonym of *Trachymyrmex bugnioni* Forel, 1912 (see Weber, 1967).

Trachymyrmex tucumana var. *weiseri* Santschi, 1925e:164. Syntype, w. Argentina, Santa Fé, Fives Lilles; Weiser col. (no date); (no. 3810).

Atta (Trachymyrmex) turrifex Wheeler, 1903c:100. Syntypes, 3 w. USA, Texas, Austin, [W.M. Wheeler col.]; 9.v.1902.

Trachymyrmex verrucosus Borgmeier, 1948a:205. Syntypes, 4 w, 1 g. Suriname, Lelydorp. 20.v.1938, Geyskes col.

Trachymyrmex zeteki Weber, 1940b:422. Syntype, w. Panama, Barro Colorado, Canal Zone, N.A. Weber col.; [13.vi]1938; (no. 162).

RESUMO

Apresentamos uma lista dos tipos de formigas criadoras de fungo e cortadeiras (Attini) pertencentes à coleção do Museu de Zoologia da Universidade de São Paulo. A coleção inclui tipos de 105 espécies nominais, das quais 74 são válidas. A maioria dos tipos pertence à categoria de sítipos (74), mas a coleção inclui 4 espécies representadas apenas pelos holótipos, 12 espécies representadas por holótipos e parátipos, 13 espécies representadas apenas por parátipos e duas espécies pelos lectótipos e paralectótipos. Todos os holótipos e parátipos são de espécies válidas. O objetivo dessa publicação é facilitar a consulta e encorajar futuros trabalhos de revisão dos gêneros de Attini.

PALAVRAS-CHAVE: Insetos, Hymenoptera, Myrmicinae, Attini, tipos, MZSP.

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APPENDIX

Index of currently valid taxa cited in this list followed, when it is the case, by their cited synonyms.

- Acromyrmex* (Moellerius) *landolti landolti* – *Acromyrmex* (Moellerius) *balzani* var. *senex*, *Acromyrmex* (Moellerius) *landolti* var. *nivalis*
- Acromyrmex coronatus* – *Acromyrmex coronatus* st. *andicola* var. *flavescens*, *Acromyrmex coronatus* st. *moelleri* var. *obscurior*
- Acromyrmex crassispinus* – *Acromyrmex aspersus* var. *insularis*
- Acromyrmex diasi*
- Acromyrmex laticeps nigrosetosus* – *Atta* (*Acromyrmex*) *aspersa dimidiata*
- Acromyrmex lobicornis* – *Acromyrmex bucki*
- Acromyrmex lundi* st. *boliviensis* var. *nigripes* – unavailable name
- Acromyrmex muticinodus* – *Acromyrmex subterraneus* var. *depressoculus*
- Acromyrmex rugosus rugosus* – *Acromyrmex rugosus* st. *bigener*, *Acromyrmex rugosus* var. *vestitus*
- Acromyrmex rugosus rochai* – *Acromyrmex rugosus* var. *navarroii*
- Acromyrmex subterraneus brunneus* – *Acromyrmex subterraneus* var. *eidmanni*
- Acromyrmex subterraneus* st. *molestans* – *Acromyrmex subterraneus eidmanni*
- Acromyrmex subterraneus* var. *peruvianus*
- Apterostigma acre*
- Apterostigma angusuttm*
- Apterostigma auriculatum*
- Apterostigma bruchi*
- Apterostigma carinatum*
- Apterostigma convexum*
- Apterostigma reburrum*
- Apterostigma robustum* – *Apterostigma jubatum*
- Apterostigma serratum*
- Apterostigma steigeri* – *Apterostigma luederwaldti*
- Apterostigma tholifome*
- Apterostigma tropicoxa*
- Apterostigma urichii* – *Apterostigma fallax*
- Atta laevigata* – *Atta silvae*
- Cyphomyrmex bruchi*
- Cyphomyrmex cornutus*
- Cyphomyrmex daguerrei*
- Cyphomyrmex flavidus* – *Cyphomyrmex r. dentatus*
- Cyphomyrmex kirbyi*
- Cyphomyrmex minutus* – *Cyphomyrmex rimosus breviscapus*
- Cyphomyrmex morschi*
- Cyphomyrmex nemei*
- Cyphomyrmex occultus*
- Cyphomyrmex olitor*
- Cyphomyrmex olitrix letus*
- Cyphomyrmex paniscus*
- Cyphomyrmex peltatus*
- Cyphomyrmex plaumanni*
- Cyphomyrmex rimosus rimosus* – *Cyphomyrmex rimosus cochunae*, *Cyphomyrmex rimosus venezuelanis*
- Cyphomyrmex wheeleri*
- Mycetagoicus cerradensis*
- Mycetagoicus triangularis*
- Mycetagoicus urbanus*
- Mycetarotes acutus*
- Mycetarotes carinatus*
- Mycetarotes senticosus*
- Mycetarotes paralellus* – *Atta* (*Mycocarpus*) *luederwaldti*
- Mycetophylax conformis* – *Mycetophylax brittoni* var. *littoralis*
- Mycetophylax cristulans* var. *emmae*
- Mycetosoritis explicata*
- Mycocarpus curvispinosus*
- Mycocarpus goeldii* – *Mycocarpus goeldii* st. *gentiles*
- Mycocarpus smithii* – *Atta* (*Mycocarpus*) *smithii* var. *borinquenensis*, *Atta* (*Mycocarpus*) *smithii* var. *tolteca*, *Atta* (*Mycocarpus*) *smithii* var. *trinidadensis*, *Mycocarpus bolivianus*, *Mycocarpus reconditus*, *Trachymyrmex attaxenus*
- Mycocarpus tardus*
- Myrmicocrypta buenzli*
- Myrmicocrypta microphthalma*
- Myrmicocrypta spinosa*
- Myrmicocrypta urichi*
- Myrmicocrypta weyrauchi*
- Sericomyrmex amabilis*
- Sericomyrmex beniensis*
- Sericomyrmex bondari*
- Sericomyrmex diego*
- Sericomyrmex harekulli arawakensis*
- Sericomyrmex luederwaldti*
- Sericomyrmex lutzji*
- Sericomyrmex moreirai*
- Sericomyrmex scrobifer*
- Sericomyrmex zacapanus*
- Trachymyrmex agudensis*
- Trachymyrmex arizonensis*
- Trachymyrmex bugnioni* – *Trachymyrmex cucumis*, *Trachymyrmex morgani*, *Trachymyrmex tucuche*
- Trachymyrmex carib*
- Trachymyrmex compactus*
- Trachymyrmex cornetzi* – *Trachymyrmex cornetzi* var. *binittatus*
- Trachymyrmex dichrous*

Trachymyrmex diversus – *Trachymyrmex phippi*
Trachymyrmex nogalensis
Trachymyrmex oetkeri
Trachymyrmex opulentus
Trachymyrmex papulatus
Trachymyrmex phaleratus
Trachymyrmex pruinosis spinosior
Trachymyrmex relictus
Trachymyrmex ruthae

Trachymyrmex smithi
Trachymyrmex smithi neomexicanus
Trachymyrmex tucuche
Trachymyrmex tucumanus – *Trachymyrmex* (*Acromyrmex*)
iberingi var. *cordovanus*
Trachymyrmex tucumanus var. *weiseri*
Trachymyrmex turrifex
Trachymyrmex verrucosus
Trachymyrmex zeteki