JOURNAL OF NATURAL HISTORY, 1995, 29, 1037–1056

A taxonomic and zoogeographical census of the extant ant taxa (Hymenoptera: Formicidae)

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(*Accepted 12 April 1994*)

The numbers of extant ant taxa in the world are analysed taxonomically and zoogeographically. A table detailing numbers of subfamilies, tribes and genera, and the numbers of species they contain, and one analysing the number of species per genus per zoogeographical region, are presented. Subfamilies are analysed by number and percentage of genera and species; the most speciose genera are isolated and listed in terms of absolute size and speciosity per subfamily. Tables detailing total numbers of genera and species per subfamily per region, and endemic genera per subfamily per region are given, and the endemicity and speciosity of genera are tabulated on a regional basis.

KEYWORDS: Formicidae, census, enumeration, taxonomy, zoogeography.

Introduction

In recent years it has become commonplace for students of taxonomy and biodiversity to ask how many taxa of various groups have been described, or are currently in existence, on the whole planet or part of its surface. The object of the exercise is to obtain numerical data by which taxa or regions can be compared, or by which changes in faunal composition with changing circumstances can be measured.

With the ants this guessing game has been going on for many years. A number of authors have given estimates of the number of described ant species, and their figures tend to increase with time. For instance Wheeler (1910) reckoned that there were 'about 5000 described species, subspecies and varieties' of ants. Given that the proportion of infraspecific names was about 30% at that time, this leaves approximately 3500 species. Later Wheeler (1922) revised this to 5031 described 'species and races or subspecies', which again gives about 3500 actual species.

This estimate was repeated by Richards and Davies (1964), by which time it was patently far too low. Bernard (1967) guessed that there were 7600 species, and Passera (1984) gave a figure of 6000. No details were presented of how these widely divergent figures were obtained. That they were underestimates is fairly obvious as Kempf (1972) gave a count of 2233 species in his catalogue for the Neotropical region alone. A more accurate estimate was given by Hölldobler and Wilson (1990). They reached a tally of 8804 species, and gave reasons explaining how they obtained this number.

This list of estimates is by no means exhaustive, but it gives an idea of the figures obtained by educated guesswork. Surprisingly the Hölldobler and Wilson estimate is not too bad; at least it comes within striking distance of the real number of 9538

described species (at 31 December 1993). The last figure was obtained, like all other numerical data presented here, from a new catalogue of the world's ants (Bolton, 1995), which is now in press.

A second guessing game ran in parallel with the above. This was to give an estimate of the total number of ant species on Earth. Not only the described species but also those that remained to be discovered and described. These guesses range, in recent years, from 12 000 (Wilson, 1971; Sudd and Franks, 1987), to 15 000 (Gauld and Bolton, 1988). Hölldobler and Wilson (1990) reckon that there may be 20 000 species in total, or possibly more.

Estimates of the ant genera of the world are rather better documented. Wheeler (1922) gave a list of the world genera and their distribution, and Brown (1973) presented a updated and taxonomically more realistic table of generic distribution.

The present paper aims to analyse numerically the ant taxa of the world, by taxonomic and zoogeographical distribution, up to the cut-off date of 31 December 1993. Readers interested in a more detailed history of any of the taxa involved should consult Bolton (1995).

Census by taxonomic distribution

The synoptic classification utilized here is that given by Bolton (1994), with a few minor modifications, mostly to delete taxa known to be currently in press but not published by the cut-off date of 31 December 1993. The list enumerates only described extant taxa that are currently considered to be valid.

Numbers per family-group and genus-group taxon

Family **FORMICIDAE**
(16 subfamilies, 59 tribes, 296 genera, 9538 species)
Subfamily **Aenictinae** (1 tribe, 1 genus, 109 species)
Tribe **Aenictini** (1 genus, 109 species)
Aenictus (109 species)
Subfamily **Aenictogitoninae** (1 tribe, 1 genus, 7 species)
Tribe **Aenictogitonini** (1 genus, 7 species)
Aenictogiton (7 species)

Subfamily **Aneuretinae** (1 tribe, 1 genus, 1 species)
Tribe **Aneuretini** (1 genus, 1 species)
Aneuretus (1 species)

Subfamily **Apomyrminae** (1 tribe, 1 genus, 1 species)
Tribe **Apomyrmini** (1 genus, 1 species)
Apomyrma (1 species)

Subfamily **Cerapachyinae** (3 tribes, 5 genera, 198 species)
Tribe **Acanthostichini** (1 genus, 11 species)
Acanthostichus (11 species)
Tribe **Cylindromyrmecini** (1 genus, 10 species)
Cylindromyrmex (10 species)
Tribe **Cerapachyini** (3 genera, 177 species)
Cerapachys (139 species)
Simopone (16 species)
Sphinctomyrmex (22 species)

Subfamily **Dolichoderinae** (1 tribe, 22 genera, 554 species)
Tribe **Dolichoderini** (22 genera, 554 species)
Anillidris (1 species)

Anonychomyrma (24 species)
Axinidris (13 species)
Azteca (70 species)
Bothriomyrmex (34 species)
Doleromyrma (1 species)
Dolichoderus (110 species)
Dorymyrmex (48 species)
Ecphorella (1 species)
Forelius (17 species)
Froggattella (2 species)
Iridomyrmex (53 species)
Leptomyrmex (16 species)
Linepithema (14 species)
Liometopum (7 species)
Loweriella (1 species)
Ochetellus (7 species)
Papyrius (2 species)
Philidris (7 species)
Tapinoma (60 species)
Technomyrmex (59 species)
Turneria (7 species)

Subfamily **Dorylinae** (1 tribe, 1 genus, 61 species)
Tribe **Dorylini** (1 genus, 61 species)
Dorylus (61 species)
Subfamily **Ecitoninae** (2 tribes, 5 genera, 146 species)
Tribe **Cheliomyrmecini** (1 genus, 4 species)
Cheliomyrmex (4 species)
Tribe **Ecitonini** (4 genera, 142 species)
Eciton (12 species)
Labidus (8 species)
Neivamyrmex (120 species)
Nomamyrmex (2 species)

Subfamily **Formicinae** (13 tribes, 49 genera, 2458 species)
Tribe **Brachymyrmecini** (5 genera, 46 species)
Aphomomyrmex (1 species)
Brachymyrmex (38 species)
Cladomyrma (5 species)
Petalomyrmex (1 species)
Pseudaphomomyrmex (1 species)
Tribe **Bregmatomyrmini** (1 genus, 1 species)
Bregmatomyrma (1 species)
Tribe **Camponotini** (10 genera, 1467 species)
Calomyrmex (9 species)
Camponotus (931 species)
Dendromyrmex (7 species)
Echinopla (22 species)
Forelophilus (1 species)
Notostigma (2 species)
Opisthopsis (13 species)
Overbeckia (1 species)
Phasmomyrmex (4 species)
Polyrhachis (477 species)
Tribe **Formicini** (7 genera, 258 species)
Alloformica (4 species)
Bajcaridris (3 species)
Cataglyphis (63 species)
Formica (157 species)
Polyergus (5 species)
Proformica (24 species)
Rossomyrmex (2 species)
Tribe **Gesomyrmecini** (1 genus, 5 species)
Gesomyrmex (5 species)
Tribe **Gigantiopini** (1 genus, 1 species)
Gigantiops (1 species)
Tribe **Lasiini** (8 genera, 292 species)
Acanthomyops (16 species)
Euprenolepis (6 species)
Lasius (76 species)
Myrmecocystus (29 species)
Paratrechina (107 species)
Prenolepis (9 species)
Pseudolasius (48 species)
Teratomyrmex (1 species)
Tribe **Melophorini** (6 genera, 58 species)
Lasiophanes (5 species)
Melophorus (21 species)
Myrmecorhynchus (5 species)
Notoncus (6 species)
Prolasius (19 species)
Pseudonotoncus (2 species)
Tribe **Myrmelachistini** (1 genus, 47 species)
Myrmelachista (47 species)
Tribe **Myrmoteratini** (1 genus, 31 species)
Myrmoteras (31 species)
Tribe **Oecophyllini** (1 genus, 2 species)
Oecophylla (2 species)

Tribe **Plagiolepidini** (6 genera, 249 species)
Acropyga (56 species)
Agraulomyrmex (2 species)
Anoplolepis (22 species)
Lepisiota (68 species)
Plagiolepis (53 species)
Stigmacros (48 species)
Tribe **Santschiellini** (1 genus, 1 species)
Santschiella (1 species)

Subfamily **Leptanillinae** (2 tribes, 7 genera, 39 species)
Tribe **Anomalomyrmini** (2 genera, 2 species)
Anomalomyrma (1 species)
Protanilla (1 species)
Tribe **Leptanillini** (5 genera, 37 species)
Leptanilla (32 species)
Noonilla (1 species)
Phaulomyrma (1 species)
Scyphodon (1 species)
Yavnella (2 species)

Subfamily **Leptanilloidinae** (1 tribe, 1 genus, 1 species)
Tribe **Leptanilloidini** (1 genus, 1 species)
Leptanilloides (1 species)

Subfamily **Myrmeciinae** (1 tribe, 1 genus, 89 species)
Tribe **Myrmeciini** (1 genus, 89 species)
Myrmecia (89 species)

Subfamily **Myrmicinae** (23 tribes, 155 genera, 4377 species)
Tribe **Agroecomyrmecini** (1 genus, 1 species)
Tatuidris (1 species)
Tribe **Attini** (12 genera, 205 species)
Acromyrmex (25 species)
Apterostigma (27 species)
Atta (15 species)
Cyphomyrmex (37 species)
Mycetarotes (2 species)
Mycetophylax (6 species)
Mycetosoritis (4 species)
Mycocepurus (4 species)
Myrmicocrypta (24 species)
Pseudoatta (1 species)
Sericomyrmex (19 species)
Trachymyrmex (41 species)
Tribe **Basicerotini** (7 genera, 64 species)
Basiceros (6 species)
Creightonidris (1 species)
Eurhopalothrix (35 species)
Octostruma (10 species)
Protalaridris (1 species)
Rhopalothrix (10 species)
Talaridris (1 species)
Tribe **Blepharidattini** (2 genera, 12 species)
Blepharidatta (2 species)
Wasmannia (10 species)
Tribe **Cataulacini** (1 genus, 65 species)
Cataulacus (65 species)
Tribe **Cephalotini** (4 genera, 116 species)
Cephalotes (3 species)
Eucryptocerus (3 species)
Procryptocerus (39 species)
Zacryptocerus (71 species)
Tribe **Crematogastrini** (1 genus, 427 species)
Crematogaster (427 species)
Tribe **Dacetonini** (26 genera, 395 species)
Acanthognathus (6 species)
Asketogenys (1 species)
Chelystruma (1 species)
Cladarogenys (1 species)
Codiomyrmex (1 species)
Codioxenus (1 species)
Colobostruma (9 species)
Daceton (1 species)
Dorisidris (1 species)
Dysedrognathus (1 species)
Epitritus (8 species)
Epopostruma (3 species)
Glamyromyrmex (21 species)
Gymnomyrmex (7 species)
Kyidris (3 species)
Mesostruma (6 species)
Microdaceton (2 species)
Neostruma (6 species)
Orectognathus (29 species)

Pentastruma (2 species)
Quadristruma (2 species)
Serrastruma (12 species)
Smithistruma (102 species)
Strumigenys (167 species)
Tingimyrmex (1 species)
Trichoscapa (1 species)
Tribe **Formicoxenini** (23 genera, 502 species)
Ankylomyrma (1 species)
Atopomyrmex (3 species)
Cardiocondyla (38 species)
Chalepoxenus (8 species)
Dilobocondyla (9 species)
Doronomyrmex (4 species)
Epimyrma (11 species)
Formicoxenus (7 species)
Harpagoxenus (3 species)
Ireneopone (1 species)
Leptothorax (310 species)
Paratopula (9 species)
Peronomyrmex (1 species)
Podomyrma (57 species)
Poecilomyrma (1 species)
Protomognathus (1 species)
Romblonella (8 species)
Rotastruma (2 species)
Stereomyrmex (1 species)
Teratanerr (12 species)
Tricytarus (1 species)
Vombisidris (12 species)
Willowsiella (2 species)
Tribe **Melissotarsini** (2 genera, 7 species)
Melissotarsus (4 species)
Rhopalomastix (3 species)
Tribe **Meranoplini** (1 genus, 54 species)
Meranoplus (54 species)
Tribe **Metaponini** (4 genera, 75 species)
Liomyrmex (8 species)
Metapone (16 species)
Vollenhovia (48 species)
Xenomyrmex (3 species)
Tribe **Myrmecinini** (4 genera, 77 species)
Acanthomyrmex (11 species)
Myrmecina (26 species)
Perissomyrmex (2 species)
Pristomyrmex (38 species)
Tribe **Myrmicariini** (1 genus, 31 species)
Myrmicaria (31 species)
Tribe **Myrmicini** (6 genera, 181 species)
Eutetramorium (2 species)
Huberia (2 species)
Hylomyrma (13 species)
Manica (6 species)
Myrmica (100 species)
Pogonomyrmex (58 species)
Tribe **Ochetomyrmecini** (2 genera, 9 species)
Ochetomyrmex (5 species)
Tranopelta (4 species)
Tribe **Phalacromyrmecini** (3 genera, 3 species)
Ishakidris (1 species)
Phalacromyrmex (1 species)
Pilotrochus (1 species)
Tribe **Pheidolini** (9 genera, 852 species)
Aphaenogaster (140 species)
Chimaeridris (2 species)
Goniomma (5 species)
Kartidris (4 species)
Lophomyrmex (4 species)
Messor (106 species)
Ocymyrmex (37 species)
Oxyopomyrmex (9 species)
Pheidole (545 species)
Tribe **Pheidologetonini** (9 genera, 159 species)
Adlerzia (1 species)
Afroxyidris (1 species)
Anisopheidole (1 species)
Carebara (18 species)
Machomyrma (1 species)
Oligomyrmex (93 species)
Paedalgus (10 species)
Pheidologeton (27 species)
Recurvidris (7 species)
Tribe **Solenopsidini** (13 genera, 539 species)
Allomerus (3 species)
Anillomyrma (2 species)
Antichthonidris (2 species)

Bondroitia (2 species)
Carebarella (3 species)
Diplomorium (1 species)
Epelysidris (1 species)
Megalomyrmex (33 species)
Monomorium (296 species)
Nothidris (3 species)
Oxyepoecus (11 species)
Phacota (1 species)
Solenopsis (181 species)
Tribe **Stegomyrmecini** (1 genus, 3 species)
Stegomyrmex (3 species)
Tribe **Stenammini** (16 genera, 144 species)
Adelomyrmex (6 species)
Ancyridris (2 species)
Baracidris (2 species)
Bariamyrma (1 species)
Calyptomyrmex (24 species)
Cyphoidris (4 species)
Dacetinops (7 species)
Dicroaspis (2 species)
Indomyrma (1 species)
Lachnomyrmex (3 species)
Lordomyrma (16 species)
Mayriella (5 species)
Proatta (1 species)
Rogeria (27 species)
Stenamma (42 species)
Tetheamyrma (1 species)
Tribe **Tetramoriini** (7 genera, 456 species)
Anergates (1 species)
Decamorium (2 species)
Rhoptromyrmex (10 species)
Secostruma (1 species)
Strongylognathus (25 species)
Teleutomyrmex (2 species)
Tetramorium (415 species)
Subfamily **Nothomyrmeciinae** (1 tribe, 1 genus, 1 species)
Tribe **Nothomyrmeciini** (1 genus, 1 species)
Nothomyrmecia (1 species)
Subfamily **Ponerinae** (6 tribes, 42 genera, 1299 species)
Tribe **Amblyoponini** (7 genera, 89 species)
Amblyopone (62 species)
Concoctio (1 species)
Myopopone (1 species)
Mystrium (8 species)
Onychomyrmex (3 species)
Paraprionopelta (1 species)
Prionopelta (13 species)
Tribe **Ectatommini** (9 genera, 296 species)
Acanthoponera (4 species)
Aulacopone (1 species)
Discothyrea (27 species)
Ectatomma (14 species)
Gnamptogenys (99 species)
Heteroponera (16 species)
Paraponera (1 species)
Proceratium (29 species)
Rhytidoponera (105 species)
Tribe **Platythyreini** (2 genera, 50 species)
Platythyrea (37 species)
Probolomyrmex (13 species)
Tribe **Ponerini** (22 genera, 853 species)
Anochetus (86 species)
Asphinctopone (3 species)
Belonopelta (2 species)
Centromyrmex (10 species)
Cryptopone (15 species)
Diacamma (19 species)
Dinoponera (6 species)
Dolioponera (1 species)
Emeryopone (3 species)
Harpegnathos (7 species)
Hypoponera (133 species)
Leptogenys (206 species)
Myopias (33 species)
Odontomachus (55 species)
Odontoponera (1 species)
Pachycondyla (201 species)
Phrynoponera (5 species)
Plectroctena (17 species)
Ponera (33 species)
Psalidomyrmex (6 species)
Simopelta (10 species)
Streblognathus (1 species)
Tribe **Thaumatomyrmecini** (1 genus, 5 species)
Thaumatomyrmex (5 species)
Tribe **Typhlomyrmecini** (1 genus, 6 species)

Typhlomyrmex (6 species)

Subfamily **Pseudomyrmecinae** (1 tribe, 3 genera, 197 species)
Tribe **Pseudomyrmecini** (3 genera, 197 species)

Myrcidris (1 species)
Pseudomyrmex (118 species)
Tetraponera (78 species)

Subfamilies ranked by number of species

Subfamily	No. of species	No. of genera	Percentage of species	Percentage of genera
Myrmicinae	4377	155	45·89	52·34
Formicinae	2458	49	25·77	16·55
Ponerinae	1299	42	13·62	14·19
Dolichoderinae	554	22	5·81	7·43
Cerapachyinae	198	5	2·08	1·69
Pseudomyrmecinae	197	3	2·07	1·01
Ecitoninae	146	5	1·53	1·69
Aenictinae	109	1	1·14	0·34
Myrmeciinae	89	1	0·93	0·34
Dorylinae	61	1	0·64	0·34
Leptanillinae	39	7	0·41	2·36
Aenictogitoninae	7	1	0·07	0·34
Aneuretinae	1	1	0·01	0·34
Apomyrminae	1	1	0·01	0·34
Leptanilloidinae	1	1	0·01	0·34
Nothomyrmeciinae	1	1	0·01	0·34
Total	9538	296		

The giant genera

The arbitrary figure of 100 species is nominated as constituting a giant genus. Currently there are 24 ant genera with ≥ 100 species, listed below by decreasing number of species.

Genus	Species	Genus	Species
Camponotus	931	*Aphaenogaster*	140
Pheidole	545	*Cerapachys*	139
Polyrhachis	477	*Hypoponera*	133
Crematogaster	427	*Neivamyrmex*	120
Tetramorium	415	*Pseudomyrmex*	118
Leptothorax	310	*Dolichoderus*	110
Monomorium	296	*Aenictus*	109
Leptogenys	206	*Paratrechina*	107
Pachycondyla	201	*Messor*	106
Solenopsis	181	*Rhytidoponera*	105
Strumigenys	167	*Smithistruma*	102
Formica	157	*Myrmica*	100

Total number of species included in the 24 giant genera, which constitute 8% of the total number of genera: 5702, or just under 60% of the total number of species.

The 10 most speciose genera of the larger subfamilies

Myrmicinae	Species	Ponerinae	Species
1. *Pheidole*	545	1. *Leptogenys*	206
2. *Crematogaster*	427	2. *Pachycondyla*	201
3. *Tetramorium*	415	3. *Hypoponera*	133
4. *Leptothorax*	310	4. *Rhytidoponera*	105
5. *Monomorium*	296	5. *Gnamptogenys*	99
6. *Solenopsis*	181	6. *Anochetus*	86
7. *Strumigenys*	167	7. *Amblyopone*	63
8. *Aphaenogaster*	140	8. *Odontomachus*	55
9. *Messor*	106	9. *Platythyrea*	37
10.*Smithistruma*	102	10.*Myopias*	33

Formicinae	Species	Dolichoderinae	Species
1. *Camponotus*	931	1. *Dolichoderus*	110
2. *Polyrhachis*	477	2. *Azteca*	70
3. *Formica*	157	3. *Tapinoma*	60
4. *Paratrechina*	107	4. *Technomyrmex*	59
5. *Lasius*	76	5. *Iridomyrmex*	53
6. *Lepisiota*	68	6. *Dorymyrmex*	48
7. *Cataglyphis*	63	7. *Bothriomyrmex*	34
8. *Acropyga*	56	8. *Anonychomyrma*	24
9. *Plagiolepis*	53	9. *Forelius*	17
10.*Pseudolasius*	48	10.*Leptomyrmex*	16

Speciosity of genera

No. of species in genus	No. of genera in that interval	No. of species in genus	No. of genera in that interval
1–9	172	70–79	4
10–19	37	80–89	2
20–29	19	90–99	2
30–39	15	100–109	6
40–49	7	110–209	0–2
50–59	8	210–309	0
60–69	6	310–939	0–1

Census by zoogeographical distribution

Zoogeographical regions

As far as the ant fauna is concerned the world can be split into 8 zoogeographical regions. Some of these are better defined than others in terms of faunal distinctness, but each has a reasonable number of endemics found there and nowhere else. Many of the regional names are widely used by zoogeographers and do not need redefining here, for instance Palaearctic, Nearctic, and Neotropical, but the limits of others deserve a few comments as they show some divergence from classical usage.

The Afrotropical (= Ethiopian) region includes all subsaharan Africa and the southern half of the Saudi Arabian Peninsula, but excludes Madagascar and its nearby islands, which constitute the Malagasy region. The classical Oriental region is here divided into 2, Oriental and Indo-Australian (= Malesian). The latter includes the Malay Peninsula, Philippines, East Malaysia, Indonesia up to and including the island of New Guinea, and the island systems of the Pacific Ocean. The Oriental region consists of Pakistan, Sri Lanka, the whole Indian subcontinent to the Himalayas, southern China and Taiwan, and the countries of Burma (Myanmar), Thailand, Cambodia, Laos, and Vietnam. The Australasian region contains the Australian continent, New Caledonia and New Zealand.

In the zoogeographical sections that follow the various regions are abbreviated thus: NEO, Neotropical; NEA, Nearctic; PAL, Palaearctic; AFR, Afrotropical (Ethiopian); MAL, Malagasy; ORI, Oriental; INA, Indo-Australian (Malesian); and AUS, Australasian.

Number of genera per subfamily per region

	NEO	NEA	PAL	AFR	MAL	ORI	INA	AUS	Total
Aenictinae			1	1		1	1	1	1
Aenictogitoninae				1					1
Aneuretinae						1			1
Apomyrminae				1					1
Cerapachyinae	4	1	1	3	3	2	3	2	5
Dolichoderinae	8	5	5	4	3	8	12	13	22
Dorylinae			1	1		1	1		1
Ecitoninae	5	3							5
Formicinae	9	10	16	15	7	16	21	18	49
Leptanillinae			3	1		4	6	1	7
Leptanilloidinae	1								1
Myrmeciinae								1	1
Myrmicinae	66	31	31	38	22	46	58	35	155
Nothomyrmeciinae								1	1
Ponerinae	24	11	11	23	10	21	23	21	42
Pseudomyrmecinae	2	1	1	1	1	1	1	1	3
Total by region	118	62	70	89	46	101	126	94	
Total number of genera of the world									296

Number of endemic genera per subfamily per region

	NEO	NEA	PAL	AFR	MAL	ORI	INA	AUS
Aenictinae								
Aenictogitoninae				1				
Aneuretinae						1		
Apomyrminae				1				
Cerapachyinae	2							
Dolichoderinae	3			2			1	2
Dorylinae								
Ecitoninae	2							
Formicinae	4	2	3	5			6	8
Leptanillinae							3	
Leptanilloidinae	1							
Myrmeciinae								1
Myrmecinae	39	1	8	12	3	4	12	7
Nothomyrmeciinae								1
Ponerinae	9		1	8				1
Pseudomyrmecinae	1							
Totals by region	60	3	12	29	3	5	22	20

Out of the 296 described genera 154 (52%) are restricted to a single zoogeographical region.

As can be seen, the absolute numbers of genera in a region and the numbers of endemic genera do not rank the regions in the same way. In terms of total numbers of genera the order is INA (126), NEO (118), ORI (101), AUS (94), AFR (89), PAL (70), NEA (62), MAL (46). But in terms of endemicity, expressed here as a percentage of the total number of genera, the order is NEO (51%), AFR (33%), AUS (22%), INA (18%), PAL (17%), MAL (7%), NEA (5%), ORI (5%); a radically different order in which only NEA occupies the same relative position. It is interesting, though perhaps

Number of described species per subfamily per region

	NEO	NEA	PAL	AFR	MAL	ORI	INA	AUS	Total
Aenictinae			8	34		27	37	3	109
Aenictogitoninae				7					7
Aneuretinae						1			1
Apomyrminae				1					1
Cerapachyinae	25	3	5	35	7	17	45	61	198
Dolichoderinae	209	15	45	52	10	31	88	104	554
Dorylinae				57		3	1		61
Ecitoninae	129	17							146
Formicinae	422	199	345	320	59	217	578	318	2458
Leptanillinae			20	3		5	10	1	39
Leptanilloidinae	1								1
Myrmeciinae								89	89
Myrmicinae	1109	299	688	906	118	337	643	277	4377
Nothomyrmeciinae								1	1
Ponerinae	348	18	39	239	44	120	289	202	1299
Pseudomyrmecinae	115	4	1	32	13	13	18	1	197
Total	2358	555	1151	1686	251	771	1709	1057	9538

not surprising, to note that the regions that formed part of the ancient Gondwanaland (NEO, AFR, AUS) today show the highest levels of endemicity.

Six subfamilies occur in every zoogeographical region: Cerapachyinae, Dolichoderinae, Formicinae, Myrmicinae, Ponerinae, Pseudomyrmecinae.

No single region has all 16 subfamilies. Number of subfamilies per region is Afrotropical (11), Oriental and Australasian (10 each), Indo-Australian (9), Neotropical and Palaearctic (8 each), Nearctic (7), and Malagasy (6).

Four regions have endemic subfamilies that are: Afrotropical: Aenictogitoninae and Apomyrminae; Oriental: Aneuretinae; Neotropical: Leptanilloidinae; and Australasian: Myrmeciinae and Nothomyrmeciinae.

Two subfamilies are peculiar to the New World: Ecitoninae and Leptanilloidinae. Eight are peculiar to the Old World: Aenictinae, Aenictogitoninae, Aneuretinae, Apomyrminae, Dorylinae, Leptanillinae, Myrmeciinae and Nothomyrmeciinae. Of the Old World subfamilies that are not restricted to a single region, note that Aenictinae and Leptanillinae are absent from Malagasy, and that Dorylinae is absent from Malagasy and Australasian.

Number of described species per genus per region

The vast majority of species are restricted to a single zoogeographical region but there are a number of pantropical or cosmopolitan tramp species that have been widely dispersed by human commercial activity. Their presence in regions other than that of their origin can be considered artificial, even though a very few may now be considered naturalised in some areas where they have been introduced. Most depend upon the continued presence of humans and their activities to maintain themselves where they have been introduced. Therefore each species is recorded only once, under the zoogeographical region that contains its type locality.

	NEO	NEA	PAL	AFR	MAL	ORI	INA	AUS	Total
Acanthognathus	6								6
Acanthomyops	1	15							16
Acanthomyrmex						2	9		11
Acanthoponera	4								4
Acanthostichus	10	1							11
Acromyrmex	25								25
Acropyga	27	1	2	2	1	6	15	2	56
Adelomyrmex	3						3		6
Adlerzia								1	1
Aenictogiton				7					7
Aenictus			8	34		27	37	3	109
Afroxyidris				1					1
Agraulomyrmex				2					2
Alloformica			4						4
Allomerus	3								3
Amblyopone	11	3	9	3	1	9	8	18	62
Ancyridris							2		2
Anergates			1						1
Aneuretus						1			1
Anillidris	1								1
Anillomyrma						1	1		2

Anisopheidole								1	1
Ankylomyrma				1					1
Anochetus	23		3	18	2	14	22	4	86
Anomalomyrma							1		1
Anonychomyrma							14	10	24
Anoplolepis			2	19			1		22
Antichthonidris	2								2
Aphaenogaster	8	19	77		4	20	8	4	140
Aphomomyrmex				1					1
Apomyrma				1					1
Apterostigma	27								27
Asketogenys							1		1
Asphinctopone				3					3
Atopomyrmex				3					3
Atta	14	1							15
Aulacopone			1						1
Axinidris				13					13
Azteca	70								70
Bajcaridris			3						3
Baracidris				2					2
Bariamyrma	1								1
Basiceros	6								6
Belonopelta	2								2
Blepharidatta	2								2
Bondroitia				2					2
Bothriomyrmex			26			3	1	4	34
Brachymyrmex	35	1	1		1				38
Bregmatomyrma							1		1
Calomyrmex							3	6	9
Calyptomyrmex				16		5	3		24
Camponotus	259	42	106	160	46	80	150	88	931
Cardiocondyla	2	1	14	6	2	3	10		38
Carebara	5			11		1	1		18
Carebarella	3								3
Cataglyphis			59	1		3			63
Cataulacus				39	7	5	14		65
Centromyrmex	3			5		1	1		10
Cephalotes	3								3
Cerapachys	4	2	5	24	4	14	41	45	139
Chalepoxenus			8						8
Cheliomyrmex	4								4
Chelystruma	1								1
Chimaeridris							2		2
Cladarogenys				1					1
Cladomyrma							5		5
Codiomyrmex	1								1
Codioxenus	1								1
Colobostruma							1	8	9
Concoctio				1					1

Creightonidris	1								1
Crematogaster	72	27	27	129	20	44	89	19	427
Cryptopone	1	1	2	1		5	4	1	15
Cylindromyrmex	10								10
Cyphoidris				4					4
Cyphomyrmex	36	1							37
Dacetinops							7		7
Daceton	1								1
Decamorium				2					2
Dendromyrmex	7								7
Diacamma						5	13	1	19
Dicroaspis				2					2
Dilobocondyla						2	7		9
Dinoponera	6								6
Diplomorium				1					1
Discothyrea	7	1		7		2	3	7	27
Doleromyrma								1	1
Dolichoderus	54	4	2			9	20	21	110
Dolioponera				1					1
Dorisidris	1								1
Doronomyrmex		1	3						4
Dorylus				57		3	1		61
Dorymyrmex	41	7							48
Dysedrognathus							1		1
Echinopla							20	2	22
Eciton	12								12
Ecphorella				1					1
Ectatomma	14								14
Emeryopone			1			1	1		3
Epelysidris							1		1
Epimyrma			11						11
Epitritus			3	4			1		8
Epopostruma								3	3
Eucryptocerus	3								3
Euprenolepis							6		6
Eurhopalothrix	10	1					21	3	35
Eutetramorium					2				2
Forelius	16	1							17
Forelophilus							1		1
Formica	6	93	50			8			157
Formicoxenus		5	2						7
Froggattella								2	2
Gesomyrmex						2	3		5
Gigantiops	1								1
Glamyromyrmex	8			11				2	21
Gnamptogenys	70	1				7	21		99
Goniomma			5						5
Gymnomyrmex	7								7
Harpagoxenus		1	2						3

Harpegnathos						2	5		7
Heteroponera	12							4	16
Huberia								2	2
Hylomyrma	13								13
Hypoponera	35	1	9	36	6	7	28	11	133
Indomyrma						1			1
Ireneopone					1				1
Iridomyrmex							8	45	53
Ishakidris							1		1
Kartidris						4			4
Kyidris			1				2		3
Labidus	8								8
Lachnomyrmex	3								3
Lasiophanes	5								5
Lasius		13	49			14			76
Lepisiota			16	45		6	3		68
Leptanilla			19	3		4	5	1	32
Leptanilloides	1								1
Leptogenys	37	2		54	15	32	38	28	206
Leptomyrmex							7	9	16
Leptothorax	86	35	162	11	4	11	1		310
Linepithema	14								14
Liometopum	1	2	2			2			7
Liomyrmex						2	6		8
Lophomyrmex						3	1		4
Lordomyrma			1				10	5	16
Loweriella							1		1
Machomyrma								1	1
Manica		4	2						6
Mayriella						1		4	5
Megalomyrmex	33								33
Melissotarsus				3	1				4
Melophorus								21	21
Meranoplus				8	2	7	8	29	54
Mesostruma								6	6
Messor	1	7	81	15		2			106
Metapone					2	4	6	4	16
Microdaceton				2					2
Monomorium	8	8	49	142	8	30	8	43	296
Mycetarotes	2								2
Mycetophylax	6								6
Mycetosoritis	3	1							4
Mycocepurus	4								4
Myopias						2	28	3	33
Myopopone							1		1
Myrcidris	1								1
Myrmecia								89	89
Myrmecina	1	1	3			3	15	2	26
Myrmecocystus	8	21							29

Myrmecorhynchus								5	5
Myrmelachista	47								47
Myrmica	1	22	59			18			100
Myrmicaria				22		3	6		31
Myrmicocrypta	24								24
Myrmoteras						5	26		31
Mystrium				1	6	1			8
Neivamyrmex	103	17							120
Neostruma	6								6
Nomamyrmex	2								2
Noonilla							1		1
Nothidris	3								3
Nothomyrmecia								1	1
Notoncus								6	6
Notostigma								2	2
Ochetellus			1		1		2	3	7
Ochetomyrmex	5								5
Octostruma	10								10
Ocymyrmex				37					37
Odontomachus	24	2		2	1	2	22	2	55
Odontoponera							1		1
Oecophylla				1		1			2
Oligomyrmex	9	1	2	33	3	21	20	4	93
Onychomyrmex								3	3
Opisthopsis							5	8	13
Orectognathus							10	19	29
Overbeckia							1		1
Oxyepoecus	11								11
Oxyopomyrmex			9						9
Pachycondyla	57		1	53	7	21	43	19	201
Paedalgus				9		1			10
Papyrius								2	2
Paraponera	1								1
Paraprionopelta	1								1
Paratopula						2	7		9
Paratrechina	24	10	7	13	9	14	22	8	107
Pentastruma			1			1			2
Perissomyrmex	1					1			2
Peronomyrmex								1	1
Petalomyrmex				1					1
Phacota			1						1
Phalacromyrmex	1								1
Phasmomyrmex				4					4
Phaulomyrma							1		1
Pheidole	201	62	8	66	17	61	100	30	545
Pheidologeton				7		9	11		27
Philidris						1	6		7
Phrynoponera				5					5
Pilotrochus					1				1

Plagiolepis			17	18	2	11	1	4	53
Platythyrea	8			14	3	3	5	4	37
Plectroctena				17					17
Podomyrma							22	35	57
Poecilomyrma							1		1
Pogonomyrmex	34	24							58
Polyergus		2	3						5
Polyrhachis			1	47		54	280	95	477
Ponera		2	5			3	22	1	33
Prenolepis	2	1	1			3	2		9
Prionopelta	5			3	1		3	1	13
Pristomyrmex				5	2		25	6	38
Proatta							1		1
Probolomyrmex	2		2	3		2	3	1	13
Proceratium	4	5	6	5	2	1	5	1	29
Procryptocerus	39								39
Proformica			24						24
Prolasius								19	19
Protalaridris	1								1
Protanilla							1		1
Protomognathus		1							1
Psalidomyrmex				6					6
Pseudaphomomyrmex							1		1
Pseudoatta	1								1
Pseudolasius				5		10	32	1	48
Pseudomyrmex	114	4							118
Pseudonotoncus								2	2
Quadristruma	1						1		2
Recurvidris						2	5		7
Rhopalomastix						3			3
Rhopalothrix	8						1	1	10
Rhoptromyrmex			1	5		2	2		10
Rhytidoponera							12	93	105
Rogeria	21	2					4		27
Romblonella							7	1	8
Rossomyrmex			2						2
Rotastruma						1	1		2
Santschiella				1					1
Scyphodon							1		1
Secostruma							1		1
Sericomyrmex	19								19
Serrastruma				11	1				12
Simopelta	10								10
Simopone				9	3	1	3		16
Smithistruma	20	27	6	35		3	11		102
Solenopsis	90	18	45	10	2	5	5	6	181
Sphinctomyrmex	1			2		2	1	16	22
Stegomyrmex	3								3
Stenamma	5	18	17			2			42

Stereomyrmex						1			1
Stigmacros								48	48
Streblognathus				1					1
Strongylognathus			25						25
Strumigenys	55	1	2	39	2	6	48	14	167
Talaridris	1								1
Tapinoma	11	1	12	13	4	11	6	2	60
Tatuidris	1								1
Technomyrmex	1		2	25	5	5	18	3	59
Teleutomyrmex			2						2
Teratanet				6	6				12
Teratomyrmex								1	1
Tetheamyrma							1		1
Tetramorium	4	2	55	205	30	38	62	19	415
Tetraponera			1	32	13	13	18	1	78
Thaumatomyrmex	5								5
Tingimyrmex	1								1
Trachymyrmex	36	5							41
Tranopelta	4								4
Trichoscapa			1						1
Tricytarus							1		1
Turneria							5	2	7
Typhlomyrmex	6								6
Vollenhovia			2		1	4	40	1	48
Vombisidris						1	9	2	12
Wasmannia	10								10
Willowsiella							1	1	2
Xenomyrmex	2	1							3
Yavnella			1			1			2
Zacryptocerus	69	2							71

Genera with species occurring endemically in more than two regions

(1) Occurring endemically in all 8 regions
Cerapachyinae: *Cerapachys.*
Dolichoderinae: *Tapinoma.*
Formicinae: *Acropyga, Camponotus, Paratrechina.*
Myrmicinae: *Crematogaster, Monomorium, Oligomyrmex, Pheidole, Solenopsis, Strumigenys, Tetramorium.*
Ponerinae: *Amblyopone, Hypoponera, Proceratium.*

(2) Occurring endemically in 7 regions
Dolichoderinae: *Dolichoderus, Technomymex.*
Myrmicinae: *Aphaenogaster, Cardiocondyla, Leptothorax.*
Ponerinae: *Anochetus, Cryptopone, Leptogenys, Odontomachus, Pachycondyla.*

(3) Occurring endemically in 6 regions
Formicinae: *Plagiolepis.*
Myrmicinae: *Myrmecina, Smithistruma.*
Ponerinae: *Discothyrea, Platythyrea, Probolomyrmex.*
Pseudomyrmecinae: *Tetraponera.*

(4) Occurring endemically in 5 regions
Aenictinae: *Aenictus*.
Cerapachyinae: *Sphinctomyrmex*.
Formicinae: *Polyrhachis, Prenolepis*.
Leptanillinae: *Leptanilla*.
Myrmicinae: *Meranoplus, Messor, Vollenhovia*.
Ponerinae: *Ponera, Prionopelta*.

(5) Occurring endemically in 4 regions
Cerapachyinae: *Simopone*.
Dolichoderinae: *Bothriomyrmex, Liometopum, Ochetellus*.
Formicinae: *Brachymyrmex, Formica, Lepisiota, Pseudolasius*.
Myrmicinae: *Carebara, Cataulacus, Eurhopalothrix, Metapone, Myrmica, Pristomyrmex, Rhoptromyrmex, Stenamma*.
Ponerinae: *Centromyrmex, Gnamptogenys*.

(6) Occurring endemically in 3 regions
Dorylinae: *Dorylus*.
Formicinae: *Anoplolepis, Cataglyphis, Lasius*.
Myrmicinae: *Calyptomyrmex, Epitritus, Glamyromyrmex, Lordomyrma, Myrmicaria, Pheidologeton, Rhopalothrix, Rogeria, Vombisidris*.
Ponerinae: *Diacamma, Emeryopone, Myopias, Mystrium*.

Most speciose genera per region

Neotropical

Camponotus	259
Pheidole	201
Pseudomyrmex	114
Neivamyrmex	103
Solenopsis	90
Leptothorax	86
Crematogaster	72
Azteca	70
Gnamptogenys	70
Zacryptocerus	69
Pachycondyla	57
Strumigenys	55
Dolichoderus	54
Myrmelachista	47
Dorymyrmex	41

Nearctic

Formica	93
Pheidole	62
Camponotus	42
Leptothorax	35
Crematogaster	27
Smithistruma	27
Pogonomyrmex	24
Myrmica	22
Myrmecocystus	21
Aphaenogaster	19
Solenopsis	18
Stenamma	18
Neivamyrmex	17
Acanthomyops	16
Lasius	13

Palaearctic

Leptothorax	162
Camponotus	106
Messor	81
Aphaenogaster	77
Cataglyphis	59
Myrmica	59

Afrotropical

Tetramorium	205
Camponotus	160
Monomorium	142
Crematogaster	129
Pheidole	66
Dorylus	57

Tetramorium	55	*Leptogenys*	54
Formica	50	*Pachycondyla*	53
Lasius	49	*Polyrhachis*	47
Monomorium	49	*Lepisiota*	45
Solenopsis	45	*Cataulacus*	39
Crematogaster	27	*Strumigenys*	39
Bothriomyrmex	26	*Ocymyrmex*	37
Proformica	24	*Hypoponera*	36
Strongylognathus	25	*Smithistruma*	35

Oriental		Indo-australian	
Camponotus	80	*Polyrhachis*	280
Pheidole	61	*Camponotus*	150
Polyrhachis	54	*Pheidole*	100
Crematogaster	44	*Crematogaster*	89
Tetramorium	38	*Tetramorium*	62
Leptogenys	32	*Strumigenys*	48
Monomorium	30	*Pachycondyla*	43
Aenictus	27	*Cerapachys*	41
Oligomyrmex	21	*Vollenhovia*	40
Pachycondyla	21	*Leptogenys*	38
Aphaenogaster	20	*Aenictus*	37
Myrmica	18	*Pseudolasius*	32
Cerapachys	14	*Hypoponera*	28
Paratrechina	14	*Myopias*	28
Lasius	12	*Myrmoteras*	26

Australasian		Malagasy	
Polyrhachis	95	*Camponotus*	46
Rhytidoponera	93	*Tetramorium*	30
Myrmecia	89	*Crematogaster*	20
Camponotus	88	*Pheidole*	17
Cerapachys	45	*Leptogenys*	15
Iridomyrmex	45	*Tetraponera*	13
Monomorium	43	*Paratrechina*	9
Podomyrma	35	*Monomorium*	8
Pheidole	30	*Cataulacus*	7
Meranoplus	29	*Pachycondyla*	7
Leptogenys	28	*Hypoponera*	6
Dolichoderus	21	*Mystrium*	6
Melophorus	21	*Terataner*	6

Note: in the Australasian fauna there is a tie for 14 place. The following 5 genera each have 19 species: *Crematogaster, Orectognathus, Pachycondyla, Prolasius* and *Tetramorium*.

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