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First annotated checklist of the ant fauna of Turkey (Hymenoptera: Formicidae)

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Abstract

The first annotated checklist of the ants of Turkey is presented. A total of 306 valid names of species-group taxa (286 species, 20 subspecies) is recorded based on literature records and additional newly collected material carried out since 1998. Synonyms are included. New localities are added for some poorly known species. Four species (*Tapinoma subboreale*, *Formica georgica*, *Formica lugubris* and *Lasius balcanicus*) are reported for the first time and thirteen species (*Bothriomyrmex atlantis*, *B. meridionalis*, *Tapinoma madeirense*, *Camponotus robustus*, *Formica fuscocinerea*, *F. gagatoides*, *Rossomyrmex minuchae*, *Messor barbarus*, *Monomorium glabrum*, *M. salomonis*, *Myrmica vandeli*, *Stenamma westwoodii* and *Tetramorium forte*) are excluded from the list of Turkish ants.

Key words: Checklist, Formicidae, ants, new record, Turkey

Introduction

Turkey is an important region in terms of faunal diversity (Çıplak 2003). With an area of 780.000 km², it is an intersection of three phytogeographical regions—Circumboreal, Mediterranean and Irano-Turanien (Takhtajan 1986)—and a transition between the European and Asian faunas. The lack of a faunistic list for such a large and zoogeographically important area is a definite gap in our knowledge of Palaearctic ants. Moreover, the lack of a faunal list presents a challenge for myrmecological studies in Turkey.

The first record of the ant species from Turkey was given by Rigler (1852), who studied the fauna of İstanbul. Since then, many researchers have contributed taxonomic and faunistic studies on the ants of Turkey. These studies were performed by foreign researchers until the second half of the twentieth century (*e.g.* Forel 1906, Emery 1921a, Schkaff 1924, Santschi 1934, Donisthorpe 1950a), but more recently Turkish scientists have made many contributions (*e.g.* Aktaş 1976, Aras & Aktaş 1990, Aktaş *et al.* 1994, Kiran & Aktaş 2006). Although several hundred names of ant taxa are reported in these studies and nearly all neighbouring countries have at least one checklist (Atanassov & Dlussky 1992, Arakelian 1994, Gratiashvili & Barjadze 2008, Paknia *et al.* 2008, Lapeva-Gjonova *et al.* 2010, Legakis 2011), a complete list of the ant fauna of Turkey has not been published.

Therefore the aim of this study is to prepare for the first time a comprehensive list of the Turkish ant fauna that clarifies the valid names. With this study 306 valid names of species-group taxa are recorded. Four species are reported for the first time and thirteen species are excluded from the ant fauna of Turkey.

Material and methods

The list was prepared based on literature records and additional newly collected material carried out since 1998. The names of subfamilies, genera and species are given alphabetically. The valid species names are listed with synonyms, localities and literature data. The localities are given as numbers in brackets that indicate Turkish provinces as shown in Figure 1. If a published locality record was just a region (*e.g.* Asia Minor, Thrace) or included more than one province (*e.g.* Taurus Mts., Sultan Mt.), the locality is written as in the original publication.

Taxonomic comments are added in some cases. The lists of unavailable names, *nomina nuda*, unrecognisable taxa, unidentified taxa, and species excluded from the list are at the end of checklist. The validity of the names of taxa are based on Bolton (1995; 2012) and Bolton *et al.* (2007). The material collected by authors is deposited in the Collection of the Biological Department of Trakya University, Edirne, Turkey.

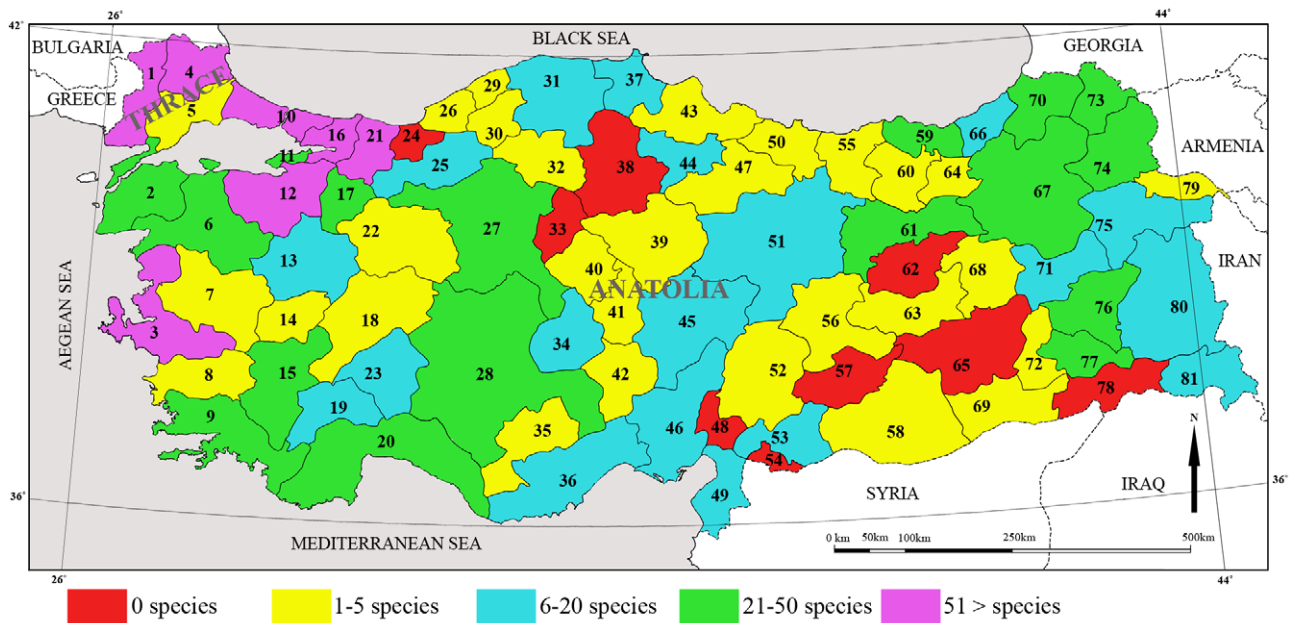


FIGURE 1. Provinces in Turkey. Numbers match distribution records in the checklist. Colours show comparative level of study, based on the recorded number of species. In the following list, numbers in parentheses indicate number of species recorded in that province. 1. Edirne (55); 2. Çanakkale (49); 3. İzmir (78); 4. Kırklareli (76); 5. Tekirdağ (2); 6. Balıkesir (30); 7. Manisa (1); 8. Aydın (5); 9. Muğla (38); 10. İstanbul (73); 11. Yalova (49); 12. Bursa (82); 13. Kütahya (7); 14. Uşak (1); 15. Denizli (22); 16. Kocaeli (56); 17. Bilecik (25); 18. Afyonkarahisar (5); 19. Burdur (8); 20. Antalya (29); 21. Sakarya (53); 22. Eskişehir (5); 23. Isparta (12); 24. Düzce (0); 25. Bolu (7); 26. Zonguldak (5); 27. Ankara (45); 28. Konya (21); 29. Bartın (1); 30. Karabük (3); 31. Kastamonu (12); 32. Çankırı (4); 33. Kırıkkale (0); 34. Aksaray (6); 35. Karaman (1); 36. Mersin (18); 37. Sinop (6); 38. Çorum (0); 39. Yozgat (2); 40. Kırşehir (1); 41. Nevşehir (1); 42. Niğde (5); 43. Samsun (2); 44. Amasya (6); 45. Kayseri (18); 46. Adana (14); 47. Tokat (2); 48. Osmaniye (0); 49. Hatay (8); 50. Ordu (2); 51. Sivas (6); 52. Kahramanmaraş (2); 53. Gaziantep (14); 54. Kilis (0); 55. Giresun (4); 56. Malatya (2); 57. Adıyaman (0); 58. Şanlıurfa (4); 59. Trabzon (27); 60. Gümüşhane (1); 61. Erzincan (30); 62. Tunceli (0); 63. Elazığ (2); 64. Bayburt (2); 65. Diyarbakır (0); 66. Rize (6); 67. Erzurum (36); 68. Bingöl (1); 69. Mardin (1); 70. Artvin (29); 71. Muş (13); 72. Batman (2); 73. Ardahan (29); 74. Kars (40); 75. Ağrı (18); 76. Bitlis (22); 77. Siirt (25); 78. Şırnak (0); 79. Iğdır (5); 80. Van (17); 81. Hakkâri (18).

Discussion

In this study, an annotated checklist of the ant fauna of Turkey was prepared for the first time. Nine subfamilies, 46 genera, 306 valid names of species-group taxa (286 species, 20 subspecies), seven unavailable names, three *nomina nuda*, three unrecognisable taxa and seven undetermined taxa are reported. Additionally, four species are recorded as new and thirteen species are excluded from the list of Turkish ants. Twenty five taxa occur only in the European part of Turkey, 138 taxa occur only in Anatolia, 135 taxa occur in both regions, and locality information of eight taxa are not clear. Consequently 160 taxa are known from the European part of Turkey and 273 from Anatolia.

The most diverse genera in terms of species and subspecies richness are *Camponotus* (38), *Temnothorax* (28), *Lasius* (24), *Tetramorium* (22), *Myrmica* (21), *Aphaenogaster* (20), *Messor* (20) and *Formica* (17).

The Turkish ant fauna contains 10 tramp species introduced accidentally by human commerce: *Camponotus variegatus*, *Lasius neglectus*, *Nylanderia jaegerskioeldi*, *N. vividula*, *Cardiocondyla mauritanica*, *Monomorium pharaonis*, *Pheidole megacephala*, *P. teneriffana*, *Strumigenys membranifera* and *Hypoconerpa eduardi*. *Nylanderia jaegerskioeldi*, *Pheidole megacephala*, *P. teneriffana* and *Strumigenys membranifera* have an

Afrotropical origin, *Monomorium pharaonis* is tropical Asian, *Cardiocondyla mauritanica* and *Hypoponera eduardi* are Mediterranean, *Lasius neglectus* is probably from Asia Minor (Seifert 2000a), *Nylanderia vividula* is North American, and *Camponotus variegatus* is Indo-Pacific (Trager 1984, McGlynn 1999, Wetterer *et al.* 2007, Wetterer 2010).

The Turkish ant fauna is also rich with respect to socially parasitic ant species. There are 17 permanent parasites: *Plagiolepis ampeloni*, *P. xene*, *Polyergus rufescens*, *Rossomyrmex anatolicus*, *Anergates atratulus*, *Chalepoxenus muellerianus*, *Formicoxenus nitidulus*, *Harpagoxenus sublaevis*, *Myrmoxenus gordiagini*, *M. kraussei*, *M. ravouxi*, *M. stumperi*, *Strongylognathus alpinus*, *S. huberi*, *S. kervillei*, *S. silvestrii* and *S. testaceus*. There are also 14 that are considered temporary parasites: *Bothriomyrmex adriacus* subsp. *anatolicus*, *B. communistus*, *B. corsicus*, *Formica exsecta*, *F. pratensis*, *F. rufa*, *F. sanguinea*, *Lasius carniolicus*, *L. distinguendus*, *L. fuliginosus*, *L. meridionalis*, *L. mixtus*, *L. rabaudi* and *L. umbratus*.

Seventeen species are included in the IUCN Red List of Threatened Species. Thirteen of them are in the vulnerable category and face a high risk of extinction: *Formicoxenus nitidulus* and *Harpagoxenus sublaevis* are in the A2 category; *Plagiolepis ampeloni*, *Anergates atratulus*, *Chalepoxenus muellerianus*, *Myrmoxenus gordiagini*, *M. kraussei*, *M. ravouxi*, *M. stumperi*, *Strongylognathus alpinus*, *S. huberi*, *S. kervillei* and *S. silvestrii* are in the D2 category. *Formica lugubris*, *F. pratensis* and *F. rufa* are in the Near Threatened category and are close to qualifying or are likely to qualify for a threatened category in the near future. *Temnothorax recedens* is in Least Concern category and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened status (IUCN 2001; 2012).

Twenty nine species were recorded for Turkey in previous publications without any specific locality information (*e.g.* "Turkey", "Asia Minor", "Anatolia", "Thrace", etc.). We report specific new locality data for five of them: *Messor syriacus*, *Monomorium perplexum*, *Lasius carniolicus*, *L. lasioides* and *L. myops*. The occurrence of the remaining 24 taxa needs confirmation.

Turkey has a very high number of ant species compared with the neighbouring countries. For instance, 256 taxa were recorded in Greece (Legakis 2011), 167 species in Bulgaria (Lapeva-Gjonova *et al.* 2010, Lapeva-Gjonova & Kiran 2012), 184 species in Iran (Paknia *et al.* 2008, Ghahari *et al.* 2009, Rafinejad *et al.* 2009, Paknia & Radchenko 2010, Paknia *et al.* 2010, Ghahari & Collingwood 2011), 116 species in Armenia (Arakelian 1994) and 144 species in Georgia (Gratiashvili *et al.* 2010). The high species richness of the Turkish ant fauna is due to i) multiple climatic regions, including the warm and humid conditions of the Black Sea coast, the continental climate of the Central Anatolian mountains and plateau and eastern Anatolian high plateau, and the southern Mediterranean coast with winter rainfall; ii) geological history, with barrier-forming mountain ranges and isolated volcanoes; and iii) being a refugium during last glacial period of the Pleistocene (Erol 1983, Schulz & Sanetra 2002).

The true number of species in Turkey is undoubtedly larger than reported here. Other than the European portions of Turkey and East and south west Anatolia, the remaining areas, including parts of the central area and almost all of the southeast Anatolian and Black Sea coastal areas, have been poorly studied. There are no ant records for 9 provinces: [24]—Düzce, [33]—Kırıkkale, [38]—Çorum, [48]—Osmaniye, [54]—Kilis, [57]—Adıyaman, [62]—Tunceli, [65]—Diyarbakır and [78]—Şırnak (Fig. 1).

List of species

Subfamily Aenictinae Emery

Aenictus rhodiensis Menozzi, 1936: [46] (Aktaş *et al.* 2004); [19], [20] (Kiran *et al.* 2008).

Subfamily Amblyoponinae Forel

Stigmatomma denticulatum Roger, 1859

as *Amblyopone denticulata*: [2], [9], [20], [23] (Baroni Urbani 1978); Thrace (Radchenko 2007).

as *Amblyopone denticulatum*: [9] (Aktaş 1976); Thrace (Agosti & Collingwood 1987).

Subfamily Cerapachyinae Forel

Cerapachys piochardi (Emery, 1882): Bolkar Mt. (Forel 1913).

Subfamily Dolichoderinae Forel

Bothriomyrmex adriacus subsp. *anatolicus* Emery, 1925: [16] (Emery 1925c).

as *Bothriomyrmex meridionalis* subsp. *atlantis* Forel, 1894: [16] (Forel 1911—misidentification).

as *Bothriomyrmex atlantis*: [16] (Emery 1913).

Comments: See the comments for *Bothriomyrmex meridionalis* subsp. *atlantis* in species excluded from the list of Turkish ants.

Bothriomyrmex communistus Santschi, 1919

as *Bothriomyrmex communista*: [77] (Aktaç 1976;1978); [61], [74], [76] (Aktaç 1988).

as *Bothriomyrmex adriacus* Santschi, 1922: Thrace (Aras & Aktaç 1990; Aktaç *et al.* 1994).

Bothriomyrmex corsicus Santschi, 1923: [1], [4] (Aktaç *et al.* 1994); [12] (Kiran & Aktaç 2006).

as *Bothriomyrmex meridionalis* (Roger, 1863): [12] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012) (misidentifications).

Comments: See the comments for *B. meridionalis* in species excluded from the list of Turkish ants.

Dolichoderus quadripunctatus (Linnaeus, 1771): [3] (Forel 1911); [10] (Schkaff 1924); Thrace (Agosti & Collingwood 1987; Radchenko 2007); [6], [18], [19], [23] (Ülgentürk 2001); [11], [16] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

as *Hypoclinea quadripunctata*: Thrace (Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994); [2] (Aras & Aktaç 1992).

Liometopum microcephalum (Panzer, 1798): Asia Minor (André 1882b); [77] (Aktaç 1976); [6] (Aktaç & Çamlıtepe 1987); [1] (Aras & Aktaç 1987); Thrace (Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [12] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

Tapinoma erraticum (Latreille, 1798): [12] (Emery 1897); [16] (Forel 1906;1911); [27] (Santschi 1921); [10] (Schkaff 1924); [11], [20], [27], [53], [76] (Donisthorpe 1950a); [3], [10] (Baroni Urbani 1964); [77] (Aktaç 1976;1978); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [6] (Aktaç & Çamlıtepe 1987); [1] (Aras & Aktaç 1987); [61], [67], [71], [74], [75], [76], [81] (Aktaç 1988); [2] (Aras & Aktaç 1992); [27] (Ülgentürk 2001; Özdemir *et al.* 2008); [11], [12], [16], [21] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

Tapinoma festae Emery, 1925: [20] (Lush 2009).

Comments: Emery (1925e) reported this species from Rhodes Island in Greece. After this record, no researchers found this species until Lush (2009) who recorded the species from southern Turkey. However, *T. festae* is very similar to *T. subboreale* (= *T. ambiguum*), which has a very large distribution in the western Palaearctic, from Spain to Ukraine. It is hard to distinguish these two species from each other; they differ only in the male genitalia. In addition, *T. festae* is known only from females and males. Lush's record is based on workers, and he did not comment on the differentiation between *T. festae* and *T. subboreale*. Therefore, the record of *T. festae* from Turkey needs confirmation.

Tapinoma nigerrimum (Nylander, 1856): [3] (Baroni Urbani 1964); Thrace (Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [2] (Aras & Aktaç 1992;1994).

as *Tapinoma erraticum* var. *nigerrimum*: [45] (Kohl 1905); [3] (Forel 1911).

as *Tapinoma erraticum* subsp. *nigerrimum*: [10] (Schkaff 1924).

Comments: Bolton (2012) lists *Formica nigerrima* Nylander, 1856 as an unresolved junior primary homonym of *Formica nigerrima* Christ, 1791 (now in *Lasius*). On the other hand, Seifert (2012a) lists *T. nigerrimum* as a valid species.

Tapinoma subboreale Seifert, 2012

as *Tapinoma madeirense* Forel, 1895: [1] (Kiran & Karaman 2012); [4] (Lapeva-Gjonova & Kiran 2012) (misidentifications).

Comments: Wetterer *et al.* (2007) considered the name *T. ambiguum* Emery, 1925 as a junior synonym of *T. madeirense* Forel, 1895. More recently Seifert (2012a) partly confirmed this synonymy and designated a lectotype of *T. ambiguum*. Simultaneously, he restricted distribution of *T. madeirense* to Madeira and southern France, and described a new species, *T. subboreale*, that include all other northern populations of the former *T. ambiguum*. Consequently, the records *T. madeirense* (Kiran & Karaman 2012; Lapeva-Gjonova & Kiran 2012) from Turkey belong to *T. subboreale* (a new species for the Turkish ant fauna), and *T. madeirense* is excluded from the list of Turkish ants.

Tapinoma simrothi Krausse, 1911: Asia Minor (Collingwood 1961).

Subfamily Dorylinae Leach

Dorylus affinis Shuckard, 1840: [36] (Donisthorpe 1950a,d).

Dorylus fulvus (Westwood, 1839): Asia Minor (Bondroit 1918).

Dorylus fulvus subsp. *juvenculus* Shuckard, 1840

as *Dorylus juvenculus*: Asia Minor (André 1882a).

as *Dorylus oraniensis* Lucas, 1849: Asia Minor (André 1882a).

Comments: This subspecies is distributed in North Africa and most probably these records are based on misidentifications, but this problem cannot be resolved without investigation of corresponding material.

Subfamily Formicinae Latreille

Camponotus aegaeus Emery, 1915: [11], [12], [17], [21] (Kiran & Aktaç 2006); [2], [6] (Karaman *et al.* 2011); [4] (Lapeva-Gjonova & Kiran 2012).

as *Camponotus libanicus* var. *aegaea*: [3] (Emery 1925a).

as *Camponotus aegaeus* (sic!): Thrace (Radchenko 2007).

as *Camponotus robustus* Roger, 1863: Anatolia (André 1882c); Asia Minor (Dalla Torre 1893).

Comments: See the comments for *C. robustus* in species excluded from the list of Turkish ants.

Camponotus aethiops (Latreille, 1798): [12] (Mayr 1861; Donisthorpe 1950a); [1] (Forel 1895; Aras & Aktaç 1987); [27] (Emery 1897; Özdemir *et al.* 2008); [3], [27] (Santschi 1921); [10] (Schkaff 1924; Baroni Urbani 1964); Thrace (Agosti & Collingwood 1987; Çamlitepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [61], [67], [71], [73], [74], [76], [80], [81] (Aktaç 1988); [2] (Aras & Aktaç 1992;1994); [23], [27], [42], [51] (Ülgentürk 2001); [11], [12], [16], [17], [21] (Kiran & Aktaç 2006); [27], [67] (Ionescu-Hirsh 2009); [2], [6] (Karaman *et al.* 2011); [1] (Kiran & Karaman 2012); [4] (Lapeva-Gjonova & Kiran 2012).

as *Formica marginata* Latreille, 1798: Turkey (Roger 1859).

as *Camponotus maculatus* subsp. *aethiops* var. *concava* Forel, 1888: [12] (Emery 1897).

as *Camponotus maculatus* r. *aethiops* var. *marginata*: Sultan Mt. (Forel 1906).

as *Camponotus maculatus* subsp. *aethiops*: [3], [10], [16] (Forel 1911).

as *Camponotus aethiops* var. *marginata*: [9] (Emery 1921a).

as *Camponotus aethiops* var. *concava*: Asia Minor (Emery 1925a).

as *Camponotus* (sic!) *aethiops*: [9], [59], [77] (Aktaç 1976).

Camponotus aethiops subsp. ***escherichi*** Emery, 1925

as *Camponotus maculatus* subsp. *oertzeni* var. *escherichi*: [17] (Emery 1897); [12] (Emery 1898).

as *Camponotus aethiops* var. *escherichi*: Asia Minor (Emery 1925a).

Camponotus armeniacus Arnol'di, 1967: Turkey (Radchenko 1996).

Camponotus baldaccii Emery, 1908: [8] (Espadaler & Lodos 1983); Thrace (Agosti & Collingwood 1987; Radchenko 2007); Asia Minor (Radchenko 1997a); [12] (Kiran & Aktaç 2006); [3] (Ionescu-Hirsh 2009); [2], [6] (Karaman *et al.* 2011).

as *Camponotus maculatus* subsp. *dichrous* var. *baldaccii*: [17] (Emery 1897).

as *Camponotus maculatus baldaccii*: Asia Minor (Emery 1908a).

as *Camponotus silvaticus* subsp. *baldaccii*: [9] (Aktaç 1976;1978).

Camponotus boghossiani Forel, 1911: [6] (Forel 1911); [2] (Karaman *et al.* 2011).

Camponotus buddhae Forel, 1892: [74] (Karavaiev 1926b).

Camponotus candiotes Emery, 1894: [11], [12] (Kiran & Aktaç 2006); [2], [6] (Karaman *et al.* 2011).

Camponotus cilicicus Emery, 1908: [46] (Emery 1908a).

Camponotus compressus subsp. ***cosensis*** Finzi, 1939: Asia Minor Islands (Finzi 1939).

as *Camponotus maculatus sanctus* var. *cosensis*: Asia Minor (Emery 1908a).

as *Camponotus compressus sanctus* var. *cosensis*: [9] (Emery 1921a).

as *Camponotus compressus* st. *thoracicus* var. *cosensis*: [3], [27] (Santschi 1921).

Camponotus compressus subsp. ***symiensis*** Forel, 1910

as *Camponotus compressus* st. *sanctus* var. *symiensis*: [3] (Santschi 1934).

Camponotus dalmaticus (Nylander, 1849): [9] (Aktaç 1976); Thrace (Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [2] (Aras & Aktaç 1992); [11], [12] (Kiran & Aktaç 2006).

as *Camponotus lateralis* var. *dalmatica*: [10] (Schkaff 1924).

Camponotus fallax (Nylander, 1856): [10] (Schkaff 1924); Thrace (Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [11], [21] (Kiran & Aktaç 2006).

as *Formica fallax*: Turkey (Roger 1859).

Camponotus fedtschenkoi Mayr, 1877: [76], [80] (Aktaç 1988).

Camponotus fellah Dalla Torre, 1893

as *Camponotus maculatus* subsp. *thoracicus* var. *fellah*: [3] (Forel 1911).

Camponotus festai Emery, 1894: [36], Taurus Mts. (Emery 1908a); [77] (Aktaç 1976); [46], [49] (Ionescu-Hirsh 2009).

as *Camponotus maculatus* subsp. *festai*: Taurus Mts. (Emery 1898).

as *Camponotus maculatus* r. *caeciliae* Forel, 1906: Taurus Mts. (Forel 1906).

as *Camponotus maculatus* r. *festai*: [36], Bolkar Mt., Taurus Mts. (Forel 1913).

Camponotus gestroi Emery, 1878: [76], [81] (Aktaç 1988); Thrace (Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [12] (Kiran & Aktaç 2006); [2], [6] (Karaman *et al.* 2011).

as *Camponotus gestroi* subsp. *creticus* Forel, 1886: [3] (Forel 1911); [77] (Aktaç 1976).

as *Camponotus gestroi* r. *creticus*: [3] (Forel 1913).

as *Camponotus gestroi* var. *creticus*: [3] (Santschi 1921).
as *Camponotus myrmentoma* (sic!) *gestroi* var. *creticus*: Asia Minor (Menozzi 1929).
as *Camponotus creticus*: Turkey (Kugler 1988).

Camponotus herculeanus (Linnaeus, 1758): [70] (Forel 1904); [12] (Donisthorpe 1950a); [59] (Aktaç 1976).
as *Formica herculeana*: [10] (Rigler 1852).
as *Camponotus herculeanus* var. *montana* Ruzsky, 1904: [74] (Karavaiev 1926b).

Camponotus ionius Emery, 1920: [3], [9], [27] (Aktaç 1976); [9] (Aktaç 1978); [6] (Karaman *et al.* 2011).
as *Camponotus sanctus* var. *ionia*: [3] (Santschi 1921).
as *Camponotus samius* var. *ionia*: Asia Minor (Emery 1925a).

Camponotus kiesenwetteri (Roger, 1859): [9] (Aktaç 1976); [6] (Karaman *et al.* 2011).

Camponotus kurdistanicus Emery, 1898: [44], [69] (Emery 1920); [1] (Aras & Aktaç 1987); Thrace (Çamlitepe & Aktaç 1987; Aras & Aktaç 1990; Radchenko 2007); [53] (Ionescu-Hirsh 2009).
as *Camponotus gestroi* subsp. *kurdistanicus*: [69] (Emery 1898).

Camponotus lateralis (Olivier, 1792): [1], [10] (Forel 1895); [12] (Emery 1897); [3], [6], [16] (Forel 1911); [10] (Schkaff 1924; Donisthorpe 1950a); [1] (Aras & Aktaç 1987); Thrace (Çamlitepe & Aktaç 1987; Aras & Aktaç 1990; Radchenko 2007); [2] (Aras & Aktaç 1992;1994); [4], Koru Mt. (Aktaç *et al.* 1994); [11], [12], [16], [17], [21] (Kiran & Aktaç 2006); Taurus Mt., [46] (Ionescu-Hirsh 2009); [2], [6] (Karaman *et al.* 2011); [4] (Lapeva-Gjonova & Kiran 2012).
as *Camponotus kosswigi* Donisthorpe, 1950: [8] (Donisthorpe 1950a).

Camponotus libanicus André, 1881: [3] (Forel 1911); [46] (Ionescu-Hirsh 2009).
as *Camponotus libanicus* r. *sahlbergi* Forel, 1913: Bolkar Mt. (Forel 1913).
as *Camponotus libanicus* subsp. *sahlbergi*: Bolkar Mt. (Emery 1925a).

Camponotus ligniperda (Latreille, 1802)
as *Camponotus higniperda* (sic!): [12] (Donisthorpe 1950a).
as *Camponotus ligniperdus*: Thrace (Radchenko 2007).

Camponotus maculatus subsp. *sylvaticomaculatus* Dalla Torre, 1893
as *Camponotus maculatus* var. *sylvatico-maculatus*: Asia Minor (Dalla Torre 1893).
as *Camponotus maculatus* subsp. *dichrous* var. *sylvatico-maculatus* (sic!): [12] (Emery 1898).

Camponotus oertzeni Forel, 1889: Asia Minor (Radchenko 1997a); [6] (Karaman *et al.* 2011).

Camponotus piceus (Leach, 1825): [15] (Baroni Urbani & Aktaç 1981); Thrace (Agosti & Collingwood 1987; Çamlitepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [1] (Aras & Aktaç 1987); [2] (Aras & Aktaç 1992;1994); [11], [12], [16], [17], [21] (Kiran & Aktaç 2006); [27] (Özdemir *et al.* 2008); [2], [6] (Karaman *et al.* 2011); [4] (Lapeva-Gjonova & Kiran 2012).
as *Camponotus lateralis* var. *foveolatus* (Mayr, 1853): [1], [10] (Forel 1895).
as *Camponotus lateralis* var. *rectus* Forel, 1892: [1] (Forel 1895).
as *Camponotus lateralis* var. *atricolor* (Nylander, 1849): [70] (Forel 1904); [3], [10], [16] (Forel 1911); [67] (Karavaiev 1926b).
as *Camponotus lateralis* subsp. *picea* var. *atricolor*: [10] (Schkaff 1924).
as *Camponotus piceus* var. *atricolor*: Asia Minor (Emery 1925b).
as *Camponotus piceus* subsp. *picea* var. *atricolor*: Asia Minor (Baroni Urbani 1971).
as *Camponotus atricolor*: Thrace (Agosti & Collingwood 1987).

Camponotus samius Forel, 1889: [9], [10] (Aktaç 1976); [1] (Aras & Aktaç 1987); Thrace (Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [2] (Aras & Aktaç 1992;1994); [11], [12], [16], [17], [21] (Kiran & Aktaç 2006); [2], [6] (Karaman *et al.* 2011); [4] (Lapeva-Gjonova & Kiran 2012).
as *Camponotus maculatus samius* var. *spagnolinii* Emery, 1905: [10] (Emery 1905).
as *Camponotus maculatus* r. *samius* var. *bosphoricus* Forel, 1906: [10], [12], [16], Sultan Mt. (Forel 1906).
as *Camponotus maculatus* subsp. *samius*: [3], [10], [16] (Forel 1911).
as *Camponotus samius* var. *spagnolinii*: [10] (Schkaff 1924).

Camponotus sanctus Forel, 1904: [2] (Aras & Aktaç 1992;1994); [12] (Kiran & Aktaç 2006); [27] (Ülgentürk 2001); [3], [27], [46], [67] (Ionescu-Hirsh 2009); [2], [6] (Karaman *et al.* 2011).
as *Camponotus maculatus* subsp. *thoracicus* var. *sanctus*: [3] (Forel 1911).
as *Camponotus compressus* st. *sanctus*: [3], [27] (Santschi 1921).
as *Camponotus compressus* subsp. *sancta*: Asia Minor (Emery 1925a).
as *Camponotus compressus* subsp. *sanctus*: [9], [77] (Aktaç 1976); [77] (Aktaç 1978).

Camponotus shaqualavensis Pisarski, 1971
as *Camponotus jaliensis* subsp. *shaqualavensis*: [77] (Aktaç 1976).

Camponotus sylvaticus (Olivier, 1792): [10], [27] (Donisthorpe 1950a); [15] (Baroni Urbani & Aktaç 1981).
as *Camponotus maculatus* subsp. *sylvaticus*: [17] (Emery 1897).

Camponotus tergestinus Müller, 1921: Thrace (Agosti & Collingwood 1987; Radchenko 2007).

Camponotus thoracicus (Fabricius, 1804)
as *Camponotus compressus* subsp. *thoracica*: [10], [15], [20] (Donisthorpe 1950a).

Camponotus truncatus (Spinola, 1808): [3], [6] (Forel 1911); Thrace (Aktaç *et al.* 1994; Radchenko 2007); [2], [6] (Karaman *et al.* 2011); [1] (Kiran & Karaman 2012); [4] (Lapeva-Gjonova & Kiran 2012).
as *Colobopsis truncatus*: [11], [21] (Kiran & Aktaç 2006).

Camponotus vagus (Scopoli, 1763): [10], [12], [26], [28], [80] (Donisthorpe 1950a); [1] (Aras & Aktaç 1987); Thrace (Çamlıtepe & Aktaç 1987; Radchenko 2007); [4] (Aktaç *et al.* 1994; Lapeva-Gjonova & Kiran 2012).

Camponotus variegatus (Smith, F., 1858): [3], [44] (Mayr 1862).
as *Camponotus sylvaticus* var. *variegatus*: Anatolia (André 1882c).

Camponotus vogti Forel, 1906: Taurus Mts. (Forel 1906).
as *Camponotus kurdistanus* (sic!) var. *vogti*: Taurus Mts. (Emery 1925a).

Camponotus xerxes Forel, 1904: Asia Minor (Ionescu-Hirsh 2009).
as *Camponotus carimatus* var. *xerxes*: East of Turkey (Emery 1905).
as *Camponotus maculatus* r. *thoracicus* var. *xerxes*: [16] (Forel 1906).

Cataglyphis aenescens (Nylander, 1849): [1] (Aras & Aktaç 1987); Thrace (Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Radchenko 2007); [1], [4] (Aktaç *et al.* 1994); [12] (Kiran & Aktaç 2006); [27] (Özdemir *et al.* 2008); [4] (Lapeva-Gjonova & Kiran 2012).
as *Myrmecocycetus cursor* r. *tancrei* Forel, 1901: [70] (Forel 1904).
as *Cataglyphis cursor* st. *aenescens*: [27] (Santschi 1921).
as *Cataglyphis cursor* subsp. *aenescens*: [10] (Schkaff 1924); [3], [10] (Baroni Urbani 1964).
as *Cataglyphis* (sic!) *aenescens*: [61], [67], [71], [74], [75], [76], [80], [81] (Aktaç 1988).

Cataglyphis albicans (Roger, 1859): [15] (Baroni Urbani & Aktaç 1981); [80], [81] (Aktaç 1988); Thrace (Radchenko 2007).

Cataglyphis bicolor (Fabricius, 1793): [53], [76] (Donisthorpe 1950a).
as *Cataglyphis bicolor* subsp. *megalocola* (Förster, 1850): [46] (Donisthorpe 1950a).

Cataglyphis bicolor subsp. *rufiventris* Emery, 1925: [9] (Emery 1921a).
as *Cataglyphis bicolor* st. *orientalis* var. *rufiventris*: [27] (Santschi 1921).

Cataglyphis cursor (Fonscolombe, 1846): [3], [10], [11], [27], [74] (Donisthorpe 1950a).
as *Myrmecocystus cursor*: Sultan Mt. (Forel 1906).

Comments: The distribution of *C. cursor* is mentioned mainly as northern Mediterranean (from Spain to Turkey) in the old literature (Forel 1892; Atanassov 1934; Donisthorpe 1950a; Bernard 1968). Recent studies show that in the northern Mediterranean region five species are possible. *Cataglyphis piliscapa* (Forel, 1901) and *Cataglyphis* sp. occur west of the Rhone valley in France. *Cataglyphis cursor* occurs east of the Rhone valley to Eastern Europe. *Cataglyphis hellenica* (Forel, 1886) occurs in Greece. *Cataglyphis aenescens* occurs in steppic parts of Eastern Europe, the higher parts of Anatolia and the Caucasus (Agosti 1990). Therefore the occurrence of *C. cursor* in Eastern Europe and Anatolia is improbable and previous identifications of Turkish *C. cursor* are probably *C. aenescens* (Lapeva-Gjonova *et al.* 2010).

Cataglyphis frigidus (André, 1881)
as *Myrmecocystus cursor* var. *frigidus*: [45] (Kohl 1905).

Cataglyphis kurdistanicus Pisarski, 1965: [77] (Aktaç 1976); Turkey (Radchenko 1997b).

Cataglyphis laevior Santschi, 1929
as *Cataglyphis bicolor* var. *laevior*: [19] (Donisthorpe 1950a).

Cataglyphis lividus (André, 1881): Asia Minor (Radchenko 1997b); Thrace (Radchenko 2007).
as *Cataglyphis livida*: [77] (Aktaç 1976;1978).
as *Myrmecocystus albicans* var. *mixtus* Forel, 1895: [1] (Forel 1895).
as *Myrmecocystus albicans* r. *lividus*: Taurus Mts. (Forel 1906).
as *Myrmecocystus albicans* var. *mixta*: [3] (Forel 1911).
as *Cataglyphis albicans* subsp. *viaticoides* var. *mixta*: [1] (Emery 1925a).
as *Cataglyphis albicans* st. *livida* var. *mixta*: Turkey (Santschi 1929); [3] (Santschi 1934).
as *Cataglyphis albicans* subsp. *livida*: [76] (Donisthorpe 1950a).
as *Cataglyphis albicans* var. *mixtus*: [1] (Agosti 1990).

Cataglyphis lunaticus Baroni Urbani, 1969
as *Cataglyphis lunatica*: [23] (Baroni Urbani 1969).

Cataglyphis nodus (Brullé, 1833): [9], [77] (Aktaç 1976); [77] (Aktaç 1978); [15] (Baroni Urbani & Aktaç 1981); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [1] (Aras & Aktaç 1987); [2] (Aras & Aktaç 1992;1994); [11], [12], [16], [21] (Kiran & Aktaç 2006); [3], [20] (Lush 2009); [4] (Lapeva-Gjonova & Kiran 2012).
as *Myrmecocystus viaticus* var. *orientalis* Forel, 1895: [1] (Forel 1895).
as *Myrmecocystus bicolor* var. *orientalis*: [12], [16], Sultan Mt. (Forel 1906).
as *Myrmecocystus viaticus* subsp. *orientalis*: [3], [16] (Forel 1911).
as *Cataglyphis bicolor* st. *orientalis*: [3] (Santschi 1921).
as *Cataglyphis bicolor* var. *nodus*: [10] (Schkaff 1924); [53] (Donisthorpe 1950a).
as *Cataglyphis bicolor* st. *nodus*: [3], [36] (Santschi 1934).
as *Cataglyphis bicolor* subsp. *nodus*: Asia Minor (Finzi 1939).

Cataglyphis ruber (Forel, 1903): Asia Minor (Radchenko 1998).

Comments: See the comments for *Cataglyphis viaticoides*.

Cataglyphis setipes (Forel, 1894): [81] (Aktaç 1988).

Comments: *Cataglyphis setipes* is distributed in Daghestan, Central Asia, Kazakhstan, Eastern Iran, Afghanistan and India (Radchenko 1997b). According to its distribution, the Turkish record is doubtful and needs confirmation. Most probably, Turkish records are *Cataglyphis nigriceps* Arnol'di, 1964 (Radchenko, pers. comm.), distributed in Transcaucasus and Western Iran. These two species are very similar. The erect hairs on the body of *C. setipes* are fine and whitish, while on *C. nigripes* they are more coarse and blackish or brownish.

Cataglyphis viaticoides (André, 1881): [9], [77] (Aktaç 1976); [77] (Aktaç 1978); [15] (Baroni Urbani & Aktaç 1981); [1] (Aras & Aktaç 1987; Aktaç *et al.* 1994); [11], [12], [16], [21] (Kiran & Aktaç 2006); Thrace (Radchenko 2007).

as *Myrmecocystus albicans* var. *viaticoides*: [3] (Forel 1911).

as *Cataglyphis* (sic!) *albicans* st. *viaticoides*: [3] (Santschi 1934).

Comments: Radchenko (1997b) indicated that previous records of *C. viaticoides* from Turkey (Aktaç 1976; Baroni Urbani & Aktaç 1981; Aras & Aktaç 1987) are probably misidentifications of *C. ruber*.

Cataglyphis viaticus (Fabricius, 1787): [44] (Roger 1863).

as *Formica viatica*: Turkey (Roger 1859).

as *Myrmecocystus viaticus*: Turkey (André 1882b); [12] (Emery 1897).

Comments: This species has mainly a western Mediterranean distribution (Spain, Tunisia, Algeria and Morocco; Emery 1908c) and its existence in Turkey is doubtful.

Formica anatolica Seifert & Schultz, 2009: [20], [28], [42], [45] (Seifert & Schultz 2009).

Formica cinerea Mayr, 1853: [70] (Forel 1904); [1] (Aras & Aktaç 1987); Thrace (Çamlıtepe & Aktaç 1987; Radchenko 2007); [67], [71], [74] (Aktaç 1988); [1], [4] (Aktaç *et al.* 1994).

as *Formica cinerea* var. *armeniaca* Ruzsky, 1905: [59] (Aktaç 1976).

as *Formica imitans* Ruzsky, 1902: Thrace (Agosti & Collingwood 1987; Radchenko 2007).

as *Formica balcanina* Petrov & Collingwood, 1993: [25], [75] (Petrov & Collingwood 1993); [16] (Kiran & Aktaç 2006).

as *Formica fuscocinerea* Forel, 1874: Thrace (Radchenko 2007 – misidentification).

Comments: See the comments for *F. fuscocinerea* in species excluded from the list of Turkish ants.

Formica cinereofusca Karavaiev, 1929: [59] (Aktaç 1976); Thrace (Agosti & Collingwood 1987; Radchenko 2007).

Formica clara Forel, 1886: [3], [4], [8], [9], [20], [27], [28], [34], [36], [37], [51], [66], [67], [70], [73], [74], [76], [80] (Seifert & Schultz 2009); [4] (Lapeva-Gjonova & Kiran 2012).

Formica cunicularia Latreille, 1798: [59] (Aktaç 1976; 1978); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [6] (Aktaç & Çamlıtepe 1987); [1] (Aras & Aktaç 1987); [61], [67], [71], [73], [74], [75] (Aktaç 1988); [2] (Aras & Aktaç 1994); [27] (Ülgentürk 2001; Özdemir *et al.* 2008); [11], [12], [16], [21] (Kiran & Aktaç 2006); [3], [9], [12], [37], [70], [74], [75], Istranca Mt. (Seifert & Schultz 2009); [4] (Lapeva-Gjonova & Kiran 2012).

as *Formica fusca* var. *fusco-rufibarbis* Forel, 1874: [70] (Forel 1904); [10] (Forel 1911).

as *Formica fusca* var. *rufibarbis*: Sultan Mt. (Forel 1906).

as *Formica fusca* subsp. *glebaria* var. *rubescens* Forel, 1904: [10] (Schkaff 1924).

as *Formica fusca* var. *rubescens*: [70] (Donisthorpe 1950a).

as *Formica glauca* Ruzsky, 1895: Thrace (Agosti & Collingwood 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [11], [16] (Kiran & Aktaç 2006); [27] (Özdemir *et al.* 2008); Kaz Mt. (Aktaç & Karaman 2012).

Formica exsecta Nylander, 1846: [73], [75] (Aktaç 1988); Turkey (Seifert 2000b); Thrace (Radchenko 2007).

Formica foreli Bondroit, 1918: [67], [73], [74] (Aktaç 1988); Turkey (Seifert 2000b).

Formica fusca Linnaeus, 1758: [12] (Forel 1906; Donisthorpe 1950a); [10] (Schkaff 1924); [3] (Santschi 1934); [59] (Aktaç 1976;1978); Thrace (Çamlıtepe & Aktaç 1987; Radchenko 2007); [61], [67], [73], [74] (Aktaç 1988); Istranca Mt. (Aktaç *et al.* 1994); [11], [16], [21] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

Formica gagates Latreille, 1798: Asia Minor (André 1882b); [12] (Emery 1897); [10] (Schkaff 1924); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [1] (Aras & Aktaç 1987); [2] (Aras & Aktaç 1994); [11], [12], [16], [21] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

as *Formica fusca gagates*: Asia Minor (Emery 1909b).

as *Formica gagatoides* Ruzsky, 1904: Thrace (Aras & Aktaç 1990 – misidentification).

Comments: See the comments for *Formica gagatoides* in species excluded from the list of Turkish ants.

Formica georgica Seifert, 2002: [66] Madenli-Buzlupınar Village (400m.), N40° 59', E40° 47', 12.VIII.2000, 8 workers; [66] İközdere-Rüzgarlı Village (600m.), N40° 45', E40° 33', 13.VIII.2000, 6 workers; [73] Çamgeçidi (2150m.), N41° 04', E42° 30', 14.VIII.2000, 8 workers; [70] Şavşat (1550m.), N41° 14', E42° 21', workers; [70] Borçka (640m.), N41° 21', E41° 40', 17.VIII.2000, workers; [59] Uzungöl (1800m.), N40° 38', E40° 16', 17.VIII.2000, workers.

Comments: New record for Turkey.

Formica lemani Bondroit, 1917: Thrace (Agosti & Collingwood 1987); [61], [67], [71], [73], [74], [75] (Aktaç 1988).

Formica lugubris Zetterstedt, 1838: [61] Yeşilçat Village (1384m.), N39° 48', E39° 21', 25.VII.2004, 24 workers.

Comments: New record for Turkey.

Formica pratensis Retzius, 1783: [12] (Forel 1906); [12], [76] (Donisthorpe 1950a); [4] (Aktaç 1987; Aktaç *et al.* 1994); Thrace (Aras & Aktaç 1990; Aktaç *et al.* 1998; Radchenko 2007); [1], [4] (Lapeva-Gjonova & Kiran 2012).

as *Formica rufa* Linnaeus, 1761: [4] (Lapeva-Gjonova & Kiran 2012 – misidentification).

Comments: Material collected in the European part of Turkey was misidentified as *F. rufa* (Lapeva-Gjonova & Kiran 2012) and belongs to *F. pratensis*.

Formica rufa Linnaeus, 1761: [10] (Rigler 1852); [12] (Donisthorpe 1950a); [12], [13], [22], [25], [27], [30], [31], [37], [43], [55], [70], [73] (Baş 1973); Thrace (Agosti & Collingwood 1987; Radchenko 2007); [12], [22], [25], [26], [31], [37], [44], [61], [67], [73], [74] (Aktaç 1987); [61], [67], [73], [74] (Aktaç 1988); [23] (Avcı *et al.* 2000).

Formica rufibarbis Fabricius, 1793: [1] (Forel 1895); [27] (Santschi 1921; Özdemir *et al.* 2008); [10], [12], [27], [28], [53] (Donisthorpe 1950a); [3], [10] (Baroni Urbani 1964); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [79] (Seifert & Schultz 2009).

as *Formica fusca* subsp. *rufibarbis*: [10] (Schkaff 1924).

Formica sanguinea Latreille, 1798: [59] (Aktaç 1976); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aktaç *et al.* 1994; Radchenko 2007); [73] (Aktaç 1988); [12], [16] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

Formica truncorum Fabricius, 1804: Asia Minor (Czechowski *et al.* 2002).

Lasius alienus (Förster, 1850): Asia Minor (André 1882b); [12], [17], [27], [28] (Emery 1897); [10], [27], [74] (Wilson 1955); [10] (Baroni Urbani 1964); [9], [59], [77] (Aktaç 1976); Thrace (Agosti & Collingwood 1987;

Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [1] (Aras & Aktaç 1987); [61], [67], [71], [73], [74], [75], [76], [80], [81] (Aktaç 1988); [2] (Aras & Aktaç 1992;1994); [28] (Seifert 1992); [23], [27] (Ülgentürk 2001); [11], [12], [16], [21] (Kiran & Aktaç 2006); [27] (Özdemir *et al.* 2008); [4], [10] (Lapeva-Gjonova & Kiran 2012); Eastern Black Sea (Ocak & Aktaç 2012).

as *Lasius niger* r. *alienus*: [16], Sultan Mt. (Forel 1906).

as *Lasius niger* subsp. *alienus*: [3] (Forel 1911); [10] (Schkaff 1924).

as *Acanthomyops alienus*: [10], [11], [12], [27], [70], [74] (Donisthorpe 1950a).

Comments: After Seifert's (1992) separation of former *L. alienus* into *L. alienus*, *L. paralienus* and *L. psammophilus*, which are also found in Turkey, all old material identified as *L. alienus* should be reexamined.

Lasius austriacus Schlick-Steiner, 2003: Turkey (Seifert 2007).

Lasius balcanicus Seifert, 1988: [12] Iznik (110m.), N40° 25', E29° 43', 30.VIII.1998, workers; [12] İznik-Sarısu Village (720m.), N40° 34', E29° 47', 07.VIII.1998, workers; [34] Ortaköy (7 km NE) (1140m.), N38° 44' E34° 02', 26.VIII.2004, 1 worker, leg and det. K.Kiran.

Comments: New record for Turkey.

Lasius bicornis (Förster, 1850): Taurus Mts. (Wilson 1955).

as *Acanthomyops bicornis*: [10], [12] (Donisthorpe 1950a).

Lasius brunneus (Latreille, 1798): [44] (Roger 1863); Asia Minor (André 1882b); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [6] (Aktaç & Çamlıtepe 1987); [1] (Aras & Aktaç 1987); [61], [67] (Aktaç 1988); [2] (Aras & Aktaç 1992;1994); Anatolia (Seifert 1992); [11], [12], [16], [21] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012); Eastern Black Sea (Ocak & Aktaç 2012).

as *Lasius niger* subsp. *brunneus*: [10] (Schkaff 1924).

as *Acanthomyops brunneus* (sic!): [10] (Donisthorpe 1950a).

Lasius carniolicus Mayr, 1861: Turkey (Buschinger & Seifert 1997).

New localities: [18] Sandıklı (1739m.), N 38° 28', E 30° 22', 04.IX.2008, 3 females, 5 males, 30 workers, leg. and det. K.Kiran.

Lasius distinguendus (Emery, 1916): Thrace (Agosti & Collingwood 1987; Radchenko 2007).

as *Lasius umbratus* var. *nuda* Bondroit, 1917: [10] (Schkaff 1924).

Lasius emarginatus (Olivier, 1792): [3], [10] (Santschi 1934); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aktaç *et al.* 1994; Radchenko 2007); Turkey (Seifert 1992); [12] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

as *Acanthomyops emarginatus*: [12], [26] (Donisthorpe 1950a).

Lasius flavoniger Seifert, 1992: [36] (Seifert 1992).

Lasius flavus (Fabricius, 1782): [12], [17], [27] (Emery 1897); [59] (Aktaç 1976;1978); Thrace (Agosti & Collingwood 1987; Radchenko 2007); [61], [67], [73], [74] (Aktaç 1988); [21] (Kiran & Aktaç 2006).

as *Acanthomyops flavus*: [12] (Donisthorpe 1950a).

Lasius fuliginosus (Latreille, 1798): [17] (Emery 1897); [10] (Schkaff 1924); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [1] (Aras & Aktaç 1987); [73] (Aktaç 1988); [12], [21] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

Lasius lasioides (Emery, 1869): Turkey (Seifert 1992); Thrace (Radchenko 2007).

New localities: [20] Kaş (30km N), 26.V.2000, 4 workers; [36] Erdemli-Kızılın Village, 23.V-17.VI.2005, 4

workers; [36] Erdemli-Devrent, 04-23.V.2005, 3 workers; [36] Gülnar-Taşdüştü Village, N36° 30', E33° 07', 24.VI., 26.VII., 26.VIII.2006, 10 workers, leg. N.Jansson, det. K.Kiran.

Lasius meridionalis (Bondroit, 1920): Thrace (Agosti & Collingwood 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007).

Lasius mixtus (Nylander, 1846)

as *Acanthomyops mixtus*: Black Sea coast (Donisthorpe 1950a).

Lasius myops Forel, 1894: Thrace (Agosti & Collingwood 1987; Radchenko 2007).

New localities: [70] Borçka (110m.), N 41° 21', E 41° 40', 14.VIII.2000, 2 workers; [70] Tirtıklı-Kafkasör upland (1200m.), N 41° 11', E 41° 41', 1 female, 3 workers; [4] Pehlivan köy-Kuştepe Village, 14.IV.2002, 4 workers; [11] Akdağmadeni (1410m.), N 39° 39', E 35° 53', 24.VIII.2004, 28 males, workers; [11] Çayıralan (1600m.), N 39° 18', E 35° 38', 26.VIII.2004, 7 workers; [30] Safranbolu-Bulak Village (622m.), N 41° 15', E 32° 39', 14.VIII.2005, 14 workers; [21] Pamukova-Eskiyayla Village (1400m.), N 40° 33', E 30° 07', 20.VIII.1998, 7 workers, leg. and det. K. Kiran.

Lasius neglectus Van Loon, Boomsma & Andrasfalvy, 1990: [3], [9], [11], [19], [20], [28], [37], [55], [56], [79], [80] (Seifert 2000a); [28], [80] (Schultz & Seifert 2005); [1], [2], [10] (Cremer *et al.* 2008); [1], [2] (Ulgevig *et al.* 2008); [1] (Kiran & Karaman 2012).

Lasius niger (Linnaeus, 1758): Asia Minor (André 1882b); [17] (Emery 1897); [70] (Forel 1904); Thrace (Agosti & Collingwood 1987; Çamlitepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994); [1] (Aras & Aktaç 1987); [75], [76] (Aktaç 1988); [12], [21] (Kiran & Aktaç 2006).

as *Formica nigra*: [10] (Rigler 1852).

as *Acanthomyops niger*: [53] (Donisthorpe 1950a).

Comments: Seifert (1992) separated former *L. niger* into *L. niger* and *L. platythorax* according to their morphology and ecological preferences. After separation, both species were also recorded in Turkey. Therefore, former *L. niger* material should be reexamined.

Lasius paralienus Seifert, 1992: Southern coasts of Anatolia (Seifert 1992); [12] (Kiran & Aktaç 2006); Thrace (Radchenko 2007); [27] (Özdemir *et al.* 2008); [4] (Lapeva-Gjonova & Kiran 2012).

Comments: See the comments for *L. alienus*.

Lasius platythorax Seifert, 1991: [21] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

Comments: See the comments for *L. niger*.

Lasius psammophilus Seifert, 1992: [16] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

Comments: See the comments for *L. alienus*.

Lasius rabaudi (Bondroit, 1917): Thrace (Agosti & Collingwood 1987; Radchenko 2007).

Lasius schulzi Seifert, 1992: [20], [27] (Seifert 1992).

Lasius turcicus Santschi, 1921: [31] (Seifert 1992); [3] (Steiner *et al.* 2004); [11], [12], [16], [21] (Kiran & Aktaç 2006); Thrace (Radchenko 2007); [2], [3], [4], [6], [10], [13], [14], [17], [18], [21], [22], [23], [28] (Cremer *et al.* 2008); [27] (Özdemir *et al.* 2008).

as *Lasius niger* st. *turcica*: [27] (Santschi 1921).

as *Lasius niger* st. *turcicus*: [10] (Santschi 1934).

Lasius umbratus (Nylander, 1846): [1] (Aras & Aktaç 1987); Thrace (Çamlitepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994); [61], [67], [73], [75] (Aktaç 1988); [12] (Kiran & Aktaç 2006).

Lepisiota dolabellae (Forel, 1911)

as *Acantholepis frauenfeldi* var. *dolabellae*: [3] (Forel 1911).

as *Acantholepis frauenfeldi* st. *dolabellae*: Menderes River (Forel 1913).

as *Acantholepis frauenfeldi* var. *dolabella* (sic!): [3] (Santschi 1934).

Lepisiota frauenfeldi (Mayr, 1855): [11], [12], [17], [21] (Kiran & Aktaç 2006); Thrace (Radchenko 2007).

as *Acantholepis frauenfeldi*: [1] (Forel 1895); [3], [16] (Forel 1911); [10] (Schkaff 1924); [10], [11], [36], [49] (Donisthorpe 1950a); [3] (Baroni Urbani 1964); [9], [77] (Aktaç 1976;1978); [15] (Baroni Urbani & Aktaç 1981); Thrace (Aras & Aktaç 1990; Aktaç *et al.* 1994); [2] (Aras & Aktaç 1992;1994).

as *Acantholepis fraunfeldi* (sic!): [6] (Aktaç & Çamlitepe 1987).

Lepisiota melas (Emery, 1915)

as *Acantholepis frauenfeldi* st. *melas*: Asia Minor (Santschi 1917).

as *Acantholepis frauenfeldi* subsp. *melas*: [9] (Emery 1921a).

as *Acantholepis frauenfeldi* var. *melas*: Asia Minor (Finzi 1939).

Lepisiota syriaca (André, 1881)

as *Acantholepis frauenfeldi* var. *syriaca*: [46] (Viehmeyer 1922).

as *Acantholepis syriaca*: Turkey (Kugler 1988).

Nylanderia jaegerskioeldi (Mayr, 1904): [36], [46], [58] (Karaman & Kiran 2012).

Nylanderia vividula (Nylander, 1846)

as *Paratrechina vividula*: [10], [56] (Donisthorpe 1950a); Thrace (Radchenko 2007).

Plagiolepis ampeloni (Faber, 1969): Turkey (Trontti *et al.* 2006).

as *Aporomyrmex* cf. *ampeloni*: [31] (Heinze & Kauffmann 1993).

Plagiolepis ancyrensis Santschi, 1920: Turkey (Kugler 1988).

as *Plagiolepis maura* var. *ancyrensis*: [27] (Santschi 1920); [9] (Emery 1921a).

as *Plagiolepis maura* var. *angyrensis* (sic!): [27] (Santschi 1921).

as *Plagiolepis pallescens* var. *ancyrensis*: Asia Minor (Emery 1925a).

Plagiolepis pallescens Forel, 1889: [9] (Aktaç 1976;1978); Thrace (Agosti & Collingwood 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [1] (Aras & Aktaç 1987); [61], [67], [71], [74], [81] (Aktaç 1988); [2] (Aras & Aktaç 1992); [11], [12], [16], [17] (Kiran & Aktaç 2006); [27] (Özdemir *et al.* 2008).

as *Plagiolepis pygmaea* var. *pallescens*: [3] (Forel 1911).

Plagiolepis pallescens subsp. *maura* Santschi, 1920

as *Plagiolepis pallescens* var. *maura*: Asia Minor (Emery 1921b); Turkey (Sharaf *et al.* 2011).

Comments: Recently Sharaf *et al.* (2011) studied the *Plagiolepis* of the Arabian Peninsula. They gave the distribution of *P. pallescens* subsp. *maura* as North Africa, Egypt, Oman, Saudi Arabia, Turkey and Yemen. On the other hand, they did not study Turkish material and probably their record is based on Emery's data. This species inhabits mainly desert habitats and is doubtful for Turkey. This record needs confirmation.

Plagiolepis pygmaea (Latreille, 1798): [1] (Forel 1895; Aras & Aktaç 1987); [12] (Emery 1897); [16] (Forel 1906); [3], [16] (Forel 1911); [10] (Schkaff 1924); [59] (Aktaç 1976); [76], [80], [81] (Aktaç 1988); Thrace (Agosti & Collingwood 1987; Çamlitepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [2] (Aras & Aktaç 1992;1994); [11], [12], [16], [21] (Kiran & Aktaç 2006); [1], [4] (Lapeva-Gjonova & Kiran 2012).

as *Plagiolepis pigmaea* (sic!): [6] (Aktaç & Çamlitepe 1987).

as *Plagiolepis* (sic!) *pygmaea*: [10], [52], [53] (Donisthorpe 1950a).

Plagiolepis pygmaea subsp. *minu* Forel, 1911
as *Plagiolepis pygmaea* var. *minu*: [6] (Forel 1911).

Plagiolepis taurica Santschi, 1920: [11], [12], [16], [21] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

as *Plagiolepis vindobonensis* Lomnicki, 1925: Thrace (Agosti & Collingwood 1987); [27] (Ülgentürk 2001; Özdemir *et al.* 2008).

as *Plagiolepis tauricus*: Thrace (Radchenko 2007).

Plagiolepis xene Stärcke, 1936: [2] (Kiran & Aktaç 2007); Thrace (Radchenko 2007).

Polyergus rufescens (Latreille, 1798): Thrace (Çamlıtepe & Aktaç 1987; Radchenko 2007); [4] (Aktaç *et al.* 1994); [34], [40] (Schulz & Sanetra 2002).

as *Formica rufescens*: [10] (Rigler 1852).

Prenolepis nitens (Mayr, 1853): Turkey (André 1882b); [10] (Forel 1911; Schkaff 1924); Bolkar Mt. (Forel 1913); [74] (Donisthorpe 1950a); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [23], [28] (Ülgentürk 2001); [16] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

as *Formica crepusculascens* Roger, 1859: North of Turkey (Roger 1859).

as *Lasius crepusculascens*: North of Turkey (Mayr 1861).

as *Prenolepis imparis* r. *nitens*: [10] (Forel 1895).

as *Prenolepis imparis* subsp. *nitens*: Asia Minor (Emery 1910).

Proformica kobachidzei Arnol'di, 1968: [59] (Aktaç 1976); [15] (Baroni Urbani & Aktaç 1981); Thrace (Radchenko 2007); [4] (Lapeva-Gjonova & Kiran 2012).

Proformica korbi (Emery, 1909): [27] (Dlussky 1969); [1] (Aras & Aktaç 1987); Thrace (Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990); [61], [67], [73], [74], [75], [80], [81] (Aktaç 1988); [2] (Aras & Aktaç 1994); [28] (Tinaut *et al.* 2010).

as *Formica korbi*: Sultan Mt. (Emery 1909b).

as *Proformica corbi* (sic!): [1], [4] (Aktaç *et al.* 1994).

Proformica kosswigi (Donisthorpe, 1950)

as *Acanthomyops kosswigi*: [74] (Donisthorpe 1950d).

Proformica nasuta (Nylander, 1856)

as *Formica nasuta*: [1] (Forel 1895); [45] (Kohl 1905); [16] (Forel 1906).

Comments: Although Forel and Kohl recorded this species from various localities in Turkey, our *Proformica* material from Edirne, one of the areas Forel collected, does not match the characters of *P. nasuta*. The material is very close to *P. striaticeps* with some small differences (Galkowski, pers. comm.). Here we decided to leave this species in the list of Turkish ant fauna, but it needs further investigation.

Proformica pilosiscapa Dlussky, 1969

as *Proformica pilosiscapus*: [61], [67], [71], [74], [75], [76], [80] (Aktaç 1988).

Proformica striaticeps (Forel, 1911): Turkey (Collingwood & Heatwole 2000).

Rossomyrmex anatolicus Tinaut, 2007: [28] (Tinaut 2007); [28], [51] (Tinaut *et al.* 2010).

as *Rossomyrmex minuchae* Tinaut, 1981: [51] (Schulz & Sanetra 2002 – misidentification).

Comments: See the comments *Rossomyrmex minuchae* in species excluded from the list of Turkish ants.

Subfamily Myrmicinae Lepeletier

Anergates atratulus (Schenck, 1852): Thrace (Çamlıtepe & Aktaç 1987; Radchenko 2007); [13] (Heinze 1987); [4] (Aktaç *et al.* 1994); [45] (Schulz & Sanetra 2002); [22], [39] (Lapeva-Gjonova *et al.* 2012).

Aphaenogaster aktaci Kiran & Tezcan, 2008: [3] (Kiran *et al.* 2008).

Aphaenogaster balcanica (Emery, 1898): Thrace (Radchenko 2007).

as *Stenammina testaceo-pilosa* var. *balcanica*: [10], [12] (Emery 1898).

as *Aphaenogaster testaceopilosa* var. *balcanica*: Asia Minor (Ruzsky 1905).

as *Aphaenogaster testaceo-pilosa* subsp. *balcanica*: [3], [10] (Forel 1911).

as *Aphaenogaster testaceo-pilosa* subsp. *simonellii* var. *balcanica*: [10] (Emery 1915); [9] (Emery 1921a).

as *Aphaenogaster testaceo-pilosa* subsp. *semipolita* var. *balcanica*: [10] (Schkaff 1924).

as *Aphaenogaster simonelli* (sic!) var. *balcanica*: [3], [10] (Santschi 1934).

as *Aphaenogaster simonellii* var. *balcanica*: [9] (Aktaç 1976).

Aphaenogaster burri (Donisthorpe, 1950)

as *Goniomma burri*: [70] (Donisthorpe 1950a;c).

Aphaenogaster depressa Bolton, 1995

as *Ceratopheidole pergandei* Donisthorpe, 1950: [53] (Donisthorpe 1950a).

as *Ceratopheidole perganderi* (sic!): [53] (Donisthorpe 1950d).

as *Aphaenogaster pergandei*: [53] (Brown 1981).

Aphaenogaster epirotes (Emery, 1895): Thrace (Radchenko 2007); [4] (Lapeva-Gjonova & Kiran 2012).

as *Aphaenogaster obsidiana* subsp. *epirotes*: [10] (Schkaff 1924).

as *Aphaenogaster obsidiana* var. *epirotes*: [10], [12] (Finzi 1930).

as *Aphaenogaster obsidiana* (Mayr, 1861): Thrace (Aras & Aktaç 1990; Radchenko 2007); [2], [4], [5] (Aktaç *et al.* 1994) (misidentifications).

Comments: See the comments for *Aphaenogaster obsidiana* below.

Aphaenogaster festae Emery, 1915

as *Aphaenogaster festai*: Turkey (Arnol'di 1976).

Aphaenogaster gibbosa (Latreille, 1798): [10] (Forel 1911; Donisthorpe 1950a); Thrace (Radchenko 2007); [4] (Lapeva-Gjonova & Kiran 2012).

as *Aphaenogaster striola* (Roger, 1859): Asia Minor (André 1883a).

as *Aphaenogaster subterranea* subsp. *gibbosa*: Asia Minor (Ruzsky 1905).

Aphaenogaster holtzi (Emery, 1898): [36] (Emery 1908b); [45] (Finzi 1930); [77] (Aktaç 1976); [61], [74] (Aktaç 1988).

as *Stenammina subterraneum* subsp. *holtzi*: [36] (Emery 1898).

Aphaenogaster ionia Santschi, 1933: [20] (Lush 2009).

Aphaenogaster kervillei Forel, 1910: [77] (Aktaç 1976).

Aphaenogaster maculifrons Kiran & Aktaç, 2008: [23], [28] (Kiran *et al.* 2008).

Aphaenogaster obsidiana (Mayr, 1861): [70] (Karavaiev 1926a).

Comments: Although Aras & Aktaç (1990) and Aktaç *et al.* (1994) recorded this species from the European part of Turkey (Thrace), the material is misidentified and belongs to *A. epirotes*. Radchenko (2007) also recorded *A.*

obsidiana from Thrace but his record is based on the previously recorded material of Aras & Aktaç (1990) and Aktaç *et al.* (1994). Therefore, this species is known only from Anatolia. Its distribution in the European part of Turkey is removed.

Aphaenogaster radchenkoi Kiran, Aktaç & Tezcan, 2008: [3] (Kiran *et al.* 2008).

Aphaenogaster semipolita (Nylander, 1856)

as *Aphaenogaster testaceo-pilosa semipolita*: Asia Minor (Emery 1908b).

Aphaenogaster simonellii Emery, 1894: [9] (Aktaç 1978); [15] (Baroni Urbani & Aktaç 1981); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [6] (Aktaç & Çamlıtepe 1987); [1] (Aras & Aktaç 1987); [2] (Aras & Aktaç 1992;1994).

Aphaenogaster splendida (Roger, 1859): [10] (Forel 1895; Schkaff 1924); [9] (Emery 1921a); [3], [20] (Donisthorpe 1950a); Thrace (Radchenko 2007).

Aphaenogaster subcostata Viehmeyer, 1922: [46] (Viehmeyer 1922).

Aphaenogaster subterranea (Latreille, 1798): [10] (Forel 1895; Schkaff 1924); [12] (Emery 1897); [10], [12] (Finzi 1930); [10], [70] (Donisthorpe 1950a); [59] (Aktaç 1976); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [1] (Aras & Aktaç 1987; Kiran & Karaman 2012); [2] (Aras & Aktaç 1992); [11], [12], [16], [21] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

as *Formica subterranea*: [10] (Rigler 1852).

as *Stenamma subterraneum*: Asia Minor (Emery 1898); [45] (Kohl 1905).

Aphaenogaster subterraneoides Emery, 1881: Thrace (Radchenko 2007).

as *Aphaenogaster pallida* subsp. *subterraneoides*: [10] (Schkaff 1924).

Aphaenogaster testaceopilosa (Lucas, 1849): [12] (Emery 1897); Asia Minor (Ruzsky 1905); Thrace (Radchenko 2007).

as *Aphaenogaster testaceo-pilosa*: Asia Minor (André 1883a); [10] (Forel 1895; Donisthorpe 1950a).

as *Stenamma testaceo-pilosa*: Sultan Mt., [12] (Forel 1906).

Cardiocondyla brachyceps Seifert, 2003: [70] (Seifert 2003).

Cardiocondyla bulgarica Forel, 1892: [3], [8], [15], [19], [20], [23], [76] (Seifert 2003); [16] (Kiran & Aktaç 2006).

as *Cardiocondyla elegans* var. *eleonora* Forel, 1911: [3] (Forel 1911; Santschi 1934).

Cardiocondyla elegans Emery, 1869: [10], [27] (Donisthorpe 1950a); [77] (Aktaç 1976); Thrace (Agosti & Collingwood 1987; Aktaç *et al.* 1994); [1] (Aras & Aktaç 1987); [3], [20], [49] (Seifert 2003); [12] (Kiran & Aktaç 2006).

Cardiocondyla mauritanica Forel, 1890: [29], [36], [45] (Seifert 2003).

Cardiocondyla nigra Forel, 1905: Thrace (Agosti & Collingwood 1987); [58] (Seifert 2003).

Cardiocondyla sahlbergi Forel, 1913: [3], [11], [28], [34], [45], [46], [49], [61], [72], [79] (Seifert 2003).

Cardiocondyla semirubra Seifert, 2003: [58] (Seifert 2003).

Cardiocondyla stambuloffii Forel, 1892: Thrace (Agosti & Collingwood 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994); [1] (Aras & Aktaç 1987); [28], [70], [74], [79] (Seifert 2003).
as *Cardiocondyla stambuloffii* (sic!): Thrace (Radchenko 2007).
as *Cardiocondyla bogdanovi* Ruzky, 1905: [79] (Ruzky 1905); Thrace (Agosti & Collingwood 1987; Radchenko 2007).

Carebara oertzeni subsp. *aeolia* (Forel, 1911)
as *Oligomyrmex oertzeni* var. *aeolia*: [3] (Forel 1911).
as *Oligomyrmex oertzeni* var. *aeolius*: Turkey (Ettershank 1966).

Chalepoxenus muellerianus (Finzi, 1922): [21] (Heinze 1987); [36] (Schulz & Sanetra 2002).

Crematogaster auberti Emery, 1869: Thrace (Radchenko 2007).
as *Crematogaster auberti*: [16] (Forel 1906); Thrace (Aras & Aktaç 1990; Aktaç *et al.* 1994).

Crematogaster ionia Forel, 1911: [12], [21] (Kiran & Aktaç 2006); Thrace (Radchenko 2007).
as *Crematogaster scutellaris* var. *ionia*: [3], [6], [16] (Forel 1911); Bolkar Mt. (Forel 1913).
as *Crematogaster scutellaris* subsp. *schmitti* (sic!) var. *ionia*: [10] (Schkaff 1924).
as *Crematogaster scutellaris* st. *schmidti* var. *ionia*: [10] (Santschi 1934).
as *Crematogaster ionia*: Thrace (Aras & Aktaç 1990; Aktaç *et al.* 1994); [2] (Aras & Aktaç 1992;1994); [19] (Ülgentürk 2001).

Crematogaster laestrygon Emery, 1869
as *Crematogaster laestrygon*: [77] (Aktaç 1976); [1] (Aras & Aktaç 1987); Thrace (Aktaç *et al.* 1994).

Crematogaster lorteti Forel, 1910: [36] (Santschi 1934).

Crematogaster schmidti (Mayr, 1853): Thrace (Agosti & Collingwood 1987; Radchenko 2007); [4] (Lapeva-Gjonova & Kiran 2012).
as *Crematogaster scutellaris* var. *schmidti*: [10] (Forel 1895;1911; Schkaff 1924); [70] (Forel 1904).
as *Crematogaster scutellaris* subsp. *schmitti* (sic!): [10] (Schkaff 1924).

Crematogaster scutellaris (Olivier, 1792): [10] (Donisthorpe 1950a); [11], [12], [16], [17], [21] (Kiran & Aktaç 2006); Thrace (Radchenko 2007).
as *Crematogaster scutellaris*: [10] (Emery 1870); Asia Minor (André 1883a); [1] (Forel 1895; Aras & Aktaç 1987); [3] (Baroni Urbani 1964); [9] (Aktaç 1976); [6] (Aktaç & Çamlıtepe 1987); Thrace (Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994); [2] (Aras & Aktaç 1992).

Crematogaster sordidula (Nylander, 1849): [27] (Emery 1897); [11] (Donisthorpe 1950a); Thrace (Agosti & Collingwood 1987; Radchenko 2007); [11], [12], [21] (Kiran & Aktaç 2006); [27] (Özdemir *et al.* 2008); [4] (Lapeva-Gjonova & Kiran 2012).
as *Crematogaster sordidula* var. *flachi* Forel, 1895: [22] (Emery 1897).
as *Crematogaster sordidula*: Sultan Mt. (Forel 1906); [81] (Aktaç 1988); Thrace (Aras & Aktaç 1990; Aktaç *et al.* 1994); [2] (Aras & Aktaç 1992;1994).
as *Crematogaster sordidula* var. *flachi*: [10], [16] (Forel 1911); [27] (Santschi 1921).
as *Crematogaster sordidula* var. *mayri* (Mayr, 1853): [10] (Schkaff 1924).
as *Crematogaster sordidula* subsp. *mayri*: [9] (Aktaç 1976;1978)

Crematogaster sordidula subsp. *aeolia* Forel, 1911: [3] (Emery 1912).
as *Crematogaster sordidula* var. *aeolia*: [3] (Forel 1911;1913).

Crematogaster sordidula subsp. *osmanica* Santschi, 1921
as *Crematogaster sordidula* var. *osmanica*: [27] (Santschi 1921).

Formicoxenus nitidulus (Nylander, 1846): [12] (Schulz & Sanetra 2002).

Harpagoxenus sublaevis (Nylander, 1849): [32] (Heinze & Kauffmann 1993).

Leptothorax acervorum (Fabricius, 1793): Thrace (Agosti & Collingwood 1987); [73], [74] (Aktaç 1988); [32] (Heinze *et al.* 1993).

Leptothorax muscorum (Nylander, 1846): [59] (Aktaç 1976;1978); Thrace (Agosti & Collingwood 1987); [74] (Aktaç 1988); [47] (Heinze 1988); [32] (Heinze *et al.* 1993); [21] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

Leptothorax scamni Ruzsky, 1905: [25], [50], [70] (Heinze *et al.* 1993); [4] (Lapeva-Gjonova & Kiran 2012).

Manica rubida (Latreille, 1802): [59] (Aktaç 1976;1978); Thrace (Agosti & Collingwood 1987); [61], [73], [74] (Aktaç 1988).
as *Myrmica rubida*: Turkey (in Asia) (André 1883b); [70] (Forel 1904); [74] (Karavaiev 1926a).

Messor barbarus subsp. *mediosanguineus* Donisthorpe, 1946: Turkey (Donisthorpe 1946); [53] (Donisthorpe 1950a).

Comments: *Messor barbarus* subsp. *mediosanguineus* was collected by Donisthorpe from an area very near to the Turkish-Syrian border and is probably *M. syriacus* (see Tohmé & Tohmé 1981).

Messor caducus (Victor, 1839): Thrace (Agosti & Collingwood 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [1] (Aras & Aktaç 1987); [11], [12] (Kiran & Aktaç 2006); [20] (Lush 2009); [4] (Lapeva-Gjonova & Kiran 2012).

Messor dentatus Santschi, 1927
as *Messor semirufus* var. *dentata*: [77] (Aktaç 1976).

Messor denticulatus Santschi, 1927: [20] (Lush 2009).

Messor ebeninus Santschi, 1927: Thrace (Agosti & Collingwood 1987; Radchenko 2007); Turkey (Kugler 1988).

Messor himalayanus (Forel, 1902): [61] (Aktaç 1988).

Comments: Arnol'di (1977) gives the distribution of this species as Himalayas and Afghanistan. This record appears to be doubtful for Turkey.

Messor intermedius Santschi, 1927
as *Messor barbarus* st. *semirufus* var. *intermedia*: [27] (Santschi 1921).

Messor lobicornis subsp. *rugosus* (André, 1881)
as *Stenammina barbarum* r. *capitatum* v. *rugosa*: [16] (Forel 1906).

Messor luridus Santschi, 1927
as *Stenammina barbarum* subsp. *caducum* var. *lurida*: [17] (Emery 1898).
as *Messor barbarus* subsp. *semirufus* var. *lurida*: [10] (Schkaff 1924).

Messor meridionalis (André, 1883): [3] (Baroni Urbani 1964); [1] (Aras & Aktaç 1987); Thrace (Çamlitepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994); [2] (Aras & Aktaç 1992;1994); [46] (Arndt *et al.* 2005).

as *Aphaenogaster barbara* var. *meridionalis*: [10] (André 1883a).
as *Messor barbarus* var. *meridionalis*: [17] (Emery 1897); [10], [27], [52] (Donisthorpe 1950a).
as *Stenamma barbarum* r. *capitatum* v. *meridionalis*: Sultan Mt., [16] (Forel 1906).
as *Messor barbarus* subsp. *meridionalis*: [3], [10] (Forel 1911); [9] (Emery 1921a).
as *Messor barbarus* st. *meridionalis*: [3], [27] (Santschi 1921).
as *Messor barbarus* subsp. *instabilis* var. *meridionalis*: [10] (Schkaff 1924).

Messor oertzeni Forel, 1910: [3] (Forel 1910); [9] (Emery 1921a); [15] (Baroni Urbani & Aktaç 1981); Thrace (Agosti & Collingwood 1987; Çamlitepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [1] (Aras & Aktaç 1987; Aktaç *et al.* 1990); [2] (Aras & Aktaç 1992); [12], [16], [21] (Kiran & Aktaç 2006).
as *Messor oertzeni* var. *amphigea* Forel, 1911: [3] (Forel 1911); [10], [15], [20], [27] (Donisthorpe 1950a).
as *Messor oerzenitor* (sic!) var. *amphigera* (sic!): [27] (Santschi 1921).
as *Messor oerzeni* (sic!): [2] (Aras & Aktaç 1994).

Messor oertzeni subsp. *amasiensis* Emery, 1921
as *Messor oertzeni* var. *amasiensis*: [44] (Emery 1921a).

Messor orientalis (Emery, 1898): Thrace (Agosti & Collingwood 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [61], [67], [71], [75], [76], [80], [81] (Aktaç 1988).
as *Stenamma structor* var. *orientalis*: [36] (Emery 1898).
as *Messor barbarus* subsp. *structor* var. *orientalis*: [3] (Forel 1911).
as *Messor structor* st. *rufitarsis* var. *orientalis*: [36] (Santschi 1926).
as *Messor structor* var. *orientalis*: [9] (Aktaç 1976).

Messor semirufus (André, 1883): [3], [10], [23], [27] (Baroni Urbani 1974); [9], [77] (Aktaç 1976;1978); [15] (Baroni Urbani & Aktaç 1981); [1], [4] (Baroni Urbani *et al.* 1989); [1] (Aktaç *et al.* 1990).
as *Stenamma barbarum* r. *capitatum* var. *semirufa*: Taurus Mts. (Forel 1906).
as *Messor barbarus* subsp. *semirufa*: [20] (Donisthorpe 1950a).

Messor structor (Latreille, 1798): [12], [17], [27] (Emery 1897); [1] (Aras & Aktaç 1987); [61], [67], [73], [74], [81] (Aktaç 1988); Thrace (Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [2] (Aras & Aktaç 1992;1994); [12], [16], [21] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).
as *Aphaenogaster structor*: [10] (Forel 1895).
as *Stenamma structor*: [12] (Forel 1906).
as *Messor barbarus* subsp. *clivorum* Ruzsky, 1905: [3] (Forel 1911).
as *Messor barbarus* subsp. *structor* var. *mutica* Nylander, 1849: [10], [16] (Forel 1911).
as *Messor barbarus* subsp. *structor* var. *tyrrhena* (Emery, 1898): [3], [10] (Forel 1911).
as *Messor barbarus* subsp. *varrialei* Emery, 1921: [9] (Emery 1921a).
as *Messor barbarus* subsp. *rufitarsis* Fabricius, 1804: [10] (Schkaff 1924).
as *Messor clivorum*: [10] (Schkaff 1924).
as *Messor barbarus* subsp. *structor*: [27], [76] (Donisthorpe 1950a).
as *Messor rufitarsis*: [10] (Collingwood 1963).
as *Messor muticus*: Thrace (Agosti & Collingwood 1987; Radchenko 2007).

Messor structor subsp. *aegaeus* Santschi, 1926: Thrace (Radchenko 2007).
as *Messor barbarus* subsp. *structor* var. *aegaea*: [9] (Emery 1921a).
as *Messor structor* var. *aegaea*: [10] (Baroni Urbani 1964); [9] (Aktaç 1976;1978).

Messor sultanus Santschi, 1917: Thrace (Agosti & Collingwood 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [2] (Aras & Aktaç 1992;1994).

Messor syriacus Tohmé, G. 1969

as *Messor minor* subsp. *syriacus*: Turkey (Arnol'di 1977).

New localities: [72], 05.VII.2010, 11 workers; Hasankeyf, 26.VI.2010, 3 workers, leg. F.Toprak, det. K.Kiran.

Messor testaceus Donisthorpe, 1950: [63] (Donisthorpe 1950b).

Messor wasmanni Krausse, 1910

as *Messor barbarus* st. *semirufus* var. *concolor* Forel ? : [27] (Santschi 1921).

as *Messor barbarus* subsp. *semirufus* var. *concolor* Emery, 1908: [10] (Schkaff 1924).

as *Messor semirufus* var. *concolor*: Asia Minor (Santschi 1927).

as *Messor semirufus* subsp. *concolor*: [3], [10] (Baroni Urbani 1964).

as *Messor concolor*: Thrace (Agosti & Collingwood 1987; Radchenko 2007).

Monomorium dentigerum (Roger, 1862): [3] (Forel 1911); [9], [77] (Aktaş 1976;1978); [15] (Baroni Urbani & Aktaş 1981); Thrace (Agosti & Collingwood 1987; Radchenko 2007).

as *Holcomyrme dentiger*: Taurus Mts. (Forel 1906).

Comments: Before the revision of Radchenko (1997d) all similar species from Turkey and neighbouring countries were determined as *M. dentigerum*, but most probably these records are *M. perplexum* (Radchenko, pers. comm.).

Monomorium kusnezowi Santschi, 1928: [77] (Aktaş 1976; 1978).

Comments: Based on the data of Dlussky *et al.* (1990), we suggest that these records belong to *M. ruzskyi* Dlussky & Zabelin, 1985. *Monomorium ruzskyi* is distributed in Transcaucasus and the mountains of the Middle Asia, while *M. kusnezowi* occur in Middle Asian deserts.

Monomorium monomorium Bolton, 1987: [16] (Kiran & Aktaş 2006); Thrace (Radchenko 2007).

as *Monomorium minutum* Mayr, 1855: [3] (Forel 1911); [10] (Schkaff 1924); [9] (Aktaş 1976); [15] (Baroni Urbani & Aktaş 1981); [2] (Aras & Aktaş 1992).

Monomorium perplexum Radchenko, 1997: Turkey (Radchenko 1997d).

as *Monomorium glabrum* (André, 1883): [19] (Donisthorpe 1950a – misidentification).

New localities: [46] (154m.), N 37° 03', E 35° 21', 22.VI.2004, 1 worker, leg and det. K.Kiran; [7] Gölarmara-Musalar Village (653m.), N 38° 41', E 28° 08', 04.VII.2007, 29 workers, leg. C.Karaman, det. K.Kiran; Köprübaşı-Kozaklı Village (600m.), N 38° 43', E 28° 17', 05.VII.2007, 10 workers, leg. C.Karaman, det. K.Kiran; [15] Irlıganlı (465m.), N 37° 53', E 29° 11', 10.VII.2007, 3 workers, leg. C.Karaman, det. K.Kiran.

Comments: See the comments for *M. glabrum* in species excluded from the list of Turkish ants.

Monomorium pharaonis (Linnaeus, 1758): [3] (Forel 1911); [1] (Aktaş & Kiran 2006; Kiran & Karaman 2012); Thrace (Radchenko 2007).

Monomorium sommieri Emery, 1908

as *Monomorium salomonis* subsp. *sommieri*: Asia Minor (Baroni Urbani 1971).

Comments: According to Baroni Urbani (1971), this species is distributed in nearly all of the Mediterranean region, in equatorial and austral Africa, in Asia Minor, the Caucasus, Central Asia, and in India and Burma. The type locality is Tunisia. Baroni Urbani's locality "Asia Minor" is not based on any Turkish material and no other record has been reported from Turkey. Therefore, the existence of this species in Turkey is doubtful.

Monomorium subopacum (Smith, F., 1858): Asia Minor (Baroni Urbani 1971).

Myrmecina graminicola (Latreille, 1802): Asia Minor (Stütz 1939; Kutter 1977); Anatolia (Baroni Urbani 1971); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaş 1987; Aras & Aktaş 1990; Aktaş *et al.* 1994; Radchenko 2007); [11], [12] (Kiran & Aktaş 2006); [4] (Lapeva-Gjonova & Kiran 2012).

Myrmica anatolica Elmes, Radchenko & Aktaç, 2002: [32], [59], [61], [66], [67] (Elmes *et al.* 2002; Radchenko & Elmes 2010).

Myrmica bergi Ruzsky, 1902: [59] (Aktaç 1976).

Comments: This species is distributed in the Steppe Zone from the delta of the Danube River to Altai Mts., Transcaucasus, NE Iran, and the plains and mountains of Middle Asia (Radchenko & Elmes 2010). Therefore this record is doubtful for Turkey.

Myrmica deplanata Emery, 1921: Thrace (Agosti & Collingwood 1987; Seifert 1988; Radchenko & Elmes 2010). as *Myrmica lacustris* Ruzsky, 1905: Thrace (Radchenko 2007).

Myrmica gallienii Bondroit, 1920: Thrace (Agosti & Collingwood 1987; Radchenko 2007); [4] (Lapeva-Gjonova & Kiran 2012).

Myrmica hellenica Finzi, 1926: [26], [27], [30], [31], [50], [59], [66], [70], [73] (Seifert *et al.* 2009); Turkey (Radchenko & Elmes 2010); [4] (Lapeva-Gjonova & Kiran 2012). as *Myrmica ruguloscabrinodis* Karavaiev, 1929: Northern Turkey (Radchenko & Antanova 2004); [12], [16], [21] (Kiran & Aktaç 2006). as *Myrmica caucasica* Arnol'di, 1934: Turkey (Seifert 1988).

Myrmica jennyae Elmes, Radchenko & Aktaç, 2002: [59], [66], [70] (Elmes *et al.* 2002; Radchenko & Elmes 2010).

Myrmica lobicornis Nylander, 1846: [74], [76] (Donisthorpe 1950a); [59] (Aktaç 1976); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [1] (Aras & Aktaç 1987); [61], [73], [74] (Aktaç 1988).

Myrmica lonae Finzi, 1926: Turkey (Seifert 2005); [4] (Lapeva-Gjonova & Kiran 2012).

Myrmica ravasinii Finzi, 1923: Thrace (Agosti & Collingwood 1987; Radchenko 2007); [31] (Seifert 1988); Turkey (Radchenko & Elmes 2010).

Myrmica rubra (Linnaeus, 1758): Thrace (Agosti & Collingwood 1987; Radchenko 2007). as *Formica rubra*: [10] (Rigler 1852). as *Myrmica laevinodis* Nylander, 1846: [74] (Ruzsky 1905).

Myrmica ruginodis Nylander, 1846: [59] (Aktaç 1976;1978); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aktaç *et al.* 1994; Radchenko 2007); [61], [67], [73], [74], [81] (Aktaç 1988); [12], [21] (Kiran & Aktaç 2006); [27] (Özdemir *et al.* 2008); Turkey (Radchenko & Elmes 2010). as *Myrmica rubra* subsp. *ruginodis*: [70], [73] (Karavaiev 1926a).

Myrmica rugulosa Nylander, 1849: Thrace (Agosti & Collingwood 1987; Radchenko 2007; Radchenko & Elmes 2010). as *Myrmica scabrinodis* subsp. *rugulosa*: [73] (Karavaiev 1926a).

Myrmica sabuleti Meinert, 1861: Thrace (Agosti & Collingwood 1987; Radchenko 2007); [67], [71], [75] (Aktaç 1988); Anatolia (Seifert 1988); Turkey (Seifert 2005; Radchenko & Elmes 2010); [12], [16], [21] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012). as *Myrmica scabrinodis* var. *sabuleti*: Turkey (Finzi 1926).

Myrmica salina Ruzsky, 1905: [19], [28], [42], [45], [67], [68], [74] (Seifert 2011).

Myrmica scabrinodis Nylander, 1846: Asia Minor (André 1883b); [27] (Santschi 1921); [73] (Karavaiev 1926a); [3], [18] (Donisthorpe 1950a); [59] (Aktaş 1976); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaş 1987; Aras & Aktaş 1990; Aktaş *et al.* 1994; Radchenko 2007); [1] (Aras & Aktaş 1987); [61], [67], [73], [75], [81] (Aktaş 1988); Turkey (Radchenko & Elmes 2010); [4] (Lapeva-Gjonova & Kiran 2012).

Myrmica schencki Viereck, 1903: [73] (Karavaiev 1926a); Thrace (Agosti & Collingwood 1987; Radchenko 2007); North-eastern Turkey (Radchenko & Elmes 2010).

Myrmica specioides Bondroit, 1918: Thrace (Agosti & Collingwood 1987); Turkey (Radchenko & Elmes 2010); [1], [20], [28], [31], [51], [67], [79] (Seifert 2011); [4] (Lapeva-Gjonova & Kiran 2012).

as *Myrmica scabrinodis* var. *turcica* Santschi, 1931: [27] (Santschi 1931).

as *Myrmica vandeli* Bondroit, 1920: Thrace (Agosti & Collingwood 1987).

as *Myrmica sancta* Karavaiev, 1926: [27] (Seifert 1988).

as *Myrmica turcica*: [27] (Seifert 1988); Thrace (Radchenko 2007).

as *Myrmica bessarabica* Nasonov, 1888: Thrace (Radchenko 2007); Eastern Black Sea (Ocak & Aktaş 2012).

Comments: See the comments for *M. vandeli* in species excluded from the list of Turkish ants.

Myrmica spinosior Santschi, 1931: [12], [43] (Seifert 2005).

Comments: According to Radchenko & Elmes (2010), records of Seifert (2005) for Turkey are doubtful.

Myrmica sulcinodis Nylander, 1846: [12] (Donisthorpe 1950a); [59] (Aktaş 1976); Thrace (Agosti & Collingwood 1987; Radchenko 2007); [67], [73], [74] (Aktaş 1988); Anatolia (Radchenko & Elmes 2010).

Myrmica tamarae Elmes, Radchenko & Aktaş, 2002: [67] (Elmes *et al.* 2002; Radchenko & Elmes 2010).

Myrmica tulinae Elmes, Radchenko & Aktaş, 2002: [4], [70] (Elmes *et al.* 2002; Radchenko & Elmes 2010); [4] (Lapeva-Gjonova & Kiran 2012).

as *Myrmica tulini*: Thrace (Radchenko 2007).

Myrmoxenus gordiagini Ruzsky, 1902: [3], [20], [28], [41] (Schulz & Sanetra 2002).

Myrmoxenus krausse (Emery, 1915)

as *Epimyrma krausse*: [20] (Heinze 1987); [21] (Kiran & Aktaş 2006).

Myrmoxenus ravouxi (André, 1896): [70], [73] (Schulz & Sanetra 2002).

Myrmoxenus stumperi (Kutter, 1950): [31] (Schulz & Sanetra 2002).

Oxyopomyrmex krueperi Forel, 1911: [1], [2] (Aktaş & Kiran 2004).

Oxyopomyrmex oculatus André, 1881: [3] (Forel 1911).

Pheidole megacephala (Fabricius, 1793): [3], [15], [20] (Donisthorpe 1950a).

Pheidole pallidula (Nylander, 1849): [1] (Forel 1895; Aras & Aktaş 1987); [12], [17], [27] (Emery 1897); Sultan Mt., [16] (Forel 1906); [3], [10], [16] (Forel 1911); [3], [10], [12], [20], [27], [28] (Donisthorpe 1950a); [3] (Baroni Urbani 1964); [9], [77] (Aktaş 1976;1978); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaş 1987; Aras & Aktaş 1990; Aktaş *et al.* 1994; Radchenko 2007); [6] (Aktaş & Çamlıtepe 1987); [74], [76], [80], [81] (Aktaş 1988); [2] (Aras & Aktaş 1992;1994); [11], [12], [16], [17], [21] (Kiran & Aktaş 2006); [20] (Lush 2009); [1] (Kiran & Karaman 2012); [4] (Lapeva-Gjonova & Kiran 2012).

as *Pheidole pallidula* st. *arenarium* (sic!) var. *orientalis* Emery, 1915: [3], [27] (Santschi 1921); [10] (Santschi 1934).

as *Pheidole pallidula* subsp. *arenarum* var. *orientalis*: [10] (Schkaff 1924).

Pheidole teneriffana Forel, 1893: [3] (Forel 1911).

Solenopsis fugax (Latreille, 1798): [22] (Emery 1897); Sultan Mt. (Forel 1906); [10] (Forel 1911; Schkaff 1924); [10], [18] (Donisthorpe 1950a); Thrace (Agosti & Collingwood 1987; Radchenko 2007); [11], [12], [16], [21] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

as *Diplorhoptum fugax*: [59] (Aktaç 1976); [1] (Aras & Aktaç 1987); Thrace (Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994); [2] (Aras & Aktaç 1992).

Solenopsis latro Forel, 1894: Thrace (Agosti & Collingwood 1987).

Solenopsis orbula Emery, 1875

as *Diplorhoptum orbulum*: [67] (Aktaç 1988).

Stenammas debile (Förster, 1850): [11] (DuBois 1998); Thrace (Radchenko 2007); [20] (Rigato 2011).

as *Stenammas westwoodii* Westwood, 1839: [12] (Kiran & Aktaç 2006 – misidentification).

Comments: See the comments for *S. westwoodii* in species excluded from the list of Turkish ants.

Stenammas striatulum Emery, 1895: [59] (DuBois 1998); [55], [70] (Rigato 2011); [4] (Lapeva-Gjonova & Kiran 2012).

as *Stenammas westwoodii* Westwood, 1839: [11] (Kiran & Aktaç 2006 – misidentification).

Comments: See the comments for *S. westwoodii* in species excluded from the list of Turkish ants.

Strongylognathus* cf. *alpinus Wheeler, 1909: [45] (Schulz & Sanetra 2002).

Strongylognathus huberi Forel, 1874: [21] (Kiran & Aktaç 2006).

Strongylognathus kervillei Santschi, 1921: [27] (Santschi 1921); [46], [49], [53], [63] (Schulz & Sanetra 2002).

Strongylognathus silvestrii Menozzi, 1936: [36], [45] (Schulz & Sanetra 2002).

Strongylognathus testaceus (Schenck, 1852): [2] (Aras & Aktaç 1992); [9], [28], [31], [45] (Schulz & Sanetra 2002).

Strumigenys argiola (Emery, 1869)

as *Epitritus argiolus*: [10] (Schkaff 1924).

as *Pyramica argiola* (sic!): Thrace (Radchenko 2007).

Strumigenys baudueri (Emery, 1875): [10] (Bondroit 1918; Emery 1916; 1922).

as *Smithistruma baudueri*: Turkey (Baroni Urbani 1971)

as *Pyramica baudueri*: Thrace (Radchenko 2007).

Strumigenys membranifera Emery, 1869

as *Trichoscapa membranifera*: Turkey (Kugler 1988).

Strumigenys tenuipilis Emery, 1915

as *Smithistruma baudueri* var. *tenuipilis*: [10] (Bernard 1968).

Temnothorax aeolius (Forel, 1911)

as *Leptothorax bulgaricus* subsp. *aeolius*: [3] (Forel 1911).

as *Leptothorax bulgaricus* var. *aeolia*: Menderes river (Forel 1913).

Temnothorax affinis (Mayr, 1855): [4] (Lapeva-Gjonova & Kiran 2012).

as *Leptothorax affinis*: [12] (Heinze 1988; Kiran & Aktaç 2006).

Temnothorax antigoni (Forel, 1911)

as *Leptothorax antigoni*: [3] (Forel 1911).

Temnothorax artvinensis Seifert, 2006

as *Temnothorax artvinense*: [70] (Seifert 2006).

Temnothorax bulgaricus (Forel, 1892)

as *Leptothorax bulgaricus*: Bolkar Mt. (Forel 1913); Thrace (Agosti & Collingwood 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [3], [8], [11], [12], [13], [20] (Heinze 1988); [11], [12], [16], [21] (Kiran & Aktaç 2006).

Temnothorax bulgaricus subsp. *smyrnensis* (Forel, 1911)

as *Leptothorax bulgaricus* subsp. *smyrnensis*: [3] (Forel 1911).

Temnothorax corticalis (Schenck, 1852)

as *Leptothorax corticalis*: Thrace (Agosti & Collingwood 1987; Radchenko 2007).

Temnothorax crassispinus (Karavaiev, 1926): [4] (Lapeva-Gjonova & Kiran 2012).

as *Leptothorax crassispinus*: Thrace (Radchenko 2007).

Comments: The name *T. crassispinus* was considered a junior synonym of *T. nylanderi* for many years until Radchenko (2000) separated these two species. *T. crassispinus* has mainly an East European and Caucasian distribution, while *T. nylanderi* has a Central and West European distribution. Considering the geographical position of Turkey, old records referring to *T. nylanderi* may also be relevant to *T. crassispinus* (or even some other species) and require further investigation.

Temnothorax dessyi (Menozzi, 1936): Sultan Mts. (Kiran & Aksoy 2011); Kaz Mt. (Aktaç & Karaman 2012).

Temnothorax exilis (Emery, 1869)

as *Leptothorax exilis*: Asia Minor (Baroni Urbani 1971); Thrace (Agosti & Collingwood 1987; Radchenko 2007); [3] (Heinze 1988); [12], [21] (Kiran & Aktaç 2006).

as *Leptothorax exilis* var. *darii* Forel, 1911: [3] (Forel 1911).

Temnothorax graecus (Forel, 1911)

as *Leptothorax bulgaricus* subsp. *graeca*: [11] (Donisthorpe 1950a).

as *Leptothorax graecus*: [2] (Aras & Aktaç 1992); Thrace (Radchenko 2007).

Temnothorax interruptus (Schenck, 1852): [4] (Lapeva-Gjonova & Kiran 2012).

Temnothorax kemali (Santschi, 1934)

as *Leptothorax kemali*: [3] (Santschi 1934).

Temnothorax korbi (Emery, 1924): Kaz Mt. (Aktaç & Karaman 2012).

Temnothorax laestrygon (Santschi, 1931): Kaz Mt. (Aktaç & Karaman 2012).

Temnothorax luteus (Forel, 1874): [1] (Kiran & Karaman 2012).
as *Leptothorax tuberum* r. *luteus*: [1] (Forel 1895); Bolkar Mt. (Forel 1913).
as *Leptothorax tuberum* subsp. *luteus*: [3] (Forel 1911).
as *Leptothorax luteus*: [11], [12], [16], [21] (Kiran & Aktaç 2006).

Temnothorax nadigi (Kutter, 1925)
as *Leptothorax nadigi*: [25], [31], [60], [61], [67], [70] (Czechowska *et al.* 1998); [21] (Kiran & Aktaç 2006).

Temnothorax nigriceps (Mayr, 1855)
as *Leptothorax nigriceps*: Thrace (Agosti & Collingwood 1987; Radchenko 2007); [37] (Heinze 1988).

Temnothorax nylanderi (Förster, 1850): [4] (Lapeva-Gjonova & Kiran 2012).
as *Leptothorax nylanderi*: [10] (Forel 1895); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aktaç *et al.* 1994); [13], [25], [47] (Heinze 1988); [11], [12], [16], [17], [21] (Kiran & Aktaç 2006).

Comments: See the comments for *T. crassispinus*.

Temnothorax parvulus (Schenck, 1852): [4] (Lapeva-Gjonova & Kiran 2012).
as *Leptothorax parvulus*: Thrace (Agosti & Collingwood 1987; Radchenko 2007); [12], [21], [25] (Heinze 1988); [11], [16], [21] (Kiran & Aktaç 2006).

Temnothorax recedens (Nylander, 1856): [4] (Lapeva-Gjonova & Kiran 2012).
as *Leptothorax recedens*: Thrace (Agosti & Collingwood 1987; Radchenko 2007); [12], [16] (Kiran & Aktaç 2006).

Temnothorax rottenbergii subsp. *jesus* (Forel, 1913)
as *Leptothorax rottenbergi* (sic!) var. *jesus*: [3] (Forel 1913).

Temnothorax schoedli Seifert, 2006: [49] (Seifert 2006).

Temnothorax semiruber (André, 1881): [4] (Lapeva-Gjonova & Kiran 2012).
as *Leptothorax semiruber*: Thrace (Agosti & Collingwood 1987; Radchenko 2007); [27], [31] (Heinze 1988); [12], [16], [21] (Kiran & Aktaç 2006).

Temnothorax sordidulus (Müller, 1923)
as *Leptothorax sordidulus*: Thrace (Agosti & Collingwood 1987; Radchenko 2007).

Temnothorax tuberum (Fabricius, 1775): [4] (Lapeva-Gjonova & Kiran 2012).
as *Leptothorax tuberum*: Asia Minor (André 1883b); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aktaç *et al.* 1994; Radchenko 2007); [61], [67], [73], [74] (Aktaç 1988); [11], [12], [16], [21] (Kiran & Aktaç 2006).

Temnothorax turcicus (Santschi, 1934)
as *Leptothorax turcicus*: [3] (Santschi 1934).

Temnothorax unifasciatus (Latreille, 1798): [4] (Lapeva-Gjonova & Kiran 2012).
as *Leptothorax unifasciatus*: [12] (Emery 1897); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [10], [21], [25], [59] (Heinze 1988); [11], [12], [16] (Kiran & Aktaç 2006).
as *Leptothorax tuberum* st. *unifasciatus*: [3] (Santschi 1921).
as *Leptothorax tuberum* subsp. *unifasciatus* var. *unifasciato-interrupta* Forel, 1874: [10] (Schkaff 1924).

Tetramorium anatolicum Csösz & Schulz, 2007: [67], [80] (Csösz *et al.* 2007).

Tetramorium brevicorne Bondroit, 1918

as *Tetramorium caespitum* var. *brevicornis*: [26] (Donisthorpe 1950a).

Comments: This species has a very limited distribution in islands of Corsica, Sardinia and Sicily (Sanetra *et al.* 1999). Its existence in Turkey is doubtful, with older material probably misidentified.

Tetramorium caespitum (Linnaeus, 1758): [1] (Forel 1895; Aras & Aktaç 1987; Kiran & Karaman 2012); [2], [12], [17], [27] (Emery 1897); [12], Sultan Mt. (Forel 1906); [3], [10] (Forel 1911; Baroni Urbani 1964); [27] (Santschi 1921); [10] (Schkaff 1924); [6], [12], [15], [70], [74], [76] (Donisthorpe 1950a); [59] (Aktaç 1976;1978); Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [6] (Aktaç & Çamlıtepe 1987); [61], [67], [71], [73], [74], [75], [76], [80], [81] (Aktaç 1988); [2] (Aras & Aktaç 1992;1994); [11], [12], [16] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).
as *Formica caespitum* (sic!): [10] (Rigler 1852).

Comments: Schlick-Steiner *et al.* (2006) indicated in their study on cryptic species of *Tetramorium* in the Western Palaearctic that the *Tetramorium caespitum/impurum* complex comprises seven Palaearctic species. The taxonomy of this complex in the Palaearctic region has not been clarified yet and needs further investigation in Turkey.

Tetramorium caespitum subsp. *flavidulum* Emery, 1924

as *Tetramorium caespitum caespitum* var. *flavidula*: Asia Minor (Emery 1909a); [36] (Emery 1925d).

Tetramorium chefketi Forel, 1911: Thrace (Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [2] (Aras & Aktaç 1992;1994); [31] (Schulz 1996); [28], [31], [37], [42], [70] (Güsten *et al.* 2006); [11], [12], [16], [21] (Kiran & Aktaç 2006); [3], [10], [13], [15], [17], [20], [27], [28], [31], [34], [35], [36], [37], [39], [45], [51], [55], [64], [70], [74] (Csösz *et al.* 2007); [4] (Lapeva-Gjonova & Kiran 2012).

as *Tetramorium* (sic!) *caespitum* var. *forte* Forel, 1904: [70] (Forel 1904).

as *Tetramorium fortis*: [10] (Emery 1909a); [6] (Aktaç & Çamlıtepe 1987); [1] (Aras & Aktaç 1987); Thrace (Çamlıtepe & Aktaç 1987; Aras & Aktaç 1990); [2] (Aras & Aktaç 1992).

as *Tetramorium caespitum* var. *chefketi*: [10] (Forel 1911).

as *Tetramorium caespitum* var. *sarkissiani* Forel, 1911: [16] (Forel 1911).

as *Tetramorium caespitum* st. *turcomana* Emery, 1909: [27] (Santschi 1921).

as *Tetramorium caespitum* subsp. *ferox* var. *chefketi*: [10] (Schkaff 1924).

as *Tetramorium caespitum* var. *fortis*: Turkey (Baroni Urbani 1971).

as *Tetramorium chefteki* (sic!): Thrace (Agosti & Collingwood 1987); [27] (Özdemir *et al.* 2008).

as *Tetramorium forte*: Thrace (Agosti & Collingwood 1987; Aktaç *et al.* 1994; Radchenko 2007); [11], [12], [16], [21] (Kiran & Aktaç 2006); [27] (Özdemir *et al.* 2008).

as *Tetramorium sarkissiani*: Turkey (Collingwood & Heatwole 2000).

Comments: See the comments for *Tetramorium forte* in species excluded from the list of Turkish ants.

Tetramorium davidi Forel, 1911: Thrace (Agosti & Collingwood 1987; Radchenko 2007).

Tetramorium densopilosum Radchenko & Arakelian, 1990: [75] (Csösz & Schulz 2010).

Tetramorium diomedea Emery, 1908: Western Turkey (Sanetra *et al.* 1999); [9], [20], [36], [45], [49], [53] (Csösz & Schulz 2010).

as *Tetramorium caespitum* subsp. *ferox* var. *laevior* Forel, 1911: [10], [16] (Forel 1911).

as *Tetramorium ferox* var. *laevior*: [10] (Finzi 1939); Thrace (Sanetra *et al.* 1999).

Tetramorium ferox Ruzsky, 1903: [3] (Santschi 1934); Thrace (Agosti & Collingwood 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [2] (Aras & Aktaç 1992); [27], [51] (Ülgentürk 2001); [11], [12], [16], [21] (Kiran & Aktaç 2006); [13], [28], [31], [34], [36], [42], [45], [51], [74] (Csösz & Schulz 2010); [4] (Lapeva-Gjonova & Kiran 2012).

as *Tetramorium caespitum* st. *ferox* var. *perspicax* Santschi, 1921: [27] (Santschi 1921).
as *Tetramorium caespitum ferox*: Asia Minor (Emery 1925d).
as *Tetramorium perspicax*: Asia Minor (Radchenko 1992).

Tetramorium feroxoide Dlussky & Zabelin, 1985: Thrace (Radchenko 2007); [45], [53], [74] (Csösz & Schulz 2010).

Tetramorium goniommoide Poldi, 1979: [15] (Poldi 1979; Baroni Urbani & Aktaç 1981); [21] (Kiran & Aktaç 2006).

Tetramorium hippocrate Agosti & Collingwood, 1987

as *Tetramorium caespitum semilaeve* var. *hippocratis*: [9] (Emery 1921a); [10] (Schkaff 1924).

as *Tetramorium semilaeve* var. *hippocratis*: [9] (Aktaç 1976;1978).

as *Tetramorium hippocratis*: Thrace (Agosti & Collingwood 1987; Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [2] (Aras & Aktaç 1992).

Tetramorium hungaricum Rösler, 1935: [4] (Lapeva-Gjonova & Kiran 2012).

Tetramorium impurum (Förster, 1850): Thrace (Agosti & Collingwood 1987; Radchenko 2007).

as *Tetramorium caespitum* var. *impura*: [10] (Schkaff 1924).

Comments: According to Schlick-Steiner *et al.* (2006), *T. impurum* is a Northwest and Central European species. The occurrence of the species in Turkey does not fit with its distribution and its existence in Turkey is doubtful.

Tetramorium lucidulum Menozzi, 1933: Thrace (Agosti & Collingwood 1987; Aktaç *et al.* 1994; Radchenko 2007); [11], [12], [16] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

as *Tetramorium caespitum punicum* var. *lucidula*: Asia Minor (Emery 1909a).

as *Tetramorium caespitum* st. *punicum* var. *lucidula*: [27] (Santschi 1921).

as *Tetramorium caespitum* subsp. *punica* var. *lucidula*: Asia Minor (Emery 1922).

as *Tetramorium lucidula*: [77] (Aktaç 1976;1978); Thrace (Aras & Aktaç 1990); [28], [77] (López 1991); [2] (Aras & Aktaç 1994).

Tetramorium moravicum Kratochvil, 1941: [73], [80] (Güsten *et al.* 2006); [64], [66], [67], [74], [75], [76], [80] (Csösz *et al.* 2007); [4] (Lapeva-Gjonova & Kiran 2012).

Tetramorium punicum (Smith, F., 1861): Thrace (Agosti & Collingwood 1987; Radchenko 2007).

as *Tetramorium caespitum* subsp. *punicum*: [12] (Emery 1897).

as *Tetramorium caespitum* var. *punica*: [3], [16] (Forel 1911).

as *Tetramorium caespitum* st. *punicum*: [27] (Santschi 1921).

Tetramorium rhodium Emery, 1924: [3], [15] (Csösz *et al.* 2007).

Tetramorium schmidti Forel, 1904: [77] (Aktaç 1976).

Tetramorium semilaeve André, 1883: [3] (Baroni Urbani 1964); [9] (Aktaç 1978); [6] (Aktaç & Çamlitepe 1987); [1] (Aras & Aktaç 1987); [61], [67], [71], [74], [75], [76], [80], [81] (Aktaç 1988); Thrace (Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [2] (Aras & Aktaç 1994); [20] (Csösz & Markó 2004); [11], [12], [16], [17] (Kiran & Aktaç 2006).

as *Tetramorium caespitum* subsp. *semilaeve*: [12] (Emery 1897); [45] (Kohl 1905).

as *Tetramorium caespitum* v. *semilevis* (sic!): [3], [10], [16] (Forel 1911).

as *Tetramorium caespitum* subsp. *semilaevis*: [12], [15], [53] (Donisthorpe 1950a).

as *Tetramorium semilaeve semilaeve* var. *siciliensis* Santschi, 1927: [9] (Aktaç 1976).

as *Tetramorium semilaeve* (sic!): Thrace (Çamlitepe & Aktaç 1987).

as *Tetramorium semilaeve siciliensis*: [9] (López 1991).

Tetramorium semilaeve subsp. **galaticum** Menozzi, 1936: [27] (Menozzi 1936).
as *Tetramorium caespitum* st. *biskrensis* var. *galatica*: [27] (Santschi 1921).

Tetramorium syriacum Emery, 1924: [53], [58] (Csösz *et al.* 2007).

Subfamily Ponerinae Lepeletier

Cryptopone ochracea (Mayr, 1855): Thrace (Radchenko 2007); [4] (Lapeva-Gjonova & Kiran 2012).
as *Euponera ochracea*: [10] (Schkaff 1924).

Hypoponera eduardi (Forel, 1894): Thrace (Agosti & Collingwood 1987; Radchenko 2007); [10], [49] (Bolton & Fischer 2011); [4] (Lapeva-Gjonova & Kiran 2012).
as *Ponera eduardi*: Bolkar Mt. (Forel 1913); [3], [10], [15] (Donisthorpe 1950a); [49] (Donisthorpe 1950d).

Ponera coarctata (Latreille, 1802): Thrace (Agosti & Collingwood 1987; Çamlıtepe & Aktaç 1987; Aktaç *et al.* 1994; Radchenko 2007); [1], [4], [5] (Çamlıtepe 2002); [11], [12], [16], [17], [21] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012).

Subfamily Proceratiinae Emery

Proceratium melinum (Roger, 1860): [21] (Kiran & Aktaç 2006).
as *Sysphincta europea* Forel, 1884: [10] (Donisthorpe 1950a;d).

Proceratium numidicum Santschi, 1912: [23] (Baroni Urbani 1977).

Unavailable names

Aphaenogaster testaceopilosa subsp. *semipolita* var. *rufotestacea* Donisthorpe, 1946: Turkey (Donisthorpe 1946).
as *Aphaenogaster testaceopilosa* subsp. *semipolita* var. *rufoferruginea*: [3], [20] (Donisthorpe 1950a).

Camponotus maculatus r. *sanctus* var. *cypriacus* Forel, 1904
as *Camponotus maculatus sanctus* var. *cypriaca*: Asia Minor (Emery 1908a).
as *Camponotus compressus* subsp. *sancta* var. *cypriaca*: Asia Minor (Emery 1925a).

Leptothorax bulgaricus subsp. *smyrnensis* var. *ionia* Forel, 1911: [6] (Forel 1911).

Leptothorax rottenbergi st. *semiruber* var. *galatica* Santschi, 1921: [27] (Santschi 1921).

Messor barbarus subsp. *structor* var. *aeolia* Emery, ?: [10] (Schkaff 1924).

Messor barbarus structor var. *korborum* Emery, 1921: [28] (Emery 1921a).

Tetramorium semilaeve subsp. *syriacum* var. *cyprium* Santschi, 1934: [9] (Aktaç 1976).

Nomina nuda

Aphaenogaster barbara var. *barbarastructor* Dalla Torre, 1893
as *Stenamamma barbarum* var. *barbaro-structor*: [16], Sultan Mt. (Forel 1906).

Formica fusca var. *rufobarboides* Emery, 1897: Turkey (Emery 1897).

Tetramorium sculptum Aktaç, 1976: [77] (Aktaç 1976).

Unrecognisable taxa

Acanthomyops alienus var. *alienoniger* Forel, 1874: [15] (Donisthorpe 1950a).

Comments: According to Seifert (1992) this name is an unrecognisable taxon.

Formica transcaucasica Nasonov, 1889: [74] (Aktaç 1988).

Comments: According to Seifert (2004) this name is an unrecognisable taxon.

Tetramorium splendens Ruzsky, 1902

as *Tetramorium caespitum semileve* (sic!) var. *splendens*: Asia Minor (Emery 1909a).

as *Tetramorium caespitum* st. *semilaeve* var. *splendens*: [27] (Santschi 1921).

Comments: The types of *T. splendens* are lost. Moreover it was described from N Caucasus (Vicinity of Pyatigorsk) based on a few workers by Ruzsky. Based on his description it may be a senior synonym of *T. hungaricum*. But it is a *nomen dubium* and the problem cannot be decided convincingly until the type material of *T. splendens* is found (Radchenko; Csösz, pers. comm.).

Undetermined taxa

Crematogaster sp: [9] (Emery 1921a).

Leptothorax (Myrafant) sp: [12], [13], [20] (Heinze 1988).

Leptothorax (s. str) sp: [25], [32] (Heinze 1988).

Messor sp: [3] (Baroni Urbani 1964).

Messor sp: [6] (Aktaç & Çamlitepe 1987).

Plagiolepis sp: [36] (Schulz & Sanetra 2002).

Tetramorium caespitum subsp. ?: [10] (Schkaff 1924).

Species excluded from the list of Turkish ants

Bothriomyrmex atlantis Forel, 1894: [16] (Emery 1913).

as *Bothriomyrmex meridionalis* subsp. *atlantis*: [16] (Forel 1911).

Comments: Forel (1911) recorded *B. meridionalis* subsp. *atlantis* from İzmit. Emery (1913) raised it to species, but later (Emery 1925c) he studied Forel's material from İzmit and described it as a new subspecies, *B. adriacus* subsp. *anatolicus*. Consequently, we removed *B. meridionalis* subsp. *atlantis* from the list of Turkish ants.

Bothriomyrmex meridionalis (Roger, 1863): Thrace (Aras & Aktaç 1990; Aktaç *et al.* 1994; Radchenko 2007); [12] (Kiran & Aktaç 2006); [4] (Lapeva-Gjonova & Kiran 2012) (misidentifications).

Comments: Recently Seifert (2012b) revised the West Palaearctic *Bothriomyrmex* species. He restricted the distribution of *B. meridionalis* to Iberia and southernmost France. As a result of re-examination of “*B. meridionalis*” material recorded by Kiran & Aktaç (2006) and Lapeva-Gjonova & Kiran (2012), it proved to be *B. corsicus*. Therefore, we excluded this species from the list of Turkish ants.

Camponotus robustus Roger, 1863: Anatolia (André 1882c); Asia Minor (Dalla Torre 1893).

Comments: André (1882c) recorded the worker and male of this species from the Asian part of Turkey; this record was simply repeated by Dalla Torre (1893). Later Emery (1925a) showed that record of André (1882c) from Turkey belonged to *C. aegeus* (repeated by Radchenko 1997c). Consequently, *C. robustus*, which occurs in Madagascar, is removed from the list of Turkish ants.

Formica fuscocinerea Forel, 1874: Thrace (Radchenko 2007).

Comments: Seifert (2002) limited the distribution of this species to the Alps and their foothills from 8.30 E to 16.49 E and the N Apennine. Turkish material is most likely *F. cinerea* (Radchenko, pers. comm.).

Formica gagatoides Ruzsky, 1904: Thrace (Aras & Aktaç 1990).

Comments: *Formica gagatoides* is an exclusively subarctic and boreal species, distributed in Northern Europe, North Siberia and Japan (Sonobe & Dlussky 1977; Collingwood 1979). After re-examination of the material collected in the European part of Turkey by Aras & Aktaç (1990), we identify this species as *F. gagates*.

Messor barbarus (Linnaeus, 1767): [6], [10], [20], [28], [36], [80] (Donisthorpe 1950a).

as *Aphaenogaster barbara*: Asia Minor (Roger 1863; André 1883a).

as *Messor barbarus* var. *sordida* Forel, 1892: [17] (Emery 1897).

Comments: The distribution of this species is mostly Western Mediterranean (French mainland, Gibraltar, Italian mainland, Monaco, Portuguese mainland, Romania, Sicily and Former Yugoslavia) (Radchenko 2007). Markó *et al.* (2006) stated that their recent faunistic investigations showed the absence of this species in Romania and Bulgaria. Therefore the occurrence of this species in Turkey is also doubtful and we removed this species from the list of Turkish ants.

Monomorium glabrum (André, 1883): [19] (Donisthorpe 1950a).

Comments: Donisthorpe (1950a) recorded *M. glabrum* from Turkey. According to Radchenko (1997d), material was misidentified and it belongs to *M. perplexum*. *M. glabrum* is distributed generally in Western and Southern India, Sri Lanka and Burma, and this name is removed from the list of Turkish ants.

Monomorium salomonis (Linnaeus, 1758): Asia Minor (Ettershank 1966).

Comments: Ettershank (1966) gave the distribution of this species as Asia Minor to North Africa. Later, Dlussky *et al.* (1990) showed that all previous records of *M. salomonis* from Caucasus, Middle Asia, Iran and Afghanistan belong to *M. kusnezowi* or *M. ruzskyi*. Therefore, we remove *M. salomonis* from the list of Turkish ants.

Myrmica vandeli Bondroit, 1920: Thrace (Agosti & Collingwood 1987).

Comments: Agosti & Collingwood (1987) recorded *M. vandeli* from the European part of Turkey. Radchenko studied corresponding material and decided that it belongs to *M. specioides* (Radchenko, pers. comm.).

Rossomyrmex minuchae Tinaut, 1981: [51] (Schulz & Sanetra 2002 – misidentification).

Comments: *Rossomyrmex minuchae* was recorded by Schulz & Sanetra (2002) from Sivas province in 2002 as a parasite in a nest of *Proformica* species. Tinaut *et al.* (2010) studied the same locality and found only *R. anatolicus*. The distribution of *R. minuchae* is only in Spain, and the record of *R. minuchae* for Turkey (Schulz & Sanetra 2002) seems very doubtful. Material should belong to *R. anatolicus*.

Stenamamma westwoodii Westwood, 1839: Thrace (Agosti & Collingwood 1987).

Comments: DuBois (1998) has shown that the distribution of *S. westwoodii* is limited to England, Wales and neighbouring areas in continental Europe with two exceptions: an unspecified locality in Belgium, and Israel, probably either a disjunct population, an accidental import, or an incorrectly labelled specimen. Recently Kiran & Aktaç (2006) recorded *S. westwoodii* from Anatolia from two nests. After re-examination of this material, it appeared that one of them belongs to *S. striatulum* and the other to *S. debile*. Therefore, we removed *S. westwoodii* from the list of Turkish ants.

Tapinoma madeirense Forel, 1895: [1] (Kiran & Karaman 2012); [4] (Lapeva-Gjonova & Kiran 2012).

Comments: See the comments for *Tapinoma subboreale*.

Tetramorium forte Forel, 1904

Comments: According to Csösz *et al.* (2007) all previous records of *T. forte* from eastern Europe (including Crimea), Caucasus and Turkey belong to *T. chefketi*. *Tetramorium forte* is distributed in the western part of southern Europe.

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