

## The Extreme, Workerless Inquilines of the World.

### The inquiline species.

The ***Tetramorium inquilinum* species-group** ("Degenerate workerless social parasites of several other *Tetramorium* species", complete.) Before as ***Tetramorium* Mayr, 1855** (Only a few species in a big genus.) (= ***Teleutomyrmex* Kutter, 1950**, by Ward, Brady, Fisher, Schultz, 2015 ("2014"), the old genus, complete.).

- 01) *Tetramorium inquilinum* Ward, Brady, Fisher, Schultz, 2015 ("2014")  
(= *Teleutomyrmex schneideri* Kutter, 1950)  
(= *Tetramorium schneideri* (Kutter, 1950), by Ward, Brady, Fisher, Schultz, 2015 ("2014"))  
(not *Tetramorium schneideri* Emery, 1898)  
(= *Tetramorium inquilinum* Ward, Brady, Fisher, Schultz, 2015 ("2014"), replacement name)
- 02) *Tetramorium kutteri* (Tinaut, 1990)  
(= *Teleutomyrmex kutteri* Tinaut, 1990)  
(= *Tetramorium kutteri* (Tinaut, 1990), by Ward, Brady, Fisher, Schultz, 2015 ("2014"))  
(not *Tetramorium semilaeve* André, 1883 var. *kutteri* Santschi, 1927)
- 03) *Tetramorium seiferti* (Kiran, Karaman, 2017, in Kiran, Karaman, Lapeva-Gjonova, Aksoy, 2017)  
(= *Teleutomyrmex seiferti* Kiran, Karaman, 2017, in Kiran, Karaman, Lapeva-Gjonova, Aksoy, 2017)  
(= *Tetramorium seiferti* (Kiran, Karaman, 2017, in Kiran, Karaman, Lapeva-Gjonova, Aksoy, 2017), by analogy)
- 04) *Tetramorium buschingeri* (Lapeva-Gjonova, 2017, in Kiran, Karaman, Lapeva-Gjonova, Aksoy, 2017)  
(= *Teleutomyrmex buschingeri* Lapeva-Gjonova, 2017, in Kiran, Karaman, Lapeva-Gjonova, Aksoy, 2017)  
(= *Tetramorium buschingeri* (Lapeva-Gjonova, 2017, in Kiran, Karaman, Lapeva-Gjonova, Aksoy, 2017), by analogy)
- 05) *Tetramorium albenae* Salata, van Delft, Borowiec, 2023, in Salata, van Delft, van Delft, Georgiadis, Borowiec, 2023

Not yet described species of extreme, workerless inquiline, from the ***Tetramorium inquilinum* species-group** (= ***Teleutomyrmex* Kutter, 1950**).

- 06) The new, undescribed species from *Tetramorium* Mayr, 1855 (= *Teleutomyrmex* Kutter, 1950) from Farab, Turkmenistan... See Dlussky, Soyunov, Zabelin, 1990 ["1989"].

***Tetramorium* Mayr, 1855** (Only a few species in a big genus.) (= ***Anergates* Forel, 1874**, by Ward, Brady, Fisher, Schultz, 2015 ("2014"), the old genus, complete.).

- 07) *Tetramorium atratulum* (Schenck, 1852)  
(= *Myrmica atratula* Schenck, 1852)  
[Also described as new by Schenck, 1853]  
(= *Tetramorium atratulum* (Schenck, 1852), by Mayr, 1855)  
[= *Tomognathus atratulus* (Schenck, 1852), by Mayr, 1863 following Mayr, 1861, obsolete combination.]  
(= *Anergates atratulus* (Schenck, 1852), by Forel, 1874)  
(= *Tetramorium atratulum* (Schenck, 1852), by Ward, Brady, Fisher, Schultz, 2015 ("2014"))
- 08) *Tetramorium friedlandi* (Creighton, 1934)  
(= *Anergates friedlandi* Creighton, 1934)  
[= *Tetramorium friedlandi* (Creighton, 1934), by analogy]

***Tetramorium* Mayr, 1855** (Only a few species in a big genus.).

09) *Tetramorium microgyna* Santschi, 1918

10) *Tetramorium parasiticum* Bolton, 1980

***Pheidole* Westwood, 1839** (Only a few species in a big genus.).

11) *Pheidole neokohli* Wilson, 1984

(= *Anergatides kohli* Wasmann, 1915)

(= *Pheidole kohli* (Wasmann, 1915), by Wilson, 1984)

(not *Pheidole kohli* Mayr, 1901)

(= *Pheidole neokohli* Wilson, 1984, replacement name)

12) *Pheidole acutidens* (Santschi, 1922)

(= *Bruchomyrma acutidens* Santschi, 1922)

(= *Pheidole acutidens* (Santschi, 1922), by Wilson, 1984)

13) *Pheidole argentina* (Bruch, 1932)

(= *Gallardomyrma argentina* Bruch, 1932)

(= *Pheidole argentina* (Bruch, 1932), by Wilson, 1984)

14) *Pheidole parasitica* Wilson, 1984

Excluded from the extreme, workerless inquilines. Once this species was included in the extreme, workerless inquilines but now it is considered to be a workerless inquiline without extreme reductions, e.g. no pupoid males but normal ones. The decision to exclude it was made by Edward Osborne Wilson in 1984 in a study of the inquilines in the genus ***Pheidole* Westwood, 1839**.

***Pheidole* Westwood, 1839** (Only one species in a big genus.).

15) *Pheidole kusnezovi* Wilson, 2003

(= *Eriopheidole symbiotica* Kusnezov, 1952)

(= *Pheidole symbiotica* (Kusnezov, 1952), by Wilson, 1984)

(not *Pheidole symbiotica* Wasmann, 1909)

(= *Pheidole kusnezovi* Wilson, 2003, replacement name)

#### **Distribution.**

01) Europe (Alps, Pyrenees and Northern Spain)

02) Europe (Southern Iberia)

03) Turkey (Anatolia)

04) Europe (Southern Balkans or, more precisely, Bulgaria)

05) Europe (Balkan Peninsula or, more precisely, Greece)

06) Turkmenistan

07) Palaearctic region (most important: Europe)

08) North America

09) Southern Africa

10) Southern Africa

- 11) Central Africa
- 12) South America
- 13) South America
- 14) India

- 15) South America

#### The host species.

01), 02), 03), 04), 05), 06), 07), 08), 09) and 10) Certain species of the genus ***Tetramorium* Mayr, 1855.**

01) *T. alpestre* Steiner, Schlick-Steiner, Seifert, 2010 and *T. impurum* (Förster, 1850) and maybe *T. caespitum* (Linnaeus, 1758)?

02) *T. cf. caespitum* (Linnaeus, 1758)

03) *T. cf. chefketi* Forel, 1911

04) *T. cf. chefketi* Forel, 1911

05) *T. kephalosi* Salata, Borowiec, 2017

06) A species from the genus *Tetramorium* Mayr, 1855...

07) *T. impurum* (Förster, 1850), *T. caespitum* (Linnaeus, 1758), *T. immigrans* Santschi, 1927, *T. staercke* Kratochvíl, 1944, in Kratochvíl, Novák, Šnoflák, 1944, *T. moravicum* [Kratochvíl, 1941, in] Novák, Sadil, 1941, *T. diomedae* Emery, 1908, *T. chefketi* Forel, 1911

08) *T. immigrans* Santschi, 1927

09) *T. sericeiventris* Emery, 1877 and *T. sepositum* Santschi, 1918

10) *T. avium* Bolton, 1980

11), 12), 13), 14) and 15) Certain species of the genus ***Pheidole* Westwood, 1839.**

11) *P. megacephala* (Fabricius, 1793) subsp. *melancholica* Santschi, 1912

12) *P. strobili* Emery, 1906

13) *P. nitidula* Emery, 1888

14) *P. indica* Mayr, 1879

15) *P. obscurior* Forel, 1886

#### A remark about synonymy.

*Tetramorium friedlandi* (Creighton, 1934) is now a synonym from *Tetramorium atratum* (Schenck, 1852), more precisely an introduced form in North America (see also Schär, Talavera, Espadaler, Rana, Andersen, Cover, Vila, 2018.). This synonymy was given by Creighton, 1950. So, the name is *Tetramorium atratum* (Schenck, 1852)...

#### Synonyms of the host species.

- *T. impurum* (Förster, 1850) (= *Myrmica impura* Förster, 1850)

- *T. caespitum* (Linnaeus, 1758) (= *Formica caespitum* Linnaeus, 1758)

- *T. chefketi* Forel, 1911 (= *T. caespitum* (Linnaeus, 1758) var. *cheketi* Forel, 1911)

- *T. immigrans* Santschi, 1927 (= *T. caespitum* (Linnaeus, 1758) var. *immigrans* Santschi, 1927)

- *T. staercke* Kratochvíl, 1944, in Kratochvíl, Novák, Šnoflák, 1944 (= *T. caespitum* (Linnaeus, 1758) subsp. *hungarica* Rösler, 1935 ("1933-34") var. *staercke* Rösler, 1936)
- *T. diomedum* Emery, 1908 (= *T. caespitum* (Linnaeus, 1758) var. *diomedea* Emery, 1908)
- *T. sepositum* Santschi, 1918 (= *T. gladstonei* Forel, 1913 var. *seposita* Santschi, 1918)
- *P. megacephala* (Fabricius, 1793) (= *Formica megecephala* Fabricius, 1793) (= *Formica edax* Forskål, 1775, a nomen oblitum under Art. 23.9 of ICZN (1999))
- *P. megacephala* (Fabricius, 1793) subsp. *melancholica* Santschi, 1912 was originally described as *P. punctulata* Mayr, 1866 st. *melancholica* Santschi, 1912
- *P. strobili* Emery, 1906 (= *P. perversa* Forel, 1908 subsp. *richter* Forel, 1909, or, in 1922, at the moment the extreme, workerless inquiline species was described, = *P. strobili* Emery, 1906 subsp. *richter* Forel, 1909.)
- *P. nitidula* Emery, 1888 (= *P. triconstricta* Forel, 1886 var. *nitidula* Emery, 1888)
- *P. obscurior* Forel, 1886 (= *P. susannae* Forel, 1886 r. *obscurior* Forel, 1886)

### And then...

..., if you follow the line further that Ward, Brady, Fisher, Schultz, 2015 ("2014") outlined, the first 10 extreme, workerless inquilines become a few species in the genus ***Strongylognathus* Mayr, 1853**.

- 01) *Strongylognathus inquilinum* (Ward, Brady, Fisher, Schultz, 2015 ("2014"))  
(= *Strongylognathus schneideri* (Kutter, 1950))
- 02) *Strongylognathus kutteri* (Tinaut, 1990)
- 03) *Strongylognathus seiferti* (Kiran, Karaman, 2017, in Kiran, Karaman, Lapeva-Gjonova, Aksoy, 2017)
- 04) *Strongylognathus buschingeri* (Lapeva-Gjonova, 2017, in Kiran, Karaman, Lapeva-Gjonova, Aksoy, 2017)
- 05) *Strongylognathus albenae* (Salata, van Delft, Borowiec, 2023, in Salata, van Delft, van Delft, Georgiadis, Borowiec, 2023)
- 07) *Strongylognathus atratulus* (Schenck, 1852)
- 08) *Strongylognathus friedlandi* (Creighton, 1934)
- 09) *Strongylognathus microgyna* (Santschi, 1918)
- 10) *Strongylognathus parasiticum* (Bolton, 1980)

If you followed the systematics of ants in 2014-2015, you noticed that all the species of *Teleutomyrmex* Kutter, 1950 and *Anergates* Forel, 1874 became *Tetramorium* Mayr, 1855. But normally, they should have the name *Strongylognathus* Mayr, 1853. No, they, Ward, Brady, Fisher, Schultz, 2015 ("2014"), didn't like that! So, until the ICZN would say different, they kept *Tetramorium* Mayr, 1855.

And now you find under a few species, described in the "normal" genus "*Teleutomyrmex* Kutter, 1950", this:

"[Note: Kiran, et al. 2017: 146, retain the paraphyletic genus *Teleutomyrmex*.]"

But they keep themselves a paraphyletic genus, nl. *Tetramorium* Mayr, 1855! So it should be ***Strongylognathus* Mayr, 1853...**

**For Europe, only the numbers 01-08 are important.**

**Key to parasitic *Tetramorium* Mayr, 1855 (= *Teleutomyrmex* Kutter, 1950) species.**

“This key is based on Kiran, K., Karaman, C., Lapeva-Gjonova, A. & Aksoy, V., 2017, “Two new species of the “ultimate” parasitic ant genus *Teleutomyrmex* Kutter, 1950 from the Western Palaearctic.” *Myrmecological News*, vol. 25, p. 145-155.

Originally assigned their own genus, *Teleutomyrmex*, these ants parasitises other *Tetramorium* species. The species *Tetramorium atratulum* is not included in this key and bears no resemblance to the other parasites in the genus.

Males of *T. buschingeri* have yet to be collected.”

- “1  
 Gynes ..... 2  
 Males ..... 5  
 2  
 Carinae or teeth on dorsal surface of propodeum absent, dorsal profile of propodeum much shorter than the declivitous one. All lateral surfaces of mesosoma and petiole covered by a well-developed reticulate or alveolate microsculpture. Head length index  $CL / CW < 0.945$ . Southern Balkans ..... *Tetramorium buschingeri*.  
 Carinae or teeth on dorsal surface of propodeum present, dorsal profile of propodeum not much shorter than the declivitous one. Surfaces of lateral mesosoma and petiole only in patches covered by a reticulate or alveolate microsculpture or completely smooth. Head length index  $CL / CW > 0.945$  ..... 3  
 3  
 Scape long,  $SL / CS > 1.00$ . Distance of frontal carinae clearly larger than petiolar width,  $DFC / PW > 1.096$ . Size small,  $CW < 464 \mu m$ . Scapes and tibiae with weaker, largely decumbent pilosity. Southern Iberia ..... *Tetramorium kutteri*.  
 Scape shorter,  $SL / CS < 1.00$ . Distance of frontal carinae not much larger than petiolar width,  $DFC/PW < 1.096$ . Size larger,  $CW > 464 \mu m$ . Scapes and tibiae with profuse erect or suberect pilosity .  
 ..... 4  
 4  
 Ratio of distance between lateral ocelli and large diameter of complex eye larger:  $DLO / EL 0.93 - 1.11$ . Katepisternum with many long decumbent hairs, posterior corners of head posterior of the eyes smooth, absolute scape length larger:  $SL > 457 \mu m$ . Anatolia ..... *Tetramorium seiferti*.  
 Ratio of distance between lateral ocelli and large diameter of complex eye smaller:  $DLO / EL 0.70 - 0.80$ . Katepisternum without or only with a few decumbent hairs, posterior corners of head posterior of the eyes densely microreticulate, absolute scape length smaller:  $SL < 457 \mu m$ . Alps and Pyrenees .  
 ..... *Tetramorium inquilinum*.  
 5  
 Anterior clypeal margin straight ..... 6  
 Anterior clypeal margin concave medially ..... *Tetramorium seiferti*.  
 6  
 Subgenital plate broadly convex, sagitta with sinusoidal shape ..... *Tetramorium kutteri*.  
 Subgenital plate slightly concave, sagitta broadly convex ..... *Tetramorium inquilinum*.”

**Key to members of the *Tetramorium inquilinum* species-group**, from Salata, van Delft, van Delft, Georgiadis, Borowiec, 2023 (after Kiran, Karaman, Lapeva-Gjonova, Aksoy, 2017, modified.). Only queens!

- “1. Carinae or teeth on dorsal surface of propodeum absent, dorsal profile of propodeum much shorter than the declivitous one. All lateral surfaces of mesosoma and petiole covered by a well-developed reticulate or alveolate microsculpture. Head length index CL/CW <0.945. Southern Balkans. . . . . *Tetramorium buschingeri*.  
 –. Carinae or teeth on dorsal surface of propodeum present, dorsal profile of propodeum not much shorter than the declivitous one. Surfaces of lateral mesosoma and petiole only in patches covered by a reticulate or alveolate microsculpture or completely smooth. Head length index CL/CW >0.945. . . . . 2.
2. Dorsal surface of propodeum with indistinct carinae, teeth absent. Head surface smooth and shiny and katepisternum and anepisternum predominantly smooth and shiny. Greece. . . . . *Tetramorium albenae*.  
 –. Dorsal surface of propodeum with blunt tooth. Head surface at least partially sculptured and/or katepisternum and anepisternum predominantly sculptured. . . . . 3.
3. Scape long, SL/CS >1.00. Distance of frontal carinae clearly larger than petiolar width, DFC/PW >1.096. Size small, CW <464 µm. Scapes and tibiae with weaker, largely decumbent pilosity. Southern Iberia. . . . . *Tetramorium kutteri*.  
 –. Scape shorter, SL/CS <1.00. Distance of frontal carinae not much larger than petiolar width, DFC/PW <1.096. Size larger, CW >464 µm. Scapes and tibiae with profuse erect or suberect pilosity. . . . . 4.
4. Ratio of distance between lateral ocelli and large diameter of complex eye larger: DLO/EL 0.93–1.11. Katepisternum with many long decumbent hairs, posterior corners of head posterior of the eyes smooth, absolute scape length larger: SL >457 µm. Anatolia. . . . . *Tetramorium seiferti*.  
 –. Ratio of distance between lateral ocelli and large diameter of complex eye smaller: DLO/EL 0.70–0.80. Katepisternum without or only with a few decumbent hairs, posterior corners of head posterior of the eyes densely microreticulate, absolute scape length smaller: SL <457 µm. Alps, Pyrenees and Cantabrian Mountains. . . . . *Tetramorium inquilinum*.”

### **Distribution in detail (from AntWiki.org.).**

- 01) France, Iberian Peninsula, Russian Federation, Spain, Switzerland, Turkmenistan.  
Endemic to this region.
- 02) Iberian Peninsula, Spain.  
Endemic to this region.
- 03) Turkey.  
Endemic to this region.
- 04) Bulgaria.  
Endemic to this region.
- 05) Greece.  
Endemic to this region.
  
- 07) Albania, Armenia, Austria, Belarus, Belgium, Bulgaria, Channel Islands, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iberian Peninsula, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Republic of Moldova, Romania, Russian Federation, Slovakia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland.
- 08) United States (introduced).
  
- 09) Angola, South Africa, Zimbabwe.  
Endemic to this region.
- 10) South Africa.  
Endemic to this region.
  
- 11) Democratic Republic of Congo.  
Endemic to this region.
- 12) Argentina, Brazil.  
Endemic to this region.
- 13) Argentina.  
Endemic to this region.
- 14) India.  
Endemic to this region.
  
- 15) Argentina.  
Endemic to this region.

## The original descriptions of *Tetramorium* and *Strongylognathus*.

*Tetramorium* Mayr, 1855.

*Tetramorium* [Myrmicinae: Tetramoriini].

- *Tetramorium* Mayr, 1855: 423. Type-species: *Formica caespitum*, by subsequent designation of Girard, 1879: 1016.

*Strongylognathus* Mayr, 1853.

*Strongylognathus* [Myrmicinae: Tetramoriini].

- *Strongylognathus* Mayr, 1853: 389. Type-species: *Eciton testaceum*, by monotypy. Replacement name for *Myrmus* Schenck, 1853: 188. [Junior homonym of *Myrmus* Hahn, 1832: 81 (Hemiptera).].

*Myrmus* [junior homonym, see *Strongylognathus*].

- *Myrmus* Schenck, 1853: 188. Type-species: *Myrmus emarginatus* (junior synonym of *Eciton testaceum*), by monotypy. [Junior homonym of *Myrmus* Hahn, 1832: 81 (Hemiptera).].

- *Strongylognathus* Mayr, 1853: 389, replacement name for *Myrmus* Schenck.

*Myrmus* Schenck, 1853.

*Myrmus* [junior homonym, see *Strongylognathus*].

- *Myrmus* Schenck, 1853: 188. Type-species: *Myrmus emarginatus* (junior synonym of *Eciton testaceum*), by monotypy. [Junior homonym of *Myrmus* Hahn, 1832: 81 (Hemiptera).].

- *Strongylognathus* Mayr, 1853: 389, replacement name for *Myrmus* Schenck.

## First descriptions of, and last revisions of the species complexes of, the senior homonyms of *Teleutomyrmex* species when they are placed in the genus *Tetramorium*.

- ***Tetramorium schneideri* Emery, 1898**, valid.

*Tetramorium schneideri* Emery, 1898: 145 (w.) KAZAKHSTAN. Palearctic.

Tarbinsky, 1976: 115 (q.); Radchenko & Scupola, 2015: 234 (m.).

Material of the unavailable name *Tetramorium striativentre schneideri longispina* referred here by Dlussky et al., 1990: 207; Radchenko, 1992: 52.

*Tetramorium striativentre schneideri longispina* Karavaiev, 1912, unavailable.

*Tetramorium striativentre* subsp. *schneideri* var. *longispina* Karavaiev, 1912: 585 (w.) TRANSCASPIA. Palearctic.

Unavailable name; material referred to *Tetramorium schneideri* by Dlussky et al., 1990: 207; Radchenko, 1992: 52.

- ***Tetramorium semilaeve kutteri* Santschi, 1927**, junior synonym of current valid taxon *Tetramorium indocile* Santschi, 1927.

*Tetramorium semilaeve* var. *kutteri* Santschi, 1927: 57 (w.) SWITZERLAND. Palearctic.

Primary type information: Brig, Switzerland

Junior synonym of *Tetramorium indocile*: Wagner et al., 2017: 116.



## The future.

But there are of course still more parasites in the genus *Tetramorium*, but they aren't extreme, workerlessinquilines. One of the most recent described species is a parasite of *Tetramorium immigrans*, nl. *T. aspina* Wagner, Karaman, Aksoy, Kiran, 2018. From its description follows:

“Biology: Putative social parasite of *T. immigrans*. Likely monogynous. Small eyes and yellowish color indicate subterranean activity.”

“Ecology: The type locality is a subalpine, sparse, and almost 100-year-old forest with large sun-exposed treeless areas. The nest was located on a stony and rocky east slope with a 50 - 55° inclination. Herb layer plants are *Anthemis* sp., *Daucus* sp., *Malva* sp., *Medicago* sp., *Myosotis* sp., *Poaceae* species, *Rosa* sp., *Rubus* sp., *Taraxacum* sp., *Trifolium* sp., *Verbascum* sp., and *Veronica* sp. *Camponotus aethiops* (Latreille, 1798), *Formica cunicularia* Latreille, 1798, *Formica fusca* Linnaeus, 1758, *Lasius alienus* (Foerster, 1850), *Lasius flavus* (Fabricius, 1782), *Manica rubida* (Latreille, 1802), *Messor structor* complex, *Proformica pilosiscapa* Dlussky, 1969, *Temnothorax artvinensis* Seifert, 2006, *Temnothorax unifasciatus* (Latreille, 1798), *Tetramorium immigrans*, *Tetramorium* cf. *impurum*, and a further non-identified *Tetramorium* sp. were also recorded from the same locality.”

This is a species, not extreme, with workers, but an inquiline. There are surely more species, described or not, that encompass the whole system from free living to specialised inquiline. But this species doesn't belong here. So, go on and search for more extreme, workerless inquilines.....

Or, with the help of this booklet, and like Prof. Em. Alfred Buschinger said, “It appears to be very helpful for the few specialists interested in these ants.”.

### **A remark about the literature lists of *Anergates* and *Teleutomymex*.**

A small remark about the “\* ” for some of the references in those literature lists. This sign is placed there when the reference is about the hosts of the genus named in the title or when the reference is about a part of the systematic places of the species around the species but not about it directly.

### **A complete, systematic literature list of “*Anergates* Forel, 1874.”**

Atanassov, N., Dlussky, G. M., 1992, “Fauna of Bulgaria. Hymenoptera, Formicidae.” [In Bulgarian.]. Fauna na Bûlgariya, vol. 22, p. 1-310.

Creighton, W. S., 1934, “Descriptions of three new North American ants with certain ecological observations on previously described forms.” *Psyche* (Cambridge.), vol. 41, p. 185-200.

Creighton, W. S., 1950, “The ants of North America.” *Bulletin of the Museum of Comparative Zoölogy* [at Harvard College], vol. 104, p. 1-585 (+ 57 plates!).

\* Csösz, S., Radchenko, A., Schulz, A., 2007, “Taxonomic revision of the Palaearctic *Tetramorium chefketi* species complex (Hymenoptera: Formicidae).” *Zootaxa*, vol. 1405, p. 1-38.

\* Csösz, S., Schulz, A., 2010, “A taxonomic review of the Palaearctic *Tetramorium ferox* species-complex (Hymenoptera, Formicidae).” *Zootaxa*, vol. 2401, p. 1-29.

Donisthorpe, H., 1915, “British ants, their life-history and classification.” Plymouth, Brendon & Son Ltd., xv + 379 pp.

Forel, A., 1874, “Les fourmis de la Suisse. Systématique, notices anatomiques et physiologiques, architecture, distribution géographique, nouvelles expériences et observations de mœurs.” *Neue Denkschriften der Allgemeinen Schweizerischen Gesellschaft für die Gesamten Naturwissenschaften*, vol. 26, p. 1-452 (+ 2 plates!).

\* Girard, M., 1879, “Traité élémentaire d'entomologie. Volume 2.” Paris, Librairie J.-B. Baillière et Fils, 1028 pp.

\* Hahn, C. W., 1832, “Die Wanzenartigen Insecten. Getreu nach der Natur abgebildet und beschrieben. Band I, Heft 3.” Nürnberg, Zeh, p. 81-118.

\* Mayr, G., 1853, “Ueber die Abtheilung der Myrmiciden, und eine neue Gattung derselben.” *Verhandlungen der Zoologisch-Botanischen Vereins in Wien*, vol. 3, p. 387-394 (+1 plate!).

Mayr, G., 1855, “Formicina austriaca. Beschreibung der bisher im österreichischen Kaiserstaate aufgefundenen Ameisen, nebst Hinzufügung jener in Deutschland, in der Schweiz und in Italien vorkommenden Arten.” *Verhandlungen der Zoologisch-Botanischen Vereins in Wien*, vol. 5, p. 273-478 (+ 1 plate!).

Mayr, G., 1861, “Die europäischen Formiciden. Nach der analytischen Methode bearbeitet.” Wien, C. Gerold's Sohn, 80 pp. (+ 1 plate!).

Mayr, G., 1863, “Formicidarum index synonymicus.” *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien*, vol. 13, p. 385-460.

Schenck, C. F., 1852. "Beschreibung nassauischer Ameisenarten." Jahrbuch des Vereins für Naturkunde im Herzogthum Nassau, Wiesbaden, vol. 8, p. 1-149.

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