ANNALS OF THE UPPER SILESIAN MUSEUM IN BYTOM
ENTOMOLOGY
Vol. **27 (online 003)**: 1–13 ISSN 0867-1966, eISSN 2544-039X (online) Bytom, 9.11.2018

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Notes on ants (Hymenoptera: Formicidae) of Samos Island, Greece

http://doi.org/10.5281/zenodo.1481802

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Abstract: Fifty and six ant species are recorded from the Samos Island (North Aegean) including seven not attributed to any formally described taxon. *Aphaenogaster subcostata* VIEHMEYER, 1922, *Temnothorax curtisetosus* SALATA & BOROWIEC, 2015 and *Temnothorax smyrnenis* (FOREL, 1911) are new to Greece and Europe; *Crematogaster erectepilosa* SALATA & BOROWIEC, 2015, *Ponera coarctata* (LATREILLE, 1802), *Temnothorax angustifrons* CSŐSZ, HEINZE & MIKÓ, 2015 and *Tetramorium hippocratis* AGOSTI & COLLINGWOOD, 1987 are new to the East Aegean Islands. *Leptothorax bulgaricus* ssp. *smyrnenis* FOREL, 1911 is raised to the species rank as *Temnothorax smyrnenis* (FOREL, 1911) **new status**.

Key words: ants, Greece-Northern Aegean Islands, Samos, faunistics, taxonomy.

INTRODUCTION

Samos is a Greek island placed in the eastern Aegean Sea, south of Chios, north of Patmos and the Dodecanese, and off the coast of Asia Minor, from which it is separated only by the 1.6-kilometre wide Mycale Strait. It is also a separate regional unit of the North Aegean region. The area of the island is 477.395 km^2 and it is 43 km long and 13 km wide. Samos' relief is dominated by two large mountains, Ampelos and Kerkis. The Ampelos massif is the larger of the two and occupies the center of the island, rising to 1095 meters. Mt. Kerkis, though smaller in area, is the taller of the two and its summit is the island's highest point, at 1434 meters. Compared with other eastern Aegean islands, Samos is characterized by its well-preserved forest cover. Due to the specific microclimate it is rich in lush Mediterranean shrubs and meadows and is commonly called the "green island". Large areas of pine forests, with a mixture of other coniferous trees, are preserved in the mountains. While valley streams are covered by deciduous forests, with a large proportion of plane trees. Although large area of pine forests on the southern slopes of the mountains were destroyed by fires in 2000, we can observe its spectacular rebirth. Mediterranean maquis, so common in other Aegean islands, grows only in extremely dry areas along the southern coast of the island.

The location of the island, between the northern Aegean and Dodecanese islands and the proximity to Asia Minor allows us to suppose that the ants fauna of this area should be a mixture of northern and southern Aegean fauna with Anatolian elements. This hypothesis, however, couldn't be verified or confirmed by the literature data, because myrmecofauna of this region has never been investigated. In June 2017, during entomological trip to the island of Samos we collected samples with ants from 24 localities representing the main habitats found on the island, including anthropogenic. The results of this trip are presented below.

MATERIAL AND METHODS

The main method, applied at all sites, was direct sampling (hand collecting). Ant nests and individual specimens were collected on the ground, in leaf litter, under stones, in dead wood, on tree trunks and twigs. Ants were brushed off to the sweep net on the banks of roads and forest. Nests were searched in rocks cracks and preying on cracked rocks using a chisel. All specimens were preserved in pure 75% ethanol. Images of ant specimens were taken using a Nikon SMZ 1500 and Nikon SMZ 18 stereomicroscopes, Nikon D5200 photo camera and Helicon Focus software. Taxa in list of collected species are arranged alphabetically. Distribution in Greece after Borowiec (2014) and unpublished data from the Database and Collection of Greek Ants (DCGA), preserved at the University of Wrocław. Geographical coordinates are given in decimal system. The numbers of localities refer to the position in the coding system used in the DCGA preserved at the University of Wrocław. Localities are arranged chronologically. Materials are deposited in Department of Biodiversity and Evolutionary Taxonomy, University of Wrocław.

LIST OF LOCALITIES

SAM_444 – 1.4 km E of Pythagoreio, 50 m, 2 VI 2017, 37.69538 N/26.95837 E, suburban area with maquis;

SAM_445 – 1.3 km E of Pythagoreio, 60 m, 2 VI 2017, 37.69441 N/26.95728 E, ruderal area;

SAM_446 – 760 m N of Mavratzei, 265 m, 3 VI 2017, 37.72534 N/26.86054 E, stream valley with deciduous forest;

SAM_447 – 1.5 km N of Mavratzei, 310 m, 3 VI 2017, 37.73222 N/26.86118 E, pine forest;

SAM_448 – 2 km N of Mavratzei, 400 m, 3 VI 2017, 37.73717 N/26.86536 E, area after the fire of a pine forest;

SAM_449 – 850 m W of Mili, 155 m, 3 VI 2017, 37.68140 N/26.8477 E, pastures with shrubs;

SAM_450 – Mili, 40 m, 3 VI 2017, 37.67975 N/26.86006 E, stream valley with plane-tree forest;

SAM_451 + 451A – 2 km W of Pirgos, 465 m, 4 VI 2017 – A 8 VI 2017, 37.71731 N/26.78088 E, luminous pine forest;

SAM_452 – 1 km NE of Kallithea, 300 m, 4 VI 2017, 37.74111 N/26.5893 E, coniferous forest;

SAM_453 – 2.7 km SW of Drakei, 285 m, 4 VI 2017, 37.73773 N/26.59555 E, mixed forest close to stream;

SAM_454 – 1.7 km S of Agios Konstantinos, 285 m, 5 VI 2017, 37.79064 N/26.83246 E, stream valley with deciduous forest;

SAM_455 – 500 m SW of Manolates, 380 m, 5 VI 2017, 37.78207 N/26.8212 E, shadow valley in mixed forest;

SAM_456 – 1 km W of Platanos, 335 m, 6 VI 2017, 37.74023 N/26.73481 E, roadsides in pine forest;

SAM_457 – 1.3 km S of Kastania, 350 m, 6 VI 2017, 37.74216 N/26.69263 E, shady pine forest;

SAM_458 – 400 m E of Kastania, 390 m, 6 VI 2017, 37.75111 N/26.68886 E, luminous pine forest;

SAM_459 – 1 km N of Kastania, 225 m, 6 VI 2017, 37.76257 N/26.68189 E, stream valley with deciduous forest;

SAM_460 – 550 m N of Kosmadei, 490 m, 6 VI 2017, 37.76574 N/26.66201 E, pine forest;

SAM_461 – 1.1 km S of Kontakeika, 260 m, 7 VI 2017, 37.79198 N/26.7495 E, small pine forest inside olive plantation;

SAM_462 – 740 m N of Idroussa, 130 m, 7 VI 2017, 37.78575 N/26.74528 E, stream valley with deciduous forest;

SAM_463 – 1 km S of Idroussa, 240 m, 7 VI 2017, 37.76997 N/26.74862 E, pine forest;

SAM_464 – 1.3 km S of Idroussa, 310 m, 7 VI 2017, 37.76763 N/26.75136 E, pine forest;

SAM_465 – 300 m W of Konteika, 355 m, 7 VI 2017, 37.75689 N/26.73443 E, luminous pine forest;

SAM_466 – Pandroso, 670 m, 8 VI 2017, 37.73165 N/26.82803 E, pastures with shrubs;

SAM_467 – 770 m W of Pandroso, 770 m, 8 VI 2017, 37.73276 N/26.82136 E, pastures with shrubs;

SAM_468 – 450 m W of Mesogio, 570 m, 8 VI 2017, 37.72728 N/26.81834 E, luminous pine forest.

LIST OF COLLECTED SPECIES

1. ***Aenictus rhodiensis*** Menozzi, 1936 (Fig. 1)

Locality: 451.

Note: *Aenictus rhodiensis* is the only European member of the true army ants. It was described from the vicinity of Kattavia, Rhodes, Dodecanese. Next published record comes from Israel, more than 50 years after description (Kugler 1988). Recently, it was recorded from few localities in western Turkey (Aktaç *et al.* 2004, Kiran *et al*. 2009). Record from Samos is the second from Greece and first from northern Aegean Islands. The colony was found under a large stone lying in the pine forest. It created a globular aggregation of individuals. Concerned ants formed a column that moved into the bottom of a litter made of pine needles.

2. ***Aphaenogaster balcanica*** (Emery, 1898)

Localities: 444, 446, 450, 452, 454, 458, 466, 467.

Note: Recorded from Cyclades, Dodecanese, East Aegean Is., Epirus, Ionian Is., Macedonia, Peloponnese and Sterea Ellas. On Samos prefers mountainous, dry habitats.

3. ***Aphaenogaster festae*** Emery, 1915

Localities: 444, 445, 446, 447, 450, 452, 454, 457, 458, 460, 462, 463, 464, 465, 466.

Note: Eastern species recorded from Dodecanese, East Aegean Is. and Thrace. On Samos collected in various habitats, from wet stream valleys to dry pine forest.

4. ***Aphaenogaster sporadis*** Santschi, 1933

Localities: 445, 449, 461, 463, 464.

Note: Eastern species recorded from Dodecanese and East Aegean Islands. On Samos collected in very dry localities as ruderal habitats with maquis and lowland pine forests.

5. ***Aphaenogaster subcostata*** Viehmeyer, 1922 (Fig. 2)

Localities: 457, 466.

Note: Hitherto known only from Taurus Mountains in Turkey. New to Greece and Europe.

6. ***Bothriomyrmex communistus*** Santschi, 1919

Locality: 448.

Note: Common species, recorded from Dodecanese, Eastern Aegean Is., Epirus, Ionian Is., Macedonia, Peloponnese, Sterea Ellas, Thessaly and Thrace.

7. ***Camponotus aegaeus*** Emery, 1915

Localities: 449, 458, 461, 463, 466, 467

Note: Eastern species recorded from Dodecanese, Eastern Aegean Is., Macedonia and Thrace.

8. ***Camponotus aethiops*** (Latreille, 1798)

Localities: 444, 458, 461.

Note: Common species recorded from Crete, Cyclades, Dodecanese, East Aegean Is., Epirus, Ionian Is., Macedonia, Peloponnese, Sterea Ellas, Thessaly, Thrace.

9. ***Camponotus baldaccii*** Emery, 1908

Localities: 454, 458, 463, 466.

Notes: Southern and eastern species recorded from Crete, Dodecanese and Eastern Aegean Is. In Greek mainland rare, known only from the eastern Sterea Ellas.

10. ***Camponotus boghossiani*** Forel, 1911

Localities: 450, 452, 453, 454, 455, 456, 457, 458, 461, 464.

Notes: Southern and eastern species recorded from Crete, Cyclades, Dodecanese and East Aegean Is. In Greek mainland rare, known only from the Peloponnese.

11. ***Camponotus candiotes*** Emery, 1894

Locality: 446.

Note: Rare southern and eastern species recorded from Crete, Dodecanese and East Aegean Is.

12. ***Camponotus ionius*** Emery, 1920

Localities: 446, 447, 449, 455, 466, 468.

Note: Common Greek species recorded from most regions, except Crete.

13. ***Camponotus kiesenwetteri*** (Roger, 1859)

Localities: 444, 445, 447, 448, 449, 452, 453, 454, 455, 460, 461, 462, 463, 464, 467, 468.

Note: Common Greek species recorded from most regions, except Epirus and Thessaly.

14. ***Camponotus lateralis*** (Olivier, 1792)

Localities: 444, 446, 450, 451, 452, 453, 454, 455, 456, 457, 458, 460, 461, 462, 463, 465, 466, 467, 468.

Note: The commonest Greek species of Camponotus recorded from all regions.

15. ***Camponotus oertzeni*** Forel, 1889

Locality: 452.

Note: Common Greek species often misidentified with Camponotus aethiops, recorded from Dodecanese, Eastern Aegean Islands, Epirus, Ionian Islands, Macedonia, Peloponnese and Thrace.

16. ***Camponotus samius*** Forel, 1889

Localities: 444, 452, 454, 457, 466, 468.

Note: Eastern and southern species recorded from Cyclades, Dodecanese, East Aegean Is., Macedonia, Peloponnese, Sterea Ellas and Thrace.

17. ***Cataglyphis nodus*** (Brullé, 1833)

Localities: 444, 446, 448, 449, 452, 454, 455, 456, 458, 460, 461, 464, 466, 467.

Note: Common species recorded from most of the regions, except Cyclades and with one doubtful record from Crete.

18. ***Cataglyphis viaticoides*** (André, 1881)

Locality: 445.

Note: Rare species recorded only from the East Aegean Is. and Thrace. Its status and nomenclature was discussed recently (Bračko *et al.* 2016).

19. ***Colobopsis truncata*** (Spinola, 1808)

Localities: 445, 456.

Note: Common species recorded from most regions, except Cyclades.

20. ***Crematogaster erectepilosa*** Salata & Borowiec, 2015

Locality: 444.

Note: Recently described species (Salata & Borowiec, 2015a) known only from the Dodecanese (Karpathos, Kos and Rhodes). New to the East Aegean Islands. On Samos collected in littoral habitat with maquis and mediterranean shrubs.

21. ***Crematogaster ionia*** Forel, 1911

Localities: 444, 445, 446, 447, 448, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 468.

Note: Very common arboricole species recorded from all Greek regions but with doubtful records from Epirus.

22. ***Crematogaster sordidula*** (Nylander, 1849)

Localities: 444, 445, 452, 456, 458.

Note: Common species recorded from all Greek regions.

23. ***Dolichoderus quadripunctatus*** (Linnaeus, 1771)

Localities: 450, 454, 459, 466.

Note: Moderately common species recorded from most regions, except Crete and Cyclades.

24. ***Hypoponera eduardi*** (Forel, 1894)

Locality: 454.

Note: Tramp species recorded from Crete, Dodecanese, East Aegean Is., Ionian Is., Epirus, Macedonia and Peloponnese.

25. ***Lasius alienus*** (Förster, 1850)

Localities: 450, 454.

Note: Common species recorded from most regions, except Ionian Islands.

26. ***Lasius lasioides*** (Emery, 1869)

Localities: 446, 450, 455, 461, 466, 468.

Note: Common species recorded from all regions.

27. ***Lasius turcicus*** Santschi, 1921

Localities: 455, 456.

Note: Moderately common species recorded from most regions, except the Ionian Islands, Sterea Ellas and Thessaly.

28. ***Lepisiota frauenfeldi*** (Mayr, 1855)

Localities: 445, 446, 448, 449, 451, 452, 454, 455, 456, 461, 463, 465, 466, 467, 468.

Note: Common species, recorded from most regions, except Cyclades. Populations from Samos differ from the typical forms of this species, collected in Greek mainland, in partly dark mesosoma, with blackish spots on pronotum, mesonotum and propodeum. Extreme forms had almost the whole mesosoma dark, with reddish colouration reduced to the narrow part of mesonotum. Such body colouration is characteristic for *Lepisiota melas* (Emery, 1915). However specimens from Samos differ from this species in mesosoma surface slightly dull (in *L. melas* the surface is shiny).

29. ***Messor hellenius*** Agosti & Collingwood, 1987

Locality: 450.

Note: Balkan species, in Greece recorded from all regions, except Ionian Islands.

30. ***Messor mcarthuri*** Steiner *et al*., 2018

Localities: 449, 450, 454, 466.

Note: Recently described species, recorded from Crete, Dodecanese, the East Aegean Islands, Macedonia, Thessaly and Thrace.

31. ***Messor oertzeni*** Forel, 1910

Locality: 461.

Note: Rare eastern species recorded from the East Aegean Islands, Macedonia and Thrace. Population from Samos has head and mesosoma with dark patches on reddish background.

32. ***Messor wasmanni*** Krausse, 1910

Localities: 449, 461, 466.

Notes: The commonest Greek member of the genus *Messor* recorded from all regions.

33. ***Monomorium monomorium*** Bolton, 1987

Locality: 444.

Notes: Probably tramp Mediterranean species recorded from Crete, East Aegean Is., Epirus, Ionian Is. and Peloponnese.

34. ***Pheidole*** cf. ***pallidula*** (Fig. 3)

Localities: 444, 445, 446, 447, 448, 449, 450, 451, 452, 454, 455, 456, 457, 460, 461, 465, 466, 467, 468.

Note: Mediterranean populations of the taxon named *Pheidole pallidula* (Nylander, 1849) have recently been divided into four species, three of them recorded in Greece (Seifert 2016), but this point of view is still under discussion owing to the great local variability of this very common Mediterranean ant. Material examined by B. Seifert from East Aegean Islands (Lesbos) was classified under name *Pheidole koshewnikovi* Ruzsky, 1905.

35. ***Plagiolepis pygmaea*** (Latreille, 1798)

Locality: 458.

Note: Very common species recorded from all Greek regions, but on the East Aegean Islands much less frequently collected than *P. taurica* Santschi.

36. ***Plagiolepis taurica*** Santschi, 1920

Localities: 444, 445, 446, 447, 448, 449, 451, 452, 454, 455, 456, 457, 458, 460, 461, 463, 464, 465, 466, 467, 468.

Note: Common species, recorded from most Greek regions except Epirus and Sterea Ellas.

37. ***Ponera coarctata*** (Latreille, 1802)

Locality: 458.

Note: Forest species recorded from all mainland Greek regions, but on insular part of the country known only from the Ionian Islands. New to the East Aegean Islands.

38. ***Ponera testacea*** Emery, 1895

Locality: 453.

Note: Rare species recorded from the Ionian Islands, Macedonia, Peloponnese and Thrace.

39. ***Prenolepis nitens*** (Mayr, 1853)

Localities: 453, 454, 455, 459, 460, 466, 467.

Note: Local forest species known from most Greek regions, except Crete, Cyclades and Dodecanese.

40. ***Stigmatomma denticulatum*** Roger, 1859

Locality: 453.

Note: Rare species recorded mostly from insular regions, except Cyclades, in mainland Greece known from Epirus, Peloponnese and Thrace.

41. ***Temnothorax aeolius*** (Forel, 1911)

Locality: 444.

Note: Very rare species recorded only from the East Aegean Islands, Cyclades, Dodecanese and Thrace.

42. ***Temnothorax angustifrons*** Csösz, Heinze & Mikó, 2015 (Fig. 3)

Localities: 451 + 451A, 452, 453, 454, 455, 456, 458, 459, 460, 462, 463, 464, 465, 466.

Note: Recently described species from several localities in western Turkey and only one Greek locality in Sterea Ellas (Csösz *et al.* 2015). On Samos it is the commonest species of *Temnothorax*, collected in all types of forests. Nests were located under moss covering stones or in stone crevices. New to the Eastern Aegean Islands.

43. ***Temnothorax antigoni*** (Forel, 1911)

Localities: 444, 445, 451 + 451A, 452, 453, 455, 457, 458, 460, 461, 463, 466.

Note: Recently redescribed species, known from western Turkey, East Aegean Islands (Lesbos) and Dodecanese (Rhodes) where numerous nests were observed in pine forests (Salata & Borowiec 2015b). On Samos common, nesting in coniferous forest, bushes of maquis and in mixed forest located in stream valleys.

44. ***Temnothorax bulgaricus*** (Forel, 1892)

Localities: 447, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 462, 465, 466.

Note: Species preferring damp forests growing along streams but collected also in dry pine forests. Nests were found under the moss and in the crevices of the stones. Recorded from most of Greek regions, except Crete, Cyclades and Thessaly.

45. ***Temnothorax*** cf. ***bulgaricus*** sp. 1

Locality: 466.

Note: Single specimen from the locality 466 differs from all other samples of *T. bulgaricus* in strong sculpture of mesosoma and broadly rounded top of petiolus. In the collection of the Department of Biodiversity and Evolutionary Taxonomy, University of Wrocław we have another specimen with the same characters collected in Samos, near Limnionas (37.7 N/ 26.63333E), 15 m, 6 VI 2013, leg. H.C. Wagner. Its status will be clarified in the revision of Greek members of the *T. graecus* complex, now in preparation.

46. ***Temnothorax*** cf. ***bulgaricus*** sp. 2

Locality: 452.

Note: It is a member of *Temnothorax graecus* complex, not conspecific with any known species of this group. It will be described in the revision of Greek members of the *T. graecus* complex, now in preparation.

47. ***Temnothorax curtisetosus*** Salata & Borowiec, 2015

Localities: 461, 463.

Note: Social parasite recently described from two specimens collected in nest of *Temnothorax antigoni* in western Turkey, ancient Phaselis, Antalya prov. (Salata & Borowiec 2015b). Specimens from Samos also were collected in nests of *T. antigoni*. Species new to Europe and Greece.

48. ***Temnothorax*** cf. ***graecus***

Locality: 455, 456.

Note: This is a member of *Temnothorax graecus* complex, not conspecific with any known species of this group. It will be described in the revision of Greek members of the *T. graecus* complex, now in preparation.

49. ***Temnothorax*** cf. ***exilis***

Localities: 444.

Note: *Temnothorax exilis* complex from Greece needs revision. At least 7 morphospecies of unclear taxonomic status were collected in Greece. Specimens from Samos belong to the morphospecies with partly dull ground surface and fine microsculpture on head and pronotum. They appear not to be conspecific with true *T. exilis* (Emery, 1869) or *T. specularis* (Emery, 1916) described from Italy and recorded from various parts of Greece.

50. ***Temnothorax flavicornis*** (Emery, 1870)

Locality: 457.

Note: Rare species recorded only from Ionian Islands, Macedonia and Peloponnese.

51. ***Temnothorax smyrnensis*** (Forel, 1911) **new status** (Fig. 5)

Localities: 444, 446.

Note: Described as *Leptothorax bulgaricus* ssp. *smyrnenis* Forel, 1911 from Smyrna (now Izmir, western Turkey). We have examined a syntype preserved in Forel collection in Geneve Museum, Switzerland (photo available from: https://www.antweb.org/specimen/CASENT0909019. Accessed 10 July 2017). Without doubts this taxon represents a distinct species more close to *Temnothorax graecus* (Forel, 1911) than to *Temnothorax bulgaricus* (Forel, 1892). Therefore we propose a species rank for *Temnothorax smyrnenis* (Forel, 1911), new status. Its redescription and comparative data with other species will be given in the revision of Greek members of the *T. graecus* complex, now in preparation. New to Greece and Europe.

52. ***Temnothorax*** cf. ***smyrnensis*** sp. 1 (Fig. 6)

Localities: 445, 455, 460.

Note: This is the same taxon described under unavailable name *Temnothorax bulgaricus* ssp. *smyrnenis* var. *ionia* Forel, 1911 from specimens collected on wood material introduced to Mitylene, Lesbos from Smyrna (now Izmir, western Turkey). Without doubts, it is a good species of *T. graecus* complex and will be described in the revision of Greek members of the *T. graecus* complex, now in preparation.

53. ***Tetramorium galaticum*** Menozzi, 1936

Localities: 446, 455, 458, 466.

Note: This species was redescribed recently based on specimens from western Turkey (Salata & Borowiec 2017). *Tetramorium galaticum* was described under an unavailable name *Tetramorium caespitum* st. *biskrensis* var. *galatica* Santschi, 1921 from Angora (= Ankara). Menozzi (1936) recorded this taxon under available trinome *T. semilaeve* var. *galatica* based on material from Dodecanese (Rhodes) and became an author of the name. Based on characters given by Menozzi (1936) occurrence of *T. galaticum* on Rhodes is doubtful and suggest presence of another species of *T. semilaeve* complex in this region. Thus records from Samos are first certain for the fauna of Greece.

54. ***Tetramorium hippocratis*** Agosti & Collingwood, 1987

Localities: 466, 467, 468.

Note: This species was redescribed recently based on specimens from western Turkey and eastern Greece – Dodecanese and Thrace (Salata & Borowiec 2017). New to the Eastern Aegean Islands.

55. ***Tetramorium*** cf. ***punctatum***

Localities: 455, 458, 464.

Note: There are at least two Greek morphospecies with external characters of workers similar to these occurring in *Tetramorium punctatum* Santschi, 1927, recently redescribed and known from Italy (Sanetra *et al.* 1999). Nevertheless, gyne characters of Greek taxa suggest that both Balkan species are not conspecific with true *T. punctatum*. A proper identification of species of this group requires complete nest samples, with workers, gynes and males. Because we have examined only workers and gynes of Greek populations their taxonomical status needs further studies.

56. ***Trichomyrmex perplexus*** (Radchenko, 1997)

Locality: 449.

Notes: Common in southern and rare in northern Greece, recorded from almost all Greek regions except Epirus and Thrace.

DISCUSSION

The results of our study confirmed the hypothesis that the ant fauna of Samos is a mixture of northern and southern Aegean fauna with Anatolian elements. The most interesting species, new to Greece and Europe and common in Samos and western Turkey, are: *Aphaenogaster subcostata*, *Temnothorax curtisetosus* and *Temnothorax smyrnensis*. Due to habitat preferences, these three species should also be found on the Dodecanese islands. This faunal complex includes also species recorded in Greece only from eastern Aegean Islands and Dodecanese which are known also from western Turkey: *Aenictus rhodiensis*, *Aphaenogster sporadis*, *Crematogaster erectepilosa* (not recoreded from Turkey but with high possibility occuring in the western provinces due to the close localities on Greek islands), *Temnothorax antigoni*, *Temnothorax smyrnensis*, *Temnothorax* cf. *smyrnensis* sp. 1 and *Tetramorium galaticum*. This eastern complex of species represents also *Aphaenogaster festae* recorded from Dodecanese, East Aegean Is., Thrace and western Turkey, and *Cataglyphis viaticoides* recorded only from the East Aegean Is., eastern Thrace and Turkey.

ACKNOWLEDGEMENTS

We would like to thank Jolanta Świętojańska (University of Wrocław) for her assistance during Lech Borowiec's field trips.

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Figs 1–2. *Aenictus rhodiensis* Menozzi, worker (1); *Aphaenogaster subcostata* Viehmeyer, worker (2) (scale bar = 1 mm) (photo L. Borowiec).

Figs 3–4. *Pheidole koshewnikovi* Ruzsky, major worker (3); *Temnothorax angustifrons* Csösz, Heinze & Mikó, worker (4) (scale bar = 1 mm) (photo L. Borowiec).

Figs 5–6. *Temnothorax smyrnensis (*Forel), worker (5); *Temnothorax* cf. *smyrnensis* sp. 1, worker (6) (scale bar = 1 mm) (photo L. Borowiec).

Accepted: 14 October 2018; published: 9 November 2018