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Review of Mediterranean members of the *Aphaenogaster ceconii* group (Hymenoptera: Formicidae), with description of four new species

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Abstract

A group of six Mediterranean species related to *Aphaenogaster ceconii* Emery is reviewed. Four new species are described: *A. equestris* (SW Turkey), *A. jolantae* (Greece, Rhodes), *A. lykiaensis* (SW Turkey) and *A. olympica* (Greece, Karpathos). *Aphaenogaster ceconii* Emery and *A. phillipsi* Wheeler & Mann are redescribed. Detailed measurements and some observations on the location of nests and activity of workers are given.

Key words: Formicidae, *Aphaenogaster*, new species, Mediterranean Basin

Introduction

Aphaenogaster Mayr, 1853 is a moderately large genus with 181 valid nominal species and 44 valid nominal subspecies distributed worldwide, with most forms found in the Northern Hemisphere. In Europe and the Mediterranean area (including the Near East), 81 species have been recorded so far. There are two centers of biodiversity in this area: one in the northwestern part of North Africa and the other in the eastern part of the Mediterranean Basin. The most species-rich are faunas of Morocco (23), Greece (21), Italy (19), Algeria (18), Turkey (17), Spain (13), Transcaucasian countries (9), Croatia and Israel (8), Tunisia (7), France (6), Macedonia (6), and Bulgaria (4) (Arakelian 1994, Cagniant 1996, Bračko 2006, Bolton et al. 2007, Gratiashvili & Barjadze 2008, Casevitz-Weulersse & Galkowski 2009, Ionescu-Hirsch 2010, Lapeva-Gjonova et al. 2010, Borowiec & Salata 2012, 2013, Kiran & Karaman 2012, Boer 2013, Bračko et al. 2014). In other countries three or fewer species have been recorded (Bolton et al. 2007, Borowiec 2014).

The European and Mediterranean species of *Aphaenogaster* had been historically classified in three subgenera: (1) *Aphaenogaster* s. str. with species characterized by black body, strong sculpture of the whole surface of head and thorax with dull background, and more or less striated gaster; (2) *Attomyrma* Emery 1915 with species of stout to moderately elongate, usually yellow or brown, occasionally black body, and usually fine microsculpture of head and thorax with at most partly smooth top of head and pronotum (except *A. epirotes*, *A. obsidiana*, and *A. subcostata* with strongly sculptured head but partly shiny background), and gaster without striation; and (3) *Deromyrma* Forel, 1913 (= *Ischnomyrmex* auct. not Mayr, 1863) with species of very elongate body and head and thorax mostly without distinct microsculpture, appearing shiny. Due to the fact that some species have morphology transitional between subgenera, in a recent catalogue (Bolton 2003, Bolton et al. 2007) the subgenera *Attomyrma* and *Deromyrma* were treated as synonyms of *Aphaenogaster*. However, certain species-groups can still be separated on morphological grounds (Schulz 1994, Boer 2013).

The most distinct is the *Aphaenogaster ceconii* group, which includes five described species: *A. ceconii* Emery, 1894, endemic to Crete; *A. phillipsi* Wheeler & Mann, 1916, recorded from Jordan and Israel; *A. rhapsidiiceps* (Mayr, 1877), from Kazakhstan; and *A. takahashii* Wheeler, 1930 and *A. wangtian* Terayama, 2009, from Taiwan. All species were previously placed in the subgenus *Deromyrma*. The group was characterized in Schulz (1994) by extremely elongate body, head and thorax mostly without distinct sculpture, long legs and antennae, the head elongate and strongly narrowed posteriorly, with the occiput forming a narrow neck with flared

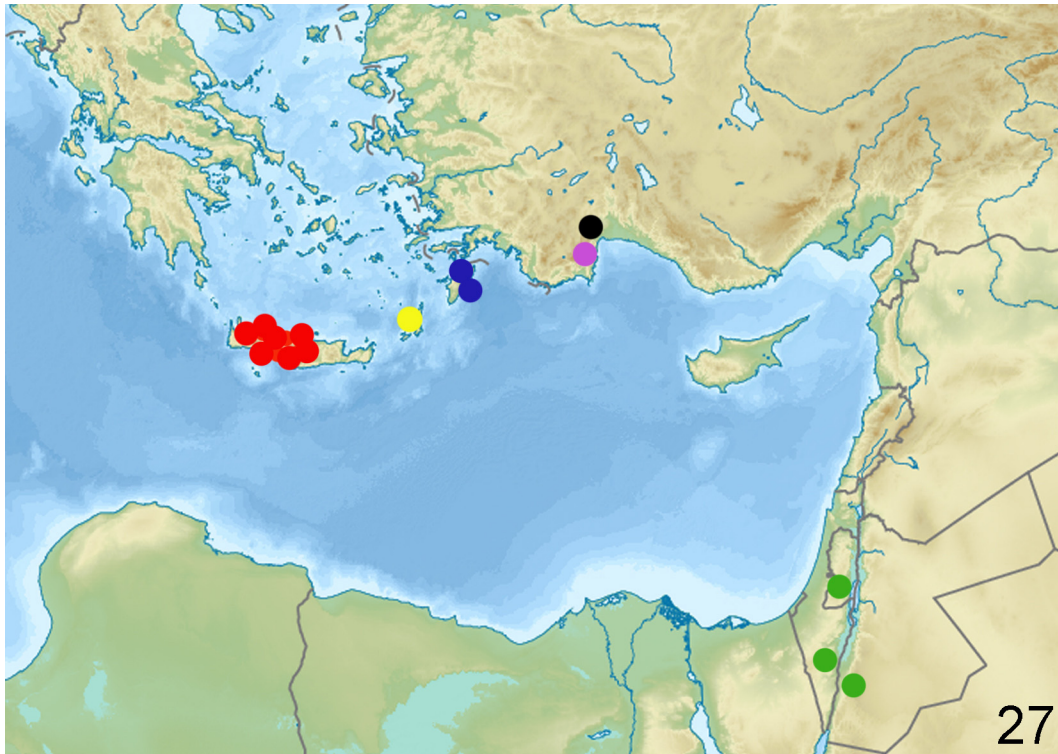


FIGURE 27. Map of distribution: *Aphaenogaster cecconii* (red circles), *Aphaenogaster equestris* (black circle), *Aphaenogaster jolantae* (navy blue circles), *Aphaenogaster olympica* (yellow circle), *Aphaenogaster lykiaensis* (violet circle), and *Aphaenogaster phillipsi* (green circles).

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