

The ant genus *Cataglyphis* Förster (Hymenoptera: Formicidae) in Cyprus

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Abstract

The comprehensive survey of the ant fauna conducted in Cyprus revealed that the island is inhabited by two species of the genus *Cataglyphis* Förster, 1850. Both species are endemic and are described as new to science. *Cataglyphis chionistrae* n. sp., a member of the *C. cursor* species complex, occurs only in the high montane pine forest of Mt. Chionistra (= Mt. Olympos). While *C. aphrodite* n. sp., a member of the *C. nodus* species complex, is common at low and mid altitudes in open habitats or luminous pine forests. This work also provides the key to *Cataglyphis* from Cyprus and the very first synopsis lists of all the members of the *cursor* and *nodus* species complexes known from the Eastern Mediterranean Region.

Key words: *Cataglyphis aphrodite*, *Cataglyphis chionistrae*, desert ants, endemic species

Introduction

The Old World genus *Cataglyphis* Förster, 1850 is a moderately large ant genus comprising 100 valid species and 18 valid subspecies divided into several species groups (Agosti 1990; Bolton 2023). Its representatives prefer semi-desert and desert habitats, although some species also occur in arid habitats, such as high altitude, mountain steppes or steppic forests, and sandy roads inside pine forests (Agosti 1990; Brown 2000). Members of the genus are among the commonest ants of the arid ecosystems of North Africa, the Arabian Peninsula, and Central Asia (Agosti 1990; Collingwood & Agosti 1996; Brown 2000). Many *Cataglyphis* species are polymorphic, which poses challenges in their determination. Additionally, polymorphism requires preparation of descriptions of new species based on nest samples. The complicated genetic structure within various groups of species constitutes an additional obstacle, resulting in the presence of cryptic species or hard to define local population groups with a high level of hybridization or clonal social hybridogenesis (Ionescu & Eyer 2016; Eyer *et al.* 2016; Kuhn *et al.* 2020). Nevertheless, in recent years, taxonomic studies of the genus *Cataglyphis* in the Mediterranean and Irano-Turanian regions have resulted in the discovery of numerous new species with well-defined morphological differences (Radchenko & Paknia 2010; Ionescu & Eyer 2016; Khalili-Moghadam *et al.* 2021; Salata *et al.* 2021).

Four species of the genus *Cataglyphis* Förster have been recorded from Cyprus hitherto. Firstly, *C. nodus* (Brullé, 1833) was recorded from Larnaca by Forel (1904) under the synonymic name *Myrmecocystus viaticus* var. *orientalis* Forel, 1895. Subsequently, Santschi (1939) also recorded this species from Larnaca under *Cataglyphis bicolor* st. *nodus* Brullé. These records were repeated by Borowiec & Salata (2012) and Borowiec (2014) without

new faunistic data. As a second species, Dempster (1957) reported the species *Myrmecocystus viaticus* (F.), an obsolete combination of *Cataglyphis viatica* (Fabricius, 1787), as an egg predator of the Moroccan locust *Dociostaurus maroccanus* (Thunberg, 1815). Recently, *C. aenescens* (Nylander, 1984) and *C. albicans* (Roger, 1859) were generally included in the Fauna Europaea web page as present in Cyprus (Radchenko 2007). These records were uncritically repeated by Borowiec & Salata (2012) and Borowiec (2014). We have not been able to determine from which publication or material these records in the Fauna Europaea web page originated. Therefore, they should be considered unreliable. Our recent faunistic studies on the ants of Cyprus showed two species of the genus *Cataglyphis* in the collected material, but neither of them belongs to the previously reported taxa, and in our opinion, they represent species new to science. They belong to the *cursor* and *nodus* species complexes *sensu* Agosti (1990), respectively. Their descriptions are given in the present study.

Material and methods

Investigated specimens were collected from several sites in Cyprus (provinces Ammochostos, Larnaca, Nicosia, Paphos, Limassol, and Akrotiri UK Sovereign Base Area) in 2012 and 2022. Various explored habitats were placed in altitudes ranging from sea level to 1928 m.

The dominant sampling method was direct sampling (hand collecting). Individual specimens were collected on the ground or close to the nests' entrance on the soil. All specimens were preserved mostly in absolute EtOH and partly in 75% EtOH. Photos were taken by Lech Borowiec using a Nikon SMZ 1500 stereomicroscope, Nikon D5200 photo camera, and Helicon Focus software. All given label data are in the original spelling, presented in square brackets; a vertical bar (|) separates data on different rows, and double vertical bars (||) separate labels. Type specimens' photographs are available online on AntWeb (www.AntWeb.org) and are accessible using the unique CASENT identifying specimen code.

The range of the Eastern Mediterranean Region was defined based on Vigna Taglianti *et al.* (1999).

Museum abbreviations:

JDPC	Jakovos Demetriou Personal Collection;
MNHW	Museum of Natural History, University of Wrocław, Poland;
MHNG	Muséum d'Histoire Naturelle, Genève, Switzerland;
MSNG	Natural History Museum, Genoa, Italy;
USMB	Upper Silesian Museum, Bytom, Poland;
ZMUA	Museum of Zoology of Athens, Athens, Greece.

Measurements

HL	head length; measured in straight line from mid-point of anterior clypeal margin to mid-point of posterior margin in full-face view (i.e., when both maximum head length in median line and maximum head width are positioned in visual plane);
HW	head width; measured in full-face view directly behind the eyes;
SL	scape length; maximum straight-line length of scape excluding the basal condylar bulb;
EL	eye length; measured along the maximum diameter of the eye;
PW	pronotum width; maximum width of pronotum in dorsal view;
PRL	propodeum length; measured in lateral view, from metanotal groove to the propodeal lobe;
PRW	propodeal width; maximum width of propodeum in dorsal view;
PTH	height of petiolar node; measured from base of petiolar node at posterior face to top of petiole;
PTW	petiole width; maximum width of the petiolar node in dorsal view;
WL	Weber's length; measured as diagonal length from the anterior end of the neck shield to the posterior margin of the propodeal lobe;
HFL	hind femur length; measured on the dorsal side from trochanter to apex of the femur.

All measurements are given in mm.

Ratios

CI cephalic index, HL/HW;
SI scape index, SL/HW;
PI petiole index, PTH/PTW;
FI femur index, HFL/WL.

Abbreviations

w.—worker
s.—major worker
q.—queen
m.—male

The nomenclature describing the pilosity inclination degree follows Wilson (1955). Appressed (0–5°) hairs run parallel or nearly parallel to the body surface. Decumbent hairs stand 5–20°, subdecumbent hair stands 20–60°, suberect 60–80°, and erect 80–90° from the surface (see Fig.3 in Wilson 1955).

Results

Synopsis of members of the *Cataglyphis cursor* species complex from the Eastern Mediterranean Region (After Agosti 1990)

Cataglyphis aenescens (Nylander, 1849)
Cataglyphis chionistrae **n. sp.**
Cataglyphis cretica (Forel, 1910)
Cataglyphis hellenica (Forel, 1886)
Cataglyphis italica (Emery, 1906)
Cataglyphis minos Borowiec & Salata, 2022

Synopsis of members of the *Cataglyphis nodus* species complex from the Eastern Mediterranean Region (After Agosti 1990)

Cataglyphis aphrodite **n. sp.**
Cataglyphis lunatica Baroni Urbani, 1969
Cataglyphis nodus (Brullé, 1833)

Key to *Cataglyphis* workers of Cyprus

- 1 Petiole squamiform, body black, legs sometimes yellowish brown, alpine species found only on the peak of Mt. Troodos (Olympus/Chionistra) (Figs. 1, 2, 5, 6) *C. chionistrae* **n. sp.**
- Petiole nodiform, body red, gaster black or brownish-black, thermoxerophyllous lowland species (Figs. 11, 12, 15, 16).....
..... *C. aphrodite* **n. sp.**

Taxonomy

Cataglyphis chionistrae Salata, Demetriou, Georgiadis & Borowiec n. sp.

Figs 1–10, 20

Type material examined. Holotype: s. (pin): CYPRUS, Limassol, Mt | Olympos/Chionistra loc. 1, 1862 m | 34.92943 / 32.87001 | 25 IV 2022, L. Borowiec || *Pinus nigra* forest | nest under stone (MNHW).

Paratypes: 24 w., 1q.: the same data as holotype (MNHW, JDPC, ZMUA); 1q., 6 w.: CYPRUS, Limassol, Mt | Olympos/Chionistra loc. 3, 1928 m | 34.93563 / 32.8624 | 26 IV 2022, L. Borowiec || *Pinus nigra* forest | nest under stone (MNHW).

Cataglyphis cretica (Forel, 1910): 23 (w.m.). Syntype (w.): *Myrmecocystus cursor aenescens* var. *cretica* Em., Creta (MSNG) (leg. Cecconi), Kufor [type images examined, AntWeb, CASENT0102116, photos by April Nobile, available on <https://www.AntWeb.org>].

Cataglyphis hellenica (Forel, 1886): 204 (w.). Syntype (w.): *Myrmecocystus cursor* var. *hellenicus* Forel, 1886, Pyrgos, Morea, Greece (MHNG) [type images examined, AntWeb, CASENT0911108, photos by Alexandra Westrich, available on <https://www.AntWeb.org>].

Cataglyphis italica (Emery, 1906): 48, fig 5 (w.): *Myrmecocystus cursor* subsp. *italicus* Emery, 1906., Foggia, Italy (MSNG) [type images examined, AntWeb, CASENT0102115, photos by April Nobile, available on <https://www.AntWeb.org>].

Cataglyphis minos Borowiec & Salata, 2022 142, figs 62.1–11 (s.w.q.). Holotype major (w.), Greece, Crete, Rethymno, Prov. Nida Plateau, 1370 m (35°15'N 24°50'E), 25.04.14, leg. S. Salata (MNHW); paratypes (q.,s.), Greece, Crete, Heraklion, Prov. Rouvas Forest loc. 1, 1316 m, (35°09'N 24°56'E), 05.05.14, leg. S. Salata (MNHW).

Other material examined: 6w. (EtOH) , 44 w. (EtOH) , 47 w. (EtOH) , 11 w. (EtOH): four nests, the same data as for holotype; 5 w. (EtOH): Limassol, Troodos, Mt Olympos/Chionistra loc. 3, 34.935639 / 32.862404, 1928 m, 26 IV 2022, *Pinus nigra* forest, leg. L. Borowiec & S. Salata (MNHW); 40 w. (EtOH): Limassol, Mt. Olympos/Chionistra, 34.93479 / 32.86232, 1915 m, 26 IV 2022, *Pinus nigra* forest, leg. J. Demetriou & C. Georgiadis (MNHW).

Etymology. Named after its *locus typicus*, Chionistra (= Mt. Olympos, 1,952 m), the highest point in Cyprus.

Diagnosis. A member of the *Cataglyphis cursor* species complex within the *cursor* species group characterized by a petiole in the shape of a thick squama and monomorphic or with monophasic size variation of worker caste (Agosti 1990). Recent genetic studies showed that *C. aenescens sensu lato* is a group of cryptic or subcryptic taxa with rather small distribution areas and complicated genetic structure displaying clonal social hybridogenesis (Kuhn *et al.* 2020). In the eastern part of the Mediterranean Basin, the following species have been hitherto recorded: *Cataglyphis aenescens* (Nylander, 1849) - Türkiye, *C. cretica* (Forel, 1910)—Crete, *C. hellenica* (Forel, 1886)—Greece, *C. italica* (Emery, 1906)—Italy, and *C. minos* Borowiec & Salata, 2022—Crete.

The status of the Turkish populations recorded under *C. aenescens* is rather unclear. This taxon appears to be common in Central Anatolia (Kiran & Karaman 2021). However, as the true *C. aenescens* was described from “Russia meridionalis” without the exact type locality and based on material collected by V. Motschulsky, it is possible that Turkish populations are not conspecific with populations from eastern Ukraine and the area north of the Caucasus. Kuhn *et al.* (2020) reported *C. aenescens* from Iran based on material collected close to the Caspian Sea and revealed that these populations genetically differ from populations distributed eastward. Thus, it is also possible that populations from the south Caspian area are not conspecific with true *C. aenescens*. So far, no species of the *cursor* complex has been noted from Israel (Vonshak & Ionescu-Hirsch 2009) nor Lebanon (Guenard *et al.* 2017), but *C. aenescens* was recorded from Syria by Wheeler & Man (1916). However, it is unknown which morphogenotype the Syrian populations represent.

Workers of *C. chionistrae* differ from *C. minos* in the lack of erect setae on their antennal scapi, less setose pronotum and propodeum, and in major workers in the lack of erect setae on the first gastral tergite; from *C. cretica* in the smaller body size, less opalescent body sculpture, and in the presence of long and erect setae on the occipital part of the head and all mesosomal tergites (also in minor workers); from *C. hellenica*, *C. italica*, and *C. cf. aenescens* from Türkiye in usually deep black and always monochromatic body coloration; longer antennal scapi (SI approximately 1.3 in *C. chionistrae* vs < 1.22 in *C. hellenica*, *C. italica*, and *C. cf. aenescens*), and more shiny body surface.

Description. Major worker (n=8): **Measurements.** HL: 1.464 (1.35–1.51); HW: 1.193 (1.09–1.26); SL: 1.551 (1.42–1.64); EL: 0.430 (0.41–0.45); PW: 0.965 (0.94–1.00); PRL: 0.778 (0.70–0.82); PRW: 0.681 (0.64–0.71); PTH: 0.448 (0.40–0.49); PTW: 0.226 (0.21–0.24); WL: 2.085 (2.00–2.15); HFL: 2.069 (2.00–2.17); CI: 1.228 (1.183–1.265); SI: 1.301 (1.262–1.344); PI: 1.983 (1.708–2.143); FI: 0.992 (0.972–1.029).



FIGURES 1, 2. Holotype major worker of *Cataglyphis chionistræ* n. sp. **1** dorsal **2** lateral (scale bar = 1 mm).



FIGURES 3, 4. Holotype major of *Cataglyphis chionistræ* n. sp. **3** clypeus and mandibles **4** propodeum and petiole (not in scale).



FIGURES 5, 6. Paratype minor worker of *Cataglyphis chionistræ* n. sp. **5** dorsal **6** lateral (scale bar = 1 mm).



FIGURES 7, 8. Head of *Cataglyphis chionistræ* n. sp. **7** holotype major **8** paratype gyne (scale bar = 1 mm).



FIGURES 9, 10. Paratype gyne of *Cataglyphis chionistræ* n. sp. 9 dorsal 10 lateral (scale bar = 1 mm).

Color. Whole body black (Figs. 1, 10); in a few examined specimens the frontal part of the head and gena were slightly paler colored, brownish black but the rest of the body was always deep black; legs bicolored, coxa, trochanters, and femora black, only knee yellowish to yellowish brown, tibiae yellowish brown to brown, usually fore tibiae paler colored than mid and hind tibiae, tarsi yellow. Antennae yellow to yellowish brown (Figs. 1, 2, 7). **Head.** Almost square, approximately 1.23 x as long as wide, sides below eyes slightly converging anterad, above eyes gently convex, posterior margin slightly convex (Fig. 7). Anterior clypeal margin convex, without shallow median emargination, with a row of very short setae and of 6–8 long yellowish-brown setae, the longest 0.6 x as long as than clypeal length. Clypeal plate with very sparse yellow appressed pubescence, anteriorly with additional few decumbent short setae, basally with a pair of long erect setae as long as 1/3–1/2 length of clypeus. Clypeus densely and finely microreticulated, slightly dull, at least basal half of clypeus with additional thin longitudinal striation (Fig. 3). Eyes large and oval, approximately 1.4–1.5 x as long as wide, and 0.8 x as long as gena. Frontal

carinae short, slightly extending beyond frontal lobes. Frons narrow, in the narrowest point 0.26–0.27 x as wide as head width. Antennal fossa shallow, opalescent, covered with very short and sparse pubescence, densely microreticulated, sculpture tends to form semicircular striae. Head densely microreticulated, dull, with additional longitudinal striation, gena with very short and sparse, yellow, appressed pubescence. Anterior and lateral parts of head up to ocellar area without erect setae, except for one to two pairs of moderately long setae on frons; ocellar area usually with a pair of long, yellow erect setae with length up to 0.174 (setae in mature specimens often broken). Lateral parts of occiput with 2–3 erect setae, the longest ~ 0.206. Antennal scape long, in frontal view almost straight, approximately 1.3 x as long as width of the head; base without tooth; apex only slightly and gradually widened; funiculus longer than scape, pedicel elongated, approximately 0.8 x as long as segments 2 and 3 combined and 1.5 x as long as segment 2 (Fig. 7). Scape microsculptured, slightly dull, covered with short and sparse hairs, mostly appressed, only at apices slightly decumbent, without erect setae. Mandibles rounded, basally smooth and shiny, apical $\frac{3}{4}$ length with deep grooves, shiny with few long and short yellow setae, cutting edge with 4 large teeth (Fig. 3). **Mesosoma.** Long, approximately 2.2 x as long as wide, metanotal groove deep (Fig. 2). Pronotum convex on sides (Fig. 1). In lateral view pro- and mesonotum form regular convexity, propodeum positioned lower than promesonotum, distinctly convex in lateral view with top of convexity slightly behind the middle (Fig. 2). Mesosoma densely microreticulated but shiny, on top of promesonotum with very sparse and short, hardly visible appressed pubescence, anterior surface of pronotum, mesonotum and propodeum with more visible yellowish white vestiture. Pronotum with one or two pairs of moderately long yellow setae, the longer pair with length 0.222, the shorter with length up to 0.110, mesonotum anteriorly with 2–4 short standing setae, the longest twice shorter than long setae on pronotum, and in posterior half with a pair of short setae, propodeum with 8–14 moderately long, yellow erect setae, the longest with length 0.143. **Petiole.** Squamiform, thin, PI approximately 1.95, anterior face softly convex, posterior face almost flat, top of petiole rounded obtusely angulate, surface diffusely microreticulate, covered with short, sparse, white appressed pubescence, apex without or with 2–4 erect setae (Fig. 4). **Gaster.** With fine and partly diffused microreticulation tending to form transverse striation, surface strongly shiny. Whole surface of gaster with very short and very sparse appressed pubescence, distance between hair mostly longer than length of hair; tergites 1–2 without erect setae or sometimes second tergite with a pair of short, white erect setae, tergite 3 with transverse row of 4 short erect setae. Each of gastral sternites with 3–4 long, white to yellow erect setae. **Legs.** Moderately elongate, FI approximately 0.992. Dorsal and lateral surfaces of femora and tibiae covered with thin, sparse, mostly appressed or only slightly decumbent yellow setae, without decumbent spiniform setae. Ventral surfaces of femora and tibiae with sparse, moderately long, and yellow suberect to erect setae, ventral margin of hind tibiae with a row of 5–6 spines.

Minor worker (n=6): **Measurements.** HL: 1.137 (1.05–1.22); HW: 0.833 (0.75–0.90); SL: 1.258 (1.19–1.32); EL: 0.358 (0.34–0.38); PW: 0.753 (0.70–0.83); PRL: 0.638 (0.61–0.67); PRW: 0.550 (0.52–0.59); PTH: 0.312 (0.29–0.34); PTW: 0.163 (0.15–0.18); WL: 1.710 (1.60–1.82); HFL: 1.648 (1.49–1.76); CI: 1.365 (1.341–1.400); SI: 1.512 (1.467–1.587); PI: 1.917 (1.611–2.125); FI: 0.964 (0.903–0.988).

Color. Same as in major workers, often antennae darker, brown (Figs. 5, 6). **Head.** Slightly more elongated than in major workers, 1.34–1.40 x as long as wide, below eyes softly converging anterad, behind eyes regularly rounded, occipital margin of head slightly convex. Anterior clypeal margin convex with shallow median emargination. Eyes large but slightly shorter than in major workers, 1.3 x as long as wide and 0.8 x as long as gena. Sculpture and setation of head and legs similar to major worker. **Mesosoma.** Same as in major worker but setation usually shorter and less numerous than in majors (Fig. 6). **Petiole.** Stoutier than in major worker, mean PI 1.92, without erect setae. **Gaster.** As finely microreticulated as in majors. Tergites 1–2 without erect setae, tergite 3 usually without erect setae but occasionally with two short setae. Each of gastral sternites with 2–4 long, white to yellow erect setae. Legs slightly shorter than in major workers with mean FI 0.963.

Gyne (n=2): **Measurements.** HL: 1.54 (1.51–1.57); HW: 1.42 (1.37–1.47); SL: 1.345 (1.27–1.42); EL: 0.455 (0.45–0.46); PW: 1.205 (1.19–1.22); PRL: 0.93 (0.92–0.94); PRW: 1.005 (1.00–1.01); PTH: 0.515 (0.49–0.54); PTW: 0.23 (0.22–0.24); WL: 2.485 (2.37–2.60); HFL: 1.765 (1.70–1.83); CI: 1.085 (1.068–1.102); SI: 0.947 (0.927–0.966); PI: 2.239 (2.227–2.250); FI: 0.711 (0.704–0.717). **Color.** Head reddish to reddish brown centrally, brown laterally and posteriorly; mesosoma mostly brown, scutellum and upper parts of episterna paler, reddish brown; petiole brown, gaster dorsally black, laterally brown; coxa, trochanters and femora mostly brown except reddish brown margins and reddish knee, tibiae yellowish or reddish brown, tarsi and antennae yellow (Figs. 8–10). **Head.** Almost square, approximately 1.1 x as long as wide, sides below eyes almost parallel, above eyes gently

convex, posterior margin slightly convex (Fig. 8). Anterior clypeal margin slightly convex, with shallow median emargination, with a row of short setae and 6 long setae, the longest with length 0.269 and 0.68 x as long as length of clypeus. Clypeus with very sparse yellow appressed pubescence, anteriorly and basally with few decumbent short setae, anterolaterally with a pair of long erect setae surface densely and finely microreticulated, slightly dull, basally often with additional longitudinal striation. Eyes large and oval, approximately 1.5 x as long as wide and 0.8 x as long as gena. Frontal carinae short, not extending beyond frontal lobes. Frons narrow, in the narrowest point 0.22 x as wide as head width. Antennal fossa shallow, opalescent, densely microreticulated and covered with very short and sparse pubescence. Head regularly and densely microreticulated, in frontal area with additional longitudinal striation, behind eyes with additional semicircular striation; surface of gena and sides of head covered with extremely short and sparse, yellow, appressed pubescence. Frons with two pairs of long erect setae, between frons one pair of similar setae, ocellar area with 3–4 long erect setae, the longest with length 0.238, occipital sides with 2–3 long setae, the longest as long as the longest seta in ocellar area. Ventral side of head on each side with 4–5 long yellow setae. Antennal scape long, approximately 0.9 x as long as width of the head; base without tooth; apex only slightly and gradually widened (Fig. 8); funiculus longer than scape, pedicel elongated, approximately 0.7 x as long as segments 2 and 3 combined and twice as long as segment 2 (Fig. 8). Surface of scape diffusely microsculptured, shiny, covered with short, sparse, mostly appressed yellow hairs. Mandibles rounded, basally smooth and shiny, apical $\frac{3}{4}$ length with deep grooves, surface shiny, with 3–4 moderately long, yellow setae. **Mesosoma.** Long, approximately 2.06 x as long as wide. Pronotum elongate, along midline as long as 0.7 length of scutum (Fig. 9). Surface of pronotum anteriorly with diffused microreticulation, shiny, on sides distinctly microreticulated, slightly dull, with additional semicircular striation; anterior slope appears bare; sides with short, sparse, yellow appressed pubescence, at base a row of 4 yellow setae with length up to 0.286. In lateral view scutum gibbous anteriorly, top flattened posteriorly (Fig. 10). Surface of scutum densely microreticulated, but shiny, anteriorly, on sides and at base with long setae up to 0.275 mm length. Scutellum moderately convex, surface densely microreticulated, shiny, microreticulation with additional longitudinal striation, antero- and posterolateral corners with long erect setae. Anepisternum densely microreticulated, dull, with only few short, appressed hair; katapisternum densely microreticulated, dull, covered with moderately dense, appressed, yellow hair. Propodeum slightly shorter than scutum, softly, regularly convex, densely microreticulated, surface anteriorly and on sides dull, posteriorly shiny, covered with moderately dense, yellow vestiture, denser on top, sparser on sides close to spiracle, very dense in area close to metapleural gland, top of propodeum with more than 20 yellow erect setae, the longest with length 0.192. **Petiole.** Squamiform, like in workers, anterior face slightly convex, posterior face almost flat, PI 2.23–2.25 (Fig. 10). Surface of petiole distinctly microreticulated and shiny, covered with moderately dense, yellow pubescence, top of node without a pair of elongate erect setae. **Gaster.** Distinctly microreticulated and shiny, with additional transverse striation. Whole surface of gaster with short and sparse appressed pubescence; distance between hair longer than length of hair. Tergite 1–3 with a pair of long, yellow erect setae. Each of gastral sternites with 2–4 long, yellow, and erect setae. **Legs.** Moderately elongated but shorter than in workers, hind femora distinctly shorter than mesosoma (FI 0.711). Dorsal and lateral surfaces of femora and tibiae covered with fine, sparse, moderately long, appressed to decumbent setae, external surface of mid and hind tibiae with a row of very long erect setae up to 0.300 mm length. Ventral surfaces of hind tibiae with 1–2 yellow subapical spines.

Biological notes. All nests were located under moderate sized stones located in the highest parts of Mt. Olympus around the peak locality of Chionistra, overgrown with *Pinus nigra* subsp. *nigra* var. *pallasiana* at an altitude from 1862 to 1928 m a.s.l. *Cataglyphis chionistrae* is the only species of the *C. cursor* complex from the eastern part of the Mediterranean Basin that prefers shadowed sites inside old pine forests. All other species are more photophilous and build nests in open spaces such as mountain steppes or xerothermophilic meadows with sparse vegetation, and if in pine forests, then on luminous clearings or broad sandy roadsides.

***Cataglyphis aphrodite* Salata, Demetriou, Georgiadis & Borowiec n. sp.**

Figs 11–20

= *Cataglyphis nodus* (Brullé, 1833): Forel (1904): 176 (as *Myrmecocystus viaticus* var. *orientalis* Forel, 1895).

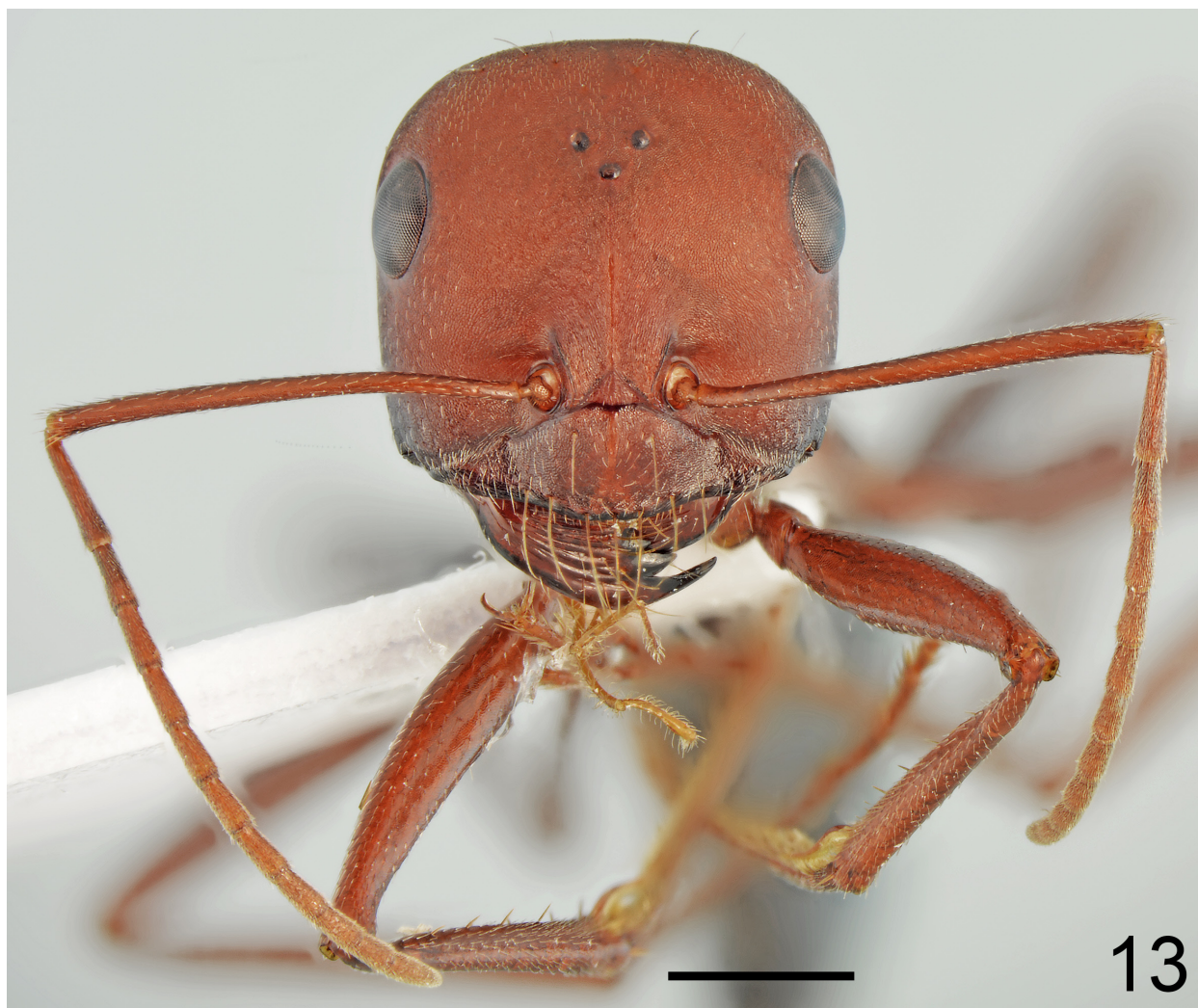
= *Cataglyphis nodus* (Brullé, 1833): Santschi (1939): 7 (as *Cataglyphis bicolor* st. *nodus* Brullé).

= *Cataglyphis viatica* (Fabricius, 1787): Dempster (1957): 39 (as *Myrmecocystus viaticus* (F.)).

Etymology. Named after Aphrodite, the ancient Greek goddess associated with love, lust, beauty, pleasure, passion, and procreation. Cyprus is one of the main cult centres of Aphrodite, and according to mythology, she is usually said to have been born near her chief centre of worship, Paphos, the *terra typica* for this species.



FIGURES 11, 12. Holotype major worker of *Cataglyphis aphrodite* n. sp. **11** dorsal **12** lateral (scale bar = 2 mm).



13



14

FIGURES 13, 14. Holotype major worker of *Cataglyphis aphrodite* n. sp. **13** head (scale bar = 1 mm) **14** propodeum and petiole.



FIGURES 15, 16. Paratype minor worker of *Cataglyphis aphrodite* n. sp. **15** dorsal **16** lateral (scale bar = 1 mm).



FIGURES 17, 18. Paratype gyne of *Cataglyphis aphrodite* n. sp. 17 dorsal 18 lateral (scale bar = 2 mm).



FIGURE 19. Paratype gyne of *Cataglyphis aphrodite* n. sp., head (scale bar = 1 mm).

Type material examined. Holotype (pinned): major worker: CYPRUS, Paphos, 424 m | Agiou Neofytou Mon. | 34.84602 / 32.44784 | 29 IV 2022, L. Borowiec (MNHW).

Paratypes: 37 w., 1q (pinned): the same data as for holotype (MNHW, JDPC, ZMUA); 1s.: CYPRUS, Akrotiri, 1 m | Limassol Salt Lake loc. 1 | 34.6041 / 32.9528 | 20 IV 2022, L. Borowiec (MNHW); 1w.: CYPRUS, Akrotiri, 0 m | Limassol Salt Lake loc. 2 | 34.60987 / 32.994685 | 20 IV 2022, L. Borowiec (MNHW); 3w.: CYPRUS, Larnaca, 4 m, | Larnaca Salt Lake | 34.91047 / 33.60489 | 22 IV 2022, J. D. [emetriou] C. G. [eorgiadis]; 4s., 2w.: CYPRUS, Paphos, Kato | Paphos, 32 m | 34.75368 / 32.43391 | 17 IV 2022, L. Borowiec; 1s.: CYPRUS, Paphos, 219 m | 2.2 km S of Lemona | 34.842542 / 32.54799 | 29 IV 2022, L. Borowiec; 2s.: CYPRUS, Paphos, Lara | beach, 10 m | 34.91957 / 32.32751 | 18 IV 2022, L. Borowiec; 2s., 3w.: CYPRUS, Paphos distr., 7 m | Paphos-Lempa, beach area | 34°48.425 N/32°23.643 E | 7 V 2012, L. Borowiec || Collection L. Borowiec | Formicidae | LBC-CY00048; 1s., 1w.: CYPRUS, Paphos distr., 7 m | Paphos-Lempa, beach area | 34°47.971 N/32°23.577 E | 1 V 2012, L. Borowiec || Collection L. Borowiec | Formicidae | LBC-CY00049; 1s.: CYPRUS, Paphos distr., 176 m | Diarizos riv. n. Mamonía | 34°45.736 N/32°37.253 E | 6 V 2012, L. Borowiec || Collection L. Borowiec | Formicidae | LBC-CY00050; 1s., 11w.: CYPRUS, Paphos distr. | 1196 m, Cedar Valley | 34°59.703 N/32°41.240 E | 5 V 2012, L. Borowiec || Collection L. Borowiec | Formicidae | LBC-CY00051; 1s., 1w.: CYPRUS, Paphos distr., 62 m | Diarizos riv. n. Nikokleia | 34°43.805 N/32°35.037 E | 6 V 2012, L. Borowiec || Collection L. Borowiec | Formicidae | LBC-CY00202; major worker: CYPRUS, Paphos distr., 25 m | Kato Paphos Palaipafou Ave | 34.758873 / 32.421888 | 4–13 VII 2019, G. Hebda || Collection L. Borowiec | Formicidae | LBC-CY00212.

Cataglyphis bicolor rufiventris Emery, 1925: 265 (w.). Syntype worker, Corfu, Greece (MSG) [syntype worker images examined, AntWeb, CASENT0905722, photos by Will Ericson, available on <https://www.AntWeb>.

org]; Syntype worker, Corfu, Greece (MHNG) [syntype worker images examined, AntWeb, CASENT0911116, photos by Alexandra Westrich and Zach Lieberman, available on <https://www.AntWeb.org>].

Cataglyphis viatica orientalis (Forel, 1895): 228–229. Syntype worker, Corfu, Greece (MHNG) [syntype worker images examined, AntWeb, CASENT0911115, photos by Alexandra Westrich and Zach Lieberman, available on <https://www.AntWeb.org>].

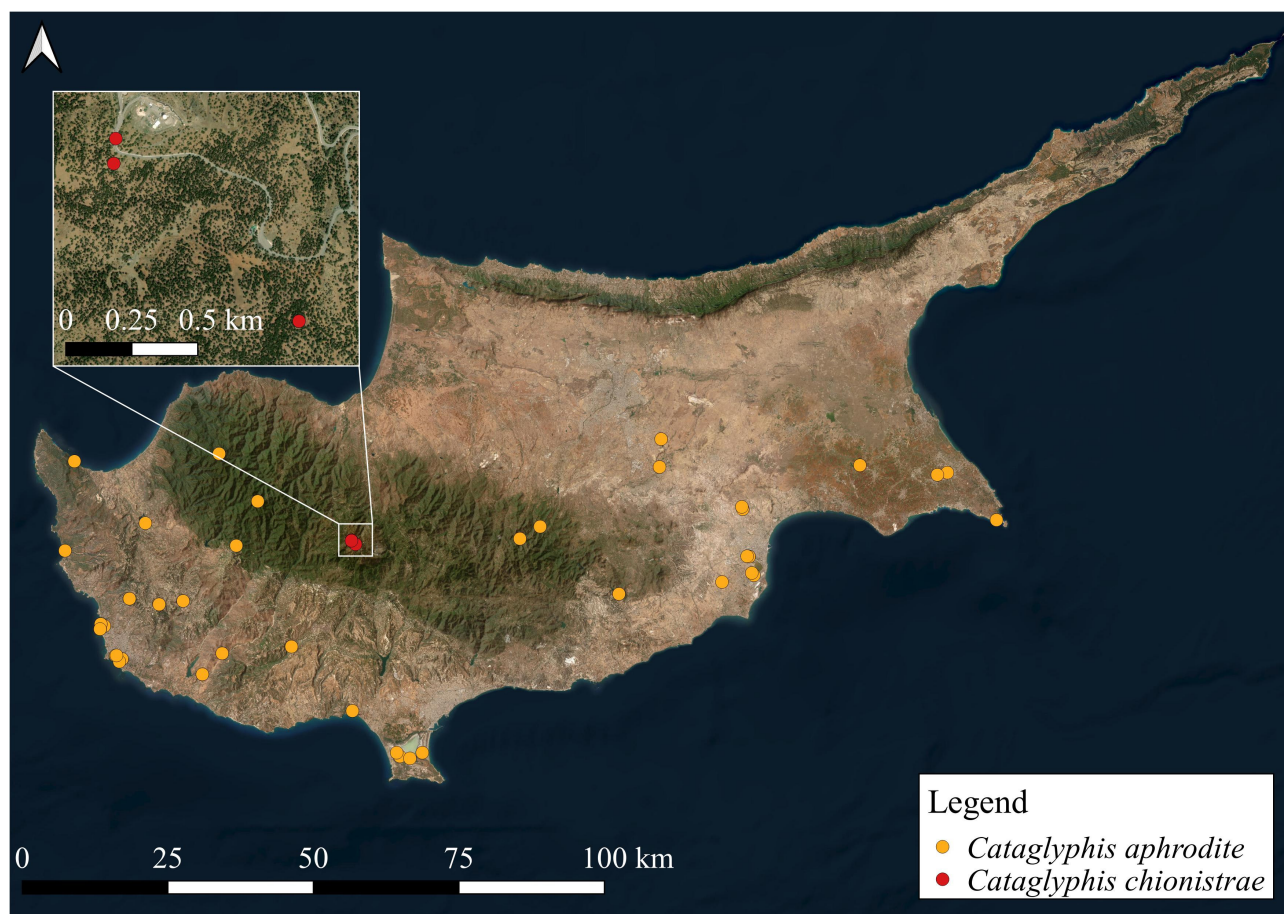


FIGURE 20. Distribution of *Cataglyphis aphrodite* n. sp. (orange circles) and *C. chionistræ* n. sp. (red circles) in Cyprus.

Other material examined. 10 w. (EtOH): Paphos, Kato Paphos, 34.753684 / 32.433916, 32 m, 17 IV 2022, urban area and ruderal sites near citrus orchard, leg. L. Borowiec & S. Salata; 1 w. (EtOH): Akrotiri, Limassol Salt Lake loc. 2, 34.609878 / 32.946854, 0 m, 20 IV 2022, leg. L. Borowiec, herbs and bushes at lake shore; 1 w. (EtOH): Akrotiri, Limassol Salt Lake loc. 3, 34.601118 / 32.971551, 4 m, 20 IV 2022, leg. L. Borowiec, dry meadow; 1 w. (EtOH): Limassol, Apollo Temple 2.5 km W of Kourion, 34.673994 / 32.864125, 129 m, 20 IV 2022, leg. L. Borowiec, mediterranean bushes; 1 w. (EtOH): Paphos, Evretou Dam, 34.961659 / 32.477493, 172 m, 21 IV 2022, leg. L. Borowiec, mediterranean bushes; 1 w. (EtOH): Paphos, Paphos Forest loc. 4, 35.067761 / 32.615137, 808 m, 23 IV 2022, leg. L. Borowiec, pine forest; 1 w. (EtOH): Nicosia, 4 km SW of Kapedes, 34.956326 / 33.214662, 677 m, 24 IV 2022, leg. L. Borowiec, pine forest on gravel ground; 1 w. (EtOH): Nicosia, 1.2 km W of Panagia Machaira Mon., 34.937849 / 33.176931, 838 m, 24 IV 2022, leg. L. Borowiec, roadsides in pine forest; 5 w. (EtOH): Paphos, Kato Paphos, Hotel Veronica, 34.749580 / 32.428932, 20 m, 24 IV 2022, leg. L. Borowiec & S. Salata, hotel garden and surroundings; 7 w. (EtOH): Paphos, Aphrodite Baths, 35.056245 / 32.345005, 47 m, 27 IV 2022, leg. L. Borowiec & S. Salata, bath area and garden; 1 w. (EtOH): Limassol, ad Dora, 34.772575 / 32.750353, 432 m, 28 IV 2022, leg. L. Borowiec, close to stream; 10 w. (EtOH): Paphos, Agios Neofytos Monastery, 34.846027 / 32.447846, 424 m, 29 IV 2022, leg. L. Borowiec, J. Demetriou, C. Georgiadis & S. Salata, on ground in shadow valley; 1 w. (EtOH): Paphos, ad Kalepia, 34.837284 / 32.503188, 414 m, 29 IV 2022, leg. L. Borowiec, Mediterranean bushes on roadsides; 3 w. (EtOH): Paphos, 2.2 km S of Lemona, 34.842542 / 32.54799, 219 m, 29 IV 2022, leg. L. Borowiec, J. Demetriou & S. Salata, bush around marsh; 7 w. (EtOH): Larnaca Salt Lake, 34.8819 / 33.6139, 0 m, 10 IV 2022, leg. J. Demetriou & C. Georgiadis, nest by the side of the road; 2 w. (EtOH): Larnaca Salt Lake, 34.91047

/ 33.60489, 4 m, 22 IV 2022, leg. J. Demetriou & C. Georgiadis, dirt road with reeds; 3 w. (EtOH): Larnaca, Larnaca Salt Lake hiking trail, 34.91103 / 33.60121, 5 m, 22 IV 2022, leg. J. Demetriou & C. Georgiadis, dirt road with reeds; 4 w. (EtOH): Nicosia, Potamia, 35.04751 / 33.43766, 188 m, 21 IV 2022, leg. C. Georgiadis, roadsides with *Eucalyptus* trees; 1 w. (EtOH): Nicosia, Geri, Geri, 35.09006 / 33.44064, 182 m, 21 IV 2022, dirt road, leg. C. Georgiadis, foraging on garbage; 1 w. (EtOH): Larnaca, Tekke mosque, 34.88544 / 33.61008, 6 m, 22 IV 2022, leg. J. Demetriou & C. Georgiadis, irrigated gardens; 6 w. (EtOH): Larnaca, Aradippou dam, 34.98306 / 33.59293, 66 m, 22 IV 2022, leg. J. Demetriou & C. Georgiadis, next to dam water, limestone rocks, reeds, thistles close to reservoir; 4 w. (EtOH): Larnaca, Aradippou bank, 34.98661 / 33.59135, 71 m, 22 IV 2022, leg. J. Demetriou & C. Georgiadis, riverbank with reeds; 4 w. (EtOH): Larnaca, Kiti dam, 34.87157 / 33.55439, 47 m, 22 IV 2022, leg. J. Demetriou & C. Georgiadis, cultivations with *Ferula communis*, thistles and *Crataegus azarolus*; 2 w. (EtOH): Nicosia, Machairas Forest, 34.85330 / 33.36188, 181 m, 23 IV 2022, leg. J. Demetriou & C. Georgiadis; 10 w. (EtOH): Ammochostos (Famagusta), Paralimni, 35.03886 / 33.97520, 70 m, 25 IV 2022, leg. J. Demetriou & C. Georgiadis; 13 w. (EtOH): Ammochostos (Famagusta), Paralimni lake, 35.03552 / 33.95647, 70 m, 25 IV 2022, leg. J. Demetriou & C. Georgiadis; 2 w. (EtOH): Ammochostos (Famagusta), Cavo Greco, 34.96647 / 34.06698, 51 m, 25 IV 2022, leg. J. Demetriou & C. Georgiadis, maquis; 13 w. (EtOH): Ammochostos (Famagusta), Achna reservoir, 35.05017 / 33.81183, 40 m, 25 IV 2022, leg. J. Demetriou & C. Georgiadis, next to water, low vegetation; 3 w. (EtOH): Paphos, Paphos Lempa, Sunny Hill Aparthotel, 34.8042 / 32.40078, 56 m, 1–6 V 2012, leg. L. Borowiec, hotel garden; 10 w. (EtOH): Paphos, Paphos-Lempa, beach area loc. 1, 34.79964 / 32.39314, 5 m, 1 V 2012, leg. L. Borowiec, seacoast; 10 w. (EtOH): Paphos, Paphos-Lempa, beach area loc. 2, 34.80732 / 32.39417, 11 m, 7 V 2012, leg. L. Borowiec, seacoast; 1 w. (pinned): Paphos, Panagia-Cedar Valley rd. loc. 1, 34.92718 / 32.64728, 755 m, 5 V 2012, leg. L. Borowiec, pine forest; 5 w. (EtOH): Paphos, Cedar Valley, 34.99503 / 32.68732, 1196 m, 5 V 2012, leg. L. Borowiec, pine and cedar forest; 13 w. (EtOH): Diarizos riv. ad Nikokleia, 34.73005 / 32.58394, 62 m, 6 V 2012, leg. L. Borowiec, dry riverbanks; 3 w. (EtOH): Paphos, Diarizos riv. ad Fasula, 34.76222 / 32.62087, 173 m, 6 V 2012, leg. L. Borowiec, dry riverbanks; 1 w. (pinned): Paphos, Kato Paphos, Palaipafou Ave, 34.7591 / 32.4236, 28 m, 4–13 VII 2013, urban area, leg. G. Hebda (USMB).

Diagnosis. *Cataglyphis aphrodite* is a member of the *Cataglyphis nodus* complex within the *bicolor* species-group characterised by petiole nodiform, head and mesosoma distinctly sculptured, monophasic variation in body size, and bicolored and large workers (WL always above 3 mm, often above 5 mm) (Agosti 1990).

The eastern part of the Mediterranean Basin complex consists of two species: *C. lunatica* Baroni Urbani, 1969, and *C. nodus* (Brullé, 1833). *Cataglyphis lunatica* differs strongly in yellow body coloration and brownish gaster. *Cataglyphis nodus* appears to be the most similar-looking species but differs from *C. aphrodite* in larger body size. HL in major workers of *C. nodus* reaches up to 3.5 mm (less than 2.3 mm in *C. aphrodite*). The overall small body size was already noticed by Forel (1904), who recorded *C. nodus* from Cyprus and pointed out that a smaller size characterizes Cypriot populations compared to typical *C. nodus*. Also, the setation of mesosoma, if present, is in *C. nodus* more abundant and longer than in *C. aphrodite*. In *C. nodus*, the longest setae on pronotum are 0.269 mm, on mesonotum 0.230 mm, and propodeum 0.262 mm, while in *C. aphrodite* 0.158, 0.076, and 0.079, respectively. Currently, there are four taxa considered junior synonyms of *C. nodus*, and two of them were described from the Eastern Mediterranean region. *Cataglyphis bicolor rufiventris* Emery, 1925 was described from Korfu [Corfu/Kerkyra] based on differences in the coloration of gaster, while *Cataglyphis viatica orientalis* (Forel, 1895) was described from Edirne in Türkiye based on the thicker and lower petiole. In both cases, the characters mentioned above were proven to fall within the infraspecific variation observed in *C. nodus*. Thus, due to the lack of any name that can be used for the Cypriot populations, we decided to describe them as new to science.

Cataglyphis aphrodite might also be confused with some other species of the *bicolor* species group known from the Eastern Mediterranean. *Cataglyphis machmal* Radchenko & Arakelian, 1991 differs in the dorsum of mesosoma and first gastral tergite with numerous white, long erect setae, mostly longer than apical width of hind tibia (in *C. aphrodite* dorsum of mesosoma and first gastral tergite without erect setae or with 1–3 short setae on each mesosomal tergite and at most 6 setae on propodeum, setae never longer than apical width of hind tibia); *Cataglyphis oasis* Menozzi, 1932 differs in a strongly convex propodeum, legs always dark colored (brown to black) and larger size (HL in major workers always above 3 mm while in *C. aphrodite* HL < 2.5 mm); *Cataglyphis israelensis* Ionescu & Eyer, 2016 differs in larger body size (HL in major workers up to 3.20 mm) and mesonotum raised over pronotum in most workers; *Cataglyphis laevior* Emery, 1925 differs in larger body size (HL in major workers always above 3 mm) and less sculptured gaster with shiny lateral sides (in *C. aphrodite* gaster is more sculptured and never shiny).

Also, *C. laevior* is distributed in northern Africa and its records from Türkiye (Kiran & Karaman 2021) and Arabian Peninsula (Collingwood 1985, Collingwood & Agosti 1996) need confirmation.

Description. Major worker (n=8): **Measurements.** HL: 2.211 (2.07–2.33); HW: 1.999 (1.80–2.17); SL: 2.245 (2.14–2.31); EL: 0.543 (0.51–0.58); PW: 1.385 (1.27–1.48); PRL: 1.184 (1.10–1.28); PRW: 0.991 (0.92–1.07); PTH: 0.460 (0.33–0.55); PTW: 0.484 (0.45–0.54); WL: 3.160 (3.00–3.33); HFL: 3.391 (3.17–3.63); CI: 1.107 (1.064–1.239); SI: 1.125 (1.064–1.239); PI: 0.951 (0.880–1.021); FI: 1.074 (1.032–1.132).

Color. Head, mesosoma, petiole, legs, and antennae red, gaster black (Figs. 11, 12). In the palest specimens gaster brownish black; in the darkest specimens femora reddish brown to brown, occasionally also tibiae reddish brown but dark specimens represent not more than 10% of all examined specimens. **Head.** Square, approximately 1.11 x as long as wide, sides below eyes almost parallel, above eyes gently convex, posterior margin slightly convex or almost straight (Fig. 13). Anterior clypeal margin slightly convex, without central impression, with a row of 6–8 long yellow setae only slightly shorter than clypeal length. Clypeal surface with very sparse, yellow and appressed pubescence and anteriorly with few decumbent and short setae, with a pair of long erect setae as long as 1/3–1/2 length of clypeus. Clypeus densely and finely microreticulated, slightly dull, basally with additional longitudinal striation. Eyes large and oval, approximately 1.3–1.4 x as long as wide and 0.6 x as long as gena. Frontal carinae short, not extending beyond frontal lobes. Frons narrow, in the narrowest point 0.18–0.15 x as wide as head. Antennal fossa shallow, opalescent, densely microreticulated and covered with very short and sparse pubescence. Head densely microreticulated, dull, with no longitudinal or transverse striation, surface covered with very short and sparse, yellow, appressed pubescence. Anterior and lateral parts of head up to ocellar area without erect setae, ocellar area usually with a pair of long, yellow erect setae with length of up to 0.222 (in mature specimens setae often broken). Central part of occipital area usually with 6–8 yellow, short to long erect setae, the longest ~ 0.334. Occipital corners without or with single short, yellow seta. Ventral side of head without or with 2–4 short yellow setae, three times shorter than the longest seta on occiput. Antennal scape long; in frontal view almost straight, 1.06–1.24 x as long as width of the head; base without tooth; apex only slightly and gradually widened (Fig. 13); funiculus longer than scape, pedicel elongated, approximately 0.9 x as long as segments 2 and 3 combined and 1.9 x as long as segment 2 (Fig. 13). Surface of scape densely microsculptured, shiny or slightly dull, covered with short, sparse, mostly appressed to decumbent yellow hairs. Mandibles rounded, basally smooth and shiny, apical 3/4 length with deep grooves, surface shiny with several long, yellow setae. **Mesosoma.** Long, approximately 2.3 x as long as wide, metanotal groove shallow (Fig. 12). Pronotum regularly rounded on sides (Fig. 11). In lateral view, promesonotum regularly arched, mesonotum not raised above pronotum, propodeum positioned lower than promesonotum, dorsum of propodeum in lateral view form regular arch (Fig. 12). Mesosoma densely microreticulated, dull; covered with yellow appressed pubescence sparse to moderately dense on pronotum and dorsal mesonotum, dense on the surface of pronotum, laterals sides of mesonotum, and propodeum, dense close to metapleural gland. Pronotum 1–3 short to moderately long, yellow erect setae, the longest seta with length to 0.158, mesonotum usually with four short, yellow setae, the longest with length 0.076, propodeum without, or anteriorly with a pair and posteriorly 1–4 short setae, the longest with length 0.079. **Petiole.** Nodiform, node in lateral view regularly rounded, posterior face slightly concave, pedicel elongate (Fig. 14). Surface of petiole distinctly microreticulated and slightly shiny, covered with moderately dense, yellow pubescence, top of node without or with 1–2 very short, yellow erect setae. **Gaster.** Dull and distinctly microreticulated, first gastral tergite sometimes with additional transverse striation. Gaster with very short and sparse appressed pubescence, distance between hair usually longer than length of hair; top of first tergite usually without or occasionally with 1–2 very short, yellow erect setae, tergite 2 usually without, occasionally with 1–2 short, yellow erect setae, tergite 3 usually with a pair of long, yellow erect setae up to 0.317 mm in length, but in large specimens setae often broken. Each of gastral sternites with 3–4 long, yellow, and erect setae up to 0.325 mm in length. **Legs.** Elongate, hind femora slightly longer than mesosoma (mean FI 1.073). Dorsal and lateral surfaces of femora and tibiae covered with fine, sparse, appressed to slightly decumbent setae, without additional, decumbent spiniform setae. Ventral surfaces of hind tibiae with a row of 6–8 long, yellow spines.

Minor worker (n=6): **Measurements.** HL: 1.407 (1.17–1.56); HW: 1.102 (0.86–1.29); SL: 1.572 (1.29–1.70); EL: 0.380 (0.33–0.40); PW: 0.872 (0.71–0.98); PRL: 0.788 (0.63–0.84); PRW: 0.638 (0.51–0.69); PTH: 0.305 (0.26–0.35); PTW: 0.305 (0.24–0.34); WL: 2.173 (1.80–2.32); HFL: 2.320 (1.98–2.50); CI: 1.282 (1.209–1.360); SI: 1.432 (1.318–1.466); PI: 1.005 (0.848–1.103); FI: 1.068 (1.035–1.100).

Color. Similar to major workers, but legs often darker, yellowish brown to brown (Figs. 15, 16). Antennae sometimes with reddish brown scapi and slightly obscure funicle. **Head.** Slightly more elongated than in major

workers, 1.21–1.36 x as long as wide, below eyes parallel-sided, behind eyes regularly rounded, occipital margin of head slightly convex. Anterior clypeal margin convex without median impression, central surface of clypeus without median keel. Eyes large and oval, 1.4 x as long as wide and 0.8 x as long as gena. Sculpture and setation of head and legs similar to major worker. **Mesosoma.** Same as in major worker but setation often more visible, mesonotum often with 4–6 setae. **Petiole.** As in major worker, without erect setae. **Gaster.** Strongly microreticulated and dull. Tergites 1–2 without erect setae, tergite 3 usually without erect setae but occasionally with a row of 4 short setae. Each of gastral sternites with 2–4 long, yellow erect setae. Legs as long as in major workers with mean FI below 1.068.

Gyne (n=1): **Measurements.** HL: 2.30; HW: 2.20; SL: 2.02; EL: 0.57; PW: 1.69; PRL: 1.33; PRW: 1.33; PTH: 0.60; PTW: 0.47; WL: 3.63; HFL: 2.67; CI: 1.045; SI: 0.918; PI: 1.276; FI: 0.736.

Color. Head, mesosoma, petiole legs, and antennae red, gaster reddish brown (Figs. 17, 18). **Head.** Square, almost as long as wide, sides below eyes almost parallel, above eyes gently convex, posterior margin slightly convex (Fig. 19). Anterior clypeal margin slightly convex, without central impression, on each side with a row of 6–8 short yellow setae. Clypeal surface with very sparse yellow appressed pubescence and anteriorly with few decumbent short setae and close to base with one broken seta. Clypeus densely and finely microreticulated, slightly shiny, basally often with additional longitudinal striation. Eyes large and oval, approximately 1.4 x as long as wide and 0.8 x as long as gena. Frontal carinae short, not extending beyond frontal lobes. Frons narrow, in the narrowest part 0.19 x as wide as head width. Antennal fossa shallow, opalescent, densely microreticulated, and covered with very short and sparse pubescence. Head regularly, densely microreticulated, frontal face dull, occipital part slightly shiny, surface of gena covered with extremely short and sparse, yellow, appressed pubescence, rest of head surface appears bare. Only occipital area with a pair of short, yellow erect setae. Ventral side of head on each side with 4 moderately long yellow setae. Antennal scape long, approximately 0.9 x as long as width of the head; base without tooth; apex only slightly and gradually widened (Fig. 19); funiculus longer than scape, pedicel elongated, approximately 0.8 x as long as segments 2 and 3 combined and 1.7 x as long as segment 2 (Fig. 19). Surface of scape diffusely microsculptured, shiny, covered with short, sparse, mostly appressed to decumbent yellow hairs. Mandibles rounded, basally smooth and shiny, apical $\frac{3}{4}$ length with deep grooves, surface shiny, only at base with 3–4 moderately long, yellow setae but probably in fresh specimens mandibles have more erect setae. **Mesosoma.** Long, approximately 2.15 x as long as wide. Pronotum elongate, along midline as long as 0.4 length of scutum (Fig. 17). Pronotum anteriorly with diffused microreticulation, shiny, on sides distinctly microreticulate, slightly dull, lateral sides with short, sparse, yellow appressed pubescence. In lateral view scutum gibbous anteriorly, top flattened posteriorly (Fig. 18). Surface of scutum densely microreticulated, dull. Scutellum strongly convex, surface densely microreticulated, dull. Anepisternum densely microreticulated, dull, with only few short, appressed hair, katepisternum densely microreticulated, dull, along upper margin with broad stripe of dense, appressed, yellow hair. Propodeum approximately 0.6 x as long as scutum, softly, regularly convex, densely microreticulated, dull; covered with moderately dense, yellow vestiture, denser on top, sparser on sides close to spiracle, very dense in area close to metapleural gland. **Petiole.** Nodiform, like that of worker, node in lateral view regularly rounded, posterior face slightly concave, pedicel elongate (Fig. 18). Surface of petiole distinctly microreticulated but appears slightly shiny, covered with moderately dense, yellow pubescence, top of node without erect setae. **Gaster.** Distinctly microreticulated, anterior face of first tergite appears shiny, rest dull, first gastral tergite with additional transverse striation. Whole surface of gaster with short and sparse appressed pubescence, distance between hair distinctly longer than length of hair; top of first tergite without erect setae, tergite 2 and 3 with a pair of short, yellow erect setae, tergite 3 with a row of 4 erect setae. Each of gastral sternites with a pair of long, yellow, and erect setae. **Legs.** Elongate but shorter than in workers, hind femora distinctly shorter than mesosoma (FI 0.736). Dorsal and lateral surfaces of femora and tibiae covered with fine, sparse, appressed to slightly decumbent setae, without additional, decumbent spiniform setae. Ventral surfaces of hind tibiae with a row of 8 long, yellow spines.

Biology. Thermophilous species noted from low to mid altitudes. Most records are from the seacoast to 200 m a.s.l. The highest sites were placed in pine and cedar forests at 1196 m. *Cataglyphis aphrodite* prefers sunny areas like roadsides, salt lake coasts, dry riverbanks, and dry meadows with Mediterranean bushes. Noted also in urban areas on grasses and in gardens. Nests are directly placed in the ground; workers penetrate large areas around the nest's entrance and are active at high temperatures in the middle of the day.

Acknowledgments

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