NATURA MONTENEGRINA, PODGORICA, 7(1): 5-24

TWO NEW SPECIES OF THE *Crematogaster scutellaris* GROUP, *Crematogaster gordani*, sp. nov. AND *C. montenigrinus* sp. nov. (INSECTA: HYMENOPTERA: FORMICIDAE) FROM CRNA GORA (MONTENEGRO) WITH THE KEY OF THIS GROUP FROM SOUTHERN EUROPE.

Marko K A R A M A N

Natural History Museum of Montenegro, P.O.Box 374, 81000 Podgorica, Crna Gora (Montenegro).

E-mail: markoka@cg.yu

Keywords: Hymenoptera, Formicidae, *Crematogaster*, new species, taxonomy, Crna Gora, Montenegro.

SYNOPSIS

A new species, *Crematogaster gordani* sp. nov. (Insecta: Hymenoptera: Formicidae) is described from Crna Gora (Montenegro), Balkan Peninsula. This species belongs to *C. scutellaris* group of species caracterized by presence of keel on alitrunk and by trapezoidal petiolus. *C. gordani* can be distingueshed easily by yellow color of workers and males.

The second taxa of the same group, formerly known as *Crematogaster scutellaris schmidti atratula* Zimmermann, 1934, from Boka Kotorska, is recognized as a distinct species, redescribed and figured here under the name *Crematogaster montenigrinus* sp. nov. [in accordance with the ICZN rules article 23.3.5; 45.5.1].

Key to the worker caste of *C. scutellaris* complex from southern Europe is given.

Ključne riječi: Hymenoptera, Formicidae, *Crematogaster*, nova vrsta, taksonomija, Crna Gora, Montenegro.

SINOPSIS

DVIJE NOVE VRSTE *Crematogaster scutellaris* GRUPE, *Crematogaster gordani*, sp. nov. i *C. montenigrinus* sp. nov. (Insecta: Hymenoptera: Formicidae) IZ CRNE GORE (MONTENEGRO) SA KLJUČEM ZA RADNIKE OVE GRUPE VRSTA U JUŽNOJ EVROPI

Nova vrsta iz Crne Gore, *Crematogaster gordani* sp. nov. (Insecta: Hymenoptera: Formicidae) je opisana. Ova vrsta pripada *C. scutellaris* grupi vrsta koju karakteriše kobilica na toraksu i trapezoidni petiolus. Vrsta *C. gordani,* od ostalih vrsta iz grupe, se može najlakše razlikovati po žutoj boji tijela radnika i mužjaka.

Drugi takson iz iste grupe vrsta, do sada poznat kao *Crematogaster scutellaris schmidti atratula* Zimmermann, 1934, je prepoznat kao nova vrsta, i ponovo opisan pod imenom *Crematogaster montenigrinus* sp. nov. (u skladu sa pravilima ICZN, član 23.3.5; 45.5.1.)

U radu je dat i ključ za determinaciju radnika kompleksa vrsta *C. scutellaris* za južnu Evropu.

INTRODUCTION

Genus *Crematogaster* (Insecta: Hymenoptera: Formicidae) has been investigated in Crna Gora (Montenegro) by various authors. First mention of *Crematogaster* was made by MÜLLER (1923), who had registered two species: *Crematogaster ionia* Forel, 1911 and *C. schmidti* (Mayr, 1853a). Other authors (SOUDEK, 1925; ZIMMERMAN, 1934; PETROV, 1995, 2000; KARAMAN et al., 1998; KARAMAN, 1999, 2004; KARAMAN & KARAMAN 2005, 2006) mentioned also another 7 taxa: *C. auberti auberti* Emery, 1869a; *C. auberti savinae* Zimmermann, 1934; *C. jehovae* Forel, 1907; *C. lorteti* Forel, 1910; *C. sordidula sordidula* (Nylander, 1849); *C. sordidula mayri* (Mayr, 1853b); and *C. scutellaris schmidti atratula* Zimmermann, 1934.

C. sordidula mayri is treated as junior synonim of *C. sordidula* (AGOSTI & COLLINGWOOD, 1987).

C. scutellaris schmidti atratula Zimmermann, 1934 is reputed as unavailable name (BOLTON, 1995) and as synonim of *C. schmidti* (JOHNSON, 2007).

Within the subgenus *Crematogaster* (*Crematogaster*) Mayr, 1852, we can recognize, in the Mediterranean basin, the workers of *C. scutellaris* complex of species having keel on alitrunk: *Crematogaster scutellaris* (Olivier, 1792); *C. schmidti*; *C. ionia*; *C. algirica* (Lucas, 1849); *C. laestrygon* Emery, 1869b, *C. gordani* sp. nov. and C. *montenigrinus* sp. nov. All these species can be recognized easily to each other by different color of worker's body.

In the Mediterranean basin, within the same subgenus Crematogaster, we can select also *auberti* group of species without keel on worker`s mesonotum (*C. auberti*, *C. jehovae* and *C. fuentei* Menozzi, 1922).

The workers of the subgenus *Crematogaster* (*Orthocrema*) Santschi, 1918, are provided with quadrate petiole (*Crematogaster sordidula*) and workers of subgenus *Crematogaster* (*Atopogyne*) Forel, 1911, are distinguished by emarginate occipital border of head, and by eyes placed in the middle of the head (*C. lorteti* Forel, 1910 and *C. hellenica* Forel, 1911).

Systematics

Order Hymenoptera Linnaeus, 1758
Family Formicidae Latreille, 1809
Genus *Crematogaster* Lund, 1831
Type species: *Formica scutellaris* Olivier, 1792

Crematogaster gordani sp. nov.

(Figures 1-8, 16; Plate 1: A-F)

Crematogastor schmidti (part.), Karaman et al., 1998: 46; Karaman, 2004: 86.

Material examined: 18 females, 64 males, 20 workers, collected in Podgorica, October 15, 1985., in the ground of the house of Biological Institute, at the bank of Morača river canyon (leg. G. S. Karaman).

Type material: Holotype (1 female marked by M-322H) and paratypes (5 females, 5 males and 5 workers marked by 01-08) are deposited in Natural History Museum of Montenegro, Podgorica.

Deposition of additional paratypes: (12 females, 59 males and 15 workers) KARAMAN's Collection in Podgorica (Crna Gora).

Diagnosis: Females of *C. gordani* are with triangular propodeal spines. Whole body is brown with yellow shade. Males are with rounded profile of thorax. Head and torax dark yellow, nodes, gaster and appendages are clear yellow. Wings without infuscation, veins are pale yellow. Workers with the head, alitrunk, petiolus and postpetiolus dark yellow, and slightly darker abdomen. Appendages are of the same color as alitrunk and head.

Description:

HOLOTYPE: FEMALE, (Fig. 1; Plate 1: A):

Total lenght: 8.7 mm. Head is covered with appressed pubescence, bases of these short hairs are slightly closer together than the length of a hair. Erected hairs are present on anterior margin of clypeus. Ventral surface of head is with dense erected J-shaped hairs. In frontal view, posterior half of head is smooth. Frons longitudinally striated. Median line from central ocela till clypeus, as well as middle part of clypeus, are smooth and shining. Sides of clypeus are weakly striated. Mandible with 5 teeth, apical tooth is the bigest, second one is smaller, and another three teeth are the smallest and subequal.

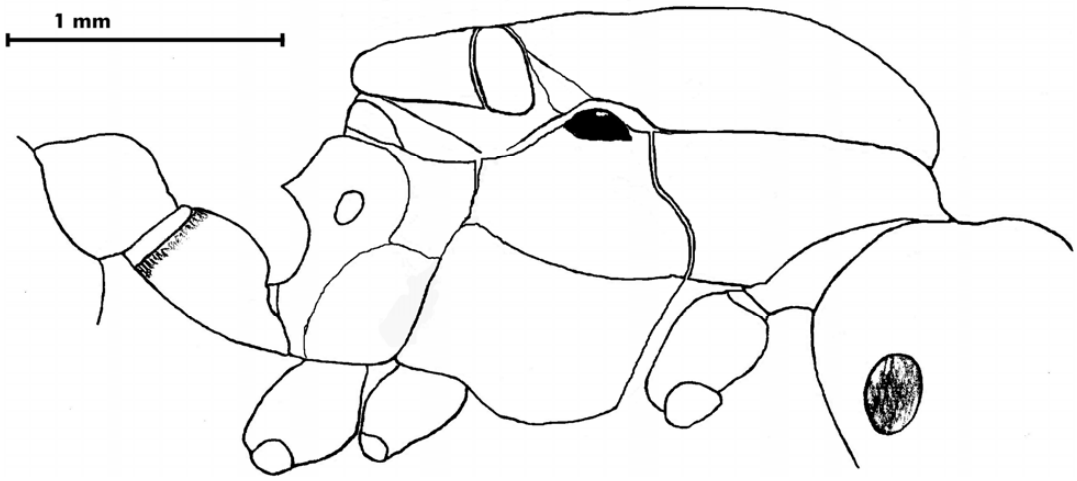

Figure 1: *Crematogaster gordani* sp. nov., paratype;
alitrunk of female in profile.

Alitrunk pubescent, individual erected hairs might be present on scutum and scutellum. Propodeal spines are short, triangular (Fig. 1), as long as it's basal width. Pronotum, episternum and anterior part of mesosternum are smooth and shining, posterior part of mesosternum, metasternum and propodeum are longitudinaly striated. Scutum (mesonotum) and scutellum are smooth and shining, both covered with appressed pubescence, distance between their bases are equal as their lenght.

Gaster is shining and covered with appressed pubescence. Distance between single setae of pubescence is equal to their length. Long, erected scattered hairs cover whole surface of gaster.

Colour: Head, antenae, alitrunk, nodes and gaster unicolor brown with yellow shade. Legs are clear yellow. Wings are not completely achromatic, but with some yellow shade. Wing venation is dark yellow to brown.

Measurements of five speciments: total length: 8.5 - 9.2 mm; head width at eyes level 1.584-1.646 mm; lenght of mesosoma in lateral view: 2.3 to 2.7 mm. Diameter of medial ocela: 120-138 μm.

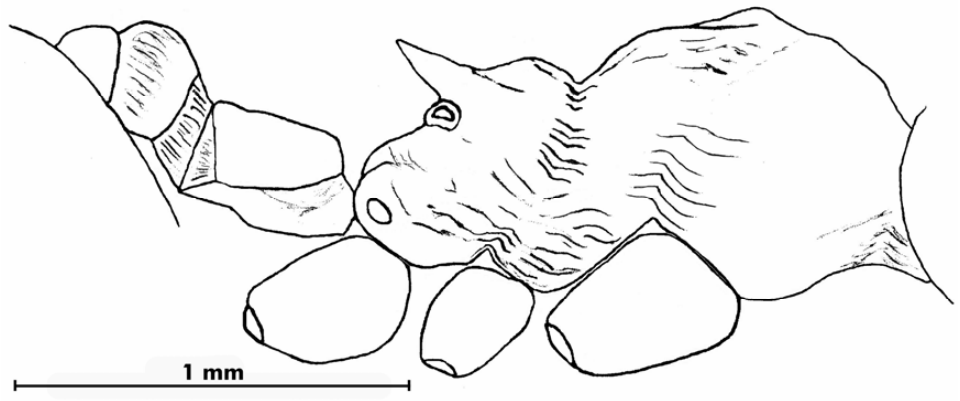

Figure 2: *Crematogaster gordani,* sp. nov., paratype;
alitrunk of worker in profile.

WORKERS (Figs. 2-4; Plate 1: E,F):

Measurements of five speciments: body length: 4.2-5.0 mm; length of mesosoma in lateral view: 1.23-1.44 mm; width of the head at eyes level: 0.96-1,09 mm. Distance from upper edge of propodeal spiracle to tip of spine: 0.166-0.203 mm.

The head and alitrunk are of general *scutellaris* shape. The head with rounded occipital corners and straight posterior margin between them. Head, like that in queen, is covered with appressed pubescence, these hairs are separated at their bases by a distance slightly shorter than length of hairs. Outstanding hairs are present only on anterior margin of clypeus. The scapes are without erected hairs, only pubescence is present. Mandibles are longitudinally striated. Each mandible with 4 teeth including long apical and blunt basal tooth.

Mesopropodeal furrow is deeply impressed. Propodeal spines are long, straight and sharply pointed. Length of these spines is about 2.3-2.5 times as long as their basal width. Whole alitrunk is rugose, prominent keel is present on mesonotum. Alitrunk is without outstanding hairs, only appears sparce, appressed pubescence. Petiole is with dilute sculpture, postpetiole is smooth and shining. Nodes are of general *scutellaris* shape.

Gaster is smooth, shining, covered with appressed pubescence, its hairs separated at their bases by a distance slightly longer than length of hairs. Several longer erected hairs are present on posterior margin of each gaster tergit.

Colour: The head, alitrunk, petiole and postpetiole are dark yellow, abdomen is slightly darker. Appendages are of the same colour as alitrunk and head.

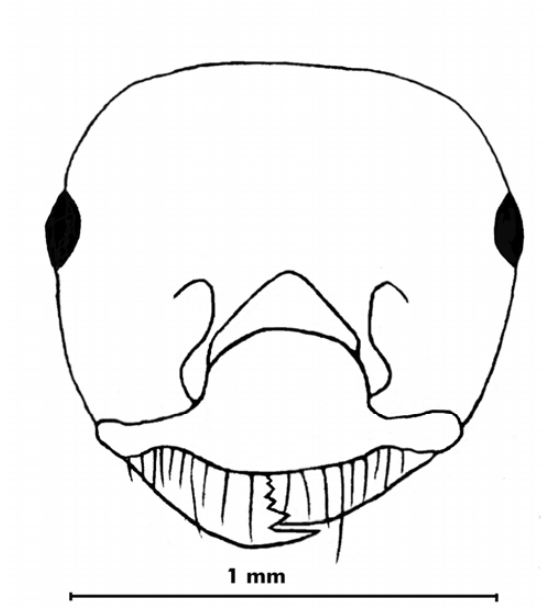

Figure 3: *Crematogaster gordani*, sp. nov., paratype, head of worker in dorsal view.

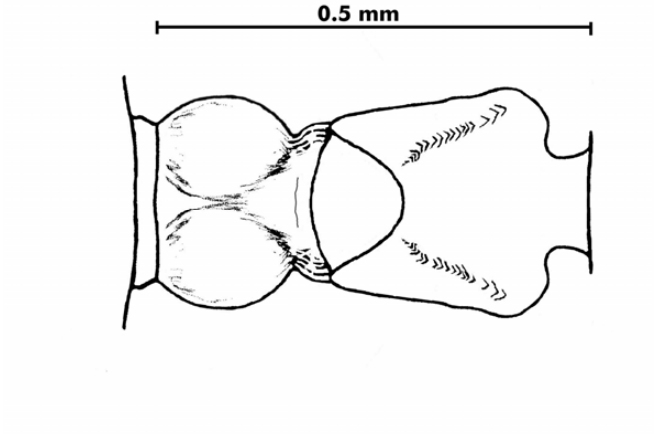

Figure 4: *Crematogaster gordani*, sp. nov., paratype, petiole and postpetiole of worker in dorsal view.

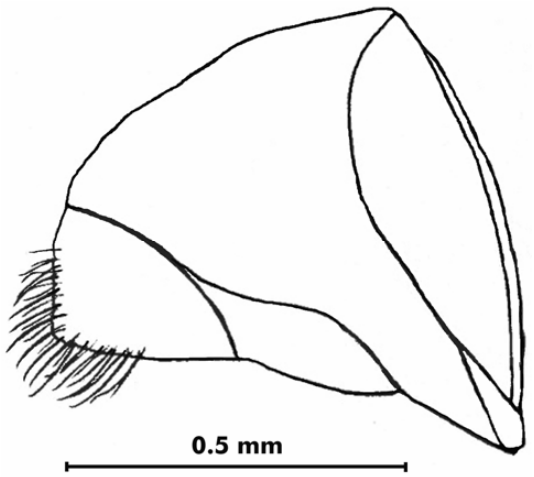

Figure 5:
Crematogaster gordani, sp. nov., paratype, genitalia of male in profile.

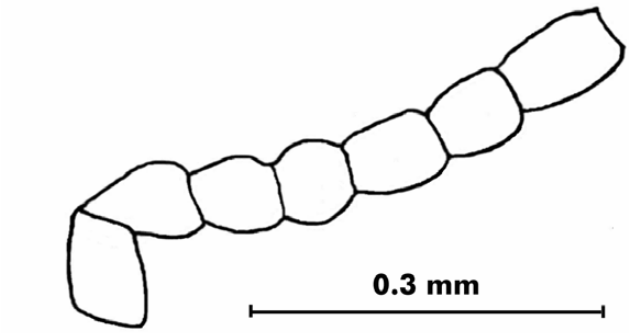

Figure 6:
Crematogaster gordani, sp. nov., paratype, scape and first 6 segments of funiculus of male.

MALE: (Figs: 5-8; Plate 1: B-D):

Measurements of five speciments: Total body lenght: 3.5 - 3.8 mm. Head width at eyes level: 0.553-0.634 mm. Diameter of ocella: 74.0-83.25 μm. Length of mesosoma in lateral view: 1.54-1.58 mm.

Head smooth with no erected hairs on dorsal surface. Several erected hairs are present on clypeus, mandibles and ventral surface of head. Scape is slightly longer than first antennal segment. Mandible with 2 to 4 subequal teeth. Scutum is weakly reticulated, scutellum is completely smooth and shining. Mesosternum, episternum and metasternum are gently striated. Propodeal spines are not prominent. Gaster is smooth and shining, covered with appressed pubescence.

Colour: Head and torax dark yellow, nodes, gaster and appendages clear yellow. Wings without infuscation, veins are pale yellow.

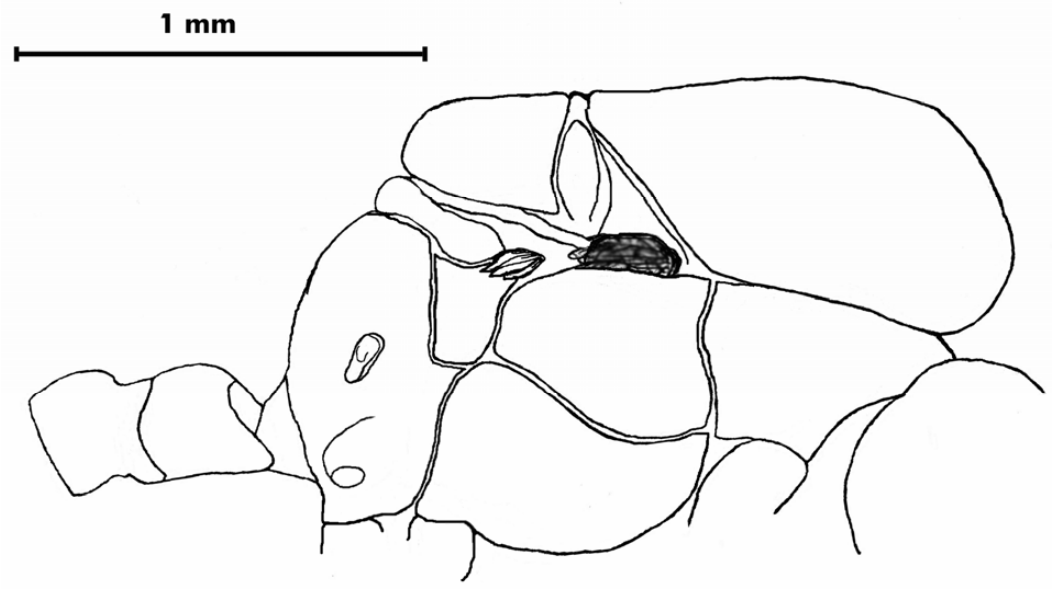

Figure 7: *Crematogaster gordani*, sp. nov., paratype, thorax of male in profile.

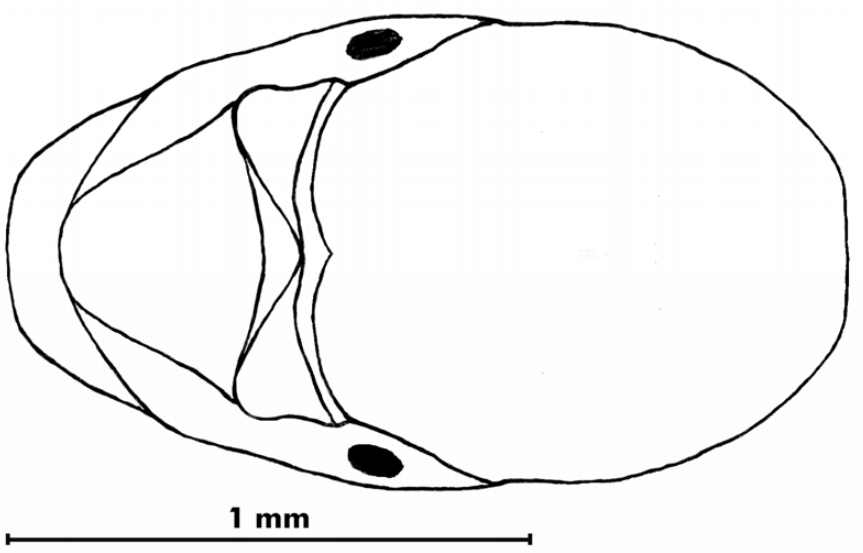

Figure 8: *Crematogaster gordani*, sp. nov., paratype, thorax of male in dorsal view.

DIFFERENTIAL DIAGNOSIS

The new species *Crematogaster gordani*, described here, has been previously recognized as yellow variety of *Crematogaster schmidti,* one widely distributed species in Podgorica and Montenegro. One single worker we found on Vrmac hill (Adriatic coast of Montenegro) also, and we have considered as unusual mutation of colour within *C. schmidti*. Workers, except by colour, can not be distinguished from those of *C. schmidti*. But, females and males of *C. gordani* have been compared with those of *C. schmidti* collected in Montenegro, Serbia and Macedonia and clear differences were established.

The females of *C. schmidti* are provided with long and strait propodeal spines (Fig. 9), in females of *C. gordani* these spines are short and triangular.

Outline of male thorax of *C. schmidti,* in lateral view, is with broken profil (Figs. 10, 11.). Male of *C. gordani* is with rounded profile of thorax. Male genitalia in *C. gordani* differ clearly from those in *C. schmidti* (see Figs. 5, 12).

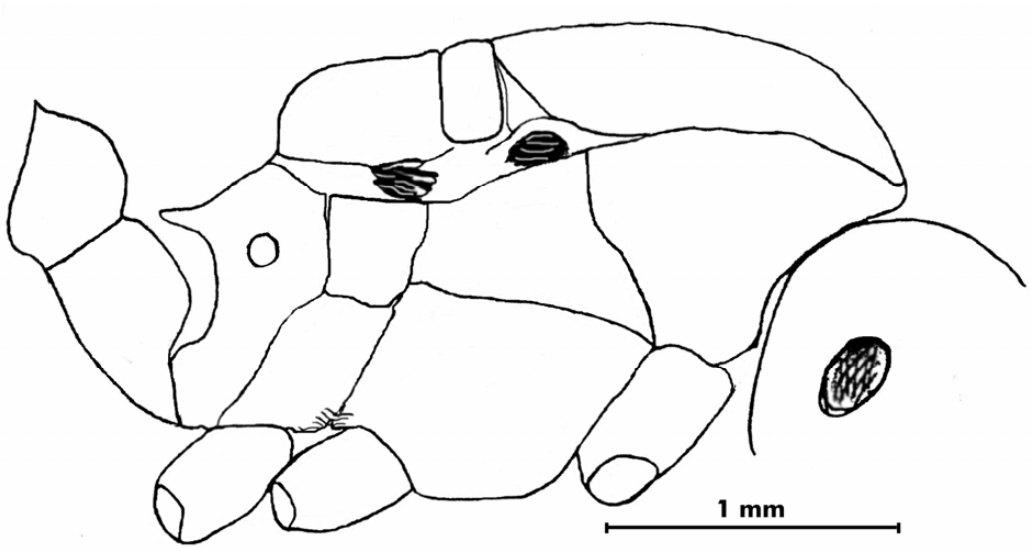

Figure 9: *Crematogaster schmidti* Mayr, 1853*,*
alitrunk of female in profile, Tivat, October 09, 1977.

ETYMOLOGY

The name of the species is dedicated to Acc. Prof. Dr. Gordan S. Karaman from Podgorica who have collected the specimens of this species.

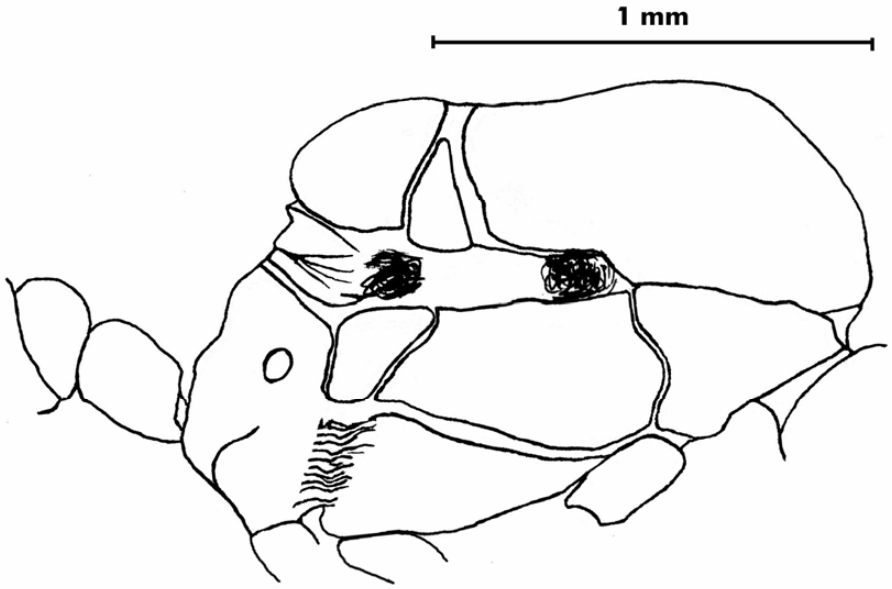

Figure 10: *Crematogaster schmidti* Mayr, 1853*,*
alitrunk of male in profile, Tivat, October 09, 1977.

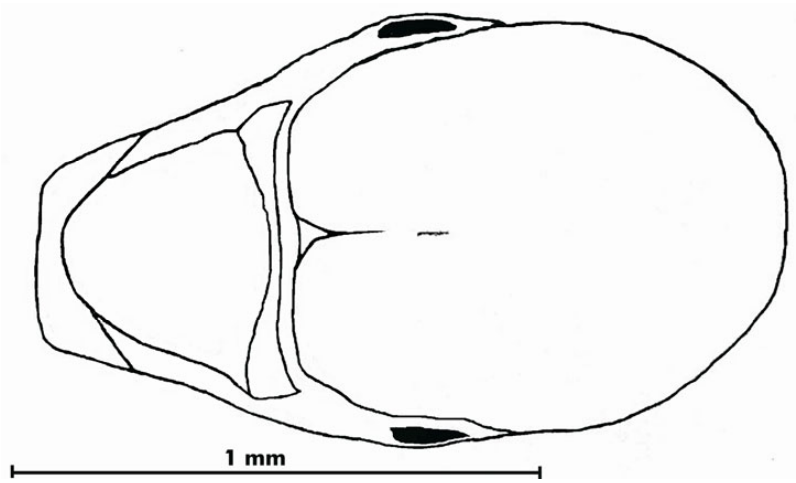

Figure 11: *Crematogaster schmidti* Mayr, 1853*,*
thorax of male in dorsal view, Tivat, October 09, 1977.

BIOLOGY AND ECOLOGY

We do not know much about ecology of this species. Specimens have been collected near the bank of Morača river, in Podgorica city (Fig. 16), and the nest was

in the ground of the wooden house. One similar worker, with whole yellow body, was collected in Boka Kotorska Bay (28. July 1989) also. It was considered by us as coloured variety of *C. schmidti* (KARAMAN et al., 1998; KARAMAN, 2004). It might be the worker of *C. gordani* but we need to collect the males and females to prove it.

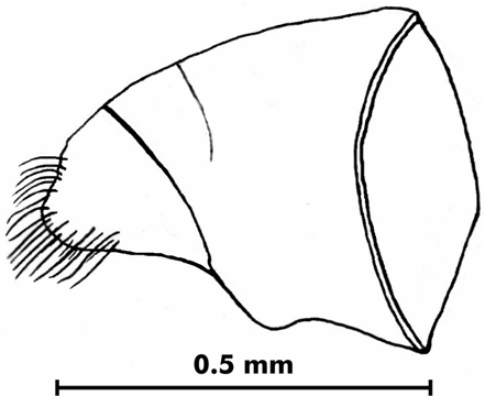

Figure 12: *Crematogaster schmidti* Mayr, 1853, genitalia of male in profile, Tivat, October 09, 1977.

Systematics
Order Hymenoptera Linnaeus, 1758
Family Formicidae Latreille, 1809
Genus *Crematogaster* Lund, 1831
Type species: *Formica scutellaris* Olivier, 1792

Crematogaster montenigrinus sp. nov.
(Figures 13-16; Plate 1: G-I)

Crematogaster scutellaris schmidti atratula Zimmermann, 1934: 24;
Crematogaster scutellaris smidti(sic!) var. *atratula* Santschi, 1937: 311;
Crematogaster scutellaris subsp. *schmidti* var. *atratula* Bolton, 1995: 148.

Material examined: 2 workers, Opatovo (Boka Kotorska Bay), August 18, 1985, leg. M. G. Karaman; 1 worker, West Mouth of Bojana River (Velika Plaža, Ulcinj), July 16, 2004, leg. M. G. Karaman.

Type material: Holotype (1 worker marked by 02-08) and paratype (1 worker marked by 957P) are deposited in Natural History Museum of Montenegro, Podgorica.

Deposition of additional paratype: KARAMAN's Collection in Podgorica (Crna Gora) (1 worker marked by M-254H)

Diagnosis: Head is, in frontal view, without sculpture, smooth and shining. Thorax finely sculptured, covered with sparse, appressed silvery hairs. Propodeal spines are long, acute, with gently upcurved tips, length of spines is about 2,5 times as long as their basal width. On mesonotum appears distinct longitudinal keel. Whole body, including appendages, dark brown to black. Base of gaster, around the joint edge, is brighter, rest of abdomen is black.

Description:

HOLOTYPE, WORKER (Figs. 13-15; Plate 1: G-I):

Total lenght: 3 mm. Head is, in frontal view, without sculpture, smooth and shining, covered with silvery appressed pubescence, these hairs are separated at their bases by a distance equal as length of hairs. Antennal scape is covered with dense, appressed hairs. Mandibles are paler than rest of the head, longitudinally striated, bearing 3-4 teeth each.

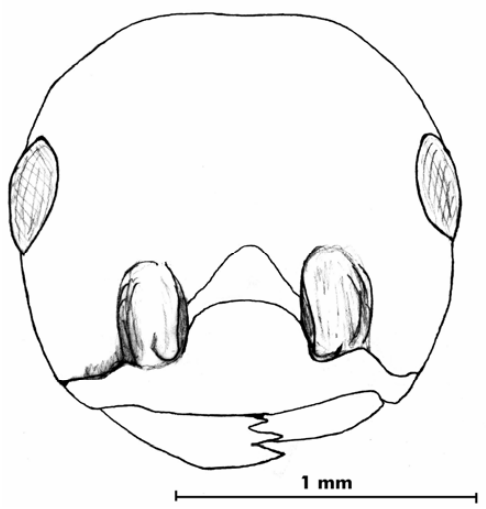

Figure 13: *Crematogaster montenigrinus* sp. nov., head of worker in dorsal view.

Sculpture of thorax weak, covered with sparse, appressed silvery hairs. Propodeal spines are long, acute, with tips gently upcurved, length of spines is about 2,5 times as long as their basal width. On mesonotum appears distinct longitudinal keel. Mesopropodeal furrow deeply impressed. Petiole trapezoid, like that in other species of *scutellaris* complex.

Abdominal segments entirely covered with longitudinally oriented, appressed, long silvery hairs whose bases are separated by distance equal as half length of a hair.

Colour: Whole body, including appendages, dark brown to black. Base of gaster, around the joint edge, is brighter, rest of abdomen is black.

Total length, measurement of 3 workers: 2.9-3.1 mm.

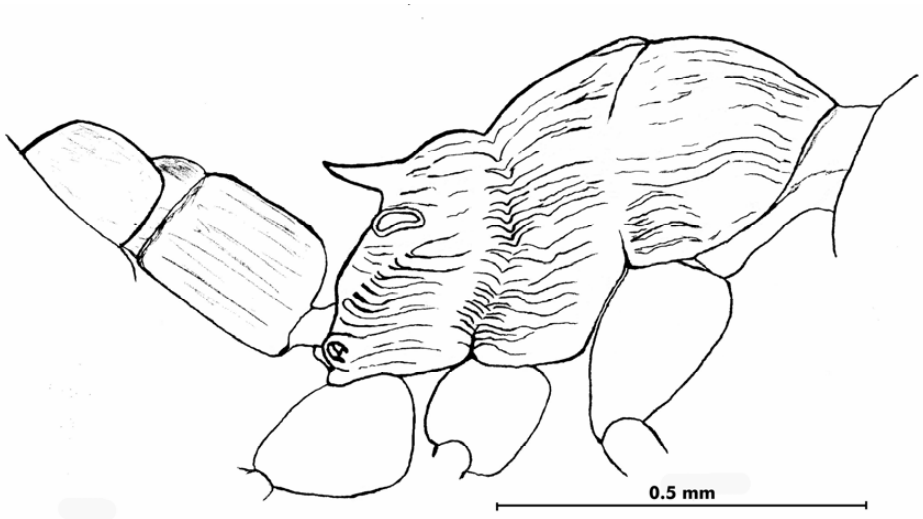

Figure 14: *Crematogaster montenigrinus* sp. nov., alitrunk of worker in profile.

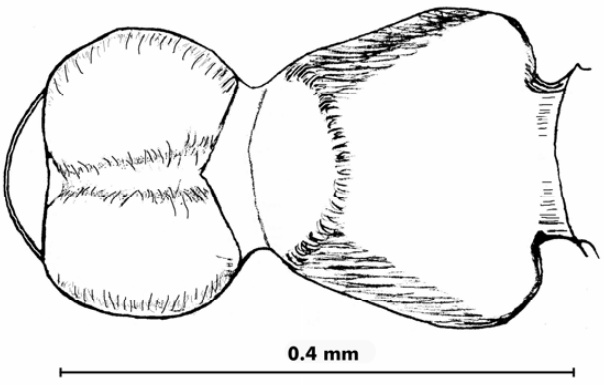

Figure 15: *Crematogaster montenigrinus* sp. nov., petiole and postpetiole of worker in dorsal view.

DIFFERENTIAL DIAGNOSIS

Crematogaster montenigrinus, sp. nov. belongs to *C. scutellaris* group of species. Total body length of workers of this species is smallest in compare with other workers of this group in south Europe. Body colour is generaly dark brown to black, as in *C. laestrygon* and *C. algirica*. But *C. montenigrinus* has distinctly longer propodeal

spines (compare with *C. laestrygon*) and smaller total body lenght (compare with *C. algirica*). Workers of *Crematogaster montenigrinus* has weaker sculptured thorax than those in *C. schmidti*. Longitudinal keel less prominent compare with that in *C. schmidti* and *C. gordani*.

ETYMOLOGY

The name of the species is derived from the place where Zimmermann (1934) and we collected samples: Montenegro (Crna Gora).

REMARKS

Crematogaster scutellaris schmidti atratula described by ZIMMERMAN (1934), has remained uninvestigated ever since. Apart from a citation by SANTSCHI (1937), BOLTON (1995) and JOHNSON (2007), no other data of this taxon appear in the literature.

The original description was based upon workers collected near the Monastery Sveta Savina, Herceg Novi, on the Adriatic coast of Crna Gora (Montenegro). Original description given by Zimmermann:

„Das ganze Tier fast gleichmäβig dunkelschwarzbraun, nahezu schwarz, Gaster kaum dünkler, Fühler und Beine nur wenig heller als Kopf und Thorax, somit sehr bedeutend dünkler als die Form *jonia*, bei der auch die dunkelsten Stücke, die wir gesehen haben, einen beträchtlichen Farbenunterschied zwischen Gaster und Vorderkörper aufweisen. Oberflächenskulptur des Kopfes, Form des Thorax und der Dornen wie bei *C. scutellaris schmidti*, die Oberseite des Thorax ebenso wie bei dieser kräftig längsgerunzelt; auf dem Mesonotum ein deutlicher Mittelkiel. – Die neue Form unterscheidet sich von *C. scutellaris schmidti*, bezw. *jonia* aber auch durch ihre Größe: sie ist beträchtlich und konstant kleiner als diese, nämlich 3'0 – 3'4 mm lang, während *C. scutellaris schmidti*, bezw. *jonia* 3'5 – 4'0 mm."

SANTSCHI (1937) mentioned this species in his key to the workers of *scutellaris* group of species: „- Tête et thorax brun rouge plus ou moins foncé. Balkans, Egée . . . sp. *scutellaris smidti* var. *ionia* For.; - ou noirâtre, Dalmatie . . . var. *atratula* Zimm."

BOLTON (1995) mentioned that *Crematogaster scutellaris* subsp. *schmidti* var. *atratula* Zimmermann, 1935 (sic!):21 (w.) YUGOSLAVIA is unavailable name, in accordance with ICZN rules. Finally, *Crematogaster scutellaris* subsp. *schmidti* var. *atratula* has been treated as junior synonim of *C. schmidti* (JOHNSON, 2007).

We collected the material of this taxon from coast of Montenegro, establishing distinct taxonomical differences from other species of this group. By this way, we

established new species *Crematogaster montenigrinus* sp. nov.(ICZN articles 23.3.5; 45.5.1) (ICZN, 2000).

COMMENTS AND DISCUSSION

Body of workers of *Crematogaster montenigrinus* is by colour similar to that of *Crematogaster* ***auberti***, dark brown to black. Clear distinction between these taxa is prominent keel on alitrunk, present in *C. montenigrinus*, missing in *C. auberti*. Similar body colour appears also in *C.* ***laestrygon,*** but in this species propodeal spines are smaller than these in *C. montenigrinus*.

Variety ***nigra*** (C. *scutellaris* var. *nigra* Krausse, 1912), is described from Sardinia, with only one sentence in original description: «Diese neue schwarzköpfige Varietät entdeckte ich bei». EMERY (1916) mentioned that Krausse had collected entirely black workers mixed with workers provided with red heads and concluded that it might be colour variety, only (*C. scutellaris* var. (aberr.?) *nigra*). In his key to the worker caste from Italy, he mentioned that the sculpture of var. *nigra* is the same as that in C. *scutellaris*. BARONI-URBANI (1971) considered var. *nigra* as synonym of *C. scutellaris*.

C. laestrigon var. ***maura*** Forel, 1909, was found in Algeria and originaly described as *Crematogaster auberti* r. *laestrygon* var. *maura*. The workers of this variety is with smaller propodeal spines than those in *C. montenigrinus,* propodeum is only bituberculate («Les épines du métanotum sont presque dentiformes», FOREL, 1909). Worker body size is distinctly longer (L= 4.0 – 4.8 mm) than that in *C. montenigrinus* (2.9-3.1 mm).

C. laestrygon var. ***atlantis*** Santschi, 1937, described from Algeria and Tunisia, is with body dark brown to black in workers. Its propodeal spines are smaller than those in *montenigrinus*. SANTSCHI, in his original description, mentioned that those spines in workers of var. *atlantis* are shorter than those in *C. laestrygon*.

The smallest workers in *C. scutellaris* complex (L= 2.7-3.2 mm) appear in *C. scutellaris* var. ***alii*** Forel, 1907. FOREL, in his original description, observes that body colour of var. *alii* likes that in *C. schmidti* (base of gaster is redish brown, rest of gaster is brown). Propodeal spines are shorter than those in *C. schmidti*, and longer than those in *C. jehovae*.

Other species, races and varietes of genus *Crematogaster* with trapezoidal petiole and propodeal keel on alitrunk cited for Europe, Near East, Mediterraneann or North Africa, can not be confused with *Crematogaster montenigrinus,* as follow:

C. scutellaris subsp. *schmidti* var. ***hybrida*** Emery, 1916, described from Italy, are with body colour intermediate between *C. scutellaris* and *C. schmidti*. It is unavailable name (AGOSTI & COLLINGWOOD, 1987);

C. scutellaris var. ***medispina*** Forel, 1905, described from Trieste (Italy) is a junior synonym of *C. schmidti* (EMERY, 1922);

C. laestrigon var. ***diminuta*** Santschi, 1910, described from Tunisia: workers are 3 mm long, black coloured, with small propodeal teeth (like that in var. *maura*);

C. laestrigon var. ***striaticeps*** Forel, 1909, from Algeria, has dark coloured workers provided with keel, their occiput and pronotum are striated (in *C. montenigrinus* are smooth).

C. scutellaris r. ***tenuispina*** Forel, 1902, from Algeria and Sahara: workers alitrunk is redish-yellow, gaster is brown.

Figure 16: Map of Crna Gora (Montenegro) with marked localities where *Crematogaster gordani* (Podgorica) and *C. montenigrinus* (Opatovo, Velika plaža) found.

KEY TO THE WORKER CASTE OF *C. SCUTELLARIS* COMPLEX OF SOUTHERN EUROPEAN SPECIES

1. Whole body unicolored dark brown to black 5
- Body colour is not unicolored dark brown to black 2

2. Whole body unicolored yellow or dark yellow . . . . . ***C. gordani*** sp. nov.
- Abdomen black, head and alitrunk more or less redish 3

3. Head, alitrunk and petiole redish, postpetiole usually darker, but never black. Gaster black . . . ***C. schmidti*** (Mayr, 1853)
- Head and alitrunk of different colour 4

4. Head redish, alitrunk and petiole nodes dark redbrown . . . ***C. scutellaris*** (Olivier, 1792)
- Head, alitrunk and petiole nodes dark redbrown . . . . . ***C. ionia*** Forel, 1911

5. Body generally almost black. Propodeal spines short, their length is not clearly longer than their basal width . . . . . ***C. laestrygon*** Emery, 1869
- Body generally dark brown. Lenght of propodeal spines is clearly longer than their basal width 6

6. Propodeal spines long and narrow. Body lenght 4.0-4.5 mm . . . ***C. algirica*** (Lucas, 1849)
- Propodeal spines shorter than those in *C. algirica*. Body lenght 2.9-3.4 mm . . . . . ***C. montenigrinus*** sp. nov.

CONCLUSIONS

A new species, *Crematogaster gordani* sp. nov. (Hymenoptera: Formicidae) belongs to *C. scutellaris* group of species. *C. gordani* can be distinguished primarily by yellow colour of workers and yellow to pale brown colour of males. Females are unicolored brown with yellow shade. This is the single yellow species within the genus *Crematogaster* in the Mediterranean area.

According to ICZN rules we redescribed taxon formerly known as *Crematogaster scutellaris* subsp. *schmidti* var. *atratula* Zimmermann, 1934, as *Crematogaster montenigrinus* sp. nov. This species belongs to the same *C. scutellaris* group of species, as *C. gordani.*

C. montenigrinus seems to be very rare because despite of our investigation of myrmecofauna during abouth 20 years in this area, we found only 3 workers of this species. It might be a reason why this species remained almost unknown till now.

Key to the worker caste of *C. scutellaris* complex of southern Europe is given.

Acknowledgements:

The author is thankful to the Acc. Prof. Dr. Gordan S. Karaman from Podgorica (Crna Gora) for the loan of material used in this paper.

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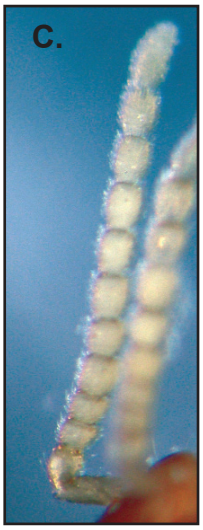
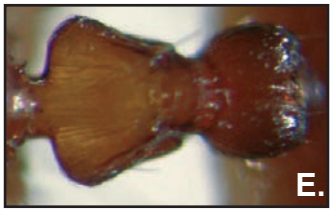
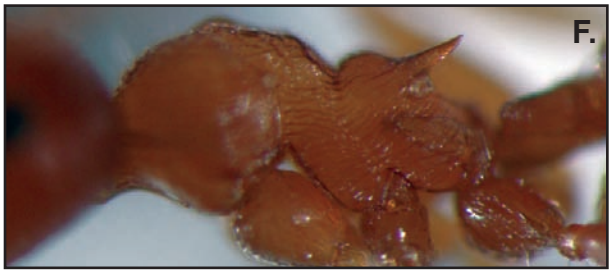
Received 18. January 2008.
Accepted 29. March 2008.

PLATE 1.





Crematogaster gordani, sp. nov.,
Photo A: paratype; alitrunk of female in profile;
Photo B: paratype; alitrunk of male in profile;
Photo C: paratype; antenae of male;
Photo D: paratype; wing of male;
Photo E: paratype; petiole nodes of worker in dorsal view;
Photo F: paratype; alitrunk of worker in profile.



Crematogaster montenigrinus sp. nov.:
Photo G: paratype, alitrunk of worker in profile, arrow shows keel on alitrunk;
Photo H: paratype, head of worker, in front view;
Photo I: paratype, petiole nodes of worker in dorsla view.