



Description of four new species in the bee genus *Melitta* Kirby, 1802 (Hymenoptera: Melittidae)

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Abstract

Four new bee species of the genus *Melitta* Kirby, 1802 are here described: *Melitta (Cilissa) singular* Michez **sp. nov.** from East-Anatolia (Turkey), *Melitta (Cilissa) budashkini* Radchenko & Ivanov **sp. nov.** from Crimea (Ukraine), *Melitta (Cilissa) engeli* Michez **sp. nov.** from Kyrgyzstan and *Melitta (Cilissa) magnifica* Michez **sp. nov.** from Mongolia. An updated checklist of *Melitta* species of the world is provided.

Key words: Melittidae *s.l.*, Anthophila, Palaearctic, Endemism

Introduction

Bees are a diverse group of pollen eaters (Michener 2007) comprising 19,200 described species worldwide (Ascher *et al.* 2009: <http://www.discoverlife.org>). The rate of species description in recent generic revisions suggests that many species are still to be discovered (*i.e.* Pesenko & Pauly 2005; Michez *et al.* 2007; Timmerman & Kuhlmann 2009). In South Africa, for example, the recent revision of the genus *Capicola* listed 46 % of species as new (Michez *et al.* 2007) and the revision of the genus *Patellapis* counted 71 species of which 55 % are described for the first time (Timmermann & Kuhlmann 2009). Even after comprehensive taxonomic review, new species are still discovered especially in highly diverse or isolated areas thanks to new collecting (e.g. Michez & Kuhlmann 2007; Michez & Pauly 2012).

In this paper four new species of the bee genus *Melitta* Kirby, 1802 are described based on specimens collected during field trips to Crimea (Yu. I. Budashkin & S. P. Ivanov), Mongolia (H. Halada), Kyrgyzstan (M. S. Engel) and Turkey (K. Guichard). A comprehensive list of *Melitta* species is provided updating the previous world revision of Michez & Eardley (2007) (Appendix 1).

Material and methods

Genus *Melitta*. The genus *Melitta* Kirby, 1802 belongs to the Melittidae, one of the smallest families of bees (about 200 species; Michez *et al.* 2009). Monophyly of Melittidae and their phylogenetic position in the tree of bees are still debated. Even if Danforth *et al.* (2006) recently consolidated the hypotheses of basal position of Melittidae *s.l.*, the monophyly of the family is still uncertain (Danforth *et al.* 2006; Michez *et al.* 2009). Any improvement in melittid taxonomy is therefore crucial to understand the early evolution of bees.

Melitta species superficially look like *Andrena* but their scopae are limited to the hind tibia and basitarsus (no flocculus). They have three submarginal cells and mainly brownish to blackish pilosity. Synapomorphies of the

genus are widened apical tarsi, lateral tubercles on the labrum, apical projection on the posterior basitarsus and volsella with elongated digitus (Michener 1981; Michez *et al.* 2009).

The genus *Melitta* is rich in species but morphologically monotonous compared to other melittid bees (Michez *et al.* 2009). Michez & Eardley (2007) listed 43 species in the two subgenera *Melitta s. str.* and *Cilissa*. Five centers of diversities are known: Mediterranean Basin (including Spain, Turkey and Maghreb), Himalaya, China (mainly Southern and Northern regions), North America (California and Eastern coast) and southern Africa (Snelling & Stage 1995; Eardley & Kuhlmann 2006; Michez & Eardley 2007; Fig. 1). The highest diversity is in the Palearctic region (Warncke 1973).

Information about the biology of *Melitta* is limited to a few European species. As far as known, females nest in the soil (*e.g.* Celary 2006) and many species are oligolectic (*i.e.* specialized on a few number of plant taxa; see Müller & Kuhlmann 2008 for definitions) (Michez *et al.* 2008).

Morphological terms, abbreviations and illustrations. We used the terminology of Harris (1979) to describe the surface sculpture and Michener (2007) for morphological terms. Puncture density is described according to puncture diameter (*d*) and the spaces between the punctures (*i*), such as $i > d$.

The following abbreviations were used for morphological structures: antennal segment = A (A1 = Scape); tibia = Tb; femur = F; basitarsus = Bt; metasomal sternum = S; metasomal tergum = T; pygidial plate = Pp; L = Length; W = Width. Body length is considered from vertex to apical tergum. The photographs of habitus and morphological characters were made using an Olympus E-410 camera assembled onto a stereomicroscope Olympus SZX12 and the Quick-Photo Micro v2.3 and Helicon Focus Pro v5.2 software and a Nikon D1 camera associated with an Olympus stereomicroscope, respectively.



FIGURE 1. Distribution of the bee genus *Melitta* according to Michez & Eardley (2007). Numbers 1 to 4 refer to the type localities of *Melitta budashkini* sp. nov. (1), *M. engeli* sp. nov. (2), *M. magnifica* sp. nov. (3) and *M. singular* sp. nov. (4), respectively.

Results and discussion

Melitta (Cilissa) budashkini Radchenko & Ivanov sp. nov.

Type material. Holotype male, 3 male paratypes and 15 female paratypes, I.I. Schmalhausen Institute of Zoology National Academy of Sciences of Ukraine, (IZAN, Kiev, Ukraine): Ukraine, Crimea, Feodosia, Cape Chauda, 45°00'17"N 35°49'49"E, steppe zone on *Limonium meyeri* (Plumbaginaceae), 16.ix.2011, leg. Yu. Budashkin (3♂ including holotype and 12♀), S. Ivanov (1♂ and 1♀) & A. Ivanov (2♀); and 6 female paratypes, same place on *Linosyris villosa* (Asteraceae), 16.ix.2004, leg. Yu. Budashkin, IZAN.

Additional material. 1♂ and 6♀ collected from the same place and date as the holotype, but dissected for morphological studies and DNA extraction, leg. Yu. Budashkin.

Etymology. Named after Yu. I. Budashkin, who collected a large part of the type series.

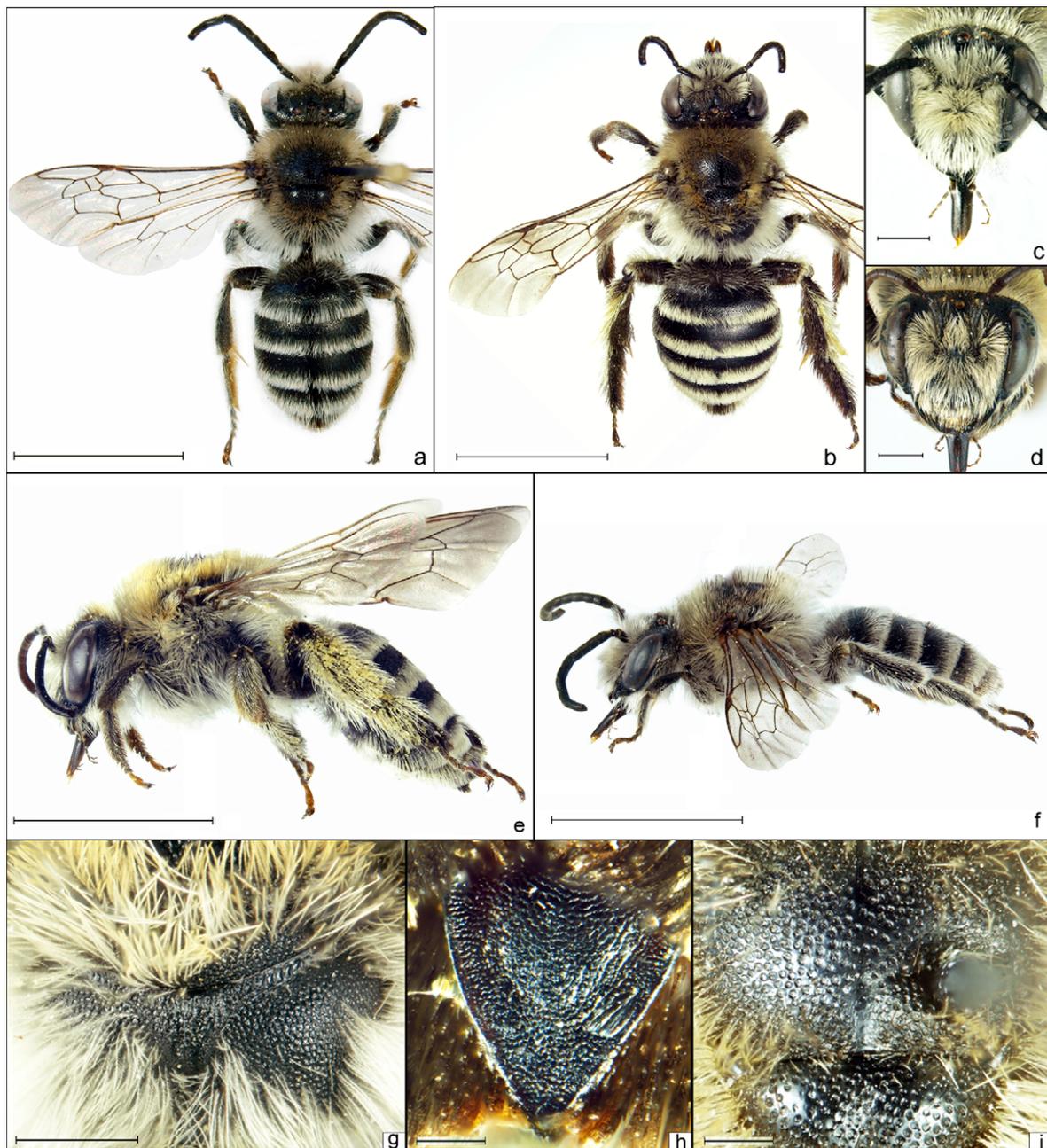


FIGURE 2. *Melitta budashkini* sp. nov. a. Male in dorsal view (scale = 5 mm); b. Female in dorsal view (scale = 5 mm); c. Head of male in frontal view (scale = 1 mm); d. Head of female in frontal view (scale = 1 mm); e. Female in lateral view; f. Male in lateral view; g. Propodeum of female (scale = 1 mm); h. Pygidial plate of female (scale = 0.2 mm); i. Mesoscutum of male (scale = 0.5 mm).

Diagnosis. *M. budashkini* shows diagnostic features of the subgenus *Cilissa*: scutum smooth between punctures, male S7 with apicolateral part pointed and male gonostylus shorter than gonocoxite. Volsella and apicolateral part of male S7 are apically pointed like in *M. ezoana*, *M. magnifica* sp. nov. and *M. sibirica*, but the gonostylus is straight in *M. budashkini* male while it is curved distally in *M. ezoana* and *M. sibirica*. S7 of *M. budashkini* with a blade-shaped apicolateral process that has an additional protrusion at the base of the spike-like process in *M. ezoana*. S7 is weakly incised apically. Base of female propodeal triangle with vertical carinae (Fig. 2g) and outer surface of galea mat like in *M. ezoana* and *M. sibirica*, but prepygidial fimbria of female *M.*

budashkini is mainly white while being dark or predominantly dark like in *M. sibirica*. T2–4 of female *M. budashkini* with much wider white apical hair bands than in *M. sibirica* and *M. ezoana*. Mesoscutum and scutellum with larger punctures than in *M. sibirica*. In contrast to *M. ezoana* the *M. budashkini* female metabasitarsus is straight proximally. Posterior scutum, anterior scutellum and anterior metanotum sparsely punctate.



FIGURE 3. *Melitta budashkini* sp. nov. male. a. Galea in lateral view (scale = 0.5 mm); b. Genitalia in lateral view with arrows showing flattened hemispherical protrusion in the middle of the ventral part (scale = 0.5 mm); c. Genitalia in dorsal view (scale = 0.5 mm); d. Sternum 6 in ventral view (scale = 1 mm); e. Sternum 7 in ventral view (scale = 0.5 mm); f. Sternum 8 in ventral view (scale = 0.5 mm).



FIGURE 4. Host-plant of *Melitta budashkini* sp. nov. a. Female foraging on *Limonium meyeri* (Plumbaginaceae); b. Landscape in the surrounding area (photo S.P. Ivanov).

Description ♂ (Figs 2–3). **Body length:** 10.5–10.7 mm. **Head.** L = 2.6 mm. W = 3.1 mm. Integument black including all segments of antenna, but with small reddish-brown patches on the middle of mandibles. Segments of antennal flagellum slightly curved ventrally. Compound eyes slightly converging below. Clypeus convex. Face covered with silver-white hairs, but vertex with scattered small dark hairs (Fig. 2c). **Mesosoma.** L = 3.3 mm. W (between tegulae) = 2.4 mm. Cuticle black. Mesoscutum and scutellum densely punctate with large dots, sparse in the central parts of the mesoscutum and laterally on the scutellum ($i > d$), smooth between punctures (Fig. 2i). Thorax dorsally covered with a dirty gray hairs, propodeum and sides of mesosoma with a silver-white pubescence. **Legs.** All legs are black, except for brown pretarsi. Legs with white pubescence except first tarsus which is covered with black or brown hairs on the inside. **Wings.** Wings slightly dark. **Metasoma.** L = 5.2 mm. W = 3.5 mm. All terga are densely punctate ($i < d$), smooth and shiny between punctures. Terga lightened apically, on T2–3 margins slightly depressed across the entire width of terga while on other terga only the lateral parts are depressed. Apical parts of all sterna yellowish translucent. S6–8 like in Figs 3d–f. Gonostylus shorter than gonobase with the middle of the ventral part having a flattened hemispherical protrusion (Figs 3b–c).

♀ (Figs 2, 4). **Body length:** 11–12 mm. **Head.** L = 3.1 mm. W = 3.5 mm. Integument black except ventral side of antenna and small patches in the middle of the mandibles which are reddish-brown. Inner margins of compound eyes almost parallel (Fig. 2d). Face and vertex densely punctate except for the parts close to the lateral ocelli and below the central ocella. Clypeus wider than long. Vestiture greyish-white at vertex mixed with grey and brown hairs. Outer surface of galea slightly shiny and sculptured (densely punctate with small dots – $i < d$). Face, except vertex, completely covered with silver-white hairs. **Mesosoma.** L = 3.8–3.9 mm. W = 2.7–2.9 mm. Cuticle black. Mesoscutum and scutellum punctate like male. Propodeal triangle is sculptured and slightly shiny between the ribs (Fig. 2g). Thorax dorsally covered with yellowish-brown or yellowish-gray hairs, otherwise covered in white pubescence. **Legs.** All legs are black, except for brown pretarsi. Tibia and first tarsus of legs are covered with black hairs on the inner side and on the outer side with silver-white pubescence except for the proximal part of tibia below the hind metabasitibial plate where are also black hairs. **Wings.** See male. **Metasoma.** L = 5.5–6.8 mm. W = 4.2–4.5 mm. All terga are black and densely punctate ($i < d$), smooth and shiny between punctures. The apical margin of terga black, slightly depressed laterally. T1–4 with white apical hair band twice as broad as width of apical margin. Basal and apical margins of S1–4 yellowish with apical bands of white erect hairs. Pp as in Fig. 2h.

Floral visitation. Most specimens were collected on *Limonium meyeri* (Boiss.) Kuntze (Plumbaginaceae) but six females were found on *Galatella villosa* (L.) Rchb.f. (= *Linosyris villosa* (L.) DC.) (Asteraceae). The species might be eclectic oligolege (*sensu* Müller & Kuhlmann 2008) but palynological analysis is required for confirmation.

Biotop. Only found in xerophytic steppe.

Distribution. Crimea. Only known from the type locality.

Comment. *M. budashkini* seems to be closely related to *M. ezoana* and *M. sibirica*. The latter two species show wider East-Palaeartic distribution (Michez & Eardley 2007). Crimea could have been an isolated glacial refugia where *M. budashkini* shifted on alternative host-plants. All females of *M. budashkini* have been collected foraging on Plumbaginaceae or Asteraceae while *M. ezoana* and *M. sibirica* are Fabaceae specialist and generalist respectively (Michez *et al.* 2008).

Melitta (Cilissa) engeli Michez sp. nov.

Type material. Holotype male, Oberösterreichisches Landesmuseum (Linz, Austria, OOLL): Kyrgyzstan, Talasskaya Oblast, Talass gebirg, am Fluss Ara-Byik, 42°23'28"N 70°58'34"E, 2050–2150m, 03.vii.1998, leg. H. & R. Rausch (98/01). Paratype male, OOLL: Kirghizia, Transalai Mt. R. W Part, Berksu river gorge, 39°28'N 72°01'E, 2600m, 19.vii.1998, leg. S. Zonstein. Paratype male, American Museum of Natural History (New York, USA, AMNH): Kyrgyzstan, Osh, Guilcha ravin, 50km SSW Gultcha, 39°52'17"N 73°21'26"E, on *Gulcha* sp. (?), 07.vii.2000, leg. M.S. Engel.

Etymology. Named after Michael S. Engel, who collected a part of the type material.

Diagnosis. *M. engeli* shows diagnostic features of the subgenus *Cilissa*: scutum smooth between punctures, male S7 with apicolateral structure blade-shaped and gonostylus shorter than gonocoxite. *M. engeli* is closely related to *M. dimidiata*. Both species have an apically pointed galea and the apical plate of S8 is shaped like a triangle. *Melitta engeli* can be distinguished from *M. dimidiata* by unexpanded vertex, face with lateral black hairs, S8 with a few short hairs and different shape of genitalia (Fig. 5).

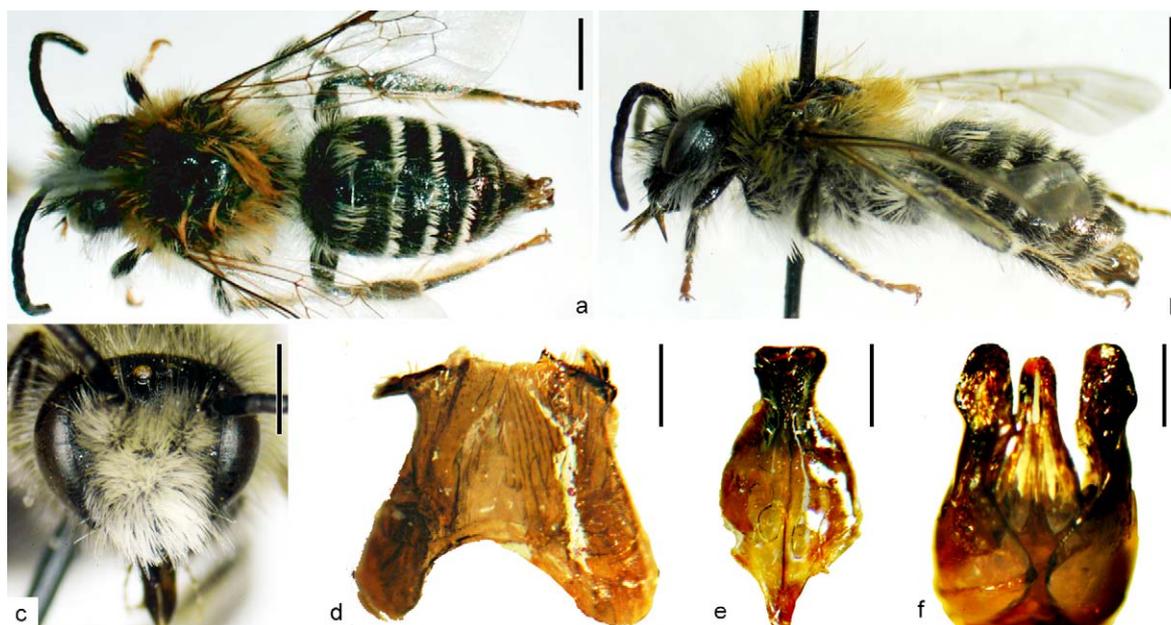


FIGURE 5. *Melitta engeli* sp. nov. Male; a. Habitus in dorsal view (scale = 1.5 mm); b. Habitus in lateral view (scale = 1.5 mm); c. Head in frontal view (scale = 1.2 mm); d. Sternum 7 in ventral view (scale = 0.25 mm); e. Sternum 8 in ventral view (scale = 0.4 mm); f. Genitalia in ventral view (scale = 0.4 mm).

Description ♂ (Fig. 5). **Body length:** 8.5 mm. **Head.** L = 2.4 mm. W = 2.7 mm. Cuticle black, densely punctate ($d > i$), smooth between punctures. Antenna blackish. Galea pointed and shiny. Glossa as long as labial palpus. Face and vertex with whitish hairs and narrow lateral black fringe along the compound eye (Fig. 5c). **Mesosoma.** L = 3.3 mm. W (between tegulae) = 2.4 mm. Cuticle black. Scutum densely punctate ($d > i$) except in the medio-posterior part ($i > d$). Scutellum sparsely punctate anteriorly ($i > d$). Posterior part of scutellum, metanotum and propodeum mat and densely punctate. Propodeal triangle mat and sculptured. Scutum with reddish hairs and a few black hairs intermixed. Mesosoma ventrally with whitish hairs. **Legs.** Black except for reddish medio- and distitarsi. Pilosity whitish. **Wings.** Hyaline. **Metasoma.** L = 4.5 mm. W = 3 mm. Cuticle black and shiny. Terga and sterna densely punctate. T2–5 with apical hair bands. Disc of T1–3 with whitish erect hairs. Disc of T4–6 with black hairs. Prepygidial fimbria laterally white and medially black. S6 with dense apical pilosity. S7 with apicolateral plate and apicolateral fringes of long simple hairs (Fig. 5d, these hairs are only visible on the right of the illustrated specimen, the left part was destroyed). S8 with disc almost hairless (Fig. 5e). Apical plate of S8 triangular shaped in apical view. Genitalia with gonostylus shorter than gonobase (Fig. 5f).

♀. Unknown.

Distribution. Probably endemic to mountain regions of Kyrgyzstan.

Comment. Like *Melitta bicollaris*, *M. engeli* seems to be a montane endemic species derived from *M. dimidiata* (Michez & Eardley 2008). The very unusual shape of the S8 apical plate supports the view that *M. dimidiata* and *M. engeli* are sister species. Moreover, *M. engeli* is not the only species endemic to the mountains of Kyrgyzstan: *Melitta fulvescenta* is restricted to the same region although the type locality is in China but very close to the Kyrgyz border (Appendix 1; Wu 2000).

Melitta (Cilissa) magnifica Michez sp. nov.

Type material. Holotype male, Schwarz collection (SC, Ansfelden, Austria), one paratype female (CS), one paratype female (OOLL): Mongolia C, Mongol Els res., dunes, 47°34'N 103°39'E, 1320m, 31. vii.2005, leg. Halada & Kadlecová.

Additional material. One female, AMNH: Mongolia, Omnogov Naran Bulag, 1407m, 43°27'N 100°27'E, 1407m, 17–20.vii.1994, leg. J.M. Carpenter et al.

Etymology. Derived from the Latin *magnifica*, referring to the beauty and the large size of the species.



FIGURE 6. *Melitta magnifica* sp. nov. a. Female in dorsal view (scale = 1.6 mm); b. Male in dorsal view (scale = 1.5 mm); c. Genitalia male in dorsal view (scale = 0.3 mm); d. Sterna 7–8 in ventral view (scale = 0.4 mm); e. Female in lateral view (scale = 1.6 mm); f. Male in lateral view (scale = 1.5 mm).

Diagnosis. *M. magnifica* shows diagnostic features of the subgenus *Cilissa*: scutum smooth between punctures, male S7 with apicolateral structure pointed and male gonostylus shorter than gonocoxite. Apicolateral structure of S7 is pointed like in *M. budashkini*, *M. ezoana* and *M. sibirica* and gonostylus is curved like in *M. ezoana* and *M. sibirica*. Two morphological features of *M. magnifica* are unique within the genus *Melitta*: reddish legs and the large size (>14mm).

Description ♀ (Fig. 6). **Body length:** 13.2 mm. **Head.** L = 3.3 mm. W = 4.2 mm. Cuticle black and shiny except mandible, labrum and ventral face of antenna that are reddish-brown. Galea brown, sculptured and mat. Glossa twice as long as paraglossa. Clypeus apically smooth and shiny, sparsely punctate on the anterior part. Face and vertex densely punctate (d>i). Pilosity whitish. **Mesosoma.** L = 5.1 mm. W (between tegulae) = 3.6 mm. Cuticle black, densely punctate (d>i), smooth between punctures. Propodeal triangle mat, sculptured and carinated. Pilosity dense and whitish. **Legs.** Cuticle reddish except coxa 1–3, trochanter 1–3 and F1. Pilosity of F1–3 whitish, other parts of the legs reddish or yellowish (Fig. 6e). Scopa reddish to whitish. **Wings.** Hyaline. Tegulae yellow. **Metasoma.** L = 6.6 mm. W = 5.1 mm. Cuticle black and shiny, densely punctate (d=i), except apical part of sterna reddish. Pygidial plate flat. Disc of T2–3 with erected black hairs anteriorly and reddish apical hairs. Disc of T4 with reddish hairs. T1–4 with wide apical white hair band, half as wide as tergum width. Prepygidial and pygidial fimbriae reddish. Disc of sterna with reddish and whitish hairs.

♂ (Fig. 6). **Body length:** 12 mm. **Head.** L = 3 mm. W = 3.3 mm. Cuticle and pilosity like female. **Mesosoma.** L = 4.5mm. W (between tegulae) = 3 mm. Cuticle and pilosity like female. **Legs.** Cuticle and pilosity like female,

except Tb 2–3 brownish (Fig. 6f). **Wings.** Like female. **Metasoma.** L = 6.6 mm. W = 3.9 mm. Disc of terga with whitish hairs. Terga with continuous apical hair bands. Prepygidial fimbria yellowish to reddish. S6 with dense reddish apical pilosity. S7 with apicolateral plate and apicolateral fringes of long simple hairs (Fig. 6d). S8 with nearly hairless disc, apical plate triangular shaped. Genitalia with gonostylus shorter than gonobase (Fig. 6c).

Distribution. Only known from Mongolia.

Comment. *Melitta magnifica* seems to be closely related to *M. ezoana* and *M. sibirica* but *M. magnifica* shows reddish cuticule like some other melittid bees [e.g. *Dasygaster visnaga* and *D. riftensis*; Michez *et al.* 2004, Michez & Pauly 2012] and non-melittid bees [e.g. species of the *Colletes squamosus* species-group (Kuhlmann unpublished data)] living in xeric environments. This presumed adaptation to xeric environments distinguishes *M. magnifica* from *M. ezoana* and *M. sibirica* which occur in temperate ecosystem (Yasumatsu & Hirashima 1956; Michez & De Meulemeester unpublished data).

Melitta (Cilissa) singular Michez sp. nov.

Type material. Holotype male, Natural History Museum (London, UK, NHM): Turkey, Murcur, 1000m, 25.vi.1988, leg. K. Guichard.

Etymology. Derived from the Latin *singular*, referring to the uniqueness and originality of the species.

Diagnosis. *M. singular* shows diagnostic features of the subgenus *Cilissa*: scutum smooth between punctures, male S7 with apicolateral structure blade-shaped and male gonostylus shorter than gonocoxite. This species seems to be closely related to *M. hispanica*, *M. kastiliensis*, *M. japonica* and *M. udmurtica* as they share terga with apical hair bands, S6 with apicomedian bushy hairs, column of S8 with carinae, volsella apically rounded and gonostylus apically straight and pointed. However, the galea of *M. singular* is shiny and the distitarsus three times as long as wide unlike in *M. japonica*; its face does not have black lateral fringes unlike in *M. kastiliensis*, the apical area of S8 is circular unlike in *M. udmurtica*. The genitalia of *M. singular* are unique due to the “hook”-shaped gonostylus (Fig. 7d).



FIGURE 7. *Melitta singular* sp. nov. male; a. Habitus in dorsal view (scale = 2 mm); b. Sterna 6–7 in ventral view (scale = 0.5 mm); c. Habitus in lateral view (scale = 2 mm); d. Genitalia in dorsal view (scale = 0.5 mm).

Description ♂ (Fig. 7). **Body length:** 11.4 mm. **Head.** L = 3 mm. W = 3.3 mm. Cuticle black, shiny, densely punctate (d>i) except labrum and apical margin smooth. Ventral side of antenna with two light carinae. A3 shorter than A4. Galea smooth, shiny and sparsely punctate. Glossa as long as maxillary palpus. Malar area shorter than A2. Pilosity whitish. Face laterally without fringe of black hairs. **Mesosoma.** L = 3.9 mm. W (between tegulae) = 2.7 mm. Cuticle black, densely punctate (d>i), smooth between punctures. Propodeal triangle mat and sculptured, with median vertical median carina. Mesosoma ventrally with whitish hairs, dorsally with white yellowish hairs. **Legs.** Cuticle black except distitarsi 1–3 reddish. Distitarsi 1–3 three times as long as wide. Hairs on the ventral side of F3 longer than the width of F2. **Wings.** Hyaline. Tegula brown. **Metasoma.** L = 6.3 mm. W = 3.6 mm. Cuticle black, shiny and densely punctate (d>i). T2–4 with white apical hair bands. Disc of T1–3 with yellowish erected hairs. Disc of T4–6 with black erected hairs. S2–5 with apical hair band. S6 with dense brown apical hairs. S7 with apicolateral blade and apicolateral fringes of long simple hairs. Column of S8 with carinae, nearly hairless (Fig. 7b). Apical area of S8 circular. Volsella apically rounded. Gonostylus apically straight and hook-shaped (Fig. 7d). Gonostylus with dense brown hairs (Fig. 7d).

♀. Unknown.

Distribution. Only known from the type locality in Turkey.

Comment. The species morphologically most closely related to *Melitta singular*, namely *M. hispanica*, *M. japonica* and *M. udmurtica*, have relictual distributions. This group of species is distributed throughout the Palae-arctic region but with disjunct ranges (Michez & Eardley 2007). As far as known they are oligolectic on Fabaceae (Yasumatsu & Hirashima 1956; Celary 2000; Michez *et al.* 2008).

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APPENDIX 1. Updated world checklist of *Melitta*.

Species with one asterisk (*) are only known from the type locality while two asterisks (**) indicate that the species probably has a small range size. However, making statements about range sizes outside Europe and North America is difficult due to the lack of sampling. Information for Europe are mainly based on Warncke (1973), Ornosa & Ortiz-Sánchez (1998, 2004) and Michez & Eardley (2007).

- Melitta (Melitta) aegyptiaca* (Radoszkowski, 1891). North Africa
- Melitta (Melitta) changmuensis* Wu, 1988. China (Xizang)*
- Melitta (Melitta) leporina* (Panzer, 1799). Palaeartic
- Melitta (Melitta) maura* (Pérez, 1896). North Africa and Spain
- Melitta (Melitta) nigricans* Alfken, 1905. Europe
- Melitta (Melitta) schmiedeknechti* Friese, 1898. North Africa
- Melitta (Melitta) tricincta* Kirby, 1802. Europe
- Melitta (Cilissa) albida* Cockerell, 1935. Southern Africa
- Melitta (Cilissa) americana* Smith, 1853. North America
- Melitta (Cilissa) arrogans* Smith, 1879. Southern Africa
- Melitta (Cilissa) barbarae* Eardley, 2006. Southern Africa*
- Melitta (Cilissa) bicollaris* Warncke, 1973. Turkey**
- Melitta (Cilissa) budashkini* Radchenko & Ivanov **sp. nov.** Crimea*
- Melitta (Cilissa) budensis* (Mocsary, 1878). Western Palaeartic
- Melitta (Cilissa) californica* Viereck, 1909. California**
- Melitta (Cilissa) cameroni* (Cockerell, 1910). Himalaya**
- Melitta (Cilissa) danae* Eardley, 2006. Southern Africa
- Melitta (Cilissa) dimidiata* Morawitz, 1876. Western Palaeartic
- Melitta (Cilissa) eickworti* Snelling & Stage, 1995. North America
- Melitta (Cilissa) engeli* Michez **sp. nov.** Kyrgyzstan**
- Melitta (Cilissa) ezoana* Yasumatsu & Hirashima, 1956. Eastern Palaeartic
- Melitta (Cilissa) fulvescenta* Wu, 2000. Himalaya**
- Melitta (Cilissa) guichardi* Michez, 2007. Ethiopia*
- Melitta (Cilissa) haemorrhoidalis* (Fabricius, 1775). Europe
- Melitta (Cilissa) harrietae* (Bingham, 1897). Himalaya
- Melitta (Cilissa) heilungkiangensis* Wu, 1978. China (Heilongjiang)*
- Melitta (Cilissa) hispanica* Friese, 1900. Spain**
- Melitta (Cilissa) iberica* Warncke, 1973. Spain**
- Melitta (Cilissa) japonica* Yasumatsu & Hirashima, 1956. Japan and Russian Far-East
- Melitta (Cilissa) kastiliensis* Warncke, 1973. Spain**
- Melitta (Cilissa) katherinae* Eardley, 2006. Kenya**

Note: The description of *M. katherinae* is based on two males from the same locality. We found one additional male in the collection of the Californian Academy of Science [Kenya, Athi (02°58'S 38°31'E), 20.xi.1957, leg. Leech]

Melitta (Cilissa) latronis Cockerell, 1924. East-Siberia*
Melitta (Cilissa) magnifica Michez **sp. nov.** Mongolia**
Melitta (Cilissa) melittoides (Viereck, 1909). North America
Melitta (Cilissa) melanura (Nylander, 1852). Palaearctic
Melitta (Cilissa) mongolica Wu, 1978. China (Inner Mongolia)*
Melitta (Cilissa) montana Wu, 1993. China (Yunnan)*
Melitta (Cilissa) murciana Warncke, 1973. Spain**
Melitta (Cilissa) nigrabdominalis Wu, 1988. China (Hebei)*
Melitta (Cilissa) piersbakeri Engel, 2005. Afghanistan*
Melitta (Cilissa) rasmonti Michez, 2007. Turkey**
Melitta (Cilissa) schultzei Friese, 1909. Southern Africa
Melitta (Cilissa) seitzii Alfken, 1927. Spain**
Melitta (Cilissa) sibirica (Morawitz, 1888). Eastern Palaearctic
Melitta (Cilissa) singular Michez **sp. nov.** Turkey*
Melitta (Cilissa) tomentosa Friese, 1900. Istria**
Melitta (Cilissa) udmurtica Sitdikov, 1986. Western Palaearctic
Melitta (Cilissa) whiteheadi Eardley, 2006. Southern Africa*