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# Mutillidae (Hymenoptera) of the United Arab Emirates. Part 2. Genus *Dentilla* Lelej

# Осы-немки (Hymenoptera: Mutillidae) Объединенных Арабских Эмиратов. Часть 2. Род *Dentilla* Lelej

**A.S. Lelej[1], A. van Harten[2]**
**А.С. Лелей[1], А. ван Хартен[2]**

[1] Institute of Biology and Soil Science, Far Eastern Branch, Russian Academy of Sciences, Vladivostok 690022, Russia. E-mail: lelej@biosoil.ru

[2] UAE Insect Project, P.O. Box 63799, Sharjah, United Arab Emirates. E-mail: tonyvanharten@gmail.com

[1]Биолого-почвенный институт ДВО РАН, Владивосток 690022, Россия.

[2] Проект по изучению насекомых ОАЭ, п/я 63799, Шарджа, Объединенные Арабские Эмираты.

KEY WORDS: Mutillidae, mutillid wasps, *Dentilla*, new species, United Arab Emirates, Oman.

КЛЮЧЕВЫЕ СЛОВА: Mutillidae, осы-немки, *Dentilla*, новый вид, Объединенные Арабские Эмираты, Оман.

ABSTRACT. Three species of *Dentilla* are recorded in the fauna of the United Arab Emirates. *Dentilla rasnitsyni* Lelej, **sp.n.** from UAE and Oman is described and figured. *D. zarudnyi* Lelej is newly recorded from those countries. The third species, *Dentilla* sp. 1, is not described here since it is known only by females, and therefore can actually be conspecific to any of the two remaining ones that are known only by males.

РЕЗЮМЕ. Для фауны Объединенных Арабских Эмиратов указываются три вида *Dentilla*. Описывается *Dentilla rasnitsyni* Lelej, **sp.n.** из ОАЭ и Омана. *D. zarudnyi* Lelej указывается впервые для этих стран. Третий вид (*Dentilla* sp. 1), здесь не описывается, поскольку он известен только по самкам, и в действительности может быть идентичен одному из двух остальных видов, известных только по самцам.

## Introduction

The United Arab Emirates are located in the Eastern part of the Arabian Peninsula south and north of the Tropic of Cancer between the Persian Gulf and the Gulf of Oman. Most part of this country is occupied by the great desert Rub-al-Khali. Up to now, the mutillid fauna of the United Arab Emirates was unknown. The family Mutillidae was already recorded from this country [Tigar, Osborne, 1999]; however, no lower taxa were identified. The mutillid fauna of neighboring Iran contains 78 species that belong to 22 genera [Lelej, 2002; Lelej, Osten, 2004; Lelej et al., 2008]. Forty species belonging to 19 genera occur in Yemen [Lelej, van Harten, 2006], and only four and seven species are known from Oman and Saudi Arabia respectively. In 2005–2009 van Harten collected several thousand specimens of Mutillidae at different sites in the United Arab Emirates using different kinds of traps [van Harten, 2008]. The light traps were most successful for the collecting of mutillids, because the velvet ants are mainly nocturnal and crepuscular in the arid areas. We expect that number of mutillid species in the United Arab Emirates will be at least not less than that in Yemen, another country of the Arabian Peninsula. The first part of our research has been published recently [Lelej, van Harten, 2010]. We continue to study of the above mentioned material and therefore present the next part of our research below.

## Material and methods

Abbreviations of the collection names mentioned in this work: IBSS — Institute of Biology and Soil Science, Vladivostok, Russia; RMNH — National Museum of Natural History, Leiden, the Netherlands; SMNS — Staatliches Museum für Naturkunde, Stuttgart, Germany; ZISP — Zoological Institute, St. Petersburg, Russia.

This paper is mainly based on the material collected in the United Arab Emirates (590 specimens of the genus *Dentilla* Lelej, 1980). We also studied nine *Dentilla* specimens collected by T. Osten in 2003 in the neighboring Oman (deposited in SMNS) and one specimen from Oman deposited in Naturkunde Museum (Erfurt, Germany). The collections of Palaearctic Mutillidae housed in IBSS and ZISP were used for identification of the material.

We have used the following morphological abbreviations: T2, T3, etc. (the second, third, etc. metasomal

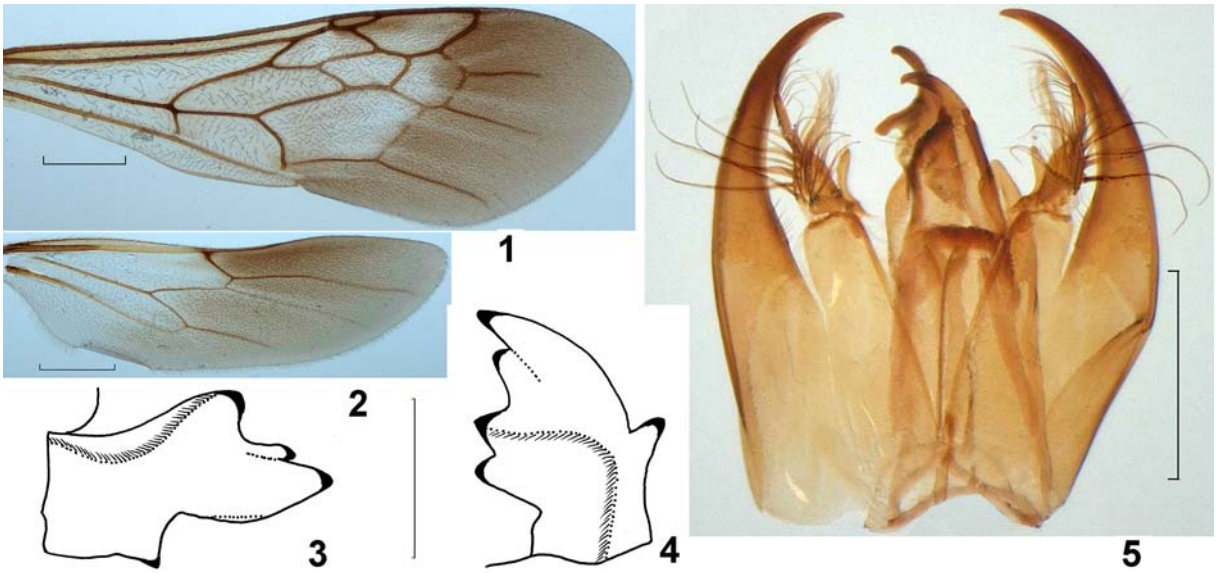


Fig. 1–5. *Dentilla rasnitsyni* **sp.n.**, male: 1 — fore wing; 2 — hind wing; 3 — mandible, frontal view; 4 — mandible, dorsal view; 5 — genitalia, ventral view. Scale bars: 1 mm for Figs 1 and 2; 0.5 mm for Figs 3–5.

Рис. 1–5. *Dentilla rasnitsyni* **sp.n.**, самец: 1 — переднее крыло; 2 — заднее крыло; 3 — мандибула спереди; 4 — мандибула сверху; 5 — гениталии снизу. Масштабные линейки: 1 мм для рис. 1 и 2; 0.5 мм для рис. 3–5.

terga), and S1, S2, S3, etc. (the first, second, third, etc. metasomal sterna); POD [postocellar (interocellar) distance, i.e. distance between posterior ocelli, which is measured from above], and OOD (oculo-ocellar distance, i.e. distance between posterior ocellus and compound eye, which is also measured from above). The abbreviations for the traps are: LT (light trap), MT (Malaise trap), WT (water trap). We also use the abbreviation AvH for A. van Harten, and NARC for National Avian Research Centre. New records of the species distribution are marked with an asterisk (*).

## Systematic part

### Sabfamily Mutillinae Latreille, 1802
### Tribe Smicromyrmini Bischoff, 1920
### Genus *Dentilla* Lelej in Lelej et Kabakov, 1980

*Dentilla* (as subgenus of *Smicromyrme* Thomson, 1870) Lelej in Lelej, Kabakov, 1980: 195 (♂, ♀); Lelej, 1985: 190 (♂, ♀); 2002: 51 (♂, ♀); Lelej, Osten, 2004: 255 (♂); Lelej, 2005: 39 (♂, ♀); Lelej, Brothers, 2008: 19 (♂, ♀). Type species: *Mutilla erronea* André, 1902, ♂, by original designation (junior subjective synonym of *Mutilla curtiventris* André, 1901, ♀, according to [Pagliano, Strumia, 2007]).

*Edrionotus* (partim): Radoszkowski, 1885: 33 (♂); Nagy, 1972: 4 (♀) (as subgenus of *Smicromyrme* Thomson, 1870).

*Ephutomma* (non Ashmead, 1899): André, 1900: 136 (♂ non ♀) (partim, as subgenus of *Mutilla* Linnaeus, 1758); 1902: 19 (♂ non ♀) (partim); Bischoff, 1920: 144 (♂ non ♀) (partim).

*Eremomyrme* (non Suárez, 1965): Invrea, 1965: 90.

NOTE. Species of this genus are diurnal and nocturnal. They are widespread in arid areas of the Palaearctic region (17 species), but a few penetrate the Oriental and Afrotropical regions. Most of the species are known only by males, although three species, *Dentilla curtiventris* (André, 1901), *D. erronea* (André, 1902), and *D. persica* (Sichel et Radoszkowski, 1869), are known by both sexes. In the United Arab Emirates, we have found males of another two species as well as females of the third species. However, the latter species is probably conspecific to any of the former two that are known only by males, and we therefore designate this species as *Dentilla* sp. 1.

### *Dentilla rasnitsyni* Lelej, **sp.n.**
Figs 1–5.

TYPE MATERIAL (171♂♂). Holotype, ♂, UNITED ARAB EMIRATES: Wadi Bih dam, 21–30.iv.2008, LT, leg. AvH [RMNH]. Paratypes. Fujairah, 1♂, 6.iv–2.v.2005, leg. AvH. Hatta, 1♂, 19–28.iii.2006, at light, leg. AvH ; 1♂, 8–26.iv.2006, at light, leg. AvH; 1♂, 24–30.vi.2006, at light, leg. AvH; 1♂, i–viii.2006, at light, leg. AvH. Sharjah-Khor Kalba, near tunnel, 15♂♂, 31.v–7.vi.2006, LT, leg. AvH; 14♂♂, 24–30.vi.2006, LT, leg. AvH. Sharjah Desert Park, 6♂♂, 20–21.iv.2006, LT, leg. M. Fibiger. NARC near Sweihan, 1♂, 16.xi–21.xii.2005, LT, leg. AvH. Wadi Bih dam, 4♂♂, 13–21.iv.2008, LT, leg. AvH; 2♂♂, 21–30.iv.2008, LT, leg. AvH; 4♂♂, 30.iv–4.vi.2008, LT, leg. AvH; 2♂♂, 4–9.vi.2008, LT, leg. AvH; 2♂♂, 9–18.vi.2008, LT, leg. AvH; 4♂♂, 18–24.vi.2008, LT, leg. AvH; 2♂♂, 24–29.vi.2008, LT, leg. AvH; 10♂♂, 9–23.vii.2008, LT, leg. AvH. Wadi Maidaq, 460 m, 37♂♂, 27.iv–4.v.2006, at light, leg. C. Gielis; 2♂♂, 17–24.v.2006, LT, leg. AvH; 1♂, 11–18.vi.2006, LT, leg. AvH; 3♂♂, 1–8.vii.2006, at light, leg. AvH. Wadi Wurayah, 5♂♂, 12–14.iv.2005, MT & WT, leg. AvH; 1♂, 8–15.iii.2009, LT, leg. AvH. Wadi Safad, 1♂, 6–13.v.2006, LT, leg. AvH; 31♂♂, 14–21.v.2006, LT, leg. AvH (paratypes from UAE are deposited in RMNH and IBSS). OMAN: 18 km S Qurayat, stone desert, 2♂♂, 4.xii.2003, LT, leg. T. Osten [SMNS]. 5 km SW Daghmar, stone desert, 1♂, 3.xii.2003, leg. T. Osten [IBSS]. 10 km S Nizwar, Wadi Al Ghul, 500 m, 1♂, 10–16.xii.2003, leg. T. Osten [IBSS]; same locality, 1♂, 10–11.xii.2003, leg. T. Osten [SMNS]. North Prov. Batinah, Al-Jabal al-Ahdar Mts., SE Rustaq, W Awabi, 430

m, Wadi Buni, 1♂, 19–20.xii.2009, leg. Lehmann, Bittener, Stadie [Naturkunde Museum, Erfurt].

DESCRIPTION. Male. Body length 7.2–12.0 mm. Head, mesosoma, T1 basally, S1 ferruginous red, metasoma ventrally and T7 brownish red; antenna ferruginous red with darker scape; mandible ferruginous red with dark brown denticles; palps paler than head; mid and hind spurs yellowish. Wings hyaline with brown veins, fore and hind wings (distalward of cells) distinctly infuscated. Body and legs clothed with subappressed short and scattered long erect pale setae, denser on T3–T6; metasomal segments 2–6 with apical whitish fringe; felt lines on T2 and S2 yellowish.

Head width 0.9–0.95 times mesosomal width including tegulae. Clypeus deeply concave with narrow median anterior process of equal length and width (anteriorly elevated with two tubercles) and short basal median carina, clypeal surface smooth. Scape distinctly bicarinate beneath, upper ridge visible basally, lower ridge lamellate. Ocelli large, POD : OOD 0.72–0.75; POD slightly less/more than maximum diameter of posterior ocellus; distance between posterior ocellus and posterior head margin equals OOD. Frons with deep longitudinal median furrow. Carina between antennal scrobe and eye well developed. Third antennal segment 1.6 longer its width, 2.5–2.6 longer than second one, and 0.55–0.60 times shorter than fourth one, latter segment 1.0–1.1 times as long as fifth one. Mandible quadridentate with strongly curved upper carina, with large tooth beneath carina and near base of mandible, its height less than minimum distance between emargination and upper mandibular carina, with large apical lobe beneath it (Figs 3, 4); all inner denticles more or less equal, basal denticle carinate ventrally, subbasal one with ventral tuft of hairs. Vertex and genae with dense punctures, frons with a few rugae.

Mesosoma with abrupt propodeum, pronotum 1.2 times wider than propodeum at level of spiracles. Scutum with well-developed parascutal carinae. Metasternal process with lateral denticle and median emargination. Posterior coxae medially carinate. Tegulae slightly protruded beyond scuto-scutellar suture, shining, glabrous, with a few anteromedial punctures and setae. Propodeum reticulate, its medio-dorsal longitudinal cell with two distinct posterior tubercles. Relative lengths of abscissae of radial vein 2.5 : 1.8 : 2.6 : 3.2 (in larger specimens) and 1.4 : 1.5 : 1.4 : 2.0 (in smaller specimens).

Metasomal segment 1 carinate beneath, its length less its maximal width; segment 2 with long lateral felt lines on tergum and very short ones on sternum; T2 with flattened disc, T2 in basal half with coarse elongate foveae mixed with longitudinal striae, in apical half with dense smaller punctures and smooth median line. T7 with straight posterior border, large dense punctures and indistinct median impunctate line. Genitalia as on Fig. 5. Volsella of genitalia with weak basal lobe and a few long setae; cuspis with subbasal tuft of setae as well as with apical setae; digitus curved, rod-like, setose; penial valva with strong apical and subapical teeth.

Female unknown.

DISTRIBUTION: United Arab Emirates, Oman.

HABITAT. This nocturnal species inhabits mountainous areas, i.e. stone deserts, and rarely occurs in the sandy deserts.

DIAGNOSIS. The male of the new species belongs to the *dichroa* species-group by having large ocelli and narrow median clypeal process but easily differs from those species [*D. dichroa* (Sichel et Radoszkowski, 1869), *D. irana* Lelej, 1985, and *D. beludzhistanica* Lelej, 1985] by having basal half of T2 with coarse elongate foveae mixed with longitudinal striae (at least dense but separate punctures in other species), darkened apical half of fore and hind wings (at least darkened apical spot of fore wing in other species).

ETYMOLOGY. This species is named after Alexandr Pavlovich Rasnitsyn, the world authority on Hymenoptera classification and evolution.

### *Dentilla zarudnyi* Lelej, 1985

*Dentilla zarudnyi* Lelej, 1985: 195 [holotype, ♂, "Керман, страна Саргад, Дузаб, 16–18.V.1901, Зарудный" (= "Kerman, Sargad country, Duzab, 16–18.V.1901, coll. Zarudny")] [East Iran] [ZISP, examined]; Lelej, 2002: 52 (♂); Lelej, Osten, 2004: 257 (♂).

EXAMINED MATERIAL (429♂♂): UNITED ARAB EMIRATES: Al-Ajban, 2♂♂,17.x–19.xi.2005, LT, leg. AvH; 2♂♂, 9.xi–7.xii.2005, LT+MT, leg. AvH; 1♂, 26.ii–27.iii.2006, LT, leg. AvH; 2♂♂, 19–26.v.2006, MT, leg. AvH; 3♂♂, 27.v–26.vi.2006, MT, leg. AvH. N of Ajman, 1♂, 26.v–5.vii.2008, WT, leg. AvH. Sharjah-Khor Kalba, near tunnel, 10♂♂, 31.v–7.vi.2006, LT, leg. AvH. Sharjah Desert Park, 5♂♂, 30.iv–31.v.2005, LT, leg. AvH; 1♂, 6–30.iv.2008, LT, leg. AvH. Wadi Bih dam, 213♂♂, 13–21.iv.2008, LT, leg. AvH; 4♂♂, 21–30.iv.2008, LT, leg. AvH; 19♂♂, 30.iv–4.vi.2008, LT, leg. AvH; 16♂♂, 4–9.vi.2008, LT, leg. AvH; 35♂♂, 9–18.vi.2008, LT, leg. AvH; 35♂♂, 18–24.vi.2008, LT, leg. AvH; 13♂♂, 24–29.vi.2008, LT, leg. AvH; 16♂♂, 29.vi–8.vii.2008, LT, leg. AvH; 19♂♂, 9–23.vii.2008, LT, leg. AvH. Wadi Maidaq, 460 m, 10♂♂, 27.iv–4.v.2006, at light, leg. C. Gielis. Wadi Safad, 16♂♂, 14–21.v.2006, LT, leg. AvH. Wadi Shawkah, 1♂, 25.v–12.vi.2008, WT, leg. AvH (material from UAE deposited in RMNH and IBSS). OMAN: 18 km S Qurayat, stone desert, 2♂♂, 4.xii.2003, LT, leg. T. Osten [SMNS]. 5 km SW Daghmar, stone desert, 1♂, 3.xii.2003, leg. T. Osten [SMNS]. Al Bagriya, near Wadi, 1♂, 17.xii.2003, LT, leg. T. Osten [SMNS]. 10 km S Al Qabil, stone desert, 1♂, 8.xii.2003, LT, leg. T. Osten [SMNS].

DISTRIBUTION: *United Arab Emirates, *Oman, Yemen, Iran, Afghanistan, Turkmenistan.

HABITAT. This nocturnal species inhabits mountainous areas, i.e. stone deserts, and rarely occurs in the sandy deserts.

### *Dentilla* sp. 1

EXAMINED MATERIAL: UNITED ARAB EMIRATES (3♀♀): Wadi Bih dam, 1♀, 30.v–5.vi.2007, LT, leg. AvH; 1♀, 30.iv–4.vi.2008, LT, leg. AvH. Ra's al Khaimah-Dibba, 1♀, 17–22.x.2009, WT, leg. AvH.

REMARK. Both *Dentilla* species which are known by males, have been collected with light traps in Wadi Bih dam, 30.iv–4.vi.2008, and we unable associate the females of *Dentilla* sp. 1 with any of them.

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