



On the 75th anniversary of Alexandr Pavlovich Rasnitsyn К 75-летию Александра Павловича Расницына

Alexandr Pavlovich Rasnitsyn was born on September 24th, 1936 in Moscow, USSR. He joined Moscow State University in 1955. In 1960, A.P. Rasnitsyn prepared a Master of Science thesis entitled «Hibernation of ichneumon flies of the subfamily Ichneumoninae» and graduated from the MSU Department of Entomology (that time lead by Prof. E.S. Smirnov) with a Master's degree in Biology (with honour). The same year he started to work at the Palaeontological Institute, Academy of Sciences of the USSR (now the Russian Academy of Sciences). Here, A.P. Rasnitsyn worked in the Arthropoda Laboratory led by Prof. Boris B. Rohdendorf, first as a technician, then as a junior researcher, a senior researcher, and finally as the Head of the Laboratory (1979 to 1996, and then since 2002 up to now) and Principal Researcher (1996–2002). He got his Doctor of Philosophy degree from the Institute in 1967 for the thesis entitled «Mesozoic Hymenoptera Symphyta and early evolution of Xyelidae». In 1978, A.P. Rasnitsyn received his Doctor of Science degree for the thesis entitled «Origin and evolution of Hymenoptera». A.P. Rasnitsyn got full professorship from the Palaeontological Institute in 1991. He has published about 300 papers, including 13 books, and raised eleven Doctors of Philosophy.

Photo by R.A. Rakitov

A.P. Rasnitsyn is one of the world's leading experts in palaeoentomology. His scientific interests are centered on palaeontology, phylogeny, and taxonomy of hymenopteran insects and of insects in general. He has discovered and described more than 300 taxa of fossil and extant insects, including a new superfamily and five families of extinct Hymenoptera. As an expert on extinct and extant Hymenoptera, A.P. Rasnitsyn has created the most successful phylogenetic reconstruction of the order. He also studies a number of more general biological problems such as evolutionary theory and principles of phylogenetics, taxonomy, and nomenclature.

During his more than twenty collecting seasons, A.P. Rasnitsyn visited many regions of the former Soviet Union, including Fergana, Issyk-Kul and other places in Central Asia, Transbaikalia, Taimyr, Okhotsk, Sikhote-Alin, and other remote localities in Siberia and in other parts of Russia, as well as various fossil sites in Mongolia, the UK, Germany, the USA, and Israel.

In addition to his permanent study and supervision of the collection of fossil insects at the Palaeontological Institute, A.P. Rasnitsyn has thoroughly investigated both living and fossil insects at various institutions in Russia and abroad, namely, in the Zoological Museum, Moscow State University and Zoological Institute, Russian Academy of Sciences, St. Petersburg (Russia,

1952-present); the Museum of the Earth (Warsaw), Wrocław University (Wrocław), and the Institute of Zoology (Kraków) (Poland, 1978–1988); Deutsches Entomologisches Institut (Eberswalde), Palaeontologisches Museum, Humboldt University (Berlin) and Universität Göttingen (Germany, 1983–1999); Zoological Museum, University of Copenhagen (Denmark, 2003); Biosystematic Research Centre, Agriculture Canada (Ottawa, Québec, Canada, 1988); Museum of Comparative Zoology, Harvard University (Cambridge, MA), Smithsonian Institution (Washington, DC), American Museum of Natural History (New York, NY), American Entomological Institute (Gainesville, FL), University of Kansas (Lawrence, KS), California Academy of Sciences (San Francisco, CA), etc. (USA, 1989–2008); Natural History Museum and Imperial College (London), Booth Museum of Natural History (Brighton) and the Maidstone Museum and Art Gallery (Maidstone) (UK, 1994–2006); Muséum national d'Histoire naturelle (Paris, France, 1998); Universitat de Barcelona (Barcelona, Spain, 1998); the University of the Witwatersrand, Johannesburg, and the University of KwaZulu-Natal, Pietermaritzburg (South Africa, 2001–2007); Nanjing Institute of Geology and Palaeontology (China, 2002–2010).

A.P. Rasnitsyn participated (often with plenary lectures) in the 13th and 18th International Entomological Congresses (Moscow, 1968; Vancouver, 1988), in the 1st, 2nd, 3rd and 6th Congresses of the International Society of Hymenopterists (Vancouver, 1988; Sheffield, 1991; Davis, 1995; Sun City, 2006), in the Conference on Major Arthropod Group Relationships (London, 1996), and in the 1st – 5th Palaeontological Congresses (Moscow, 1998; Kraków, 2001; Pretoria, 2005; Vitoria-Gasteiz, 2007; Beijing, 2010), 13th Entomological Congress of the Entomological Society of Southern Africa (Pietermaritzburg, 2001), the 1st and 2nd CIS Symposia on Hymenopterous Insects (Moscow, 2006; St. Petersburg, 2010), and in a few other meetings.

For a long time, A.P. Rasnitsyn was the President of the International Paleontological Society (2001–2005). He is the Vice President of the RAS Scientific Council on Palaeontology and a member of editorial boards of several scientific journals including the Russian Entomological Journal.

A.P. Rasnitsyn is the Honoured Scientist of the Russian Federation (2001) and the Honorary Member of the Russian Entomological Society (2004). He is a recipient of Hans Rausing Award (1st grade – 2003, 2nd grade – 2009) and of the Distinguished Research Medal of the International Society of Hymenopterists (2008).

Despite his numerous commitments, A.P. Rasnitsyn always has time for a friendly and warm discussion of

various research and more general items as well as for a highly qualified advice which are greatly appreciated by many of us. The Editorial Board of the Russian Entomological Journal congratulates Alexandr Pavlovich Rasnitsyn on his 75th anniversary and wishes him health, happiness and fruitful activities in all fields. We dedicate the present issue of the Journal to Prof. A.P. Rasnitsyn. This special issue contains a collection of papers on the order Hymenoptera prepared by just a few out of many more colleagues from Russia, Ukraine, Kazakhstan, the United States of America and the United Arab Emirates.

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S.A. Belokobylskij, V.E. Gokhman

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. Lelej¹, A. van Harten²
А.С. Лелей¹, А. ван Хартен²

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

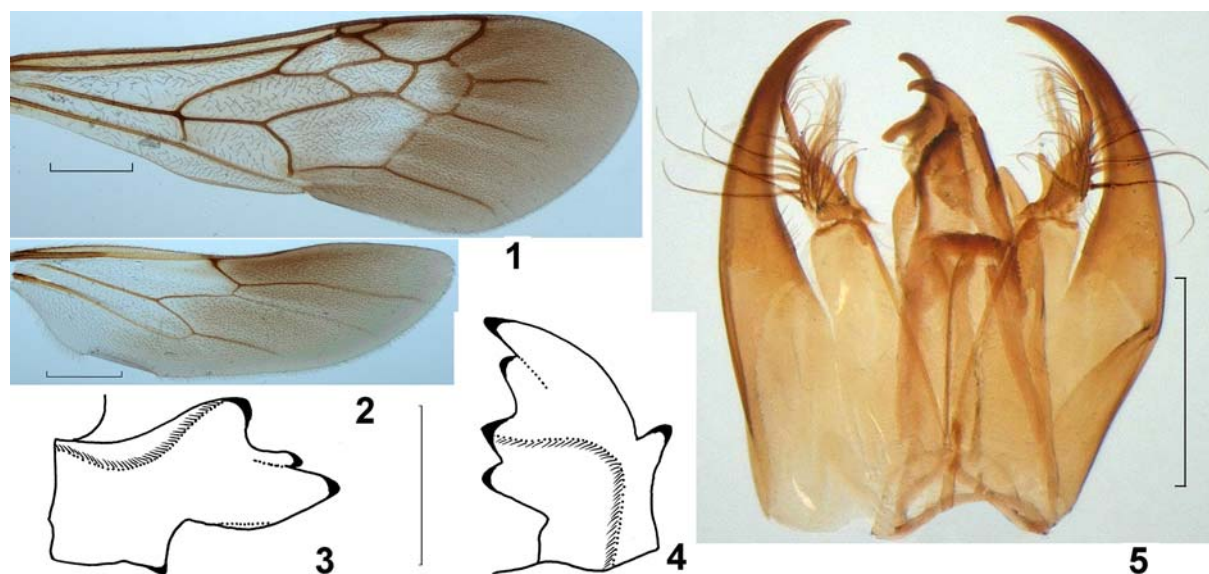


Fig. 1–5. *Dentilla rasnitsyni* sp.n., male: 1 — fore wing; 2 — hind wing; 3 — mandible, frontal view; 4 — mandible, dorsal view; 5 — genitalia, ventral view. Scale bars: 1 mm for Figs 1 and 2; 0.5 mm for Figs 3–5.

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 Dagmar, 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. beludzhanica* 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 Alexander 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 Madaq, 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.

ACKNOWLEDGEMENTS

We acknowledge the assistance of R. de Vries (National Museum of Natural History, Leiden) for sending of material collected in UAE; T. Osten (Staatliches Museum für Naturkunde in Stuttgart), F. Burger (Naturkunde Museum, Erfurt) for sending of material from Oman; V. Loktionov (FEB RAS Institute of Biology and Soil Science, Vladivostok) for his help with preparing photos of the new species.

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