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Velvet ants of the subfamily Myrmillinae (Hymenoptera: Mutillidae) of Pakistan

Осы-немки подсемейства Myrmillinae (Hymenoptera: Mutillidae) Пакистана

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КЛЮЧЕВЫЕ СЛОВА: Mutillidae, осы-немки, Myrmillinae, новый вид, новые указания, Пакистан.

ABSTRACT. Four species belonging to three genera of the subfamily Myrmillinae are recorded for the fauna of Pakistan. The genera *Bischoffitilla* Lelej, 2002 and *Spilomutilla* Ashmead, 1903 as well as species *B. afghanica* Lelej, 1980 and *Myrmilla* (*Pseudomutilla*) *lagmana* Lelej, 1980 are newly recorded for the regional fauna. *Spilomutilla trjapitzini* Lelej et Ovchinnikov, **sp.n.** is described and illustrated.

РЕЗЮМЕ. Для фауны Пакистана указываются четыре вида из трех родов подсемейства Myrmillinae. Роды *Bischoffitilla* Lelej, 2002 и *Spilomutilla* Ashmead, 1903, а также виды *B. afghanica* Lelej, 1980 и *Myrmilla* (*Pseudomutilla*) *lagmana* Lelej, 1980 указываются впервые для региональной фауны. Описан и проиллюстрирован *Spilomutilla trjapitzini* Lelej et Ovchinnikov, **sp.n.**

Introduction

Pakistan is located in South Asia between India in the East and Afghanistan and Iran in the West. Since Pakistan is situated near the Western boundary of the Oriental region, fauna of this country is an intermediate between the Palaearctic and Oriental regions. The fauna of the deserts and mountains of Pakistani Balochistan from the Afghan boundary to the Sulaiman Range (before the Indus River) has certain features of the Irano-Turanian region. The Oriental elements substantially increase eastwards of the Sulaiman Range. The mutillid fauna of Pakistan is poorly known. Until now, only 15 species of Mutillidae were known from this country [Lelej, 2005; Lelej et al., 2007]. Nevertheless, the mutillid fauna of a smaller territory of the neighboring Afghanistan in the Palaearctic region includes about 40 species [Lelej & Kabakov, 1980; Lelej, 2002]. The current paper is the first one based on the material collected by S.V. Ovchinnikov in Pakistan. Four species belonging to three genera of the subfamily Myrmillinae are listed in this paper. The holotype of the new species is deposited in the Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia (ZISP). The draft of this paper was prepared by S.V. Ovchinnikov before his tragic death in 2007; later on, ASL was able to identify the specimens which were deposited in ZISP and therefore to complete the paper.

Material and Methods

Names of the collections mentioned in this work are abbreviated as follows: IBSS — Institute of Biology and Soil Science, Vladivostok, Russia; NMNH — National Museum of Natural History, Smithsonian Institution, Washington, DC, USA; ZISP — Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia. Hundreds of specimens were collected by S.V. Ovchinnikov in the northern provinces of Pakistan in 2003–2005 (mainly using light traps). This material was sorted out by S.V. Ovchinnikov to 21 genera and 43 species. Some taxa later appeared to be new for the science or for the fauna of Pakistan. The detailed study of this material will be published elsewhere.

Systematic part

Subfamily Myrmillinae Bischoff, 1920

Genus *Bischoffitilla* Lelej, 2002

Bischoffitilla Lelej, 2002: 126. Type species: *Squamulotilla exilipunctata* Chen, 1957, by original designation.

Squamulotilla (non Bischoff, 1920): Mickel, 1933: 383; 1934: 99; 1935: 183; Chen, 1957: 140; Krombein, Lelej, 1999: 144.

Seventy-one species occur in the Oriental region [Lelej, 2005], but only *Bischoffitilla afghanica* (Lelej,

1980) penetrates to the Palaearctic region (Afghanistan). The latter species has also been discovered in North Pakistan. The genus is recorded for the first time for this country.

Bischoffitilla afghanica (Lelej, 1980)

Myrmilla (*Myrmilla*) *afghanica* Lelej, Kabakov, 1980: 182, ♀, holotype: Afghanistan, Laghman Prov., Shamakat, 30.iii.1972, Kabakov leg. [ZISP], examined.

Bischoffitilla afghanica: Lelej, 2002: 28; 2005: 23.

EXAMINED MATERIAL: PAKISTAN: Khyber Pakhtunkhwa, Peshawar, Forestry Campus of Agricultural University, 1 ♀, 14–26.08.2005, S. Ovchinnikov leg. [ZISP].

DISTRIBUTION: Afghanistan (Laghman, Nuristan), Pakistan (new record) (Khyber Pakhtunkhwa).

REMARKS: The female of this species is similar to that of *Bischoffitilla puerilis* (Cameron, 1897) (Sri Lanka, India: Karnataka) but differs by ratio of the distance between tubercles on the anterior border of the clypeus to that between the tubercles and mandible base (1.25 in *afghanica* and 1.0 in *puerilis*) as well as by larger pale spots on metasomal terga 1–3.

Genus *Spilomutilla* Ashmead, 1903

Spilomutilla Ashmead, 1903: 324. Type species: *Mutilla perfecta* Sichel et Radoszkowski, 1869, by original designation.

Seven species occur in the Oriental region, but only *Spilomutilla perfecta* (Sichel et Radoszkowski, 1869) penetrates to the Palaearctic region (South Iran) [Lelej, 2005]. Material on *Spilomutilla* collected in Pakistan belongs to a single species that appeared to be new for the science and is therefore described below. The genus is recorded for the first time from Pakistan.

Spilomutilla trjapitzini Lelej et Ovchinnikov, **sp.n.**
Fig. 1.

TYPE MATERIAL: Holotype, ♀, PAKISTAN: Punjab, near Dera Ghazi Khan vill., Indus River Valley, 20.vi.2003, S. Ovchinnikov leg. [ZISP].

DESCRIPTION. Female. Body length 6.7 mm. Head width 1.15 times maximum width of pronotum, distance behind eyes 0.8 times of eye length. Hypostomal bridge with well-developed posterior carina. Mandible as in other *Spilomutilla* species (see [Lelej, 2005], fig. 55). Clypeus with two strong anterior teeth. Length ratios of pedicel and flagellomeres 1–3 0.5:1.8:0.8:0.8. Median frontal groove weak. Length of mesosoma from anterior edge of pronotum to base of metasoma 1.35 width of mesosoma before propodeal spiracles. Mesosoma gradually broadened apically, the widest at propodeum, with acute posterior median tooth and five lateral teeth. Mid coxa without antero-lateral tubercle; hind coxa carinated mesally. Metasomal sternum 1 with basal median tubercle. Median longitudinal carina of metasomal sternum 2 weakly swollen postero-laterally, ends with tubercle. Metasomal tergum 6 with apically widened median smooth and shiny area. Metasomal sternum 6 with two basal lateral carinae and two preapical carinae.

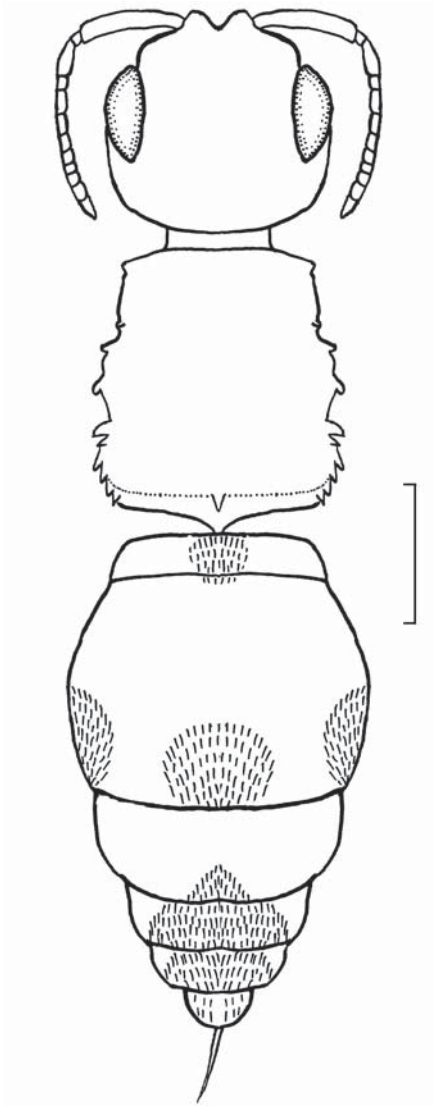

Fig. 1. *Spilomutilla trjapitzini* Lelej et Ovchinnikov, **sp.n.**, female, holotype, habitus, dorsal view. Scale bar 1 mm.

Рис. 1. *Spilomutilla trjapitzini* Lelej et Ovchinnikov, **sp.n.**, самка, голотип, габитус, вид сверху. Масштаб 1 мм.

Head almost black, reddish ventrally, with reddish spot on vertex. Mesosoma dark brown, dorsum and propodeum ferruginous red apically. Metasoma black, dark brown ventrally, tergum 6 dark brown. Metasomal tergum 1 dorsally with median whitish spot; tergum 2 with three whitish apical spots larger than that on tergum 1; tergum 3 with small median whitish spot, terga 4 and 5 with larger similar spots; tergum 6 with long reddish lateral setae.

MALE unknown.

DISTRIBUTION. Pakistan (Punjab).

DIAGNOSIS. Characters of the female of the new species correspond to couplet 5 of the key to *Spilomutilla* species [Lelej, 2005: 170] but the new species differs from *S. rothneyi* (Cameron, 1897) and *S. lanka* Lelej, 2005 by having median pale spot on metasomal

tergum 3 as well as by lack of developed antero-lateral tubercle on mid coxa.

ETYMOLOGY. The species is named after Vladimir Alexandrovich Trjapitzin, the world-class expert on chalcidoid wasps.

REMARKS. There is a possibility that the female of *Spilomutilla trjapitzini* **sp.n.** is the opposite sex of *S. perfecta* (Sichel et Radoszkowski, 1869) which is known by the male holotype from South Iran (Hormozgan or Sistan-e-Baluchestan).

Genus *Myrmilla* Wesmael, 1851

Myrmilla (as a subgenus of *Mutilla* Linnaeus, 1758) Wesmael, 1851: 365. Type species: *Mutilla distincta* Lepeletier, 1845 (=*Mutilla calva* Villers, 1789), designated by Ashmead, 1903: 324.

Rudia Costa, 1856: 7. Type species: *Rudia megacephala* Costa, 1858 (=*Mutilla erythrocephala* Latreille, 1792), designated by Bischoff, 1920: 54. Synonymized by André, 1902: 24.

Forty-six *Myrmilla* species occur in the Palaearctic region [Lelej, 2002], but only a few penetrate to the Afrotropical and Oriental regions. Two species of this genus are known from Pakistan.

Subgenus *Pseudomutilla* Costa, 1885

Pseudomutilla Costa, 1885: 169. Type species: *Pseudomutilla sardiniensis* Costa, 1885 (=*Mutilla capitata* Lucas, 1849), by monotypy.

Edrionotus Radoszkowski, 1885: 33. Type species: *Mutilla capitata* Lucas, 1849, designated by Ashmead, 1903: 332. Synonymized by André, 1902: 24.

Myrmilla (*Pseudomutilla*) *pakistanensis* Lelej, 2005

Myrmilla (*Pseudomutilla*) *pakistanensis* Lelej, 2005: 32, 165, holotype, ♀: "Pakistan, Makran Prov. [currently Balochistan], 23 mi E Turbat", 8–10.iii.1965, J. Neal leg. [NMNH], examined.

EXAMINED MATERIAL: PAKISTAN: Paratypes: Sindh, Miani Forest near Hyderabad, 2 ♀♀, 24.ix.1976, G. Hevel, & R. Dietz leg. [NMNH, IBSS].

DISTRIBUTION: Pakistan (Balochistan, Sindh) [Lelej, 2005].

Myrmilla (*Pseudomutilla*) *lagmana* Lelej, 1980

Myrmilla (*Pseudomutilla*) *lagmana* Lelej, Kabakov, 1980: 185, ♀, holotype: Afghanistan, Laghman Prov., Shamakat, NW Jalalabad, 10.iv.1972, Kabakov leg. [ZISP], examined; Lelej, 2002: 38, ♀.

EXAMINED MATERIAL: PAKISTAN: Balochistan, Ziarat–Multan Road, 50 km E Ziarat, 1 ♀, 7.viii.2005, 30°18′09″N, 68° 30′49″E, 1486 m, S. Ovchinnikov leg. [ZISP]. Paratypes of *M. lagmana*: AFGHANISTAN: Laghman, Shamakat, NW Jalalabad, 1 ♀, 2.iv.1972, Kabakov leg.; Laghman, Shamakat, secondary savannah, 1 ♀, 9.iv.1972, Kabakov leg.; Kabul, 1 ♀, 15.v.1970, Kabakov leg.; Nuristan, middle reach of Pich River, 1 ♀, 24.v.1971, Kabakov leg.

DISTRIBUTION: Afghanistan (Laghman, Nuristan), Pakistan (new record) (Balochistan).

REMARKS. The specimen from Pakistan had been recognized by SVO as a new species, but after a detailed study and comparison of the specimen with the holotype and paratypes of *P. lagmana* ASL concluded that the former specimen belonged to the same species.

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