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THE SPECIES-GROUP NAMES OF BEES (HYMENOPTERA: APOIDEA, APIFORMES) DESCRIBED FROM CRIMEA, NORTH CAUCASUS, EUROPEAN PART OF RUSSIA AND URAL. PART II. FAMILIES ANDRENIDAE AND MEGACHILIDAE

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An annotated list of 102 species-group names of bees from 14 genera of families Andrenidae and Megachilidae described by 14 authors from Crimea, North Caucasus, European part of Russia and Ural in 1848–2010 is given. Of them 45 species are valid. For each taxon the data about the types and their depository, current taxonomic status and distribution are given. Lectotypes are designated for 28 nominal taxa: *Andrena aberrans* Eversmann, 1852, *A. ambigua* Eversmann, 1852, *A. candens* Eversmann, 1852, *A. caspica* Morawitz, 1886, *A. consobrina* Eversmann, 1852, *A. derbentina* Morawitz, 1886, *A. erythrocnemis* Morawitz, 1871, *A. eversmanni ciscaspica* Popov, 1949, *A. fallax* Eversmann, 1852, *A. figurata* Morawitz, 1866, *A. floricola* Eversmann, 1852, *A. fulvitarsis* Eversmann, 1852, *A. gravida* Eversmann, 1852, *A. limbata* Eversmann, 1852, *A. nigrifrons* Eversmann, 1852, *A. nobilis* Morawitz, 1874, *A. quadricincta* Eversmann, 1852, *A. scabrosa* Morawitz, 1866, *A. scita* Eversmann, 1852, *A. senilis* Eversmann, 1852, *A. xanthothorax* Eversmann, 1852, *Anthidium pubescens* Morawitz, 1872, *Osmia grandis* Morawitz, 1872, *O. solskyi* Morawitz, 1870, *Protosmia tauricola* Popov, 1961, *Stelis aberrans* Eversmann, 1852, *S. phaeoptera meridionalis* Popov, 1933, *S. scutellaris inamoena* Popov, 1933.

KEY WORDS. Bees, Apiformes, fauna, taxonomy, Palaearctic Region.

М. Ю. Прощалыкин¹⁾, Ю. В. Астафурова²⁾, А.З. Осычнюк. Таксоны пчёл (Hymenoptera: Apoidea, Apiformes), описанные из Крыма, Северного Кавказа, европейской части России и Урала. Часть II. Семейства Andrenidae и Megachilidae // Дальневосточный энтомолог. 2017. N 328. С. 1-34.

Приведен аннотированный список 102 названий видовой группы пчел из 14 родов семейств Andrenidae и Megachilidae, описанных 14 авторами из Крыма, Северного Кавказа, европейской части России и Урала в 1848–2010 гг. Из них 45 видов являются валидными. Для каждого таксона даны сведения о типе и месте его хранения, современном таксономическом положении и распространении. Обозначены лектотипы для 28 таксонов: *Andrena aberrans* Eversmann, 1852, *A. ambigua* Eversmann, 1852, *A. candens* Eversmann, 1852, *A. caspica* Morawitz, 1886, *A. consobrina* Eversmann, 1852, *A. derbentina* Morawitz, 1886, *A. erythrocnemis* Morawitz, 1871, *A. eversmanni ciscaspica* Popov, 1949, *A. fallax* Eversmann, 1852, *A. figurata* Morawitz, 1866, *A. floricola* Eversmann, 1852, *A. fulvitarsis* Eversmann, 1852, *A. gravida* Eversmann, 1852, *A. limbata* Eversmann, 1852, *A. nigrifrons* Eversmann, 1852, *A. nobilis* Morawitz, 1874, *A. quadricincta* Eversmann, 1852, *A. scabrosa* Morawitz, 1866, *A. scita* Eversmann, 1852, *A. senilis* Eversmann, 1852, *A. xanthothorax* Eversmann, 1852, *Anthidium pubescens* Morawitz, 1872, *Osmia grandis* Morawitz, 1872, *O. solskyi* Morawitz, 1870, *Protosmia tauricola* Popov, 1961, *Stelis aberrans* Eversmann, 1852, *S. phaeoptera meridionalis* Popov, 1933, *S. scutellaris inamoena* Popov, 1933.

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INTRODUCTION

This paper continues the study of the bees described from Russia (Proshchalykin & Lelej, 2013; Proshchalykin, 2014a, b; Proshchalykin & Astafurova, 2016). The goal of the present paper is to review of the bees of families Andrenidae and Megachilidae described from European part of Russia including Crimea, North Caucasus, and Ural.

During 163 years (1848–2010) of extensive work by 14 entomologists 102 nominal names have been proposed for 45 species of bees of families Andrenidae and Megachilidae from Crimea, North Caucasus, European part of Russia and Ural. Most taxa have been described by E. Eversmann (47 species/14 of them are valid), F. Morawitz (25/15), A. Osyshnjuk (9/7) and O. Radoszkowski (8/3).

The main part of the Eversmann's collection of insects, including bees, was bought by the Russian Entomological Society and now is deposited at the Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia [ZISP] (Pesenko & Astafurova, 2003), but some specimens, including types are also storage in the Institute of Systematic and Experimental Zoology, Polish Academy of Sciences, Krakow, Poland [IZKP] (Popov, 1960).

The Radoszkowski's collection was donated by his wife in 1898 to the Poznan Society of Friends of Sciences. 600 «duplicates of types» from this collection were

given through exchange to the Zoological Museum of the Berlin University in 1899. The rest, together with the library and manuscripts passed in 1902, also through exchange, to the Polish Academy of Learning in Krakow, and currently is located at the IZKP (Pesenko & Astafurova, 2003).

The basis of F. Morawitz's investigations were the specimens collected himself in the environs of St. Petersburg and during the trips to Crimea, Caucasus, Transcaucasia, Germany, France, Switzerland, Italy, and Austria. Also F. Morawitz identified all bees and most part of other aculeates collected by the members of the well known expeditions of A. Fedtschenko, N. Przhewalski, G. Potanin, as well as from the collections of N. Glazunov, P. Varentsov and many other Russian entomologists. His excellent collection (over 10,000 specimens, mostly identified bees from Russia and neighbouring countries) is the base of bee collection of the ZISP (Pesenko & Astafurova, 2003).

All types of *Andrena* described by F. Morawitz and E. Eversmann, in ZISP were labelled as "lectotype" or "paralectotype" by A. Osytshnjuk in 1980 (or as "holotype" and "paratype" for all species described by V. Popov and A. Osytshnjuk). The lectotype designations by A. Osytshnjuk mostly did not publish, because of her tragical death in 1998. We validate these designations here.

Acronyms for the collections where specimens are deposited as follows: IZKP – Institute of Systematic and Experimental Zoology, Polish Academy of Sciences, Krakow, Poland; IZKU – I.I. Schmalgausen Institute of Zoology of National Academy of Sciences of Ukraine, Kiev, Ukraine; MNHU – Museum für Naturkunde an der Humboldt Universität zu Berlin, Germany; MTD – Museum für Tierkunde, Dresden, Germany; NHRS – Swedish Museum of Natural History, Stockholm, Sweden; NMW – Naturhistorisches Museum, Vienna, Austria; OOLM – Oberosterreichisches Landesmuseum, Linz, Austria; ZISP – Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia; ZMMU – Zoological Museum of Moscow University, Moscow, Russia. The classification of bees follows Michener (2007). If the nominal taxa are synonymised, the distribution is given for valid taxa.

LIST OF SPECIES

Family Andrenidae Subfamily Andreninae

Andrena aberrans Eversmann, 1852

Andrena aberrans Eversmann, 1852: 15, ♂ (lectotype: ♂, designated here, gold circle // Sarepta [Volgograd] // *aberrans* Evsm. // к. Эверсмана [coll. Eversmann] // lectotypus *Andrena aberrans* Eversm., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Volgograd Prov.; Europe (Osytshnjuk, 1977).

REMARK. The species was described from the males collected in "ad Volgam inferiorem". There is only one male in ZISP from this locality, which corresponds to the original description of Eversmann. This specimen is designated here as a lectotype of *Andrena aberrans* (Fig. 1).

***Andrena ambigua* Eversmann, 1852**

Andrena ambigua Eversmann, 1852 (nec Perkins, 1895): 16, ♀, ♂ (lectotype: ♂, designated here, “Spask [Spasskoe, Orenburg Prov.], Jun.”// lectotypus *Andrena ambigua* Eversm., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. A junior synonym of *Andrena tibialis* (Kirby, 1802) (Gusenleitner & Schwarz, 2002: 761).



Figs 1–20. Labels of the lectotypes designated in this paper. 1 – *Andrena aberrans* Eversmann; 2 – *A. ambigua* Eversmann; 3 – *A. candens* Eversmann; 4 – *A. caspica* Morawitz; 5 – *A. consobrina* Eversmann; 6 – *A. erythrocnemis* Morawitz; 7 – *A. eversmanni ciscaspica* Popov; 8 – *A. fallax* Eversmann; 9 – *A. figurata* Morawitz; 10 – *A. floricola* Eversmann; 11 – *A. fulvitarsis* Eversmann; 12 – *A. gravida* Eversmann; 13 – *A. limbata* Eversmann; 14 – *A. nigrifrons* Eversmann; 15 – *A. quadricincta* Eversmann; 16 – *A. nobilis* Morawitz; 17 – *A. senilis* Eversmann; 18 – *A. scita* Eversmann; 19 – *A. scabrosa* Morawitz; 20 – *A. xanthothorax* Eversmann.

DISTRIBUTION. Russia: European part (north to Leningradskaya Prov.), Ural, South Siberia, south of Far East; Europe (north to Norway and Finland), Caucasus, Iran, North Kazakhstan, North China (Popov, 1958; Osytshnjuk, 1977).

REMARK. The species was described from the specimens of both sexes collected in “in promontorii Uralensibus australibus”. There are two specimens (female and male) in ZISP from this locality, which corresponds to the original description of Eversmann. One of this specimens (male) is designated here as a lectotype of *Andrena ambigua* (Fig. 2).

***Andrena brevitarsis* Eversmann, 1852**

Andrena brevitarsis Eversmann, 1852: 18, ♀, ♂ (lectotype: ♀, designated by Astafurova & Pesenko, 2005: 12, “Spask” [Spasskoe, Orenburg Prov.], ZISP).

CURRENT STATUS. A junior synonym of *Nomiapis femoralis* (Pallas, 1773) (Warncke, 1976: 111).

DISTRIBUTION. Russia: North Caucasus, European part (north to Ryazan Prov. and Kirov Prov.), Ural, South Siberia (east to Buryatia Rep.); Europe, Kazakhstan, Central Asia, North Mongolia, China (Xinjiang) (Astafurova, 2014).

***Andrena campestris* Eversmann, 1852**

Andrena campestris Eversmann, 1852: 20, ♀, ♂ (lectotype: ♀, designated by Pesenko, 1986: 137, “Spask” [Spasskoe, Orenburg Prov.], coll. Eversmann, ZISP).

CURRENT STATUS. A senior synonym of *Lasioglossum costulatum* (Kriechbaumer, 1873) (Pesenko, 1986: 137).

DISTRIBUTION. Russia: European part, southern Ural, southern Siberia (east to Baikal Lake); Europe, Caucasus, Near East, Asia Minor, Iran, Central Asia, North Africa (Pesenko, 1986, 2007).

***Andrena candens* Eversmann, 1852**

Andrena candens Eversmann, 1852: 24, ♀, ♂ (lectotype: ♂, designated here, “Spask [Spasskoe, Orenburg Prov.], Jun.”// lectotypus *Andrena candens* Eversmann, design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. A junior synonym of *Andrena combinata* (Christ, 1791) (Gusenleitner & Schwarz, 2002: 193).

DISTRIBUTION. Russia: European part, South Ural, Siberia, Far East; Europe, Israel, Turkey, Caucasus, Central Asia, Mongolia, North-Eastern China, North Africa (Gusenleitner & Schwarz, 2002; Proshchalykin, 2012)

REMARK. The species was described from the specimens of both sexes collected in “in promontorii Uralensibus australibus”. There are two specimens (female and male) in ZISP from this locality, which corresponds to the original description of Eversmann. One of this specimens (male) is designated here as a lectotype of *Andrena candens* (Fig. 3).

***Andrena caspica* Morawitz, 1886**

Andrena caspica Morawitz, 1886: 67, ♀ (lectotype: ♀, designated here, Derbent [Dagestan Rep.] // *caspica* Morawitz [handwritten by F. Morawitz] // к. Ф. Моравица [coll. F. Morawitz] // lectotypus *Andrena caspica* Mor., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Dagestan Rep.; Greece, Cyprus, Turkey, Lebanon (Gusenleitner & Schwarz, 2002).

REMARK. The species was described from the females collected in “bei Derbent gefunden”. There are two females in ZISP from this locality, which corresponds to the original description of Morawitz. One of this females is designated here as a lectotype of *Andrena caspica* (Fig. 4).

***Andrena cinerascens* Eversmann, 1852**

Andrena cinerascens Eversmann, 1852 (nec Nylander, 1848): 24, ♀, ♂ (syntypes: ♀♀, ♂♂: “in provincia Orenburgensi et in terris transuralsibus”, [Russia], IZKP[?]).

CURRENT STATUS. A junior synonym of *Andrena flavipes* Panzer, 1799 (Dalla Torre & Friese, 1895: 44).

DISTRIBUTION. Russia: European part, South Ural; Europe, Caucasus, Near East, Asia Minor, Iran, Afghanistan, Central Asia, North Africa (Osytshnjuk, 1977; Gusenleitner & Schwarz, 2002).

REMARK. There are three specimens (1 ♀, 2 ♂) in ZISP, which have label “*cinerascens*” handwritten by Eversmann, but none of them corresponds to the original description of *Andrena cinerascens* Eversmann, 1852 (=*A. flavipes* Panzer, 1799).

***Andrena comta* Eversmann, 1852**

Andrena comta Eversmann, 1852 (*compta* Eversmann sensu auct.): 12, ♀, ♂ (lectotype: ♀, designated by Osytshnjuk *et al.*, 2008: 214, “Orb.” [Orenburg], ZISP).

Andrena orenburgensis Schmiedeknecht, 1884: 831, nom. nov. for *A. compta* Eversmann, 1852. Synonymized by Gusenleitner & Schwarz, 2002: 197.

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: European part, south Ural, South Siberia, Far East; Central and East Europe, Kazakhstan, Mongolia, China, Japan (Osytshnjuk *et al.*, 2008).

***Andrena consobrina* Eversmann, 1852**

Andrena consobrina Eversmann, 1852: 30, ♀, ♂ (lectotype: ♀, designated here, gold circle // Inderk [Orenburg Prov.] // *Andrena consobrina* Eversm. β // к. Эверсманна [coll. Eversmann] // lectotypus *Andrena consobrina* Eversm., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. A junior synonym of *Andrena bimaculata* (Kirby, 1802) (Warncke, 1965: 245).

DISTRIBUTION. Russia: European part, South Ural, Irkutsk Prov.; Europe, Caucasus, Asia Minor, Iraq, Iran, Central Asia, Mongolia, North Africa (Osytshnjuk, 1977; Guseinleitner & Schwarz, 2002).

REMARK. The species was described from the specimens of both sexes collected in “in prov. Orenburgensi australiore, circa Indersk”. There are two specimens (female and male) in ZISP from this locality, which corresponds to the original description of Eversmann. One of this specimens (female) is designated here as a lectotype of *Andrena consobrina* (Fig. 5).

***Andrena dagestanica* Radoszkowski, 1867**

Andrena dagestanica Radoszkowski, 1867: 76, ♀, ♂ (syntypes: ♀♀, ♂♂, “Daghestan; les bords de la mer Caspiennè”, IZKP).

CURRENT STATUS. A junior synonym of *Andrena fuscosa* Erichson, 1835 (Warncke, 1967: 265).

DISTRIBUTION. Russia: Crimea Rep., Dagestan Rep.; South Europe, Caucasus, Turkey, Israel, Iran, Afghanistan, Kazakhstan, Central Asia, North Africa, North India (Osytshnjuk *et al.*, 2008).

***Andrena dentiventris* Morawitz, 1874**

Andrena dentiventris Morawitz, 1874: 160, ♂ (holotype: ♂, Curusch [Dagestan Rep.], ZISP).

CURRENT STATUS. Valid (Guseinleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Stavropol Terr., Dagestan Rep.; Caucasus, Turkey, Iran, Kazakhstan, Central Asia (Popov, 1958; Guseinleitner & Schwarz, 2002).

***Andrena derbentina* Morawitz, 1886**

Andrena derbentina Morawitz, 1886: 63, ♀, ♂ (lectotype: ♀, designated here, Derbent // *derbentina* Mor., ♀ [handwritten by F. Morawitz] // к. Ф. Моравица [coll. F. Morawitz] // lectotypus *Andrena derbentina* Mor., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. Valid (Guseinleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Dagestan Rep.; Azerbaijan (Guseinleitner & Schwarz, 2002).

REMARK. The species was described from the specimens of both sexes collected in “Derbent, Helenendorf und Talysch-Lirik gesammelt”. There are three specimens (2 ♀ and 1 ♂) in ZISP from this locality, which corresponds to the original description of Morawitz. One of this specimens (female) is designated here as a lectotype of *Andrena derbentina* (Fig. 21).

***Andrena erythrocnemis* Morawitz, 1871**

Andrena erythrocnemis Morawitz, 1871: 322, ♀, ♂ (lectotype: ♂, desidnated here, gold circle // Saratow // *erythrocnemis* Mor., ♂, Typ. [handwritten by F. Morawitz] // lectotypus *Andrena erythrocnemis* Mor., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. A junior synonym of *Andrena chrysosceles* (Kirby, 1802) (Gusenleitner & Schwarz, 2002: 130).

DISTRIBUTION. Russia: European part (east to Bashkortostan Rep.); Europe, Caucasus, Kazakhstan (Osytshnjuk, 1977; Gusenleitner & Schwarz, 2002).

REMARK. The species was described from the specimens of both sexes collected in "Gubernio Saratov: Sarepta". There are two specimens (female and male) in ZISP from this locality, which corresponds to the original description of Morawitz. One of this specimens (male) is designated here as a lectotype of *Andrena erythrocnemis* (Fig. 6).

Andrena eversmanni ciscaspica Popov, 1949

Andrena eversmanni ciscaspica Popov, 1949: 390, ♀, ♂ (lectotype: ♀, designated here, Zimnyaya Stavka, lower Kuma River, Stavr. [Stavropol Terr.], Uvarov, 27.VI.[1]911 // *Andrena eversmanni* ssp. *ciscaspica* nov., Typ., Popov 1936 det. // lectotypus *Andrena eversmanni ciscaspica* Popov, design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. A junior synonym of *Andrena eversmanni* Radoszkowski, 1867 (Gusenleitner & Schwarz, 2002: 257).

DISTRIBUTION. Russia: North Caucasus; Azerbaijan, Kazakhstan (Popov, 1949; Gusenleitner & Schwarz, 2002).

REMARK. The subspecies was described from the specimens of both sexes collected in "Russia: Stavropol Terr., Zimnyaya Stavka; Groznenskaya Prov., Aleksandrovskaya st.; Azerbaijan: Dzhafarkhan". There are four specimens (males) in ZISP from this locality, which corresponds to the original description of Popov. One of this males is designated here as a lectotype of *Andrena eversmanni ciscaspica* (Fig. 7).

Andrena fallax Eversmann, 1852

Andrena fallax Eversmann, 1852: 20, ♀, ♂ (lectotype: ♂, designated here, *fallax* Ev., ♂ [handwritten by Eversmann] // lectotypus *Andrena fallax* Eversm., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. A junior synonym of *Andrena chrysosceles* (Kirby, 1802) (Warncke, 1967: 269).

DISTRIBUTION. See *Andrena erythrocnemis*.

REMARK. The species was described from the specimens of both sexes collected in "in promontoriis Uralensibus australibus". There is only one male in ZISP from Eversmann collection, which corresponds to the original description. This male is designated here as a lectotype of *Andrena fallax* (Fig. 8).

Andrena figurata Morawitz, 1866

Andrena figurata Morawitz, 1866: 10, ♀ (lectotype: ♀, designated here, Sarepta [Volgograd] // *Andrena figurata* F. Morawitz [handwritten by F. Morawitz] // к. Ф. Моравица [coll. F. Morawitz] // lectotypus *Andrena figurata* Mor., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: south of European part (east to Bashkortostan Rep.); South Europe (west to Italy), Cyprus, Caucasus, Turkey, Kazakhstan, Central Asia (Osytshnjuk, 1977; Guseleinert & Schwarz, 2002).

REMARK. The species was described from the females collected in “Saratov prov.” [now Saratov Prov. and parts of Volgograd Prov., and Penza Prov.]. There are three females in ZISP from this locality, which corresponds to the original description of Morawitz. One of this females is designated here as a lectotype of *Andrena figurata* (Fig. 9).

***Andrena floricola* Eversmann, 1852**

Andrena floricola Eversmann, 1852: 22, ♀, ♂ (lectotype: ♀, designated here, gold circle // “Serg.” [Sergievsk, Samara Prov.] // *floricola* Ever., ♀ [handwritten by Eversmann] // κ. Эверсманна [coll. Eversmann] // lectotypus *Andrena floricola* Eversm., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. Valid (Guseleinert & Schwarz, 2002).

DISTRIBUTION. Russia: south of European part, South Ural; Europe, Caucasus, Turkey (Osytshnjuk, 1977; Guseleinert & Schwarz, 2002).

REMARK. The species was described from the specimens of both sexes collected in “in promont. Uralensibus”. There are seven females in ZISP from this locality, which corresponds to the original description of Eversmann. One of this females is designated here as a lectotype of *Andrena floricola* (Fig. 10).

***Andrena florivaga* Eversmann, 1852**

Andrena florivaga Eversmann, 1852: 23, ♀, ♂ (lectotype: ♀, designated by Osytshnjuk et al., 2008: 153, Spask [Spasskoe, Orenburg Prov.], ZISP).

CURRENT STATUS. Valid (Guseleinert & Schwarz, 2002).

DISTRIBUTION. Russia: south of European part, Ural; South Europe, Ukraine, Caucasus, Turkey, Kazakhstan (Osytshnjuk, 1977; Osytshnjuk et al., 2008).

***Andrena fulva* Eversmann, 1852**

Andrena fulva Eversmann, 1852 (nec Müller, 1766, nec Schrank, 1781): 31, ♀, ♂ (lectotype: ♀, designated by Osytshnjuk, 1994a: 35, “Orb.” [Orenburg], ZISP).

Andrena eversmanniana Osytshnjuk, 1994a: 35, nom. nov. for *Andrena fulva* Eversmann, 1852.

CURRENT STATUS. A junior synonym of *Andrena marginata* Fabricius, 1776 (Warncke, 1967: 273).

DISTRIBUTION. Russia: European part (north to Leningradskaya Prov.), Ural, Siberia; Europe, Caucasus, Turkey (Osytshnjuk, 1977; Guseleinert & Schwarz, 2002).

***Andrena fulvitarsis* Eversmann, 1852**

Andrena fulvitarsis Eversmann, 1852: 14, ♀, ♂ (lectotype: ♀, designated here, Sarepta [Volgograd] // *fulvitarsis* Ever. [handwritten by Eversmann] // lectotypus *Andrena fulvitarsis* Eversm., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. A junior synonym of *Andrena tibialis* (Kirby, 1802) (Gusenleitner & Schwarz, 2002: 761).

DISTRIBUTION. Russia: European part (north to Leningradskaya Prov.), Ural, south Siberia, south of Far East; Europe (north to Norway and Finland), Caucasus, Iran, North Kazakhstan, North China (Popov, 1958; Osytshnjuk, 1977).

REMARK. The species was described from the specimens of both sexes collected in “ad Volgam inferiorem”. There is only one female in ZISP from this locality, which corresponds to the original description of Eversmann. This female is designated here as a lectotype of *Andrena fulvitarsis* (Fig. 11).

***Andrena gallica taurica* Bischoff, 1922**

Andrena gallica taurica Bischoff, 1922: 289, ♀, ♂ (syntypes: 2 ♀, 1 ♂, “zwei von der Krim (sämtlich erste Generation)“ [Crimea Rep., Russia], ZMHB).

CURRENT STATUS. A junior synonym of *Andrena gallica* Schmiedeknecht, 1883 (Hedicke, 1933: 202).

DISTRIBUTION. Russia: south European part, South Siberia (east to Baikal Lake); South and Central Europe, Caucasus (Osytshnjuk *et al.*, 2008).

***Andrena gracilis* Eversmann, 1852**

Andrena gracilis Eversmann, 1852: 25, ♀, ♂ (lectotype: ♂, designated by Osytshnjuk *et al.*, 2005: 142, “Spask” [Spasskoe, Orenburg Prov.], ZISP).

CURRENT STATUS. A junior synonym of *Andrena incisa* Eversmann, 1852 (Gusenleitner & Schwarz, 2002: 363).

DISTRIBUTION. Russia: European part, South Ural; Europe, Caucasus, Turkey, North Africa (Gusenleitner & Schwarz, 2002; Osytshnjuk *et al.*, 2005).

***Andrena gravida* Eversmann, 1852**

Andrena gravida Eversmann, 1852: 28, ♀, ♂ (lectotype: ♀, designated here, gold circle // “Orb.” [Orenburg] // *gravida* nob., ♀ [handwritten by Eversmann] // lectotypus *Andrena gravida* Eversm., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. A junior synonym of *Andrena hattorfiana* (Fabricius, 1775) (Warncke, 1967: 275).

DISTRIBUTION. Russia: European part, South Ural; Europe, Caucasus, Turkey, North Africa (Gusenleitner & Schwarz, 2002; Osytshnjuk *et al.*, 2005).

REMARK. The species was described from the specimens of both sexes collected in “in prov. Orenburg. australiori”. There is only one female in ZISP from this locality, which corresponds to the original description of Eversmann. This female is designated here as a lectotype of *Andrena gravida* (Fig. 12).

***Andrena hirticeps* Eversmann, 1852**

Andrena hirticeps Eversmann, 1852: 17, ♂ (syntypes: ♂♂, “in provincia Orenburgensi” [Orenburg Prov., Russia], IZKP[?]).

CURRENT STATUS. A junior synonym of *Andrena ovatula* (Kirby, 1802) (Warncke, 1967: 277).

DISTRIBUTION. Russia: European part, South Ural, Siberia, Far East; Caucasus, Turkey, Israel, Iran, Afghanistan, Central Asia, China, North Africa (Osytshnjuk, 1977; Guseleinert & Schwarz, 2002).

REMARK. The syntypes of this species are not found in ZISP.

***Andrena incisa* Eversmann, 1852**

Andrena incisa Eversmann, 1852: 24, ♀, ♂ (lectotype: ♀, designated by Osytshnjuk et al., 2005: 142, “Spask” [Spasskoe, Orenburg Prov.], ZISP).

CURRENT STATUS. Valid (Guseleinert & Schwarz, 2002).

DISTRIBUTION. Russia: Volgograd Prov., Orenburg Prov., Khakassia Rep., Krasnoyarsk Terr.; South and Central Europe, Armenia, Azerbaijan, Georgia, Turkey, Kazakhstan, Tajikistan, Kyrgyzstan (Osytshnjuk et al., 2005).

***Andrena intermedia* Morawitz, 1871**

Andrena intermedia Morawitz, 1871 (nec Thomson, 1870): 322, ♀ (syntypes: ♀♀, Kasan, Irkutsk [Russia], IZKP[?]).

CURRENT STATUS. A junior synonym of *Andrena bimaculata* (Kirby, 1802) (Guseleinert & Schwarz, 2002: 130).

DISTRIBUTION. See *Andrena consobrina*.

REMARK. The syntypes of this species are not found in ZISP.

***Andrena interrupta* Eversmann, 1852**

Andrena interrupta Eversmann, 1852: 23, ♀, ♂ (syntypes: ♀♀, ♂♂, “in provincia Orenburgensi”, [Orenburg Prov., Russia], IZKP[?]).

CURRENT STATUS. A junior synonym of *Andrena ovatula* (Kirby, 1802) (Warncke, 1967: 279).

DISTRIBUTION. See *Andrena hirticeps*.

REMARK. There is one female in ZISP, which have label “*interrupta*” handwritten by Eversmann, but not correspond to the original description of *Andrena interrupta* Eversmann, 1852 [=*A. ovatula* (Kirby, 1802)].

***Andrena labiatula* Osytshnjuk, 1993**

Andrena labiatula Osytshnjuk, 1993a: 62, ♀ (holotype: ♀, Crimea, Belogorsk, 23.VI.1963, leg. A. Osytshnjuk, IZKU).

CURRENT STATUS. Valid (Guseleinert & Schwarz, 2002).

DISTRIBUTION. Russia: Crimea Rep. (Osytshnjuk, 1993a).

***Andrena labrosa* Eversmann, 1852**

Andrena labrosa Eversmann, 1852: 22, ♀, ♂ (lectotype: ♀, designated by Astafurova, 2014: 211, "Spask." [Spasskoe, Orenburg Prov.], ZISP).

CURRENT STATUS. A junior synonym of *Systropha curvicornis* (Scopoli, 1870) (Dalla Torre, 1896: 191).

DISTRIBUTION. Russia: European part (north to 55–57°), Siberia (east to Altai Terr.); Europe, Caucasus, Turkey, North Iran, Kazakhstan, China (Xinjiang, Gansu, Qinghai) (Astafurova, 2014).

***Andrena limbata* Eversmann, 1852**

Andrena limbata Eversmann, 1852: 14, ♀ (lectotype: ♀, designated here, gold circle // Sarepta [Volgograd] // *limbata* Everm., ♀ [handwritten by Eversmann] // lectotypus, *Andrena limbata* Eversmann, design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: South of European part (east to Bashkortostan Rep.); South Europe, Caucasus, Turkey, Turkmenistan (Osytshnjuk, 1977; Gusenleitner & Schwarz, 2002).

REMARK. The species was described from the females collected in "circa Sa-zeptam ad Volgam inferiorem". There is only one female in ZISP from this locality, which corresponds to the original description of Eversmann. This female is designated here as a lectotype of *Andrena limbata* (Fig. 13).

***Andrena limonii* Osytshnjuk, 1983**

Andrena limonii Osytshnjuk, 1983: 22, ♀, ♂ (holotype: ♀, Volgograd Prov., Tinguta, 13.VIII. 1954, leg. Razumova, ZMMU).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Volgograd Prov.; Kazakhstan (Osytshnjuk *et al.*, 2005).

***Andrena longula* Eversmann, 1852**

Andrena longula Eversmann, 1852: 17, ♀, ♂ (lectotype: ♀, designated by Osytshnjuk *et al.*, 2005: 106 [sex not indicated in publication], "Spask" [Spasskoe, Orenburg Prov.], ZISP).

CURRENT STATUS. A junior synonym of *Andrena varians* (Kirby, 1802) (Gusenleitner & Schwarz, 2002: 803).

DISTRIBUTION. Russia: European part, South Ural; North and Middle Europe (Gusenleitner & Schwarz, 2002; Osytshnjuk *et al.*, 2005).

***Andrena nigrifrons* Eversmann, 1852**

Andrena nigrifrons Eversmann, 1852: 27, ♀, ♂ (lectotype: ♀, designated here, "Kas [Kazan], 29.VII" // *nigrifrons* Evm., ♀ [handwritten by Eversmann] // lectotypus, *Andrena nigrifrons* Eversmann, design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. A junior synonym of *Andrena bicolor* Fabricius, 1775 (Warncke, 1967: 291).

DISTRIBUTION. Russia: European part, Siberia (east to Baikal Lake); Europe, Caucasus, Turkey, Israel, Mongolia, North Africa (Osytshnjuk *et al.*, 2008).

REMARK. The species was described from the specimens of both sexes collected in “Volgo-Uralensis”. There is only one female in ZISP from this locality, which corresponds to the original description of Eversmann. This female is designated here as a lectotype of *Andrena nigrifrons* (Fig. 14).

***Andrena nobilis* Morawitz, 1874**

Andrena nobilis Morawitz, 1874: 158–159, ♀ (lectotype: ♀, designated here, Derbent [Dagestan Rep.] // *nobilis* Mor., Typ. [handwritten by F. Morawitz] // lectotypus *Andrena nobilis* Mor., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Crimea Rep., Dagestan Rep., Volgograd Prov., Bashkortostan Rep.; Europe (west to Central Europe), Turkey, Cyprus, Caucasus, Iran, Central Asia (Osytshnjuk, 1977; Gusenleitner & Schwarz, 2002).

REMARK. The species was described from the females collected in Derbent. There is only one female in ZISP from this locality, which corresponds to the original description of Morawitz. This female is designated here as a lectotype of *Andrena nobilis* (Fig. 16).

***Andrena ornata* Morawitz, 1866**

Andrena ornata Morawitz, 1866: 5, ♀, ♂ (lectotype: ♀, designated by Osytshnjuk *et al.*, 2008: 215, “Sarepta” [Volgograd], ZISP).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Volgograd Prov., Bashkortostan Rep., Orenburg Prov. (Osytshnjuk *et al.*, 2008).

***Andrena punctatissima* Morawitz, 1866**

Andrena punctatissima Morawitz, 1866 (nec Kriechbaumer, 1873): 14, ♀, ♂ (lectotype: ♂, designated by Osytshnjuk *et al.*, 2005: 142, “Sarepta” [Volgograd], ZISP).

CURRENT STATUS. A junior synonym of *Andrena incisa* Eversmann, 1852 (Osytshnjuk *et al.*, 2005: 142).

DISTRIBUTION. Russia: South of European part, South Ural, Altai, Krasnoyarsk Terr.; South and Central Europe, Caucasus, Turkey, Kazakhstan, Central Asia (Osytshnjuk *et al.*, 2005).

***Andrena quadricincta* Eversmann, 1852**

Andrena quadricincta Eversmann, 1852: 26, ♀, ♂ (lectotype: ♀, designated here, “Orb.” [Orenburg] // 121. // *Andrena* n. sp. B.M. // lectotypus *Andrena quadricincta* Eversm., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. A junior synonym of *Melitta tricincta* Kirby, 1802 (Michez & Eardley, 2007: 394).

DISTRIBUTION. Russia: European part, Ural, Siberia, Far East; Europe (Michez & Eardley, 2007; Proshchalykin, 2012).

REMARK. The species was described from the specimens of both sexes collected in “in provincia Orenburgensi, in promontoriis Uralensibus”. There are eight females in ZISP from this locality, which corresponds to the original description of Eversmann. One of this females is designated here as a lectotype of *Andrena quadricincta* (Fig. 15).

***Andrena roripae* Osytshnjuk, 1993**

Andrena roripae Osytshnjuk, 1993b: 405, ♀ (holotype: ♀, Krasnodar Terr., Smolenskaya st., 20.V.1964, leg. A. Osytshnjuk, IZKU).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Crimea Rep., Krasnodar Prov. (Osytshnjuk, 1993b).

***Andrena rudolfae* Osytshnjuk, 1986**

Andrena rudolfae Osytshnjuk, 1986: 416, ♀, ♂ (holotype: ♀, Kazakhstan, Tselinogradskaya Prov., Kokshetau Mt., Terisakkan River, 5.VI.1958, leg. V. Rudolf, ZISP; paratypes: Bashkortostan Rep., Novozirganovo).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Bashkortostan Rep.; Kazakhstan (Osytshnjuk, 1986).

***Andrena rufiventris* Eversmann, 1852**

Andrena rufiventris Eversmann, 1852: 32 (nec Lepeletier, 1841), ♂ (lectotype: ♀, designated by Osytshnjuk *et al.*, 2008: 131, Kazan [Tatarstan Rep.], ZISP).

Andrena mutabilis Morawitz, 1866 (nec Pérez, 1895): 18, nom. nov. for *A. rufiventris* Eversmann, 1852.

CURRENT STATUS. A junior synonym of *Andrena ventralis* Imhoff, 1832 (Warncke, 1967: 305).

DISTRIBUTION. Russia: east to Baikal Lake; Europe (except northern part), Caucasus, Turkey, Kazakhstan, Central Asia, North China, Japan (Osytshnjuk *et al.*, 2008).

***Andrena rugulosella* Osytshnjuk, 1993**

Andrena rugulosella Osytshnjuk, 1993b: 403, ♀, ♂ (holotype: ♀, Kazakhstan, Aktyubinskaya Prov., 27 km SE Emba, Mugogzhary Mt., 9.VI.1985, Nesterov, IZKU; paratypes: Volgograd Prov., Zavodskaya st. (near Volgograd); Rakhinka).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Volgograd Prov.; Kazakhstan (Osytshnjuk, 1993b).

***Andrena scabrosa* Morawitz, 1866**

Andrena scabrosa Morawitz, 1866: 12, ♀ (lectotype: ♀, designated here, “Sarepta.” [Volgograd] // *a. scabrosa*. M. [handwritten by F. Morawitz] // к. Ф. Моравица [coll. F. Morawitz] // lectotypus, *Andrena scabrosa* Mor., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. A junior synonym of *Andrena humilis* Imhoff, 1832 (Warncke, 1967: 306).

DISTRIBUTION. Russia: European part; Europe, Caucasus, Turkey, Central Asia, North Africa (Gusenleitner & Schwarz, 2002; Osytshnjuk *et al.*, 2008).

REMARK. The species was described from the females collected in “Saratov prov.” [now Saratov Prov. and parts of Volgograd Prov., and Penza Prov.]. There is only one female in ZISP from this locality, which corresponds to the original description of Morawitz. This female is designated here as a lectotype of *Andrena scabrosa* (Fig. 19).

***Andrena scita* Eversmann, 1852**

Andrena scita Eversmann, 1852: 27, ♀, ♂ (lectotype: ♀, designated here, “Sarepta.” [Volgograd] // lectotypus, *Andrena scita* Eversm., design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Crimea Rep., Volgograd Prov., Saratov Prov.; Europe (west to Italy), Caucasus, Cyprus, Turkey, Iran, Afghanistan, Kazakhstan, Turkmenistan (Osytshnjuk, 1977; Gusenleitner & Schwarz, 2002).

REMARK. The species was described from the specimens of both sexes collected in “ad Wolgam inferiorem”. There are two females in ZISP from this locality, which corresponds to the original description of Eversmann. One of this females is designated here as a lectotype of *Andrena scita* (Fig. 18).

***Andrena schwarzi* Warncke, 1975**

Andrena schwarzi Warncke, 1975: 64, ♀, ♂ (holotype: ♀, “Ukraine: Sarepta” [Russia, Volgograd], leg. Becker, 1893, OLML).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Volgograd Prov.; Ukraine, Turkey (Romasenko *et al.*, 2005).

***Andrena senilis* Eversmann, 1852**

Andrena senilis Eversmann, 1852: 21, ♀, ♂ (lectotype: ♂, designated here, gold circle // *senilis* Eversm., ♂ // к. Еверсманна [coll. Eversmann] // lectotypus *Andrena senilis* Eversmann, design. Osytshnjuk, 1980; ZISP).

CURRENT STATUS. Valid as *Colletes senilis* (Eversmann, 1852) (Kuhlmann & Proshchalykin, 2014).

DISTRIBUTION. Russia: European part, Ural; Europe, Turkey, Iran, Azerbaijan, Kazakhstan (Kuhlmann & Proshchalykin, 2014).

REMARK. The species was described from the specimens of both sexes collected in “in prov. Casanensi”. There is only one male in ZISP from this locality, which corresponds to the original description of Eversmann. This male is designated here as a lectotype of *Andrena senilis* (Fig. 17).

***Andrena similis caraimica* Osytshnjuk, 1994**

Andrena similis caraimica Osytshnjuk, 1994a: 33, ♀, ♂ (holotype: ♀, Crimea, Alushta distr., Verkhnyaya Kutuzovka, 25.VI.1963, leg. A. Osytshnjuk, IZKU).

CURRENT STATUS. A junior synonym of *Andrena similis* Smith, 1849 (Gusenleitner & Schwarz, 2002: 698).

DISTRIBUTION. Russia: Crimea Rep., European part; Europe, Caucasus, Turkey, Kazakhstan, Central Asia, North Africa (Gusenleitner & Schwarz, 2002).

***Andrena stoeckhertella* Pittioni, 1948**

Andrena stoeckhertella Pittioni, 1948: 141, ♀, ♂ (syntypes: 1 ♀, 1 ♂, “aus Derbent in Transkaukasien, 1886 [Dagestan Rep.]“, NMW).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Crimea Rep., Dagestan Rep., Volgograd Prov., Rostov Prov.; Azerbaijan, Turkey (Osytshnjuk, 1977; Gusenleitner & Schwarz, 2002).

***Andrena tricuspidata* Scheuchl, 2010**

Andrena tricuspidata Scheuchl, 2010: 1448–1449, ♂ (holotype: ♂, “Ukraine, Krim, Michurino (Kertsch Bez.) [Russia, Crimea, Kirov distr.], 15.04.98, leg. Andreeva“, coll. Scheuchl).

CURRENT STATUS. Valid (Scheuchl, 2010).

DISTRIBUTION. Russia: Crimea Rep. (Scheuchl, 2010).

***Andrena verae* Osytshnjuk, 1986**

Andrena verae Osytshnjuk, 1986: 415, ♀, ♂ (holotype: ♀, Astrakhan Prov., Volga River, Chekannaya, 14.V.1911, leg. Lukash, ZISP).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Astrakhan Prov., Bashkortostan Rep.; Ukraine, Kazakhstan (Osytshnjuk et al., 2008).

***Andrena verae nikiforuki* Osytshnjuk, 1986**

Andrena verae nikiforuki Osytshnjuk, 1986: 415, ♀, ♂ (holotype: ♀, Bashkortostan Rep., Novozirganovo, 7.V.1957, leg. K. Nikiforuk, IZKU).

CURRENT STATUS. A junior synonym of *Andrena verae* Osytshnjuk, 1986 (Gusenleitner & Schwarz, 2002: 812).

DISTRIBUTION. Russia: see *Andrena verae*.

***Andrena volgensis* Osytshnjuk, 1994**

Andrena volgensis Osytshnjuk, 1994b: 19, ♀, ♂ (holotype: ♀, Volgograd Prov., Zavodskaya, 7.V.1972, leg. Yu. Mukhin, IZKU).

CURRENT STATUS. Valid (Gusenleitner & Schwarz, 2002).

DISTRIBUTION. Russia: Volgograd Prov.; Kazakhstan (Osytshnjuk *et al.*, 2005).

***Andrena xanthothorax* Eversmann, 1852**

Andrena xanthothorax Eversmann, 1852: 18, ♀, ♂ (lectotype: ♀, designated here, “Kas [Kazan] 20.VII” // *xanthothorax* Ev., ♀ [handwritten by Eversmann] // lectotypus *Andrena xanthothorax* Eversmann, 1852, design. Proshchalykin & Astafurova, 2016; ZISP).

CURRENT STATUS. A junior synonym of *Colletes succinctus* (Linnaeus, 1758) (Morawitz, 1866: 9).

DISTRIBUTION. Russia: European part (north to Leningradskaya Prov.), Orenburg Prov.; Europe (north to Sweden), Caucasus, Kazakhstan (Kuhlmann & Proshchalykin, 2014).

REMARK. The species was described from the specimens of both sexes collected in “in prov. Casan. et Orenburg”. There are six females in ZISP from this locality, which corresponds to the original description of Eversmann. One of this females is designated here as a lectotype of *Andrena xanthothorax* (Fig. 20).

Subfamily Punurginae

***Panurginus lactipennis* Friese, 1897**

Panurginus lactipennis Friese, 1897: 17–18, ♀, ♂ (syntypes: 4 ♂, 1 ♀, “Sarepta [Volgograd], leg. A. Becker; 1 ♂, Nord-Caucasus (Nogai-Steppe)” [Russia: Stavropol Terr., Dagestan Rep., Chechnya Rep.], MNHU).

CURRENT STATUS. Valid as *Panurginus lactipennis* Friese, 1897 (Patiny, 2003).

DISTRIBUTION. Russia: Stavropol Terr., Dagestan Rep., Chechnya Rep., Volgograd Prov.; Europe, Turkey, Azerbaijan (Patiny, 2003).

***Panurginus sculpturatus* Morawitz, 1872**

Panurginus sculpturatus Morawitz, 1872: 60, ♂ (holotype: ♂, Saratov [Saratov Prov.], ZISP).

CURRENT STATUS. Valid (Astafurova & Romankova, 2012).

DISTRIBUTION. Russia: Saratov Prov., Volgograd Prov., Rostov Prov.; Ukraine (Astafurova & Romankova, 2012).

***Panurgus labiatus* Eversmann, 1852**

Panurgus labiatus Eversmann, 1852: 62, ♀, ♂ (lectotype: ♂, designated by Romankova & Astafurova, 2011: 24, “Russia, Orenburg Prov., Spask, 17.VI. [1847 or 1849], E. Eversmann’s coll.”, ZISP).

CURRENT STATUS. Valid as *Panurginus labiatus* (Eversmann, 1852) (Schwarz *et al.*, 1996).

DISTRIBUTION. Russia: European part, South Ural, Siberia (east to Irkutsk Prov.); Europe, Caucasus, North-Eastern Kazakhstan (Romankova & Astafurova, 2011).

Family Megachilidae
Subfamily Megachilinae

***Anthidium alpinum* Morawitz, 1874**

Anthidium alpinum Morawitz, 1874: 154, ♂ (holotype: ♂, “Curusch“ [Dagestan Rep.], ZISP).

CURRENT STATUS. Valid as *Pseudoanthidium alpinum* (Morawitz, 1874) (Ornosa *et al.*, 2008).

DISTRIBUTION. Russia: Dagestan Rep.; Europe, Turkey (Warncke, 1980).

***Anthidium auripes* Eversmann, 1852**

Anthidium auripes Eversmann, 1852: 82, ♀, ♂ (syntypes: ♀♀, ♂♂, “in prov. Orenburg., in promont. Uralensibus” [Russia], IZKP).

CURRENT STATUS. A junior synonym of *Icteranthidium laterale* (Latreille, 1809) (Warncke, 1980: 173).

DISTRIBUTION. Russia: Crimea Rep., European part, Ural, Siberia (east to Tyva Rep.); Europe, Caucasus, Turkey, Central Asia, China, North Africa (Banaszak & Romasenko, 2001; Ivanov *et al.*, 2007; Proshchalykin, 2013b).

***Anthidium caucasicum* Radoszkowski, 1862**

Anthidium caucasicum Radoszkowski, 1862b: 596, ♀ (holotype: ♀, “Caucase, Dagestan“, Daghestan Rep., IZKP).

CURRENT STATUS. A junior synonym of *Anthidium florentinum* (Fabricius, 1775) (Warncke, 1980: 199).

DISTRIBUTION. Russia: Crimea Rep., North Caucasus, European part, Siberia, Far East; Europe, Caucasus, Central Asia, China (Banaszak & Romasenko, 2001; Ivanov *et al.*, 2007; Proshchalykin, 2013b).

***Anthidium clypeare* Morawitz, 1874**

Anthidium clypeare Morawitz, 1874: 155, ♀ (holotype: ♀, Derbent, Dagestan Rep., ZISP).

CURRENT STATUS. Valid (Warncke, 1980).

DISTRIBUTION. Russia: Dagestan Rep.; Europe, Turkey (Warncke, 1980).

***Anthidium dissectum* Eversmann, 1852**

Anthidium dissectum Eversmann, 1852: 80, ♀, ♂ (syntypes: ♀♀, ♂♂, “in promontoriis Uralensibus australibus”, Russia, IZKP[?]).

CURRENT STATUS. A junior synonym of *Anthidium cingulatum* Latreille, 1809 (Mocsáry, 1884: 250).

DISTRIBUTION. Russia: Crimea Rep., European part, Ural; Europe, Caucasus, Turkey, Iran, North Africa (Warncke, 1980; Ivanov *et al.*, 2007).

REMARK. The syntypes of this species are not found in ZISP.

***Anthidium eversmanni* Radoszkowski, 1886**

Anthidium eversmanni Radoszkowski, 1886: 52, ♂ (holotype: ♂, “Orenbourg”, [Orenburg Prov., Russia], MNHU).

CURRENT STATUS. Uncertain.

REMARK. *Pseudoanthidium lituratum* is an unclear complex of different species. The status of *Anthidium eversmanni* which were synonymized with *A. (Pseudoanthidium) lituratum* by Warncke (1980: 161) is uncertain and needs further exploration (Aguib *et al.*, 2010; Kuhlmann *et al.*, 2016).

***Anthidium floripetum* Eversmann, 1852**

Anthidium floripetum Eversmann, 1852: 83, ♀, ♂ (syntypes: ♀♀, ♂♂, “in prov. Orenburgensi”, [Orenburg Prov., Russia], IZKP[?]).

CURRENT STATUS. Uncertain.

REMARK. *Pseudoanthidium lituratum* is an unclear complex of different species. The status of *Anthidium floripetum* which were synonymized with *A. (Pseudoanthidium) lituratum* by Warncke (1980: 161) is uncertain and needs further exploration (Aguib *et al.*, 2010; Kuhlmann *et al.*, 2016).

REMARK. The syntypes of this species are not found in ZISP.

***Anthidium integrum* Eversmann, 1852**

Anthidium integrum Eversmann, 1852: 83, ♂ (syntypes: ♂♂, “in Volgam inferiorem”, Russia, IZKP[?]).

CURRENT STATUS. A junior synonym of *Trachusa interrupta* (Fabricius, 1781) (Schwarz *et al.*, 1996: 98; Michener & Griswold, 1994).

DISTRIBUTION. Russia: European part; Europe, Turkey, North Africa (Warncke, 1980).

REMARK. The syntypes of this species are not found in ZISP.

***Anthidium minus* Nylander, 1848**

Anthidium minus Nylander, 1848: 266–267, ♀, ♂ (syntypes: ♀♀, ♂♂, “In Karelia (paroec. Sakkola initio m. Julii) D. appelberg, in Fennia australi alibi D. Sjöberg.” [Russia: Leningradskaya Prov., Gromovo], NHRS).

CURRENT STATUS. A junior synonym of *Anthidium punctatum* Latreille, 1809 (Mocsáry, 1884: 253).

DISTRIBUTION. Russia: European part, Ural, Siberia, Far East; Europe, Caucasus, Central Asia, China, North Africa (Banaszak & Romasenko, 2001; Proshchalykin, 2013b).



Figs 21–28. Labels of the lectotypes designated in this paper. 21 – *Andrena derbentina* Morawitz; 22 – *Anthidium pubescens* Morawitz; 23 – *Osmia grandis* Morawitz; 24 – *O. solskyi* Morawitz; 25 – *Protosmia tauricola* Popov; 26 – *Stelis aberrans* Eversmann; 27 – *S. scutellaris inamoena* Popov; 28 – *S. phaeoptera meridionalis* Popov.

Anthidium nigripes Eversmann, 1852

Anthidium nigripes Eversmann, 1852 (nec Friese, 1904): 81–82, ♀, ♂ (syntypes: ♀♀, ♂♂, "in prov. Orenburg., in promontoriis Uralensib. et in terris transuralensibus", Russia, IZKP[?])

CURRENT STATUS. A junior synonym of *Anthidium septemspinorum* Lepeletier, 1841 (Mocsáry, 1884: 259).

DISTRIBUTION. Russia: Crimea Rep., European part, Ural, Siberia, Far East; Europe, Kazakhstan, Mongolia, China, Japan (Banaszak & Romasenko, 2001; Ivanov *et al.*, 2007; Proshchalykin, 2013b).

REMARK. The syntypes of this species are not found in ZISP.

***Anthidium pubescens* Morawitz, 1872**

Anthidium pubescens Morawitz, 1872: 59, ♂ (lectotype: ♂, designated here, gold circle // Derbent [Dagestan Rep.] // *pubescens* Mor., Type, ♂ [handwritten by F. Morawitz] // lectotypus *Anthidium pubescens* Morawitz, 1872 design. Proshchalykin & Astafurova, 2016; ZISP).

CURRENT STATUS. Valid as *Trachusa pubescens* (Morawitz, 1872) (Ornosa *et al.*, 2008).

DISTRIBUTION. Russia: Crimea Rep., North Caucasus; Europe, Turkey (Banaszak & Romasenko, 2001; Ivanov *et al.*, 2007).

REMARK. The species was described from the males collected in “Hab. in Caucaso, Derbent”. There are two males in ZISP from this locality, which corresponds to the original description of Morawitz. One of this males is designated here as a lectotype of *Anthidium pubescens* (Fig. 22).

***Anthidium regulare* Eversmann, 1852**

Anthidium regulare Eversmann, 1852: 80, ♀, ♂ (syntypes: ♀♀, ♂♂, “in prov. Orenburg. australi, circa Indersk”, [Russia], IZKP[?]).

CURRENT STATUS. A junior synonym of *Anthidium loti* Perris, 1852 (Warncke, 1980: 195).

DISTRIBUTION. Russia: Crimea Rep., European part, Ural; Europe, Turkey, Israel, Central Asia, North Africa (Warncke, 1980; Ivanov *et al.*, 2007).

REMARK. The syntypes of this species are not found in ZISP.

***Anthidium reptans* Eversmann, 1852**

Anthidium reptans Eversmann, 1852: 85, ♀, ♂ (syntypes: ♀♀, ♂♂, “in promontoriis Uralensis australibus” [Orenburg Prov., Russia], IZKP).

CURRENT STATUS. Uncertain.

REMARK. *Pseudoanthidium lituratum* is an unclear complex of different species. The status of *Anthidium reptans* which were synonymized with *A. (Pseudoanthidium) lituratum* by Warncke (1980: 161) is uncertain and needs further exploration (Aguib *et al.*, 2010; Kuhlmann *et al.*, 2016).

***Anthidium senile* Eversmann, 1852**

Anthidium senile Eversmann, 1852: 80, ♀, ♂ (syntypes: ♀♀, ♂♂, “in terris transuralensibus” [Russia], IZKP).

CURRENT STATUS. A junior synonym of *Anthidium punctatum* Latreille, 1809 (Mocsáry, 1884: 253).

DISTRIBUTION. See *Anthidium minus*.

***Anthidium sibiricum* Eversmann, 1852**

Anthidium sibiricum Eversmann, 1852: 85, ♀, ♂ (syntypes: ♀♀, ♂♂, “in terris transuralensis” [Russia], IZKP).

CURRENT STATUS. Valid as *Bathanthidium sibiricum* (Eversmann, 1852) (Mavromoustakis, 1953; Proshchalykin, 2013b).

DISTRIBUTION. Russia: Ural, Siberia, Far East; Korea, North-Eastern China (Proshchalykin, 2013b).

***Anthocopa saxialis* Zanden, 1994**

Anthocopa saxialis Zanden, 1994: 167, ♀, ♂ (holotype: ♂, “Zentral-Kaukasus, Itkol Umgeb. 2100-2300 m” [Itkolbashi Mt., Kabardino-Balkarskaya Rep., Russia], MTD).

CURRENT STATUS. Valid as *Hoplitis saxialis* (Zanden, 1994) (Müller, 2016).

DISTRIBUTION. Russia: North Caucasus; Europe, Turkey, Iran (Müller, 2016).

***Chelostoma inerme* Eversmann, 1852**

Chelostoma inerme Eversmann, 1852: 74, ♀, ♂ (syntypes: ♀♀, ♂♂, “in promont. Uralensib., in provinciis Orenburgensi et Simbirscensi”, Russia, IZKP[?]).

CURRENT STATUS. A junior synonym of *Chelostoma rapunculi* (Lepeletier, 1841) (Schwarz *et al.*, 1996: 116).

DISTRIBUTION. Russia: Crimea Rep., European part, Ural, Siberia, Far East; Europe, Middle East, Central Asia, Mongolia, China, North Africa, Canada, USA (introduced) (Ivanov *et al.*, 2007; Müller, 2016).

REMARK. The syntypes of this species are not found in ZISP.

***Coelioxys brevis* Eversmann, 1852**

Coelioxys brevis Eversmann, 1852: 77, ♀, ♂ (lectotype: ♀, designated by Schwarz & Gusenleitner, 2003: 1222, Orenburg, ZISP).

CURRENT STATUS. Valid (Schwarz & Gusenleitner, 2003).

DISTRIBUTION. Russia: Crimea Rep., European part, Ural; Europe, Central Asia, China, Japan, North Africa (Ivanov *et al.*, 2007; Ascher & Pickering, 2016).

***Coelioxys conspersa* Morawitz, 1874**

Coelioxys conspersa Morawitz, 1874: 185, ♀ (lectotype: ♀, designated by Schwarz & Gusenleitner, 2003: 1224, Derbent, Dagestan Rep., ZISP).

CURRENT STATUS. Valid (Schwarz & Gusenleitner, 2003).

DISTRIBUTION. Russia: Dagestan Rep. (Morawitz, 1874).

***Coelioxys pulchella* Morawitz, 1874**

Coelioxys pulchella Morawitz, 1874: 187, ♂ (lectotype: ♂, designated by Schwarz, 2001: 1274, Derbent, Dagestan Rep., ZISP).

CURRENT STATUS. A junior synonym of *Coelioxys haemorrhoa* Förster, 1853 (Schwarz, 2001: 1274).

DISTRIBUTION. Russia: Crimea Rep., Dagestan Rep.; Europe, North Africa (Banaszak & Romasenko, 2001; Ivanov *et al.*, 2007).

***Heriades trinacria* Morawitz, 1869**

Heriades trinacria Morawitz, 1869, ♂ (holotype: ♂, Luga [Leningradskaya Prov.], [leg. S.] Solsky, coll. F. Morawitz, ZISP).

CURRENT STATUS. A junior synonym of *Hoplitis robusta* (Nylander, 1848) (Popov, 1946: 107).

DISTRIBUTION. Russia: European part, Siberia, Far East; Europe, Mongolia, China, North America (Müller, 2016).

***Megachile albicilla* Eversmann, 1852**

Megachile albicilla Eversmann, 1852: 71, ♀, ♂ (syntypes: ♀♀, ♂♂, "in promontorii Uralensis australibus", Russia, IZKP[?]).

CURRENT STATUS. A junior synonym of *Megachile analis* Nylander, 1852 (Schwarz *et al.*, 1996: 105).

DISTRIBUTION. Russia: European part, Ural, Siberia, Far East; Europe, Caucasus, Turkey, Central Asia (Banaszak & Romasenko, 2001).

REMARK. The syntypes of this species are not found in ZISP.

***Megachile dohrni* Radoszkowski, 1862**

Megachile dohrni Radoszkowski, 1862a: 271, ♀, ♂ (syntypes: ♀, ♂: "le pouvernement de Voronege", Voronezh Prov., Russia, IZKP[?]).

CURRENT STATUS. A junior synonym of *Lithurgus cornutus* (Fabricius, 1787) (Schwarz *et al.*, 1996: 129).

DISTRIBUTION. Russia: Crimea Rep., European part; Europe, Caucasus, Turkey, Central Asia, North Africa (Banaszak & Romasenko, 2001; Ivanov *et al.*, 2007).

***Megachile excellens* Morawitz, 1872**

Megachile excellens Morawitz, 1872: 53, ♂ (lectotype: ♂, designated by Zanden, 1995: 432, "Tauria" [Crimea Rep., Russia], ZISP).

CURRENT STATUS. A junior synonym of *Megachile leucomalla* Gerstaecker, 1869 (Zanden, 1995: 432).

DISTRIBUTION. Russia: Crimea Rep.; Europe, Turkey, Georgia, Jordan, North Africa (Banaszak & Romasenko, 2001; Ascher & Pickering, 2016).

***Megachile fulvimana* Eversmann, 1852**

Megachile fulvimana Eversmann, 1852: 71, ♀, ♂ (syntypes: ♀♀, ♂♂, “in promont. Uralensib. australibus”, Russia, IZKP[?]).

CURRENT STATUS. Valid (Banaszak & Romasenko, 2001: 148).

DISTRIBUTION. Russia: European part, Ural, Siberia, Far East; Europe, Kazakhstan, Mongolia (Banaszak & Romasenko, 2001; Ascher & Pickering, 2016).

REMARK. The syntypes of this species are not found in ZISP.

***Megachile maxillosa* Eversmann, 1852**

Megachile maxillosa Eversmann, 1852 (nec Guérin-Méneville, 1845): 68, ♀, ♂ (syntypes: ♀♀, ♂♂, “in prov. Orenburgensi, in promontoriis Uralensibus; rario in prov. Casanensi”, Russia, IZKP[?]).

CURRENT STATUS. A senior synonym of *Megachile bombycina* Radoszkowski, 1874 (Dalla Torre, 1896: 422).

DISTRIBUTION. Russia: European part, Ural, Siberia, Far East; Europe, Central Asia (Banaszak & Romasenko, 2001).

REMARK. The syntypes of this species are not found in ZISP.

***Megachile melanogaster* Eversmann, 1852**

Megachile melanogaster Eversmann, 1852: 73, ♀, ♂ (syntypes: ♀♀, ♂♂, “in provincia Orenburgensi”, [Orenburg Prov., Russia], IZKP[?]).

CURRENT STATUS. Valid (Banaszak & Romasenko, 2001: 151).

DISTRIBUTION. Russia: Crimea Rep., Orenburg Prov.; Europe, Turkey, Kazakhstan, North Africa, North America (Banaszak & Romasenko, 2001; Ivanov *et al.*, 2009; Ascher & Pickering, 2016).

REMARK. The syntypes of this species are not found in ZISP.

***Megachile monoceros* Eversmann, 1852**

Megachile monoceros Eversmann, 1852: 73–74, ♀, ♂ (syntypes: ♀♀, ♂♂, “in provinciis Casanensi, Orenburgensi et Simbirscensi; in promontoriis Uralensibus non rara”, [Russia], IZKP[?]).

CURRENT STATUS. A junior synonym of *Lithurgus cornutus* (Fabricius, 1787) (Schwarz *et al.*, 1996: 129).

DISTRIBUTION. See *Megachile dohrni*.

REMARK. The syntypes of this species are not found in ZISP.

***Megachile obscura* Eversmann, 1852**

Megachile obscura Eversmann, 1852: 71, ♀, ♂ (syntypes: ♀♀, ♂♂, ”Spask” [Spasskoe, Orenburg Prov.], MNHU[?]).

CURRENT STATUS. A junior synonym of *Megachile analis* Nylander, 1852 (Schwarz *et al.*, 1996: 105).

DISTRIBUTION. See *Megachile albicilla*.

REMARK. The syntypes of this species are not found in ZISP.

***Megachile saussurei* Radoszkowski, 1874**

Megachile saussurei Radoszkowski, 1874: 142–143, ♀ (syntypes: ♀♀, "Saratow" [Saratov], IZKP).

CURRENT STATUS. Valid (Romasenko & Banaszak, 2002).

DISTRIBUTION. Russia: Saratov Prov., Astrachan Prov.; Spain, Turkey, Central Asia (Romasenko & Banaszak, 2002).

***Osmia carneiventris* Dours, 1887**

Osmia carneiventris Dours in Radoszkowski, 1887: 186, ♀ (holotype: ♀, "Crimée" [Crimea Rep., Russia], IZKP).

CURRENT STATUS. A junior synonym of *Osmia niveata* (Fabricius, 1804) (Tkalcú, 1970: 3).

DISTRIBUTION. Russia: Crimea Rep., European part; Europe, Turkey, Caucasus, Central Asia, China, North Africa (Müller, 2016).

***Osmia confusa* Morawitz, 1869**

Osmia confusa Morawitz, 1869: 38 (holotype: ♀, «Forstcorps» [St. Petersburg], ZISP).

CURRENT STATUS. A junior synonym of *Osmia leaiana* (Kirby, 1802) (Tkalcú, 1975: 309).

DISTRIBUTION. Russia: Crimea Rep., European part; Europe, Caucasus, Turkey, Iran, Kazakhstan (Ivanov *et al.*, 2007; Müller, 2016).

***Osmia fulva* Eversmann, 1852**

Osmia fulva Eversmann, 1852: 63, ♀, ♂ (syntypes: ♀♀, ♂♂, "in prov. Orenburg. australi, in prov. Saratov. et Astrachanensi, et in terris transuralensibus", [Russia: South Ural and Lower Volga Region], IZKP).

CURRENT STATUS. Valid as *Hoplitis fulva* (Eversmann, 1852) (Müller, 2016).

DISTRIBUTION. Russia: European part, Siberia; Europe, Caucasus, Middle East, Kazakhstan, Mongolia, North-Eastern China (Proshchalykin, 2013a; Müller, 2016).

***Osmia grandis* Morawitz, 1872**

Osmia grandis Morawitz, 1872: 54–57, ♀, ♂ (lectotype: ♂, designated here, Sarepta [Volograd] // к. Ф. Моравица [coll. F. Morawitz] // *grandis* F. Mor., ♂ [handwritten by F. Morawitz] // lectotypus *Osmia grandis* Morawitz, 1872 design. Proshchalykin & Astafurova, 2016; ZISP).

CURRENT STATUS. A junior synonym of *Hoplitis fulva* (Eversmann, 1852) (Ducke, 1900: 202).

DISTRIBUTION. See *Hoplitis fulva*.

REMARK. The species was described from the specimens of both sexes collected in “Gubernio Saratov” [now Saratov Prov. and parts of Volgograd Prov., and Penza Prov.] and “Amasia [Armenia]”. There is only one male in ZISP from this locality, which corresponds to the original description of Morawitz. This male with label “holotype” is designated here as a lectotype of *Osmia grandis* (Fig. 23).

***Osmia nana* Morawitz, 1874**

Osmia nana Morawitz, 1874: 152, ♂ (lectotype: ♂, designated by Zanden, 1981: 154, Derbent, Dagestan Rep., ZISP).

CURRENT STATUS. Valid (Müller, 2016).

DISTRIBUTION. Russia: Dahestan Rep., south of European part; Europe, Turkey, Central Asia, Middle East (Müller, 2016).

***Osmia princeps* Morawitz, 1872**

Osmia princeps Morawitz, 1872: 57, ♀, ♂ (syntypes: ♀♀, ♂♂, “Gub. Astrachan” [now Saratov Prov. and parts of Volgograd Prov., and Penza Prov.] and “Amasia [Armenia]”, IZKP[?]).

CURRENT STATUS. Valid (Müller, 2016).

DISTRIBUTION. Russia: Crimea Rep., south of European part; Europe, Kazakhstan, Mongolia, China (Ivanov *et al.*, 2007; Müller, 2016).

REMARK. The syntypes of this species are not found in ZISP.

***Osmia solskyi* Morawitz, 1870**

Osmia solskyi Morawitz, 1870: 317, ♀ (lectotype: ♀, designated here, “Wildbad” [Bad Wildbad, Germany] // *Osmia solskiy* Mor. [handwritten by F. Morawitz] // lectotypus *Osmia solskyi* Morawitz, 1870, design. Proshchalykin & Astafurova, 2016; ZISP).

CURRENT STATUS. A junior synonym of *Osmia leaiana* (Kirby, 1802) (Tkalcu, 1975: 309).

DISTRIBUTION. See *Osmia confusa*.

REMARK. The species was described from the females collected in “Tauria [Crime Rep., Russia], Armenia, Helvetia: Ragatz [Switzerland], Wildbad [Germany]”. There are two females in ZISP from this locality, which corresponds to the original description of Morawitz. One of this females is designated here as a lectotype of *Osmia solskyi* (Fig. 24).

***Osmia submicans* Morawitz, 1870**

Osmia submicans Morawitz, 1870: 314, ♀ (lectotype: ♀, designated by Zanden, 1991: 64, “Tauria” [Crimea Rep., Russia], ZISP).

CURRENT STATUS. Valid (Müller, 2016).

DISTRIBUTION. Russia: Crimea Rep., south of European part; Europe, Caucasus, Middle East, North Africa (Müller, 2016).

***Osmia taurica* Radoszkowski, 1887**

Osmia taurica Radoszkowski, 1887 (nec Radoszkowski, 1874): 285, ♀, (holotype: ♀ “Tauria” [Crimea Rep., Russia], MNHU).

CURRENT STATUS. A junior synonym of *Osmia dimidiata* Morawitz, 1870 (Friese, 1909: 126).

DISTRIBUTION. Russia: Crimea Rep., south of European part; Europe, Caucasus, Turkey, Kazakhstan, Turkmenistan, North Africa (Müller, 2016).

***Osmia viridana* Morawitz, 1874**

Osmia viridana Morawitz, 1874: 150, ♀, ♂ (lectotype: ♀, designated by Zanden, 1984: 183, Derbent, Dagestan Rep., Russia, ZISP).

CURRENT STATUS. Valid (Müller, 2016).

DISTRIBUTION. Russia: Crimea Rep., Dagestan Rep., south of European part; Europe, Caucasus, Kazakhstan, Central Asia, Middle East, North Africa (Ivanov *et al.*, 2007; Müller, 2016).

***Protosmia tauricola* Popov, 1961**

Protosmia tauricola Popov, 1961: 364, ♀, ♂ (lectotype: ♂, designated here, Sebastopol, Krim, хутор Делагарда [Crimea Rep., Sevastopol, Delagarda], 22.5.[19]08, W. Puginskiy // *Protosmia tauricola* Popov sp.n. 1959 [handwritten by Popov] // lectotypus *Protosmia tauricola* Popov, 1961, design. Proshchalykin & Astafurova, 2016; ZISP).

CURRENT STATUS. Valid (Müller, 2016).

DISTRIBUTION. Russia: Crimea Rep.; Bulgaria, Turkey (Müller, 2016).

REMARK. The species was described from the specimens of both sexes collected in “Crimea: Khersones, Sevastopol’, Mukhalatka, Bel’bek”. There are six specimens (3 ♀ and 3 ♂) in ZISP from this locality, which corresponds to the original description of Popov. One of this specimens (male) is designated here as a lectotype of *Protosmia tauricola* (Fig. 25).

***Pseudosmia jakovlevi* Radoszkowski, 1874**

Pseudosmia jakovlevi Radoszkowski, 1874: 155, ♀ (lectotype: ♀, designated by Zanden, 1996: 885, “Astrakha” [Astrakhan, Russia], IZKP).

CURRENT STATUS. Valid as *Hoplitis jakovlevi* (Radoszkowski, 1874) (Müller, 2016).

DISTRIBUTION. Russia: Crimea Rep., south of European part; Europe, Caucasus, Turkey, Iran, Kazakhstan, Central Asia, Middle East, North Africa (Ivanov *et al.*, 2007; Müller, 2016).

***Pseudosmia taurica* Radoszkowski, 1874**

Pseudosmia taurica Radoszkowski, 1874: 157, ♀, ♂ (syntypes: ♀♀, ♂♂, “Crimée (Salguir)” [Salgir River, Crimea Rep., Russia], IZKP[?]).

CURRENT STATUS. Valid as *Hoplitis taurica* (Radoszkowski, 1874) (Zanden, 1988).

DISTRIBUTION. Russia: Crimea Rep. (Müller, 2016).

***Stelis aberrans* Eversmann, 1852**

Stelis aberrans Eversmann, 1852: 85, ♀ (lectotype: ♀, designated here, gold circle // Spask [Spasskoe, Orenburg Prov.] // *Stelis aberrans* Evm. [handwritten by Eversmann] // coll. Eversmann // lectotypus *Stelis aberrans* Eversmann, 1852, design. Proshchalykin & Astafurova, 2016; ZISP).

CURRENT STATUS. A junior synonym of *Biastes brevicornis* (Panzer, 1798) (Gerstaecker, 1869: 141).

DISTRIBUTION. Russia: Crimea Rep., European part, Ural; Europe, Caucasus (Popov, 1933).

REMARK. The species was described from the females collected in “in promontoriis Uralensibus australibus”. There is only one female in ZISP from this locality, which corresponds to the original description of Eversmann. This female is designated here as a lectotype of *Stelis aberrans* (Fig. 26).

***Stelis phaeoptera meridionalis* Popov, 1933**

Stelis phaeoptera meridionalis Popov, 1933: 399, ♀, ♂ (lectotype: ♂, designated here, gold circle // ACCP, Кармарыновка, Геокч. у., 11.VII.[19]26, Бочарников [Azerbaijan, Karmaryanovka, Goychay distr., 11.VII.1926, leg. Bocharnikov] // *Stelis phaeoptera meridionalis* Popov, subsp.n., ♂, Holotyp. [handwritten by Popov] // lectotypus *Stelis phaeoptera meridionalis* Popov, 1933, design. Proshchalykin & Astafurova, 2016; ZISP).

CURRENT STATUS. A junior synonym of *Stelis phaeoptera* (Kirby, 1802) (Warncke, 1992: 355).

DISTRIBUTION. Russia: Crimea Rep., European part; Europe, Caucasus, Kazakhstan, Central Asia, North Africa (Ivanov *et al.*, 2007; Ascher & Pickering, 2016).

REMARK. The subspecies was described from the specimens of both sexes collected in “Kuban, Poltavskaya [Russia: Krasnodar Prov.], Serbent [Russia: Dagestan Rep., Derbent]; Borzhom [Georgia: Borzhomi], Dushet [Georgia: Dushety], Kusar [Azerbaijan: Gusar], Karmar’yanovka [Azerbaijan], Darachichag [Armenia: Tsakhadzor], Tashkent [Uzbekistan], Zeravshan [Zeravshan River, Uzbekistan, Tajikistan]”. There are twenty nine specimens (11 ♀ and 18 ♂) in ZISP from this locality, which corresponds to the original description of Popov. One of this specimens (male) with label “holotype” is designated here as a lectotype of *Stelis phaeoptera meridionalis* (Fig. 28).

***Stelis scutellaris inamoena* Popov, 1933**

Stelis scutellaris inamoena Popov, 1933: 403, ♀, ♂ (lectotype: ♂, designated here, gold circle // Jekaterinodar [Krasnodar] // к. Ф. Моравица [coll. F. Morawitz] // *Stelis scutellaris inamoena* Popov, subsp. n., ♂, Holotyp. [handwritten by Popov] // lectotypus *Stelis phaeoptera inamoena* Popov, 1933, design. Proshchalykin & Astafurova, 2016; ZISP).

CURRENT STATUS. A junior synonym of *Stelis scutellaris* Morawitz, 1894 (Warncke, 1992: 357).

DISTRIBUTION. Russia: Dagestan Rep., south of European part; Europe, Caucasus, Iran, Kazakhstan, Central Asia, China (Ascher & Pickering, 2016).

REMARK. The subspecies was described from the specimens of both sexes collected in “Sarepta [Russia: Volgograd], Astrakhan, Ekaterinodar [Russia: Krasnodar], Armavir, Derbent, Baku, Zakataly [Azerbaijan: Zagatala]; Erevan [Armenia], Astrabad [Iran: Gorgan]”. There are eleven specimens (5 ♀, 6 ♂) in ZISP from this locality, which corresponds to the original description of Popov. One of this specimens (male) with label “holotype” is designated here as a lectotype of *Stelis scutellaris inamoena* (Fig. 27).

***Trachusa sexpunctata* Stschegloff, 1826**

Trachusa sexpunctata Stschegloff in Hummel, 1826: 44–45, no sex and no locality.

CURRENT STATUS. A junior synonym of *Stelis ornatula* (Klug, 1807) (Warncke, 1992: 353).

DISTRIBUTION. Russia: Crimea Rep., European part, Ural, Siberia, Far East; Europe, North Africa (Ivanov *et al.*, 2007; Banaszak & Romasenko, 2001; Proshchalykin, 2013b).

REMARK. Probably the type locality of this species was the environs of St. Petersburg, because this species was described on the basis of specimens from the collection of I. Cederhjelm, which were mostly caught in this territory (Pesenko & Astafurova, 2003).

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REFERENCES

- Aguib, S., Louadi, K. & Schwarz, M. 2010. Les Anthidiini (Megachilidae, Megachilinae) d'Algérie avec trois espèces nouvelles pour ce pays: *Anthidium (Anthidium) florentinum* (Fabricius, 1775), *Anthidium (Proanthidium) amabile* Alfken, 1932 et *Pseudoanthidium (Exanthidium) enslini* (Alfken, 1928). *Entomofauna*, 31(12): 121–152.
- Ascher, J.S. & Pickering, J. 2016. Discover Life bee species guide and world checklist (Hymenoptera: Apoidea: Anthophila). http://www.discoverlife.org/mp/20q?guide=Apoidea_species (accessed 22 November 2016)
- Astafurova, Yu.V. 2014. *Bees of the subfamilies Rophitinae and Nomiinae (Hymenoptera, Halictidae) of the Russia and adjacent territories*. St. Petersburg, Moscow: KMK Scientific Press Ltd. 383 pp. [In Russian].
- Astafurova, Yu.V. & Pesenko, Yu.A. 2005. Contributions to the halictid fauna of the Eastern Palaearctic Region: subfamily Nomiinae (Hymenoptera: Halictidae). *Far Eastern Entomologist*, 154: 1–16.
- Astafurova, Yu.V. & Romankova, T.G. 2012. Additional data on three bee species of the genus *Panurginus* from *P. clavatus* species group (Hymenoptera: Andrenidae: Panurginae). *Zoosystematica Rossica*, 21(1): 145–157.
- Banaszak, J. & Romasenko, L. 2001. *Megachilid bees of Europe (Hymenoptera, Apoidea, Megachilidae). Second edition*. Bydgoszcz: Bydgoszcz University of Kazimierz Wielki. 239 pp.
- Bischoff, H. 1922. Der Formenkreis der *Andrena gallica* (Pérez i.l.) Schmidkn. (Hym. Ap.). *Deutsch Entomologische Zeitschrift*, 1922: 288–291.
- Dalla Torre, C.G. de. 1896. *Catalogus hymenopterorum hucusque descriptorum systematicus et synonymicus. Vol. X. Apidae (Anthophila)*. Lipsiae: G. Engelmann. VIII, 643 pp.
- Dalla Torre, K.W. & Friese, H. 1895. Synonymischer Katalog der europäischen Sammelbienen. *Entomologische Nachrichten*, 21: 37–50.
- Ducke, A. 1900. Die Bienengattung *Osmia* Panz. als Ergänzung zu Schmiedeknecht's "Apidae europaeae" Vol. II in ihren palaearktischen Arten monographisch bearbeitet. *Bericht des Naturwissenschaftlich-Medizinischen Vereins in Innsbruck*, 25: 1–323.
- Eversmann, E. 1852. Fauna hymenopterologica volgo-uralensis (Continuatio). *Bulletin de la Société Impériale Naturalistes de Moscou*, 25(3): 3–137.
- Friese, H. 1897. Monographie der Bienengattung *Panurginus* (Nyl.) (Palaearctische Formen). *Mitteilungen Schweizerischen entomologischen Gesellschaft*, 10: 9–34.
- Friese, H. 1909. Zur Synonymie der Apiden. *Deutsche Entomologische Zeitschrift*, 1909: 124–128.
- Gerstaecker, A. 1869. Beiträge zur näheren Kenntnis einiger Bienen-Gattungen. *Entomologische Zeitung*, 30: 139–184, 315–367.
- Guérin-Méneville, F.E. 1845. *Iconographie du Regne animal de G. Cuvier*. Paris: J.B. 576 pp., 104 Tafeln.
- Gusenleitner, F. & Schwarz, M. 2002. Weltweite checkliste der bienengattung *Andrena* mit bemerkungen und ergänzungen zu palaarktischen arten (Hymenoptera, Apidae, Andreninae, *Andrena*). *Entomofauna*. Suppl. 12, 1–1280.
- Hedicke, H. 1933. Beiträge zur Systematik der Gattung *Andrena* F. (Hym. Apid.). *Mitteilungen aus dem Zoologischen Museum in Berlin*, 19: 199–220.
- Hummel, A.-D. 1826. *Essais Entomologiques. No. V. Quelques Réflexions sur l'Etude de l'Historie Naturelle. Insectes de 1825*. St. Petersburg: Imprim. de la Chancell. privée du Ministr. de l'Interior. 51 pp.
- Ivanov, S.P., Filatov, M.A. & Fateryga, A.V. 2007. Checklist of megachilid-bees (Hymenoptera: Apoidea: Megachilidae) of Crimean fauna. In: Mishnev, V.G. (Ed.). *Ecosystems of Crimea, their optimization and protection*] Simferopol: TNU. 3–12. [In Russian].

- Ivanov, S.P., Filatov, M.A. & Fateryga, A.V. 2009. Megachilid-bees (Hymenoptera: Apoidea: Megachilidae) of the Karadag Nature Reserve and its outskirts. In: Gayevskaya, A.V. & Morozova, A.L. (Eds). *Karadag – 2009*. Sevastopol: ECOSI-Gidrofizika. 208–214. [In Russian].
- Kriechbaumer, J. 1873. Hymenopterologische Beiträge. III. *Verhandlungen der zoologisch-botanischen Gesellschaft in Wien*, 23: 49–68.
- Kuhlmann, M., Ascher, J.S., Dathe, H.H., Ebmer, A.W., Hartmann, P., Michez, D., Müller, A., Patiny, S., Pauly, A., Praz, C., Rasmont, P., Risch, S., Scheuchl, E., Schwarz, M., Terzo, M., Williams, P.H., Amiet, F., Baldock, D., Berg, Ø., Bogusch, P., Calabuig, I., Cederberg, B., Gogala, A., Giesenleitner, F., Josan, Z., Madsen, H.B., Nilsson, A., Ødegaard, F., Ortiz-Sanchez, J., Paukkunen, J., Pawlikowski, T., Quaranta, M., Roberts, S.P.M., Sáropataki, M., Schwenninger, H.-R., Smit, J., Söderman, G. & Tomozei, B. 2016. Checklist of the Western Palaearctic Bees (Hymenoptera: Apoidea: Anthophila). <http://westpalbees.myspecies.info> (accessed 18 December 2016).
- Kuhlmann, M. & Proshchalykin, M.Yu. 2014. The bees of the genus *Colletes* Latreille 1802 of the European part of Russia, with keys to species (Hymenoptera: Apoidea: Colletidae). *Zootaxa*, 3878(3): 201–247. DOI: 10.11646/zootaxa.3878.3.1
- Lepeletier de Saint-Fargeau, A.L.M. 1841. *Histoire Naturelle des Insectes – Hymenopteres*. Vol. 2. Paris: Roret. 680 pp.
- Mavromoustakis, G.A. 1953. New and little-known bees of the subfamily Anthidiinae (Apoidea) – Part VI. *Annals and Magazine of Natural History*, 12(6): 834–840.
- Michener, C.D. 2007. *The Bees of the World [2nd Edition]*. Baltimore: Johns Hopkins University Press. xvi+[i]+953 p. + 20 pls.
- Michener, C.D. & Griswold, T. 1994. The classification of Old World Anthidiini (Hymenoptera, Megachilidae). *The University of Kansas Science Bulletin*, 55(9): 299–327.
- Michez, D. & Eardley, C. 2007. Monographic revision of the bee genus *Melitta* Kirby 1802 (Hymenoptera: Apoidea: Melittidae). *Annales de la Société Entomologique de France*, 43(4): 379–440.
- Mocsáry, A. 1884. Species generis *Anthidium* Fabr. regionis palaearticae. *Termeszetrajzt Fuzetek*, 8: 241–278.
- Morawitz, F. 1866. Bemerkungen über einige vom Prof. Eversmann beschriebene Andrenidae, nebst Zusätzen. *Horae Societatis Entomologicae Rossicae*, 4(1): 3–28.
- Morawitz, F. 1869. Die Bienen des Gouvernements von St. Petersburg. *Horae Societatis Entomologicae Rossicae*, 6(2): 27–71.
- Morawitz, F. 1870. Beitrag zur Bienenfauna Russlands. *Horae Societatis Entomologicae Rossicae*, 7(2/3): 305–320.
- Morawitz, F. 1871[1870]. Beitrag zur Bienenfauna Russlands. *Horae Societatis Entomologicae Rossicae*, 7(4): 321–333.
- Morawitz, F. 1872. Neue suedrussische Bienen. *Horae Societatis Entomologicae Rossicae*, 9(1): 45–62.
- Morawitz, F. 1874. Die Bienen Daghestans. *Horae Societatis Entomologicae Rossicae*, 10(2/4): 129–189.
- Morawitz, F. 1886. Neue transcaucasische Apidae. *Horae Societatis Entomologicae Rossicae*, 20(1/2): 57–81.
- Müller A. 2016. Palaearctic Osmiine Bees, ETH Zürich, <http://blogs.ethz.ch/osmiini> (accessed 22 November 2016)
- Müller, O.F. 1766. Beschreibung der Insekten. In: Allioni, C., Manipulus Insectorum Taurinensium. *Mélanges de Philosophie et de Mathématique de la Société Royale de Turin*, 3: 185–198.
- Nylander, W. 1848. Adnotationes in expositionem monographicam apum borealium. *Notiser ur Sällskapets pro Fauna et Flora Fennica Forhandlingar*, 1: 165–282, pl. III.

- Ornosa, C., Ortiz-Sánchez, F.J. & Torres, F. 2008. Catálogo de los Megachilidae del Mediterráneo Occidental (Hymenoptera, Apoidea). III. Anthidiini Y Dioxyini. *Graellsia*, 64(1): 61–86.
- Osytshnjuk, A.Z. 1977. *Fauna of the Ukraine. Vol. 12. Bees. No. 5. Family Andrenidae*. Kiev: Naukova Dumka. 328 pp. [In Ukrainian].
- Osytshnjuk, A.Z. 1983. Three new species of the genus *Andrena* (Hymenoptera, Andrenidae) from Kazakhstan. *Vestnik zoologii*, 1: 20–27. [In Russian].
- Osytshnjuk, A.Z. 1986. New Palaearctic species of the subgenus *Euandrena* Hed. (Hymenoptera, Andrenidae, *Andrena* F.). *Entomologicheskoe obozrenie*, 65(2): 407–418. [In Russian].
- Osytshnjuk, A.Z. 1993a. New Palaearctic subgenera and species of the genus *Andrena* (Hymenoptera, Andrenidae). Report 2. *Vestnik zoologii*, 5: 60–66. [In Russian].
- Osytshnjuk, A.Z. 1993b. New Palaearctic species of the bee subgenus *Micrandrena* Ashmead (Hymenoptera, Andrenidae, *Andrena*). *Entomologicheskoe obozrenie*, 72(2): 401–409. [In Russian].
- Osytshnjuk, A.Z. 1994a. New subspecies of the Palaearctic *Andrena* bees (Hymenoptera, Andrenidae). *Vestnik zoologii*, 1: 30–36. [In Russian].
- Osytshnjuk, A.Z. 1994b. New Palaearctic subgenera and species of the genus *Andrena* (Hymenoptera, Andrenidae). Report 3. *Vestnik zoologii*, 4/5: 17–23, 34. [In Russian].
- Osytshnjuk, A., Romasenko, L., Banaszak, J. & Cierzniak, T. 2005. *Andreninae of the Central and Eastern Palaearctic. Part 1*. Polish Entomological Monographs. Vol. 2. Poznań, Bydgoszcz: Polish Entomological Society. 235 pp.
- Osytshnjuk, A., Romasenko, L., Banaszak, J. & Motyka, E. 2008. *Andreninae of the Central and Eastern Palaearctic. Part 2*. Polish Entomological Monographs. Vol. 5. Poznań, Bydgoszcz: Polish Entomological Society. 233 pp.
- Patiny, S. 2003. Contemporary distributions of *Panurginus* species and subspecies in Europe. *Proceedings of the 13th International Colloquium, European Invertebrate Survey*. Leiden, 2001. 115–121 pp.
- Pérez, J. 1895. *Espèces nouvelles de Mellifères de Barbarie. (Diagnoses préliminaires)*. Bordeaux: Gounouilhou. 64 pp.
- Perkins, R.C.L. 1895. On two apparently undescribed British Species of Andrenidae. *The Entomologist's Monthly magazine*, 2(6): 39–40.
- Pesenko, Yu.A. 1986. An annotated key to the Palaearctic species of bees of the genus *Lasioglossum* sensu stricto (Hymenoptera, Halictidae) for females, with descriptions of new subgenera and species. *Proceedings of the Zoological Institute of the Academy of Sciences of the USSR*, 159: 113–151. [In Russian].
- Pesenko, Yu.A. 2007. Subfamily Halictinae. In: Lelej, A.S. (Ed.). *Key to the insects of Russian Far East. Vol. 4. Pt.5*. Vladivostok: Dal'nauka. 824–878. [In Russian].
- Pesenko, Yu.A. & Astafurova, Yu.V. 2003. Annotated bibliography of Russian and Soviet publications on the bees (Hymenoptera: Apoidea; excluding *Apis mellifera*): 1771–2002. *Denisia*, 11: 1–616.
- Pittioni, B. 1948. *Andrena (Andrenella) enslinella* Stckht. und ihre Verwandten (Hym., Apid.). Beiträge zur Kenntnis paläarktischer Apiden II. *Annalen des Naturhistorischen Museums in Wien*, 56: 130–149.
- Popov, V.B. 1933. Palaearctic forms of the tribe Stelidini Roberts. (Hymenoptera, Megachilidae). *Proceedings of the Zoological Institute of the Academy of Sciences of the USSR*, 1932, 1(3/4): 375–414. [In Russian].
- Popov, V.B. 1946. Notes on the nomenclature of the bees (Hymenoptera, Apoidea). *Proceedings of the Royal Entomological Society of London (B)*, 15 (9/10): 106–109.
- Popov, V.B. 1949. The subgenus *Plastandrena* Hedicke and its new forms (Hymenoptera, Apoidea). *Entomologicheskoe Obozrenie*, 30(3/4): 389–404. [In Russian].

- Popov, V.B. 1958. On three subgeneric andrenid groupings (Hymenoptera, Andrenidae). *Transactions of the Russian Entomological Society*, 46: 109–161. [In Russian].
- Popov, V.B. 1960. On the O. Radoszkowski's collection of Hymenoptera. *Entomologicheskoe obozrenie*, 39(1): 237–240. [In Russian].
- Popov, V.B. 1961. On the evolution of bees of the genera *Protosmia* Ducke and *Chelostomopsis* Ckll. (Hymenoptera, Megachilidae). *Zoologicheskiy zhurnal*, 40(3): 359–371. [In Russian].
- Proshchalykin, M.Yu. 2012. Section Apiformes. In: Lelej, A.S. (Ed.). *Annotated catalogue of the insects of Russian Far East. Volume I. Hymenoptera*. Vladivostok: Dal'nauka. 448–473. [In Russian].
- Proshchalykin, M.Yu. 2013a. New records of bees (Hymenoptera, Apoidea, Apiformes) from Siberia. *A.I. Kurentsov's Annual Memorial Meetings*, 24: 135–148. [In Russian].
- Proshchalykin, M.Yu. 2013b. The bees of the tribe Anthidiini Ashmead, 1899 (Hymenoptera: Apoidea: Megachilidae) of Siberia and the Russian Far East. *Caucasian entomological bulletin*, 9(1): 147–158. [In Russian].
- Proshchalykin, M.Yu. 2014a. The species-group names of bees (Hymenoptera: Apoidea, Apiformes) described from the Russian Far East. Part I. Families Colletidae, Andrenidae and Melittidae. *Euroasian entomological journal*, 13(5): 481–488.
- Proshchalykin, M.Yu. 2014b. The species-group names of bees (Hymenoptera: Apoidea, Apiformes) described from the Russian Far East. Part II. Families Halictidae, Megachilidae and Apidae. *Euroasian entomological journal*, 13(6): 527–534.
- Proshchalykin, M.Yu. & Astafurova, Yu.V. 2016. The species-group names of bees (Hymenoptera: Apoidea, Apiformes) described from Crimea, North Caucasus, European part of Russia and Ural. Part I. Families Colletidae and Halictidae. *Far Eastern Entomologist*, 312: 1–20.
- Proshchalykin, M.Yu. & Lelej, A.S. 2013. The species-group names of bees (Hymenoptera: Apoidea, Apiformes) described from Siberia. *Euroasian entomological journal*, 12(4): 315–327.
- Radoszkowski, O. 1862a. *Megachile Dohrni* nob. *Stettiner Entomologische Zeitung*, 23(4/6): 271–272.
- Radoszkowski, O. 1862b. Sur quelques Hyménoptères nouveaux ou peu connus (Suite). *Bulletin de la Société Impériale Naturalistes de Moscou*, 35(1/2): 589–598.
- Radoszkowski, O. 1867. Matériaux pour servir à l'étude des insectes de la Russie. IV. Notes sur quelques Hyménoptères de la tribu des Apides. *Horae Societatis Entomologicae Rossicae*, 5(3):73–90.
- Radoszkowski, O. 1874. Supplément indispensable à l'article publié par M. Gerstaecker en 1869, sur quelques genres d'hyménoptères. *Bulletin de la Société Impériale des Naturalistes de Moscou*, 48: 132–163.
- Radoszkowski, O. 1886. Fauna hyménoptérologique transcaspienne. *Horae Societatis Entomologicae Rossicae*, 20(1): 3–56.
- Radoszkowski, O. 1887. Sur quelques *Osmia* russes. *Horae Societatis Entomologicae Rossicae*, 21(3/4): 274–293.
- Romankova, T.G. & Astafurova, Yu.V. 2011. Bees of the genus *Panurginus* in Siberia, Far East of Russia, and allied areas (Hymenoptera: Andrenidae, Panurginae). *Zootaxa*, 3112: 1–35.
- Romasenko, L.P. & Banaszak, J. 2002. Notes on the specific status of *Chalicodoma saussurei* (Radoszkowski, 1874) (Hymenoptera: Apoidea: Megachilidae). *Genus*, 13(3): 397–404.
- Schmiedeknecht, O. 1884. Apidae Europaeae (Die Bienen Europas) per genera, species et varietates dispositae atque descriptae. Tomus I. *Nomada, Bombus, Psithyrus et Andrena*. Gumperda & Berlin. 866 pp.

- Scheuchl, E. 2010. Beitrag zur kenntnis westpaläarktischer bienen der gattung *Andrena* (Hymenoptera: Apidae: Andreninae). *Linzer biologische Beiträge*, 42(2): 1445–1455.
- Schrank, F. 1781. *Enumeratio Insectorum Austriae indigenorum*. Klett: Augustae Vindelicorum. 9 + 548 pp., 4 Tafeln.
- Schwarz, M. 2001. Revision der gattung *Radoszkowskiana* Popov 1955 und ein beitrag zur kenntnis der gattung *Coelioxys* Latreille 1809 (Hymenoptera, Apidae: Megachilinae). *Linzer biologische Beiträge*, 33(2): 1267–1286.
- Schwarz, M. & Gusenleitner, F. 2003. Ergebnisse der untersuchung von F. Morawitz beschriebener *Coelioxys*-arten, so wie weiterer von Eversmann, Friese und Radoszkowski beschriebener arten, nebst einigen bemerkungen (Hymenoptera: Apidae: Megachilidae). *Linzer biologische Beiträge*, 35(2): 1221–1239.
- Schwarz, M., Gusenleitner, F., Westrich, P. & Dathe, H.H. 1996. Katalog der bienen Österreichs, Deutschlands und der Schweiz (Hymenoptera, Apidae). *Entomofauna. Suppl.* 8: 1–398.
- Tkalcù, B. 1975. Revision der europäischen *Osmia (Chalcosmia)*-Arten der *fulviventris*-Gruppe (Hymenoptera: Apoidea: Megachilidae). *Vestnik Ceskoslovenske spolecnosti zoologicke*, 39, 297–317.
- Thomson, C.G. 1870. *Opuscula entomologica. Vol. 2*. Lund: Håkan Ohlson. 83–304 pp.
- Warncke, K. 1965. Beitrag zur Kenntnis der Bienengattung *Andrena* F. in der Türkei (Hymenoptera, Apoidea). *Mitteilungen der Munchner Entomologischen Gesellschaft*, 55: 244–273.
- Warncke, K. 1967. Beitrag zur Klärung paläarktischer *Andrena*-Arten (Hym. Apidae). *Eos*, 43: 171–318.
- Warncke, K. 1975. Die Sandbienen der Türkei (Hymenoptera, Apoidea, *Andrena*), Teil B. *Mitteilungen der Munchner Entomologischen Gesellschaft*, 65: 29–102.
- Warncke, K. 1976. Die Bienengattung *Andrena* F., 1775 in Iberien (Hym. Apidae) Teil B. *Eos*, 50: 119–223.
- Warncke, K. 1980. Die Bienengattung *Anthidium* Fabricius, 1804 in der Westpaläarktis und im turkestanischen Becken. *Entomofauna*, 1(10): 119–209.
- Warncke, K. 1992. Die westpaläarktischen Arten der Bienengattung *Stelis* Panzer, 1806 (Hymenoptera, Apidae, Megachilinae). *Entomofauna*, 13(22): 341–374.
- Zanden, G. van der. 1981. Eine neue paläarktische *Osmia*-art aus der untergattung *Diceratosmia* Rob. (Hymenoptera, Apoidea, Megachilidae). *Reichenbachia*, 19: 153–156.
- Zanden, G. van der. 1984. Neue paläarktische taxa der familie Megachilidae (Hymenoptera, Apoidea, Megachilidae). *Reichenbachia*, 22: 175–191.
- Zanden, G. van der. 1988. Beitrag zur systematik und nomenklatur der paläarktischen *Osmiini*, mit angaben über ihre verbreitung. *Zoologische Mededelingen*, 62: 113–133.
- Zanden, G. van der. 1991. Systematik und verbreitung der paläarktischen arten der untergattung *Caerulosmia* van der Zanden, 1989 (Hymenoptera, Apoidea, Megachilidae). *Linzer Biologische Beiträge*, 23: 37–78.
- Zanden, G. van der. 1994. Neue arten und unterarten, eine neue untergattung und einige neue Fälle von synonymie der paläarktischen bauchsammler. *Reichenbachia*, 30(2): 167–172.
- Zanden, G. van der. 1995. Synonymie paläarktischer Arten der familie Megachilidae (Insecta, Hymenoptera, Apoidea). *Linzer Biologische Beiträge*, 27(1): 427–434.
- Zanden, G. van der. 1996. Neue Arten und Synonyme bei paläarktischen Bauchsammeln (Hymenoptera aculeata, Apoidea, Megachilidae). *Linzer Biologische Beiträge*, 28: 883–895.