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Illustrated and annotated checklist of the Russian cuckoo wasps (Hymenoptera, Chrysididae)

Paolo ROSA, Arkadiy S. LELEJ, Sergey A. BELOKOBYSKIJ,
Nikolay B. VINOKUROV, Liubov A. ZAYTSEVA

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Stilbum calens (FABRICIUS, 1781), originally described from Siberia (Photo: Heinz Wiesbauer)

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Abstract

An updated and annotated checklist of the Russian Chrysididae is here presented with some taxonomic notes. A total of 340 species and 13 subspecies belonging to 23 genera and two subfamilies, Cleptinae and Chrysidinae, are listed. Additionally, the checklist includes an additional 39 species described or cited generically for Caucasus without any precise locality and possibly collected in the Russian Caucasus for a total of 392 species and subspecies. Further notes are provided for an additional 36 species and subspecies cited for Russia but considered doubtful and debatable.

Zusammenfassung

Eine aktualisierte Checkliste der russischen Chrysididae mit taxonomischen Anmerkungen wird hier vorgestellt. Insgesamt sind 340 Arten und 13 Unterarten aus 23 Gattungen und zwei Unterfamilien, Cleptinae und Chrysidinae, aufgeführt. Darüber hinaus enthält die Checkliste weitere 39 Arten, die ohne genauen Fundort beschrieben wurden und möglicherweise im russischen Kaukasus gesammelt wurden. Insgesamt enthält die Liste so 392 Arten und Unterarten. Weitere 36 aus Russland gemeldete Arten und Unterarten, die als zweifelhaft gelten, werden kommentiert.

Introduction

The Chrysididae, commonly known as cuckoo wasps, jewel wasps or ruby tail wasps (*осы-блестянки* or *золотые осы*) are a cosmopolitan family and include about 2,815 species in the world (ROSA et al. 2017b), subdivided into 95 genera. The Russian species belong to two subfamilies, Cleptinae and Chrysidinae, parasitoids or cleptoparasites of other Hymenoptera (sawflies, solitary wasps and bees) and Lepidoptera (KIMSEY & BOHART 1991; ROSA et al. 2017b). Another subfamily (Amiseginae), not yet recorded in the Palaearctic region with the exception of Japan, is expected for the Russian Far East (KURZENKO & LELEJ 2007) and members of this subfamily are known as egg parasites of walking sticks (Phasmatidae).

As in Europe, the highest diversity of cuckoo wasps is found in the southern part of Russia and relatively few species have been observed in the northern part (ROSA et al. 2017b). In fact, chrysidids are usually thermophilous and search for sandy sites, clay brick and stone walls, rocky steppes, deserts and semideserts; but they can be found also in forest margins, clearings with sun-exposed dead tree trunks and stumps and gardens with sun-exposed dead wood, on wooden walls, wood poles and fence posts and all places where their hosts live (ROSA 2006; TYRNER 2007; PAUKKUNEN et al. 2015). In the highest latitude and on mountains they fly on rocky outcrops and alpine meadows (ROSA 2006; PAUKKUNEN et al. 2015; ROSA et al. 2017i). Adults can be often observed feeding on flowers as Apiaceae and Euphorbiaceae, but many other flowers are occasionally visited by chrysidids (ROSA 2004).

Despite Russia being the largest country in the world, extending across the entirety of northern Asia and much of eastern Europe and incorporating a wide range of

environments and landforms, the studies on Chrysididae are unexpectedly scarce (ROSA et al. 2017b). The first comprehensive catalogue RADOSZKOWSKI (1866) included 60 species and the only keys, restricted to the European part of USSR, were compiled by GUSSAKOVSKIJ (1948) and NIKOL'SKAYA (1978). Only recently, ROSA et al. (2017b) published a new catalogue for the Russian Federation, including 330 species subdivided in 23 genera.

The first species described and recorded for Russia, *Chrysis grandior* (currently *Parnopes grandior*), was published by PALLAS (1771), and soon followed by the description of *Chrysis calens* (currently *Stilbum calens*), from Siberia, published by FABRICIUS (1781). Nevertheless, the beginning of chrysidid research in the Russian countries dates back to DAHLBOM (1854), who compiled all known information on chrysidids published at that time, provided keys to all known genera and species, even describing some Russian Chrysididae (*Hedychrum chalybaeum*, *H. aheneum*, *H. virens*).

Eduard Friedrich EVERSMAHN (1858) was the first author who focused on the Russian Fauna. In his *Fauna Hymenopterologica Volgo-Uralensis* Eversmann described seven Chrysididae species: *Chrysis amoena*, *C. cylindrica*, *Elampus ambiguus*, *E. bidentatus*, *E. femoralis*, *Hedychrum flavipes* and *Parnopes popovi*. Five of these species were later redescribed by RADOSZKOWSKI (1866).

The first local catalogue was provided by ASSMUSS (1862), for the Moscow Governorate. However, the first and only catalogue of the Russian Chrysididae was compiled by RADOSZKOWSKI (1866), who listed 60 species for the Russian Empire, which, at that time comprised different countries and regions (e.g. Poland and Caucasus). Radoszkowski was an expert hymenopterist and one of the founders of the Russian Entomological Society. He described 80 new species of Chrysididae from different countries (ROSA et al. 2015e), mostly received from A.P. Fedtschenko (from Kazakhstan, Uzbekistan, Kyrgyzstan and Tajikistan), L. F. Młokosiewicz (from Caucasus), and other collectors, including A.N. Manderstjern and C. Bartholomaeus (from various Russian locations) (RADOSZKOWSKI 1866).

At the end of the XIX century, a new research period provided a new impulse to the knowledge of the Russian Chrysididae. In particular, chrysidids from Caucasus, collected by Młokosiewicz, and from lower Volga, mostly collected by A.K. Becker and B. von Bodemeyer at Sarepta (BECKER 1865, 1869, 1880), were sent to various European and Russian entomologists. TOURNIER (1879), MOCSÁRY (1889), RADOSZKOWSKI (1889), SEMENOV (1891a, 1912) and TRAUTMANN (1926) described several species based on this material. As a consequence, the Chrysididae fauna of lower Volga and Caucasus is, still today, the best investigated in Russia.

Between the end of the XIX century and the beginning of the XX century, A. Semenov took over from Radoszkowski the study of Central Asian chrysidids. Semenov described 349 species and varieties as well as 32 genera and subgenera mostly from southern countries of USSR (ROSA et al. 2017a). His contribution to the Russian fauna was also fundamental, especially for the study of the genus *Cleptes* LATREILLE, 1802 (SEMENOV 1891a, 1920) and the tribe Elampini (SEMENOV 1932), the first part of an unfinished work on the Chrysididae from Russia, Soviet countries and other bordering countries. Three of his most famous papers (SEMENOV 1954, 1967; SEMENOV & NIKOL'SKAYA 1954) were published after his death in 1942. Apparently, descriptions of new species

attributed to Semenov were dictated to Nikol'skaya after 1932 (ROSA et al. 2017a). In fact, Nikol'skaya edited and published these articles and some species were attributed to both authors. Nevertheless, these works without keys and illustrations, with short diagnoses and written in Russian, remained mostly unknown to the Western entomologists, and sometimes obscure also for Russian entomologists because of difficulty studying without direct examination of type material. Almost all type specimens by Semenov are deposited at the Zoological Institute of St. Petersburg and at the Museum of the Zoological Museum of the Moscow Lomonosov State University, and we recently provided two update studies of these types, providing pictures of primary types (ROSA et al. 2015a, 2017a). Types by Eversmann and Radoszkowski are deposited at the Invertebrate collections of the Institute of Systematics and Evolution of Animals, Polish Academy of Sciences in Kraków, Poland), but some syntypes and paralectotypes are also found in the Museums of Natural History in Berlin, Budapest, Genoa and Paris (ROSA et al. 2015e).

NIKOL'SKAYA (1978) provided the key to the Chrysididae of the European part of the USSR. This key is the only one written in Russian and is still largely in use today. It is mainly based on LINSENMAIER (1959) and MÓCZÁR (1967a) monographs, without contribution of new data and new records. NIKOL'SKAYA (1978) listed 99 species, which represent a small percentage compared with the European fauna, currently counting about 600 species and subspecies (LINSENMAIER 1959; MITROIU et al. 2015).

Still today the Russian fauna is poorly studied, and recent distributional data are fragmented and relate more to some provinces and republics than others, and are more concentrated in the European part and Urals: Moscow Prov. (ZVANTSOV 1988; SHCHERBAKOV 2008), Penza Prov. (STOJKO & POLUMORDVINOV 2004; SHIBAEV 2006a), Pskov Prov. (FEDOROV 1999; RESHCHIKOV 2002; VERSHININA et al. 2006), Ulyanovsk Prov. (BLAGOVESCHENSKAYA 1990, 1994), Chelyabinsk Prov. (RUDOISKATEL 1999a, 2008b), Bashkir Republic (RUDOISKATEL 2004b, 2011b), North Ossetian Republic (ZVANTSOV 1987), and Sverdlovsk Prov. (RUDOISKATEL 2011a). Some recent data on the Crimean fauna were published by IVANOV & FATERYGA (2006), BRUSTILO (2008), FATERYGA (2012), FATERYGA & IVANOV (2009, 2013), MARTYNOVA & FATERYGA (2014). Recently N.B. Vinokurov started a research project based on the North Caucasian chrysidids, in particular on Stavropol Territories (VINOKUROV 2004, 2006e, 2007a, 2011b, 2013d, 2014a, 2015c), Kabardino-Balkarian Republic (VINOKUROV 2006a, b, 2010a, b, 2011a, 2012c, e), Karachayevo-Cherkess Republic (VINOKUROV 2014b, d), and North Ossetian Republic (VINOKUROV 2005) enlarging the knowledge of this family and increasing the total number of Russian species.

KURZENKO & LELEJ (2007) and LELEJ & KURZENKO (2012) provided a checklist of the known species for the Russian Far East, including expected species, based on findings in adjacent territories.

PAUKKUNEN et al. (2014) listed 39 species for Russian Fennoscandia, evidencing that the number of known species is very low compared with the other Nordic and Baltic countries (73 species) and this is due to the low research activity. Most published records of chrysidids from the Russian part of Fennoscandia date back to the 19th century and the beginning of the 20th century, when parts of the region belonged to Finland. However, several Russian articles have been published in recent decades, which include information on chrysidids from the area. Most of them were published by Andrei Humala

and his colleagues from the Republic of Karelia, northwestern Russia (e.g. HUMALA 1997, 2004; HUMALA & POLEVOI 2008, 2009, 2012; KUTENKOVA 2008; POLEVOI & HUMALA 2011; POLEVOI et al. 2005; JAKOVLEV et al. 1999).

Lastly, a recent period of intense research activity in Siberia, Caucasus, Southern Russia and Far East has led to the discovery of about 50 new records for Russia (ROSA et al. 2017d, e, f, g) and 24 new species found in the collections of the Zoological Institute (St. Petersburg) and Institute of Biology and Soil Science (Vladivostok) as well as in private collections (ROSA et al. 2017d).

More generally, old identifications are often difficult to evaluate because they are clearly outdated. Also, some species (e.g. *C. ignita*, *C. succincta* and *C. viridula*) are now considered species groups and therefore the accuracy of these identification is doubtful. Furthermore misidentifications have been also noted in recent publications even to genus level (e.g. LEONTEV 2015).

The aim of this study is to present all data collected and studied for the catalogue of the Russian Chrysididae (ROSA et al. 2017b), with a modern interpretation of the taxa and a detailed list of published papers from PALLAS (1771) till today. In fact, different systematic classifications are currently in use in Russian literature: SEMENOV (1932, 1954, 1967), LINSSENMAIER (1959, 1968, 1997a), NIKOL'SKAYA (1978), and KIMSEY & BOHART (1991), thus increasing confusion in local researches. Authors often use genera and subgenera according to their personal intuitions, rather than looking for a stable systematic approach. Even if we do not fully agree with the classification proposed by KIMSEY & BOHART (1991) we have adopted it for practical reasons (KURZENKO & LELEJ 2007; ROSA 2005, 2006; ROSA et al. 2013, 2014, 2017a, b). KIMSEY & BOHART's (1991) volume is the only world-wide reference on Chrysididae and we think that it is better to standardise and fix the nomenclature according to this monograph and following articles, which improved the composition of the genera proposed by the American authors (NIEHUIS 2000, 2001; ROSA 2005, 2006, 2017b; ROSA et al. 2013, 2014, 2015a, b, c).

Moreover, we here increase the checklist presented by ROSA et al. (2017b) and already updated by Rosa (2018b), including 40 species known only for the generic locality "Caucasus". Indeed, taxa collected in "Caucasus" could be also present in Northern Caucasus or have been collected and described from the Russian part of Caucasus, without any mention on the precise type locality. We include these data for a better understanding of the species composition of Russian fauna. Lastly, in Appendix A, we propose a species list based on species groups and supposed relationships between taxa according to LINSSENMAIER (1959), PAUKKUNEN et al. (2015) and PAULI et al. (in submission) to facilitate the study of this family to future researchers.

Geoscheme for Russia

Changing boundaries and countries included in the Russian Empire, USSR and Russia Federation increased confusion in various European authors, thus many species originally recorded in Kazakhstan or Tajikistan have been reported in literature from "southern Russia" and later as "Russia", as well as records from Georgia and Azerbaijan (e.g. LINSSENMAIER 1968, 1997a). Some of these records are listed apart. Old citations,

such as *Russia australis*, *Russia meridionalis*, *occidentalis*, and *Caucasus* are not easy to localise on a map. Many citations for "Caucasus" without any precise locality also exist in literature; these citations are included in the checklist anyway. We report the general localities "Russia", "southern Russia" and "Caucasus" found in literature without precise locality for the following reasons: (1) many species have been described with the locality "Russia" or "Caucasus" and no recent collecting information is available; (2) in European collections the oldest records do not bear precise locality labels, but only general handwritten labels "Russia" (ROSA & XU 2015); (3) some of the most important authors (e.g. DU BUYSSON (1891–1896), LINSSENMAIER (1959, 1968), TRAUTMANN (1927)) examined Russian specimens in their large collections (Berlin, Luzern, Paris) and reported the locality "Caucasus" or "southern Russia", without precise localities, because they were unable to transliterate the collecting labels or didn't know how to geolocalize the collecting places (e.g. LINSSENMAIER 1959, 1968, 1969, 1987, 1997a, b; ROSA et al. 2015b); we here report the list of Russian specimens examined by Linsenmaier (under "Material examined"); (4) the preparation of a monograph on the Russian Fauna requires years of work; waiting for this volume, we here provide all the known data in literature related to Russian specimens, including not only distributional data, but also available information on biology, ecology, figures, and remarks to assist entomologists in their study on the local fauna.

The distribution for the Russian Chrysididae presented in this checklist follows "West–East" and "North–South" patterns and is given according the geoschemes mentioned below (Map 1).



Map 1. Geoscheme for Russia.

European part (EUR): **North** (Murmansk Prov., Arkhangelsk Prov., Karelian Rep., Vologda Prov., Komi Rep.), **North-West** (Kaliningrad Prov., Leningrad Prov., Pskov Prov., Novgorod Prov.), **Centre** (Tver Prov., Yaroslavl Prov., Kostroma Prov., Smolensk Prov., Moscow Prov., Vladimir Prov., Ivanovo Prov., Nizhny Novgorod Prov., Kaluga

Prov., Tula Prov., Ryazan Prov., Mordovian Rep., Bryansk Prov., Orel Prov., Lipetsk Prov., Tambov Prov., Penza Prov., Kursk Prov., Belgorod Prov., Voronezh Prov.), **East** (Kirov Prov., Udmurt Rep., Mari El Rep., Chuvash Rep., Tatar Rep., Ulyanovsk Prov., Samara Prov., Saratov Prov.), **South** (Rostov Prov., Volgograd Prov., Kalmyk Rep., Astrakhan Prov.), **North Caucasus** (Krasnodar Terr., Stavropol Terr., Adygei Rep., Karachayevo-Cherkess Rep., Ingush Rep., Kabardino-Balkarian Rep., North Ossetian Rep., Chechen Rep., Dagestan Rep.), **Crimea** (Crimea Rep., Sevastopol);

Ural (UR): Perm Terr., Sverdlovsk Prov., Bashkir Rep., Chelyabinsk Prov., Orenburg Prov., Kurgan Prov.;

Western Siberia (WS): Tyumen Prov. (TM), Omsk Prov. (OM), Tomsk Prov. (TK), Novosibirsk Prov. (NS), Kemerovo Prov. (KM), Altai (AL) (including Altai Rep. and Altai Terr.);

Eastern Siberia (ES): Khakass Rep. (KS), Tuva Rep. (TU), Krasnoyarsk Terr. (KR), Irkutsk Prov. (IR), Buryat Rep. (BR), Yakutsk Rep. (YA), Zabaikalskii Terr. (ZB);

Far East (FE): Amur Prov. (AM), Khabarovsk Terr. (including Jewish Autonomous Region) (KH), Primorskii Terr. (PR), Sakhalin (SA), Kuril Islands (KU), Kamchatka Terr. (KA), Magadan Prov. (MG), Chukot Autonomous Area (CH).

Even if the Chrysidid fauna of few regions (Caucasus, Crimea and lower Volga) is well known, the species composition in large parts of Russia is almost unknown. Several administrative regions (Provinces and Territories) or Republics are too poorly studied. For example, no chrysidid has been recorded yet in the Provinces of Smolensk, Orel and Kaliningrad, even if the fauna of the adjacent countries (Poland, Lithuania and Belarus) is well studied (BANASZAK 1980; SHLYAKHTENOK 2006; ORLOVSKYTĚ et al. 2010; PAUKKUNEN et al. 2014; MARTYNOVA & FATERYGA 2015; WIŚNIEWSKI 2015). The chrysidid fauna of Siberia and the Russian Far East are very poorly known as well, and only 41 species were recorded from Far East (LELEJ & KURZENKO 2012).

Material

This checklist includes species-group names of the Chrysididae so far recorded for Russia and Caucasus: 379 species and 13 subspecies belonging to 23 genera. We include records of Caucasian taxa described or cited for Caucasus without precise localities, because the collecting location could be in Russian Caucasus and these species are anyway expected for North Caucasus (Russian administrative regions, see Map 1). The Russian fauna, excluding Caucasian taxa without precise localities, includes 340 species and 13 subspecies (3 species are added after ROSA et al. 2017b and Rosa 2018b: *Chrysis apicalis* (from Sarepta), *C. erivanensis* (Mt. Kaszbek), *C. schousboei* (very likely a misidentification of similar species, see below). Russian taxa are listed in italic and bold, whereas Caucasian taxa without precise records is preceded by an *asterisk.

The classification and arrangement of the taxa is presented according to higher level classification (subfamilies and tribes) proposed by KIMSEY & BOHART (1991) with few exceptions (e.g. ROSA 2017b; ROSA et al. 2015d). The arrangement of the genera within tribes is given in alphabetical order, as well as arrangement of species name within

genera. The final supposed relationships in Appendix A for species groups are based on the following sources: *Cleptes*: MÖCZÁR (1997a, 1997b, 1998a, 1998b, 1998c, 2000a, 2000b, 2001); *Chrysellampus*, *Colpopyga*, *Philoctetes*, *Trichrysis* (Rosa 2018b; Rosa et al. 2015d, 2016); *Hedychridium*, *Hedychrum*, *Holopyga*, *Euchroeus*, *Chrysis*: LINSENMAIER (1959, 1968, 1997a, 1997b); *Omalus*, *Pseudomalus* and *Philoctetes* (partim), *Chrysurus* KIMSEY & BOHART (1991), LINSENMAIER (1959, 1968, 1987, 1997a, 1997b). Relationships and systematic order of *Chrysis* groups are based on molecular data and host association (PAULI et al., 2018; PAULI et al., in submission).

The species treatments include valid name, original combination and reference to original description, type specimens and their depositories, synonyms and incorrect subsequent spellings (marked with (!) and only mentioned if used in connection with the cited records from the study area) in chronological order, separated by a semicolon; followed by remarks on distribution and taxonomy. Each reference includes information provided by authors (biology [biol.], catalogue [cat.], description [descr.], distribution [distr.], ecology [ecol.], key, misidentification [mis.], taxonomy [tax.], lecto- or neotype designation). New records are asterisked (*) in distribution and material. Exact collection data (locality, date, number of specimens, collector) is presented for all new species. Records are grouped according to the Geoscheme for Russia (see above).

Name spellings of three Russian authors, namely Radoszkowski (also spelled Radoszkovsky, Radoszkowsky and Radoczkowski), Semenov-Tian-Shanskij (also spelled Semenow, Semenov-Tian-Shansky, Semenov) and Nikol'skaya (also spelled Nikol'skaja or Nikolskaja) are standardised according to KIMSEY & BOHART (1991). In references and citations, the spellings of these two authors are given according to the names as printed in the original publications.

Material has been checked from the following collections:

GLA – Gian Luca Agnoli Collection, Bologna (Italy);

IBSS – Institute of Biology and Soil Science, Vladivostok (Russia);

MMC – Mikhail Mokrousov Collection, Nizhny Novgorod (Russia);

NMLS – NaturMuseum, Luzern (Switzerland);

NVC – Nikolay Vinokurov Collection, Mineralnye Vody (Russia);

PRC – Pavel Rudoiskatel Collection, Ekaterinburg (Russia);

RCM – Paolo Rosa Collection, Milan, (Italy);

ZIN – Zoological Institute (St. Petersburg).

List of the species

I. Subfamily Cleptinae

1. Genus *Cleptes* LATREILLE, 1802

Cleptes LATREILLE, 1802: 316. Type species: *Sphex semiaurata* LINNAEUS, 1761, by monotypy.

- Holcoleptes* MÓCZÁR, 1962: 118 (as subgenus of *Cleptes* LATREILLE, 1802). Type species: *Cleptes aerosus* FÖRSTER, 1853, by monotypy and original designation. Junior subjective synonym of *Cleptes* LATREILLE, 1802 according to KIMSEY & BOHART 1991: 53.
- Leioleptes* MÓCZÁR, 1962: 118 (as subgenus of *Cleptes* LATREILLE, 1802). Type species: *Cleptes nitidulus* FABRICIUS, 1793, by original designation. Junior subjective synonym of *Cleptes* LATREILLE, 1802 according to KIMSEY & BOHART 1991: 53.
- Zimmermannia* MÓCZÁR, 1962: 120 (as subgenus of *Cleptes* LATREILLE, 1802). Type species: *Cleptes ignitus* FABRICIUS, 1787, by original designation. Junior subjective synonym of *Cleptes* LATREILLE, 1802 according to KIMSEY & BOHART 1991: 53.
- Melanocleptes* MÓCZÁR, 1962: 122 (as subgenus of *Cleptes* LATREILLE, 1802). Type species: *Cleptes morawitzi* RADOSZKOWSKI, 1877, by original designation. Junior subjective synonym of *Cleptes* LATREILLE, 1802 according to KIMSEY & BOHART 1991: 54.
- Chrysocleptes* MÓCZÁR, 1962: 122 (as subgenus of *Cleptes* LATREILLE, 1802). Type species: *Cleptes putoni* DU BUYSSON, 1886, by original designation. Junior subjective synonym of *Cleptes* LATREILLE, 1802 according to KIMSEY & BOHART 1991: 54.
- Oxycleptes* MÓCZÁR, 1962: 124 (as subgenus of *Cleptes* LATREILLE, 1802). Type species: *Cleptes orientalis* DAHLBOM, 1854, by monotypy and original designation. Junior subjective synonym of *Cleptes* LATREILLE, 1802 according to KIMSEY & BOHART 1991: 54.
- Neocleptes* KIMSEY, 1981: 816 (as subgenus of *Cleptes* LATREILLE, 1802). Type species: *Cleptes fritzi* KIMSEY, 1981, by monotypy and original designation. Junior subjective synonym of *Cleptes* LATREILLE, 1802 according to KIMSEY & BOHART 1991: 54.
- Maculosicleptes* MÓCZÁR, 1998c: 510 (as subgenus of *Cleptes* LATREILLE, 1802). Type species: *Cleptes dahlbomi* SEMENOV, 1920 (replacement name for *Cleptes aurata* DAHLBOM, 1845, nec PANZER, 1798), by original designation. Junior subjective synonym of *Cleptes* LATREILLE, 1802 according to ROSA et al. 2017b: 126.

R e m a r k s . KIMSEY & BOHART (1991) synonymised all subgenera with *Cleptes* LATREILLE, 1802. The genus *Cleptes* LATREILLE was later revised by MÓCZÁR (1996b, 1997a, 1997b, 1998a, 1998b, 1998c, 2000a, 2000b, 2001, 2009). Again MÓCZÁR adopted the subgeneric system, revalidated five subgenera previously synonymized by KIMSEY & BOHART (1991): *Cleptes* (*Holcoleptes*) MÓCZÁR, 1962, *Cleptes* (*Leioleptes*) MÓCZÁR, 1962, *Cleptes* (*Chrysocleptes*) MÓCZÁR, 1962, *Cleptes* (*Oxycleptes*) MÓCZÁR, 1962, *Cleptes* (*Neocleptes*) KIMSEY, 1981, and described a new subgenus: *Cleptes* (*Maculosicleptes*) MÓCZÁR, 1998. We here adopt KIMSEY & BOHART (1991) classification and consequently the synonym *Maculosicleptes* MÓCZÁR, 1998 = *Cleptes* LATREILLE, 1802 (ROSA et al. 2017b).

***Cleptes aerosus aerosus* FÖRSTER, 1853**

Cleptes aerosus FÖRSTER, 1853: 329. Holotype ♂; Hungary: Budapest (Budapest) (examined) (*aerosus* group). NIKOL'SKAYA 1978: 60 (key, south-western European part of USSR); ROSA et al. 2017b: 127 (cat., European Part: East).

M a t e r i a l e x a m i n e d : Russia: EUROPEAN PART (Crimea: Simferopol [ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (Crimea). Caucasus (Armenia, Georgia). Southern and Central Europe (Croatia, France, Greece, Hungary, Italy, Spain), Turkey (MÓCZÁR 1998a); one subspecies, *Cl. aerosus franciscaae* Linsenmaier, 1987 is known from Morocco.

***Cleptes dauriensis* MÓCZÁR, 1997 (Figs 4-5)**

Cleptes (Leiocleptes) dauriensis MÓCZÁR, 1997a: 36. Holotype ♀; South-East Russia: Dauria [=Zabaikalskii Terr.] (Budapest) (examined) (*nitidulus* group). MÓCZÁR 1997b: 91 (cat., South-East Russia); ROSA et al. 2017a: 291 (cat., Zabaikalskii Terr.); ROSA et al. 2017b: 127 (cat., Zabaikalskii Terr.); ROSA et al. 2017g: 37 (cat., distr. Siberia); ROSA et al. 2017h: 11 (cat., typ., Dauria).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Zabaikalskii Terr). Mongolia (ROSA 2017a).

***Cleptes femoralis* MOCSÁRY, 1890**

Cleptes femoralis MOCSÁRY, 1890b: 47. Holotype ♂; Turkey: Bursa Prov., Brussa [= Bursa] (Budapest) (*nitidulus* group).

Cleptes (Leiocleptes) femoralis MÓCZÁR 1997a: 29 (key ♀), 31 (key ♂), 37 (cat., Caucasus, Kazan); ARENS 2014: 560 (cat., descr., distr., tax., Russia); MÓCZÁR 1997b: 91 (cat., Caucasus, Kazan), 96 (distr., tax.); ROSA et al. 2017b: 127 (cat., European Part: East).

D i s t r i b u t i o n . RUSSIA: European part (East: Tatar Rep.). Caucasus. Greece, Turkey (MÓCZÁR 1997a).

***Cleptes halinae* KUZNETZOV-UGAMSKII, 1927 (Fig. 8)**

Cleptes halinae KUSNETZOV-UGAMSKII, 1927: 28. Holotype ♀; Russia: Tigrovaja (Prov. Marit. Littoralis [= Primorskii Terr.], S. Ussuri) (depository unknown) (*satoi* group). ROSA et al. 2017b: 127 (cat., Far East).

Cleptes hyalinae (!): KIMSEY & BOHART 1991: 60 (cat., Russia: Tigrovaja); KURZENKO & LELEJ 2007: 1002 (cat., Primorskii Terr.); LELEJ & KURZENKO 2012: 400 (cat., Primorskii Terr.).

Cleptes (Cleptes) halinae MÓCZÁR 2000b: 299 (cat., Russia, southern Ussuri), 301 (key), 303 (Fig. 11), 308 (Fig. 18), 310 (descr., distr., Russia, southern Ussuri).

D i s t r i b u t i o n . RUSSIA: Far East (Primorskii Terr.).

***Cleptes ignitus* (FABRICIUS, 1787) (Figs 6-7)**

Ichneumon ignitus FABRICIUS, 1787: 269. Holotype ♀; "Barbaria" (Copenhagen) (*nitidulus* group).

Cleptes ignitus: EVERSMANN 1858: 545 (cat., descr., Saratov Prov.); MOCSÁRY 1882: 18 (key), 20 (cat., descr., distr., Caucasus); MOCSÁRY 1889: 51 (key), 52 (descr., distr., key, Caucasus); MOCSÁRY 1890a: 57 (cat., Caucasus, southern Russia); SEMENOV 1891a: 183 (cat., Saratov Prov.: Sarepta); KOHL 1913: 12 (cat., Walouyki [= Livenka]); SEMENOV 1920: 311 (key, descr., Saratov Prov.: Sarepta; Crimea: Evpatorija, Sevastopol; Caucasus: Stavropol); BALTHASAR 1946: 259 (biol., distr., Caucasus); MÓCZÁR 1951: 262 (key), 267 (Figs 5–6), 268 (descr., distr., Sarepta); LINSSENMAIER 1959: 11 (descr., distr., key, southern Russia); SCHMIDT 1977: 96 (cat., distr., southern Russia); NIKOL'SKAYA 1978: 60 (key, south-eastern European part of USSR); KUNZ 1994: 46 (key), 70 (cat., descr., distr., southern Russia), 71 (Fig. 155); MÓCZÁR 1997a: 30 (key), 37 (cat., distr., Crimea, Sarepta); ROSA et al. 2017b: 127 (cat., European part: Centre, East, South, North Caucasus, Crimea).

Cleptes ignita: RADOSZKOVSKY 1866: 4 (cat., Saratov); BECKER 1880: 151 (cat., Sarepta); DU BUYSSON IN ANDRÉ 1891: 77 (cat., descr., key, southern Russia).

Cleptes igneta (!): RADOSZKOVSKY 1880: 141 (cat., Caucasus).

Cleptes (Leiocleptes) ignitus: MÓCZÁR 1997b: 91 (cat., southern Russia); BUGANIN et al. 2000: 146 (cat., Ulyanovsk Prov.: Novospassky Distr., Radishchevsky Distr., Starokulatkinsky Distr.).

Cleptes ignites (!): SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga).

M a t e r i a l e x a m i n e d: Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Krasnodar Terr.: Lisaya gora, env. Anapa [ZIN]; Crimea: Sevastopol [ZIN]); URAL (Chelyabinsk Prov. [PRC]; Orenburg Prov.: Ural river [ZIN, PRC]).

D i s t r i b u t i o n. RUSSIA: European part (Centre: Belgorod Prov., Penza Prov.; East: Saratov Prov., Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: Krasnodar Terr.; Crimea); Ural (Chelyabinsk Prov., Orenburg Prov.). Caucasus. South-western and warm areas of Central Europe, northern Africa, western Asia, Turkey (MÓCZÁR 1997a).

***Cleptes insidiosus* DU BUYSSON, 1891**

Cleptes insidiosa DU BUYSSON in ANDRE, 1891: 85. Holotype ♀; Russia: Caucasus, Novorossiysk (Paris) (examined) (*nitidulus* group). LINSENMAIER 1959: 11 (possible synonym of *Cleptes consimilis*, Caucasus).

Cleptes insidiosus: SEMENOV 1920: 321 (as BUYSSON 1896 [correctly 1891] and as = aberr. a, syn. of *C. obsoletus* SEMENOV); ROSA et al. 2017b: 127 (cat., European part: North Caucasus).

Cleptes (Leiocleptes) insidiosus: MÓCZÁR 1997a: 32 (key), 38 (cat., distr., tax., Novorossiysk); MÓCZÁR, 1997b: 91 (cat., south-western Russia).

D i s t r i b u t i o n. RUSSIA: European part (North Caucasus: Krasnodar Terr.).

***Cleptes nitidulus* (FABRICIUS, 1793) (Fig. 3)**

Ichneumon nitidulus FABRICIUS, 1793: 184. Holotype ♀; Italy (Paris) (examined) (*nitidulus* group).

Cleptes nitidula: ASSMUSS 1862: 265 (cat., ecol., Klin); DU BUYSSON in ANDRÉ 1891: 86 (cat., descr., key, Russia); FORSIUS 1922: 94 (cat., Rautu Leinikylä [= Gromovo]).

Cleptes nitidulus: RADOSZKOWSKI 1889: 7 (descr., Orenburg, Sarepta), tab. I (Figs 6A–6I); SEMENOV 1891a: 179 (cat., Leningrad Prov., Ryazan Prov.: Dankov, Volgograd Prov.: Sarepta); SEMENOV 1920: 319 (key, descr., *Rossia europaea media, partim borealis et saltem septentrionalis pars Rossiae australis*: Tsarskoye Selo; Berditzino, Jaroslavl, Moscow, Dankov, Moršansk, Bobrov: Kamennaja Step', Sarepta, Crimea: Kerč'); PULKKINEN 1926: 25 (cat., Metsäpirtti [= Zaporozhskoe]); GUSSAKOVSKIJ 1948: 731 (cat., key, North and central European part of USSR); PLAVIL'SHCHIKOV 1950: 399 (cat., European part of USSR); MÓCZÁR 1951: 280 (tax., Kazan); LEVI et al. 1974: 265 (cat., Kirov Prov.: Kirov); NIKOL'SKAYA 1978: 60 (key, South and Central European part of USSR); KUZNETSOVA 1990: 8 (cat., Lipetsk Prov.: Galich'ya Gora, Tyrsovaya steppe); BUGANIN et al. 2000: 146 (cat., Ulyanovsk Prov.: Novospassky Distr., env. Mar'evka); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); MOKROUSOV et al. 2013: 195 (cat., Mordovia Nature Reserve); PAUKKUNEN et al. 2014: 8 (cat., distr., Russian Fennoscandia, Metsäpirtti [= Zaporozhskoe] and Rautu [= Sosnovo]); RUCHIN 2015: 391 (cat., Mordovia Nature Reserve); ROSA et al. 2017b: 127 (cat., European part: North, North-West, Centre, East, South, North Caucasus, Crimea); ROSA et al. 2017g: 37 (cat., distr., Siberia).

Cleptes fallax MOCSÁRY, 1889: 49. Holotype ♂; Russia: Sarepta (Budapest) (examined). Junior subjective synonym of *Cleptes nitidulus* (FABRICIUS, 1793) according to DU BUYSSON in ANDRÉ 1891: 86; DALLA TORRE 1892: 2 (cat., Russia).

Material examined: Russia: EUROPEAN PART (Centre: Kostroma [ZIN]; Mordovian Rep. [MMC]; Nizhny Novgorod [MMC]; Tambov [ZIN]; East: Chuvash [MMC]; Kirov [ZIN]; South: Rostov [MMC]; North Caucasus: Krasnodar Terr.: Sochi, Lazarevskoye [MMC]; Crimea: Kerch [ZIN]); URAL (Orenburg [ZIN]; Sverdlovsk Prov. [PRC]); WESTERN SIBERIA (Altai Rep. [ZIN]).

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.; Centre: Kostroma Prov., Lipetsk Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov., Tambov Prov., Voronezh Prov., Yaroslavl Prov.; East: Chuvash Rep., Kirov Prov., Tatar Rep., Ulyanovsk Prov.; South: Rostov Prov., Volgograd Prov.; North Caucasus: Krasnodar Terr.; Crimea: Kerch); Ural (Orenburg, Sverdlovsk Prov.); Western Siberia (Altai). West-Palaeartic: from Europe and Turkey to southern Russia (Volga). The report of *C. nitidulus* in the East Palaeartic (UCHIDA 1927) was considered debatable by HA et al. (2011) and ROSA et al. (2014), and temporarily excluded from the distributional range.

Host. Tenthredinidae (Heterarthrinae): *Caliroa cerasi* (LINNAEUS) (MORGAN, 1984)

***Cleptes obsoletus* SEMENOV, 1891**

Cleptes obsoletus SEMENOV, 1891a: 182. Holotype ♀; Russia: Saratov Prov. [currently Volgograd], Sarepta (St. Petersburg) (examined) (*nitidulus* group). NIKOL'SKAYA 1978: 60 (key, south-eastern European part of USSR); ROSA et al. 2017a: 16 (cat., typ., Sarepta), 111 (Pl. 3); ROSA et al. 2017b: 127 (cat., European part: South).

Cleptes (Leiocleptes) obsoletus: MÓCZÁR 1997a: 32 (key), 41 (cat., descr., distr., Sarepta); MÓCZÁR 1997b: 91 (cat., Sarepta).

Distribution. RUSSIA: European part (South: Volgograd Prov.).

***Cleptes primorensis* MÓCZÁR, 2000**

Cleptes (Cleptes) primorensis MÓCZÁR, 2000a: 327. Holotype ♀; Russia: Primorskii Terr., 30 km NE Vladivostok, Tajvaza (Ottawa) (*asianus* group). ROSA et al. 2017b: 127 (cat., European part: Far East).

Distribution. RUSSIA: Far East (Primorskii Terr.).

***Cleptes putoni* DU BUYSSON, 1886 (Figs 9-10)**

Cleptes putoni DU BUYSSON, 1886: 151. Neotype ♂ (designated by MÓCZÁR 1998c: 507); France: Gréouls (Paris) (examined) (*putoni* group). GONZÁLEZ et al. 2002: 96 (cat., distr., tax., Sarepta); ROSA 2006: 85 (key), 86 (cat., descr., distr., ecol., tax., southern Russia), pl. 2 (Fig. 91); ROSA et al. 2017b: 127 (cat., European part: South).

Cleptes saussurei MOCSÁRY, 1889: 57. Holotype ♀; Russia: Sarepta (Geneva) (examined); MOCSÁRY 1890a: 57 (cat., Sarepta); DU BUYSSON in ANDRÉ 1891: 73 (cat., descr., key, Sarepta); MOCSÁRY 1892: 213 (distr., Sarepta); DALLA TORRE 1892: 4 (cat., southern Russia); SEMENOV 1920: 308 (key, descr., Sarepta); NIKOL'SKAYA 1978: 60 (key, southern and eastern European part of USSR); LINSENMAIER 1994b: 516 (tax., southern Russia);

LINSENMAIER 1997b: 31 (key), 42 (descr., southern Russia). Junior subjective synonym of *Cleptes putoni* DU BUYSSON, 1886 according to MÓCZÁR 1998c: 507).

Cleptes putonii (!): DALLA TORRE 1892b: 4. Incorrect subsequent spelling.

Cleptes (Chrysocleptes) saussurei: MÓCZÁR 1962: 122 (diagn., tax., Sarepta), 124 (comp. tab.); MÓCZÁR 1998b: 507 (cat., descr., distr., Sarepta), 509 (Figs 1–2).

D i s t r i b u t i o n . RUSSIA: European part (South: Volgograd Prov.). Southern and central part of Europe, Jordan and Turkey (SCHMIDT 1977; MÓCZÁR 1998c).

***Cleptes radoszkowskii* MOCSÁRY, 1889**

Cleptes radoszkowskii MOCSÁRY (in RADOSZKOWSKI), 1889: 7. Lectotype ♀ (designated by MÓCZÁR 1998a: 338); Caucasus (Kraków) (examined) (*aerosus* group). MOCSÁRY 1889: 41 (key ♀), 42 (key ♂), 44 (descr., Caucasus); SEMENOV 1920: 313 (key, descr., Transcaucasia: [Elisabethpol Nucha = Azerbaijan], Lagodekhi [Georgia]); ROSA et al. 2015e: 72 (cat., typ., Caucasus), 73 (Pl. 53); ROSA et al. 2017b: 127 (cat., European part: East, North Caucasus).

Cleptes radoszkowskyi (!): MOCSÁRY 1890a: 57 (cat., Caucasus); DU BUYSSON in ANDRÉ 1891: 83 (cat., descr., key, Caucasus); LINSSENMAIER 1959: 9 (descr., distr., key, Caucasus).

Cleptes (Holcocleptes) radoszkowskii: MÓCZÁR 1998a: 325 (cat., Russia), 327 (Figs 4–6), 329 (key), 338 (cat., descr., distr., Russia: Caucasus, Astradamovka).

D i s t r i b u t i o n . RUSSIA: European part (East: Ulyanovsk Prov.; North Caucasus). Caucasus (Azerbaijan, Georgia). Uzbekistan (SEMENOV 1920).

***Cleptes semiauratus* (LINNAEUS, 1761) (Figs 1-2)**

Spheg semiaurata LINNAEUS, 1761: 413. Lectotype ♂ (designated by DAY 1979: 72); Sweden (London-Linnean Society).

Cleptes semiaurata: EVERSMANN 1858: 545 (cat., descr., Kazan, Orenburg); ASSMUSS 1862: 265 (cat., ecol., Moscow); RADOSZKOVSKY 1866: 4 (cat., St. Petersburg, Kazan, Orenburg, Siberia, Caucasus); RADOSZKOVSKY 1880: 141 (cat., Caucasus); MOCSÁRY 1882: 18 (key), 19 (cat., descr., distr., ecol., Caucasus); FORSIUS 1922: 94 (cat., Rautu Leinikylä [= Gromovo]).

Cleptes semiauratus: MOCSÁRY 1889: 41 (key), 47 (descr., distr., Caucasus, Lapponia, Siberia); MOCSÁRY 1890a: 57 (cat., Caucasus, Lapponia, Siberia); SEMENOV 1891a: 180 (cat., Crimea: Mt. Tshatyr Dag); DALLA TORRE 1892: 4 (cat., Caucasus, Siberia); HAUPT 1957: 30 (cat., descr., key, Siberia); LINSSENMAIER 1959: 10 (descr., distr., key, Caucasus, Siberia); KOFLER 1975: 344 (cat., distr., Caucasus, Siberia); KUNZ 1994: 47 (key, Fig. 42), 72 (biol., cat., descr., distr., ecol., Caucasus, Siberia), 73 (Fig. 159); DE OLIVEIRA et al. 2009: 39 (cat., distr., Caucasus, Siberia); LELEJ & LOKTIONOV 2012: 46 (Fig. 4); PAUKKUNEN et al. 2014: 9 (cat., distr., Russian Fennoscandia); ROSA et al. 2017b: 127 (cat., European part: North-West, Centre, East, Crimea); ROSA et al. 2017g: 37 (cat., distr., Siberia).

Cleptes pallipes LEPELETIER, 1806: 119. Lectotype ♀ (designated by MORGAN 1984: 10); France: Paris (Paris) (examined). DU BUYSSON in ANDRÉ 1891: 83 (cat., descr., key, Russia), pl. VI (Figs 4A–4C); SEMENOV 1920: 317 (key, descr., St. Petersburg, Peterhof, Gatčina, Berditzino, Moscow, Mikhaylov, Dankov, Perm', Kazan, Orenburg, Crimea: Mt. Tshatyr Dag, probably Siberia); BALTHASAR 1946: 260 (biol., distr., Caucasus, Siberia); GUSSAKOVSKIJ 1948: 731 (cat., key, North and center European part of USSR); LEVI et al. 1974: 265 (cat., Kirov Prov.: Kirov); NIKOL'SKAYA 1978: 60 (key, northern and central European part of USSR); KUZNETSOVA 1990: 8 (cat., Lipetsk Prov.: Galich'ya Gora, Dubrava, Don River); BUGANIN et

al. 2000: 146 (cat., Ulyanovsk Prov.: Inzensky Distr., vill. Palatovo; Cherdaklinsky Distr.); RESHCHIKOV 2002: 120 (cat., National Park Sebezhsy); ROSA 2006: 86 (key), 93 (biol., cat., descr., distr., ecol., Siberia), pl. 1 (Figs 9, 12, 14); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga). Junior subjective synonym of *Cleptes semiauratus* (LINNAEUS, 1761) according to ROSA et al. 2015c: 546.

Cleptes (Cleptes) pallipes: MÓCZÁR 2001: 909 (key ♀), 910 (key ♂), 911 (Fig. 8), 912 (Figs 13–14), 918 (cat., descr., distr., Sortavala).

Material examined: Russia: EUROPEAN PART (North: Karelia Rep.; North-West: Leningrad Prov.: Peterhof [ZIN], Tsarskoye Selo [ZIN], Ulyanovka [= Sablino], St. Petersburg [ZIN]; Centre: Belgorod Prov.: Borisovka [ZIN]; Kostroma Prov.: Kostroma [ZIN]; Nizhny Novgorod Prov. [MMC]; Penza Prov.; Ryazan Prov.; East: Kirov Prov.: Urzhum [= Vyatskaya Gubernia] [ZIN]; Kirov [ZIN]); URAL (Bashkir Rep.: Birsk [ZIN]; Chelyabinsk Prov. [PRC]).

Distribution. RUSSIA: European part (North-West: Leningrad Prov.; Centre: Belgorod Prov.; Kostroma Prov.; Lipetsk Prov.; Moscow Prov.; Nizhny Novgorod Prov.; Penza Prov.; Ryazan Prov.; Yaroslavl Prov.; East: Kirov Prov.; Tatar Rep.; Ulyanovsk Prov.; Crimea); Ural (Bashkir Rep.; Chelyabinsk Prov.; Orenburg Prov.; Perm Terr.). Widely distributed from Europe to Caucasus and Turkey (MÓCZÁR 2001). The north American record should belong to *C. striatipleuris* ROSA et al., 2015 based on line drawings (BOHART & KIMSEY 1982).

Remarks. Some identifications of Russian specimens could be referred to *Cleptes striatipleuris* ROSA et al., 2015.

Hosts. Tenthredinidae (Nematinae): *Euura ribesii* (SCOPOLI) (ALFKEN 1915), *Pristiphora abietina* (CHRIST) (GAUSS 1964), *Pristiphora incisa* (LINDQVIST) (PAUKKUNEN et al. 2015). *Endelomyia aethiops* (GMELIN) (Tenthredinidae: Heterarthrinae) is also reported, yet less credible (BURGER & SOBCZYK 2011). Other host information could refer to *Cleptes striatipleuris* and therefore not reliable.

Cleptes semicyanea TOURNIER, 1879: 88. Holotype ♂; Russia: Sarepta (Geneva) (examined). DU BUYSSON in ANDRÉ 1891: 92 (descr., Sarepta) (*nitidulus* group).

Cleptes semicyaneus: MOCSÁRY 1889: 41 (key), 51 (descr., Sarepta); MOCSÁRY 1890a: 57 (cat., Sarepta); SEMENOV 1891a: 180 (cat., descr. key, Jaroslavl, Tverensis Prov. [= Tver Prov.]: Rzhev [= Ržev]: Sarepta); GUSSAKOVSKIJ 1948: 731 (cat., key, South-East European part of USSR and Volga region); LINSSENMAIER 1959: 11 (descr., distr., key, Southern Russia); NIKOL'SKAYA 1978: 60 (key, South, Center and East of the European part of USSR); KUNZ 1994: 47 (key), 72 (cat., distr., southern Russia), 73 (Fig. 161); LINSSENMAIER 1997a: 248 (descr., southern Russia: Sarepta); BUGANIN et al. 2000: 146 (cat., Ulyanovsk Prov.: Kuzovatovsky Distr., vill. Speshnevka); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); AA.VV. 2007: 279 (Samara Prov.: Samarskaya Luka National Park); KURZENKO & LELEJ 2007: 1002 (cat., Irkutsk); PAUKKUNEN et al. 2014: 8 (cat., distr., Sarepta, Irkutsk); ROSA et al. 2017b: 127 (cat., European part: Centre, East, South, Crimea); ROSA et al. 2017c: 37 (cat., distr., Siberia).

Cleptes (Leiocleptes) semicyaneus: MÓCZÁR 1997a: 29 (key ♀), 30 (key ♂), 42 (cat., distr., Irkutsk, Kazan, Sarepta).

Cleptes elegans MOCSÁRY & SZEPLIGETI, 1901: 158. Holotype ♀; Russia: Kazan (Budapest) (examined). MOCSÁRY 1902: 348 (descr., Kazan); MÓCZÁR 1951: 265 (key), 279 (Figs 31–32), 280 (descr., distr., Kazan); LINSSENMAIER 1959: 11 (descr., distr., key, Southern Russia). ROSA et al. 2017h: 16 (cat., typ., Kazan). Junior subjective synonym of *Cleptes semicyaneus* TOURNIER, 1879 according to MÓCZÁR 1997a: 42.

Cleptes (Leiocleptes) semicyaneus var. *elegans*: MÓCZÁR 1962: 119 (incorrect lectotype designation, ♀, Russia: Kazan), 119–120 (descr., tab.); MÓCZÁR 1967a: 8 (descr., key, southern Russia).

Material examined: Russia: EUROPEAN PART (Centre: Yaroslavl Prov.: Yaroslavl [ZIN]; South: Astrakhan Prov.: Vladimirovka [ZIN]; Crimea: Sevastopol [ZIN]); EASTERN SIBERIA (Irkutsk Prov.: Irkutsk [ZIN]).

Distribution. RUSSIA: European part (Centre: Penza Prov.; Tver Prov.; Yaroslavl Prov.; East: Samara Prov.; Tatar Rep.; Ulyanovsk Prov.; South: Astrakhan Prov.; Volgograd Prov.; Crimea); Eastern Siberia (Irkutsk Prov.). Trans-Palaeartic: from central and southeastern Europe (Austria, Bulgaria, Germany, Hungary, Slovakia, The Netherlands, Ukraine) to Siberia (MÓCZÁR 1997a).

***Cleptes splendidus* (FABRICIUS, 1794)**

Ichneumon splendidus FABRICIUS, 1794: 457. Holotype ♂; Italy (Copenhagen) (*semiauratus* group).

Cleptes consimilis DU BUYSSON, 1887: LINSSENMAIER 1959: 11 (key, descr., = *Cl. insidiosa* DU BUYSSON, 1891, Caucasus), 185 (cat.); NIKOL'SKAYA 1978: 60 (key, southern European part of USSR). Junior subjective synonym of *Cleptes splendidus* FABRICIUS, 1794 according to MÓCZÁR 1997b: 97.

Cleptes caucasicus SEMENOV, 1920: NIKOL'SKAYA 1978: 60 (key, southern European part of USSR). Junior subjective synonym of *Cl. splendidus* FABRICIUS, 1794 according to MÓCZÁR 1998b: 210.

Cleptes (Leiocleptes) caucasicus: MÓCZÁR 1997b: 90 (cat., southern Russia).

Cleptes (Leiocleptes) splendidus: MÓCZÁR 1997b: 91 (cat., Russia), 97 (distr., tax.).

Cleptes splendidus: ROSA 2006: 85 (key), 86 (cat., descr., distr., ecol., tax., Russia); ROSA et al. 2013: (cat., distr., southern Russia); ROSA et al. 2017b: 127 (cat., European part: North Caucasus, Crimea).

Material examined: Russia: EUROPEAN PART (North Caucasus: Krasnodar Terr. [MMC]; Crimea: Artek [sub *Cl. consimilis*, ZIN], Sevastopol [sub *Cl. consimilis*, ZIN]). Georgia: Kodzhori [sub *Cl. caucasicus*, ZIN].

Distribution. RUSSIA: European part (North Caucasus: Krasnodar Terr.; Crimea). Caucasus. West-Palaeartic species distributed from southern Europe to North Africa, Iran and Turkey (ROSA et al. 2013).

Remarks. *Cleptes caucasicus* SEMENOV was synonymised with *Cl. splendidus* (FABRICIUS) by MÓCZÁR (1998b: 210).

***Cleptes striatipleuris* ROSA, FORSHAGE, PAUKKUNEN & SOON, 2015**

Cleptes striatipleuris ROSA, FORSHAGE, PAUKKUNEN & SOON, 2015: 547. Holotype ♂; Hungary: Verőce, 35 km N Budapest (Tartu). ROSA et al. 2017b: 127 (cat., European part: Centre, East, North Caucasus, Crimea); ROSA et al. 2017g: 37 (cat., distr., Siberia).

Cleptes semiaurata (LINNAEUS, 1761): DU BUYSSON in ANDRÉ 1891: 91 (cat., descr., key, Russia), pl. V (Figs 2A–2R, 4A–4F, 5–7, 10A–10C, 11A–11C, 12), pl. VI (Figs 3A–3C, 6); BALTHASAR 1946: 260 (biol., distr., Caucasus, Siberia).

Cleptes semiauratus: SEMENOV 1920: 316 (key, descr., Crimea: Sevastopol [Ukraine, Caucasus, Transcaspia]); NIKOL'SKAYA 1978: 59 (Pl. 22, Fig. 1: habitus), 60 (key, southern European part of USSR); MÓCZÁR 2001: 909 (key ♀), 910 (key ♂), 911 (Fig. 7), 912 (Fig. 17), 924 (cat., descr., distr., Russia); ROSA 2002: 103 (cat., distr., ecol., Siberia), pl. 1 (Figs 11, 13); HA et al. 2011: 494 (cat., descr., distr., Far East Russia).

Cleptes (Cleptes) semiauratus: HA et al. 2008: 72 (cat., distr., Far East Russia).

Material examined: Russia: EUROPEAN PART (Centre: Belgorod Prov. [MMC]; East: Kirov Prov.: Kirov [ZIN]; North Caucasus: Krasnodar Terr. [MMC]; Crimea: Sevastopol [ZIN]).

Distribution. RUSSIA: European part (Centre: Belgorod Prov.; East: Kirov Prov.; North Caucasus: Krasnodar Terr.; Crimea); Far East (?) and Siberia (?). Caucasus. South-eastern Europe and USA (ROSA et al. 2015c), data from Far East and Siberia should be checked.

II. Subfamily Chrysidinae

Tribe Elampini

2. Genus *Chrysellampus* SEMENOV, 1932

Chrysellampus SEMENOV, 1932: 5. Type species: *Ellampus heros* SEMENOV, 1892a, by monotypy and original designation.

Chrysellampus duplipunctatus TSUNEKI, 1948 (Fig. 29)

Chrysellampus duplipunctatus TSUNEKI, 1948: 120. Holotype ♀, China: Shanxi, Wutai Shan (Kyushu). ROSA et al. 2017b: 127 (cat., Eastern Siberia: Zabaikalskii Terr., Far East: Khakass Rep., Primorski Terr.); ROSA et al. 2017g: 37 (cat., distr., Siberia).

Philoctetes duplipunctatus: KURZENKO & LELEJ 2007: 1004 (cat., Khabarovsk Terr., Primorskii Terr.); LELEJ & KURZENKO 2012: 401 (cat., Primorskii Terr., Transbaikal); ROSA et al. 2014: 32 (cat., distr., Russian Far East).

Distribution. RUSSIA: Eastern Siberia (Zabaikalskii Terr.), Far East (Khabarovsk Terr., Primorskii Terr.). China (ROSA et al. 2014).

Chrysellampus sculpticollis (ABEILLE DE PERRIN, 1878) (Fig. 30)

Omalus sculpticollis ABEILLE DE PERRIN, 1878: 2. Lectotype ♂ (designated by KIMSEY 1986b: 107); France: Marseille (Paris) (examined).

Omalus (Omalus) sculpticollis: LINSSENMAIER 1951: 9 (descr., Transcaucasia), 95 (cat.).

Omalus (Chrysellampus) sculpticollis: MARTYNOVA & FATERYGA 2014: 14 (tax., Fig. 3, Crimea), 15 (descr., Fig. 4), 16 (biol., Figs 5–6), 17 (description of cocoon), 18 (Fig. 7), 19 (description of larva), 20 (Fig. 9).

Chrysellampus sculpticollis: ROSA et al. 2017b: 127 (cat., European part: Crimea).

D i s t r i b u t i o n . RUSSIA: European part (Crimea). West-Palaeartic, from southern Europe to Transcaucasia (LINSENMAIER 1951) and Turkmenistan (unpubl. data).

H o s t . Crabronidae: *Psenulus fuscipennis* (DAHLBOM) (MARTYNOVA & FATERYGA 2014).

3. Genus *Colpopyga* SEMENOV, 1954

Colpopyga SEMENOV, 1954a: 137. Type species: *Hedychrum flavipes* EVERSMAAN, 1857, by original designation. Junior subjective synonym of *Hedychridium* ABELLE DE PERRIN, 1878 according to LINSSENMAIER (1959). Palaeartic species revised by ROSA (2017b).

Colpopyga flavipes flavipes (EVERSMANN, 1858)

Hedychrum flavipes EVERSMAAN, 1858: 552. Holotype ♀; Russia: Ural (Kraków) (examined) (*flavipes* group). RADOSZKOVSKY 1866: 7 (cat., descr., Samara); KIRCHNER 1867: 208 (cat., Samara); RADOSZKOWSKI 1877: 6 (cat., descr., distr., Samara); ROSA et al. 2014: 83 (cat., typ., Ural), (Fig. 9).

Holopyga (Hedychridium) flavipes: MOCSÁRY 1889: 133 (cat., descr., distr., key, Samara, Ural); MOCSÁRY 1890a: 60 (cat., Russia).

Spintharis pallipes TOURNIER, 1879: MOCSÁRY 1889: 176 (key), 177 (cat., southern Russia: Sarepta); MOCSÁRY 1890a: 62 (cat., southern Russia); BISCHOFF 1913: 23 (cat., southern Russia); TRAUTMANN 1926: 5 (tax., variation of *H. flavipes*, southern Russia); KIMSEY & BOHART 1991: 194 (synonym of *H. flavipes* EVERSMAAN, Sarepta).

Holopyga flavipes: DALLA TORRE 1892: 26 (cat., Russia); KOHL 1913: 12 (cat., Walouyki [= Livenka]).

Hedychridium flavipes: TRAUTMANN 1927: 53 (key), 62 (cat., descr., distr., Caucasus, southern Russia); VORONTSOVKIJ 1930: 67 (cat., Orenburg Prov.); BALTHASAR 1946: 236 (cat., distr., southern Russia); HAMMER 1950: 3 (cat., distr., southern Russia); BALTHASAR 1953: 46 (key, Caucasus), 137 (descr., Caucasus); BALTHASAR 1954: 101 (key), 111 (descr., Caucasus).

Spintharina pallipes: ZIMMERMANN 1950: 318 (tax., southern Russia).

Colpopyga flavipes: NIKOL'SKAYA 1978: 66 (key, European part of USSR excluding north); BANASZAK 1980: 13 (cat., Caucasus); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2007c: 140 (cat., Stavropol Terr.: Novozavedennoe); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); BRUSTILO & MARTYNOV 2009: 45 (cat., distr., Caucasus); VINOKUROV 2009a: 83 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA 2017b: 300 (cat., Centre and South of the European part (including Crimea); North Caucasus; Ural), 304 (key); ROSA et al. 2017b: 127 (cat., European part: Centre, East, South, North Caucasus, Crimea).

Material examined. Russia: EUROPEAN PART (Centre: Kursk Prov. [ZIN]; East: Saratov Prov. [ZIN]; Crimea: Evpatoria [ZIN]); URAL (Orenburg Prov.: Spasskoe [ZIN]).

Distribution. RUSSIA: European part (Centre: Belgorod Prov., Kursk Prov.; East: Samara Prov., Saratov Prov.; South: Volgograd Prov.; North Caucasus: Stavropol Terr.; Crimea); Ural (Orenburg Prov.). Caucasus. Southern Europe, northern Africa, Middle East (LINSENMAIER 1959), Turkey (TRAUTMANN 1927).

Remarks. *Colpopyga* SEMENOV, 1954 is a small genus of cuckoo wasps which includes only four known species in the Palaearctic Region: *C. flavipes* (EVERSMANN, 1858), *C. auriventris* MERCET, 1904, *C. temperata* LINSENMAIER, 1959 and *C. nesterovi* ROSA, 2017. It was synonymised by LINSENMAIER (1959) with *Hedychridium* ABEILLE DE PERRIN, 1878 and later its members were included in the *H. flavipes* species group (LINSENMAIER 1968). KIMSEY & BOHART (1991) followed this interpretation. NOSKIEWICZ & LORENCOWA (1963) revalidated the genus *Colpopyga* based on a detailed study of the internal urites, showing the main differences with homologous urites in the genus *Hedychridium* and various authors considered *Colpopyga* as a valid genus (MÓCZÁR 1964; NIKOL'SKAYA 1978; BANASZAK 1980; VINOKUROV 2006d, f, 2007b, c, 2008, 2009a, c, 2013; BRUSTILO & MARTINOVA 2009). New molecular unpublished data (PAULI et al., 2018) show a clear affinity of *Colpopyga* with the genus *Holopyga* and place this group outside the genus *Hedychridium*.

4. Genus *Elampus* SPINOLA, 1806

Elampus SPINOLA, 1806: 10. Type species: *Chrysis panzeri* FABRICIUS, 1804, by subsequent designation of LATREILLE 1810: 437.

Ellampus AGASSIZ, 1846: 135. Incorrect emendation for *Elampus* SPINOLA, 1806.

Notozus FÖRSTER, 1853: 351. Type species: *Notozus frivaldszkyi* FÖRSTER, 1853 (= *Elampus spina* (LEPELETIER, 1806)), by subsequent designation of ASHMEAD, 1902: 228. Junior subjective synonym of *Elampus* SPINOLA, 1806 according to MOCSÁRY 1889.

***Elampus agnolii* ROSA, 2017**

Elampus agnolii ROSA et al. 2017g: 6. Holotype ♀; Russia: Eastern Siberia, Tuva Rep., W of Ujukskyi Mountains, Kamennyi River valley (St. Petersburg) (examined), 4 (Fig. 2B), 7 (Figs 3A–F), 37 (cat., distr., Siberia). ROSA et al. 2017b: 127 (cat., Eastern Siberia: Tuva Rep.).

Distribution. RUSSIA: Eastern Siberia (Tuva Rep.).

***Elampus albipennis* (MOCSÁRY, 1889) (Fig. 33)**

Elampus ambiguus [nec DAHLBOM, 1854]: RADOSZKOWSKI 1866: 3 (cat., descr., distr., Saratov); RADOSZKOVSKY 1880: 141 (cat., Caucasus).

Ellampus (Notozus) albipennis MOCSÁRY, 1889: 80. Lectotype ♂ (designated by MÓCZÁR 1964a: 447); Russia: Astrakhan (paralectotype: Sarepta) (Budapest) (examined). MOCSÁRY 1890a: 58 (cat., southern and eastern Russia); MOCSÁRY 1890b: 47 (descr., Sarepta); ROSA et al. 2014: 13 (cat., distr., Sarepta), 82 (Pl. 3); ROSA et al. 2017h: 83 (cat., typ., Astrakhan).

Notozus viridis TOURNIER, 1890: 1. Syntypes ♂♀; Russia: Sarepta (Geneva) (examined), nom. praeocc., nec CRESSON, 1865. DU BUYSSON in ANDRÉ 1892: 116 (descr., Sarepta). Junior

subjective synonym of *Elampus albipennis* MOCSÁRY, 1889 according to LINSENMAIER 1959: 24.

Elampus (Notozus) viridis: MOCSARY 1890b: 66 (cat., Sarepta).

Elampus tournieri DALLA TORRE, 1892: 93. Repl. name for *Notozus viridis* TOURNIER, 1890, nom. praeocc., nec CRESSON, 1865 (cat., Russia); KIMSEY & BOHART 1991: 171 (cat., Sarepta); KURZENKO & LELEJ 2007: 1003 (cat., Primorskii Terr.); LELEJ & KURZENKO 2012: 401 (cat., Primorskii Terr., southern European part of Russia).

Notozus albipennis: DU BUYSSON in ANDRE 1892: 109 (cat., descr., key, Astrakhan), pl. VII (Figs 3, 9); DALLA TORRE 1892: 8 (cat., Russia); BISCHOFF 1913: 5 (cat., south-eastern Russia); TRAUTMANN 1927: 24 (key), 26 (descr., distr., southern Russia, Volga); TSUNEKI 1953a: 54 (cat., distr., southern Russia); MOCZAR 1964a: 447 (lectotype designation, Astrakhan; paralectotype: Astrakhan, Sarepta); NIKOL'SKAYA 1978: 64 (key, southern and eastern European part of USSR); ZVANTSOV 1988: 84 (cat., Moscow Prov: Leonovo).

Notozus tournieri: BISCHOFF 1913: 7 (cat., Sarepta).

Elampus albipennis: ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep); RUCHIN & ANTROPOV 2016: 399 (cat., Mordovian Rep.: Mordovia State Natural Reserve); ROSA et al. 2017b: 127 (cat., European part: Centre, East, South, Crimea); ROSA et al. 2017g: 37 (cat., distr., Siberia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [sub *E. tournieri* ZIN]; Crimea: Alma [sub *E. tournieri* ZIN], Kerch [sub *E. tournieri* ZIN]); URAL (Orenburg Prov.: B. Dneprovka [sub *E. tournieri* ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: doubtfully Moscow, Mordovian Rep.; East: Saratov Prov.; South: Astrakhan Prov., Volgograd Prov.; Crimea); Ural (Orenburg Prov.); Eastern Siberia (Irkutsk Prov. and/or Buryat Rep.); Far East (Primorskii Terr.). Caucasus. South-eastern Europe, western Asia (LINSENMAIER 1959), Turkmenistan and Persia (TRAUTMANN 1927), Saudi Arabia, UAE (LINSENMAIER 1994a).

R e m a r k s . In KIMSEY & BOHART (1991) *Elampus albipennis* and *E. tournieri* are listed as distinct species. We agree with the synonym proposed by LINSENMAIER (1959). The two taxa are both described on specimens collected at Sarepta, and show sexual dimorphic characteristics.

***Elampus assamensis* (MOCSÁRY, 1911) (Fig. 32)**

Elampus (Notozus) assamensis MOCSÁRY, 1911: 443. Holotype ♂; India: Assam, Shillong (Budapest) (examined).

Elampus assamensis: ROSA et al. 2017b: 127 (cat., Far Eastern: Primorskii Terr.); ROSA et al. 2017d: 8 (cat., distr., tax., Primorskyi Terr.: Anisimovka; 50 km N Ol'ga), 9 (Figs 3A–D).

D i s t r i b u t i o n . RUSSIA: Far East (Primorskii Terr.). India (Assam).

***Elampus bidens bidens* (FÖRSTER, 1853) (Fig. 31)**

Notozus bidens FÖRSTER, 1853: 335. Holotype ♀; Poland: Silesia (Berlin) (examined).

Elampus femoralis EVERS MANN, 1858: 547. Holotype ♀; Russia: Kazan (Kraków) (examined). RADOSZKOVSKY 1866: 5 (cat., descr., Kazan); KIRCHNER 1867: 207 (cat., Kazan);

RADOSZKOWSKI 1877: 4 (cat., descr., distr., Kazan). Junior subjective synonym according to MOCSÁRY 1889: 73.

Ellampus (Notozus) bidens: MOCSÁRY 1889: 73 (descr., distr., key, Amur, Kazan); MOCSÁRY 1890a: 58 (cat., Amur, southern Russia).

Ellampus bidens: DALLA TORRE 1892: 10 (cat., Amur).

Notozus superbus var. *rufescens* DU BUYSSON in ANDRE, 1896: 703. Holotype ♀; eastern Siberia: Amur (depository unknown).

Notozus bidens: BISCHOFF 1913: 5 (cat., Amur); TRAUTMANN 1927: 23 (key), 29 (cat., descr., distr., Amur); BALTHASAR 1946: 227 (cat., distr., Amur); BALTHASAR 1954: 71 (Figs 13–14), 74 (key), 78 (descr., Amur); HAUPT 1956: 50 (cat., distr., key, Siberia); MÓCZÁR 1967a: 19 (cat., descr., distr., key, Siberia), 20 (Figs 9c, 9d); NIKOL'SKAYA 1978: 52 (tab. 23: Fig. 20), 64 (key, eastern European part of USSR); BANASZAK 1980: 8 (cat., Siberia); ZVANTSOV 1988: 84 (cat., Moscow Prov.: Myachkovo).

Omalus (Notozus) bidens: LINSENMAIER 1959: 16 (key), 23 (distr., Siberia); SCHMIDT 1977: 98 (cat., distr., southern Russia).

Elampus bidens: KIMSEY & BOHART 1991: 166 (cat., Siberia); KUNZ 1994: 50 (key), 83 (Fig. 181), 84 (biol., cat., descr., distr., ecol., Siberia); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); ROSA 2002: 103 (cat., distr., ecol., Siberia); KURZENKO & LELEJ 2007: 1003 (cat., Amur); LELEJ & KURZENKO 2012: 400 (cat., Amur, Russian eastern European part); ROSA et al. 2017b: 127 (cat., European part: Centre, East; Western Siberia: Omsk Prov.; Eastern Siberia: Irkutsk Prov., Buryat Rep.; Far East: Amur Prov.); ROSA et al. 2017g: 37 (cat., distr., Siberia).

Material examined. Russia: WESTERN SIBERIA (Omsk Prov.: Omsk [ZIN]); EASTERN SIBERIA (Irkutsk Prov.: Irkutsk [ZIN], Mal'ta [ZIN]).

Distribution. RUSSIA: European part (Centre: Moscow Prov.; East: Tatar Rep.); Western Siberia (Omsk Prov.); Eastern Siberia (Irkutsk Prov., Irkutsk Prov and/or Buryat Rep.); Far East (Amur Prov.). Caucasus. Trans-Palaeartic, from central and southern Europe to Siberia. *Elampus bidens tristis* TSUNEKI 1970 is known from Japan, and it is apparently separated by the relative length of flagellomeres and body colour.

***Elampus caeruleus* DAHLBOM, 1854 (Fig. 37)**

Elampus caeruleus DAHLBOM, 1854: 46. Syntypes ♂♀; Austria, Germany, Russia: Tauria [= Crimea] (Berlin) (examined). KIMSEY & BOHART 1991: 167 (cat., Tauria [= Crimea]); ROSA et al. 2014: 14 (cat., distr.), 82 (Pl. 4); ROSA et al. 2017b: 127 (cat., European part: East, South, Crimea; Ural; Eastern Siberia: Khakass Rep.; Far East: Primorskii Terr.); ROSA et al. 2017g: 37 (cat., distr., Siberia).

Omalus viridiventris ABEILLE DE PERRIN, 1878: 2. Unnecessary replacement name for *Elampus caeruleus* DAHLBOM, 1854.

Omalus coeruleus (!): ABEILLE DE PERRIN 1879: 19 (key), 25 (Caucasus, cat.).

Elampus coeruleus (!): BECKER 1880: 151 (cat., Sarepta).

Ellampus viridiventris: MOCSARY 1882: 23 (key), 26 (cat., destr., distr., Crimea).

Ellampus (Notozus) coeruleus (!): MOCSARY 1889: 73 (key), 74 (descr., distr., Crimea, Sarepta); MOCSARY 1890a: 58 (cat., Amur, eastern Russia).

Notosus (!) *coeruleus* (!): VORONTSOVKIJ 1930: 67 (cat., Orenburg Prov.).

Notozus coeruleus (!): GUSSAKOVSKI 1948: 731 (cat., key, European part of USSR); TSUNEKI 1953a: 53 (cat., distr., Siberia); LEVI et al. 1974: 265 (cat., Kirov Prov.: Goltzy); BLAGOVESCHENSKAYA 1990: 6 (cat., Ulyanovsk Prov.); BLAGOVESCHENSKAYA 1994: 83 (cat., ecol., Ulyanovsk Prov.: Ulyanovsk, Spechnevka).

Omalus (Notozus) panzeri coeruleus (!): LINSSENMAIER 1969: 12 (tax., Vladivostok).

Notozus panzeri coeruleus (!): BANASZAK 1980: 8 (cat., Vladivostok).

M a t e r i a l e x a m i n e d . Russia: EASTERN SIBERIA (Krasnoyarsk Terr.: 15 km E Minusinsk [IBSS]).

D i s t r i b u t i o n . RUSSIA: European part (East: Kirov Prov., Ulyanovsk Prov.; South: Volgograd Prov.; Crimea); Ural (Orenburg Prov.); Eastern Siberia (Krasnoyarsk Terr.); Far East (Primorskii Terr.). Caucasus. Trans-Palaeartic, from Europe to Far East Russia and China (ROSA et al. 2014).

R e m a r k s . The taxonomic status of *Elampus coeruleus* is unclear. Various authors have alternately considered it as a valid species (KIMSEY & BOHART 1991), subspecies of *E. panzeri* (LINSSENMAIER 1959), or synonym of either *E. panzeri* or *E. constrictus*. According to PAUKKUNEN et al. (2014), *E. caeruleus* DAHLBOM is only a colour form of *E. constrictus*. In fact, the latter is a very variable species in terms of its colouration, shape of the anal rim, etc. and unpublished molecular studies suggest that different forms related to *E. constrictus* represent intraspecific variation and not separate, genetically or geographically differentiated taxa. The confusion related to this taxon could be attributed to the large syntypic series, which include specimens from different localities and belonging to different species. In particular, the syntype from Crimea is closely related to *E. rufitarsis* TOURNIER, rather than to the syntype from central Europe, which is more related to *E. constrictus*. A revision of the type material is needed.

***Elampus coloratus* ROSA, 2017 (Fig. 39)**

Elampus coloratus ROSA in ROSA et al. 2017g: 2. Holotype ♂; Russia: Eastern Siberia, Tuva Rep., 20 km SSW Erzin, Tore-Khol' Lake (St. Petersburg) (examined), 3 (Figs 1A–F), 4 (Fig. 2A), 37 (cat., distr., Siberia). ROSA et al. 2017b: 127 (cat., Eastern Siberia: Tuva Rep.).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Tuva Rep.), Mongolia.

***Elampus constrictus* (FÖRSTER, 1853)**

Notozus constrictus FÖRSTER, 1853: 336. Holotype ♂; Germany: Aachen (Berlin). NIKOL'SKAYA 1978: 52 (tab. 23: Figs 7, 22), 64 (key, southern and central European part of USSR), 65 (tab. 24: Figs 2, 5); BUGANIN et al. 2000: 147 (cat., Ulyanovsk Prov.: in the center and South Prov.).

Elampus panzeri (FABRICIUS, 1804): EVERSMANN 1858: 548 (Kazan Prov., Orenburg Prov., Ural); VINOKUROV 2007c: 139 (cat., Stavropol Terr.: Novozavedennoe; Kabardino-Balkarian Rep.: env. Bylym); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 82 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Elampus productus DAHLBOM, 1854: BECKER 1869: 196 (cat., Dagestan: Derbent); BECKER 1880: 151 (cat., Sarepta).

Notozus productus: DU BUYSSON in ANDRÉ 1892: 100 (cat., descr., key, Russia).

Notozus productus var. *vulgatus* DU BUYSSON in ANDRÉ, 1892: DU BUYSSON in ANDRÉ 1892: 100 (cat., descr., key, Russia).

Notozus angustatus MOCSÁRY, 1889: DU BUYSSON in ANDRÉ 1896: 703 (cat., Russia, variety of *N. panzeri* FABRICIUS).

(?) *Notozus productus*: DU BUYSSON 1898: 518 (cat., Crimea); DU BUYSSON 1899: 160 (cat., Crimea).

Elampus spina (LEPELETIER, 1806): SAHLBERG 1910: 99 (cat. Karjala).

Notozus spina ab. *prasina* HELLÉN, 1920: 207 (cat., descr., Salmis [= Salmi], Jalguba [= Yalguba]). Invalid name.

Notozus panzeri: TRAUTMANN 1927: 24 (key), 25 (biol., descr., distr., Siberia); BALTHASAR 1946: 225 (biol., cat., distr., Siberia); BALTHASAR 1953: 126 (descr., Siberia); BALTHASAR 1954: 71 (Fig. 11), 73 (key), 75 (descr., Siberia); ZVANTSOV 1988: 85 (cat., Moscow Prov.: Vinino, Protopopovo, Ozerki); VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tyrynauz); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

Notosus (!) *panzeri*: VORONTOVKIJ 1930: 67 (cat., Orenburg Prov.).

Notozus ambiguus DAHLBOM, 1854: NIKOL'SKAYA 1978: 52 (tab. 23: Fig. 21), 64 (key, European part of USSR excluding north), 65 (tab. 24: Fig. 1); ZVANTSOV 1988: 85 (cat., Moscow Prov.: Prioksko-Terrasny Nature Reserve, Pushky); BUGANIN et al. 2000: 147 (cat., Ulyanovsk Prov.: Staromajnskij, Inzenskij, Novospassky Distr.).

Ellampus ambiguus: SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga).

Ellampus constrictus: SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga).

Elampus (Notozus) ambiguus: SHCHERBAKOV 2008: 211 (cat., near Moscow Prov.: Ramenskoe).

Elampus constrictus: PAUKKUNEN et al. 2014: 13 (cat., distr., Russian Fennoscandia); ROSA et al. 2017b: 127 (cat., European part: North, North-West, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai; Eastern Siberia: Buryat Rep., Zabaikalskii Terr.; Far East: Amur, Primorskii Terr.); ROSA et al. 2017g: 37 (cat., distr., Siberia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Bryansk Prov.: Belgorod Prov.: Novyi Oskol [sub *E. ambiguus*, ZIN]; Bryansk [sub *E. bipartitus*, ZIN]; Nizhny Novgorod Prov. [MMC]; Penza Prov.: Sarajsk. [sub *E. bipartitus*, ZIN]; Ryazan Prov.: Gremyachka [sub *E. konowi*, ZIN]; Tambov Prov.: Chagino [sub *E. ambiguus*, ZIN]; Voronezh Prov.: Talovaya [sub *Elampus ambiguus*, ZIN]; Yaroslavl Prov.: Berditsino [sub *E. konowi*, ZIN]; East: Kirov Prov.: Kirov [sub *E. ambiguus*, ZIN]; Saratov Prov.: Saratov [sub *E. ambiguus*, ZIN]; South: Volgograd Prov.: Sarepta [NMLS]; Crimea (Kerch [ZIN], Stavropol [sub *E. bipartitus*, ZIN]); URAL (Orenburg Prov.: Spasskoe env. of Orenburg [sub *E. bipartitus*, sub *E. ambiguus*, ZIN]); WESTERN SIBERIA (Altai Terr.: 30 km N of Bijsk [GLA]); EASTERN SIBERIA (Zabaikalskii Terr.: Chita [sub *E. bipartitus*, ZIN]; Buryat Rep.: Troitskosavsk [= Kyakhta] [sub *E. bipartitus*, ZIN], Botij env. Troitskosavsk [= Kyakhta], lake Barun-Torei [sub *E. ambiguus*, ZIN]); FAR EAST (Primorskii Terr.: Vinogradovka [sub *E. ambiguus*, ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (North: Karelian Rep.; North West: Leningrad Prov.; Centre: Bryansk Prov., Kursk Prov., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov., Voronezh Prov., Yaroslavl Prov.; East: Kirov Prov., Saratov Prov., Tambov Prov., Tatar Rep., Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: Kabardino-Balkarian Rep., Stavropol Terr.; Crimea); Ural (Orenburg

Prov.); Western Siberia (Altai Terr.); Eastern Siberia (Buryat Rep., Zabaikalskii Terr.); Far East (Amur Prov., Primorskii Terr.). Trans-Palaeartic, from Europe and northern Africa to China (ROSA et al. 2014).

R e m a r k s . The names of *Elampus constrictus* (FÖRSTER) and *E. panzeri* (FABRICIUS) were accidentally interchanged by TRAUTMANN (1927), and several authors (BALTHASAR 1954; LINSSENMAIER 1959; etc.). The confusion between the two names was originated by a mislabelled type specimen (MÓCZÁR 1964a). Some authors have incorrectly synonymised these species (KIMSEY & BOHART 1991; KUNZ 1994; MINGO 1994). Identification of specimens in ZIN must be double-checked. MÓCZÁR (1964a) considered four variations of *E. constrictus*: var. *coeruleus* (!) DAHLBOM (here considered as a valid species), var. *ambiguus* DAHLBOM (whose type has been examined and does not match MÓCZÁR's (1964a) and LINSSENMAIER's (1959) interpretation, and here considered as a synonym), var. *soror* MOCSÁRY and var. *angustatus* MOCSÁRY (here considered as synonyms (ROSA & SOON 2012)). Only future molecular analyses will clarify their systematic position.

H o s t . Crabronidae: *Mimesa bicolor* (JURINE), *M. equestris* (FABRICIUS) and *M. lutaria* (FABRICIUS) (BENNO 1950; LOMHOLDT 1975). Other hosts, such as *Trypoxylon attenuatum* SMITH, *Ceratocolus clypeatus* LINNAEUS, *Pemphredon lugubris* LATREILLE (TRAUTMANN 1927) are not reliable for different biology of the species.

***Elampus eversmanni* (MOCSÁRY, 1889)**

Elampus ambiguus EVERSMANN, 1858: 549. Holotype ♂; Russia: Saratov Prov. (Kraków), nom. praecoc., nec DAHLBOM, 1854. ROSA et al. 2015e: 73 (cat., typ., Saratov Prov.), 74 (Pl. 54).

Elampus (Notozus) eversmanni MOCSÁRY, 1889: 80. Replacement name for *Elampus ambiguus* EVERSMANN, 1858 (Caucasus, Saratov). MOCSÁRY 1890a: 58 (cat., Caucasus, southern and eastern Russia).

Notozus eversmanni: DU BUYSSON in ANDRÉ 1892: 114 (cat., descr., key, Saratov); BISCHOFF 1913: 6 (cat., Caucasus, south-eastern Russia).

Elampus eversmannii (!): DALLA TORRE 1892: 12 (cat., Caucasus, Russia).

Omalus (Notozus) eversmanni: LINSSENMAIER 1959: 16 (key), 23 (descr., distr., key, south-eastern Russia, Caucasus).

Omalus (Elampus) panzeri eversmanni: LINSSENMAIER 1997a: 250 (tax.); LINSSENMAIER 1997a: 250 (descr., south-eastern Russia, Caucasus).

Elampus eversmanni: KIMSEY & BOHART 1991: 167 (cat., Saratov); ROSA et al. 2017b: 128 (cat., European part: East, South, North Caucasus, Crimea).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Stavropol Terr.: Zimnyaya Stavka [ZIN]; Crimea: Sevastopol [ZIN]). Azerbaijan: Elisavetpol [ZIN].

D i s t r i b u t i o n . RUSSIA: European part (East: Saratov Prov.; South: Volgograd Prov.; North Caucasus: Stavropol Terr.; Crimea: Sevastopol). Caucasus. Azerbaijan, Iran, Kazakhstan, Turkestan (LINSSENMAIER 1959; ROSA et al. 2013).

***Elampus foveatus* (MOCSÁRY, 1914)**

Elampus foveatus MOCSÁRY, 1914: 1. Lectotype ♂ (designated by MÓCZÁR 1964: 445); Bosnia (Budapest) (examined).

Elampus konowi (DU BUYSSON in ANDRÉ, 1892): VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Elampus foveatus: PAUKKUNEN et al. 2014: 14 (cat., distr., tax., Siberia: Irkutsk Prov.: Usolye-Sibirskoye); ROSA et al. 2017b: 128 (cat., European part: North Caucasus; Eastern Siberia: Irkutsk Prov.); ROSA et al. 2017g: 5 (cat., distr., tax., Irkutsk Prov.), 37 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Irkutsk Prov.). Trans-Palaeartic, from central Europe to Siberia (PAUKKUNEN et al. 2014). The general distribution is still poorly known, because many authors misidentified *E. foveatus* with other closely related taxa (e.g. *E. sanzii* GOGORZA and *E. spina* (LEPELETIER)). *E. konowi* and *E. foveatus* are currently under revision (ROSA, pers. comm.).

***Elampus pallasi* (SEMENOV, 1967)**

Notozus pallasi SEMENOV 1967: 123. Holotype ♀; Kazakhstan: Zaysan (St. Petersburg).

Elampus pallasi: ROSA et al. 2017b: 128 (cat., Eastern Siberia: Irkutsk Prov.); ROSA et al. 2017g: 6 (cat., distr., Irkutsk Prov.: 15 km E Ust'-Ordynskiy), 37 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Irkutsk Prov.). Kazakhstan.

***Elampus panzeri* (FABRICIUS, 1804) (Fig. 38)**

Chrysis scutellaris PANZER, 1798: Fig. 51, pl. 11. Type ?; Germany: Nürnberg (Berlin ?), nom. praeocc., nec FABRICIUS, 1794.

Chrysis panzeri FABRICIUS, 1804: 172. Replacement name for *Chrysis scutellaris* PANZER, 1798; NYLANDER 1859: 111 (cat., Sakkola [= Gromovo]).

Elampus panzeri: ASSMUSS 1862: 266 (cat., ecol., Moscow); RADOSZKOVSKY 1866: 5 (cat., Kazan, Orenburg, Crimea); BECKER 1880: 151 (cat., Sarepta); RADOSZKOWSKI 1889: 8 (descr., Sarepta, Orenburg), tab. I (Figs 8A–8F); WESTERLUND 1893: 30 (cat., Salmi); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); STOJKO & POLUMORDVINOV 2004: 54 (cat., Penza Prov.: Kamensky Distr.: Novaya Esineevka); SHIBAEV 2006a: 110 (cat., ecol., Penza Prov.: Lysaya gora, Varezhka); PAUKKUNEN et al. 2014: 15 (cat., distr., Russian Fennoscandia); PAUKKUNEN & KOZLOV 2015: 62 (cat., Murmansk: Kuolajärvi); ROSA et al. 2017b: 128 (cat., European part: North, North-West, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai, Omsk Prov.; Eastern Siberia: Buryat Rep., Irkutsk Prov., Yakutsk Rep., Zabaikalskii Terr.; Far East: Primorskii Terr.); ROSA et al. 2017g: 37 (cat., distr., Siberia).

Notozus panzeri: WOLDSTEDT 1875: 344 (cat., Russian Karelia); MANTERO 1905: 50 (cat., distr., Caucasus).

Elampus (Notozus) panzeri: MOCSÁRY 1889: 66 (key), 67 (descr., distr., Caucasus); MOCSÁRY 1890a: 58 (cat., Caucasus).

Elampus (Notozus) olgae SEMENOV, 1891b: 383. Lectotype ♀ (designated by KIMSEY 1986: 107) Russia: Dankov, Ryazan (St. Petersburg) (examined) (paralectotypes from Penza). ROSA et al. 2017a: 99 (cat., typ., Gremyachka, Kazachij, Penza).

Notozus scutellaris: BISCHOFF 1913: 6 (cat., Caucasus); HELLEN 1920: 206 (cat., desc., Jaakkima, Suystamo, Impilaks, Jääski [= Lesogorskij], Jalguba [= Yalguba]); LEVI et al. 1974: 265 (cat., Kirov Prov.: Kirov).

Notozus scutellaris var. *olgae*: BISCHOFF 1913: 6 (cat., central Russia).

Notozus constrictus: TRAUTMANN 1927: 24 (key), 27 (biol., descr., distr., Caucasus); BALTHASAR 1946: 227 (biol., cat., distr., Siberia); BALTHASAR 1954: 71 (Fig. 10), 73 (key), 75 (descr., Siberia); ZVANTSOV 1988: 85 (biol., cat., Moscow Prov.: Prioksko-Terrasny Nature Reserve, Doli).

Notozus panzeri: GUSSAKOVSKIJ 1948: 731 (cat., key, European part of USSR); NIKOL'SKAYA 1978: 52 (tab. 23: Figs 12, 23), 64 (key, European part of USSR, excluding north), 65 (tab. 24: Figs 3, 6); BUGANIN et al. 2000: 147 (cat., Ulyanovsk Prov.: Novospassky Distr., vill. Mar'evka, env. Lobanovka); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland).

Elampus olgae: KIMSEY 1986: 107 (lectotype designation, central Russia); KIMSEY & BOHART 1991: 170 (cat., synonym of *Elampus scutellaris*).

Elampus panzeri: SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.).

Elampus scutellaris: KURZENKO & LELEJ 2007: 1003 (cat., Primorskii Terr.); LELEJ & KURZENKO 2012: 401 (cat., Primorskii Terr., eastern European part of Russia).

Material examined. Russia: EUROPEAN PART (North-West: Leningrad Prov.: Romanovka Yamburg [sub *E. olgae*, ZIN], Romanovka Yamburg [ZIN], St. Petersburg: Novoladozhskoe [ZIN], vill. Lebyazh'e [ZIN]; Centre: Kostroma Prov.: Kostroma [ZIN]; Nizhny Novgorod Prov. [MMC]; Ryazan Prov.: Gremyachka [sub *E. olgae*, ZIN]; Tver Prov.: Bologoe [ZIN], Rzhev [ZIN]; Yaroslavl Prov.: Berditsino [ZIN]; East: Saratov Prov. [ZIN]; South: Rostov Reg.: env. Novocherkassk [ZIN]; Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Krasnodar Terr.: Sochi [ZIN]; Crimea: Simferopol [ZIN], Kerch [ZIN]); URAL (Orenburg Prov.: Spasskoe env. of Orenburg [ZIN]); WESTERN SIBERIA (Altai Terr.: Severnaya Step. Kulunda [ZIN]; Altai Rep.: 12 km SE Aktash, Chuya River [IBSS]; Omsk Prov.: Omsk [sub *E. olgae*, ZIN]); EASTERN SIBERIA (Irkutsk Prov.: Irkutsk [sub *E. olgae*, ZIN], Irkutsk [ZIN], Kuyada on Bajkal 50 km from Irkutsk [ZIN]; Zabaikalskii Terr.: Chita [ZIN], Peschanka [ZIN]; Yakutsk Rep.: vill. Namskoe [ZIN]).

Distribution. RUSSIA: European part (North: Karelia Prov., Murmansk Prov.; North-West: Leningrad Prov.; Centre: Kostroma Prov., Lipetsk Prov., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov., Tver Prov., Yaroslavl Prov.; East: Kirov Prov., Saratov Prov., Tatar Rep., Ulyanovsk Prov.; South: Rostov Prov., Volgograd Prov.; North Caucasus: Krasnodar Terr., Stavropol Terr.; Crimea); Ural (Orenburg Prov.); Western Siberia (Altai Terr., Altai Rep.; Omsk Prov.); Eastern Siberia (Irkutsk Prov. and/or Buryat Rep., Yakutsk Rep., Zabaikalskii Terr.); Far East (Primorskii Terr.). Caucasus. Trans-Palaeartic, from Europe to China (Heilongjiang) (ROSA et al. 2014).

Remarks. *Chrysis scutellaris* PANZER, 1798 is a junior homonym of *C. scutellaris* FABRICIUS, 1794. It was replaced by FABRICIUS (1804) in *C. panzeri*, currently *Elampus panzeri* (FABRICIUS).

The names *Elampus constrictus* and *E. panzeri* were erroneously inverted by TRAUTMANN (1927) LINSENMAIER (1959, 1997) and other authors (MÓCZÁR 1964a).

H o s t . Crabronidae: *Mimesa bicolor* (JURINE) *M. equestris* (FABRICIUS) and possibly *M. lutaria* (FABRICIUS) (MORICE 1903; TRAUTMANN 1927; BENNO 1950; PAUKKUNEN et al. 2015).

***Elampus petri* (SEMENOV, 1967)**

Notozus petri SEMENOV, 1967: 122. Holotype ♀; Russia: Ryazan Prov.: Koper (paratypes from Kazachij, Gremyachka) (St. Petersburg) (examined). ROSA et al. 2017a: 100 (cat., typ., Kazachiy, Gremyachka), 253 (Pl. 286).

Elampus petri: KIMSEY & BOHART 1991: 169 (cat., Ryazan, Koper); ROSA et al. 2017b: 128 (cat., European part: Centre; Eastern Siberia: Tuva Rep., Zabaikalskii Terr.); ROSA et al. 2017g: 6 (cat., distr., Tuva Rep.: 25 km NW Erzin, Dus-Khol' Lake; Zabaikalskii Terr.), 37 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Ryazan Prov.); Eastern Siberia (Tuva Rep.); Eastern Siberia (Zabaikalskii Terr).

***Elampus pliginskii* (SEMENOV, 1967)**

Notozus pliginskii SEMENOV 1967: 124. Holotype ♂; Crimea: Sebastopol (St. Petersburg) (examined). ROSA et al. 2017a: 100 (cat., typ., Crimea), 254 (Pl. 287).

Elampus pliginskii: KIMSEY & BOHART 1991: 169. Crimea: Sebastopol [not Georgia: Tbilisi]; ROSA et al. 2017b: 128 (cat., European part: Crimea).

D i s t r i b u t i o n . RUSSIA: European part (Crimea). Caucasus (Georgia).

R e m a r k s . The current status of *Elampus pliginskii* is doubtful and could be a synonym of of *El. rufitarsis* TOURNIER, 1879, described from Sarepta (ROSA et al. 2017a).

***Elampus pyrosomus pyrosomus* (FÖRSTER, 1853) (Fig. 35)**

Notozus pyrosomus FÖRSTER, 1853: 333. Holotype ♂; Hungary (Berlin). GUSSAKOVSKIJ 1948: 731 (cat., key, South and South-East of European part of USSR); NIKOL'SKAYA 1978: 64 (key, southern and eastern European part of USSR); BUGANIN et al. 2000: 146 (cat., Ulyanovsk Prov.: Radishchevsky Distr., env. Vyazovka); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

Elampus chrysonotus DAHLBOM, 1854: EVERSMAAN 1858: 548 (cat., descr., Ural); BECKER 1865: 572 (cat., Sarepta); RADOSZKOVSKY 1866: 5 (cat., Kazan, Saratov, Sarepta); BECKER 1880: 151 (cat., Sarepta).

Elampus pyrosomus: MOCSÁRY 1882: 22 (key), 24 (cat., descr., distr., Kazan, Saratov, Sarepta, Ural) (*E. chrysonotus* synonym of *E. pyrosomus*); DALLA TORRE 1892: 15 (cat., Russia); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga).

Elampus (Notozus) pyrosomus: MOCSÁRY 1889: 65 (descr., distr., key, southern and eastern Russia: Sarepta, Kazan, Saratov, Ural); MOCSÁRY 1890a: 58 (cat., southern and eastern Russia).

Notozus pyrrosomus (!): VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody).

Elampus pyrosomus: VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2007c: 139 (cat., Stavropol Terr.: env. Kislovodsk); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.:

Mineralnye Vody); VINOKUROV 2009a: 82 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2017b: 128 (cat., European part: Centre, East, South, North Caucasus; Ural).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (East: Saratov Prov.: Volsk [ZIN]; South: Volgograd Prov.: Sarepta [ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Penza Prov.; East: Saratov Prov., Tatar Rep., Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: Stavropol Terr.); Ural. South-eastern Europe to Asia Minor and Caucasus.

R e m a r k s . After MOCSÁRY (1889), *Elampus chrysonotus* DAHLBOM was considered as a synonym of *E. pyrosomus* (FÖRSTER). KIMSEY & BOHART (1991) listed both taxa as valid species. We follow MOCSÁRY's interpretation. MÓCZÁR (1964a) described *E. pyrosomus* var. *purpureus*, from Hungary, which is apparently only a colour variation.

***Elampus retusus* (SEMENOV, 1967)**

Notozus retusus SEMENOV, 1967: 123. Holotype ♂; Russia: Transbaikal [currently Zabaikalsky Terr.]: Irkutsk Prov.: Argalei (St. Petersburg) (examined). ROSA et al. 2017a: 101 (cat., typ., Transbaikalia: Ingoda, Argalei), 254 (Pl. 288).

Elampus retusus (SEMENOV): KIMSEY & BOHART 1991: 170 (cat., Russia: Argaly); KURZENKO & LELEJ 2007: 1003 (cat., Amur); ROSA et al. 2017b: 128 (cat., Eastern Siberia: Zabaikalskii Terr.; Far East: Amur).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Zabaikalskii Terr); Far East (Amur Prov.).

***Elampus rufitarsis* (TOURNIER, 1879) (Fig. 34)**

Notozus rufitarsis TOURNIER, 1879: 90. Syntypes ♂, ♀; Russia: Sarepta (Geneva). BISCHOFF 1913: 6 (cat., southern Russia).

Elampus (Notozus) rufitarsis: MOCSÁRY 1889: 73 (key), 74 (descr., distr., Sarepta); MOCSÁRY 1890a: 58 (cat., southern Russia).

Elampus rufitarsis: DALLA TORRE 1892: 15 (cat., Russia).

Elampus rufitarsis: KIMSEY & BOHART 1991: 170 (cat., Sarepta); ROSA et al. 2017b: 128 (cat., European part: South).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (South: Volgograd Prov.).

R e m a r k s . *Elampus rufitarsis* (TOURNIER) was described on three specimens (2♀♀ and 1♂) from Sarepta (currently Volgograd). According to Tournier, the two sexes marked differences and possibly belong to separate species. A quick examination of Tournier's collection in Geneva revealed that only one female syntype is still conserved, whereas a second specimen labelled as type cannot be considered as a syntype because collected at "Krasnow." [= Krasnowodsk, currently Turkmenbasy, Turkmenistan]. The latter truly belongs to a separate species. The female syntype from Sarepta is conspecific with *E. evermanni* and the name *E. rufitarsis* has the priority over *E. evermanni*

(replacement name for *E. ambiguus* EVERSMAAN, 1858 nec DAHLBOM, 1854). A better study of the type of *E. rufitarsis* and a lectotype designation are anyway needed.

***Elampus sanzii* GOGORZA, 1887**

Elampus sanzii GOGORZA, 1887: 33. Holotype ♂; Spain (Madrid). ROSA 2002: 104 (cat., distr., southern Russia). ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); ROSA et al. 2017b: 128 (cat., European part: Centre, East, South; Eastern Siberia: Irkutsk Rep., Buryat Rep.).

Omalus (Notozus) sanzii: LINSENMAIER 1959: 16 (key), 24 (descr., distr., key, southern Russia); SCHMIDT 1977: 98 (cat., distr., southern Russia).

Notozus sanzii: NIKOL'SKAYA 1978: 64 (key, southern and eastern European part of USSR); BUGANIN et al. 2000: 146 (cat., Ulyanovsk Prov.: Novospassky and Radishchevsky Distr.).

Omalus sanzii: MINGO et al. 1990: 38 (cat., distr., southern Russia).

Ellampus sanzii: SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [NMLS]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Penza Prov.; East: Ulyanovsk Prov.; South: Volgograd Prov.); Eastern Siberia (Irkutsk Prov. and/or Buryat Rep.). Southern Europe, Middle East (LINSENMAIER 1959), Turkey.

R e m a r k s . Identifications of *Elampus sanzii* from North Europe (PAUKKUNEN et al. 2014), Siberia and central Europe should be referable to *E. foveatus*. *E. foveatus* is very likely distributed in the central-western and northern part of Russia, whereas *E. sanzii* should be distributed in the southern part.

***Elampus spina* (LEPELETIER, 1806) (Fig. 36)**

Hedychrum spinus LEPELETIER, 1806: 121. Holotype ♀ [not ♂]; France: Meudon (Paris or Turin).

Elampus productus DAHLBOM, 1854: EVERSMAAN 1858: 547 (cat., descr., Sarepta); RADOSZKOVSKY 1866: 5 (cat., Sarepta); Becker 1880: 151 (cat., Sarepta).

Ellampus frivalszkyi (FÖRSTER, 1853): MOCSÁRY 1882: 22 (key), 24 (cat., descr., distr., Sarepta); DE STEFANI 1888: 116 (cat., descr., distr., key, Russia).

Ellampus (Notozus) spina: MOCSÁRY 1889: 66 (key), 67 (descr., distr., Sarepta); MOCSÁRY 1890a: 58 (cat., southern Russia).

Notozus spina: BISCHOFF 1910: 436 (cat., Sarepta, southern Russia); VORONTSOVKIJ 1930: 67 (cat., Orenburg Prov.); GUSSAKOVSKIJ 1948: 731 (cat., key, European part of USSR); LEVI et al. 1974: 265 (cat., Kirov Prov.: Korshik); NIKOL'SKAYA 1978: 52 (tab. 23: Fig. 24), 64 (key, southern European part of USSR), 65 (tab. 24: Fig. 4); BUGANIN et al. 2000: 147 (cat., Ulyanovsk Prov.: Novospassky Distr., vill. Mar'evka; Nikolaevsky Distr., vill. Akulovka).

Omalus (Notozus) spina: LINSENMAIER 1959: 16 (key), 24 (descr., West Asia: see material examined), 186 (cat.).

Elampus spina: SHIBAEV 2006a: 110 (cat., Penza Prov.: Lysaya gora, Serdoba); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2017b: 128 (cat., European part: Centre, East, South, North Caucasus, Crimea; Ural).

Ellampus spina: SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.).

Material examined. Russia: EUROPEAN PART (Centre: Yaroslavl Prov.: Yaroslavl [ZIN]; East: Saratov Prov. [ZIN]; South: Volgograd Prov.: Sarepta [NMLS, ZIN]; North Caucasus: Stavropol Terr.: Stavropol [ZIN]; Crimea: Alma [ZIN], Kara Dag Nature Reserve [RMC], Kerch [ZIN], Sevastopol [ZIN]). Georgia: Lagodekhi [ZIN].

Distribution. RUSSIA: European part (Centre: Penza Prov., Yaroslavl Prov.; East: Kirov Prov., Saratov Prov., Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: Stavropol Terr.; Crimea); Ural (Orenburg Prov.). Georgia. South-west Palaearctic, from Southern Europe and northern Africa to western Asia (LINSENMAIER 1959, 1999).

Remarks. *Elampus spina* (LEPELETIER, 1806) has been confused with *E. constrictus* in older literature (PAUKKUNEN et al. 2014). For example, SAHLBERG (1910: 99) and HELLÉN (1920: 206) reported the species from Finland and Russian Fennoscandia (= Leningrad Prov.), but these specimens have been checked and found to belong to *E. constrictus*. Also *E. spina* is currently under investigation, because of apparent misidentification by LINSSENMAIER (1959) and MÓCZÁR (1964a), since the species does not occur in the original type locality, where other species are found.

***Elampus tauricus* (SEMENOV, 1967)**

Notozus tauricus SEMENOV, 1967: 124. Holotype ♀; Russia: Crimea, Sevastopol (St. Petersburg) (examined). ROSA et al. 2017a: 101 (cat., typ., Crimea), 256 (Pl. 291).

Elampus tauricus: KIMSEY & BOHART 1991: 171 (cat., Crimea: Sevastopol); ROSA et al. 2017b: 128 (cat., European part: Crimea).

Distribution. RUSSIA: European part (Crimea).

Remarks. *Elampus tauricus* (SEMENOV) is very similar to *E. foveatus* from which it is distinguished by the elongate pronotum, in lateral view, denser punctuation on metasoma and narrower anal plate on third metasomal tergite. Nevertheless, the shape of the anal plate matched MÓCZÁR's drawings (1964) for *E. foveatus* and this specimen could be a single variation or part of an isolated population located in Crimea.

***Elampus turcmenicus* (LINSSENMAIER, 1968) (Fig. 40)**

Omalus (Notozus) turcmenicus LINSSENMAIER, 1968: 13. Holotype ♂ [not ♀]; Turkmenistan: Ashgabad (Luzern) (examined).

Elampus turcmenicus: ROSA et al. 2017b: 128 (cat., European part: South); ROSA et al. 2017d: 9 (cat., distr., tax., Astrakhan Prov.: Krasnojarskii Distr., env. Dosang), 11 (Figs 4A–F).

Distribution. RUSSIA: European part (South: Astrakhan Prov.). Turkmenistan.

***Elampus ussuriensis* (SEMENOV, 1967)**

Notozus ussuriensis SEMENOV, 1967: 126. Holotype ♀; Russia: Primorskii Terr., env. Vladivostok (St. Petersburg) (examined). ROSA et al. 2017a: 101 (cat., typ., Primorskii Terr.: from Petropavlovskiy to Vladimirovka Villages), 256 (Pl. 292).

Elampus ussuriensis: KIMSEY & BOHART 1991: 171 (cat., Primorskii Terr.: Vladivostok); KURZENKO & LELEJ 2007: 1003 (cat., Primorskii Terr.); LELEJ & KURZENKO 2012: 401 (cat., Primorskii Terr.); ROSA et al. 2017b: 128 (cat., Eastern Siberia: Yakutsk Rep., Zabaikalskii

Terr.; Far East: Primorskii Terr.); ROSA et al. 2017g: 2 (cat., distr., Yakutsk Rep.: env. Yakutsk, vill. Namskoe), 37 (cat., distr., Siberia).

M a t e r i a l e x a m i n e d . Russia: EASTERN SIBERIA (Zabaikalskii Terr.: Nikitikh River 18 km from Chita, Dureni-Kyakhti [ZIN]).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Yakutsk Rep., Zabaikalskii Terr.); Far East (Primorskii Terr.).

5. Genus *Haba* SEMENOV, 1954

Haba SEMENOV, 1954: 143. Type species: *Holopyga almasyana* MOCSÁRY, 1911. Original designation and monobasic.

***Haba almasyana* (MOCSÁRY, 1911) (Fig. 50)**

Holopyga Almásyana MOCSÁRY 1911: 445. Lectotype ♀ (designated by FRENCH in BOHART & FRENCH 1986); Kyrgyzstan: Naryn (Budapest) (examined).

Haba almasyana: ROSA et al. 2017b: 128 (cat., European part: South); ROSA et al. 2017d: 13 (cat., distr., Astrakhan Province: Enotaevskiy Distr., env. Volzhsky).

D i s t r i b u t i o n . RUSSIA: European part (South: Astrakhan Prov.); Kyrgyzstan.

6. Genus *Hedychridium* ABEILLE DE PERRIN, 1878

Hedychridium ABEILLE DE PERRIN, 1878: 3. Type species: *Hedychrum minutum* LEPELETIER DE SAINT FARGEAU, 1806 [= *Hedychridium ardens* (COQUEBERT, 1801)], by subsequent designation of ASHMEAD 1902: 227.

Euchrum SEMENOV, 1954: 103. Type species: *Chrysis carnea* var. *rosea* ROSSI, 1790 [= *Hedychridium roseum* (ROSSI, 1790)], by original designation. Junior subjective synonym of *Hedychridium* ABEILLE DE PERRIN, 1878 according to LINSENMAIER (1968).

Euchridium SEMENOV, 1954a: 96. Type species: *Euchridium trossulum* SEMENOV, 1954a, by monotypy and original designation. Junior subjective synonym of *Hedychridium* ABEILLE DE PERRIN, 1878 according to KIMSEY & BOHART (1991).

Zarudnium SEMENOV, 1954: 72. Type species: *Hedychrum aheneum* DAHLBOM, 1854, by monotypy and original designation. Junior subjective synonym of *Hedychridium* ABEILLE DE PERRIN, 1878 according to LINSENMAIER (1968).

Cyrteuchridium SEMENOV, 1954: 100. Type species: *Cyrteuchridium pusio* SEMENOV, 1954a, by original designation. Junior subjective synonym of *Hedychridium* ABEILLE DE PERRIN, 1878 according to LINSENMAIER (1968).

Zarudnidium SEMENOV, 1954: 104. Type species: *Zarudnidium sapphirinum* SEMENOV, 1954a, by original designation. Junior subjective synonym of *Hedychridium* ABEILLE DE PERRIN, 1878 according to LINSENMAIER (1968).

***Hedychridium adventicium* ZIMMERMANN, 1962**

Hedychridium adventicium ZIMMERMANN, 1962: 83. Syntypes ♀♀; Austria: Burgenland, Neusiedl am See (Vienna) (examined) (*ardens* group). ROSA et al. 2017b: 128 (cat., European part: Centre; Ural); ROSA et al. 2017d: 13 (cat., distr., Kursk Prov.: env. Kursk; Bashkir Rep.: Vasil'evka).

Distribution. RUSSIA: European part (Centre: Kursk Prov.); Ural (Bashkir Rep.). Greece (ARENS 2014), Turkey (LINSENMAIER 1968).

Remarks. ARENS (2014) recently synonymised *Hedychridium viridisulcatum* LINSENMAIER, 1968 with *H. adventicium*.

***Hedychridium aheneum aheneum* (DAHLBOM, 1854) (Fig. 51)**

Hedychrum aheneum DAHLBOM, 1854: 72. Holotype (sex unknown); Russia: "Russia australis" (Berlin) (*incrassatum* group). KIRCHNER 1867: 208 (cat., Russia).

Hedychrum callosum RADOSZKOWSKI, 1877: 108. Holotype ♂; Syra (Kraków) (examined). RADOSZKOVSKY 1880: 141 (cat., Caucasus); KIMSEY & BOHART 1991: 196 (as synonym of *H. incrassatum* (DAHLBOM), Russia); ROSA et al. 2015e: 81 (cat., typ), 82 (Pl. 8).

Hedychrum incrassatum DAHLBOM, 1854: DE STEFANI 1888: 121 (cat., descr., distr., key, Caucasus).

Holopyga (Hedychridium) ahenea: MOCSÁRY 1889: 147 (cat., descr., distr., key, Caucasus, Russia "austriallis"); MOCSÁRY 1890a: 60 (cat., Caucasus, Russia "austriallis").

Holopyga ahenea: DALLA TORRE 1892: 20 (cat., Caucasus, Russia).

Hedychridium aheneum: BISCHOFF 1910: 439 (cat., southern Russia); ABEILLE DE PERRIN 1879: 35 (key), 37 (descr., Russia); KIMSEY & BOHART 1991: 186 (cat., "Russia australi"); VINOKUROV 2016: 39 (cat., Dagestan Rep.: Samur Forest Reserve); ROSA et al. 2017b: 128 (cat., European part: South, North Caucasus, Crimea; Ural).

Zarudnium aheneum: NIKOL'SKAYA 1978: 67 (key, southern European part of USSR); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 141 (cat., Stavropol Terr.: Novozavedennoe); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 83 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Zarudnium incrassatum (!): VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody).

Zarudnium icrassatum (!): VINOKUROV 2006d: 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody).

Hedychridium incrassatum: VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.).

Material examined. Russia: EUROPEAN PART (South: Astrakhan Prov. [MMC]; Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Stavropol Terr.: Stavropol [ZIN]; Crimea [ZIN]); URAL (Orenburg Prov. [PRC]).

Distribution. RUSSIA: European part (South: Astrakhan Prov., Volgograd Prov.; North Caucasus: Dagestan Rep., Stavropol Terr.: Stavropol [ZIN]; Crimea [ZIN]); Ural (Orenburg Prov.). Caucasus. South-eastern Europe, Middle East (LINSENMAIER 1959); Turkey (SCHMIDT 1977).

***Hedychridium ardens ardens* (COQUEBERT, 1801) (Fig. 52)**

Chrysis ardens COQUEBERT, 1801: 59. Holotype ♀; France: Burdigala [= Bordeaux] (Paris ?) (*ardens* group).

Hedychrum minutum LEPELETIER, 1806: EVERSMANN 1858: 551 (cat., descr., Ural); ASSMUSS 1862: 267 (cat., ecol., Moscow); BECKER 1865: 572 (cat., Sarepta); RADOSZKOVSKY 1866: 7 (cat., Kazan, Orenburg, Ural); BECKER 1880: 151 (cat., Sarepta).

Hedychrum integrum DAHLBOM, 1854: ASSMUSS 1862: 267 (cat., Klin); WESTERLUND 1893: 30 (cat., Salmi); GUSSAKOVSKIJ 1948: 732 (cat., key, North and central European part of USSR); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland).

Hedychrum ardens: MOCSÁRY 1882: 38 (key), 40 (cat., destr., distr., Russia); DE STEFANI 1888: 122 (cat., descr., distr., key, Russia).

Hedychridium ardens: HELLÉN 1920: 209 (cat., distr., Samis, Sakkola [= Gromovo]); BALTHASAR 1946: 237 (biol., cat., distr., Caucasus); MÓCZÁR 1967a: 48 (cat., key, descr., distr., Caucasus); MÓCZÁR 1967b: 189 (distr., tax., Caucasus); LEVI et al. 1974: 265 (cat., Kirov Prov.: Kirov); NIKOL'SKAYA 1978: 66 (key, without localities); BANASZAK 1980: 15 (biol., cat., Caucasus); ZVANTSOV 1988: 88 (biol., cat., Moscow Prov.: Snigiri); MOKROUSOV 2002: 142 (cat., Nizhny Novgorod Prov.: Kerzhensky Reserve); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); KURZENKO & LELEJ 2007: 1003 (cat., Irkutsk, Chita, Buryat Rep.); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2007c: 139 (cat., Stavropol Terr.: vill. Podkumok; env. Kislovodsk, Pyatigorsk, Novozavedennoe, vill. Alexandria; Kabardino-Balkarian Rep.: vill. Bylym, vill. Sovetskoe); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); BRUSTILO & MARTYNOV 2009: 45 (biol., cat., distr., Caucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1276 (cat., Kabardino-Balkarian Rep.: Kashkhatau, Bylym, Sukanskoe canyon, vill. Zhemtala); RUDOISKATEL 2011a: 165 (cat., Sverdlovsk Prov.); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013d: 1106, 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); PAUKKUNEN et al. 2014: 21 (cat., distr., Russian Fennoscandia, Russian Far East); VINOKUROV 2015b: 316 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 128 (cat., European part: North, North-West, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai, Omsk Prov., Tomsk Prov.; Eastern Siberia: Buryat Rep., Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep., Zabaikalskii Terr.; Far East: Primorskii Terr.); ROSA et al. 2017g: 38 (cat., distr., Siberia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North Karelian Rep.: North-West: Leningrad Prov.: env. St. Petersburg [ZIN]; Centre: Kostroma Prov.: Kostroma [ZIN]; Kursk Prov.: Kursk [ZIN]; Nizhny Novgorod Prov. [MMC]; Ryazan Prov.: Gremyachka [ZIN]; Yaroslavl Prov.: Berditsino [ZIN]; East: Kirov Prov.: Kirov [ZIN], Tatar Rep.; South: Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Krasnodar Terr. [MMC]); URAL (Bashkir Rep.: Alkino [ZIN]; Chelyabinsk Prov. [PRC]; Orenburg Prov. [PRC]; Sverdlovsk Prov. [PRC]); WESTERN SIBERIA (Altai Rep.: Ongudaj [ZIN]; Ust'-Koksa [IBSS]; 15 km SE Kurai, Chuya River [IBSS]; 24 km NWW Aktash, Chuya River [IBSS]; 30 km N of Bijsk [GLA]; Omsk Prov.: env. Omsk [ZIN]; Tomsk Prov.: Kolpashevo [NMLS]); EASTERN SIBERIA (Buryat Rep.: Ust'-Kiran, Chikoi River [IBSS]; Irkutsk Prov.: Irkutsk [ZIN], vill. Padun', Verkhnyaya Tunguzka River [= Angara River] [ZIN]; Angarsk [IBSS]; 15 km E Ust'-Ordynskiy [IBSS]; Khakass Rep.: 22 km NW Shira, Belyi Iyus River [IBSS]; Zhemchuzhnyi, Shira Lake, Shira Lake [IBSS]; Chernoe Ozero [IBSS]; 21 km SW Abakan, Izykhskie Kopi [IBSS]; 14 km SSW Abakan, Belyi Yar, Abakan River [IBSS]; 10 km E Shira, Itkul' Lake [IBSS]; Krasnoyarsk Terr.: Minusinsk, Malaya Minusa River [IBSS]; 15 km E Minusinsk

[IBSS]; 40 km NE Minusinsk, Tuba River [IBSS]; 10 km NW Minusinsk, Bystraya River [IBSS]; Tuva Rep.: 20 km SSW Erzin, Tore-Khol' Lake [IBSS]; 13 km SW Samagaltai, Dytyg-Khem River [IBSS]; Shuurmak, Shuurmak River [IBSS]; 31 km NEE Erzin, Erzin River [IBSS]; 20 km SSW Erzin, Tore-Khol' Lake [IBSS]; 13 km SW Samagaltai, Dytyg-Khem River [IBSS]; 6 km SE Bai-Khaak, Sosnovka [IBSS]; W of Ujukskyi Mountains, Kamennyi River valley, 1000 m [GLA]; SW Tuva, south slope of W Tanu-Ola near Soglyi Village, 2000–2800 m [GLA]; Zabaikalskii Terr.: 20 km SSE Krasnokamensk [IBSS].

D i s t r i b u t i o n . RUSSIA: European part (North-West: Leningrad Prov.; Centre: Kostroma Prov., Kursk Prov., Moscow Prov., Nizhny Novgorod Prov., Ryazan Prov., Yaroslavl Prov.; East: Kirov Prov.; South: Volgograd Prov.; North Caucasus: Kabardino-Balkarian Rep., Krasnodar Terr., Stavropol Terr.); Ural (Bashkir Rep., Chelyabinsk Prov., Orenburg Prov., Sverdlovsk Prov.); Western Siberia (Altai Terr., Omsk Prov., Tomsk Prov.); Eastern Siberia (Buryat Rep., Irkutsk Prov., Khakass Rep., Krasnoyarsk Rep., Tuva Rep., Zabaikalskii Terr.). Caucasus. Trans-Palaeartic: Europe to Eastern Siberia. The record from North Africa (Tunisia) is a misidentification, already considered as doubtful by LINSSENMAIER (1999). Records from Middle East are also doubtful and referable to other species. Several species are usually identified as *Hedychridium ardens* in museum collections and all specimens should be double checked. The typical form apparently shows a distribution in north, central and oriental Europe to Ukraine and eastwards to Central Asia and Eastern Siberia.

H o s t . Crabronidae: *Tachysphex nitidus* (SPINOLA), *T. obscuripennis* (SCHENCK) and *T. pompiliformis* (PANZER), *Oxybelus bipunctatus* OLIVIER, *O. haemorroidalis* OLIVIER (TRAUTMANN 1927; BERLAND & BERNARD 1938; BENNO 1950; ELSE 1973; KOFLER 1975; MORGAN 1984; VAN DER SMISSEN 2001). Possibly *Diodontus tristis* (VANDER LINDEN) (BERLAND & BERNARD 1938). Citations for Sphecidae (e.g. *Gorytes lunatus*) are not reliable.

***Hedychridium arensi* ROSA, 2017 (Fig. 55)**

Hedychridium arensi ROSA in ROSA et al. 2017g: 14. Holotype ♀; Russia: Eastern Siberia, Tuva Rep.: 31 km NEE Erzin, Erzin River (St. Petersburg) (examined), 15 (Figs 5A–F), 38 (cat., distr., Siberia). ROSA et al. 2017b: 128 (cat., Eastern Siberia: Tuva Rep.).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Tuva Rep.).

***Hedychridium asianum* LINSSENMAIER, 1997 (Fig. 62)**

Hedychridium (Hedychridium) integrum ssp. *asianum* LINSSENMAIER, 1997a: 254. Holotype ♂; Mongolia: Central Aimag, Ulan Bator, 1900 m (Koschwitz private coll.) (examined) (*ardens* group).

Hedychridium asianum: ROSA et al. 2017b: 128 (cat., Western Siberia: Altai; Eastern Siberia: Buryat Rep., Irkutsk Prov., Krasnoyarsk Terr., Tuva Rep.); ROSA et al. 2017g: 31 (cat., distr., Altai Rep.: 24 km NWW Aktash, Chuya River; 2 km SE Chagan-Uzun, Balkhash River; Buryat Rep.: 5 km N Naushki, Kharankhoi, Gusinoe Lake, Baraty; Irkutsk Prov.: 8 km N Irkutsk, r. Angara, sandy slopes; Krasnoyarsk Terr.: 10 km NE Minusinsk, Malaya Minusa River; Tuva Rep.: 20 km SSW Erzin, Tore-Khol' Lake; 30 km W Erzin, Yamaalyg), 33 (Figs 14I, 14K); 38 (cat., distr., Siberia).

Distribution. RUSSIA: Western Siberia (Altai Rep.); Eastern Siberia (Buryatia Rep., Irkutsk Prov., Krasnoyarsk Terr., Tuva Rep.). China (Gansu), Mongolia.

***Hedychridium belokobylskiji* ROSA, 2017 (Fig. 53)**

Hedychridium belokobylskiji ROSA in ROSA et al. 2017g: 11. Holotype ♀; Russia: Eastern Siberia, Tuva Rep., 12 km SW Samagaltai, Dyttyg-Khem River (St. Petersburg) (examined) (paratypes from: Khakass Rep.: 21 km SW Abakan, Izykhskie Kopi; Zhemchuzhnyi, Shira Lake; 20 km SW Abakan, Izykhskie Kopi; Krasnoyarsk Terr.: 10 km NE Minusinsk, Malaya Minusa River; Tuva Rep.: 13 km SW Samagaltai, Dyttyg-Khem River; 27 km SSW Erzin, Tore-Khol Lake; 25 km SE Erzin, Tes-Khem River; 12 km SW Samagaltai, Dyttyg-Khem River; 20 km SSW Erzin, Tore-Khol' Lake; Ubsu-Nur Lake; 13 km SW Samagaltai, Dyttyg-Khem River; 30 km W Erzin, Yamaalyg; 6 km SE Bai-Khaak, Sosnovka), 12 (Figs 4A–F), 32 (Figs 13C, 13D), 38 (cat., distr., Siberia). ROSA et al. 2017b: 128 (cat., Eastern Siberia: Khakass Rep., Krasnoyarsk Terr., Tuva Rep.).

Distribution. RUSSIA: Eastern Siberia (Khakass Rep., Tuva Rep., Krasnoyarsk Terr.).

***Hedychridium caputaureum* G. TRAUTMANN & W. TRAUTMANN, 1919**

Hedychridium roseum var. *caputaureum* TRAUTMANN & TRAUTMANN, 1919: 35. Holotype ♀; Germany: Bronnamburg (Berlin) (examined) (*roseum* group).

Euchrum roseum caputaureum: VINOKUROV 2007c: 140 (cat., Stavropol Terr.: Novozavedennoe); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 83 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve).

Hedychridium caputaureum: PAUKKUNEN et al. 2014: 24 (cat., distr., Russian Fennoscandia: Metsäpirtti [= Zaporozhskoe]; Rautu [= Sosnovo]; Sakkola [= Gromovo]; Terijoki [= Zelenogorsk]; Uusikirikko [= Polyany]); ROSA et al. 2017b: 128 (cat., European part: North-West, North Caucasus; Ural).

Material examined. Russia: URAL (Orenburg Prov. [PRC]).

Distribution. RUSSIA: European part (North-West: Leningrad Prov.; North Caucasus: Karachayevo-Cherkess Rep., Stavropol Terr.); Ural (Orenburg Prov.). Central and northern Europe to Ukraine; central and northern Russia, western Asia (LINSENMAIER 1997b).

Remarks. *Hedychridium caputaureum* has often been confused with *H. roseum* in the Nordic and Baltic literature and in museum collections. Therefore its distribution is still not well known. ARENS (2010) considered *H. caputaureum* as subspecies of *H. chloropygum* DU BUYSSON, while LINSSENMAIER (1959) classified it as a subspecies of *H. roseum*. According to ARENS (2010), *H. chloropygum* has a southern European subspecies: *H. chloropygum* ssp. *chloropygum* (distributed from the Iberian peninsula to Hungary) and a northern subspecies, *H. chloropygum* ssp. *caputaureum* (distributed in central, southeastern and northern Europe). A third subspecies, *H. chloropygum* ssp. *ottomanum* ARENS 2010, is described from Asia Minor. ARENS (2010) synonymised *H.*

chloropygum ssp. *spatium* LINSENMAIER, 1959 and *H. chloropygum* ssp. *densum* LINSENMAIER, 1959 with *H. chloropygum chloropygum*. We follow the interpretation given by PAUKKUNEN et al. (2014) and consider *H. caputaureum* and *H. chloropygum* as separate species. However, a revision of these species by means of molecular analyses is needed because Arens' interpretation could be correct.

H o s t . Crabronidae: *Astata minor* (KOHLE) (LINSENMAIER 1968; SAURE 1998a).

***Hedychridium caspicum* (MOCSÁRY, 1890)**

Holopyga (*Hedychridium*) *caspica* MOCSÁRY, 1890b: 53. Holotype ♀; Caspian Sea (Kraków) (examined) (*ardens* group). ROSA et al. 2015e: 86 (cat., typ.), 87 (Pl. 63).

Hedychridium (*Hedychridium*) *caspicum*: LINSSENMAIER 1959: 47 (key), 54 (descr., Caspian Sea), 187 (cat.).

Hedychridium caspicum: KIMSEY & BOHART 1991: 190 (cat., Caspian Sea).

D i s t r i b u t i o n . Caspian Sea. The type specimen was collected along the western coast of the Caspian Sea (*Mar Caspio occidentalis* (ROSA et al. 2015e)).

***Hedychridium caucasicum* TRAUTMANN, 1926 (Figs 67-68)**

Hedychridium sculpturatum var. *caucasicum* TRAUTMANN, 1926: 5. Syntypes ♂♂; Macedonia; Caucasus (Berlin) (examined) (*roseum* group). TRAUTMANN 1927: 58 (descr., distr., Caucasus); ROSA et al. 2017b: 129 (cat., European part: North Caucasus); ROSA 2018b: 10 (Figs 26, 29).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). Turkey (SCHMIDT 1977).

R e m a r k s . The species is widely distributed in East Mediterranean countries and should be also present in the southern part of Russia and Russian Caucasus. It was very likely identified as *Hedychridium sculpturatum* in old literature.

***Hedychridium chloropygum chloropygum* DU BUYSSON, 1888**

Hedychridium roseum var. *chloropyga* DU BUYSSON, 1888: 13. Syntypes ♀♀; France (Paris) (examined) (*roseum* group).

Euchrum chloropygum: VINOKUROV 2007c: 140 (cat., Stavropol Terr.: Novozavedennoe); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2017b: 129 (cat., European part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). Southern Europe.

***Hedychridium coriaceum coriaceum* (DAHLBOM, 1854) (Fig. 64)**

Hedychrum coriaceum DAHLBOM, 1854: 88. Lectotype ♀ (designated by MORGAN 1984: 10); Poland: Glogovia (Lund) (examined) (*coriaceum* group). RADOSZKOVSKY 1866: 7 (cat., Spassk, Orenburg).

Hedychrum coriaceums (!): EVERSMAAN 1858: 551 (cat., descr., Ural).

Holopyga (Hedychridium) coriacea: MOCSÁRY 1889: 151 (cat., descr., distr., key, Spassk, Orenburg, Ural); MOCSÁRY 1890a: 61 (cat., Russia).

Elampus coriaceus: SAHLBERG 1910: 98 (cat., Karjala).

Hedychridium coriaceum: HELLÉN 1920: 209 (cat., Sakkola [= Gromovo]); GUSSAKOVSKIJ 1948: 732 (cat., key, North and central European part of USSR); NIKOL'SKAYA 1978: 66 (key, European part of USSR); ZVANTSOV 1988: 88 (biol., cat., Moscow Prov.: Peredelkino, Valuevo, Zvenigorod); BLAGOVESCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); KUZNETSOVA 1990: 9 (cat., Lipetsk Prov.: Galich'ya Gora); BLAGOVESCHENSKAYA 1994: 84 (cat., Ulyanovsk Prov.: Ulyanovsk); BUGANIN et al. 2000: 148 (cat., Ulyanovsk Prov.: Staromajnskiy, Majnskiy, Inzenskiy, Novospassky Distr.); SHIBAEV 2006a: 110 (cat., ecol., Penza Prov.: Akhuny, B. Endova); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); AA.VV. 2007: 279 (Samara Prov.: Samarskaya Luka National Park); VINOKUROV 2007c: 139 (cat., Stavropol Terr.: Novozavedennoe); KOCHETKOV et al. 2008: 258 (cat., Ryazan Prov.: Severnij); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 83 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); RUDOISKATEL 2011a: 165 (cat., Sverdlovsk Prov.); KOCHETKOV 2012: 241 (cat., Ryazan Prov.: Severnij); SHIBAEV & POLUMORDVINOVA 2012: 276 (cat., Penza Prov.); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); MOKROUSOV et al. 2013: 195 (cat., Mordovia Nature Reserve); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); PAUKKUNEN et al. 2015: 22 (cat., distr., Russian Fennoscandia); RUCHIN 2015: 391 (cat., Mordovia Nature Reserve); VINOKUROV 2015b: 316 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 129 (cat., European part: North, North-West, Centre, East, North Caucasus; Ural).

Material examined. Russia: EUROPEAN PART (North-West: Leningrad Prov.: St. Petersburg: env. St. Petersburg [ZIN], Novoladozhskoe [ZIN]; Centre: Belgorod Prov.: Borisovka [ZIN]; Bryansk Prov.: Brianskoe Lestnichestvo [ZIN]; Kostroma Prov.: Kostroma [ZIN]; Kursk Prov.: L'gov [ZIN]; Nizhny Novgorod Prov. [MMC]; Ryazan Prov: Gremyachka [ZIN]; Kazachij [ZIN]; Yaroslavl Prov.: Berditsino [ZIN]; East: Chuvash Rep. [MMC]; Saratov Prov. [ZIN]); URAL (Kurgan Prov [PRC]; Orenburg Prov.: Spasskoe [ZIN] [PRC]; Sverdlovsk Prov. [PRC]).

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.; Centre: Belgorod Prov., Bryansk Prov., Kostroma Prov., Kursk Prov., Lipetsk Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov., Yaroslavl Prov.; East: Chuvash Rep., Samara Prov., Saratov Prov., Ulyanovsk Prov.; North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.); Ural (Kurgan Prov., Orenburg Prov., Sverdlovsk Prov.). Europe (ROSA & SOON 2012) and Turkey (STRUMIA & YILDIRIM 2008). African specimens listed by LINSSENMAIER (1959) are referable to *H. coriaceum jendoubense* (from Tunisia and Morocco) and *H. subcoriaceum* LINSSENMAIER, 1999. LINSSENMAIER (1999) established the *H. coriaceum* group.

Host. Crabronidae: *Lindenius albilabris* (FABRICIUS) (ARNOLD 1908, 1910; MORTIMER 1913; MORGAN 1984; TISCHENDORF 1998); also reported *Oxybelus uniglumis*

(LINNAEUS) and *Tachysphex panzer* (VAN DER LINDEN) (ALFKEN 1915; JACOBS & OEHLKE 1990) as potential host.

***Hedychridium cupreum* (DAHLBOM, 1845) (Fig. 63)**

Hedychrum cupreum DAHLBOM, 1845: 3. Lectotype ♀ (designated by PAUKKUNEN et al. 2014: 23); Sweden: Lund (Vienna) (examined) (*ardens* group). ROSA et al. 2014: 18 (cat., distr.), 84 (Pl. 7).

Chrysis integra DAHLBOM, 1854: NYLANDER 1859: 111 (cat., Sakkola [= Gromovo]).

Holopyga (Hedychridium) integra: MOCSÁRY 1889: 145 (cat., descr., distr., key, Moscow); MOCSÁRY 1890a: 60 (cat., Moscow Prov.).

Holopyga integra: DALLA TORRE 1892: 27 (cat., Russia).

Hedychridium integrum: HELLÉN 1920: 209 (cat., Sakkola [= Gromovo]); VORONTOVKIJ 1930: 67 (cat., Orenburg Prov.); NIKOL'SKAYA 1978: 66 (key, northern and eastern European part of USSR); ZVANTSOV 1988: 87 (biol., cat., Moscow Prov.); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.).

Hedychridium cupreum: PAUKKUNEN et al. 2014: 23 (cat., distr., Russian Fennoscandia); ROSA et al. 2017b: 129 (cat., European part: North, North-West, Centre, North Caucasus; Ural; Eastern Siberia: Irkutsk Prov., Khakass Rep., Tuva Rep.); ROSA et al. 2017g: 31 (cat., distr., Irkutsk Prov.: Irkutsk; Khakass Rep.: Chernoe Ozero, Chernoe Lake; 22 km NW Shira, Belyi Iyus River; 10 km E Shira, Itkul' Lake; Tuva Rep.: Ubsu-Nur Lake; 12 km SW Samagaltai, Dyttyg-Khem River), 33 (Figs 14H, 14J), 38 (cat., distr., Siberia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North-West: Leningrad Prov.: St. Petersburg: env. St. Petersburg [sub *H. integrum*, ZIN]; Centre: Kostroma Prov.: Kostroma [sub *H. integrum*, ZIN]; Kursk Prov.: env. Kursk [ZIN]; Nizhny Novgorod Prov. [MMC]; Vladimir Prov. [MMC]).

D i s t r i b u t i o n . RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.; Centre: Moscow Prov., Kostroma Prov., Kursk Prov., Nizhny Novgorod Prov., Vladimir Prov.; North Caucasus: Stavropol Terr.); Ural (Orenburg Prov.); Eastern Siberia (Irkutsk Prov., Khakass Rep., Tuva Rep.). Trans-Palaeartic, from north-western Europe to Mongolia and China, including subspecies (ROSA et al. 2014).

H o s t . Crabronidae: *Dryudella pinguis* (DAHLBOM), *D. stigma* (PANZER), *Harpactus lunatus* (DAHLBOM) and *H. tumidus* (PANZER) (TRAUTMANN & TRAUTMANN 1919; ELSE 1973; JACOBS & KORNILCH 2007; LEFEBER 1976; MORGAN 1984 SCHMID-EGGER et al. 1995). The report of *Harpactus tumidus* (Panzer) (Banaszak 1980) is unreliable.

****Hedychridium dzhanelidzei* SEMENOV, 1967**

Hedychridium dzhanelidzei SEMENOV, 1967: 128. Holotype ♀; Georgia: Tbilisi (St. Petersburg) (examined). KIMSEY & BOHART 1991: 193 (cat., Georgia); ROSA et al. 2017a: 83 (cat., typ., Georgia, Armenia), 224 (Pl. 230).

D i s t r i b u t i o n . Caucasus (Georgia, Armenia). Iran (ROSA et al. 2013). Species expected for North Caucasus.

***Hedychridium elegantulum* DU BUYSSON, 1887**

Hedychridium elegantulum DU BUYSSON, 1887: 173. Holotype ♀; France: Montpellier (Paris) (examined) (*ardens* group). NIKOL'SKAYA 1978: 66 (key, southern and central European part of USSR); KOCHETKOV et al. 2008: 258 (cat., ecol., Ryazan Prov.: Staroe); KOCHETKOV 2012: 241 (cat., ecol., Ryazan Prov.: Staroe); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 139 (cat., Stavropol Terr.: env. Kislovodsk, Novozavedennoe, vill. Podkumok, vill. Alexandria); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); MOKROUSOV et al. 2013: 195 (cat., Mordovia Nature Reserve); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); RUCHIN 2015: 391 (cat., Mordovia Nature Reserve); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); ROSA et al. 2017b: 129 (cat., European part: Centre, North Caucasus).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Mordovian Rep. [MMC]; Nizhny Novgorod Prov. [MMC]; Ryazan Prov.: Gremyachka [ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Mordovian Rep., Nizhny Novgorod Prov., Ryazan Prov.; North Caucasus: Stavropol Terr., Karachayevo-Cherkess Rep.). Southern Europe and warmer areas of central Europe (Austria, Croatia, southern France, Germany, Iberian peninsula, Italy, Slovakia) (SCHMID-EGGER 1995).

H o s t . Crabronidae: *Dinetus pictus* (FABRICIUS) (HEINRICH 1964).

***Hedychridium erschovi* (RADOSZKOWSKI, 1877)**

Hedychrum erschovi RADOSZKOWSKI, 1877: 7. Syntypes ♀♀; Uzbekistan: Zaravshan Valley, Sokh; Shakhimardan (Moscow) (examined) (*roseum* group). RADOSZKOVSKY 1880: 141 (cat., Caucasus); ROSA et al. 2015a: 22 (cat., typ., Uzbekistan), 24 (Pl. 18).

Euchrum turanum SEMENOV, 1954: 103. Holotype ♂; Kazakhstan: Djulek (St. Petersburg). VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 19, 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2007c: 140 (cat., Stavropol Terr.: Novozavedennoe, Stavropol); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2017a: 82 (cat., typ., Iran, Kyrgyzstan, Tajikistan, Turkmenia, Uzbekistan), 223 (Pl. 226).

Hedychridium erschovi: KIMSEY & BOHART 1991: 203 (synonym of *H. roseum* (ROSSI, 1790)); ROSA et al. 2017b: 129 (cat., European part: North Caucasus); ROSA et al. 2015a: 22 (cat., typ., reinstated), 24 (Pl. 18).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.; Kabardino-Balkarian Rep.). Iran, Kyrgyzstan, Tajikistan, Turkmenia, Uzbekistan (ROSA et al. 2017a), Kazakhstan.

***Hedychridium femoratum femoratum* (DAHLBOM, 1854)**

Hedychrum femoratum DAHLBOM, 1854: 90. Holotype ♀; Austria (Vienna) (examined) (*ardens* group). RADOSZKOVSKY 1866: 7 (cat., southern Russia); MOCSÁRY 1882: 38 (key), 42 (cat., destr., distr., southern Russia).

Hedychridium femoratum: NIKOL'SKAYA 1978: 66 (key, southern European part of USSR); LINSSENMAIER 1997a: 255 (descr., Russia); VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 139 (cat., Stavropol Terr.: env. Kislovodsk, Novozavedennoe); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2017b: 129 (cat., European part: North Caucasus; Ural; Eastern Siberia: Khakass Rep., Krasnoyarsk Terr., Tuva Rep.); ROSA et al. 2017g: 16 (cat., distr., Khakass Rep.: 20 km SW Abakan, Izykhskie Kopi; Krasnoyarsk Terr.: 10 km NW Minusinsk, Bystraya River; Tuva Rep.: 20 km SSW Erzín, Tore-Khol' Lake; 12 km SW Samagaltai, Dyttyg-Khem River); 38 (cat., distr., Siberia).

M a t e r i a l e x a m i n e d . Russia: URAL (Chelyabinsk Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (*North Caucasus*: Stavropol Terr.); Ural (Chelyabinsk Prov.); Eastern Siberia (Khakass Rep., Tuva Rep., Krasnoyarsk Terr.). Central and southern Europe (LINSSENMAIER 1959, 1987), Turkey (LINSSENMAIER 1959).

Remarks. Some authors (e.g. Linsenmaier 1997) consider *Hedychridium miricolor* MORICE, 1909 as a subspecies of *H. femoratum*.

H o s t . Crabronidae: *Dryudella stigma* (PANZER) (SCHMID-EGGER 1995).

***Hedychridium gabriellae* ROSA, 2017 (Fig. 59)**

Hedychridium gabriellae ROSA in ROSA et al. 2017g: 19. Holotype ♀; Russia: Eastern Siberia, Tuva Rep., 20 km SSW Erzín, Tore-Khol' Lake (St. Petersburg) (examined), pag. 20 (Figs 7A–F), 32 (Figs 13G, 13H), 38 (cat., distr., Siberia). ROSA et al. 2017b: 129 (cat., Eastern Siberia: Tuva).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Tuva Rep.).

****Hedychridium gemma* (SEMENOV, 1967)**

Euchrum gemma SEMENOV, 1967: 132. Holotype ♂; Georgia, Lagodekhi (St. Petersburg) (examined).

Hedychridium gemma: KIMSEY & BOHART 1991: 195 (cat., Georgia); ROSA et al. 2017a: 82 (cat., typ., Georgia), 222 (Pl. 225).

D i s t r i b u t i o n . Caucasus (Georgia).

***Hedychridium jucundum* (MOCSÁRY, 1889)**

Holopyga (Hedychridium) iucunda MOCSÁRY, 1889: 150. Lectotype ♀ (designated by MÓCZÁR 1964a: 446); Hungary [not France]: Isaszeg (Budapest) (examined) (*ardens* group). ROSA et al. 2017h: 107 (cat., tax., typ.), 108 (Pl. 82).

Hedychridium (Hedychridium) jucundum: LINSSENMAIER 1959: 45 (key), 49 (descr., distr., Caucasus), 199 (Figs 169–170).

Hedychridium jucundum: MÓCZÁR 1967a: 48 (Fig. 27, cat., descr., distr., key, Caucasus); VINKUROV 2016: 39 (cat., Dagestan Rep.: Samur Forest Reserve); ROSA et al. 2017b: 129 (cat., European part: Centre, South, North Caucasus; Ural).

Hedychridium marteni LINSENMAIER, 1951: MINGO 1985: 191 (key), 199 (descr., distr., Caucasus).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Nizhny Novgorod Prov. [MMC]; South: Volgograd Prov. [MMC]; North Caucasus: Krasnodar Terr. [MMC]); URAL (Chelyabinsk Prov. [PRC]; Orenburg Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Nizhny Novgorod Prov.; South: Volgograd Prov.; North Caucasus: Dagestan Rep., Krasnodar Terr.); Ural (Chelyabinsk Prov., Orenburg Prov.). Caucasus. Southern and central Europe (LINSENMAIER 1959), Turkey (STRUMIA & YILDIRIM 2008).

R e m a r k s . We consider the incorrect subsequent spelling *jucundum* as the name currently in use (ROSA et al. 2017h).

***Hedychridium krajniki krajniki* BALTHASAR, 1946 (Fig. 54)**

Hedychridium krajniki BALTHASAR, 1946: 237. Syntypes ♀♀; Slovakia: Parkan (Prague) (*ardens* group) (examined). ROSA et al. 2017b: 129 (cat., European part: Centre; Ural); ROSA et al. 2017d: 14 (cat., distr., Mordovian Rep.; Kursk Prov.: Borisovka; Nizhny Novgorod Prov.; Orenburg Prov.: Spasskoe).

Hedychridium minutum var. *reticulatum* ABEILLE DE PERRIN, 1879: MANTERO 1905: 51 (cat., distr., Caucasus); MANTERO 1906: 454 (cat., distr., Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Kursk Prov., Mordovian Rep., Nizhny Novgorod Prov.); Ural (Orenburg Prov.). Caucasus. Southern and central Europe. In Turkey it is known the subspecies *Hedychridium krajniki* ssp. *turceyense* LINSENMAIER, 1968.

H o s t . Crabronidae: *Lindenius pygmaeus armatus* (VAN DER LINDEN) (SCHNEIDER 1997; TISCHENDORF 1998).

***Hedychridium leleji* ROSA, 2017 (Fig. 65)**

Hedychridium leleji ROSA in ROSA et al. 2017g: 23. Holotype ♀; Russia: Eastern Siberia, Tuva Rep., 30 km W Erzin, Yamaalyg (St. Petersburg) (examined) (paratypes from Tuva Rep., 31 km NEE Erzin, Erzin River; 20 km SSW Erzin, Tore-Khol' Lake), 24 (Figs 9A–F), 33 (14C, 14D), 38 (cat., distr., Siberia). ROSA et al. 2017b: 129 (cat., Eastern Siberia: Tuva Rep.).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Tuva Rep.).

***Hedychridium loktionovi* ROSA, 2017**

Hedychridium loktionovi ROSA in ROSA et al. 2017g: 28. Holotype ♀; Russia: Western Siberia, Altai Rep.: 5 km SE Chagan-Uzun, Tudituyaryk River (St. Petersburg) (examined), 29 (Figs 11A–F), 33 (Figs 14F, 14G), 38 (cat., distr., Siberia). ROSA et al. 2017b: 129 (cat., Western Siberia: Altai).

D i s t r i b u t i o n . RUSSIA: Western Siberia (Altai Rep.).

***Hedychridium longigena* ROSA, 2017 (Fig. 60)**

Hedychridium longigena ROSA in ROSA et al. 2017g: 21. Holotype ♀; Russia: Eastern Siberia, Irkutsk Prov., 8 km N Irkutsk, Angara river (St. Petersburg) (examined), 22 (Figs 8A–F), 32 (Figs 13I, 13J), 38 (cat., distr., Siberia). ROSA et al. 2017b: 129 (cat., Eastern Siberia: Irkutsk Prov.).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Irkutsk Prov.).

***Hedychridium lucidiventre* SEMENOV, 1967**

Hedychridium lucidiventre SEMENOV, 1967: 127. Holotype ♀; Kazakhstan: Balamurum, Karatau foothills (St. Petersburg) (examined). VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2017a: 84 (cat., typ., Kazakhstan), 227 (Pl. 236); ROSA et al. 2017b: 129 (cat., European part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). Kazakhstan.

***Hedychridium mediocre* LINSENMAIER, 1987**

Hedychridium (Hedychridium) scutellare nec (TOURNIER, 1878): LINSENMAIER 1959: 63.

Hedychridium (Hedychridium) mediocre LINSENMAIER, 1987: 142. Holotype ♂; Switzerland: Wallis (Luzern) (examined). ROSA et al. 2017b: 129 (cat., Ural); ROSA et al. 2017d: 14 (cat., distr., Chelyabinsk Prov.; Orenburg Prov.; Sverdlovsk Prov.).

Hedychridium mediocrate KIMSEY in KIMSEY & BOHART 1991: 199. Unnecessary replacement name for *Hedychridium mediocre* LINSENMAIER, 1987: 142.

D i s t r i b u t i o n . RUSSIA: Ural (Chelyabinsk Prov., Orenburg Prov., Sverdlovsk Prov.). Central and Southern Europe.

R e m a r k s . ARENS (2010) considered *Hedychridium mediocre* LINSENMAIER as the continental subspecies of *H. insulare* BALTHASAR, 1952.

***Hedychridium monochroum* DU BUYSSON, 1888 (Fig. 66)**

Hedychridium monochroum DU BUYSSON, 1888: 3. Holotype ♀; France: Marseille (Paris) (*monochroum* group). ROSA et al. 2017b: 129 (cat., European part: South; Ural); ROSA et al. 2017d: 14 (cat., distr., tax., Volgograd Prov.; Chelyabinsk Prov.).

D i s t r i b u t i o n . RUSSIA: European part (South: Volgograd Prov.); Ural (Chelyabinsk Prov.). Trans-Palaearctic from Europe to Armenia, southern Caucasus, Tajikistan, Uzbekistan and the Oriental Region (ROSA et al. 2017a).

H o s t . Crabronidae: *Solierella compedita* (PICCIOLI) (GRANDI 1961; MARTYNOVA 2017).

***Hedychridium moricei* DU BUYSSON, 1904**

Hedychridium moricei DU BUYSSON, 1904: 256. Holotype ♂; Greece: Zakynthos (Oxford). ROSA et al. 2017b: 129 (cat., European part: South).

Hedychridium flavipes var. *moricei*: TRAUTMANN 1927: 63 (descr., distr., southern Russia).

Zarudnidium clarum SEMENOV, 1967: 133. Holotype ♂; Azerbaijan: Kirovabad [= Ganja] (St. Petersburg) (examined). Junior subjective synonym of *Hedychridium moricei* DU BUYSSON, 1904 according to ROSA et al. 2017a).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Kalmyk Rep. [MMC]).

D i s t r i b u t i o n . RUSSIA: European part (South: Kalmyk Rep.). Caucasus (Azerbaijan [ZIN, NMLS]). From southern Europe to Turkey and Middle East (LINSENMAIER 1959).

***Hedychridium palestinense* BALTHASAR, 1953**

Hedychridium sculpturatum var. *palestinense* BALTHASAR, 1953: 145. Syntypes; Israel: Jerusalem (Prague) (*roseum* group).

Euchrum maculiventre: VINOKUROV 2006d: 19, 21 (cat., Ciscausus).

Hedychridium palestinense: ROSA 2018b: 9 (cat., Astrakhan Prov: env. Volskij; Stavropol Terr.: Novozavedennoe), 10 (Figs 25, 30).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Astrakhan Prov.: env. Volskij; North Caucasus: Stavropol Terr., Novozavedennoe Vill).

D i s t r i b u t i o n . RUSSIA: European part (South: Astrakhan Prov.; North Caucasus: Stavropol Terr.). Palestine, Syria, Turkey (ARENS 2010).

***Hedychridium parkanense* BALTHASAR, 1946 (Fig. 56)**

Hedychridium parkanense BALTHASAR, 1946: 238. Holotype ♂; Slovakia: Štúrovo (Prague). ROSA et al. 2017b: 129 (cat., European part: South); ROSA et al. 2017d: 14 (cat., distr., Astrakhan Prov., Kamyzyaksky Distr., Kirovsky steppe).

D i s t r i b u t i o n . RUSSIA: European part (South: Astrakhan Prov.). Central-southern Europe: Slovakia, Hungaria, former Yugoslavia, *Ukraine (new record: Odessa, Kanev).

***Hedychridium propodeale* ROSA, 2017 (Fig. 61)**

Hedychridium propodeale ROSA in ROSA et al. 2017g: 16. Holotype ♀; Russia: Eastern Siberia, Tuva Rep., 20 km SSW Erzin, Tore-Khol' Lake (St. Petersburg) (examined) (paratypes from Khakass Rep.: 10 km E Shira, Itkul' Lake; Krasnoyarsk Terr.: 10 km NE Minusinsk, Malaya Minusa River; Selo Padun', Tunguska; Tuva Rep.: 20 km SSW Erzin, Tore-Khol' Lake, 13 km SW Samagaltai, Dytytg-Khem River; 6 km SE Bai-Khaak, Sosnovka; 30 km W Erzin, Yamaalyg), 6 (Figs 6A–F), 32 (Figs 13E, 13F), 38 (cat., distr., Siberia). ROSA et al. 2017b: 129 (cat., Eastern Siberia: Khakass Rep.; Krasnoyarsk Terr., Tuva Rep.).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Khakass Rep., Krasnoyarsk Terr., Tuva Rep.).

***Hedychridium proshchalykini* ROSA, 2017**

Hedychridium proshchalykini ROSA in ROSA et al. 2017g: 25. Holotype ♀; Russia: Eastern Siberia, Tuva Rep., 20 km SSW Erzin, Tore-Khol' Lake (St. Petersburg) (examined), 26 (Figs 10A–F), 33 (Figs 14A, 14B), 38 (cat., distr., Siberia). ROSA et al. 2017b: 129 (cat., Eastern Siberia: Tuva Rep.).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Tuva Rep.).

****Hedychridium pulchellum* (MOCSÁRY, 1893)**

Holopyga (Hedychridium) pulchella MOCSÁRY, 1893: 214. Holotype ♀; Caucasus: Araxes valley (Vienna) (examined).

Hedychridium algirum var. *pulchellum*: DU BUYSSON in ANDRÉ 1896: 712 (cat., tax., Caucasus); BISCHOFF 1913: 14 (cat., Caucasus).

Hedychridium pulchellum: KIMSEY & BOHART 1991: 202 (cat., Georgia: Araxes).

D i s t r i b u t i o n . Caucasus and Turkey (LINSENMAIER 1968).

***Hedychridium purpurascens* (DAHLBOM, 1854)**

Hedychrum purpurascens DAHLBOM, 1854: 85. Holotype (sex unknown); Poland: Glogovia (Lund) (examined) (*ardens* group).

Hedychridium purpurescens (!): NIKOL'SKAYA 1978: 66 (key, northern European part of USSR); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2007c: 140 (cat., Stavropol Terr.: Novozavedennoe, vill. Alexandria); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Hedychridium purpurascens: VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasia); KIZILOV 2007: 83 (cat., Tomsk Prov.: Kozhevnikovskiy Distr.); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); ROSA et al. 2017b: 129 (cat., European part: North Caucasus; Western Siberia: Tomsk Prov.); ROSA et al. 2017g: 38 (cat., distr., Siberia).

Hedychridium purpurescens (!): VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody).

Hedychridium purpurascens (!): VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep.; Stavropol Terr.); Western Siberia (Tomsk Prov.). Central and Northern Europe (PAUKKUNEN et al. 2014) and Ukraine (SAURE 1998b).

***Hedychridium roseum roseum* (ROSSI, 1790)**

Chrysis carnea var. *rosea* ROSSI, 1790: 75. Syntypes; Italy (Berlin?) (*roseum* group).

Hedychrum roseum: EVERSMANN 1858: 552 (cat., descr., Orenburg Prov., Ural); ASSMUSS 1862: 267 (cat., ecol., Podolsk, Serpuchow, Zvenigorod); WOLDSTEDT 1875: 345 (cat., Sakkola [= Gromovo]); RADOSZKOVSKY 1880: 141 (cat., Caucasus); BECKER 1880: 151 (cat., Sarepta); MOCSÁRY 1882: 38 (key), 41 (cat., distr., Caucasus); DE STEFANI 1888: 121 (cat., descr., distr., key, Caucasus); WESTERLUND 1893: 30 (cat., Impilahti [= Lagoda lake]); MANTERO 1905: 52 (cat., distr., Caucasus).

Holopyga (Hedychridium) rosea: MOCSÁRY 1889: 154 (cat., descr., distr., key, Caucasus); MOCSÁRY 1890a: 61 (cat., Caucasus).

Holopyga rosea: DALLA TORRE 1892: 28 (cat., Caucasus).

Hedychridium roseum: DU BUYSSON in ANDRÉ 1892: 207 (cat., descr., key, Caucasus), pl. XV (Figs 3–4, 6–7); HELLÉN 1920: 208 (cat., descr., Impilaks [= Lagoda lake]); FORSIUS 1925: 184 (cat., Rautu [= Sosnovo]) [= *Hedychridium caputaureum*?]; GUSSAKOVSKIJ 1948: 731 (cat., key, European part of USSR); BALTHASAR 1954: 100 (key), 103 (descr., Caucasus, European part of USSR); LEVI et al. 1974: 265 (cat., Kirov Prov.: Goltz, Kirov); BANASZAK 1980: 14 (biol., cat., Siberia); BLAGOVESCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); BLAGOVESCHENSKAYA 1994: 84 (cat., ecol., Ulyanovsk Prov.: Surskij Ostrog); KUNZ 1994: 54 (key), 100 (biol., cat., descr., distr., ecol., Siberia), 101 (Fig. 219); PAGLIANO & SCARAMOZZINO 1999: 144 (biol., distr., Caucasus, Siberia); ROSA 2006: 161 (key ♂), 162 (key ♀), 183 (biol., cat., descr., distr., ecol. tax., Siberia), tab. VII (Fig. 40), pl. 6 (Fig. 101); SHIBAEV 2006a: 110 (cat., ecol., Penza Prov.: Akhuny, B. Endova); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); KURZENKO & LELEJ 2007: 1003 (cat., Amur, Khabarovsk, Primorskii Terr.); DE OLIVEIRA et al. 2009: 40 (cat., distr., Siberia); ARENS 2010: 406 (cat., Siberia); LELEJ & KURZENKO 2012: 401 (cat., Amur, Primorskii Terr., Transbaikal); SHIBAEV & POLUMORDVINOVA 2012: 276 (cat., Penza Prov.); MOKROUSOV et al. 2013: 195 (cat., Mordovia Nature Reserve); KOCHETKOV 2013: 170 (cat., Amur Prov.: Khingansky Zapovednik); PAUKKUNEN et al. 2014: 24 (cat., distr., Russian Fennoscandia); RUCHIN 2015: 391 (cat., Mordovia Nature Reserve); ROSA et al. 2017b: 129 (cat., European part: North, North-West, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai; Eastern Siberia: Buryat Rep., Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep., Yakutsk Rep., Zabaikalskii Terr.; Far East: Amur Prov., Khabarovsk Terr., Primorskii Terr.); ROSA et al. 2017g: 38 (cat., distr., Siberia).

Elampus roseum: SAHLBERG 1910: 98 (cat., "Karjala"); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); STOJKO & POLUMORDVINOVA 2004: 55 (cat., Penza Prov.: Kamensky Distr.: Novaya Esineevka; Penza).

Hedychridium (Hedychridium) roseum: LINSSENMAIER 1959: 58 (descr., distr., key, Siberia), 198 (Figs 105–106, 115), 199 (Fig. 137); KOFLER 1975: 348 (biol., cat., distr., Siberia).

Euchrum roseum: NIKOL'SKAYA 1978: 66 (key, European part of USSR); ZVANTSOV 1987: 63 (cat., North Ossetian Rep.: Nar); ZVANTSOV 1988: 88 (biol., cat., Moscow Prov.: Pushkino, Mytishchi, Zelenaya Gavan, Peredelkino, Bitsa, Zvenigorod, Nikolina Gora, Podolsk, Serpukhov, Prioksko-Terrasny Nature Reserve); KUZNETSOVA 1990: 9 (cat., ecol., Lipetsk Prov.: Galich'ya Gora, Don River); BUGANIN et al. 2000: 148 (cat., Ulyanovsk Prov.: Majnskij, Ulyanovskij, Novospassky, Radishchevsky Distr.); VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); KIZILOV 2007: 82 (cat., Altai Rep.); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasus); VINOKUROV 2007c: 140 (cat., Stavropol Terr.: Novozavedennoe, env. Stavropol); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); KOCHETKOV et al. 2008: 258 (cat., Ryazan Prov.: Severnij); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); RUDOISKATEL 2011a: 165 (cat., Sverdlovsk Prov.); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); KOCHETKOV 2012: 241 (cat., Ryazan Prov.: distr. Miloslavskij, Ryazanskij, Spasskij); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Euchrum (!) rosaim (!): VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody).

(!) *Chrysura simplex* (DAHLBOM, 1854): LEONTIEV 2015: 134 (cat., mis., Tatar Rep.: Bol'shoj Bor), 135 (Fig. 8).

Euchrum roseum nanum CHEVRIER, 1870: VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Material examined. Russia: EUROPEAN PART (North-West: Leningrad Prov.: Ligovo [ZIN], Novoladozhskoe [ZIN], Moskovskaya highway [ZIN]; Centre: Ivanovo Prov.

[MMC]; Kostroma Prov.: Kostroma [ZIN]; Mordovian Rep. [MMC]; Nizhny Novgorod Prov. [MMC]; Ryazan Prov.: Gremyachka [ZIN]; Yaroslavl Prov.: Berditsino [ZIN]; South: Astrakhan Prov. [MMC]; Kalmyk Rep. [MMC]; Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Krasnodar Terr.: Sochi [ZIN]; Crimea: Sevastopol [ZIN], Simferopol [ZIN], Sudak [ZIN]; URAL (Chelyabinsk Prov. [PRC]; Orenburg Prov.: Spasskoe [PRC, ZIN]; Perm Terr. [ZIN]; Sverdlovsk Prov. [PRC]); WESTERN SIBERIA (Altai Rep.: 15 km SE Kurai, Chuya River [IBSS]; 12 km SE Aktash, Chuya River [IBSS]); EASTERN SIBERIA (Irkutsk Prov.: Mal'ta [ZIN], Irkutsk [ZIN], vill Padun', Verkhnyaya Tunguzka River [= Angara River] [ZIN]; Khakass Rep.: 21 km SW Abakan, Izykhskie Kopi [IBSS]; Chernoe Ozero, Chernoe Lake [IBSS]; Krasnoyarsk Terr.: 10 km NE Minusinsk, Malaya Minusa River [IBSS]; Tuva Rep.: 13 km SW Samagaltai, Dyttyg-Khem River [IBSS]; Ubsu-Nur Lake [IBSS]; 27 km SSW Erzin, Tore-Khol Lake [IBSS]; 12 km SW Samagaltai, Dyttyg-Khem River [IBSS]; Yakutsk Rep.: Yakutsk [ZIN]). Abkhazia Rep. [MMC]; Azerbaijan: Elisavetpol [ZIN], Gadzhi [ZIN]; Georgia: Lagodekhi [ZIN].

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.; Centre: Ivanovo Prov., Kostroma Prov., Lipetsk Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov., Yaroslavl Prov.; East: Kirov Prov., Tatar Rep., Ulyanovsk Prov.; South: Astrakhan Prov., Kalmyk Rep., Volgograd Prov.; North Caucasus: Kabardino-Balkarian Rep., Krasnodar Terr., North Ossetia Rep., Stavropol Terr.; Crimea); Ural (Chelyabinsk Prov., Orenburg Prov., Perm Terr., Sverdlovsk Prov.); Western Siberia (Altai Rep.); Eastern Siberia (Khakass Rep., Krasnoyarsk Terr., Irkutsk Prov./Buryat Rep., Tuva Rep., Yakutsk Rep., Zabaikalskii Terr); Far East (Amur Prov., Khabarovsk Terr., Primorskii Terr.). Caucasus, Abkhazia Rep., Azerbaijan, Georgia. Trans-Palaeartic: from western Europe to China and Russian Far East (LINSENMAIER 1959, KURZENKO & LELEJ 2007, ROSA et al. 2014). *Hedychridium roseum* ssp. *anatolicum* ARENS, 2010 is found in Turkey.

Hosts. Crabronidae: *Astata boops* (SCHRANK), *Tachysphex pompiliformis* (PANZER) (KUNZ 1994; LINSSENMAIER 1997b; REDER 2010). Other possible hosts are *Dryudella stigma* (PANZER), *Tachysphex pectinipes* (LINNAEUS), *T. pompiliformis* (PANZER) and *Harpactus tumidus* (PANZER) (SHUCKARD 1837; MÜLLER 1918; FORSIUS 1925; DORONIN 1996; SAURE 1998a). Megachilidae and Halictidae, as *Osmia papaveris* LATREILLE and *Halictus fulvocinctus* (KIRBY) (TRAUTMANN 1927), are not reliable.

***Hedychridium rossicum* GUSSAKOVSKII, 1948**

Hedychridium rossicum GUSSAKOVSKII, 1948: 731. Lectotype ♂ (designated by ROSA et al. 2017c: 7); Russia: Yaroslavl' Prov. (St. Petersburg) (examined). PLAVIL'SHCHIKOV 1950: 399 (cat., European part of USSR); LEVI et al. 1974: 266 (cat., Kirov Prov.: Goltz, Kyrmyzh, Korshik); BLAGOVESHCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); MAMAEV et al. 1976: 238 (cat., European part of USSR); BLAGOVESHCHENSKAYA 1994: 84 (cat., Ulyanovsk Prov.: Ulyanovsk); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); ROSA et al. 2017b: 129 (cat., European part: Centre, East, South, North Caucasus, Crimea; Ural); ROSA et al. 2017c: 7 (tax., distr., syn., Centre, East, South, North Caucasus, Crimea; Ural).

Hedychridium valesiense LINSSENMAIER, 1959: 62. Holotype ♂; Switzerland: Wallis (Luzern) (examined) (*roseum* group). NIKOL'SKAYA 1978: 66 (key, southern and central European part of USSR); SHIBAEV 2006a: 110 (cat., ecol., Penza Prov.: Akhuny, B. Endova, Stepanovka); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.).

Euchrum valesiense: ZVANTSOV 1988: 89 (cat., Moscow Prov.: Mytishchi, neighborhood of Ruzy, Prioksko-Terrasny Nature Reserve); KUZNETSOVA 1990: 9 (cat., ecol., Lipetsk Prov.: Galich'ya Gora, Don River); BUGANIN et al. 2000: 148 (cat., Ulyanovsk Prov.: [= *Hedychridium rossicum* SEMENOV in BLAGOVESCHENSKAYA (1994)] Terengulsky Distr., vill. Aleshkino; Novospassky Distr., vill. Mar'evka); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2007c: 140 (cat., Stavropol Terr.: Novozavedennoe); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); KOCHETKOV 2012: 241 (cat., Ryazan Prov.: env. vill. Poschupovo); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Kostroma Prov.: Kostroma [ZIN], Glakovo [ZIN]; Nizhny Novgorod Prov. [MMC]; Ryazan Prov.: Gremyachka [ZIN]; Yaroslavl Prov.: Berditsino [ZIN]; East: Saratov Prov. [ZIN]; South: Volgograd Prov.: Sarepta [ZIN]; Crimea: Sevastopol [ZIN]); URAL (Orenburg Prov. [PRC]; Sverdlovsk Prov. [PRC]). Azerbaijan: Elisavetpol [ZIN].

D i s t r i b u t i o n . RUSSIA: European part (Centre: Lipetsk Prov., Kostroma Prov., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov., Yaroslavl Prov.; East: Kirov Prov.; Saratov Prov., Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: Stavropol Terr.; Crimea); Ural (Orenburg Prov., Sverdlovsk Prov.). Azerbaijan. Known from southern and Central Europe to Russia.

H o s t . Crabronidae: *Astata boops* (SCHRANK) (REDER 2010).

***Hedychridium satunini* SEMENOV, 1967**

Hedychridium satunini SEMENOV, 1967: 127. Holotype ♀; Georgia: Tbilisi (St. Petersburg) (examined) (paratype from Azerbaijan, Kirovabad). VINOKUROV 2007c: 140 (cat., Stavropol Terr.: Novozavedennoe); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 83 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2017b: 129 (cat., European part: North Caucasus); ROSA et al. 2017a: 86 (cat., typ., Azerbaijan, Georgia), 231 (Pl. 244).

Hedychridium catunini (!): VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). Caucasus, Azerbaijan, Georgia.

***Hedychridium sculpturatum sculpturatum* (ABEILLE DE PERRIN, 1877)**

Hedychrum sculpturatum ABEILLE DE PERRIN, 1877: 65. Lectotypus ♂ (designated by Arens 2010: 417); France: La Penne (Paris) (examined).

Holopyga (Hedychridium) sculpturata: MOCSÁRY 1889: 143 (cat., Caucasus, Astrakhan); MOCSÁRY 1890a: 60 (cat., Caucasus, southern Russia).

Holopyga sculpturata: DALLA TORRE 1892: 30 (cat., Caucasus, Russia).

Hedychridium sculpturatum: DU BUYSSON in ANDRÉ 1892: 205 (cat., descr., key, southern and eastern Russia); MANTERO 1905: 51 (cat., distr., Caucasus, southern Russia); VORONTSOVKIJ 1930: 67 (cat., Orenburg Prov.); BALTHASAR 1946: 234 (biol., cat., distr., Caucasus, southern Russia, Ural); BALTHASAR 1953: 145 (descr., Caucasus, southern Russia); BALTHASAR 1954: 102 (key), 105 (descr., Caucasus, European part of USSR); BANASZAK 1980: 14 (biol., cat.,

Caucasus); ROSA et al. 2017b: 129 (cat., European part: South, North Caucasus; Ural; Western Siberia: Tomsk Prov.); ROSA et al. 2017g: 38 (cat., distr., Siberia).

Euchrum sculpturatum: NIKOL'SKAYA 1978: 66 (key, south-western European part of USSR); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); KIZILOV 2007: 83 (cat., Tomsk Prov.: Tomsk); VINOKUROV 2007c: 140 (cat., Stavropol Terr.: Novozavedennoe); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 83 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

D i s t r i b u t i o n . RUSSIA: European part (South: Astrakhan Prov.; North Caucasus: Stavropol Terr.); Ural (Orenburg); Western Siberia (Tomsk Prov.). Caucasus. Southern Europe.

R e m a r k s . The correct subspecific attribution of the specimens cited in literature is almost impossible. Russian data should be misidentification of similar species described after *H. sculpturatum*, such as *H. caucasium* TRAUTMANN, 1926, originally described as a variation of *H. sculpturatum*, *H. valesiense* LINSENMAIER, 1959, or *H. mediocrum* LINSENMAIER, 1987. Otherwise, they could be truly referable to *H. sculpturatum sculpturatum*, known from south-western Europe to Greece and Bulgaria so far ARENS (2010), or *Hedychridium sculpturatum pseudoroseum* LINSENMAIER, 1959, which is known for Cyprus, Kos Island and Turkey (ARENS 2010).

H o s t . Unknown, BERLAND & BERLAND (1938) listed Halictidae (*Halictus*) and Megachilidae (*Osmia*) which are unreliable hosts for *Hedychridium* species.

***Hedychridium scutellare* (TOURNIER, 1878)**

Hedychrum scutellare TOURNIER, 1878: 309 [not described as *Hedychridium*]. Syntypes ♂♂; Italy: Sicily (Geneve) (examined) (*roseum* group).

Hedychridium (Hedychridium) mediocre LINSENMAIER, 1959: 63. Holotype ♂; Spain [not Yugoslavia]: Soria (Luzern) (examined) (*sculpturatum* group).

Euchrum scutellare: VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 140 (cat., Stavropol Terr.: Novozavedennoe); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Hedychridium scutellare: ROSA et al. 2017b: 129 (cat., European part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). South Europe.

R e m a r k s . Identification to be confirmed after ARENS (2010, 2014).

***Hedychridium sibiricum* ROSA, 2017 (Fig. 58)**

Hedychridium sibiricum ROSA in ROSA et al. 2017g: 32. Holotype ♀; Russia: Eastern Siberia; Tuva Rep., south slope of W Tanu-Ola near Soglyi Village (St. Petersburg) (examined), 30 (Figs 12A–F), 32 (Figs 13K, 13L), 38 (cat., distr.). ROSA et al. 2017b: 129 (cat., Eastern Siberia: Tuva Rep.).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Tuva Rep.).

***Hedychridium trossolus* (SEMENOV, 1954) (Fig. 57)**

Euchridium trossolus SEMENOV, 1954a: 96. Holotype ♂; Tajikistan: Hissar Range (St. Petersburg) (examined). VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2007c: 140 (cat., Stavropol Terr.: env. Kislovodsk, vill. Podkumok; Kabardino-Balkarian Rep.: vill. Elbrus); ROSA et al. 2017a: 86 (cat., typ., Tajikistan), 232 (Pl. 246); ROSA et al. 2017b: 129 (cat., European part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.; Kabardino-Balkarian Rep.). Central Asia (Tajikistan).

***Hedychridium tsunekii* LINSENMAIER, 1959**

Hedychridium tsunekii LINSENMAIER, 1959: 60. Holotype ♂; Korea (Luzern) (examined). ROSA et al. 2017b: 129 (cat., Far East: Khabarovsk Terr.); ROSA et al. 2017d: 15 (cat., distr., Khabarovsk Prov.: Solnechnyi distr., Evoron Lake).

D i s t r i b u t i o n . RUSSIA: Far East (Khabarovsk Prov.). Korea.

***Hedychridium turcicum* ARENS, 2010 (Fig. 69-70)**

Hedychridium valesiense turcicum ARENS, 2010: 428. Holotype ♂; Turkey: Kars Prov., 20 km W Sankamış 2200 m (Luzern) (examined) (*roseum* group).

Hedychridium turcicum: ROSA et al. 2017b: 129 (cat., Eastern Siberia: Krasnoyarsk Terr.); ROSA et al. 2017g: 34 (Krasnoyarsk Terr.: Berezovyi; 10 km NW Minusinsk, Bystraya River), 35 (Figs 15A–E), 38 (cat., distr.).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Krasnoyarsk Terr.). Turkey.

***Hedychridium uvarovi* SEMENOV, 1967**

Hedychridium (Hedychridium) uvarovi SEMENOV, 1967: 125. Holotype ♀; Russia: Stavropol Terr.: Stavropol (St. Petersburg) (examined). ROSA et al. 2017a: 87 (cat., typ., Stavka Achikulak), 233 (Pl. 248); ROSA et al. 2017b: 130 (cat., European part: North Caucasus).

Hedychridium uvarovi: KIMSEY & BOHART 1991: 206 (cat., USSR: Stavropol).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.).

***Hedychridium zelleri* (DAHLBOM, 1845)**

Hedychrum zelleri DAHLBOM, 1845: 2. Syntypes; Poland: Silesia, Glogovia (Lund) (examined) (*ardens* group).

Hedychridium zelleri: NIKOL'SKAYA 1978: 66 (key, northern European part of USSR); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2007c: 140 (cat., Stavropol Terr.: Novozavedennoe, Khutor Andreevskij); MOKROUSOV 2009: 265 (biol., cat., Mari El Rep.: Denisovka); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.);

VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma river); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); MOKROUSOV et al. 2013: 195 (cat., Mordovia Nature Reserve); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); LESHTAEV 2015: 97 (cat., distr., Tula Prov.: Tula, Shchyokino, Leninsky); RUCHIN 2015: 391 (cat., Mordovia Nature Reserve); VINOKUROV 2015a: 32 (cat., Dagestan Rep.: Dagestan Reserve, Barkhan Sarykum); ROSA et al. 2017b: 130 (cat., European part: Centre, East, North Caucasus).

Material examined. Russia: EUROPEAN PART (Centre: Belgorod Prov.: Borisovka [ZIN]; Nizhny Novgorod Prov. [MMC]; Vladimir Prov. [MMC]; East: Mari El Rep. [MMC]).

Distribution. RUSSIA: European part (Centre: Belgorod Prov., Mordovian Rep.). Nizhny Novgorod Prov., Tula Prov., Vladimir Prov.; North Caucasus: Stavropol Terr., Dagestan Rep.; East: Mari El). Northern and Central Europe (PAUKKUNEN et al. 2014).

Host. Crabronidae: *Miscophus niger* DAHLBOM and *M. concolor* DAHLBOM (SAURE 1998a).

7. Genus *Hedychrum* LATREILLE, 1802

Hedychrum LATREILLE, 1802: 317. Type species: *Chrysis lucidula* FABRICIUS, 1775 [= *Hedychrum nobile* (SCOPOLI, 1763)], by monotypy.

Hedychrum alexii SEMENOV, 1967

Hedychrum alexii SEMENOV, 1967: 144. Holotype ♀; Kazakhstan: Zaysan (St. Petersburg) (examined). VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 141 (cat., Stavropol Terr.: Novozavedennoe); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 83 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2017a: 87 (cat., typ., Kazakhstan), 234 (Pl. 249); ROSA et al. 2017b: 130 (cat., European part: North Caucasus).

Distribution. RUSSIA: European part (North Caucasus: Stavropol Terr.). Kazakhstan.

Hedychrum aureicolle aureicolle MOCSÁRY, 1889 (Fig. 75)

Hedychrum aureicolle MOCSÁRY, 1889: 168. Lectotype ♀ (designated by MÓCZÁR 1964a: 440); Greece: Rhodes (Budapest) (examined). VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2007c: 141 (cat., Stavropol Terr.: Novozavedennoe); VINOKUROV 2016: 39 (cat., Dagestan Rep.: Samur Forest Reserve); ROSA et al. 2017b: 130 (cat., European part: North Caucasus); ROSA et al. 2017h: 94 (cat., typ.), 95 (Pl. 69).

Hedychrum aureicolle (!): VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

Hedychrum aureicollis (!): VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Hedychrum nobile aureicolle: VINOKUROV 2014d: 92 (cat., Adygei Rep.: Maykop, env. vill. Krasnoarmejskij).

Material examined. Abkhazia Rep. [MMC].

Distribution. RUSSIA: European part (North Caucasus: Adygei Rep., Dagestan Rep., Stavropol Terr.). Abkhazia Rep., Cyprus, Greece, Palestine, Turkey, Iran (LINSENMAIER 1959, 1968). Localities outside East Mediterranean and Middle East (e.g. central Europe or Russian Far East) are referred to *He. niemelai* LINSSENMAIER, 1959, which was described as a subspecies of *He. aureicolle*.

***Hedychrum caucasicum* MOCSÁRY, 1889 (Fig. 77)**

Hedychrum virens var. *caucasicum* MOCSÁRY, 1889: 171. Holotype ♂; Azerbaijan: Helenendorf [= Goygol] (lost). TRAUTMANN 1927: 71 (key), 76 (cat., descr., distr., Caucasus).

Hedychrum caucasicum: ROSA 2018b: 9 (tax., Kalmyk Rep.: NW of Artesian; Dagestan Rep.: Kamyshchay valley), 10 (Figs 24, 28).

Distribution. RUSSIA: European part (North Caucasus: Kalmyk Rep., Dagestan Rep.). Azerbaijan, Georgia, Syria (ROSA 2018b).

Remarks. *Hedychrum virens* var. *caucasicum* MOCSÁRY 1889 was described from Caucasus, and recently raised to species rank (ROSA, 2018b). Colour and punctuation are different compared with the nominate form, being greenish on head and mesosoma (vs. dark blue) and with coarser and sparser punctures on metasoma. Also genital capsulae show differences, with digitus reaching well beyond cuspis half-length.

***Hedychrum chalybaeum* DAHLBOM, 1854 (Figs 73-74)**

Hedychrum chalybaeum DAHLBOM, 1854: 64. Syntypes ♂♂; South and central Europe; Russia; Prussia; Silesia (Berlin) (examined). TRAUTMANN 1927: 70 (key), 71 (key), 77 (biol., cat., descr., distr., southern Russia); MINKIEWICZ 1935: 201 (tax., southern Russia); BALTHASAR 1946: 240 (biol., cat., distr., southern Russia); BALTHASAR 1953: 52 (key, southern Russia); BALTHASAR 1954: 121 (key), 126 (descr., European part of USSR); LINSSENMAIER 1959: 36 (key), 39 (descr., distr., Siberia), 197 (Figs 65–69); MÓCZÁR 1967a: 39 (cat., descr., distr., key, Siberia); NIKOL'SKAYA 1978: 65 (key, European part of USSR, excluding north); BANASZAK 1980: 16 (biol., cat., Siberia); MINGO 1981: 144 (key), 145 (key), 147 (cat., descr., distr., Siberia); KUNZ 1994: 53 (key), 90 (biol., cat., descr., distr., ecol., Fig. 196, Siberia); BUGANIN et al. 2000: 147 (cat., Ulyanovsk Prov.: Sengileevsky Distr., Novospassky Distr., Radishchevsky Distr.); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); STOJKO & POLUMORDVINOV 2004: 54 (cat., Penza Prov.: Neverkinsky Distr.: Staraya Andreevka, Bessonovsky Distr.: Pobeda); SHIBAEV 2006a: 110 (cat., ecol., Penza Prov.); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); KURZENKO & LELEJ 2007: 1003 (cat., Amur, Primorskii Terr., Buryat Rep.); KOCHETKOV 2012: 240 (cat., Ryazan Prov.: env. Ryazan); LELEJ & KURZENKO 2012: 401 (cat., Amur, Primorskii Terr.); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); PAUKKUNEN et al. 2014: 21 (cat., distr., Russia: Pskov Prov., 23 km S of Sebez, Krasikovo); ROSA et al. 2017b: 130 (cat., European part: North, North-West, Centre, East, North Caucasus; Ural; Western Siberia: Altai; Eastern Siberia: Buryat Rep., Irkutsk Prov., Krasnoyarsk Terr., Tuva Rep., Zabaikalskii Terr.; Far East: Amur Prov., Primorskii Terr.); ROSA et al. 2017g: 38 (cat., distr.).

Hedychrum coerulescens SHUCKARD, 1838: MOCSÁRY 1889: 156 (cat., descr., distr. key southern Russia). MOCSÁRY 1890a: 61 (cat., southern Russia); DALLA TORRE 1892: 31 (cat., Russia); VORONTSOVKIJ 1930: 68 (cat., Orenburg Prov.); GUSSAKOVSKIJ 1948: 731 (cat., key, South and central European part of USSR); BLAGOVESCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.).

Hedychrum szaboi MOCSÁRY, 1889: 167. Lectotype ♀ (designated by MÓCZÁR 1964b); Germany: Thuringia (paralectotype, Orenburg, Ural, eastern Siberia) (Budapest). MOCSÁRY 1890a: 61 (cat., Russia); DALLA TORRE 1892: 35 (cat., Siberia); KOHL 1913: 12 (cat., Walouyki [= Livenka]); VORONTSOVKIJ 1930: 68 (cat., Orenburg Prov.).

Hedychrum lucidulum var. *szaboi*: DU BUYSSON in ANDRÉ 1893: 221 (cat., descr., key, Russia); DU BUYSSON 1898: 548 (cat., St. Petersburg); DU BUYSSON 1899: 162 (cat., Russia).

Hedychrum chalybeatum (!): KUZNETSOVA 1990: 8 (cat., Lipetsk Prov.: Galich'ya Gora).

Hedychrum cormescens (!): BLAGOVESHCHENSKAYA 1994: 83 (cat., ecol., Ulyanovsk Prov.: Surskie Gorenki).

Hedychrum chalibaeum (!): PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland).

Material examined. Russia: EUROPEAN PART (Centre: Belgorod Prov.: Borisovka [ZIN], Kursk Prov.: env. Kursk [ZIN], vill Zakharovo [ZIN]; North Caucasus: Stavropol Terr.: Praskoveya [ZIN]); URAL (Orenburg Prov. [MMC]); WESTERN SIBERIA (Altai Terr., 30 km N of Bijsk [GLA]); EASTERN SIBERIA (Irkutsk Prov.: Malti [ZIN]; Krasnoyarsk Terr.: Minusinsk [ZIN]; Bijsk [ZIN]; Tuva Rep.: W of Ujuksyi Mountains, Kamennyi River valley, 1000 m [GLA]; Zabaikalskii Prov.: Sretensk [ZIN]); FAR EAST (Amur Prov.: Blagoveshchensk: W of Birsherta [sub *He. martynovi*, ZIN]; Primorskii Terr.: Ussurijsk [sub *He. martynovi*, ZIN]).

Distribution. RUSSIA: European part (North: Karelian Rep.: North-West: Leningrad Prov., Pskov Prov.; Centre: Belgorod Prov., Kursk Prov., Lipetsk Prov., Penza Prov., Ryazan Prov.; East: Ulyanovsk Prov.; North Caucasus: Stavropol Terr.); Ural (Orenburg Prov.); WESTERN SIBERIA (Altai Terr.); EASTERN SIBERIA (Tuva Rep., Krasnoyarsk Terr., Irkutsk Prov. and/or Buryat Rep., Zabaikalskii Terr.); FAR EAST (Amur Prov.; Primorskii Terr.). Trans-Palaeartic: from West Europe to Siberia, Mongolia and China (ROSA et al. 2014).

Host. Crabronidae: *Cerceris interrupta* (PANZER) (SCHMID-EGGER 2000). TRAUTMANN (1927) reported *Bembecinus tridens* (FABRICIUS) as the possible host for *Hedychrum chalybaeum*, but this host-relationship was excluded by SAURE (1998a). MÜLLER (1918) suggested *Dinetus pictus* (FABRICIUS), which is also doubtful and without supporting evidence.

***Hedychrum cholodkovskii* SEMENOV, 1967**

Hedychrum cholodkovskii SEMENOV, 1967: 143. Holotype ♂; Kazakhstan: Semipalatinsk (St. Petersburg) (examined). VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State Hight-Mountain Reserve); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 141 (cat., Stavropol Terr.: Novozavedennoe, Kabardino-Balkarian Rep.: Upper Cherek Balkarsky, Hight-Mountain State Reserve; Karachayevo-Cherkess Rep.: Teberda); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2011c: 171 (cat., Western Caucasus: Teberda reserve, vill. Arkhyz); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2015b: 316 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); ROSA et al. 2017a: 87 (cat., typ., Kazakhstan), 235 (Pl. 251); ROSA et al. 2017b: 130 (cat., European part: North Caucasus; Ural).

Material examined. Russia: URAL (Orenburg Prov.: Orenburg env. [ZIN]).

Distribution. RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.); Ural (Orenburg Prov.). Kazakhstan.

***Hedychrum frivaldszkyi* MOCSÁRY, 1889**

Hedychrum frivaldszkyi MOCSÁRY, 1889: 164. Holotype ♂; Turkmenistan: Kranowodsk [= Türkmenbaşy] (Budapest) (examined). TRAUTMANN 1927: 70 (key), 76 (cat., descr., distr., south-eastern Russia); ROSA et al. 2017h: 96 (cat., typ., Turkmenistan), 97 (Pl. 71).

Hedychrum frivaldszkyi (!): LINSENMAIER 1951: 17 (key), 19 (descr., southern Russia); LINSENMAIER 1959: 36 (key), 37 (key), 42 (descr., Transcaспia), 187 (cat.), 198 (Fig. 94), 200 (Fig. 199); BALTHASAR 1953: 51 (key, southern Russia).

Distribution. South-western USSR, Turkey (KIMSEY & BOHART 1991). The locality "southern Russia" should be referred to the southern countries of the former USSR.

***Hedychrum gerstaeckeri gerstaeckeri* CHEVRIER, 1869**

Hedychrum gerstaeckeri CHEVRIER, 1869: 47. Syntypes ♂♂, ♀♀ [not holotype]; Switzerland (Geneva) (examined). VORONTSOVKIJ 1930: 68 (cat., Orenburg Prov.); BALTHASAR 1946: 239 (biol., cat., distr., Caucasus); BALTHASAR 1954: 120 (key), 121 (descr., Caucasus); MÓCZÁR 1967a: 40 (Fig. 22C, cat., descr., distr., key, Caucasus), 41 (Fig. 23A), 42 (key); NIKOL'SKAYA 1978: 66 (key, European part of USSR, excluding north); BANASZAK 1980: 19 (biol., cat., Caucasus); ZVANTSOV 1988: 87 (biol., cat., Moscow Prov.: Izmailovo, Petrovsko-Razumovskoe, Pushkino, Zelenaya Gavan, Leonovo, Ciazhnikovo, Zvenigorod, Ilinskoe, Kratovo, Prioksko-Terrasny Nature Reserve); KUZNETSOVA 1990: 9 (cat., Lipetsk Prov.: Galich'ya Gora, Don River); KILIMNIK 1993: 13 (Fig. 1), 15 (Fig. 9), 16 (Fig. 11), 17 (key, Russia), 19 (Fig. 19); BUGANIN et al. 2000: 147 (cat., Ulyanovsk Prov.: Novospassky Distr., vill. Vasil'evka; Radishchevsky Distr., env. Vyazovka); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VERSHININA et al. 2006: 111 (cat., Pskov Prov.: Sebezhsy National Park); VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State Hight-Mountain Reserve); VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tyrnauz); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); KURZENKO & LELEJ 2007: 1003 (cat., Amur Prov., Khabarovsk Terr., Primorskii Terr.); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2007c: 141 (cat., Stavropol Terr.: Novozavedennoe, env. Kislovodsk; Karachayevo-Cherkess Rep.: Teberda; Kabardino-Balkaria Rep.: Bylym); BRUSTILO & MARTYNOV 2009: 44 (biol., cat., distr., Caucasus); MOKROUSOV 2009: 265 (biol., cat., Mari El Rep.: Bol'shoy Karlygan); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); RUDOISKATEL 2011a: 165 (cat., Sverdlovsk Prov.); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2011c: 171 (cat., Western Caucasus: env. Teberda, Teberda River valley); KOCHETKOV 2012: 240 (cat., Ryazan Prov.: Ryazansky Distr. and Rybnovskiy Distr.); LELEJ & KURZENKO 2012: 401 (cat., Amur, Primorskii Terr.); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Repulic: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Repulic: Teberda Nature Reserve); MOKROUSOV et al. 2013: 195 (cat., Mordovia Nature Reserve); ROSA et al. 2013: 7 (cat.,

distr., Far East Russia); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); PAUKKUNEN et al. 2014: 18 (cat., distr., Russian Fennoscandia: Metsäpirtti [= Zaporozhskoe]; Sakkola [= Gromovo]; Uusikirkko [= Polyany]; Valkjärvi [= Michurinskoe]; Kurkijoki; Petrozavodsk); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014d: 92 (cat., ecol., Adygei Rep.: Maykop, env. vill. Krasnoarmejskij); RUCHIN 2015: 391 (cat., Mordovia Nature Reserve); VINOKUROV 2015b: 316 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 130 (cat., European part: North, North-West, Centre, East, North Caucasus; Ural; Western Siberia: Altai, Tomsk Prov.; Eastern Siberia: Krasnoyarsk Terr., Yakutsk Rep.; Far East: Amur Prov., Khabarovsk Terr., Primorskii Terr.); ROSA et al. 2017g: 38 (cat., distr., Siberia).

Hedychrum marianum MOCSÁRY, 1911: 450. Syntypes ♀♀; Russia: Siberia, Ussuri; China (Budapest); BISCHOFF 1913: 19 (cat., Siberia).

Hedychrum gerstaeckeri ssp. *japonicum* CAMERON, 1887: LINSENMAIER 1959: 41 (descr., Ussuri), 186 (cat.).

Material examined. Russia: EUROPEAN PART (North-West: Leningrad Prov.: Ligovo [ZIN]; Centre: Belgorod Prov.: Borisovka [ZIN]; Ivanovo Prov. [MMC]; Kursk Prov.: L'gov [ZIN]; Mordovian Rep. [MMC]; Nizhny Novgorod Prov. [MMC]; Ryazan Prov.: Gremyachka, Kazachij [ZIN]; Voronezh Prov.: Talovaya [ZIN]; Yaroslavl Prov. [ZIN]; East: Mari El Rep. [MMC]; Tatar Rep.: Kazan [ZIN, MMC]; South: Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Adygei Rep.: Majkop [ZIN]; Krasnodar Terr.: Lasarevskaya [ZIN], Krasnaya Poliana Sochi [ZIN]; Stavropol Terr.: env. Stavropol [ZIN]); URAL (Bashkir Rep.: Matveevka [ZIN], Irgizla [ZIN]; Chelyabinsk Prov. [PRC]; Kurgan Prov. [PRC]; Orenburg Prov.: env. Orenburg [PRC, ZIN], B. Dneprovka [ZIN]; Sverdlovsk Prov. [PRC]); WESTERN SIBERIA (Altai [ZIN]; Tomsk Prov.: Kashtak [ZIN]); EASTERN SIBERIA (Krasnoyarsk Terr.: Minusinsk [ZIN]; Yakutsk Rep.: env. Yakutsk [ZIN]); FAR EAST (Khabarovsk Prov.: Malmizh [ZIN]; Primorskii Terr.: Posiet [ZIN], Yakovlevka [ZIN]). Georgia: Kodzhori, Lagodekhi [ZIN].

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov., Pskov Prov.; Centre: Belgorod Prov.; Ivanovo Prov., Kursk Prov., Lipetsk Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov., Voronezh Prov., Yaroslavl Prov.; East: Mari El Rep., Tatar Rep., Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: Adygei Rep., Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Krasnodar Terr., Stavropol Terr.); Ural (Bashkir Rep., Chelyabinsk Prov., Kurgan Prov., Orenburg Prov., Sverdlovsk Prov.); Western Siberia (Altai, Tomsk Prov.); Eastern Siberia (Krasnoyarsk Terr., Yakutsk Rep.); Far East (Amur Prov., Khabarovsk Prov., Primorskii Terr.). Georgia. Trans-Palaeartic and Oriental, from West Europe to Far East Russia, Japan, China and Taiwan (ROSA et al. 2014).

Host. Crabronidae: *Cerceris rybyensis* (LINNAEUS), *C. ruficornis* (FABRICIUS), *C. sabulosa* (GRANDI 1929, sub *C. emarginata*; BERLAND & BERNARD 1938; GRANDI 1961; PETIT 1975; BRECHTEL 1985; SAURE 1998a); records for *Philanthus* (e.g. *P. coronatus* (THUNBERG) and *P. triangulum* (FABRICIUS) (GAYUBO et al. 1987)) are doubtful.

***Hedychrum gerstaeckeri plicatus* KILIMNIK, 1993**

Hedychrum gerstaeckeri ssp. *plicatus* KILIMNIK, 1993: 399. Holotype ♂; Ukraine: Odessa, Sukhoy lagoon, 25.viii.1973, leg. A. Kilimnik (Kiev). KILIMNIK 1994: 17 (key, Russia), 19 (Fig. 20),

23 (descr.); STOJKO & POLUMORDVINOV 2004: 54 (cat., Penza Prov.: Kuznecky Distr.: Ulyanovka; Kamensky Distr.: Novaya Esineevka); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 141 (cat., Stavropol Terr.: Novozavedennoe, Pyatigorsk); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2017b: 130 (cat., European part: Centre, North Caucasus; Ural).

Hedychrum gerstaeckeri plisatus (!): SHIBAEV 2006a: 110 (cat., ecol., Penza Prov.: Akhuny, B. Endova).

D i s t r i b u t i o n . RUSSIA: European part (Central: Penza Prov.; North Caucasus: Stavropol Terr.).

***Hedychrum kozhantshikovi* SEMENOV, 1967**

Hedychrum kozhantshikovi SEMENOV, 1967: 144. Holotype ♂; Kazakhstan: Baigakum (St. Petersburg) (examined). VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Krai: env. Mineralnye Vody); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 141 (cat., Stavropol Terr.: Novozavedennoe); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 83 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); ROSA et al. 2017a: 89 (cat., typ., Kazakhstan), 238 (Pl. 257); ROSA et al. 2017b: 130 (cat., European part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). Kazakhstan.

***Hedychrum longicolle* ABEILLE DE PERRIN, 1877**

Hedychrum longicolle ABEILLE DE PERRIN, 1877: 65. Lectotype ♀ (designated by KIMSEY, 1986); France: Marseille, Toulon (Geneva, Paris) (examined). DU BUYSSON in ANDRÉ 1893: 227 (cat., descr., key, Sarepta); SEMENOV 1912: 179 (cat., distr., syn., Crimea: Evpatoriya, Staryi Krym; Sarepta; western Siberia); TRAUTMANN 1927: 71 (cat., descr., distr., key, Caucasus, southern Russia); BALTHASAR 1953: 53 (key, Caucasus, southern Russia), 147 (descr., Caucasus, southern Russia); BALTHASAR 1954: 120 (key), 123 (descr., Caucasus, European part of USSR, Siberia); BALTHASAR 1953: 148 (descr., southern Russia); LINSENMAIER 1959: 36 (key), 37 (key), 41 (descr., Sarepta), 186 (cat.), 198 (Figs 84–85); LINSENMAIER 1969: 350 (tax., southern Russia: Sarepta); NIKOL'SKAYA 1978: 66 (key, southern and eastern European part of USSR); KUZNETSOVA 1990: 9 (cat., Lipetsk Prov.: Galich'ya Gora); BUGANIN et al. 2000: 148 (cat., Ulyanovsk Prov.: Radishchevsky Distr., env. Vyazovka); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); KURZENKO & LELEJ 2007: 1003 (cat., European part, Primorskii Terr.); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); KIZILOV 2007: 83 (cat., Tomsk Prov.: Tomsk); VINOKUROV 2007c: 141 (cat., Stavropol Terr.: Novozavedennoe); BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve); BRUSTILO & MARTYNOV 2009: 45 (cat., distr., Siberia); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); LELEJ & KURZENKO 2012: 401 (cat., Primorskii Terr., Russian European part); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2014: 87 (Pl. 13); ROSA et al. 2017b: 130 (cat., European part: Centre,

East, South, North Caucasus, Crimea; Ural; Western Siberia: Tomsk Prov.; Far East: Primorskii Terr.); ROSA et al. 2017g: 38 (cat., distr., Siberia).

Hedychrum collare SEMENOV, 1892: 73. Holotype ♀; Russia: Sarepta (St. Petersburg ?). DU BUYSSON in ANDRÉ 1896: 713 (cat., descr., Caucasus); BISCHOFF 1913: 18 (cat., Sarepta); BALTHASAR 1953: 148 (descr., southern Russia); LINSENMAIER 1959: 41 (tax., Sarepta); KIMSEY & BOHART 1991: 216 (synonym of *H. longicolle*, Sarepta).

Hedychrum longicolle var. *collare*: TRAUTMANN 1927: 72 (descr., distr., southern Russia).

Hedychrum nobiliforme SEMENOV, 1967: 139. Holotype ♂; Russia: Primorskii Terr.: env. Vladivostok (St. Petersburg). KIMSEY & BOHART 1991: 216 (synonym of *H. longicolle*, Vladivostok); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014e: 47 (cat., Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 88 (cat., Krasnodar Terr.: env. Sochi, vill. Krasnaya Polyana); ROSA et al. 2017a: 90 (cat., typ., valley of Odarka stream).

Material examined. Russia: EUROPEAN PART (East: Samara Prov.: Elizavetino [ZIN]; South: Rostov Prov.: Rostov na Donu [ZIN], Novocherkassk [ZIN]; Volgograd Prov.: Sarepta [NMLS, ZIN, PRC]; North Caucasus: Stavropol Terr.: Stavropol [ZIN], Petrovskoe [ZIN]; Crimea: Evpatoria [ZIN], Sevastopol [ZIN], Kerch [ZIN]); URAL (Orenburg Prov.: env. Orenburg [ZIN, PRC]).

Distribution. RUSSIA: European part (Centre: Lipetsk Prov., Penza Prov., Ulyanovsk Prov.; East: Samara Prov.; South: Rostov Prov., Volgograd Prov.; North Caucasus: Karachayevo-Cherkess Rep., Krasnodar Terr., Stavropol Terr.; Crimea); Ural (Orenburg Prov.); Western Siberia (Tomsk Prov.); Far East (Primorskii Terr.); Siberia. Georgia. Trans-Palaeartic, from South Europe and northern Africa, to western Asia, Siberia and China (ROSA et al. 2014).

Remarks. SEMENOV (1912) synonymised *Hedychrum collare* SEMENOV with *He. longicolle*. Later LINSENMAIER (1968) considered *He. collare* as subspecies of *He. longicolle* ABEILLE DE PERRIN, for its coarser punctuation on metasoma.

Host. Crabronidae. Data for Halictidae (ABEILLE DE PERRIN 1877) are unreliable.

****Hedychrum luculentum bytinskii* LINSENMAIER, 1959**

Hedychrum luculentum ssp. *bytinskii* LINSENMAIER, 1959: 18. Holotype ♀; Turkey: Ulu-Dag (Luzern) (examined).

Hedychrum mithras SEMENOV, 1967: 140. Holotype ♂; Georgia: Kodzhori, Tbilisi (St. Petersburg) (examined). KIMSEY & BOHART 1991: 216 (cat., Georgia: Kodzhori); ROSA et al. 2017a: 90 (cat., typ., syn., Azerbaijan, Georgia), 239 (Pl. 259). Junior subjective synonym according to ROSA et al. (2017a).

Distribution. Caucasus (Azerbaijan, Georgia). Turkey and Palestine (LINSENMAIER, 1959).

***Hedychrum niemelai* LINSENMAIER, 1959**

(?) *Hedychrum semiviolaceum* MOCSÁRY, 1889: Vorontsovskij 1930: 67 (cat., Orenburg Prov.).

Hedychrum aureicolle ssp. *niemelai* LINSENMAIER, 1959: 38. Holotype ♀; Switzerland: Wallis (descr., paratype from Fennoscandia), 186 (cat.), 197 (Figs 62–64) (Luzern) (examined). ROSA et al. 2014: 88 (Pl. 14).

Hedychrum ? niemelai: ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.).

Hedychrum niemelai: PAUKKUNEN et al. 2014: 20 (cat., distr., Russian Fennoscandia: Kivennapa [= Pervomaiskoe]; Muolaa [= Pravdino]; Sakkola [= Gromovo]; Uusikirkko [= Polyany]; Äyräpää [= Baryshevo]; Viipuri [= Vyborg]; Kurkijoki); ROSA et al. 2017b: 130 (cat., European part: North, North-West, Centre, East, North Caucasus; Ural; Western Siberia: Novosibirsk Prov.; Eastern Siberia: Buryat Rep., Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep., Yakutsk Rep.; Far East: Amur Prov., Primorskii Terr.); ROSA et al. 2017g: 38 (cat., distr., Siberia).

Hedychrum aureicolle: KURZENKO & LELEJ 2007: 1003 (cat., Amur, Primorskii Terr., Irkutsk, Yakutsk); LELEJ & KURZENKO 2012: 401 (cat., Amur, Primorskii Terr., Yakutia, Irkutsk).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North-West: Leningrad Prov.: St. Petersburg [ZIN]; Centre: Belgorod Prov.: Borisovka [ZIN]; Ivanovo Prov. [MMC]; Kursk Prov.: Grajvoronskij [ZIN]; Nizhny Novgorod Prov. [MMC]; Penza Prov. [ZIN]; East: Chuvash Rep. [MMC]; Kalmyk Rep. [MMC]; Kirov Prov. [ZIN]; Tatar Rep. [MMC]; North Caucasus: Krasnodar Terr. [ZIN, MMC]); URAL (Chelyabinsk Prov. [PRC]; Orenburg Prov. [PRC]; Sverdlovsk Prov. [PRC]); WESTERN SIBERIA (Novosibirsk Prov.: Kolyvan' [IBSS]); EASTERN SIBERIA (Irkutsk Prov.: Angarsk [IBSS]; Khakass Rep.: 27 km E Shira, Borets [IBSS]; Krasnoyarsk Terr.: 10 NE Minusinsk, Malaya Minusa River [IBSS]; 10 km NW Minusinsk, Bystraya River [IBSS]; Tuva Rep.: 13 km SW Samagaltai, Dyttyg-Khem River [IBSS]; 32 km SW Kyzyl, Elegend River [IBSS]; 20 km SSW Erzin, Tore-Khol' Lake [IBSS]; 6 km SSW Erzin, Tes-Khem River [IBSS]; 9 km SSE Erzin [IBSS]; 10 km E Shira, Itkul' Lake [IBSS]; Zhemchuzhnyi, Shira Lake [IBSS]; Chernoe Lake [IBSS]; 20 km SW Abakan, Izykhskie Kopi [IBSS]; Yakutsk Prov.: Pokrovsk [IBSS].

D i s t r i b u t i o n . RUSSIA: European part (North-West: Leningrad Prov.: St. Petersburg [ZIN]; Centre: Belgorod Prov.; Ivanovo Prov. [MMC]; Kursk Prov., Nizhny Novgorod Prov., Penza Prov.; East: Chuvash Rep., Kalmyk Rep., Kirov Prov., Tatar Rep.; North Caucasus: Krasnodar Terr. [ZIN, MMC]); Ural (Chelyabinsk Prov. [PRC]; Orenburg Prov. [PRC]; Sverdlovsk Prov. [PRC]); Western Siberia (Novosibirsk Prov.); Eastern Siberia (Khakass Rep., Krasnoyarsk Terr., Irkutsk Prov., Irkutsk Prov. and/or Buryat Rep.; Tuva Rep., Yakutsk Rep.); Far East (Amur Prov., Primorskii Terr.). Trans-Palaearctic, from Europe to China (ROSA et al. 2014).

H o s t . Crabronidae: *Cerceris quadrifasciata* (PANZER) and *C. quinquefasciata* (ROSSI) (MORGAN 1984; PAUKKUNEN et al. 2015). Host associations with *Cerceris arenaria* (LINNAEUS), *C. ruficornis* (FABRICIUS) and *C. rybyensis* (LINNAEUS) are doubtful and probably due to misidentifications with *Hedychrum nobile* or *H. gerstaeckeri*.

***Hedychrum nobile* (SCOPOLI, 1763) (Figs 71-72)**

Spheg nobile SCOPOLI, 1763: 297. Holotype ♀; Italy [not Austria] (lost).

Hedychrum lucidulum (FABRICIUS, 1775): EVERSMANN 1858: 550 (cat., descr., Siberia, Ural).

Hedychrum lucidulum var. *regium*: EVERSMANN 1858: 551 (cat., descr., Astrakhan, Orenburg, Siberia, Simbirsk [= Ulyanovsk]).

Chrysis lucidula: NYLANDER 1859: 111 (cat., Sakkola [= Gromovo]).

Chrysis regia (FABRICIUS, 1793): NYLANDER 1859: 111 (cat., Sakkola [= Gromovo]).

Hedychrum lucidulum: ASSMUSS 1862: 267 (cat., Moscow); RADOSZKOVSKY 1866: 6 (cat., Kazan, Saratov, Sarepta, Orenburg, St. Petersburg, Caucasus); WOLDSTEDT 1875: 345 (cat., Pyhäjärvi [= Sosnovo]); RADOSZKOWSKI 1877: 6 (cat., descr., distr., Caucasus, Siberia, Volgo-Ural);

BECKER 1880: 151 (cat., Sarepta); MOCSÁRY 1882: 37 (key), 38 (cat., destr., distr., Caucasus); RADOSZKOWSKI 1889: 12 (descr., Crimea, Orenburg, Astrakhan, Caucasus), tab. II (Figs 18A–18I).

Hedychrum hedeculum (!): RADOSZKOVSKY 1880: 141 (cat., Caucasus).

Hedychrum nobile: MOCSÁRY 1889: 172 (cat., descr., distr., key, Caucasus, Siberia); MOCSÁRY 1890a: 61 (cat., Caucasus, Siberia); KOHL 1913: 12 (cat., Walouyki [= Livenka]); HELLÉN 1920: 209 (cat., Pyhäjärvi [= Sosnovo], Sakkola [= Gromovo], Viipuri [= Vyborg]); TRAUTMANN 1927: 71 (key), 73 (biol., cat., descr., distr., Siberia); VORONTOVKIJ 1930: 67 (cat., Orenburg Prov.); TSUNEKI 1947: 47 (cat., distr., tax., Caucasus, Siberia: Tojanovgorodok, Krasnoyarsk); GUSSAKOVSKIJ 1948: 731 (cat., key, European part of USSR); BENNO 1950: 34 (biol., cat., descr., distr., Siberia); TSUNEKI 1953a: 56 (cat., distr., Siberia); TSUNEKI 1953b: 23 (cat., distr., Siberia); LINSENMAIER 1959: 36 (key, ♂ 37 (key, ♀, descr., distr., Siberia), 197 (Figs 59–61); LEVI et al. 1974: 265 (cat., Kirov Prov.: Kirov); NIKOL'SKAYA 1978: 65 (key, European part of USSR); ZVANTSOV 1987: 63 (cat., North Ossetian Rep.: Zintzar); ZVANTSOV 1988: 86 (biol., cat., Moscow Prov.); BLAGOVESHCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); KUZNETSOVA 1990: 8 (cat., Lipetsk Prov.: Galich'ya Gora, Don River); BLAGOVESHCHENSKAYA 1994: 83 (cat., ecol., Ulyanovsk Prov.: Ulyanovsk, Nalejka, Spechneva); KUNZ 1994: 53 (key, Figs 81, 82), 92 (biol., cat., descr., distr., ecol., Fig. 200, Siberia); PAGLIANO & SCARAMOZZINO 1999: 145 (biol., distr., Siberia); BUGANIN et al. 2000: 147 (cat., Ulyanovsk Prov.); RESHCHIKOV 2002: 120 (cat., National Park Sebezhsy); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); STOJKO & POLUMORDVINOV 2004: 54 (cat., Penza Prov.: Kamensky Distr.: Novaya Esineeвка; Bessonovsky Distr.: Pobeda; Penza: Arbekovskij; Barkovki); VINOKUROV 2004a 34 (cat., Stavropol Terr.: Mineralnye Vody); SHIBAEV 2006a: 110 (cat., ecol., Penza Prov.: Akhuny, Krasnopol'ye, Penza); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); AA.VV. 2007: 279 (Samara Prov.: Samarskaya Luka National Park); KIZILOV 2007: 83 (cat., Tomsk Prov.: Tomsk); KURZENKO & LELEJ 2007: 1003 (cat., Buryat Rep.); VINOKUROV 2007c: 141 (cat., Stavropol Terr.: Novozavedennoe, env. Stavropol, Podkumok; Karachayevo-Cherkess Rep.: Teberda; Siberia); HA et al. 2008: 76 (cat., distr., Far Eastern Russia); KOCHETKOV et al. 2008: 258 (cat., ecol., Ryazan Prov.: Lipovaya gora); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); RUDOISKATEL 2008b: 212 (cat., Chelyabinsk Prov.: East Ural Nature Reserve); MOKROUSOV 2009: 266 (biol., cat., Mari El Rep.: Bol'shoye Noli); RUCHIN et al. 2009: 165 (cat., Mordovia: Ichalkovsky); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1276 (cat., Kabardino-Balkarian Rep.: Chegem canyon); RUDOISKATEL 2011a: 165 (cat., Sverdlovsk Prov.); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2011c: 171 (cat., Western Caucasus: env. Teberda, Teberda River valley); KOCHETKOV 2012: 241 (cat., Ryazan Prov.: Kasimovsky Distr. and Ryazansky Distr.); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Republic: Teberda Nature Reserve); VINOKUROV 2012d: 89 (sexual dimorphism); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Republic: Prielbrusie National Park); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Republic: Teberda Nature Reserve); MOKROUSOV et al. 2013: 195 (cat., Mordovia Nature Reserve); ROSA et al. 2013: 8 (cat., distr., Far East Russia); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); PAUKKUNEN et al. 2014: 19 (cat., distr., Russian Fennoscandia, Siberia); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Republic: Teberda Nature Reserve); VINOKUROV 2014d: 92 (cat., Adygei Rep.: Maykop, env.

vill. Krasnoarmejskij); LESHTAEV 2015: 97 (cat., distr., Tula Prov.: Tula, Leninsky, Novomoskovsk); RUCHIN 2015: 391 (cat., Mordovia Nature Reserve); VINOKUROV 2015b: 316 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); VINOKUROV 2016: 39 (cat., Dagestan Rep.: Samur Forest Reserve); ROSA et al. 2017b: 130 (cat., European part: North, North-West, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai, Novosibirsk Prov., Tomsk Prov.; Eastern Siberia: Buryat Rep., Irkutsk Prov., Khabarovsk Terr., Krasnoyarsk Terr., Tuva Rep., Zabaikalskii Terr.; Far East: Amur Prov., Primorskii Terr.); ROSA et al. 2017g: 38 (cat., distr.).

(!) *Chrysis dichroa* (Dahlbom, 1854): LEONTIEV 2015: 132 (cat., mis., Tatar Rep.: Tukaevsky district, Bol'shoj Bor, Otarka lake, Fig. 2).

Material examined. RUSSIA: EUROPEAN PART (Centre: Belgorod Prov.: Borisovka [ZIN]; Mordovian Rep. [MMC]; Nizhny Novgorod Prov. [MMC]; East: Kirov Prov.: env. Kirov [ZIN]; Udmurt Rep. [PRC]; North Caucasus: Karachayevo-Cherkess Rep.: Teberda Reserve [NMLS, ZIN], Kuban [ZIN]; Krasnodar Terr. [MMC]); URAL (Chelyabinsk Prov. [PRC]; Orenburg Prov. [PRC]); WESTERN SIBERIA (Altai Rep.: 5 km SE Chagan-Uzun, Tudituyaryk River [IBSS]; 12 km SE Aktash, Chuya River [IBSS]; Novosibirsk Prov. [ZIN]); EASTERN SIBERIA (Buryat Rep.: Kyakhta [IBSS]; Irkutsk Prov.: Smolenskoe [NMLS]; 15 km E Ust'-Ordynskiy [IBSS]; Khakass Rep.: Chernoe Lake [IBSS]; 14 km SSW Abakan, Belyi Yar, Abakan River [IBSS]; 21 km SW Abakan, Izykhskie Kopi [IBSS]; Krasnoyarsk Terr.: 10 km NW Minusinsk, Bystraya River [IBSS]; 15 km E Minusinsk [IBSS]; Berezovyi [IBSS]; 8 km N Irkutsk, Angara River, sandy slopes [GLA]; Tuva Rep.: 20 km SSW Erzin, Tore-Khol' Lake [IBSS]; W of Ujuskyski Mountains, Kamennyi River valley, 1000 m [GLA]; Zabaikalskii Terr.: env. vill. Zyl'z'ya [ZIN]).

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.; Centre: Belgorod Prov., Lipetsk Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov., Tula Prov.; East: Kirov Prov., Mari El Prov., Samara Prov., Saratov Prov., Tatar Rep., Udmurt Rep., Ulyanovsk Prov.; South: Astrakhan Prov., Volgograd Prov.; North Caucasus: Adygei Rep., Dagestan Rep., Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Krasnodar Terr., North Ossetian Rep., Stavropol Terr.; Crimea); Ural (Chelyabinsk Prov., Orenburg Prov., Sverdlovsk Prov.); Western Siberia (Altai Rep., Novosibirsk Prov., Tomsk Prov.); Eastern Siberia (Buryat Rep., Khakass Rep., Krasnoyarsk Terr., Irkutsk Prov., Tuva Rep., Zabaikalskii Terr.). Abkhazia Rep. [MMC]. Caucasus. Trans-Palaearctic, from western Europe to Siberia (PAUKKUNEN et al. 2014).

Host. Crabronidae: *Cerceris arenaria* (LINNAEUS), *C. rybyensis* (LINNAEUS), *C. quadrifasciata* (PANZER) (ALFKEN 1915; TRAUTMANN 1927; LOMHOLDT 1975; PETIT 1975; LECLERCQ 1988; SCHMID-EGGER et al. 1995; SAURE 1998a). Another possible host is *Cerceris ruficornis* (FABRICIUS) (KUNZ 1994). Other citations are not considered reliable: *Odynerus parietum* (LINNAEUS), *Halictus leucozonius* (SCHRANK), *Osmia nigriventris* ZETTERSTEDT, *Chalicodoma muraria* (OLIVIER) (TRAUTMANN 1927; ZVANTZOV 1988).

***Hedychrum rutilans rutilans* DAHLBOM, 1854 (Fig. 78)**

Hedychrum rutilans DAHLBOM, 1854: 76. Lectotype (designated by MORGAN 1984: 10); Europe (Lund) (examined). ASSMUSS 1862: 267 (cat., Zvenigorod); RADOSZKOVSKY 1880: 141 (cat., Caucasus); MOCSÁRY 1882: 37 (key), 39 (cat., destr., distr., Caucasus); RADOSZKOWSKI 1889: 11 (descr., Orenburg, Caucasus), tab. II (Figs 17A–17B); MOCSÁRY 1890a: 62 (cat., Caucasus, Siberia); TRAUTMANN 1927: 71 (key), 74 (biol., cat., descr., distr., key, Caucasus); BALTHASAR 1946: 240 (biol., cat., distr., Caucasus); GUSSAKOVSKIY 1948: 731 (cat., key,

Southern European part of USSR); BALTHASAR 1954: 119 (Fig. 33), 121 (key), 125 (descr., Caucasus); BLAGOVESCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); BLAGOVESCHENSKAYA 1994: 83 (cat., ecol., Ulyanovsk Prov.: Annenkov, Cheremshanskij Bay, Krasny Bor, Khovrinov, Nalejka, Shakhovskoe); ROSA 2002: 106 (cat., distr., south-western Russia); SHIBAEV 2006a: 110 (cat., Penza Prov.); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); KURZENKO & LELEJ 2007: 1003 (cat., E Siberia); RUCHIN et al. 2009: 165 (cat., Mordovia: Zubovo-Poljanskij, Zhuravkino, Ichalkovsky, Sosnovka); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); MOKROUSOV et al. 2013: 195 (cat., Mordovia Nature Reserve); ROSA et al. 2013: 8 (cat., distr., Far East Russia); PAUKKUNEN et al. 2014: 19 (cat., distr., south-west Russia, Siberia).

Hedychrum intermedium DAHLBOM, 1845: NIKOL'SKAYA 1978: 65 (key, European part of USSR, excluding north); BANASZAK 1980: 18 (biol., cat., Caucasus); ZVANTSOV 1988: 86 (biol., cat., Moscow Prov.: Peredelkino, Ilinskoe, Kratovo, Zvenigorod, Prioksko-Terrasny Nature Reserve); KUZNETSOVA 1990: 8 (cat., Lipetsk Prov.: Galich'ya Gora); KILIMNIK 1993: 14 (key, Caucasus); BUGANIN et al. 2000: 147 (cat., Ulyanovsk Prov.: Terengulsky, Barishskij, Novospassky Distr., Radishchevsky Distr., Cherdaklinsky Distr.); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); STOJKO & POLUMORDVINOV 2004: 54 (cat., Penza Prov.: Neverkinsky Distr.: Staraya Andreevka; Kameshkirsky Distr.: Borok); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VERSHININA et al. 2006: 111 (cat., Pskov Prov.: Sebezhsy National Park); VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkaria Rep.: State Hight-Mountain Reserve); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 141 (cat., Stavropol Terr.: env. Stavropol, env. Kislovodsk, Podkumok; Kabardino-Balkarian Rep.: vill. Sovetskoe); BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve); BRUSTILO & MARTYNOV 2009: 44 (biol., cat., distr., Caucasus, Siberia); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); KOCHETKOV 2012: 241 (cat., Ryazan Prov.: Kasimovskiy Distr. and Shatsky Distr., env. Ryazan); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); RUCHIN 2015: 391 (cat., Mordovia Nature Reserve); VINOKUROV 2015b: 316 (cat. Kabardino-Balkarian: High Mountain Nature Reserve); ROSA et al. 2017b: 130 (cat., European part: North-West, Centre, East, South, North Caucasus, Crimea; Ural; Eastern Siberia: Kransoyarsk Terr., Zabaikalskii Terr.).

Holopyga (!) intermedia: AA.VV. 2007: 280 (Samara Prov.: Samarskaya Luka National Park).

(!) *Chrysura austriaca* (FABRICIUS, 1804): LEONTIEV 2015: 134 (cat., mis., Tatar Rep.: Yelabuga, Bessonikha, Bol'shoj Bor, Otarka lake, Fig. 7).

Material examined. Russia: EUROPEAN PART (Centre: Belgorod Prov.: Borisovka [ZIN], Grajvoronskij uезд [ZIN]; Mordovian Rep. [MMC]; Nizhny Novgorod Prov. [MMC]; Ryazan Prov.: Gremyachka [ZIN]; East: Kirov Prov.: Kirov [ZIN]; South: Volgograd Prov.: [MMC], Sarepta [ZIN]; North Caucasus: Adygei Rep.: Maikop [ZIN]; Karachayevo-Cherkess Rep.: Teberda Nature Reserve [ZIN]; Crimea: Sevastopol [ZIN], Simferopol [ZIN]); URAL (Orenburg Prov.: env. Orenburg [ZIN]); EASTERN SIBERIA (Krasnoyarsk Terr.: Minusinsk [ZIN]; Zabaikalskii Terr.: env. vill. Zyl'zya [ZIN]). Azerbaijan: Kathi [ZIN]; Georgia: Lagodekhi [ZIN].

Distribution. RUSSIA: European part (North-West: Pskov Prov.; Centre: Belgorod Prov., Lipetsk Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov.; East: Kirov Prov., Tatar Rep., Samara Prov., Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: Adygei Rep., Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.; Crimea); Ural (Orenburg Prov.); Eastern Siberia (Krasnoyarsk Terr., Zabaikalskii Terr.). Azerbaijan; Georgia. Trans-Palaeartic: from Europe and northern Africa to Turkey and south-western Asia (LINSENMAIER 1959, 1997b KIMSEY & BOHART 1991). The typical form is distributed in

Europe, whereas other subspecies are known from northern Africa (*H. rutilans viridiauratum* MOCSÁRY), Caucasus (Armenia, *H. veterrimum* MOCSÁRY), and Siberia (*H. rutilans ermak* SEMENOV).

H o s t . Crabronidae: *Philanthus triangulum* FABRICIUS and *P. coronatus* (THUNBERG) (FERTON 1910; TRAUTMANN 1927; BLUTHGEN 1961; MORGAN 1984; VEENENDAAL 1987; ROSA 2006). The female does not always enter the host nest, yet may lay her egg directly on the prey (*Apis mellifera*) while it is transported to the nest by the *Philanthus* host (VEENENDAAL 1987; BAUMGARTEN 1995). Other hosts, as *Halictus zebrus* NYLANDER (TRAUTMANN 1927), are not a reliable for their different biology.

R e m a r k s . LINSENMAIER (1959, 1968, 1997a, 1997b, 1999) and many other authors (e.g. NIKOL'SKAYA 1978; BRUSTILO & MARTYNOV 2009; VINOKUROV 2010) identified this species as *Hedychrum intermedium* DAHLBOM, 1845, instead of *He. rutilans* DAHLBOM, 1854. In fact, LINSEMAIER (1987, 1997a, 1997b, 1999) did not agree with MORGAN's (1984: 8) discovery that the type of *He. intermedium* belongs to the genus *Holopyga* DAHLBOM. ROSA & Xu (2015) discussed the history case and definitively fixed the synonym *Hedychrum intermedium* DAHLBOM, 1845 = *Holopyga fervida* (FABRICIUS, 1781).

***Hedychrum rutilans ermak* SEMENOV, 1967 (Fig. 79)**

Hedychrum intermedium ssp. *ermak* SEMENOV, 1967: 142. Holotype ♂; Siberia (Siberia: Krasnoyarsk Terr.: Minusinsk; Altai: Ongudaj; Irkutsk Prov.: env. Irkutsk; Transbaikal, Zabaikalskii Terr.: Sretensk) (St. Petersburg) (examined). MÓCZÁR 1967b: 188 (distr., tax., Siberia); ROSA et al. 2017a: 88 (cat., typ., Shira Lake, Onguday, Irkutsk, Sretensk, Stryzhensk), 237 (Pl. 255); ROSA et al. 2017b: 130 (cat., Western Siberia: Altai; Eastern Siberia: Buryat Rep., Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep., Zabaikalskii Terr.; Far East: Amur Prov., Primorskii Terr.).

Hedychrum rutilans ermak: KIMSEY & BOHART 1991: 219 (cat., Siberia: Minusinsk); ROSA et al. 2017g: 38 (cat., distr., Siberia).

M a t e r i a l e x a m i n e d . Russia: WESTERN SIBERIA (Altai Rep.: Ongudaj [ZIN]); EASTERN SIBERIA (Buryat Rep.: Kyakhta [IBSS]; Gusinoe Lake, Baraty [IBSS]; 15 km E Ust'-Ordynskiy [IBSS]; Irkutsk Prov.: Irkutsk [ZIN], Malti [ZIN]; vill Padun', , Verkhnyaya Tunguzka River [= Angara River] [ZIN]; Khakass Rep.: 21 km SW Abakan, Izykhskie Kopi [IBSS]; 14 km SSW Abakan, Belyi Yar, Abakan River [IBSS]; Shira lake [ZIN]; Krasnoyarsk Terr.: 25 km SE Minusinsk, Znamenka [IBSS]; Minusinsk, Malaya Minusa River [IBSS]; 15 km E Minusinsk [IBSS]; 10 km NW Minusinsk, Bystraya River [IBSS]; vill. Bazaikha env. Krasnoyarsk [ZIN]; Tuva Rep.: 25 km SE Erzin, Tes-Khem River [IBSS]; 31 km NEE Erzin, Erzin River [IBSS]; 12 km SW Samagaltai, Dyttyg-Khem River [IBSS]; 6 km SE Bai-Khaak, Sosnovka [IBSS]; 32 km SW Kyzyl, Elegest River [IBSS]; FAR EAST (Amur Prov.: 40 km NNW Svobodnyi, Glukhari [IBSS]; 5 km N Saskal' [IBSS]; Primorskii Terr.: Novokachalinsk [IBSS]).

Distribution. RUSSIA: Western Siberia (Altai Rep.); Eastern Siberia (Buryat Rep., Khakass Rep., Krasnoyarsk Terr., Irkutsk Prov., Tuva Rep., Zabaikalskii Terr.); Far East (Amur Prov., Primorskii Terr.).

***Hedychrum simile* MOCSÁRY, 1889 (Fig. 80)**

Hedychrum cyaneum MOCSÁRY in RADOSZKOWSKI, 1889: 10. Lectotype ♀ (designated by FRENCH in BOHART & FRENCH 1986: 341); China "Ta-schian-sy" (tab. I: Figs 15A–15B) (Budapest) (examined), nom. praeocc., nec BRULLÉ, 1846. ROSA et al. 2014: 88 (Pl. 15); ROSA et al. 2017h: 95 (cat., typ., *Siberia orientalis*).

Hedychrum simile MOCSÁRY, 1889: 157. Replacement name for *Hedychrum cyaneum* MOCSÁRY, 1889, nom. praeocc., nec BRULLÉ, 1846 (cat., descr., distr., key, eastern Siberia). MOCSÁRY 1890a: 61 (cat., eastern Siberia); DALLA TORRE 1892: 35 (cat., Siberia); DU BUYSSON in ANDRÉ 1893: 215 (cat., descr., key, western Siberia); BISCHOFF 1913: 20 (cat., eastern Siberia); TSUNEKI 1947: 51 (cat., distr., eastern Siberia); LINSSENMAIER 1959: 36 (key, ♂), 37 (key, ♀), 39 (descr., distr., Siberia), 198 (Figs 79–80); KURZENKO & LELEJ 2007: 1003 (cat., Amur, Primorskii Terr.); HA et al. 2008: 77 (cat., distr., Russian Far East); KIMSEY & BOHART 1991: 220 (cat., Siberia "*orientalis*"); LELEJ & KURZENKO 2012: 401 (cat., Amur, Primorskii Terr.); ROSA et al. 2014: 25 (biol., cat., Russian Far East); ROSA et al. 2017b: 130 (cat., Far East: Amur Prov., Primorskii Terr.); ROSA et al. 2017g: 38 (cat., distr., Siberia).

Distribution. RUSSIA: Siberia (without locality); Far East (Amur Prov., Primorskii Terr.). East-Palaearctic: China, Korea, Mongolia, Japan (Honshu) (TSUNEKI 1953b; LINSSENMAIER 1959).

Remarks. MOCSÁRY (1889) examined at least two specimens of both sexes of *Hedychrum cyaneum*. Nevertheless, in the original description, MOCSÁRY (in RADOSZKOWSKI 1889) based the description only on the male housed in the Radoszkowski collection and dissected by the Russian entomologist. The type locality given in the description is only "*Siberia orientalis*", and referred to the male housed in the Radoszkowski collection. In Mocsáry's collection, there is the female specimen collected in China (Ta-schian-sy). FRENCH (1986) designated this female as the lectotype. This female belongs to a different species compared with the male collected in Siberia. A revision of the blue Asian species of *Hedychrum* is missing and needed (ROSA et al. 2014).

Host. Crabronidae: *Cerceris arenaria* (LINNAEUS) (Hymenoptera, Crabronidae) (TSUNEKI 1979).

***Hedychrum tobiasi* KILIMNIK, 1993**

Hedychrum tobiasi KILIMNIK, 1993: 397. Holotype ♂; Ukraine: Odessa, coastal slope of Khadzhibey lagoon, Krasnoselka (St. Petersburg) (examined). VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 141 (cat., Stavropol Terr.: env. Stavropol, Novozavedennoe, vill. Obilnoe); VINOKUROV 2009a: 83 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2017b: 130 (cat., European part: North Caucasus).

Distribution. RUSSIA: European part (North Caucasus: Stavropol Terr.). Ukraine.

Remarks. KILIMNIK (1993) labeled the holotype in ZIN with the name *Hedychrum gerstaeckeriformes*, yet described the species as *He. tobiasi*, named after dr. Vladimir Ivanovich Tobias (see below).

***Hedychrum virens* DAHLBOM, 1854 (Fig. 76)**

Hedychrum virens DAHLBOM, 1854: 74. Lectotype ♂ (designated by ROSA & XU 2015: 60), southern Russia (Turin) (examined). KIRCHNER 1867: 208 (cat., southern Russia); ABEILLE DE PERRIN 1879: 33 (key), 34 (Russia, cat.); BECKER 1880: 151 (cat., Sarepta); MOCSÁRY 1889: 170 (cat., descr., distr., key, Sarepta); Mocsáry 1890a: 61 (cat., southern Russia).

Hedychrum grandis TOURNIER, 1890: 23. Syntypes ♂♀; Russia: Sarepta (depository unknown).

Hedychrum grande: MOCSÁRY 1890b: 66 (cat., Sarepta); DALLA TORRE 1892: 32 (cat., Russia).

Hedychrum virens: DALLA TORRE 1892: 35 (Russia); ABEILLE DE PERRIN 1879: 33 (key), 34 (descr., southern Russia); DU BUYSSON in ANDRÉ 1893: 224 (cat., descr., key, Sarepta); BISCHOFF 1910: 445 (cat., southern Russia); GUSSAKOVSKIJ 1948: 731 (cat., key, southern European part of USSR); BALTHASAR 1953: 53 (key, Caucasus), 149 (descr., Caucasus); LINSSENMAIER 1959: 36 (key, ♂), 37 (key, ♀), 42 (descr., distr., southern Russia), 198 (Figs 92–94); LINSSENMAIER 1968: 18 (tax., typical form from southern Russia: Sarepta); LINSSENMAIER 1969: 351 (tax., typical form from southern Russia); SCHMIDT 1977: 102 (cat., distr., southern Russia); NIKOL'SKAYA 1978: 66 (key, southern and eastern European part of USSR); MINGO 1981: 144 (key), 145 (key), 148 (cat., descr., southern Russia), 151 (Fig. 3); KUZNETSOVA 1990: 9 (cat., ecol., Lipetsk Prov.: Galich'ya Gora); BLAGOVESCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); KIMSEY & BOHART 1991: 221 (cat., southern Russia); BLAGOVESCHENSKAYA 1994: 83 (cat., ecol., Ulyanovsk Prov.: Golovino); FEDOROV 1999: 9 (cat., Pskov Prov.: Sebezhsckii National Park); BUGANIN et al. 2000: 148 (cat., Ulyanovsk Prov.: Radishchevsky Distr., env. Vyazovka; Novospassky Distr., vill. Mar'evka); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); STOJKO & POLUMORDVINOV 2004: 54 (cat., Penza Prov.: Bashmakovsky Distr.: Samarichi; Kamensky Distr.: Novaya Esineevka; Bessonovsky Distr.: Pobeda); SHIBAEV 2006a: 110 (cat., ecol., Penza Prov.: Svetlaya Polyana); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); KIZILOV 2007: 83 (cat., Tomsk Prov.: Asinovsky Distr.: Asino; Tomsk Prov.: Tomsk); VINOKUROV 2007c: 141 (cat., Stavropol Terr.: env. Kislovodsk); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); CHIBILYOV 2009 (cat., Orenburg); VINOKUROV 2009a: 83 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); FATERYGA 2015: 202 (red list, distributional map, Crimea); RUCHIN & ANTROPOV 2016: 399 (cat., Mordovian Rep.: Mordovia State Natural Reserve); ROSA et al. 2017b: 130 (cat., European part: Centre, South, North Caucasus, Crimea; Ural; Western Siberia: Tomsk Prov.); ROSA et al. 2017g: 38 (cat., distr., Siberia); ROSA 2018b: 10 (Figs 23, 28).

Material examined. Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [NMLS, ZIN]; Crimea: Kazantip [ZIN]; Kerch [ZIN]; Sevastopol [ZIN]; Kara Dag Nature Reserve [RMC]); URAL (Orenburg Prov. [PRC, ZIN]). Azerbaijan: Elisavetopol [ZIN], Gadzhi [ZIN]; Georgia: Lagodekhi [ZIN].

D i s t r i b u t i o n . RUSSIA: European part (Centre: Lipetsk Prov., Mordovian Rep., Penza Prov., Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: Stavropol Terr.; Crimea); Ural (Orenburg Prov.); Western Siberia (Tomsk Prov.). Caucasus. Azerbaijan, Georgia. Southern Europe, Middle East, Turkey. Distributional data from Pskov Prov and Siberia are doubtful and must be verified.

H o s t . Crabronidae: *Cerceris tuberculata* DE VILLERS (AGNOLI & ROSA 2010).

***Hedychrum viridilineolatum* KILIMNIK, 1993**

Hedychrum viridilineolatum KILIMNIK, 1993: 398. Holotype ♀; Ukraine: Kiev, 2.viii.1977, leg. M. Nesterov (Kiev). KILIMNIK 1994: 13 (Fig. 6), 17 (key, European Russia), 21 (Fig. 24), 22 (descr.), 23 (Primorskii Terr.: Khanka Lake); ROSA et al. 2017b: 130 (cat., Far East: Primorskii Terr.).

D i s t r i b u t i o n . RUSSIA: Far East (Primorskii Terr.). Ukraine.

R e m a r k s . Possible synonym of *He. chalybaeum* DAHLBOM.

8. Genus *Holopyga* DAHLBOM, 1845

Holopyga DAHLBOM, 1845: 4. Type species: *Holopyga amoenula* DAHLBOM, 1845, by subsequent designation of ASHMEAD 1902: 227.

***Holopyga austrialis* LINSENMAIER, 1959**

Holopyga austrialis LINSENMAIER, 1959: 32. Holotype ♂; Austria (Luzern) (examined). LINSENMAIER 1968: 17 (tax., southern Russia); ROSA 2006: 137 (key), 140 (cat., descr., distr., tax., southern Russia); ROSA et al. 2017b: 131 (cat., European part: South).

D i s t r i b u t i o n . RUSSIA: European part (southern Russia, without locality). Central Europe (Austria, Czech Republic, Germany, Hungary, and Slovakia) to southern Russia (LINSENMAIER 1959, 1968, 1987; NIEHUIS 1998; ROSA 2006).

***Holopyga amoenula amoenula* DAHLBOM, 1845**

Holopyga amoenula DAHLBOM, 1845: 4. Lectotype ♂ (designated by ROSA & VÅRDAL 2015: 166); Greece: Rhodes Isl. (Stockholm) (examined). NIKOL'SKAYA 1978: 65 (key, European part of USSR, excluding north); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 141 (cat., Stavropol Terr.: Novozavedennoe, vill. Obilnoe); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); ROSA et al. 2017b: 131 (cat., European part: North Caucasus).

Holopyga gloriosa var. *amoenula*: DU BUYSSON in ANDRÉ 1892: 178 (cat., descr., key, Russia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North Caucasus: Stavropol Terr. [MMC]; Dagestan Rep. [MMC]).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.; Dagestan Rep.). Rhodes Is., southern Greece (ARENS 2004).

R e m a r k s . The distributional record for Siberia (KIMSEY & BOHART 1991: 228) is referred to *Holopyga generosa* ssp. *proviridis* LINSENMAIER, 1959. The record from

Visimsky is very likely a misidentification. The distribution of *Ho. amoenula amoenula* DAHLBOM in Russia must be checked. Possibly the specimens examined and those published could be related to *Ho. amoenula oriensa* LINSENMAIER, 1959, *Ho. amoenula occidenta* LINSENMAIER, 1959 or similar species in the same group (e.g. *Ho. generosa proviridis* LINSENMAIER, 1959; the male of *Ho. ignicollis* DAHLBOM, 1854 and *Ho. jurinei* sensu LINSENMAIER, 1959). So far, the nominal species is confirmed for specimens from Rhodes and southern Greece, but cited for all Mediterranean and Central Asian countries because of confusion over several species of the same species group.

***Holopyga amoenula occidenta* LINSENMAIER, 1959**

Holopyga amoenula ssp. *occidentata* LINSENMAIER, 1959: 31. Holotype ♂; France: Carpentras (Luzern) (examined). LINSENMAIER 1968: 16 (tax., Siberia); LINSENMAIER 1969: 349 (tax., Siberia).

Holopyga amoenula occidentata: ROSA et al. 2017b: 131 (cat., Eastern Siberia: Krasnoyarsk Terr.); ROSA et al. 2017g: 8 (cat., distr., Krasnoyarsk Terr.: Minusinsk), 38 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Krasnoyarsk Terr.). Trans-Palaeartic, from southern Europe (Spain to Greece) and Turkey (YILDIRIM & STRUMIA 2006) to Siberia.

****Holopyga chrysonota appliata* LINSENMAIER, 1959**

Holopyga chrysonota appliata LINSENMAIER, 1959: 32. Holotype ♀; Israel: Jaffa (paratype from Caucasus) (Luzern) (examined). SCHMIDT 1977: 100 (cat., distr., Caucasus).

D i s t r i b u t i o n . Caucasus. South-east Europe (Croatia, Cyprus, Greece), Turkey, Israel (LINSENMAIER 1959, 1969).

***Holopyga chrysonota chrysonota* (FÖRSTER, 1853)**

Ellampus chrysonotus FÖRSTER, 1853: 347. Holotype ♀; Hungary (Berlin) (examined).

Holopyga (Holopyga) chrysonota: MOCSÁRY 1889: 129 (cat., descr., distr., key, Krasnoyarsk); MOCSÁRY 1890a: 60 (cat., Siberia).

Holopyga chrysonota: DALLA TORRE 1892: 23 (cat., Siberia); DMITRIEV 1935: 260 (cat., Samarskaya Luka: Mt. Zhiguli); BISCHOFF 1910: 440 (cat., southern Russia); LEVI et al. 1974: 266 (cat., Kirov Prov.: Kirov); NIKOL'SKAYA 1978: 65 (key, European part of USSR, excluding north); ZVANTSOV 1988: 86 (cat., Moscow Prov.: Leonovo, Podolsk, Prioksko-Terrasny Nature Reserve); KUZNETSOVA 1990: 8 (cat., ecol., Lipetsk Prov.: Galich'ya Gora); BUGANIN et al. 2000: 147 (cat., Ulyanovsk Prov.: Staromajnsky, Majnsky, Ul'yanovskiy, Cherdaklinsky, Nikolaevskiy, Novospassky, Radishchevskiy Districts); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); SHIBAEV 2006a: 110 (cat., ecol., Penza Prov.: Zarechny, Akhuni, Skryabino); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); AA.VV. 2007: 279 (Samara Prov.: Samarskaya Luka National Park: Zhiguli Mt.); KIZILOV 2007: 84 (cat., Altai Rep.); CHIBILYOV 2009 (cat., Orenburg); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Krai: env. Mineralnye Vody); VINOKUROV 2015a: 32 (cat., Dagestan Republic: Dagestan Reserve, Barkhan Sarykum); ROSA et al. 2017b: 131 (cat., European part:

Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai, Omsk Prov.; Eastern Siberia: Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep., Yakutsk Rep.; ROSA et al. 2017g: 38 (cat., distr., Siberia).

Holopyga gloriosa f. *chrysonota*: TSUNEKI 1947: 45 (cat., distr., tax., Caucasus, Siberia: Krasnoyarsk).

Holopyga gloriosa var. *chrysonota*: HAMMER 1950: 3 (cat., distr., Siberia).

Holopyga chrysonotus (!): ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.).

Holopyga chrysonata (!): STOJKO & POLUMORDVINOV 2004: 54 (cat., Penza Prov.: Pachelmsky Distr.: Malyi Burtas; Shemysheysky Distr.; Kamensky Distr.: Novaya Esineevka).

Holopyga chrysonota chrysonota: VINOKUROV 2016: 39 (cat., Dagestan Rep.: Samur Forest Reserve).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Mordovian Rep. [MMC]; Nizhny Novgorod Prov. [MMC]; Ryazan Prov.: Gremyachka [ZIN]; East: Kirov Prov.: Urzhum [ZIN]; South: Kalmyk Rep. [MMC]; Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Dagestan Rep.: Kizlyar [ZIN]; Stavropol Terr.: Praskoveya [ZIN]; Crimea: Evpatoria [ZIN], Simferopol [ZIN], Sudak [ZIN]); URAL (Bashkir Rep. [ZIN]; Orenburg Prov.: Orenburg [ZIN]); WESTERN SIBERIA (Altai Rep.: 15 km SE Kurai, Chuya River [IBSS]; Omsk Prov.: Omsk [ZIN]); EASTERN SIBERIA (Irkutsk Prov.: Irkutsk [ZIN]; Khakass Rep.: Zhemchuzhnyi, Shira Lake [IBSS]; Tuva Rep.: 20 km SSW Erzin, Tore-Khol' Lake [IBSS]; Krasnoyarsk Terr.: Minusinsk, Malaya Minusa River [IBSS]; Krasnoyarsk [ZIN]; Minusinsk [ZIN]; Yakutsk Rep. [ZIN]; Petropavlovskoe [ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Lipetsk Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov.; East: Kirov Prov., Samara Prov., Ulyanovsk Prov.; South: Kalmyk Rep., Volgograd Prov.; North Caucasus: Dagestan Rep., Stavropol Terr.; Crimea); Ural (Bashkir Rep.; Orenburg Prov.); Western Siberia (Altai Rep., Omsk Prov.); Eastern Siberia (Irkutsk Prov. and/or Buryat Rep., Khakass Rep., Krasnoyarsk Terr., Tuva Rep., Yakutsk Rep.). Caucasus. Trans-Palaeartic, from Europe to China (ROSA et al. 2014).

H o s t . Unknown. Records for Crabronidae (*Cerceris* by MOLITOR (1935)) are considered unreliable.

***Holopyga fervida fervida* (FABRICIUS, 1781) (Figs 41-42)**

Chrysis fervida FABRICIUS, 1781: 456. Neotype ♀ (designated by KIMSEY 1988: 272); Spain (Copenhagen) (examined).

Holopyga chloroidea (DAHLBOM, 1854): DU BUYSSON in ANDRÉ 1892: 175 (cat., descr., key, Caucasus, Tauria [= Crimea], Russia), pl. XIV (Fig. 1); RADOSZKOWSKI 1889: 9 (descr., Orenburg), tab. I (Figs 14A–14I).

Holopyga fervida: RADOSZKOWSKI 1889: 10 (descr., Sarepta, Orenburg, Caucasus), tab. I (Figs 13A–13I); BISCHOFF 1910: 441 (cat., Crimea); GUSSAKOVSKIJ 1948: 732 (cat., key, South and central European part of USSR); NIKOL'SKAYA 1978: 65 (key, southern and eastern European part of USSR); BUGANIN et al. 2000: 147 (cat., Ulyanovsk Prov.: Radishchevsky Distr., env. Vyazovka; Nikolaevsky Distr., vill. Akulovka; Novospassky Distr., vill. Mar'evka); SHIBAEV 2006a: 110 (cat., ecol., Penza Prov.: Nikonovo); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2012d: 89 (sexual dimorphism); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2016: 39 (cat., Dagestan Rep.: Samur

Forest Reserve); ROSA et al. 2017b: 131 (cat., European part: Centre, East, South, North Caucasus, Crimea; Ural).

Holopyga curvata (FÖRSTER, 1853): BISCHOFF 1910: 440 (cat., Crimea); GUSSAKOVSKIJ 1948: 732 (cat., key, South and central European part of USSR); BLAGOVESCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); BLAGOVESCHENSKAYA 1994: 84 (cat., Ulyanovsk Prov.: Ulyanovsk).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Kalmyk Rep. [ZIN]; Rostov Prov.: Novocherkassk [ZIN]; Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Stavropol Terr.: Piatigorsk Beshtau [ZIN]; Crimea [ZIN]); URAL (Orenburg Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Penza Prov.; East: Ulyanovsk Prov.; South: Kalmyk Rep., Rostov Prov., Volgograd Prov.; North Caucasus: Dagestan Rep., Stavropol Terr.; Crimea); Ural (Orenburg Prov.). West-Palaeartic: Europe, North Africa, southern Russia, Middle East, Iran, Turkey (ROSA et al. 2013).

R e m a r k s . This species is sexually dimorphic, with males entirely green (described as *H. chloroidea* and *H. curvata*) and females with head and mesosoma partially dorsally red-purple and metasoma red-purple.

***Holopyga generosa asiatica* TRAUTMANN, 1926 (Fig. 44)**

Holopyga amoenula DAHLBOM, 1845: MOCSÁRY 1889: 127 (cat., descr., distr., key, Siberia); MOCSÁRY 1890a: 60 (cat., Siberia); DALLA TORRE 1892: 20 (cat., Siberia).

Holopyga gloriosa var. *asiatica* TRAUTMANN, 1926: 5. Holotype ♀. Turkey: İzmir prov.: Smyrna (Berlin) (examined).

Holopyga ovata proviridis LINSENMAIER, 1959: 31. Holotype ♂; Syria (type series: Siberia), 186 (cat.). LINSENMAIER 1969: 349 (tax., Siberia); SCHMIDT 1977: 99 (cat., distr., Caucasus, Siberia); KIMSEY & BOHART 1991: 229 (synonym of *Ho. amoenula* DAHLBOM, 1845, Siberia).

Holopyga gloriosa var. *viridis* GUÉRIN-MÉNEVILLE, 1842: DU BUYSSON in ANDRÉ 1892: 178 (cat., descr., key, Russia); MANTERO 1910: 549 (cat., distr., southern Russia).

Holopyga gloriosa f. *amoenula*: TSUNEKI 1948: 122 (cat., distr., Siberia (no loc.)).

Holopyga generosa asiatica: ROSA et al. 2017b: 131 (cat., Western Siberia: Altai; Eastern Siberia: Khakass Rep., Krasnoyarsk Terr., Tuva Rep.); ROSA et al. 2017g: 9 (cat., distr., Altai Terr.: 12 km SE Aktash, Chuya River; Khakass Rep.: 20 km SW Abakan, Izykhskie Kopi; 25 km Shira, Tus Lake; Krasnoyarsk Terr.: 10 km NW Minusinsk, Bystraya River; Tuva Rep.: W Ujukskyi Mountains, Kamennyi River valley), 38 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Western Siberia (Altai Terr.); Eastern Siberia (Khakass Rep., Krasnoyarsk Terr., Tuva Rep.). Caucasus. Trans-Palaeartic from southern Europe to China (ROSA et al. 2014).

***Holopyga generosa generosa* (FÖRSTER, 1853) (Fig. 45)**

Ellampus generosus FÖRSTER, 1853: 349. Holotype ♂; Germany: close to Aachen (Berlin) (examined).

Holopyga ovata var. *b* DAHLBOM, 1854: EVERSMAAN 1858: 549 (cat., descr., Orenburg Prov., Saratov Prov.).

Holopyga ovata: ASSMUSS 1862: 266 (cat., Moscow); RADOSZKOVSKY 1866: 6 (cat., Kazan, Orenburg, Sarepta, Samara, St. Petersburg); RADOSZKOWSKI 1877: 4 (cat., descr., distr.,

Volgo-Ural); LINSENMAIER 1959: 29 (key), 31 (descr., Fennoscandia), 186 (cat.); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 142 (cat., Stavropol Terr.: Novozavedennoe); BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 84 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Holopyga amoenula DAHLBOM, 1845: KOHL 1913: 12 (cat., Walouyki [= Livenka]); Dmitriev 1935: 260 (cat., Samarskaya Luka: Mt. Zhiguli); ATANASSOV 1940: 207 (cat., distr., Russia); GUSSAKOVSKIY 1948: 732 (cat., key, South and central European part of USSR); LEVI et al. 1974: 266 (cat., Kirov Prov.: Klimkovka, Yur'evo); ZVANTSOV 1987: 63 (cat., North Ossetian Rep.: Unal, Zaramag, Nar); ZVANTSOV 1988: 85 (cat., Moscow Prov.); BLAGOVESHCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); KUZNETSOVA 1990: 8 (cat., Lipetsk Prov.: Galich'ya Gora); BLAGOVESHCHENSKAYA 1994: 84 (cat., ecol., Ulyanovsk Prov.: Ulyanovsk, Cheremshanskij Bay, Tiinsk, Dubenki); BUGANIN et al. 2000: 147 (cat., Ulyanovsk Prov.); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); PRISNII 2003: 101 (cat., ecol., Central Russian Upland); STOJKO & POLUMORDVINOV 2004: 54 (cat., Penza Prov.: Penza: Akhunyi, Barkovki; Pachelmsky Distr.: Malyy Burtas; Kuznecky Distr.: Ulyanovka; Kameshkirsky Distr.: Borok; Kamensky Distr.: Novaya Esineevka; Mokshansky Distr.: Yasnaya Polnaya; Bessonovsky Distr.: Pobeda); SHIBAEV 2006a: 110 (cat., ecol., Penza Prov.: Akhunya, B. Yendova, Golitsyno, Goltsova, Zarechny, Stepanovka, Penza); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VERSHININA & MOKIN 2006: 96 (cat., Perm Prov.: Nature Reserve Visimsky); AA.VV. 2007: 279 (Samara Prov.: Samarskaya Luka National Park: Zhiguli Mt.); KIZILOV 2007: 83 (cat., Altai Rep.: Petropavlovsky Distr.: vill. Soldatovo; Tomsk Prov.: Kozhevnikovskiy Distr.: env. vill. Kireevskoe; Tomsk Prov.: Tomsk, Seversk, lake Malukeevskoe; Asinovsky Distr.); KURZENKO & LELEJ 2007: 1004 (cat., Siberia); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); CHIBILYOV 2009 (cat., Orenburg); RUDOISKATEL 2011a: 165 (cat., Sverdlovsk Prov.); KOCHETKOV 2012: 240 (cat., ecol., Ryazan Prov.: Sasovsky Distr. and Shatsky Distr., env. Ryazan); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.).

Holopyga gloriosa var. *ovata*: DU BUYSSON in ANDRÉ 1892: 178 (cat., descr., key, Russia).

Holopyga amoenella (!): VORONTSOVKIJ 1930: 67 (cat., Orenburg Prov.).

Holopyga generosa: PAUKKUNEN et al. 2014: 17 (cat., distr., Russian Fennoscandia: Metsäpirtti [= Zaporozhskoe]; Terijoki [= Zelenogorsk]; Uusikirrko [= Polyany]; Tytärsaari [= Bolshoy Tyuters island]; Viipuri [= Vyborg]; Vazhiny); ROSA et al. 2017b: 131 (cat., European part: North, North-West, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai, Novosibirsk Prov., Tomsk Prov.; Eastern Siberia: Khakass Rep., Krasnoyarsk Terr., Tuva Rep.); ROSA et al 2017g: 9 (cat., distr., Altai Rep.: 12 km SE Aktash, Chuya River; 15 km SE Kurai, Chuya River; Altai Terr.: 30 km N of Bijsk; Novosibirsk Prov.: Iskitimsky distr., Soldatskoe Lake; Khakass Rep.: 27 km E Shira, Borets; Zhemchuzhnyi, Shira Lake; 20 km SW Abakan, Izykshkie Kopi; Tuva Rep.: 13 km SW Samagaltai, Dyttyg-Khem River; Krasnoyarsk Prov.: 10 km NE Minusinsk, Malaya Minusa River; Khabarovsk Prov.: Solnechnyi distr., Evoron Lake), 38 (cat., distr.).

(!) *Pseudospinolia neglecta* (SHUCKARD): LEONTIEV 2015: 135 (cat., mis., Tatar Rep.: Bol'shoj Bor, Fig. 9).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Nizhny Novgorod Prov. [MMC]; East: Samara Prov. [PRC]; North Caucasus: Krasnodar Terr. [MMC]; Crimea: Kara Dag Nature Reserve [RMC]); URAL (Chelyabinsk Prov. [PRC]; Chuvash Rep. [MMC]; Orenburg Prov. [PRC]; Perm Prov. [PRC]; Sverdlovsk Prov. [PRC]).

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.; Centre: Lipetsk Prov., Moscow Prov., Penza Prov., Ryazan Prov.; East: Kirov Prov., Samara Prov., Tatar Rep., Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: North Ossetian Rep., Stavropol Terr.; Crimea); Ural (Orenburg Prov., Perm Prov., Sverdlovsk Prov.); Western Siberia (Altai Rep., Altai Terr., Novosibirsk Prov., Tomsk Prov.); Eastern Siberia (Irkutsk Prov. and/or Buryat Rep., Khakass Rep., Krasnoyarsk Prov., Tuva Rep.); Far East (Khabarovsk Prov.). Trans-Palaearctic: from western Europe to China and Korea (BANG et al. 2011; ROSA et al. 2014).

Remarks. Previous citations for *Holopyga amoenula* are referable to different species. We here assume that they are misidentification of the most common and widespread species, *Ho. generosa*. *Ho. generosa* and relative species are currently under revision and barcoding data available for central European specimens show that two sibling species are identified under the name *Ho. generosa*.

Host. Crabronidae: *Astata boops* (SCHRANCK) (VEENENDAAL 2012; PAUKKUNEN et al. 2015). Females lay their eggs in nymphs of Heteroptera before they have been captured and brought to the nest by the host (VEENENDAAL 2012).

***Holopyga ignicollis* DAHLBOM, 1854**

Holopyga ovata var. *ignicollis* DAHLBOM, 1854: 53 (given as var. *h*). Syntypes ♂♂, ♀♀; Greece: Rhodes Isl., Austria (Vienna, Berlin) (examined). EVERSMANN 1858: 549 (cat., descr., Orenburg Prov., Ural).

Holopyga gloriosa var. *ignicollis*: DU BUYSSON in ANDRÉ 1892: 177 (cat., descr., key, Caucasus, Russia), pl. XIII (Fig. 5), pl. XIV (Figs 8, 15, 17).

Holopyga gloriosa var. *aureomaculata* ABEILLE DE PERRIN, 1879: DU BUYSSON in ANDRÉ 1892: 177 (cat., descr., key, Caucasus).

Holopyga ignicollis: BECKER 1865: 572 (cat., Sarepta); ABEILLE DE PERRIN 1879: 32 (Caucasus, cat.); BECKER 1880: 151 (cat., Sarepta); ROSA et al. 2017b: 131 (cat., European part: Centre, East, South, North Caucasus, Crimea); Ural; Western Siberia: Altai; Eastern Siberia: Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr.); ROSA et al. 2017c: 10 (cat., distr., Altai Terr.; Altai Rep.: 12 km SE Aktash, Chuya River; Irkutsk Prov.: Zalari District, Tungui Village; Khakass Rep.: 27 km E Shira, Borets; Krasnoyarsk Terr.: 40 km NE Minusinsk, Tuba River), 38 (cat., distr.).

Holopyga aureomaculata: VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 141 (cat., Stavropol Terr.: Novozavedennoe); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 84 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve).

Holopyga aereomaculata (!): VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody).

Holopyga cingulata SEMENOV, 1967: 146. Holotype ♂; Kazakhstan: Baigakum (paratypes from Crimea: Kerch; env. Stavropol) (St. Petersburg) (examined). ROSA et al. 2017a: 93 (cat., typ., syn., Caucasus: Stavropol, Zimnyaya Stavka; Crimea: Kerch), 242 (Pl. 266).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Mordovian Rep. [MMC]; Moscow Prov.: Serpukhov [RMC]; Nizhny Novgorod Prov. [MMC]; Vladimir Prov. [MMC]; East: Chuvash Rep. [MMC]; South: Kalmyk Rep. [MMC]; Volgograd Prov.: Sarepta [NMLS]; North Caucasus: Krasnodar Terr. [RMC]; Stavropol Terr.: Stavropol [sub *Ho. cingulata*, ZIN], Zimnyaya Stavka [sub *Ho. cingulata*, ZIN]); URAL (Orenburg Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Vladimir Prov.; East: Chuvash Rep.; South: Kalmyk Rep., Volgograd Prov.; North Caucasus: Karachayevo-Cherkess Rep., Krasnodar Terr., Stavropol Terr.; Crimea); Ural (Orenburg Prov.); Western Siberia (Altai Terr., Altai Rep.); Eastern Siberia (Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr.). Caucasus. West-Palaearctic: southern Europe to Middle East; Central Asia: Kyrgyzstan (ARENS 2004), Kazakhstan.

****Holopyga inflammata caucasica* MOCSÁRY, 1889**

Holopyga (Holopyga) gloriosa var. *caucasica* MOCSÁRY, 1889: 131. Holotype sex unknown; Azerbaijan: Helenendorf [= Goygol] (lost ?).

Holopyga inflammata caucasica: LINSENMAIER 1959: 34 (descr., distr., Caucasus); LINSENMAIER 1969: 350 (tax., southern Russia); SCHMIDT 1977: 100 (cat., distr., Caucasus).

D i s t r i b u t i o n . Caucasus. Cyprus, Iran, Palestine, Turkey (ROSA et al. 2013).

***Holopyga inflammata inflammata* (FÖRSTER, 1853) (Fig. 49)**

Ellampus inflammatus FÖRSTER, 1853: 348. Holotype ♀; Syntypes ♂, ♀; Hungary, Italy (Berlin).

Holopyga gloriosa: GUSSAKOVSKIJ 1948: 732 (cat., key, North of European part of USSR up to Leningrad (= St. Petersburg)).

Holopyga infiammata infiammata: ROSA et al. 2017b: 131 (cat., European part: Centre); ROSA et al. 2017d: 12 (cat., distr., Nizhny Novgorod Prov.).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Nizhny Novgorod Prov.). West-Palaearctic: Europe, northern Africa, western Asia (LINSENMAIER 1997, 1999).

R e m a r k s . Most of the specimens identified as *Ho. gloriosa* (FABRICIUS) and *Ho. amoenula* DAHLBOM in Russian collections and publications correspond to *Ho. inflammata* (FÖRSTER) or similar species. The nomenclature of *Ho. inflammata* and related species is currently under revision and taxonomical changes, based on the study of type material, are planned for the next future.

***Holopyga jurinei* CHEVRIER, 1862**

Holopyga jurinei CHEVRIER, 1862: 95. Holotype ♂ [not ♀]; Switzerland (Geneva) (examined); ROSA et al. 2017b: 131 (cat., European part: South, North Caucasus); ROSA et al. 2017d: 12 (cat., distr., tax., Astrakhan Prov.; Rostov Prov.; Krasnodar Terr.).

D i s t r i b u t i o n . RUSSIA: European part (South: Astrakhan Prov., Rostov Prov.; North Caucasus: Krasnodar Terr.). West Palearctic: Europe, northern Africa, western Asia, Turkey (LINSENMAIER 1997, 1999).

R e m a r k s . Some specimens identified as *Ho. amoenula* DAHLBOM in old collections belong to this taxon. The holotype does not match the interpretation of either LINSENMAIER (1959) or KIMSEY & BOHART (1991). For the moment, we follow LINSENMAIER's (1959) interpretation of the species.

***Holopyga lucida* (LEPELETIER, 1806) (Fig. 48)**

Hedychrum lucidum LEPELETIER, 1806: 122. Syntypes; France (lost).

Holopyga lucida: ROSA et al. 2017b: 131 (cat., European part: Centre, South; Ural; Eastern Siberia: Irkutsk Prov.); ROSA et al. 2017d: 12 (cat., Nizhny Novgorod Prov.; Rostov Prov.; Chelyabinsk Prov.); ROSA et al. 2017g: 10 (cat., distr., tax., Irkutsk Prov.: Zalari District, Tungui Village; Nizhny Novgorod Prov.; Rostov Prov.; Chelyabinsk Prov.), 38 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Nizhny Novgorod Prov.; South: Rostov Prov.); Ural (Chelyabinsk Prov.); Eastern Siberia (Irkutsk Prov.). Central and southern Europe, Turkey (LINSENMAIER 1968).

***Holopyga medvedevi* SEMENOV, 1967**

Holopyga medvedevi SEMENOV, 1967: 147. Holotype ♂; Kazakhstan: Shipovo station near Ural'sk (paratype from Stavropol) (St. Petersburg) (examined). ROSA et al. 2017a: 95 (cat., typ., Stavropol), 245 (Pl. 272); ROSA et al. 2017b: 131 (cat., European part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Prov.). Kazakhstan.

***Holopyga metallica* (DAHLBOM, 1854)**

Hedychrum metallicum DAHLBOM, 1854: 68. Holotype ♂; Finland: Uleåborg [= Oulu] (Helsinki) (examined).

Holopyga metallica: PAUKKUNEN et al. 2014: 17 (cat., distr., Russian Fennoscandia: Metsäpirtti [= Zaporozhskoe]; Penisaari [=Malyi island]); ROSA et al. 2017b: 131 (cat., European part: North, North-West; Eastern Siberia: Irkutsk Prov.); ROSA et al. 2017g: 38 (cat., distr., Siberia).

Holopyga sibirica SEMENOV, 1967: 146. Holotype ♀; Russia: Siberia, Irkutsk (St. Petersburg) (examined). KIMSEY & BOHART 1991: 235 (cat., Siberia); KURZENKO & LELEJ 2007: 1004 (cat., E Siberia); ROSA et al. 2017a: 96 (cat., typ., syn., Irkutsk), 247 (Pl. 275).

D i s t r i b u t i o n . RUSSIA: European part (North-West: Leningrad Prov.); Eastern Siberia (Irkutsk Prov.). Finland.

R e m a r k s . *Holopyga metallica* is very rare and classified as critically endangered in Finland (PAUKKUNEN 2010). *Ho. metallica* was erroneously synonymized with *Ho. fervida* (FABRICIUS) by TRAUTMANN (1927) and LINSENMAIER (1951, 1959); it was later reinstated as a valid species by LINSENMAIER (1987).

H o s t . Crabronidae: *Dryudella stigma* (PANZER) (PAUKKUNEN et al. 2015).

***Holopyga minuma* LINSENMAIER, 1959**

Holopyga minuma LINSENMAIER, 1959a: 31. Holotype ♀; Turkey: Niğde prov.: Niğde (Luzern) (examined). ROSA et al. 2017b: 131 (cat., European part: East; Eastern Siberia: Khakass Rep., Krasnoyarsk Terr., Tuva Rep.); ROSA et al. 2017d: 13 (cat., distr., Samara Prov.); ROSA et al. 2017g: 10 (cat., distr., Samara Prov.; Khakass Rep.: Zhemchuzhnyi, Shira Lake; 10 km E Shira, Itkul' Lake; 20 km SW Abakan, Izykhskie Kopi; Krasnoyarsk Terr.: 10 km NW Minusinsk, Bystraya River; Tuva Rep.: 25 km SE Erzin, Tes-Khem River;), 38 (cat., distr., Siberia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (East: Samara Prov.] [ZIN]; Crimea).

D i s t r i b u t i o n . RUSSIA: European part (East: Samara Prov.); Eastern Siberia (Khakass Rep., Krasnoyarsk Terr., Tuva Rep.). Central and south-east Europe, Iran, Middle East, Turkey (LINSENMAIER 1968; SCHMIDT 1977).

R e m a r k s . In Russian collections and literature specimens of *Ho. minuma* were identified as *Ho. amoenula* DAHLBOM.

***Holopyga mlokosiewitzi* (RADOSZKOWSKI, 1877) (Fig. 43)**

Hedychrum mlokosiewitzi RADOSZKOWSKI, 1877: 109. Syntypes ♂♂, ♀♀; Caucasus (Berlin, Kraków) (examined). RADOSZKOVSKY 1880: 141 (cat., Caucasus); ROSA et al. 2015c: 83 (cat., typ., Caucasus), 84 (Fig. 10).

Holopyga mlokosiewitzi: RADOSZKOWSKI 1889: 9 (descr., Caucasus), tab. I (Figs 11A–11B); MOCSÁRY 1889: 125 (cat., descr., distr., key, Caucasus); MOCSÁRY 1890a: 60 (cat., Caucasus); DU BUYSSON in ANDRÉ 1892: 172 (cat., descr., key, Caucasus); LINSENMAIER 1951: 14 (descr., Caucasus), 97 (cat.); LINSENMAIER 1959: 13 (key), 27 (descr., distr., Caucasus), 24 (Fig. 14); DALLA TORRE 1892: 28 (cat., Caucasus); BISCHOFF 1910: 440 (cat., Caucasus); BISCHOFF 1913: 13 (cat., Caucasus); SCHMIDT 1977: 99 (cat., distr., Caucasus); ROSA et al. 2017b: 131 (cat., European part: North Caucasus).

Holopyga mlokosiewitzi spartana LINSENMAIER, 1968: ARENS 2004: 48 (tax., descr., distr., Caucasus).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North Caucasus: Dagestan Rep. [MMC]).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Dagestan Rep.). Caucasus. Palestina (LINSENMAIER 1959), Turkey (SCHMIDT 1977).

***Holopyga pavlovskii* SEMENOV & NIKOL'SKAYA, 1954 (Fig. 47)**

Holopyga pavlovskii SEMENOV & NIKOL'SKAYA, 1954: 111. Holotype ♂; Tajikistan: Kulyab (St. Petersburg) (examined). VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 142 (cat., Stavropol Terr.: Novozavedennoe, Obilnoe); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 84 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2017a: 96 (cat., typ., Tajikistan), 246 (Pl. 273); ROSA et al. 2017b: 131 (cat., European part: North Caucasus).

Distribution. RUSSIA: European part (North Caucasus: Stavropol Terr.). Tajikistan.

***Holopyga punctatissima punctatissima* DAHLBOM, 1854 (Fig. 46)**

Holopyga punctatissima DAHLBOM, 1854: 50. Syntypes ♂♂, ♀; Greece: Rhodes (Berlin) (examined). DU BUYSSON in ANDRÉ 1892: 173 (cat., descr., key, Caucasus); LINSSENMAIER 1959: 30 (key, descr., Caucasus), 186 (cat.); SCHMIDT 1977: 99 (cat., distr., Caucasus, southern Russia); LINSSENMAIER 1968: 16 (tax., southern Russia); ROSA et al. 2013: 11 (cat., distr., southern Russia); ROSA et al. 2017b: 131 (cat., European part: Centre, East, South, North Caucasus, Crimea; Ural).

Holopyga (Holopyga) amoenula var. *punctatissima*: MOCSÁRY 1889: 128 (cat., descr., distr., Caucasus); MOCSÁRY 1890a: 60 (cat., Caucasus).

Holopyga amoenula var. *punctatissima*: DALLA TORRE 1892: 21 (cat., Caucasus, Russia).

Material examined. Russia: EUROPEAN PART (Centre: Kursk Prov. [ZIN]; East: Saratov Prov.: Saratov [ZIN]; South: Volgograd Prov.: Sarepta [ZIN]; Dagestan Rep.: Kizlyar [ZIN]; Crimea: Simferopol [ZIN]); URAL (Orenburg Prov.: Orenburg [ZIN]).

Distribution. RUSSIA: European part (Centre: Kursk Prov.; East: Saratov Prov.; South: Volgograd Prov.; North Caucasus: Chechen Rep., Dagestan Rep.; Crimea); Ural (Orenburg Prov.). Caucasus. South-eastern Europe, Caucasus, Iran, southern Russia, Turkey (ROSA et al. 2013).

****Holopyga raziborskii* SEMENOV, 1967**

Holopyga raziborskii SEMENOV, 1967: 145. Holotype ♂; Georgia: Kodzhori (St. Petersburg) (examined). ROSA et al. 2017a: 96 (cat., typ., Georgia), 247 (Pl. 284).

Holopyga raciborskii (!): KIMSEY & BOHART 1991: 235 (cat., Georgia: Kodzhori).

Distribution. Caucasus (Georgia).

***Holopyga turkestanica* MOCSÁRY, 1909**

Holopyga punctatissima var. *turkestanica* MOCSÁRY, 1909: 1. Lectotype ♂ (designated by FRENCH in BOHART & FRENCH 1986: 341); Kazakhstan: Mt. Karatau (Budapest) (examined). ROSA et al. 2017h: 110 (cat., typ., Kazakhstan), 111 (Pl. 85).

Holopyga crassepuncta SEMENOV in SEMENOV & NIKOL'SKAYA, 1954: 110. Holotype ♀; Kazakstan [not Tajikistan]: Balamurun, Karatau foothills (St. Petersburg) (examined). ROSA et al. 2017a: 94 (cat., typ., syn., Kazakhstan, Tajikistan, Turkmenistan), 243 (Pl. 268).

Holopyga ovata crassepuncta: LINSSENMAIER 1968: 17 (descr., Transcaspia); LINSSENMAIER 1969: 349 (descr., southern Russia).

Holopyga punctatissima turcestanica (!): LINSSENMAIER 1969: 349 (tax., southern Russia).

Holopyga turkestanica: ROSA et al. 2017b: 131 (cat., European part: North Caucasus).

Material examined. Russia: EUROPEAN PART (North Caucasus: Dagestan Rep. [MMC]).

Distribution. RUSSIA: European part (North Caucasus: Dagestan Rep.). Caucasus. Iran, Kazakhstan, Turkey, Turkmenistan.

***Holopyga vigora* LINSENMAIER, 1959**

Holopyga vigora LINSENMAIER, 1959: 31. Holotype ♂; Turkey: Niğde (Luzern) (examined).
VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al.
2017b: 131 (cat., European part: North Caucasus).

Distribution. RUSSIA: European part (North Caucasus: Stavropol Terr.).
Greece (ARENS 2014), Turkey.

9. Genus *Omalus* PANZER, 1801

Omalus PANZER 1801: 13. Type species: *Chrysis aenea* FABRICIUS, 1787, by monotypy.

***Omalus aeneus* (FABRICIUS, 1787) (Fig. 20)**

Chrysis aenea FABRICIUS, 1787: 284. Holotype ♀; Germany: Hala Saxonum [= Halle] (Copenhagen) (examined).

Chrysis aenea: NYLANDER 1859: 111: (cat., Sakkola [= Gromovo]).

Omalus aeneus: ASSMUSS 1862: 266 (cat., ecol., Mozhaysk); ABEILLE DE PERRIN 1879: 19 (key), 25 (descr., Caucasus); DALLA TORRE 1892: 7 (cat., Caucasus); TRAUTMANN 1927: 32 (key), 34 (biol., cat., descr., distr., Caucasus); ATANASSOV 1940: 206 (cat., distr., Caucasus, Russia); BALTHASAR 1946: 228 (cat., distr., Caucasus); BALTHASAR 1954: 82 (key), 87 (descr., Caucasus, Lapponia); NIKOL'SKAYA 1978: 64 (key, southern and central European part of USSR); ZVANTSOV 1988: 84 (biol., cat., Moscow Prov.: Zvenigorod, Mozhaysk, Baluyevo, Prioksko-Terrasny Nature Reserve, Mytishchi, Dmitrov); RUDOISKATEL 1999a: 54 (cat., Chelyabinsk Prov.: Ilmen State Reserve); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); KRIVONOGOVA & RUDOISKATEL 2004: 109 (cat., ecol., Sverdlovsk Prov.); STOJKO & POLUMORDVINOV 2004: 54 (cat., Penza Prov.: Pachelmsky Distr.: Malyy Burtas); RUDOISKATEL 2006: 281 (cat., Sverdlovsk Prov.: Visimsky State Reserve); Shibaev 2006a: 110 (cat., ecol., Penza Prov.: Akhuny); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); AA.VV. 2007: 280 (Samara Prov.: Samarskaya Luka National Park); KURZENKO & LELEJ 2007: 1004 (cat., Amur Prov., Khabarovsk Terr., Primorskii Terr., Sakhalin, Kuril Is., Irkutsk Prov., Yakutia Rep.); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); RUDOISKATEL 2008b: 212 (cat., Chelyabinsk Prov.: East Ural Nature Reserve); MOKROUSOV et al. 2009: 77 (cat., Mordovia: Pushta); RUCHIN 2011: 173 (cat., Mordovia Nature Reserve); RUDOISKATEL 2011a: 165 (cat., Sverdlovsk Prov.); LELEJ & KURZENKO 2012: 401 (cat., Amur, Primorskii Terr., Sakhalin Prov.: south Kuril Is. (Kunashir Is.), Sakhalin; Transbaikalian region); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); PAUKKUNEN et al. 2014: 10 (cat., distr., Russian Fennoscandia); ROSA et al. 2014: 28 (cat., distr., Russian Far East); VINOKUROV 2014d: 92 (cat., Krasnodar Terr., Maykopsky Distr.); VINOKUROV 2015b: 316 (cat. Kabardino-Balkarian: High Mountain Nature Reserve); ROSA et al. 2017b: 131 (cat., European part: North, North-West, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai, Tomsk Prov.; Eastern Siberia: Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep., Yakutsk Rep., Zabaikalskii Terr.; Far East: Amur, Khabarovsk Terr., Kuril Island, Sakhalin, Primorskii Terr.); ROSA et al. 2017g: 37 (cat., distr., Siberia).

Ellampus aeneus: MOCSÁRY 1882: 23 (key), 30 (cat., destr., distr., Caucasus); DU BUYSSON in ANDRÉ 1892: 137 (cat., descr., key, Russia), pl. XI (Fig. 13); KERENSKIJ 1919 (cat., Penza Prov.); GUSSAKOVSKIJ 1948: 731 (cat., key, European part of USSR); LEVI et al. 1974: 265 (cat., Kirov Prov.: Kirov).

Omalus aeneus var. *pygialis* DU BUYSSON, 1887: 170 (descr., Caucasus); MOCSÁRY 1890a: 59 (cat., Caucasus).

Ellampus (Ellampus) aeneus: MOCSÁRY 1889: 94 (key), 96 (descr., distr., Caucasus, Lapponia).

Ellampus (Ellampus) aeneus var. *pygialis*: MOCSÁRY 1889: 98 (descr., distr., Caucasus); MOCSÁRY 1890a: 59 (cat., Caucasus); BISCHOFF 1913: 8 (cat., Caucasus).

Ellampus aeneus var. *pygialis*: DU BUYSSON in ANDRÉ 1892: 137 (cat., descr., key, Caucasus).

Ellampus pygmaeus (SCHENCK, 1856): MOCSÁRY 1890b: 66 (cat., southern Russia).

Ellampus aeneus var. *chevrieri* (TOURNIER, 1877): BISCHOFF 1910: 437 (cat., southern Russia).

Omalus (Omalus) aeneus: MINGO 1979: 201 (key), 207 (cat., descr., distr., Caucasus); BRUSTILO & MARTYNOV 2009: 48 (biol., cat., distr., Caucasus).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North-West: Leningrad Prov.: Kingisepp [ZIN], Gatchina [ZIN], St. Petersburg [ZIN]; Pskov Prov.: Kharlamova Gora Gdovsk. u. [ZIN]; Centre: Belgorod Prov.: Novyi Oskol [ZIN]; Bryansk Prov.: Lesnichestvo [ZIN]; Kursk Prov.: env. Kursk [ZIN]; Nizhny Novgorod Prov. [MMC]; Penza Prov.: Penza [ZIN]; Yaroslavl Prov.: Berditsino [ZIN]; East: Kirov Prov.: Kirov [ZIN]; South: Rostov Prov.: Bolshaya Krepkaya River [ZIN]; Taganrog [ZIN]; Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Krasnodar Terr.: env. Krasnodar [ZIN], Sochi Lazarevskoye [ZIN]; Crimea: Kara Dag Nature Reserve [RMC], Sevastopol [ZIN], Alushta [ZIN]); URAL (Bashkir Rep.: Irgizla [ZIN]; Chelyabinsk Prov. [PRC]; Kurgan Prov. [PRC]; Sverdlovsk Prov. [PRC]); WESTERN SIBERIA (Altai Rep.: 15 km SE Kurai, Chuya River [IBSS]; Katunsky Ridge, Taimen'e Lake [IBSS]; Tomsk Prov. [ZIN]); EASTERN SIBERIA (Irkutsk Prov.: Irkutsk [ZIN], Marituj, South Baikal [ZIN]; Khakass Rep.: 14 km SSW Abakan, Belyi Yar, Abakan River [IBSS]; Zhemchuzhnyi, Shira Lake [IBSS]; Krasnoyarsk Terr.: Berezovyi [IBSS]; Krasnoyarsk [IBSS]; Tuva Rep.: 13 km SW Samagaltai, Dyttyg-Khem River [IBSS]; Yakutsk Rep.: Morkha, env. Yakutsk [ZIN]); FAR EAST (Primorskii Terr.: Vladivostok [NMLS, ZIN]; Sakhalin Prov.: South Sakhalin [ZIN]). Georgia: Lagodekhi, Gomi distr. Gori (Tbilisi) [ZIN].

D i s t r i b u t i o n . RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov., Pskov Prov.; Centre: Bryansk Prov., Kursk Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Yaroslavl Prov.; East: Kirov Prov., Samara Prov.; South: Rostov Prov., Volgograd Prov.; North Caucasus: Kabardino-Balkarian Rep., Krasnodar Terr.; Crimea); Ural (Bashkir Rep., Chelyabinsk Prov., Kurgan Prov., Sverdlovsk Prov.); Western Siberia (Altai Rep., Tomsk Prov.); Eastern Siberia (Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep., Yakutsk Rep., Zabaikalskii Terr.); Far East (Amur Prov., Khabarovsk Terr., Kuril Island, Primorskii Terr., Sakhalin Prov.). Georgia. Holarctic, trans-Palaeartic, and Oriental: from Europe and North Africa to Japan and Taiwan (WEI et al. 2014). Probably accidentally introduced to North America (KIMSEY & BOHART 1991).

H o s t . Crabronidae: *Passaloecus borealis* DAHLBOM, *P. corniger* SHUCKARD, *P. eremita* KOHL, *P. gracilis* (CURTIS), *P. singularis* DAHLBOM, *P. turionum* DAHLBOM, *Pemphredon lethifer* (SHUCKARD), *P. lugubris* (FABRICIUS) and *Psenulus pallipes* (PANZER) (LINSENMAIER 1997b; STRUMIA 1997; GATHMANN & TSCHARNTKE 1999; PAUKKUNEN et al. 2015). Females oviposit in live aphids and do not enter the host nest as in the case of *O. biaccinctus* (PAUKKUNEN et al. 2015).

***Omalus berezovskii* (SEMENOV, 1932)**

Ellampus (Dictenulus) berezovskii SEMENOV, 1932: 12. Holotype ♀; China: Sichuan (examined) (St. Petersburg).

Omalus berezovskii: ROSA et al. 2017b: 131 (cat., Eastern Siberia: Khakass Rep., Tuva Rep.; Far East: Primorskii Terr.); ROSA et al. 2017f: 31 (cat., distr., Khakass Rep.: 14 km SSW Abakan, Belyi Yar, Abakan River; Tuva Rep.: Shuurmak, Shuurmak River; Zhemchuzhnyi, Shira Lake; Primorskii Terr.: 70 km SE Chuguevka, "Zov tigr" Natural Park; 15 km S Ternei, Udobnaya Bay); ROSA et al. 2017g: 37 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Khakass Rep., Tuva Rep.); Far East (Primorskii Terr.). China (Ningxia, Sichuan).

***Omalus biaccinctus* (DU BUYSSON, 1892) (Fig. 21)**

Ellampus biaccinctus DU BUYSSON in ANDRÉ, 1892: 152. Syntypes ♂♀; France (pl. X: Fig. 9; pl. XI: Fig. 11) (Paris) (examined).

Omalus biaccinctus: NIKOL'SKAYA 1978: 52 (tab. 23: Figs 11, 16), 63 (key, southern and central European part of USSR); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2007c: 139 (cat., Stavropol Terr.: Pyatigorsk); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 83 (cat., Stavropol Terr.: Mineralnye Vody); PAUKKUNEN et al. 2014: 9 (cat., distr., Russian Fennoscandia: Metsäpirtti [= Zaporozhskoe]); ROSA et al. 2017b: 131 (cat., European part: North-West, Centre, North Caucasus, Crimea).

Omalus biaccinctus (!): VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Nizhny Novgorod Prov. [MMC]; North Caucasus: Krasnodar Terr.: Sochi Lazarevskoye [ZIN]; Crimea: Alupka [ZIN]; Kara Dag Nature Reserve [PRC, RCM]).

D i s t r i b u t i o n . RUSSIA: European part (North-West: Leningrad Prov.; Centre: Nizhny Novgorod Prov.; North Caucasus: Krasnodar Terr., Stavropol Terr.; Crimea). West-Palaearctic: from Europe to West Asia (LINSENMAIER 1959).

H o s t . Crabronidae: *Passaloeocus eremita* KOHL, *P. gracilis* (CURTIS) and *P. turionum* DAHLBOM (LOMHOLDT 1975; TORMOS et al. 1996; WICKL 2001; PAUKKUNEN et al. 2015). The female oviposits in living aphids at the hunting site of their host, and the egg is brought into the host's nest concealed in the aphid prey (WINTERHAGEN 2015). Thus, the females do not enter the nest of their host for oviposition.

***Omalus hohlbecki* (SEMENOV, 1932) (Fig. 23)**

Ellampus (Dictenulus) hohlbecki SEMENOV, 1932: 21. Lectotype ♀ (designated by ROSA et al. 2017a: 75); Kazakhstan: Taldy-bulak (St. Petersburg) (examined). VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014c: 283 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); ROSA et al. 2017a: 75 (cat., typ., Kazakhstan), 212 (Pl. 205); ROSA et al. 2017b: 132 (cat., European part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Karachayevo-Cherkess Rep., Stavropol Terr.). Kazakhstan.

***Omalus stella* (SEMENOV & NIKOL'SKAYA, 1954) (Fig. 22)**

Ellampus (Ellampus) stella SEMENOV & NIKOL'SKAYA, 1954: 93. Lectotype ♀ (designated by KIMSEY 1986: 107); Tajikistan: Dushambe (St. Petersburg) (examined).

Omalus stella: ROSA et al. 2017b: 132 (cat., European part: South, North Caucasus); ROSA et al. 2017d: 3 (cat., distr., Astrakhan Prov.: Enotaevskiy Distr., env. Volzhsky; Kalmyk Rep.: Chernozemelskiy Distr., 20 km E vill. Khulkhuta).

D i s t r i b u t i o n . RUSSIA: European part (South: Astrakhan Prov., Kalmyk Rep.; North Caucasus: Dagestan Rep.). Tajikistan, Kazakhstan.

10. Genus *Philoctetes* ABEILLE DE PERRIN, 1879

Philoctetes ABEILLE DE PERRIN, 1879: 27. Type species: *Holopyga cicatrix* ABEILLE DE PERRIN, 1879 [= *Philoctetes micans* (KLUG, 1835)], by subsequent designation of ASHMEAD 1902: 228.

***Philoctetes bidentulus* (LEPELETIER, 1806) (Fig. 28)**

Hedychrum bidentulum LEPELETIER, 1806: 121. Neotype ♂ (designated by ROSA & XU 2015: 81); France; Machecoul [Loire-Atlantique department] (Luzern) (examined).

Ellampus bidentatus (!) EVERSMAAN, 1858: 548 (Ural). Incorrect subsequent spelling of *bidentulus* LEPELETIER, 1806 (ROSA et al. 2015e).

Ellampus bidentulus: RADOSZKOVSKY 1866: 5 (cat., Kazan, Orenburg).

Ellampus wesmaeli CHEVRIER, 1862: DE STEFANI 1888: 117 (cat., descr., distr., key, Kazan, Orenbourg); DU BUYSSON in ANDRÉ 1892: 123 (cat., descr., key, Russia), pl. XI (Fig. 3); DU BUYSSON in ANDRÉ 1896: 704 (cat., Caucasus).

Ellampus (Ellampus) bidentulus: MOCSÁRY 1889: 84 (descr., distr., key, Kazan, Orenburg, Ural).

Ellampus (Ellampus) wesmaeli: MOCSÁRY 1889: 84 (key), 85 (descr., distr., Sarepta, Siberia); MOCSÁRY 1890a: 58 (cat., southern Russia, Siberia).

Ellampus appendicinus ABEILLE DE PERRIN, 1878: DALLA TORRE 1892: 8 (cat., Russia).

Ellampus wesmaelii (!): DALLA TORRE 1892: 20 (cat., Siberia).

Ellampus wesmaeli var. *appendicinus*: DU BUYSSON in ANDRÉ 1892: 123 (cat., descr., key, Orenburg), pl. X (Fig. 4); BISCHOFF 1913: 10 (cat., Russia).

Omalus bidentulus: TRAUTMANN 1927: 32 (key), 41 (biol., cat., descr., distr., Caucasus, Siberia, Ural); BALTHASAR 1946: 231 (biol., cat., distr., Caucasus, Siberia, Ural); BALTHASAR 1954: 71 (Fig. 18), 81 (key), 84 (descr., Caucasus, Ural, Siberia); NIKOL'SKAYA 1978: 52 (tab. 23: Fig. 15), 63 (key, European part of USSR, excluding north); BANASZAK 1980: 9 (biol., cat., Caucasus, Siberia); ZVANTSOV 1987: 63 (cat., North Ossetian Rep.: Nar); ZVANTSOV 1988: 83 (biol., cat., Moscow Prov.: Leonovo, Leninskaya, Snegiri, Rusky Distr.: Selezhevo, Mytishchi); KUZNETSOVA 1990: 8 (cat., Lipetsk Prov.: Galich'ya Gora); KOCHETKOV 2012: 240 (cat., Ryazan Prov.: env. Ryazan).

Omalus bidentulus var. *appendicinus*: TRAUTMANN 1927: 42 (descr., southern Russia).

Omalus bidentatus (!): ATANASSOV 1940: 206 (cat., Siberia).

Omalus (Omalus) bidentulus bidentatus (!): LINSSENMAIER 1997a: 248 (descr., Russia: Ural), 288 (Fig. 4); BRUSTILO & MARTYNOV 2009: 48 (biol., cat., distr., Caucasus, Siberia, Ural).
Omalus bidentulus: BUGANIN et al. 2000: 146 (cat., Ulyanovsk Prov.); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); STOJKO & POLUMORDVINOV 2004: 54 (cat., Penza).

Pseudomalus bidentulus: SHIBAIEV 2006a: 110 (cat., ecol., Penza Prov.: Stepanovka); SHIBAIEV 2006b: 93 (cat., Penza Prov.: Middle Volga); SHIBAIEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); ROSA et al. 2017g: 37 (cat., distr., Siberia).

Philoctetes bidentulus: MOKROUSOV et al. 2013: 195 (cat., Mordovia Nature Reserve); RUCHIN 2015: 391 (cat., Mordovia Nature Reserve); ROSA et al. 2017b: 132 (cat., European part: Centre, East, South, North Caucasus; Ural; Eastern Siberia: Khakass Rep., Irkutsk Prov.).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Belgorod Prov. Novyi Oskol [ZIN], Borisovka [ZIN]; Kursk Prov.: L'gov, Kursk [ZIN], Kursk [ZIN]; Mordovian Rep. [MMC]; Nizhny Novgorod Prov. [MMC], Gorbatovsk [ZIN]; Penza Prov. [MMC]; Ryazan Prov.: Spassk [ZIN]; Voronezh Prov.: Talovaya [ZIN]; Yaroslavl Prov.: Berditsino [ZIN]; East: Kirov Prov.: Kirov [ZIN], Yaransk [ZIN]; North Caucasus: Stavropol Terr.: Stavropol [ZIN]); URAL (Bashkir Rep.: Belebej [ZIN]; Chelyabinsk Prov. [PRC]; Orenburg Prov.: Orenburg [ZIN]; Sverdlovsk Prov. [PRC]); EASTERN SIBERIA (Irkutsk Prov.: Irkutsk [ZIN]; Khakass Rep.: Zhemchuzhnyi, Shira Lake [IBSS]; 21 km SW Abakan, Izykhskie Kopi [IBSS]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Belgorod Prov.; Kursk Prov., Lipetsk Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov., Voronezh Prov., Yaroslavl Prov.; East: Kirov Prov., Tatar Rep., Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: North Ossetian Rep., Stavropol Terr.); Ural (Bashkir Rep., Chelyabinsk Prov., Orenburg Prov., Sverdlovsk Prov.); Eastern Siberia (Irkutsk Prov., Irkutsk Prov. and/or Buryat Rep., Khakass Rep.). Caucasus. Trans-Palaeartic, from Europe and northern Africa to Turkey and Western Asia (LINSSENMAIER 1999), probably Siberia (MOCSÁRY 1889). Some old citations could be referred to other species later described by SEMENOV (1932).

H o s t . Crabronidae: *Psenulus pallipes* (PANZER) (MOCSÁRY 1912). Host associations with *Trypoxylon* LATREILLE and *Rhopalum* STEPHENS (MOLITOR 1935) are doubtful.

***Philoctetes bogdanovii bogdanovii* (RADOSZKOVSKI, 1877)**

Holopyga bogdanovii RADOSZKOWSKI, 1877: 5. Holotype ♂; Uzbekistan: Zarafshan (Moscow) (examined). ROSA et al. 2015a: 24 (cat., typ., Uzbekistan), 25 (Pl. 19).

Ellampus (Ellampus) rudowi DU BUYSSON, 1887: MOCSÁRY 1889: 87 (key), 93 (descr., distr., Sarepta); MOCSÁRY 1890a: 59 (cat., southern Russia).

Ellampus bogdanovi (!): DU BUYSSON in ANDRÉ 1892: 131 (cat., descr., key, Caucasus, southern Russia), pl. 11 (Fig. 18); HAMMER 1950: 2 (cat., distr., Russia).

Omalus bogdanovi (!): BISCHOFF 1910: 437 (cat., Caucasus); TRAUTMANN 1927: 32 (key), 40 (cat., descr., distr., southern Russia); BALTHASAR 1946: 230 (cat., distr., southern Russia); BALTHASAR 1954: 82 (key), 93 (descr., European part of USSR); NIKOL'SKAYA 1978: 64 (key, southern European part of USSR).

Ellampus bogdanovii (!): BISCHOFF 1913: 8 (cat., southern Russia); MAIDL 1922: 102 (cat., distr., southern Russia).

Philoctetes bogdanovi (!): ROSA 2006: 120 (key), 126 (cat., descr., distr., ecol., tax., Russia).

Omalus (Omalus) bogdanovi (!): BRUSTILO & MARTYNOV 2009: 48 (cat., distr., Caucasus, Crimea).

Philoctetes bogdanovii: ROSA et al. 2013: 12 (cat., distr., south European part of Russia); ROSA et al. 2017b: 132 (cat., European part: Centre, South, Crimea; Ural).

Omalus (Philoctetes) bogdanovi (!): ARENS 2014: 569 (biol., cat., distr., tax., southern Russia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Belgorod Prov.: Novii Oskol [ZIN]; South: Astrakhan Prov. [ZIN]; Kalmyk Rep. [MMC]; Rostov Prov.: Salskij [ZIN]; Volgograd Prov. [MMC], Sarepta [ZIN]; Crimea: Simferopol [ZIN], Sevastopol [ZIN]); URAL (Orenburg Prov.: Orenburg [ZIN]). Azerbaijan: Elisavetpol [ZIN].

D i s t r i b u t i o n . RUSSIA: European part (Centre: Kursk Prov.; South: Astrakhan Prov., Kalmyk Rep., Rostov Prov., Volgograd Prov.; Crimea); Ural (Orenburg Prov.). Azerbaijan: Elisavetpol (= Ganja) [ZIN]. Caucasus. West-Palaearctic: southern Europe, western Asia, Iran and Turkey (ROSA et al. 2013).

***Philoctetes conifer* (SEMENOV, 1932)**

Ellampus (Philoctetes) conifer SEMENOV, 1932: 24. Lectotype ♂ (designated by KIMSEY 1986: 106); Kazakhstan: Shipovo (paralectotype from Russia: Stavropol Terr.: Zimnyaya Stavka) (St. Petersburg) (examined). ROSA et al. 2017a: 72 (cat., typ., Kazakhstan), 207 (Pl. 195).

Omalus conifer: KIMSEY 1986: 106 (lectotype designation, USSR: Shipovo).

Philoctetes conifer: KIMSEY & BOHART 1991: 254 (cat., USSR: Shipovo); ROSA et al. 2017b: 132 (cat., European part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). Kazakhstan.

***Philoctetes cynthiae* ROSA, 2017 (Fig. 25)**

Philoctetes cynthiae ROSA in ROSA et al. 2017f: 27. Holotype ♀; Russia: Eastern Siberia, Tuva Rep.: 13 km SW Samagaltai, Dytyg-Khem River (St. Petersburg) (examined) (paratypes from Tuva Rep.: 13 km SW Samagaltai, Dytyg-Khem River; 20 km SSW Erzin, Tore-Khol' Lake; 25 km SE Erzin, Tes-Khem River; 13 km SW Samagaltai, Dytyg-Khem River), 33 (Figs 16A–F), 36 (Figs 17A–F), 40 (Fig. 19A). ROSA et al. 2017b: 132 (cat., Eastern Siberia: Tuva Rep.); ROSA et al. 2017g: 37 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Tuva Rep.). Mongolia.

***Philoctetes horvathi* (MOCSÁRY, 1889)**

Ellampus wesmaeli MOCSÁRY, 1882: 27. Lectotype ♀ (designated by MÓCZÁR 1964b: 434); Hungary: Delibalt, nom. praeocc., nec CHEVRIER, 1862 (Budapest) (examined). ROSA et al. 2017h: 92 (Pl. 23).

Ellampus horváthi (!) MOCSÁRY, 1889: 82. Replacement name for *Ellampus wesmaeli* MOCSÁRY, 1882, nom. praeocc., nec CHEVRIER, 1862 (descr., distr., key, Sarepta).

Ellampus horváthii (!): DALLA TORRE 1892: 13 (cat., Russia).

Omalus horvathi: TRAUTMANN 1927: 31 (key), 33 (cat., descr., distr., souther Russia); BALTHASAR 1953: 127 (descr., Southern Russia); MÓCZÁR 1964b: 434 (tax., Sarepta); NIKOL'SKAYA 1978: 63 (key, southern European part of USSR).

Omalus (Omalus) horvathi: LINSSENMAIER 1959: 15 (key), 19 (descr., distr., Southern Russia); MINGO 1979: 201 (key), 211 (cat., descr., distr., southern Russia) [partim].

Philoctetes horvathi: ROSA et al. 2017b: 132 (cat., European part: South; Eastern Siberia: Krasnoyarsk Terr., Tuva Rep.); ROSA et al. 2017f: 34 (cat., distr., Krasnoyarsk Terr.: Minusinsk; Tuva Rep.: 13 km SW Samagaltai, Dyttyg-Khem River); ROSA et al. 2017g: 37 (cat., distr., Siberia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Astrakhan Prov. [ZIN]; Volgograd Prov.: Sarepta [ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (South: Astrakhan Prov., Volgograd Prov.); Eastern Siberia (Krasnoyarsk Terr., Tuva Rep.). Trans-Palaeartic, from central Europe to China and Korea (ROSA et al. 2014).

***Philoctetes kuznetsovi* (SEMENOV, 1932)**

Ellampus (Ellampus) kuznetsovi SEMENOV, 1932: 25. Lectotype ♂ (designated by KIMSEY 1986: 107); Georgia: Tbilisi (St. Petersburg) (examined). ROSA et al. 2017a: 75 (cat., typ. Georgia), 213 (Pl. 208).

Omalus kuznetsovi: KIMSEY 1986: 107 (lectotype designation, Georgia).

Philoctetes kuznetsovi: KIMSEY & BOHART 1991: 256 (cat., Georgia); ROSA et al. 2017b: 132 (cat., European part: East, North Caucasus; Eastern Siberia: Irkutsk Prov.); ROSA et al. 2017f: 37 (cat., distr. Tatar Rep.; North Caucasus: Dagestan Rep.; Irkutsk Prov.: Kuz'mikha env. Irkutsk); ROSA et al. 2017g: 37 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: European part (East: Tatar Rep.; North Caucasus: Dagestan Rep.); Eastern Siberia (Irkutsk Prov.). Caucasus (Georgia).

***Philoctetes lyubae* ROSA, 2017 (Fig. 26)**

Philoctetes lyubae ROSA in ROSA et al. 2017f: 39. Holotype ♀; Russia: Eastern Siberia, Tuva Rep., 20 km SSW Erzin, Tore-Khol' Lake (St. Petersburg) (examined), 38 (Figs 18A–F). ROSA et al. 2017b: 132 (cat., Eastern Siberia: Tuva Rep.); ROSA et al. 2017g: 37 (cat., distr., Siberia); ROSA 2018b (loc. correction).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Tuva Rep.).

***Philoctetes mongolicus* (DU BUYSSON, 1901) (Fig. 24)**

Ellampus horvathi var. *mongolicus* DU BUYSSON, 1901: 98. Lectotype ♂ (designated by MÓCZÁR 1967b: 186); Mongolia: North Mongolia (Vienna) (examined).

Notozus mongolicus: TRAUTMANN 1927: 24 (key), 29 (descr., distr., Astrakhan, Volga).

Omalus (Notozus) mongolicus: LINSSENMAIER 1951: 7 (key), 12 (descr., southern Russia), 95 (cat.); LINSSENMAIER, 1959: 16 (key), 23 (descr., distr., key, Southern Russia).

Omalus mongolicus: MÓCZÁR 1967b: 186 (distr., tax., Transbaikal).

Philoctetes mongolicus: ROSA et al. 2014: 33 (cat., distr., tax., southern Russia); ROSA et al. 2017f: 40 (Tuva, Figs A–F); ROSA et al. 2017b: 132 (cat., European part: South; Eastern Siberia: Khakass Rep., Tuva Rep., Yakutsk Rep., Zabaikalskii Terr.); ROSA et al. 2017g: 37 (cat., distr., Siberia).

Material examined. Russia: EASTERN SIBERIA (Khakass Rep.: 20 km SW Abakan, Izykhskie Kopi [IBSS]; Tuva Rep.: 31 km NEE Erzin, Erzin River [IBSS]; Yakutsk Rep.: Markha near Yakutsk [ZIN]).

Distribution. RUSSIA: European part (South: Astrakhan Prov.); Eastern Siberia (Khakass Rep., Tuva Rep., Yakutsk Rep., Zabaikalskii Terr.). South-East Palaearctic: from southern Russia (Volga) to central Asia, Mongolia and China (ROSA et al. 2014).

****Philoctetes punctulatus* (DAHLBOM, 1854)**

Omalus punctulatus DAHLBOM, 1854: 35. Syntypes (sex unknown); France: Landes; Italy: Sicily (Lund) (examined). TRAUTMANN 1927: 43 (biol., cat., descr., distr., ecol., Caucasus).

Ellampus (Ellampus) punctulatus: MOCSÁRY 1889: 87 (key), 89 (descr., distr., Caucasus); MOCSÁRY 1890a: 58 (cat., Caucasus).

Ellampus punctulatus: BISCHOFF 1913: 9 (cat., Caucasus).

Omalus (Omalus) punctulatus: LINSENMAIER 1959: 15 (key), 18 (descr., distr., Caucasus); MÓCZÁR 1967a: 31 (descr., key, Caucasus).

Distribution. Caucasus. Southern Europe, northern Africa, Turkey, Iran (ROSA 2005; ROSA et al. 2013).

Host. Crabronidae: *Trypoxylon figulus* (LINNAEUS) (TRAUTMANN 1927).

***Philoctetes pylnovi* (SEMENOV, 1932)**

Ellampus (Ellampus) pylnovi SEMENOV, 1932: 35. Holotype ♂; Uzbekistan: Termez (St. Petersburg) (examined). ROSA et al. 2017a: 77 (cat., typ., Uzbekistan), 217 (Pl. 215).

Philoctetes pylnovi: ROSA et al. 2017a: 77; ROSA et al. 2017b: 132 (cat., Ural); ROSA et al. 2017d: 4 (cat., distr., Orenburg Prov.: Ural River).

Distribution. RUSSIA: Ural (Orenburg Prov.). Uzbekistan.

***Philoctetes sareptanus* (MOCSÁRY, 1889)**

Ellampus (Ellampus) sareptanus MOCSÁRY, 1889: 83. Holotype ♀, Russia: Sarepta (Vienna) (examined). MOCSÁRY 1890a: 58 (cat., southern Russia).

Ellampus schulthessi MOCSÁRY, 1890b: 50. Holotype ♀. Russia: Sarepta (Zurich).

Ellampus schulthessi var. *subauratus* MOCSÁRY, 1890b: 51. Holotype ♀. Russia: Amur, Raddefka [= Evreyskaya automomous Prov.: Radde] (Zürich).

Ellampus sareptanus: DU BUYSSON in ANDRÉ 1892: 121 (cat., descr., key, Sarepta); DALLA TORRE 1892: 15 (cat., Russia); BISCHOFF 1913: 9 (cat., southern Russia).

Ellampus schulthessii (!): DALLA TORRE 1892: 15 (cat., Russia).

Ellampus schulthessii (!) *subauratus*: DALLA TORRE 1892: 15 (cat., Siberia).

Ellampus sareptanus var. *schulthessi*: DU BUYSSON in ANDRÉ 1892: 121 (cat., descr., key, Sarepta); BISCHOFF 1913: 9 (cat., southern Russia).

Ellampus sareptanus var. *subauratus*: BISCHOFF 1913: 9 (cat., Siberia).

Omalus sareptanus: TRAUTMANN 1927: 31 (key), 35 (cat., descr., distr., southern Russia, Siberia); NIKOL'SKAYA 1978: 63 (key, southern and eastern European part of USSR); ZVANTSOV

1987: 63 (cat., North Ossetian Rep.: Nar); BUGANIN et al. 2000: 146 (cat., Ulyanovsk Prov.: Novospassky Distr., vill. Surulovka); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); KRIVONOGOVA & RUDOISKATEL 2004: 109 (cat., ecol., Sverdlovsk Prov.); RUDOISKATEL 2006: 281 (cat., Sverdlovsk Prov.: Visimsky State Reserve); VINOKUROV 2006d: 19 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 139 (cat., Stavropol Terr.: Novozavedennoe, distr., southern Russia, Siberia); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); RUDOISKATEL 2008b: 212 (cat., Chelyabinsk Prov.: East Ural Nature Reserve); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); RUDOISKATEL 2011a: 165 (cat., Sverdlovsk Prov.); RUDOISKATEL et al. 2011: 29 (cat., Sverdlovsk Prov.: vill. Kluch).

Omalus sareptanus var. *subauratus*: TRAUTMANN 1927: 36 (descr., distr., Siberia).

Omalus sareptanus var. *inflammatus* MOCSÁRY, 1890: TRAUTMANN 1927: 36 (descr., distr., Sarepta).

Omalus (Omalus) Horwathi (!) var. *schulthessi*: LINSENMAIER 1951: 10 (descr., Sarepta), 95 (cat.).

Omalus (Omalus) Horwathi (!) var. *sareptana* (= *subaurata*): LINSENMAIER 1951: 10 (descr., Sarepta), 95 (cat.).

Omalus (Omalus) sareptanus: LINSENMAIER 1959: 15 (key), 20 (descr., distr., key, Southern Russia); BRUSTILO & MARTYNOV 2009: 47 (cat., distr., southern Russia, Siberia).

Pseudomalus sareptanus: SHIBAIEV 2006b: 93 (cat., Penza Prov.: Middle Volga).

Philoctetes sareptanus: VINOKUROV 2009a: 83 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); ROSA et al. 2013: 13 (cat., distr., southwest European Russia, Far East); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); RUCHIN & ANTROPOV 2016: 399 (cat., Mordovian Rep.: Mordovia State Natural Reserve); ROSA et al. 2017b: 132 (cat., European part: Centre, East, South, North Caucasus; Ural; Eastern Siberia: Irkutsk Prov.; Far East: Khabarovsk Terr.); ROSA et al. 2017g: 37 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Mordovian Rep., Penza Prov. East: Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: North Ossetian Rep., Stavropol Terr.); Ural (Chelyabinsk Prov., Sverdlovsk Prov.); Far East (Evreyskaya autonomous Prov.); Eastern Siberia (Irkutsk Prov. and/or Buryat Rep.). Trans-Palaeartic, from southern Russia and Iran (ROSA et al. 2013) to Siberia.

R e m a r k s . Types of *Ellampus schulthessi* MOCSÁRY, *Ell. sareptanus* var. *inflammatus* MOCSÁRY and *Ell. subauratus* MOCSÁRY were not found in Zurich (Rod Eastwood, in litt.). A future examination of these specimens could change the current interpretation of these taxa. *Ell. sareptanus* var. *inflammatus* has been considered as subspecies of *Omalus horvathi* by LINSENMAIER (1959).

***Philoctetes stackelbergi* (SEMENOV, 1932)**

Ellampus (Ellampus) stackelbergi SEMENOV, 1932: 38. Holotype ♂; Russia: Altai, Chuyskaya steppe (St. Petersburg) (examined). ROSA et al. 2017a: 79 (cat., typ., Chuyskaya steppe, Kosh-Agach), 219 (Pl. 220).

Philoctetes stackelbergi: KIMSEY & BOHART 1991: 257 (cat., Siberia, Altai); ROSA et al. 2017g: 37 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Western Siberia (Altai Rep.).

***Philoctetes truncatus* (DAHLBOM, 1831) (Fig. 27)**

Chrysis truncata DAHLBOM, 1831: 35. Lectotype ♂ (designated by MORGAN 1984: 10); Sweden (Lund).

Ellampus truncatus: EVERSMANN 1858: 549 (cat., descr., Ural); ASSMUSS 1862: 266 (cat., ecol., Moscow Prov.: Wereja); RADOSZKOWSKI 1877: 4 (cat., descr., distr., Caucasus); RADOSZKOVSKY 1880: 141 (cat., Caucasus).

Ellampus truncatus: MOCSÁRY 1882: 23 (key), 26 (cat., destr., distr., Caucasus); DALLA TORRE 1892: 18 (cat., Caucasus).

Ellampus (Ellampus) truncatus: MOCSÁRY 1889: 94 (key), 95 (descr., distr., Moscow, Ural, Kazan, Caucasus); MOCSÁRY 1890a: 59 (cat., Caucasus).

Omalus truncatus: TRAUTMANN 1927: 31 (key), 36 (cat., descr., distr., Caucasus, Ural); BALTHASAR 1946: 229 (cat., distr., Caucasus, Ural); BENNO 1950: 23 (key), 27 (cat., distr., Caucasus); BALTHASAR 1953: 128 (descr., Caucasus); BALTHASAR 1954: 71 (Fig. 16), 82 (key), 88 (descr., Caucasus, Ural); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.).

Chrysellampus truncatus: NIKOL'SKAYA 1978: 63 (key, southern and central European part of USSR); ZVANTSOV 1988: 82 (biol., cat., Moscow Prov.: Vereya); KOCHETKOV et al. 2008: 258 (cat., ecol., Ryazan Prov.: Krasnyi Kholm, Oka River); KOCHETKOV 2012: 240 (cat., ecol., Ryazan Prov.: Krasnyi Kholm).

Philoctetes truncatus: KURZENKO & LELEJ 2007: 1004 (cat., Irkutsk Prov.); PAUKKUNEN et al. 2014: 13 (cat., distr., Russian Far East); ROSA et al. 2017b: 132 (cat., European part: Centre, East; Ural; Western Siberia: Tomsk Prov.; Eastern Siberia: Irkutsk Prov., Krasnoyarsk Terr., Tuva Rep.).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Yaroslavl Prov.: Yaroslavl [ZIN]); URAL (Orenburg Prov.: B. Dneprovka [ZIN]); WESTERN SIBERIA (Tomsk Prov.: Tomsk [ZIN]); EASTERN SIBERIA (Krasnoyarsk Terr.: Minusinsk [ZIN]; Minusinsk, Malaya Minusa River [IBSS]; Tuva Rep.: W of Ujukskiy Mountains, Kamennyi River valley [GLA]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Moscow Prov., Ryazan Prov., Yaroslavl Prov.; East: Tatar Rep.); Ural (Orenburg Prov.); Western Siberia (Tomsk Prov.); Eastern Siberia (Irkutsk Prov., Irkutsk Prov. and/or Buryat Rep., Krasnoyarsk Terr., Tuva Rep.); Far East. Caucasus. Trans-Palaeartic, from Europe and northern Africa to Russian Far East (PAUKKUNEN et al. 2014).

H o s t . Crabronidae: *Diodontus tristis* (VANDER LINDEN, 1829) (HOOP 1961; Saure 1998; JACOBS & KORNILCH 2007; PAUKKUNEN et al. 2015).

11. Genus *Prochridium* LINSENMAIER, 1968

Prochridium LINSENMAIER, 1968: 21 (as subgenus of *Hedychridium* ABEILLE DE PERRIN, 1878), upgraded to genus rank by KIMSEY & BOHART 1991: 258. Type species: *Holopyga hirtipes* MOCSÁRY, 1902, by monotypy and original designation.

R e m a r k s . Our colleague Mikhail Mokrousov recently collected a large number of specimens of underscribed species of *Prochridium* LINSENMAIER in Southern Russia. These specimens are currently under revision and distributional data will be published separately.

12. Genus *Pseudomalus* ASHMEAD, 1902

Pseudomalus ASHMEAD, 1902: 229. Type species: *Omalus semicircularis* AARON, 1885 [= *Pseudomalus janus* (HALDEMAN, 1844)], by monotypy and original designation.

Pseudomalus agnolii ROSA, 2017 (Fig. 13)

Pseudomalus agnolii ROSA in ROSA et al. 2017d: 4. Holotype ♀; Russia: Tver Prov., Shchelkovo vill. (St. Petersburg) (examined), 5 (Fig. 1B), 7 (Figs 2A–F). ROSA et al. 2017b: 132 (cat., European part: Centre).

D i s t r i b u t i o n . RUSSIA (European part: Tver Prov.).

Pseudomalus auratus auratus (LINNAEUS, 1758) (Fig. 11)

Spheg aurata LINNAEUS, 1758: 572. Holotype ♀; Europe (London-Linnean Society).

Omalus auratus: EVERSMAAN 1858: 546 (Kazan Prov., Orenburg Prov.); ASSMUSS 1862: 265 (cat., ecol., Moscow); RADOSZKOVSKY 1866: 4 (cat., Kazan, Orenburg); WOLDSTEDT 1875: 344 (cat., Petrosawodsk); RADOSZKOWSKI 1877: 2 (cat., descr., distr., Orenburg); MOCSÁRY 1878: 198 (cat., Siberia); RADOSZKOVSKY 1880: 141 (cat., Caucasus); BECKER 1880: 152 (cat., Sarepta); TRAUTMANN 1927: 32 (key), 38 (biol., cat., descr., distr., Caucasus, Siberia); ATANASSOV 1940: 206 (cat., distr., Caucasus, Siberia, Kamchatka); HAUPT 1957: 45 (cat., descr., key, Kamchatka); NIKOL'SKAYA 1978: 52 (tab. 23: Figs 1, 18), 64 (key, European part of USSR); ZVANTSOV 1988: 83 (biol., cat., Moscow Prov.); KUZNETSOVA 1990: 8 (cat., Lipetsk Prov.: Galich'ya Gora, Don River, Pluschanka); RUDOISKATEL 1999a: 54 (cat., Chelyabinsk Prov.: Ilmen State Reserve); BUGANIN et al. 2000: 146 (cat., Ulyanovsk Prov.: all Districts, env. Ulyanovsk); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); HUMALA 2004: 86 (cat., Karelia: Shizhnyia); STOJKO & POLUMORDVINOV 2004: 54 (cat., Penza Prov.: Akhuny, Barkovka); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); KIZILOV 2007: 84 (cat., Tomsk Prov.: Tomsk; Kozhevnikovskiy Distr.: env. vill. Kireevskoe); VINOKUROV 2007c: 139 (cat., Stavropol Terr.: Novozavedennoe, distr., Siberia); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); HA et al. 2008: 77 (cat., distr., Caucasus, Siberia); BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve); KOCHETKOV et al. 2008: 258 (cat., Ryazan Prov.: Bednaya gora); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); RUDOISKATEL 2011a: 165 (cat., Sverdlovsk Prov.); RUDOISKATEL et al. 2011: 29 (cat., Sverdlovsk Prov.: vill. Kluch); KOCHETKOV 2012: 240 (cat., Ryazan Prov.: Bednaya gora).

Elampus auratus: BECKER 1865: 572 (cat., Sarepta); BECKER 1880: 151 (cat., Sarepta).

Omalus curtiventris TOURNIER, 1879: 88. Syntypes ♂, ♀; Russia: Sarepta (Geneva); TRAUTMANN 1927: 39 (descr., distr., Sarepta, synonym of *Ps. auratus*); KIMSEY & BOHART 1991: 265 (synonym of *Ps. auratus*).

Ellampus auratus: MOCSÁRY 1882: 23 (key), 29 (cat., destr., distr., Caucasus); MANTERO 1905: 50 (cat., distr., Caucasus); HELLEN 1920: 207 (cat., descr., Kirjavalaks [= Kirjavalhti]; lac. Jänisjärvi [= Yanisjärvi Lake], Jaakkima close to Impilaks [= Lagoda Lake], Petrozavodsk); VORONTSOVKIJ 1930: 68 (cat., Orenburg Prov.); GUSSAKOVSKIJ 1948: 731 (cat., key, European part of USSR); PLAVIL'SHCHIKOV 1950: 399 (cat., European part of USSR); TSUNEKI 1953b: 22 (cat., distr., Caucasus, Siberia); MAMAIEV et al. 1976: 237 (cat., European part of USSR); BLAGOVESCHENSKAYA 1990: 6 (cat., Ulyanovsk Prov.); BLAGOVESCHENSKAYA 1994: 83 (cat., ecol., Ulyanovsk Prov.: Yasachnaya, Spechnevka, Tashla).

- Ellampus (Ellampus) auratus*: MOCSÁRY 1889: 87 (key), 90 (descr., distr., Caucasus); MOCSÁRY 1890a: 59 (cat., Caucasus).
- Ellampus (Ellampus) curtiventris*: MOCSÁRY 1889: 87 (key), 902 (descr., distr., Sarepta); MOCSÁRY 1890a: 59 (cat., southern Russia).
- Ellampus curtiventris*: DALLA TORRE 1892: 12 (cat., Russia); DU BUYSSON in ANDRE 1896: 707 (descr., Sarepta); BISCHOFF 1913: 8 (cat., southern Russia).
- Ellampus testaceicornis* DU BUYSSON in ANDRE, 1892: 144; Holotype (sex unknown); Russia: Kazan (Paris) (examined). BISCHOFF 1913: 9 (cat., East Russia).
- Omalus testaceicornis*: TRAUTMANN 1927: 44 (cat., descr., distr., East Russia, possible rufinism of *Ps. auratus*).
- Omalus (Omalus) auratus*: LINSSENMAIER 1959: 17 (key, descr., Palaearctic Region: Russian material examined in the Linsenmaier collection: one specimen collected at Sarepta), 196 (Figs 1–4), 185 (cat.); MINGO 1979: 200 (key), 204 (cat., descr., distr., Caucasus).
- Omalus (Pseudomalus) auratus*: BOHART & CAMPOS 1960: 238 (key), 241 (biol., cat., descr., Caucasus, Siberia), 243 (Fig. 21).
- Ellampus aurata* (!): LEVI et al. 1974: 265 (cat., Kirov Prov.: Goltzy, Kirov, Volma).
- Pseudomalus testaceicornis*: KIMSEY & BOHART 1991: 269 (cat., Kazan).
- Pseudomalus* (!) *auratus*: SHIBAEV 2006a: 110 (cat., ecol., Penza Prov.: Akhuny, Zarechny, Stepanovka); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga).
- Pseudomalus auratus*: KURZENKO & LELEJ 2007: 1004 (cat., European part, Caucasus); HUMALA 2008: 86 (cat., Shizhnya island); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); RUCHIN et al. 2009: 165 (cat., Mordovian Rep.: Ichalkovsky); VINOKUROV 2009a: 83 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); PAUKKUNEN et al. 2014: 11 (cat., distr., Russian Fennoscandia); JAKOVLEV et al. 2015: 300 (cat., Karelian Rep.: Tolvuya); RUCHIN & ANTROPOV 2016: 400 (cat., Mordovian Rep.: Mordovia State Natural Reserve); ROSA et al. 2017b: 132 (cat., European part: North, North-West, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai, Tomsk Prov.; Eastern Siberia: Buryat Rep., Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep.; Far East: Kamchatka, Primorskii Terr.); ROSA et al. 2017g: 37 (cat., distr., Siberia).
- M a t e r i a l e x a m i n e d .** Russia: EUROPEAN PART (North-West: Leningrad Prov.: Peterhof [ZIN], Lakhtha [ZIN], Zamanilovka [ZIN]; Pskov Prov.: Kharlamova Gora, env. Gdov [ZIN]; Centre: Belgorod Prov.: Grajvoronskij [ZIN]; Kursk Prov.: env. Kursk [ZIN]; Mordovian Rep.: Mordovskaya Reserve [MMC]; Nizhny Novgorod Prov. [MMC]; Vladimir Prov. [MMC]; Yaroslavl Prov.: Berditsino [ZIN], Zhedionovo [ZIN]; East: Chuvash Rep.: Zavolzh'e [MMC]; Kirov Prov.: Kirov [ZIN], Urzhum [= Vyatskaya Gubernia] [ZIN]; South: Astrakhan Prov. [MMC, ZIN]; Rostov Prov.: Taganrog [ZIN]; Volgograd Prov. [MMC], Sarepta [NMLS, ZIN]; North Caucasus: Adygei Rep.: Maykop [ZIN]; Krasnodar Terr. [MMC]; Sochi [ZIN], Sochi Lazarevskoye [ZIN], Aul Kirova [ZIN]; Stavropol Terr.: Essentuki [ZIN]; Crimea: Alupka [ZIN], Sevastopol [ZIN], Simferopol [ZIN]); URAL (Bashkir Rep.: Birsk [ZIN]; Chelyabinsk Prov. [PRC]; Kurgan Prov. [PRC]; Orenburg Prov.: env. Orenburg [PRC, ZIN]; Perm Prov. [ZIN]; Sverdlovsk Prov. [PRC]); WESTERN SIBERIA (Altai Terr. [MMC]; Altai Rep.: 2 km SE Chagan-Uzun, Balkhash River [IBSS]; Biysk [ZIN], Teletskoe Lake [ZIN]); EASTERN SIBERIA (Irkutsk Prov.: Irkutsk [ZIN], vill Padun', Verkhnyaya Tunguzka River [= Angara River] [ZIN]; Khakass Rep.: 14 km SSW Abakan, Belyi Yar, Abakan River [IBSS]; 21 km SW Abakan, Izykhskie Kopi [IBSS]; Tuva Rep.: 20 km SSW Erzín, Tore-Khol' Lake [IBSS]; 27 km SSW Erzín, Tore-Khol Lake

[IBSS]; 13 km SW Samagaltai, Dyttyg-Khem River [IBSS]; Shuurmak, Shuurmak River [IBSS]; W of Ujukskyi Mountains, Kamennyi River valley, 1000 m [GLA]); Krasnoyarsk Terr.: Minusinsk, Malaya Minusa River [IBSS]); FAR EAST (Primorskii Terr. [ZIN]).

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov., Pskov Prov.; Centre: Belgorod Prov., Kursk Prov., Lipetsk Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov., Vladimir Prov., Yaroslavl Prov.; East: Chuvash Rep.; Kirov Prov., Tatar Rep., Ulyanovsk Prov.; South: Astrakhan Prov., Rostov Prov., Volgograd Prov.; North Caucasus: Adygei Rep., Krasnodar Terr., Stavropol Terr.; Crimea:); Ural (Bashkir Rep., Chelyabinsk Prov., Kurgan Prov., Orenburg Prov., Perm Prov., Sverdlovsk Prov.); Western Siberia (Altai Terr., Tomsk Prov.); Eastern Siberia (Irkutsk Prov., Irkutsk Prov. and/or Buryat Rep., Khakass Rep., Krasnoyarsk Terr., Tuva Rep.); Far East (Kamchatka Terr., Primorskii Terr.). Trans-Palaeartic and Holarctic, from Europe and northern Africa to China, Korea and Japan (ROSA et al. 2014). Accidentally introduced into North America (BOHART & KIMSEY 1982).

Remarks. The type of *Ps. testaceicornis* is badly damaged: head and antennae are lost due to a dermestid attack. We suggest to consider *Ps. testaceicornis* as a simple variation of *Ps. auratus* (LINNAEUS) as TRAUTMANN (1927) already did.

Host. Crabronidae: wasps that prey on aphids, e.g. *Passaloecus brevilabris* WOLF, *P. corniger* SHUCKARD, *P. eremita* KOHL, *P. gracilis* (CURTIS), *P. insignis* (VANDER LINDEN), *P. monilicornis* DAHLBOM, *P. pictus* RIBAUT, *P. singularis* DAHLBOM, *P. turionum* DAHLBOM, *Pemphredon inornata* SAY, *P. lethifer* (SHUCKARD), *P. lugens* DAHLBOM, *P. lugubris* (FABRICIUS) and *P. rugifer* (DAHLBOM) (BENNO 1957; VAN LITH 1958; BRECHTEL 1986; STRUMIA 1997; BLÖSCH 2002; ROSA 2006; PAUKKUNEN et al. 2015), but also *Diodontus tristis* (VANDER LINDEN), which is a soil-nesting species (BLÖSCH 2002). Crabronids, such as species of *Rhopalum* STEPHENS, *Trypoxylon* LATREILLE and *Crabro* FABRICIUS, *Philanthus triangulum* (FABRICIUS) and *Cerceris ornata* (FABRICIUS) (TRAUTMANN 1927) are very likely erroneous, because their prey do not consist of aphids and they nest in different sites where *P. auratus* is not found. Other records for different families (Megachilidae) or Tenthredinidae are not reliable (TRAUTMANN 1927; ZVANTSOV 1988). Females oviposit in aphids before they have been captured and brought to the nest by the host (PAUKKUNEN et al. 2015).

***Pseudomalus auratus nigridorsus* (TSUNEKI, 1953)**

Ellampus auratus f. *nigridorsus* TSUNEKI, 1953: 54. Syntypes ♂, ♀; Japan, Korea, Manchuria (Tsukuba).

Material examined. Russia: EASTERN SIBERIA (Irkutsk Prov.: 15 km E of Ust-Ordy, Ordinsk [IBSS]; Yakutsk Rep.: Elanskoe [IBSS]; vill. Megino-Aldan, Aldan River [IBSS]); FAR EAST (Khabarovsk Prov.: Gorin River [IBSS]).

Distribution. RUSSIA: Eastern Siberia (Irkutsk Prov., Yakutsk Rep.); Far East (Khabarovsk Prov.). China, Korea, Japan (Hokkaido, Sapporo) (Tsuneki 1970).

Remarks. KIMSEY & BOHART (1991) considered *Ps. auratus nigridorsus* Tsuneki an invalid name, yet it was correctly described.

***Pseudomalus auratus viridiventris* (MOCSÁRY, 1890)**

Ellampus (*Ellampus*) *auratus* var. *viridiventris* MOCSÁRY, 1890b: 50. Lectotype (sex unknown) (designated by Móczár 1964b: 438); Dagestan (Zurich). KIMSEY & BOHART 1991: 266 (synonym of *Ps. auratus*, Caucasus).

Omalus auratus var. *viridiventris*: TRAUTMANN 1927: 39 (descr., distr., Caucasus); MÓCZÁR 1967a: 33 (cat., descr., key, Caucasus).

Pseudomalus auratus viridiventris: VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014d: 92 (cat., Adygei Rep.: Maykop); ROSA et al. 2017b: 132 (cat., European part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European Part (North Caucasus: Adygei Rep., Dagestan Rep., Karachayevo-Cherkess Rep.). Caucasus.

***Pseudomalus bergi* (SEMENOV, 1932)**

Ellampus bergi SEMENOV, 1932: 43. Holotype ♂; Kazakhstan: Dzhungar Alatau Mts., Kora River [near Tekeli] (St. Petersburg) (examined). ROSA et al. 2017a: 71 (cat., typ. Kazakhstan), 206 (Pl. 192).

Pseudomalus bergi (SEMENOV, 1932): VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2017b: 132 (cat., European part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European Part (North Caucasus: Stavropol Terr.). Iran (East-Azarbaijan). South-East Kazakhstan (SEMENOV 1932).

***Pseudomalus corensis* (UCHIDA, 1927) (Fig. 18)**

Philoctetes punctatus var. *corensis* UCHIDA, 1927: 153. Holotype ♂; Korea: Seiryori (descr.) (Hokkaido).

Pseudomalus nipponicus: ROSA et al. 2017b: 133 (cat., East Siberia: Krasnoyarsk Terr.; Far East: Primorskii Terr.); ROSA et al. 2017d: (cat., distr., Krasnoyarsk Terr.: 20 km SE Minusinsk, Nichka River; Primorskii Terr.: 20 km W Spassk, Khanka Lake); ROSA et al. 2017g: 37 (cat., distr., Siberia).

Pseudomalus corensis: ROSA 2018b: 11 (tax.).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Krasnoyarsk Terr.); Far East (Primorskii Terr.). Japan (Hokkaido).

***Pseudomalus cupratus* (MOCSÁRY, 1889) (Fig. 12)**

Ellampus (*Ellampus*) *auratus* var. *cupratus* MOCSÁRY, 1889: 92. Holotype ♀; Croatia: Dalmatia (Budapest) (examined).

Pseudomalus cupratus: ROSA et al. 2017b: 132 (cat., European part: Centre, Crimea); ROSA et al. 2017d: 8 (cat., distr., tax., Belgorod Prov.: Khotmizhsk; Crimea: Kara-Dag).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Belgorod Prov.; Crimea). Southern Europe.

R e m a r k s . STRUMIA (1996) described this taxon as *Pseudomalus meridianus*, junior subjective synonym of *Ps. cupratus* (MOCSÁRY) according to ROSA et al. (2017h).

***Pseudomalus grandis* (TSUNEKI, 1950) (Fig. 16)**

Ellampus grandis TSUNEKI, 1950: 61. Holotype ♀; Japan: Honshu, Tochigi Prefecture (Sapporo, according to KIMSEY & BOHART 1991).

Pseudomalus grandis: ROSA et al. 2017b: 132 (cat., Far East: Primorskii Terr.); ROSA et al. 2017d: 4 (cat., distr., Primorskii Terr.: Lazovy), 5 (Fig. 1A).

D i s t r i b u t i o n . RUSSIA: Far East (Primorskii Terr.). Japan.

***Pseudomalus punctatus* (UCHIDA, 1927) (Fig. 17)**

Philoctetes punctatus UCHIDA, 1927: 152. Syntypes ♂, ♀; Japan: Hokkaido and Honshu (Hokkaido, according to KIMSEY & BOHART 1991).

Pseudomalus punctatus: ROSA et al. 2017b: 133 (cat., East Siberia: Khakass Rep., Krasnoyarsk Terr., Yakutsk Rep.; Far East: Amur, Kamchatka, Sakhalin, Primorskii Terr.); ROSA et al. 2017f: 32 (cat., distr., Khakass Rep.: 14 km SSW Abakan, Belyi Yar, Abakan River; Krasnoyarsk Terr.: Minusinsk; Minusinsk, Malaya Minusa River; Yakutsk Rep.: 50 km SSW Yakutsk, Oktemtsy; 60 km NE Amga, Mikhailovka; Pokrovsk, Lena River; Megino-Aldan; Sakhalin Prov.: Kunashir Isl., 11 km N Golovnino; South Sakhalin; Primorskii Terr.: Anisimovka; Novitskoe; Barabash-Levada; Novogeorgievka; 7 km E Khasan; Khasan; Blagodatnoe; 30 km N Ternei; Novokachalinsk; 20 km SE Spassk; Spassk; Chernigovskiy distr., Dmitrievka; 30 km S Lazo, Benevskoe; 10 km NE Vladivostok; Brovniichi, Tigrovaya River; Nakhodka; Amur Prov.: Arkhara; Kamchatka Terr.: Mil'kovo; Kozyrevsk; 8 km S Kozyrevsk; 10 km S Kozyrevsk).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Khakass Rep., Krasnoyarsk Terr., Yakutsk Rep.); Far East (Amur Prov., Kamchatka Terr., Primorskii Terr., Sakhalin Prov.). Korea and Japan (KIMSEY & BOHART 1991).

***Pseudomalus pusillus pusillus* (FABRICIUS, 1804) (Fig. 19)**

Chrysis pusilla FABRICIUS, 1804: 176. Syntypes [not holotype]; Austria (Copenhagen, Vienna) (examined).

Omalus pusillus EVERSMANN, 1858: 546 (Ural); BECKER 1865: 572 (cat., Sarepta); RADOSZKOVSKY 1866: 4 (cat., Kazan, Saratov, Sarepta, Orenburg, Caucasus); RADOSZKOWSKI 1877: 2 (cat., descr., distr., Volgo-Ural, Caucasus); RADOSZKOVSKY 1880: 141 (cat., Caucasus); TRAUTMANN 1927: 32 (key), 37 (cat., descr., distr., Caucasus); ATANASSOV 1940: 206 (cat., Russia); BALTHASAR 1946: 229 (biol., cat., distr., Caucasus); BENNO 1950: 24 (key), 28 (cat., distr., Caucasus); BALTHASAR 1953: 128 (descr., Caucasus); BALTHASAR 1954: 71 (Fig. 17), 82 (key), 89 (descr., Caucasus, Siberia); ATANASSOV 1962: 114 (cat., Caucasus); NIKOL'SKAYA 1978: 52 (tab. 23: Figs 10, 17), 64 (key, south and east of the European part of USSR); ZVANTSOV 1988: 83 (biol., cat., Moscow Prov.: Nikolina Gora); BUGANIN et al. 2000: 146 (cat., Ulyanovsk Prov.); MOKROUSOV 2002: 142 (cat., Nizhny Novgorod: Kerzhensky Nature Reserve); STOJKO & POLUMORDVINOV 2004: 54 (cat., Penza: Neverkinsky Distr.: Staraya Andreevka); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 139 (cat., Stavropol Terr.: Novozavedennoe); KOCHETKOV et al. 2008: 258 (cat., Ryazan Prov.: env. Tyshlovo); KOCHETKOV 2012: 240 (cat., Ryazan Prov.: env. Ryazan).

Elampus minutus DAHLBOM, 1854: BECKER 1865: 572 (cat., Sarepta); BECKER 1880: 151 (cat., Sarepta).

- Omalus pusillum* (!): BECKER 1880: 152 (cat., Sarepta).
- Ellampus pusillus*: MOCSÁRY 1882: 23 (key), 28 (cat., destr., distr., Caucasus); DE STEFANI 1888: 117 (cat., descr., distr., key, Caucasus, Russia); RADOSZKOWSKI 1889: 8 (descr., Crimea, Orenburg, Caucasus), tab. I (Figs 7A–6B); DU BUYSSON in ANDRÉ 1892: 126 (cat., descr., key, Russia), pl. II (Fig. 11C), pl. XI (Figs 1–2); BISCHOFF 1910: 437 (cat., Sarepta, southern Russia); BISCHOFF 1913: 9 (cat., Caucasus); KOHL 1913: 12 (cat., Walouyki [= Livenka]); MAIDL 1922: 102 (cat., distr., Caucasus); GUSSAKOVSKIJ 1948: 731 (cat., key, European part of USSR); PLAVIL'SHCHIKOV 1954: 121 (cat., Mordovian State Nature Reserve); LEVI et al. 1974: 265 (cat., Kirov Prov.: Kirov); BLAGOVESCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); BLAGOVESCHENSKAYA 1994: 83 (cat., ecol. Ulyanovsk Prov.: Tiinsk).
- Ellampus (Ellampus) pusillus*: MOCSÁRY 1889: 95 (key), 99 (descr., distr., Ural, Kazan, Saratov, Sarepta, Orenburg, Caucasus); MOCSÁRY 1890a: 59 (cat., Caucasus); SEMENOV 1932: 32 (distr., key, Uralsk).
- Ellampus (Ellampus) auratus* var. *virescens* MOCSÁRY, 1889: 91. Lectotype (sex unknown) (designated by MÓCZÁR 1964b: 436); Russia: Sarepta (Zurich). MOCSÁRY 1890a: 59 (cat., southern Russia); DU BUYSSON in ANDRÉ 1892: 150 (cat., descr., key, Russia); DALLA TORRE 1892: 10 (cat., Russia); KIMSEY & BOHART 1991: 266 (synonym of *Ps. auratus*, Sarepta); ROSA et al. 2017h: 85 (cat., typ., Sarepta). Junior subjective synonym of *Pseudomalus auratus* (LINNAEUS, 1758) according to MÓCZÁR 1964b: 436.
- Ellampus pusillus* var. *schmiedeknechti* MOCSÁRY, 1889: DU BUYSSON in ANDRÉ 1896: 705 (cat., Caucasus).
- Ellampus auratus* var. *virescens*: BISCHOFF 1913: 8 (cat., southern Russia).
- Omalus auratus* var. *virescens*: TRAUTMANN 1927: 39 (descr., distr., Sarepta); MÓCZÁR 1964b: 436 (lectotype designation: Sarepta).
- Ellampus (Ellampus) borodini* SEMENOV, 1932: 32. Holotype ♂; Kazakhstan: Uralsk (St. Petersburg) (examined). ROSA et al. 2017a: 72 (cat., typ., syn., Kazakhstan), 206 (Pl. 194).
- Ellampus ruthenus* SEMENOV, 1932: 39. Lectotype ♂ (designated by KIMSEY 1986: 107); Kazakhstan: Shipovo [currently Taskala] (St. Petersburg) (examined) (paratype localities: Volgograd Prov.: Nicolaevsk; Saratov Prov.: Zelenyi; Orenburg Prov.). ROSA et al. 2017a: 78 (cat., typ., Shipovo [currently Taskala]), 217 (Pl. 216).
- Omalus (Omalus) pusillus*: LINSSENMAIER 1959: 19 (key, descr., West Asia: Russian material examined in the Linsenmaier collection: 5 specimens collected at Sarepta), 185 (cat.); MINGO 1979: 201 (key), 210 (cat., descr., distr., Russia); BRUSTILO & MARTYNOV 2009: 47 (biol., cat., distr., Caucasus, South Siberia).
- Omalus (Omalus) auratus* var. *virescens*: MINGO 1979: 205 (cat., descr., distr., southern Russia).
- Pseudomalus pusillus*: ROSA 2002: 98 (ecol.), 108 (cat., distr., south-western Russia); SHIBAEV 2006a: 110 (cat., Penza Prov.: Akhuny); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); KURZENKO & LELEJ 2007: 1004 (cat., Irkutsk Prov., Chita, Yakutsk Rep.); RUCHIN et al. 2009: 165 (cat., Mordovia); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); MOKROUSOV et al. 2013: 195 (cat., Mordovia Nature Reserve); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); PAUKKUNEN et al. 2014: 11 (cat., distr., Russian Far East); ROSA et al. 2017b: 133 (cat., European part: North, North-West, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai, Omsk Prov.; Eastern Siberia: Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep., Yakutsk Rep., Zabaikalskii Terr.); ROSA et al. 2017g: 37 (cat., distr., Siberia).

Pseudomalus pucillus (!): VINOKUROV 2014d: 92 (cat., Adygei Rep.: Maykop).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Belgorod Prov.: Novyi Oskol [ZIN]; Borisovka [ZIN]; Mordovian Rep. [MMC]; Nizhny Novgorod Prov. [MMC]; Yaroslavl Prov.: Yaroslavl [ZIN]; East: Saratov Prov. [ZIN]; Tambov Prov. [ZIN]; South: Kalmyk Rep. [MMC]; Rostov Prov. [ZIN]; Novocherkassk [ZIN], Don [ZIN], Taganrog [ZIN], Bol'shaya Krepkaya River [ZIN]; Volgograd Prov. [MMC]; Sarepta [ZIN]; North Caucasus: Krasnodar Terr. [MMC]; Stavropol Terr.: Stavropol [ZIN], Alexandrovo [ZIN], Sharakhasun [ZIN]; Crimea: Alma [ZIN], Sevastopol [ZIN], Simferopol [ZIN]); URAL (Bashkir Rep.: Matveevka [ZIN]; Kurgan Prov. [PRC]; Orenburg Prov.: Orenburg [ZIN, PRC]); WESTERN SIBERIA (Altai Rep.: 12 km SE Aktash, Chuya River [IBSS]; 5 km SE Chagan-Uzun, Tudtuyaryk River [IBSS]; Omsk Prov.: Omsk [ZIN]; Altai Terr.: Barnaul [ZIN]; Severnaya steppe, Kulunda [ZIN]); EASTERN SIBERIA (Irkutsk Prov.: Melnikovo env. Irkutsk [ZIN], vill Padun', Verkhnyaya Tunguzka River [= Angara] [ZIN]; 15 km E Ust'-Ordynskiy [IBSS]; Yakutsk Rep.: vill. Namskoe [ZIN]; Khakass Rep.: Zhemchuzhnyi, Shira Lake [IBSS]; Tuva Rep.: 20 km SSW Erzin, Tore-Khol' Lake [IBSS]; 13 km SW Samagaltai, Dyttyg-Khem River [IBSS]; 27 km SSW Erzin, Tore-Khol Lake [IBSS]; Krasnoyarsk Terr.: Minusinsk, Malaya Minusa River, env. Krasnoyarsk [ZIN], Minusinsk [ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Belgorod Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov., Yaroslavl Prov.; East: Kirov Prov., Saratov Prov., Tambov Prov., Tatar Rep., Ulyanovsk Prov.; South: Kalmyk Rep., Rostov Prov., Volgograd Prov.; North Caucasus: Adygei Rep., Krasnodar Terr.; Kabardino-Balkarian Rep., Stavropol Terr.; Crimea); Ural (Bashkir Rep., Kurgan Prov., Orenburg Prov.); Western Siberia (Altai Terr., Omsk Prov.); Eastern Siberia (Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep., Yakutsk Rep., Zabaikalskii Terr.). Kazakhstan. Trans-Palaeartic: from Europe and northern Africa to Eastern Siberia (PAUKKUNEN et al. 2014).

H o s t . Crabronidae: *Passaloeocus corniger* SHUCKARD, *P. eremita* KOHL, *P. insignis* (VANDER LINDEN) and *Pemphebron lethifer* (SHUCKARD) (BENNO 1950; HEINRICH 1964; WICKL 2001). Citations for other crabronids (e.g. *Rhopalum coarctatum* (SCOPOLI) and species of *Trypoxylon* LATREILLE) as hosts are uncertain, because their biology is quite different from the recognized Pemphebroninae host.

***Pseudomalus pusillus semicupreus* (LINSENMAIER, 1959)**

Omalus (*Omalus*) *pusillus* ssp. *semicupreus* LINSENMAIER, 1959b: 233. Holotype ♂; Spain: Alicante (Luzern) (examined).

Pseudomalus pucillus (!) *semicupratus* (!): VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.).

Pseudomalus pucillus (!) *semicupreus*: VINOKUROV 2013a: 274 (cat., descr., tax., Stavropol Terr.: Georgievskij district, Novozavedennoe; Kabardino-Balkarian Rep.: Nizhny Cherek).

Pseudomalus pusillus semicupreus: VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2017b: 133 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus. Stavropol Terr.; Kabardino-Balkarian Rep.). Spain.

R e m a r k s . *Pseudomalus pusillus semicupreus* is a colour variation of *P. pusillus* (FABRICIUS).

***Pseudomalus triangulifer* (ABELLE DE PERRIN, 1877) (Fig. 14)**

Omalus triangulifer ABELLE DE PERRIN, 1877: 65. Lectotype ♀ (designated by KIMSEY 1986: 106); France: Sainte-Baume (Paris) (examined).

Ellampus auratus var. *triangulifer*: DU BUYSSON in ANDRÉ 1892: 150 (cat., descr., key, Russia).

Omalus (*Omalus*) *triangulifer*: LINSENMAIER 1968: 10 (tax., Dagestan); SCHMIDT 1977: 97 (cat., distr., southern Russia); LINSENMAIER 1987: 134 (tax., Dagestan).

Pseudomalus triangulifer: PAUKKUNEN et al. 2014: 12 (Russian Fennoscandia: Terijoki [= Zelenogorsk]; Koiviston mlk., Vasikkasaari); Seiskari [= Seskar island]; ROSA et al. 2017b: 133 (cat., European Part: North, North-West, Centre, North Caucasus; Ural; Western Siberia: Irkutsk Prov., Khakass Rep., Tuva Rep., Yakutsk Rep., Zabaikalskii Terr.; Far East: Kamchatka, Khabarovsk Terr., Magadan Prov., Primorskii Terr.); ROSA et al. 2017g: (cat., distr., Altai Rep.: 24 km NWW Aktash, Chuya River; Altai Terr.: Bele, Altaiskiy State Nature Reserve; Irkutsk Prov.: vill Padun', Verkhnyaya Tunguzka River [= Angara River]; Khakass Rep.: 21 km SW Abakan, Izykhskie Kopi; 26 km NW Shira, 4th Sunduk Mt.; Tuva Rep.: 12 km SW Samagaltai, Dyttyg-Khem River; 20 km SSW Erzin, Tore-Khol' Lake; 15 km E Ust'-Ordynskiy; Yakutsk Rep.: 125 km SW Olekminsk; 60 km SW Pokrovsk, Elanskoe; Megino-Aldan; Zabaikalskii Terr.: resort Yamarovka), 37 (cat., distr., Siberia).

Material examined. Russia: EUROPEAN PART (North-West: Leningrad Prov. [ZIN], Lachta [ZIN]; Centre: Moscow: Troizk env. (Pavesi coll.)); URAL (Chelyabinsk Prov. [PRC]; Sverdlovsk Prov. [PRC]).

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.; Centre: Moscow Reg.; North Caucasus: Dagestan Rep.); Ural (Chelyabinsk Prov., Sverdlovsk Prov.); Western Siberia (Altai Rep., Altai Terr.); Eastern Siberia (Irkutsk Prov., Khakass Rep., Tuva Rep., Yakutsk Rep., Zabaikalskii Terr.); Far East (Kamchatka Terr., Khabarovsk Terr., Magadan Prov., Primorskii Terr.). Trans-Palaearctic, from Europe and Turkey to China (ROSA et al. 2014).

Host. Crabronidae: *Passaloeus borealis* DAHLBOM, *P. corniger* SHUCKARD, *P. insignis* (VANDER LINDEN), *Pemphredon lugens* DAHLBOM, *P. lugubris* (FABRICIUS), *P. lethifer* (SHUCKARD), *P. lugens* DAHLBOM, *P. montana* DAHLBOM and *P. rugifer* (DAHLBOM) (ALFKEN 1915; STRUMIA 1996; WICKL 2001; VEENENDAAL 2011; PAUKKUNEN et al. 2015; unpubl. data). Females probably oviposit in aphids before they have been captured and brought to the nest by the host (VEENENDAAL 2011).

***Pseudomalus violaceus* (SCOPOLI, 1763) (Fig. 15)**

Sphex violacea SCOPOLI, 1763: 298. Type lost; Europe (depository unknown).

Omalus coeruleus DE GEER & RETZIUS, 1783: EVERSMAAN 1858: 547 (cat., descr., Kazan, Orenburg Prov.); ASSMUS 1862: 266 (cat., Moscow); RADOSZKOVSKY 1866: 4 (cat., Kazan, Orenburg); RADOSZKOWSKI 1877: 3 (cat., descr., distr., Orenburg); ABELLE DE PERRIN 1879: 19 (key), 25 (descr., Caucasus).

Ellampus coerulescens LEPELETIER, 1806: MOCSÁRY 1882: 23 (key), 31 (cat., destr., distr., Caucasus).

Ellampus violaceus: DE STEFANI 1888: 116 (cat., descr., distr., key, Caucasus, Russia); DALLA TORRE 1892: 19 (cat., Caucasus); BISCHOFF 1913: 9 (cat., Caucasus); GUSSAKOVSKIJ 1948: 731 (cat., key, European part of USSR); BLAGOVESHCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.).

Ellampus (Ellampus) violaceus: MOCSÁRY 1890a: 59 (cat., Caucasus).

Ellampus (Ellampus) violaceus var. *virens* MOCSÁRY, 1889: MOCSÁRY 1890a: 59 (cat., Caucasus).
ROSA et al. 2017h (cat., typ., Caucasus).

Ellampus violaceus var. *virens*: DALLA TORRE 1892: 19 (cat., Caucasus).

Omalus violaceus: TRAUTMANN 1927: 32 (key), 33 (biol., cat., descr., distr., Caucasus, Siberia);
BALTHASAR 1946: 228 (biol., cat., distr., Caucasus, Siberia); BENNO 1950: 25 (key), 26 (biol.,
cat., descr. Caucasus, Siberia); BALTHASAR 1954: 71 (Fig. 15), 81 (key), 86 (descr., Caucasus,
Siberia); HAUPT 1957: 45 (cat., descr., key, Siberia); NIKOL'SKAYA 1978: 52 (tab. 23: Fig.
19), 64 (key, listed without localities); BANASZAK 1980: 11 (biol., cat., Siberia); ZVANTSOV
1988: 84 (biol., cat., Moscow Prov.: Krylatskoe, Povarovo); BUGANIN et al. 2000: 146 (cat.,
Ulyanovsk Prov.: Nikolaevsky Distr., vill. Praskov'ino; Radishchevsky Distr., env.
Vyazovka); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); VINOKUROV 2004:
34 (cat., Stavropol Terr.: Mineralnye Vody); VERSHININA et al. 2006: 111 (cat., Pskov Prov.:
Sebezhsy National Park); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.:
Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus);
KIZILOV 2007: 84 (cat., Altai Rep.; Tomsk Prov.: Tomsk); VINOKUROV 2007b: 51 (cat., tax.,
Ciscaucasia).

Omalus violaceus var. *virens*: MÓCZÁR 1967a: 31 (cat., descr., key, Caucasus).

Ellampus violaceum (!): BLAGOVESHCHENSKAYA 1994: 83 (cat., Ulyanovsk Prov.: Ulyanovsk,
Khovrinov).

Omalus (Omalus) violaceus: LINSSENMAIER 1997b: 31 (key), 48 (descr., Siberia, Fig. 16);
BRUSTILO & MARTYNOV 2009: 47 (biol., cat., distr., Caucasus, Siberia).

Pseudomalus violaceus: ROSA 2005: 108 (key), 115 (biol., cat., descr., distr., ecol., tax., Siberia);
SHIBAEV 2006a: 110 (cat., Penza Prov.: Golitsyno); SHIBAEV 2006b: 93 (cat., Penza Prov.:
Middle Volga); AA.VV. 2007: 280 (Samara Prov.: Samarskaya Luka National Park);
VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); SHIBAEV & POLUMORDVINOV 2012:
276 (cat., Penza Prov.); PAUKKUNEN et al. 2014: 12 (cat., distr., tax. Siberia); VINOKUROV
2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. vill. Psebaj, Nikitino, Damhurts,
Zakan); VINOKUROV 2014e: 47 (cat., Caucasian State Nature Biosphere Reserve);
VINOKUROV 2014f: 88 (cat., Caucasian State Nature Biosphere Reserve); ROSA et al. 2017g:
37 (cat., distr., Siberia); VINOKUROV 2016: 39 (cat., Dagestan Rep.: Samur Forest Reserve);
ROSA et al. 2017b: 133 (cat., European Part: North-West, Centre, East, North Caucasus; Ural;
Western Siberia: Altai, Tomsk Prov., Eastern Siberia: Irkutsk Prov., Zabaikalskii Terr.; Far
East: Primorskii Terr.).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North West: Leningrad Prov.:
Tolmachevo [ZIN]; North Caucasus: Kabardino-Balkarian Rep.: Itkol [RMC]); URAL
(Chelyabinsk Prov. [PRC]); EASTERN SIBERIA (Irkutsk Prov.: vill. Padun', Verkhnyaya
Tunguzka River [= Angara River] [ZIN]); FAR EAST (Primorski Terr.: env. Vladivostok
[ZIN]; Zabaikalskii Terr. [ZIN]). Georgia: Atshuri [ZIN].

D i s t r i b u t i o n . RUSSIA: European part (North West: Leningrad Prov., Pskov
Prov.; Centre: Moscow Prov., Pensa Prov.; East: Samara Prov., Tatar Rep., Ulyanovsk
Prov.; North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., Stavropol Terr.); Ural
(Chelyabinsk Prov., Orenburg Prov.); Western Siberia (Altai Rep., Tomsk Prov.);
Eastern Siberia (Irkutsk Prov./Buryat Rep., Zabaikalskii Terr.); Far East (Primorski
Terr.). Georgia. Trans-Palaeartic, from Europe, Middle East, to China (LINSSENMAIER
1997b, ROSA et al. 2014).

R e m a r k s . In Finland *Pseudomalus violaceus* has been classified as near threatened (PAUKKUNEN 2010). Also in Sweden this species has been red listed (CEDERBERG 2000); it was not yet observed in Russian Fennoscandia.

H o s t . Crabronidae: *Passaloecus corniger* SHUCKARD, *P. eremita* KOHL, *Pemphredon lugubris* (FABRICIUS), (MORGAN 1984; GATHMANN & TSCHARNTKE 1999; PAUKKUNEN et al. 2015). Other species (e.g. *Trypoxylon* LATREILLE) are doubtful, because of different biology.

Tribe Chrysidini

13. Genus *Chrysidea* BISCHOFF, 1913

Chrysidea BISCHOFF, 1913: 34. Type species: *Chrysis pumila* KLUG, 1845 by original designation.

***Chrysidea disclusa disclusa* (LINSENMAIER, 1959) (Fig. 212)**

Chrysis (Chrysidea) pumila ssp. *disclusa* LINSENMAIER, 1959: 171. Holotype ♂; Spain: Almeria (Luzern) (examined).

Chrysidea pumila KLUG, 1845: VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysidea disclusa disclusa: ROSA et al. 2017b: 133 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep., Stavropol Terr.). Mediterranean countries (LINSENMAIER 1959, 1987).

R e m a r k s . The history of the names *pumila* and *disclusa* is rather complicated. LINSENMAIER (1959, 1968) was the first author to identify and provide a key to European and Mediterranean species and subspecies of *Chrysidea*. He treated *Chrysidea* as a subgenus of *Chrysis* LINNAEUS, 1761, and considered *C. pumila* KLUG, 1845 and *C. persica* RADOSZKOWSKI, 1881 as valid species; he also described the subspecies *C. pumila* ssp. *disclusa*. A few years later, LINSENMAIER (1987: 155) placed *Chrysidea* BISCHOFF in synonymy of the subgenus *Trichrysis* LICHTENSTEIN, 1876, and stated that *C. pumila sensu auctorum* does not occur at the species type locality, where only *C. persica* was collected; for this reason he synonymized *C. persica* with *C. pumila* and described the species previously named *C. pumila* as *Chrysis (Trichrysis) pumilionis* LINSENMAIER, 1987, with *C. pumilionis disclusa* its subspecies. This combination is erroneous for nomenclatural reasons, and the name *C. disclusa* LINSENMAIER, 1959 has priority on *C. pumilionis* LINSENMAIER, 1987 (NIEHUIS 2001: 122). For these reasons, in KIMSEY & BOHART (1991) *C. pumilionis* is erroneously included in the genus *Trichrysis*, whereas *C. persica* and *C. pumila* are both considered as valid species in the genus *Chrysidea*. VINOKUROV (2011a, 2013d, 2014a) recognized two species of *Chrysidea* in Caucasus, yet followed LINSENMAIER's (1959) interpretation.

***Chrysidea pumila* (KLUG, 1845) (Fig. 213)**

Chrysis pumila KLUG, 1845. Neotype ♂ (designated by ROSA & XU 2015: 10); Egypt: Fayoum (Luzern).

Chrysis assimilis DAHLBOM, 1854: ABEILLE DE PERRIN 1879: 41 (key), 43 (Caucasus, cat.); DU BUYSSON in ANDRÉ 1893: 233 (cat., descr., Caucasus, Russia); MANTERO 1905: 52 (cat., distr., Caucasus). Junior subjective synonym of *C. pumila* KLUG, 1845 according to MOCSÁRY 1889.

Chrysonoga pumila: MOCSÁRY 1889: 182 (key), (cat., descr., distr., Caucasus); MOCSÁRY 1890a: 62 (cat., Caucasus); DALLA TORRE 1892: 37 (cat., Caucasus); VORONTSOVKIJ 1930: 68 (cat., Orenburg Prov.); PLAVIL'SHCHIKOV 1954: 121 (cat., Mordovian State Nature Reserve).

Chrysidea pumila: TRAUTMANN 1927: 102 (cat., descr., distr., Caucasus); BALTHASAR 1946: 245 (biol., cat., distr., Caucasus); HAMMER 1950: 4 (cat., distr., Caucasus); BALTHASAR 1953: 151 (descr., Caucasus, European part of USSR), 157 (Figs 42–44); NIKOL'SKAYA 1978: 52 (tab. 23: Fig.13), 67 (key, souther European part of USSR); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); RUCHIN et al. 2009: 165 (cat., Mordovian Rep.); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); ROSA et al. 2017b: 133 (cat., European Part: Centre, South, North Caucasus; Ural).

Chrysidea pumilla (!): VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody).

Chrysidea persica RADOSZKOWSKI, 1881: VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2015a: 32 (cat., Dagestan Rep.: Dagestan Reserve, Barkhan Sarykum). Junior subjective synonym of *C. pumila* KLUG, 1845 according to LINSSENMAIER 1959.

Material examined. Russia: EUROPEAN PART (South: Kalmyk Rep., Rostov Prov. [MMC]; Volgograd Prov. [MMC]; North Caucasus: Krasnodar Terr. [MMC]; Stavropol Terr. [ZIN]; Dagestan Rep. [MMC]).

Distribution. RUSSIA: European part (Centre: Mordovian Rep.; South: Kalmyk Rep., Rostov Prov., Volgograd Prov.; North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., Krasnodar Terr., Stavropol Terr.); Ural (Orenburg Prov.). Trans-Palaeartic and Afrotropical (KIMSEY & BOHART 1991; MADL & ROSA 2012; ROSA et al. 2014).

14. Genus *Chrysis* LINNAEUS, 1761

Chrysis LINNAEUS, 1761: 414. Type species: *Sphex ignita* LINNAEUS, 1758, by subsequent designation of LATREILLE 1810: 437.

Chrysogona FÖRSTER, 1853: 327. Type species: *Chrysogona gracillima* FÖRSTER, 1853 [= *Chrysis gracillima* (FÖRSTER, 1853)], by monotypy. Junior subjective synonym of *Chrysis* LINNAEUS, 1761 according to KIMSEY & BOHART 1991.

Dichrysis LICHTENSTEIN, 1876: 27. Type species: *Chrysis bihamata* SPINOLA, 1843 by subsequent designation of BODENSTEIN 1939: 126. Junior subjective synonym of *Chrysis* LINNAEUS, 1761 according to LINSSENMAIER 1951.

Tetrachrysis LICHTENSTEIN, 1876: 27. Type species: *Chrysis aeruginosa* DAHLBOM, 1854 [= *Chrysis bicolor* LEPELETIER, 1806], by subsequent designation of ASHMEAD 1902: 226. Junior subjective synonym of *Chrysis* LINNAEUS, 1761 according to LINSSENMAIER 1951.

Hexachrysis LICHTENSTEIN, 1876: 27. Type species: *Chrysis micans* ROSSI, 1792 [= *Chrysis sexdentata* CHRIST, 1791], by subsequent designation of BODENSTEIN 1939: 127. Junior subjective synonym of *Chrysis* LINNAEUS, 1761 according to KIMSEY & BOHART 1991.

Cornuchrysis BALTHASAR, 1953: 171. Type species: *Cornuchrysis clypeata* BALTHASAR, 1953 [= *Chrysis amneris* BALTHASAR, 1953], by original designation. Junior subjective synonym of *Chrysis* LINNAEUS, 1761 according to KIMSEY & BOHART 1991.

Gonodontochrysis SEMENOV in SEMENOV & NIKOL'SKAYA, 1954a: 120. Type species: *Chrysis flamma* SEMENOV, 1954a, by subsequent designation by KIMSEY & BOHART 1991: 316. Junior subjective synonym of *Chrysis* LINNAEUS, 1761 according to KIMSEY & BOHART 1991.

***Chrysis aello* SEMENOV & NIKOL'SKAYA, 1954**

Chrysis aello SEMENOV & NIKOL'SKAYA, 1954: 185. Holotype ♂; Tajikistan: Mikoyanabad (St. Petersburg) (examined) (*viridula* group). VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); ROSA et al. 2017a: 16 (cat., typ., Tajikistan), 112 (Pl. 5); ROSA et al. 2017b: 133 (cat., European Part: North Caucasus).

Chrysis aella (!): VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasia).

Chrysis aëllö (!): VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasia).

D i s t r i b u t i o n . RUSSIA: European Part (North Caucasus: Stavropol Terr.). Tajikistan.

***Chrysis aestiva* DAHLBOM, 1854**

Chrysis aestiva DAHLBOM, 1854: 286. Holotype ♀; Rhodes (Berlin?) (*aestiva* group). VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasia); VINOKUROV 2006d: 19 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasia); VINOKUROV 2009c: 206, 207 (cat., ecol., Stavropol Terr., Kuma River); ROSA et al. 2017b: 133 (cat., European Part: North Caucasus).

Chrysis (quadridentatae) *aestiva*: DU BUYSSON in ANDRÉ 1895: 562 (biol., cat., descr., distr., key, tax. Caucasus).

Chrysis (*Tetrachrysis*) *aestiva*: TRAUTMANN 1927: 138 (key), 149 (biol., cat., descr., distr., Caucasus); BALTHASAR 1953: 106 (key, Caucasus), 225 (descr., Caucasus); BALTHASAR 1954: 166 (key), 203 (descr., Caucasus); BALTHASAR 1949: 3 (key, Caucasus).

Chrysis Móczári LINSSENMAIER, 1959: VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasia); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). Caucasus. Greece, Iran, Palestine, Rhodes, Turkey (FARHAD et al. 2015).

R e m a r k s . LINSSENMAIER (1968) considered *Chrysis Móczári* (described from Palestine) as subspecies of *C. aestiva* DAHLBOM, 1854, known from Rhodes, Palestine and Middle East (LINSSENMAIER 1959, 1968, 1987); differences found in the genitalia shape (LINSSENMAIER 1959) were considered as a simple variability (LINSSENMAIER 1968).

***Chrysis albanica* TRAUTMANN, 1927 (Figs 121-122)**

Chrysis succincta var. *albanica* TRAUTMANN, 1927: 160. Holotype; Albania (lost) (*succincta* group).

Chrysis succincta LINNAEUS, 1767: VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Chrysis albanica: ROSA et al. 2017b: 133 (cat., European Part: South, North Caucasus, Crimea; Ural); ROSA et al. 2017d: 15 (cat., distr., tax., Astrakhan Prov.: Dosang; Volgograd Prov.: Sarepta; Stavropol Terr.; Crimea: Sevastopol; Orenburg Prov.: V. Dneprovka, env. Orenburg, Sr. Volzhskij).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Stavropol Terr. [ZIN]; Crimea: Sevastopol [ZIN]); URAL (Orenburg Prov.: B. Dneprovka [ZIN], env. Orenburg [PRC, ZIN], Sr. Volzhskij [ZIN]). Georgia: Kodzori [ZIN].

D i s t r i b u t i o n . RUSSIA: European part (South: Astrakhan Prov., Volgograd Prov.; North Caucasus: Stavropol Terr.; Crimea); Ural (Oreburg Prov.). Caucasus, Georgia. South-east Europe (LINSENMAIER 1959).

R e m a r k s . The material examined was previously identified as *C. succincta* LINNAEUS (identifications by Vinokurov, ZIN), *C. frivaldszkyi* MOCSÁRY (ZIN) and *C. gribodoi* ABEILLE DE PERRIN (ZIN).

***Chrysis altaica* MOCSÁRY, 1912**

Chrysis (Tetrachrysis) analis f. *altaica* MOCSÁRY, 1912: 586. Holotype ♀; Kazakhstan: Semipalatinsk [=Semey] (Budapest) (examined) (*comparata* group). BALTHASAR 1953: 117 (key, Altai), 228 (tax.), 229 (descr., Altai).

Chrysis (Spintharis) analis var. *altaica*: LINSSENMAIER 1951: 64 (descr., Altai), 100 (cat.).

Chrysis (Chrysis) analis altaica: LINSSENMAIER 1959: 146 (descr., Altai), 191 (cat.).

D i s t r i b u t i o n . Kazakhstan (Semipalatinsk), but it's occurrence is also expected for Russian Altai administrative Province and Republic.

****Chrysis amasina* MOCSÁRY, 1889**

Chrysis (Tetrachrysis) amasina MOCSÁRY, 1889: 495. Neotype ♀ (designated by ROSA et al. 2017h: 18); Palestina (Budapest) (examined) (*rufitarsis* group). BALTHASAR 1953: 115 (key, Caucasus), 226 (descr., Caucasus).

Pseudochrysis amasina: TRAUTMANN 1927: 92 (key), 93 (Caucasus).

D i s t r i b u t i o n . Caucasus. Southern Europe, Palestine, Turkey (BALTHASAR 1953, LINSSENMAIER 1959), North Africa (LINSSENMAIER 1959, 1968).

***Chrysis ambigua ambigua* RADOSZKOWSKI, 1891 (Figs 202-203)**

Chrysis ambigua RADOSZKOWSKI, 1891: 188. Holotype ♀; Turkmenistan: Ashgabat (Kraków) (*cerastes* group) (examined). MARTYNOVA & FATERYGA 2015: 480 (boil., cat., Crimea: Simferopol Distr., Urozhaynoe); ROSA et al. 2017b: 133 (cat., Russia).

Chrysis (Tetrachrysis) taczanovskiyi (!) var. *ambigua*: TRAUTMANN 1927: 152 (cat., descr., distr., Russia).

Chrysis (Cornuchrysis) ambigua: LINSSENMAIER 1959: 174 (key), 175 (descr.), 193 (cat.), 205 (Fig. 419), 214 (Fig. 630).

D i s t r i b u t i o n . RUSSIA: European part (Crimea) and Russia (without locality). South-eastern Europe, Iran, Palestine, Transcaspia, Turkey (ROSA et al. 2013).

R e m a r k s LINSSENMAIER (1997) described *Chrysis ambigua lygea* based on specimens from Armenia, Tajikistan, and Uzbekistan. *C. ambigua lygea* is the synonym of *C. mutabilis transoxiana* SEMENOV, 1967 **syn. nov.**, taxon unknown to Linszenmaier. *C. ambigua lygea* was erroneously listed by LINSSENMAIER (1959) for "S. Russland", yet the examined specimens were from "Sewansee" [= Sevan Lake], currently in Armenia.

H o s t . Vespidae (Eumeninae): *Syneodynerus egregius* (HERRICH-SCHÄFFER) (MARTYNOVA & FATERYGA 2015)

***Chrysis amneris* BALTHASAR, 1953**

Chrysis (Tetrachrysis) amneris BALTHASAR, 1953: 227. Holotype ♂; West Bank: Wadi el Kelt (Prague) (*amneris* group).

Chrysis amneris: STRUMIA 2008: 380 (cat., distr., southern Russia); ROSA et al. 2017b: 133 (cat., South Russia).

D i s t r i b u t i o n . RUSSIA: European part (South, without locality). Palestine, Saudi Arabia, Sudan, southern Russia, U.A.E. (STRUMIA 2008).

***Chrysis amurensis* SEMENOV, 1967 (Fig. 153)**

Chrysis (Tetrachrysis) amurensis SEMENOV, 1967: 165. Holotype ♂; Russia: Amur Prov.: middle of the Amur River) (St. Petersburg) (examined) (*splendidula* group).

Chrysis amurensis: KIMSEY & BOHART 1991: 382 (cat., Sikhota Alin, mid Amur River); KURZENKO & LELEJ 2007: 1005 (cat., South Far East.); LELEJ & KURZENKO 2012: 402 (cat., Amur); ROSA et al. 2017g: 39 (cat., distr., Siberia); ROSA et al. 2017a: 16 (cat., typ. Tukuringra-Geb., Amur), 113 (Pl. 7); ROSA et al. 2017b: 133 (cat., Western Siberia: Altai, Novosibirsk Prov.; Eastern Siberia: Khakass Rep.; Far East: Amur Prov., Primorskii Terr.).

M a t e r i a l e x a m i n e d . Russia: WESTERN SIBERIA (Altai Rep.: 15 km SE Kurai, Chuya River [IBSS]; Novosibirsk Prov.: Chik Village [GLA]); EASTERN SIBERIA (Khakass Rep.: Zhemchuzhnyi, Shira Lake [IBSS]). FAR EAST (Primorskii Terr.: 15 km S Ternei, Udobnaya Bay [IBSS]).

D i s t r i b u t i o n . RUSSIA: Western Siberia (Altai Rep., Novosibirsk Prov.); Eastern Siberia (Khakass Rep.); Far East (Amur Prov., Primorskii Terr.).

R e m a r k s . KIMSEY & BOHART (1991) placed *Chrysis amurensis* SEMENOV into the *C. aestiva* group. Nevertheless the species belongs to the *C. splendidula* group (ROSA et al. 2017a).

***Chrysis analis analis* SPINOLA, 1807**

Chrysis analis SPINOLA, 1807: 26. Lectotype ♂ (designated by ROSA & XU 2015: 7); Italy: Liguria (Turin) (examined) (*comparata* group). RADOSZKOVSKY 1866: 12 (cat., Spassk, Caucasus); RADOSZKOWSKI 1877: 10 (key), 21 (cat., descr., distr., Caucasus, Volgo-Ural); RADOSZKOVSKY 1880: 144 (cat., Caucasus); BECKER 1880: 151 (cat., Sarepta); DE STEFANI 1888: 144 (cat., descr., distr., key, Caucasus); RADOSZKOWSKI 1889: 24 (descr., Orenburg),

tab. V (Figs 52A–52K) [misidentified]; DALLA TORRE 1892: 42 (cat., Caucasus); MOCSÁRY 1890a: 67 (cat., Caucasus); GUSSAKOVSKIJ 1948: 732 (cat., key, European part of USSR); LEVI et al. 1974: 266 (cat., Kirov Prov.: Velikaya, Verkhovino, Kirov); NIKOL'SKAYA 1978: 69 (key, southern European part of USSR); ZVANTSOV 1987: 63 (cat., North Ossetian Rep.: Unal); BLAGOVESCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); BLAGOVESCHENSKAYA 1994: 84 (cat., Ulyanovsk Prov.: Gorodischi); BUGANIN et al. 2000: 149 (cat., Ulyanovsk Prov.); Tarbinsky 2002c: 34 (key), 35 (Caucasus), 42 (Figs 20, 21) [misidentified]; KRIVONOVA & RUDOISKATEL 2004: 109 (cat., ecol., Sverdlovsk Prov.); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); MOKROUSOV et al. 2009: 77 (cat., Mordovian Rep.: Pushta); RUCHIN 2011: 173 (cat., Mordovia Nature Reserve); ROSA et al. 2017b: 133 (cat., European Part: Centre, East, South, North Caucasus, Crimea; Ural).

Chrysis analis var. *rubescens* RADOSZKOVSKY, 1880: 144. Syntypes ♀♀; Caucasus (Kraków) (examined). DALLA TORRE 1892: 43 (cat., Caucasus).

Chrysis (quadridentatae) *analis*: DU BUYSSON in ANDRÉ 1895: 547 (biol., cat., descr., distr., key, tax., Russia).

Chrysis (*Tetrachrysis*) *sybarita* (!) var. *rubescens*: BISCHOFF 1910: 479 (cat., Caucasus).

Chrysis (*Tetrachrysis*) *analis*: BISCHOFF 1910: 479 (cat., Tauria [= Crimea]); BALTHASAR 1946: 256 (biol., distr., Caucasus); BALTHASAR 1954: 164 (key), 222 (descr., Caucasus).

Chrysis (*Chrysis*) *analis*: BRUSTILO & MARTYNOV 2009: 54 (biol., cat., distr., Caucasus).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Dagestan Rep. [ZIN]); URAL (Orenburg Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Mordovian Rep., Penza Prov.; East: Kirov Prov., Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: Dagestan Rep., North Ossetian Rep.; Crimea); Ural (Orenburg Prov., Sverdlovsk Prov.). Caucasus. According to LINSSENMAIER (1959, 1968, 1999) *Chrysis analis analis* SPINOLA is limited to southern Europe. From Palestine eastwards to Central Asia only different species or subspecies are found.

R e m a r k s . The line drawing of the genitalia of *Chrysis analis* SPINOLA in RADOSZKOVSKY (1889) do not correspond to the nominotypical form and are referable to other species in the *C. comparata* group. More in general, old identifications should be double checked.

H o s t . Megachilidae: *Anthidium punctatum* (LATREILLE) (WOLF 2000). Additional hosts mentioned in the literature are *Anthidium caturigense* GIRAUD (TRAUTMANN 1927; MANEVAL 1936; BERLAND & BERNARD 1938), *Osmia niveata* (FABRICIUS) and *O. leaiana* (KIRBY) (HEINRICH 1964), *O. andrenoides* SPINOLA (BERLAND & BERNARD 1938). Also reported is *Euodynerus simplex* (FABRICIUS) (BERLAND & BERNARD 1938) (Vespidae: Eumeninae), which is not reliable compared with the biology of the *Chrysis comparata* group.

***Chrysis angolensis* RADOSZKOWSKI, 1881 (Fig. 181)**

Chrysis angolensis RADOSZKOWSKI, 1881: 219. Holotype sex unknown; Angola (depository unknown) (*angolensis* group). KURZENKO & LELEJ 2007: 1005 (cat., Khabarovsk Terr., Primorskii Terr.); HA et al. 2008: 74 (cat., distr., Far Eastern Russia); LELEJ & KURZENKO 2012: 402 (cat., Primorskii Terr., Transbaikal); ROSA et al. 2017b: 133 (cat., Eastern Siberia:

Khakass Rep., Zabaikalskii Terr.; Far East: Amur, Primorskii Terr.); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis (Tetrachrysis) fuscipennis BRULLÉ, 1846: MOCSÁRY 1889: 345 (key), 370 (cat., descr., distr., Amur); DU BUYSSON 1899: 165 (cat., Amur).

Chrysis (quadridentate) fuscipennis: DU BUYSSON in ANDRE 1895: 443 (cat., descr., distr., Amur).

Chrysis fuscipennis: DU BUYSSON 1898: 552 (cat., Amur).

Chrysis (Tetrachrysis) fuscipennis: TSUNEKI 1947: 55 (cat., distr., Siberia: Amur); TSUNEKI 1948: 125 (cat., distr., Siberia: Amur); BALTHASAR 1953: 90 (key, East Siberia).

Chrysis (Tetrachrysis) fuscipennis murasaki UCHIDA, 1927: TSUNEKI 1953a: 59 (cat., distr., tax., Amur); TSUNEKI 1953b: 26 (cat., distr., tax., Amur).

Chrysis (Chrysis) fuscipennis murasaki: LINSSENMAIER 1959: 149 (descr., distr., Amur).

M a t e r i a l e x a m i n e d . Russia: FAR EAST (Khabarovsk Terr.: Khabarovsk [ZIN], vill. Kamenets-Podol'sk [ZIN]; Primorskii Terr.: Vinogradovka [ZIN], Yuzhno-Ussurijskij Terr. [ZIN]; Sidemi [= Bezverkhovo] [ZIN], Kongaus [=Anisimovka] [sub *C. fuscipennis murasaki*, NMLS]).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Zabaikalskii Terr.); Far East (Amur Prov., Khabarovsk Terr., Primorskii Terr.). World-wide except Europe, with the only exception of Cyprus.

H o s t . Sphecidae (*Sceliphron deforme* SMITH) and Vespidae (*Eumenes*) have been listed by STAGE (1961).

***Chrysis angustifrons angustifrons* ABEILLE DE PERRIN, 1878**

Chrysis angustifrons ABEILLE DE PERRIN, 1878: 5. Syntypes ♀, ♂ [not holotype ♂]; France (Paris (examined) (*elegans* group). DALLA TORRE 1892: 44 (cat., Caucasus); NIKOL'SKAYA 1978: 67 (key, southern European part of USSR); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma River); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 134 (cat., European Part: North Caucasus).

Chrysis (Olochrysis) Lagodekhii RADOSZKOWSKI, 1889: 15. Lectotype ♂ (designated by ROSA et al. 2015e: 36); Georgia: Lagodekhi (Kraków) (examined).

Chrysis (Olochrysis) angustifrons: MOCSÁRY 1889: 266 (key), 274 (cat., descr., distr., Caucasus).

Chrysis (Holoachrysis) angustifrons: MOCSÁRY 1890a: 64 (cat., Caucasus); BISCHOFF 1910: 456 (cat., Caucasus); BISCHOFF 1913: 37 (cat., Caucasus); TRAUTMANN 1927: 104 (key), 121 (cat., descr., distr., Caucasus); BALTHASAR 1953: 173 (descr., Caucasus); BALTHASAR 1954: 157 (Fig. 155), 183 (descr., Caucasus).

Chrysis (Gonochrysis) pyrrrha SEMENOV, 1967: 153. Holotype ♀; Georgia, Lagodekhi (St. Petersburg) (examined). ROSA et al. 2017a: 47 (cat., typ., Georgia), 167 (Pl. 116).

Chrysis angustifrons Lagodekhii: KIMSEY & BOHART 1991: 383 (cat., Caucasus).

Chrysis pyrrrha: KIMSEY & BOHART 1991: 454 (cat., Georgia: Lagodekhi).

Material examined. Russia: EUROPEAN PART (North Caucasus: Derbent, Kumtorkalinskiy Distr., Barkhan Sarykum, Kamyshchay River valley, Magaramkent).

Distribution. RUSSIA: European part (North Caucasus: Dagestan Rep., Stavropol Terr.). Georgia. Southern Europe from Spain to Greece (ARENS 2004b).

***Chrysis angustula angustula* SCHENCK, 1856**

Chrysis angustula SCHENCK, 1856: 28. Lectotype ♀ (designated by MORGAN 1984: 9); Germany: former Duchy of Nassau (Frankfurt) (*ignita* group). BANASZAK 1980: 32 (biol., cat., Siberia); KIMSEY & BOHART 1991: 383 (cat., Siberia); NIEHUIS 2000: 185 (key), 186 (cat.), 190 (distr., tax.), 191 (distr. Siberian fauna element), 192 (biol.), 193 (Fig. 3B), 194 (Figs 4B, 5B, 6B, 7B); ROSA 2002: 109 (cat., distr., Caucasus, Siberia); VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State Hight-Mountain Reserve); VINOKUROV 2006c: 21 (cat., ecol., central Caucasus and Ciscaucasus); KURZENKO & LELEJ 2007: 1005 (cat., Siberia); VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); HUMALA & POLEVOI 2012: 142 (cat., Zhamikovo, Kizhi island, Vorob'i [Kizhi skerries reserve]); VINOKUROV 2013c: 60 (cat., ecol., Karachayevo-Cherkess Rep.: Dukka gorge); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); PAUKKUNEN et al. 2014: 38 (cat., distr., Russian Fennoscandia); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); JAKOVLEV et al. 2015: 300 (cat., Karelian Rep.: Oyatevshina, Kizhi Isl., Vorob'i, Turastamozero); PAUKKUNEN & KOZLOV 2015: 62 (cat., Murmansk: Kuolajärvi); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 134 (cat., European Part: North, North-West, North Caucasus; Ural; Eastern Siberia: Irkutsk Rep.); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis (quadridentatae) ignita var. *brevidens* TOURNIER, 1879: DU BUYSSON in ANDRE 1895: 581 (cat., descr., distr., tax., Russia).

Chrysis (Chrysis) angustula: LINSSENMAIER 1959: 151 (key), 159 (descr., distr., Fennoscandia, Siberia), 217 (Fig. 697); KOFLER 1975: 351 (biol., cat., distr., Fennoscandia, Siberia); LINSSENMAIER 1987: 152 (tax., Caucasus); BRUSTILO & MARTYNOV 2009: 55 (biol., cat., distr., Siberia).

Chrysis (Chrysis) angustula gracilis SCHENCK, 1856: LINSSENMAIER 1997b: 124 (descr., Siberia).

Material examined. Russia: EUROPEAN PART (North: Karelian Rep.: Salmi [NMLS]); North-West: Leningrad Prov.: Kuolemajärvi [= Pionerskoye] [NMLS]); URAL (Chelyabinsk Prov. [PRC]; Sverdlovsk Prov. [PRC]); EASTERN SIBERIA (Irkutsk Prov.: Irkutsk [NMLS]).

Distribution. RUSSIA: European part (North: Karelian Rep., Murmansk Prov.; North-West: Leningrad Prov.; North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.); Ural (Chelyabinsk Prov.; Kurgan Prov., Sverdlovsk Prov.); Eastern Siberia (Irkutsk Prov.). Caucasus. Trans-Palaeartic, from Europe, to southwestern Asia and China (Manchuria) (LINSSENMAIER 1997; ROSA et al. 2014).

Host. Vespidae (Eumeninae): *Symmorphus bifasciatus* (LINNAEUS) (VAN LITH 1958; NIEHUIS 2000; PÄRN et al. 2015; PAUKKUNEN et al. 2015), *S. allobrogus* (SAUSSURE), *S. connexus* (CURTIS) and *S. debilitatus* (SAUSSURE) and *Ancistrocerus trifasciatus* (MÜLLER) (VAN LITH 1958; NIEHUIS 2000; PÄRN et al. 2015; PAUKKUNEN et al. 2015).

***Chrysis apicalis* RADOSZKOWSKI, 1880**

Chrysis apicalis RADOSZKOVSKY, 1880: 146. Holotype ♀; Caucasus (Kraków) (examined) (*succincta* group); DALLA TORRE 1892: 44 (cat., Caucasus, Russia); KIMSEY & BOHART 1991: 384 (cat., Caucasus); ROSA et al. 2015e: 12 (cat., tax., Caucasus), 13 (Pl. 7).

Chrysis (Tetrachrysis) apicalis: MOCSÁRY 1889: 463 (key), 466 (cat., descr., distr., Caucasus, Sarepta); MOCSÁRY 1890a: 68 (cat., Caucasus, southern Russia); BISCHOFF 1913: 47 (cat., southern Russia, Caucasus).

Chrysis (quadridentatae) apicalis: DU BUYSSON in ANDRÉ 1895: 608 (cat., descr., distr., key tax., Caucasus).

Chrysis (Tetrachrysis) grohmanni var. *apicalis*: TRAUTMANN 1927: 164 (cat., descr., distr., Caucasus, southern Russia).

Chrysis (Tetrachrysis) grohmanni a. *apicalis*: BALTHASAR 1953: 118 (key, Caucasus), 251 (descr., Southern Russia, Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (South: Volgograd Prov.). Caucasus.

****Chrysis araxana* MOCSÁRY, 1893**

Chrysis (Tetrachrysis) araxana MOCSÁRY, 1893: 231. Syntypes ♀♀; Caucasus: Araxes valley (Vienna) (examined) (*comparata* group).

Chrysis araxana: KIMSEY & BOHART 1991: 385 (cat., Caucasus).

D i s t r i b u t i o n . Caucasus.

***Chrysis auriceps* LINSENMAIER, 1959 (Fig. 143)**

Chrysis leachi (!) a. *auriceps* MADER, 1936: 288. Syntypes ♀♀; Croatia: Krk Isl. [Unavailable name].

Chrysis auriceps LINSENMAIER, 1959: 119. Lectotype ♀ (designated by ROSA et al. 2015b: 524); Croatia: Krk Isl. (Luzern) (examined) (*leachii* group).

Chrysis auriceps: ROSA et al. 2017b: 134 (cat., Ural); ROSA et al. 2017d: 22 (cat., distr., Chelyabinsk Prov.; Orenburg Prov.).

D i s t r i b u t i o n . RUSSIA: Ural (Chelyabinsk Prov., Orenburg Prov.). Southern Europe including Greek islands, Middle East, Turkey (LINSENMAIER 1968).

***Chrysis bergi* SEMENOV, 1967**

Chrysis (Tetrachrysis) bergi SEMENOV, 1967: 117. Holotype ♂; Moldavia (St. Petersburg) (examined) (*ignita* group). VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206, 207 (cat., ecol., Stavropol Terr., Kuma river); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017a: 19 (cat., typ., Ukraine), 118 (Pl. 17); ROSA et al. 2017b: 134 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.).

***Chrysis bianchii* SEMENOV, 1892**

Chrysis bianchii SEMENOV, 1892: 90. Lectotype ♀ (designated by ROSA et al. 2017a: 19). Turkmenistan [not Turkey]: Kopet dag mt. near Tschuli (St. Petersburg) (examined) (*ignita* group). VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); ROSA et al. 2017a: 19 (cat., typ., Turkmenistan), 118 (Pl. 18); ROSA et al. 2017b: 134 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus). Turkmenistan.

***Chrysis bicolor* LEPELETIER, 1806 (Figs 126-127)**

Chrysis bicolor LEPELETIER, 1806: 127. Neotype ♂ (designated by ROSA & XU 2015: 71); France: Var, St. Laurent d. Verdon [Saint-Laurent-du-Verdon, Alpes-de-Haute-Provence department] (Luzern) (examined) (*succincta* group). DE STEFANI 1888: 177 (cat., descr., distr., key, Caucasus); NIKOL'SKAYA 1978: 68 (key, European part of USSR); ZVANTSOV 1988: 90 (biol., cat., Moscow Prov.: Chashnikovo, Prioksko-Terrasny Reserve); MOKROUSOV 2002: 143 (cat., Nizhny Novgorod Prov.: Kerzhensky Reserve); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Neverkinsky Distr.: Staraya Andreevka; Luninsky Distr.: Lugovogy; Bessonovsky Distr.: Pobeda); SHIBAEV 2006a: 111 (cat., ecol., Penza Prov.: Nikonovo, Akhuni); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VERSHININA et al. 2006: 111 (cat., Pskov Prov.: Sebezhsy National Park); KURZENKO & LELEJ 2007: 1005 (cat., Amur Prov., Primorskii Terr., Sakhalin); SHCHERBAKOV 2008: 211 (cat., near Ramenskoe); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); RUDOISKATEL 2008b: 212 (cat., Chelyabinsk Prov.: East Ural Nature Reserve); KOCHETKOV et al. 2008: 258 (cat., Ryazan Prov.: Lipovaya gora); RUCHIN et al. 2009: 165 (cat., Mordovia: Ichalkovskiy Distr., Tashkino); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.: Haznidonskiy canyon, vill. Tashly-Tal; Sukanskiy canyon, Verkhnyaya Zhemtala; Rtsyvaszki canyon, vill. Verkhnyaya Balkariya); RUDOISKATEL 2011a: 166 (cat., Sverdlovsk Prov.); KOCHETKOV 2012: 241 (cat., Ryazan Prov.: Lipovaya gora); LELEJ & KURZENKO 2012: 402 (cat., Amur, Primorskii Terr., Sakhalin); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); MOKROUSOV et al. 2013: 195 (cat., Mordovia Nature Reserve); PAUKKUNEN et al. 2014: 26 (cat., distr., Russian Far East, Russian Fennoscandia: Metsäpirtti [= Zaporozhskoe]; Muolaa [= Pravdino]; Rautu [= Sosnovo]; Terijoki [= Zelenogorsk]; Uusikirrko [= Polyany]; Äyräpää [= Baryshevo]; Antrea [= Kamenogorsk]; Koivisto [= Primorsk]; Käkisalmi [= Priozersk]; Salmi, Sortavala; Kol: Mayachino); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); RUCHIN 2015: 391 (cat., Mordovia Nature Reserve); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 134 (cat., European Part: North, North-West, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Omsk Prov.; Eastern Siberia: Irkutsk Prov., Yakutsk Rep.; Far East: Amur Prov., Khabarovsk Terr., Sakhalin, Primorskii Terr.); ROSA et al. 2017f: 16 (cat., distr., Omsk Prov.: Omsk; Irkutsk Prov.: Irkutsk; Padun, Verkhnyaya Tunguzka [= Angara River]; Yakutsk Rep.: Petropavlovskoe; Lena River, env. Zhigansk); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis (Monochrysis) succincta var. *bicolor*: MOCSÁRY 1889: 310 (key). 314 (cat., descr., distr., Caucasus); MOCSÁRY 1890a: 66 (cat., Caucasus); MAIDL 1922: 103 (cat., distr., Caucasus).

Chrysis succincta var. *bicolor*: DALLA TORRE 1892: 99 (cat., Caucasus).

Chrysis succincta ab. *virideocincta* HELLÉN 1920: 211 (cat., descr., distr., Kexholm [= Priozersk]). Junior subjective synonym of *C. bicolor* LEPELETIER, 1806 according to PAUKKUNEN et al. 2014: 26.

Chrysis (*Chrysis*) *bicolor*: LINSENMAIER 1959: 108 (key), 113 (descr., Fennoscandia), 190 (cat.), 204 (Fig. 350), 209 (Figs 502–503); KUNZ 1994: 60 (key), 61 (Fig. 121), 104 (biol., cat., descr., distr., ecol., Fennoscandia), 105 (Fig. 228).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North-West: Leningrad Prov.: st. Volosovo [ZIN], Gobzhitsy [ZIN], Peterhof [ZIN]; Centre: Kostroma Prov.: Kostroma [ZIN]; Kursk Prov.: Grajvoronskij uezd [ZIN]; Mordovian Rep. [MMC]; Nizhny Novgorod Prov. [MMC]; Penza Prov.: Penza [ZIN]; Ryazan Prov.: Kazachij [ZIN]; East: Chuvash Rep. [MMC], Kirov Prov. [ZIN]; South: Volgograd Prov.: Sarepta [ZIN]; Crimea: Simferopol [ZIN]); URAL (Orenburg Prov.: env. Orenburg [ZIN]); FAR EAST (Khabarovsk Terr.; Amur, river Malishevskaya [ZIN]). Georgia: Kodzgori [ZIN].

D i s t r i b u t i o n . RUSSIA: European part: (North: Karelian Rep.; North-West: Leningrad Prov., Pskov Prov.; Centre: Kursk Prov., Kostroma Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov.; East: Chuvash Rep., Kirov Prov., South: Volgograd Prov.; North Caucasus: Kabardino-Balkarian Rep., Stavropol Terr.; Crimea); Ural (Chelyabinsk Prov., Orenburg Prov., Sverdlovsk Prov.); Western Siberia (Omsk Prov.); Eastern Siberia (Irkutsk Prov., Yakutsk Rep.); Far East (Amur Prov., Khabarovsk Terr., Primorskii Terr., Sakhalin Prov.). Caucasus. Trans-Palaeartic, from western Europe to northern Africa and Russian Far East (PAUKKUNEN et al. 2014).

H o s t . Crabronidae: *Tachysphex obscuripennis* (SCHENCK) and *T. pompiliformis* (PANZER) (MORGAN 1984; KUNZ 1994; SAURE 1998; WICKL 2001), *Dinetus pictus* (GAUSS 1967; KUNZ 1994).

***Chrysis bilobata* BALTHASAR, 1953 (Fig. 112)**

Chrysis bilobata BALTHASAR, 1953: 178. Holotype ♀; Palestine/Israel: Jerusalem (Prague) (*millenaris* group). VINOKUROV 2006c: 67 (tax., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 84 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); ROSA et al. 2017b: 134 (cat., European Part: North Caucasus).

Chrysis millenaris (!) *bilobata*: VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.; Kabardino-Balkarian Rep.). Middle East. Turkey.

R e m a r k s . *Chrysis bilobata* BALTHASAR was considered the subspecies of *Chrysis millenaris* from Middle East by LINSENMAIER (1959) and was synonymised with *C. millenaris* by KIMSEY & BOHART (1991). STRUMIA & FALLAHZADEH (2015) resurrected *C. bilobata* from the latter synonymy. VINOKUROV (2006d, e, f, 2008, 2009) listed *C. bilobata* as a valid species without providing any discussion. Nevertheless this species does not match Strumia's *C. bilobata*. Both F. Strumia and N.B. Vinokurov examined the type in Prague (pers. comm.), but the Caucasian and the Iranian species apparently belong to distinct species and a new examination of the type is needed.

***Chrysis borealis* PAUKKUNEN, ØDEGAARD & SOON, 2015**

Chrysis sp.: PAUKKUNEN et al. 2014: 44 (cat., distr., Russian Fennoscandia: Terijoki [= Zelenogorsk]; Seiskari [= Seskar island]; Viipuri [= Vyborg]; Sortavala; Tivdiya; Belomorsk; Kandalaksha; Lv: Kashkarantsy).

Chrysis borealis PAUKKUNEN, ØDEGAARD & SOON, 2015: 84. Holotype ♀; Norway: Nord-Trøndelag, Ørin (Trondheim) (*ignita* group), 53 (Fig. 106), 55 (Fig. 124), 57 (Fig. 133), 60 (key), 63 (Fig. 158), 64 (key), 66 (Fig. 178), 84 (descr., Lapponia tulomensis, 45 km east of Murmansk, 68.876°N, 34.196°E), 85 (Fig. 179), 87 (Figs 180–186), 90 (Figs 187–195), 91 (Tab. 2), 92 (Fig. 196); ROSA et al. 2017b: 134 (cat., European Part: North, North-West).

D i s t r i b u t i o n . RUSSIA: European part (North: Murmansk Prov.; North-West: Leningrad Prov.).

H o s t . Vespidae (Eumeninae): possibly *Ancistrocerus parietum* (LINNAEUS) and *A. scoticus* (CURTIS) (PAUKKUNEN et al. 2015).

****Chrysis branicki* RADOSZKOWSKI, 1877**

Chrysis branicki RADOSZKOVSKY, 1877: 107. Syntypes ♀♀; Egypt (Berlin) (examined) (*bihamata* group).

Chrysis branicki: ROSA et al. 2015e: 16 (cat., tax., Caucasus) [mis. or loc. in error ?].

D i s t r i b u t i o n . Caucasus.

***Chrysis brevitarsis* THOMSON, 1870**

Chrysis brevitarsis THOMSON, 1870: 107. Holotype ♀; Sweden: Nerike [= Närke] (Lund) (examined) (*ignita* group). NIKOL'SKAYA 1978: 70 (key, northern European part of USSR); RESHCHIKOV 2002: 120 (cat., National Park Sebezhsy); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Psebah, Nikitino, Damhurts, Zakan); VINOKUROV 2014c: 47 (cat., ecol., Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 89 (cat., Kabardino-Balkarian Rep.; Caucasian State Nature Biosphere Reserve); MARTYNOVA & FATERYGA 2015: 478 (biol., Crimea: Simferopol, env. of Krasnolesye); ROSA et al. 2017b: 134 (cat., European Part: North Caucasus, Crimea; Eastern Siberia: Tuva Rep.); ROSA et al. 2017f: 29 (cat., distr., Tuva Rep.: W of Ujukskyi Mountains, Kamennyi River valley 1000 m); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis (Chrysis) brevitarsis: LINSSENMAIER 1959: 150 (key), 159 (descr., Fennoscandia), 191 (cat.), 205 (Fig. 395); KUNZ 1994: 62 (Figs 134–135), 63 (Fig. 142d), 64 (key), 107 (biol., cat., descr., distr., ecol., Fig. 232, Fennoscandia).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep. Rep., Stavropol Terr.; Crimea); Eastern Siberia (Tuva Rep.). West-Palaeartic: northern and central Europe (LINSSENMAIER 1997).

H o s t . Vespidae (Eumeninae): *Discoelius zonalis* PANZER and *D. priesneri* MAD. (ZIMMERMANN 1958). *Ancistrocerus antilope* (PANZER) (MARTYNOVA & FATERYGA 2015); *Discoelius dufouri* LEPELETIER and *Discoelius zonalis* (PANZER) (BLÜTGHEN 1961; GAUSS 1966; MARTYNOVA & FATERYGA 2015).

***Chrysis buda* BOHART, 1991**

Chrysis (Tetrachrysis) buddhae SEMENOV, 1967: 179, nom. praeocc., nec MOCSÁRY, 1913. Holotype ♀; China: Inner Mongolia (St. Petersburg) (examined) (*ignita* group).

Chrysis buda BOHART in KIMSEY & BOHART 1991: 392. Replacement name for *C. buddhae* SEMENOV, 1967. ROSA et al. 2017b: 134 (cat., Eastern Siberia: Buryat Rep.); ROSA et al. 2017f: 29 (cat., distr., Buryatia Rep.: Ulan-Ude); ROSA et al. 2017g: 39 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Buryat Rep.). China (Inner Mongolia, Hubei).

***Chrysis buechneri* SEMENOV, 1892 (Fig. 164)**

Chrysis (Tetrachrysis) büchneri SEMENOV, 1892: 83. Holotype ♀ [not ♂]; Kazakhstan: Nukus, Amu-Daria (St. Petersburg) (examined) (*graelsii* group). ROSA et al. 2017a: 19 (cat., typ., Kazakhstan), 119 (Pl. 20).

Chrysis (Tetrachrysis) buchneri (!): BISCHOFF 1913: 48 (cat., eastern Siberia).

Chrysis (Tetrachrysis) remota subsp. *aurorea* SEMENOV, 1967: 167. Holotype ♀; Azerbaijan: Elisabethpol (St. Petersburg). Junior subjective synonym of *Chrysis buechneri* SEMENOV, 1892 according to KIMSEY & BOHART 1991.

Chrysis (Chrysis) büchneri: LINSENMAIER 1968: 84 (descr., Siberia).

Chrysis buechneri: ROSA et al. 2017g: 39 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Siberia (?). Caucasus (Azerbaijan). Kazakhstan, Uzbekistan.

R e m a r k s . The locality Siberia is erroneously given by BISCHOFF (1913) as type locality, and later reported by LINSENMAIER (1968).

***Chrysis calimorpha calimorpha* MOCSÁRY, 1882**

Chrysis calimorpha MOCSÁRY, 1882: 71. Neotype ♀ (designated by ROSA & XU 2015: 19); Hungary: Rákospalota [= Budapest] (Budapest) (examined) (*pulchella* group). VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 84 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 134 (cat., European Part: Centre, South, North Caucasus).

Chrysis pulchella calimorpha: VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Kursk Prov.: Timskiy uезд [ZIN]; South: Volgograd Prov.: Sarepta [NMLS]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Kursk Prov.; South: Volgograd Prov.; North Caucasus: Stavropol Terr.). Central and southern Europe (LINSENMAIER 1959).

***Chrysis carnifex* MOCSÁRY, 1889**

Chrysis (Tetrachrysis) carnifex MOCSÁRY, 1889: 517. Holotype ♂; China: Tatschiansy (Budapest) (examined) (*ignita* group). MOCSÁRY 1890b: 63 (descr., eastern Siberia); BISCHOFF 1913: 49 (cat., eastern Siberia).

Chrysis carnifex: ROSA et al. 2017b: 134 (cat., Far East: Primorskii Terr.); ROSA et al. 2017g: 39 (cat., distr., Siberia)

M a t e r i a l e x a m i n e d . Russia: FAR EAST (Primorskii Terr.: Vladivostok [NMLS]).

D i s t r i b u t i o n . RUSSIA: Far East (Primorskii Terr.).

R e m a r k s . Possible synonym of *Chrysis keriensis* RADOSZKOWSKI, 1887 (ROSA et al. 2014).

***Chrysis caspiensis* LINSENMAIER, 1959**

Chrysis (Chrysis) helleni ssp. *caspiensis* LINSENMAIER, 1959: 113 (descr., southern Russia: Sarepta) (*succincta* group).

Chrysis (Chrysis) caspiensis: LINSENMAIER 1968: 69 (southern Russia).

Chrysis helleni caspiensis: VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).

Chrysis caspiensis: ROSA et al. 2017b: 134 (cat., European Part: South, North Caucasus).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [NMLS]).

D i s t r i b u t i o n . RUSSIA: European part (South: Volgograd Prov.; North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.). Central Europe (Austria).

R e m a r k s . *Chrysis caspiensis* was upgraded to species rank by LINSENMAIER (1968). The genital capsula of *Chrysis helleni* LINSENMAIER drawn by LINSENMAIER (1959: 204, Fig. 351) belongs to *C. caspiensis* LINSENMAIER. Specimens from Vinokurov's collection must be double checked, because some belong to *C. bicolor* Lepelletier.

***Chrysis castigata* LINSENMAIER, 1951 (Figs 183-184)**

Chrysis (Chrysis) exsulans var. *asiatica* LINSENMAIER, 1951: 82. Holotype ♀; Uzbekistan: Ferghana (Budapest) (examined) (*ignita* group), nom. praeocc., nec RADOSZKOWSKI, 1889.

Chrysis (Chrysis) exsulans var. *castigata* LINSENMAIER 1959: 155. Replacement name for *C. asiatica* LINSENMAIER, 1951.

Chrysis castigata: ROSA et al. 2017b: 134 (cat., Eastern Siberia: Buryat Rep., Tuva Rep.); ROSA et al. 2017f: 30 (cat., distr., Buryatia Rep.: Dzida, Dzhida River; Ust'-Kiran, Chikoi River; Tuva Rep.: 20 km SSW Erzin, Tore-Khol' Lake; 13 km SW Samagaltai, Dytytg-Khem River; 25 km SE Erzin, Tes-Khem River; 6 km SE Bai-Khaak, Sosnovka; south slope of W Tanu-Ola near Soglyi Village, 2000–2800 m); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Distribution. RUSSIA: Eastern Siberia (Buryatia Rep., Tuva Rep.). Kazakhstan, Kyrgyzstan, Turkmenistan, Uzbekistan (LINSENMAIER 1959, 1987).

***Chrysis caucasicola* BALTHASAR, 1953**

Chrysis (Tetrachrysis) analis var. *caucasicola* MOCSÁRY, 1912: 586. Holotype ♀, Azerbaijan; Adjikent (Budapest) (examined), nom. preocc., nec RADOSZKOWSKI, 1877 (*comparata* group). BISCHOFF 1913: 47 (cat., Caucasus); TRAUTMANN 1927: 172 (cat., descr., distr., Caucasus); ROSA et al. 2017h: 20 (cat., typ., Azerbaijan), 22 (Pl. 5).

Chrysis (Tetrachrysis) analis f. *caucasicola* BALTHASAR, 1953: 228 (nom. nov. pro *C. analis caucasicola* MOCSÁRY, 1912 nec RADOSZKOWSKI, 1877); 229 (descr., Caucasus).

Chrysis (Tetrachrysis) analis var. *caucasicola* SEMENOV, 1967: 166. Holotype ♀; Georgia: Lagodekhi (St. Petersburg) (examined), nom. praecoc., nec BALTHASAR, 1953. ROSA et al. 2017a: 113 (Pl. 8), 114 (Pl. 9).

Chrysis (Chrysis) analis caucasiensis LINSENMAIER, 1959: 146 (unnecessary replacement name for *C. analis caucasicola* MOCSÁRY, 1912, distr., Caucasus).

Chrysis (Chrysis) analis ssp. *caucasiensis*: LINSENMAIER 1968: 93 (descr., Caucasus); SCHMIDT 1977: 122 (cat., distr., Caucasus).

Chrysis analis caucasicola SEMENOV: VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State High-Mountain Reserve); VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tyrnyauz); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206, 207 (cat., ecol., Stavropol Terr., Kuma river); VINOKUROV 2011c: 171 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve, Dzhemagat river); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve).

Chrysis caucasicola SEMENOV: Vinokurov 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Chrysis analis caucasicola MOCSÁRY: VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysis caucasicola BALTHASAR: ROSA et al. 2017b: 134 (cat., European Part: North Caucasus).

Distribution. RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.). Azerbaijan, Georgia.

Remarks. *Chrysis analis caucasicola* SEMENOV, 1967 is both a junior homonym of *C. analis caucasicola* BALTHASAR, 1953 and junior subjective synonym of *C. analis caucasicola* MOCSÁRY, 1912 (ROSA et al. 2017a, 2017h). In ROSA et al. (2017a) erroneously as *C. analis caucasicola*, because it has species rank. It is closely related to *C. simplonica* LINSENMAIER, 1951.

***Chrysis cerastes cerastes* ABEILLE DE PERRIN, 1877**

Chrysis cerastes ABEILLE DE PERRIN, 1877: 68. Syntypes ♂♂; France: Marseille (Paris) (examined) (*cerastes* group). NIKOL'SKAYA 1978: 70 (key, southern European part of USSR);

IVANOV & FATERYGA 2006: 347 (biol., Crimea) [mis.]; KIZILOV 2007: 81 (cat., Altai Rep.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); MARTINOVA & FATERYGA 2015: 480 (biol., Crimea: Simferopol distr.: Urozhainoe); ROSA et al. 2017b: 134 (cat., European Part: East, North Caucasus, Crimea; Western Siberia: Altai); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis igniventris ABEILLE DE PERRIN, 1877: MANTERO 1905: 53 (cat., distr., Caucasus).

(!) *Chrysis immaculata* DU BUYSSON: LEONTIEV 2015: 133 (cat., mis., Tatar Rep.: Yelabuga, Bol'shoj Bor, Otarka Lake, Fig. 4).

Material examined. Russia: EUROPEAN PART (Crimea: Sevastopol [ZIN]). Azerbaijan: Elisavetpol [ZIN].

Distribution. RUSSIA: European part (East: Tatar Rep.; North Caucasus: Stavropol Terr.; Crimea); Western Siberia (Altai Rep.). Caucasus, Azerbaijan. Southern Europe (LINSENMAIER 1959).

****Chrysis chalcocrhya* MOCSÁRY, 1887**

Chrysis obscura RADOSZKOVSKY, 1877: 106. Holotype ♂; Caucasus (Kraków) (examined), nom. praecoc., nec SMITH, 1859 (*succincta* group). RADOSZKOVSKY 1880: 144 (cat., Caucasus); KIMSEY & BOHART (1991: 461) (synonym of *Chrysis scutellaris* FABRICIUS, 1794, *comparata-scutellaris* group).

Chrysis chalcocrhya MOCSÁRY, 1887b. Replacement name for *C. obscura* RADOSZKOWSKI, 1877, nom. praecoc., nec SMITH, 1859. ROSA et al. 2015e: 43 (cat., tax., Pl. 29, Caucasus).

Distribution. Caucasus.

****Chrysis chalcophana* MOCSÁRY, 1889**

Chrysis (Olochrysis) chalcophana MOCSÁRY, 1889: 213. Holotype ♂; Caucasus (Kraków) (examined) (*millenaris* group). MOCSÁRY 1890a: 62 (cat., Caucasus).

Chrysis chalcophana: DALLA TORRE 1892: 49 (cat., Caucasus); KIMSEY & BOHART 1991: 396 (cat., Caucasus); ROSA et al. 2015e: 17 (cat., tax., Pl. 10, Caucasus, possible synonym of *C. tenella* MOCSÁRY, 1889).

Distribution. Caucasus.

***Chrysis chinensis* MOCSÁRY, 1912**

Chrysis (Chrysis) chinensis MOCSÁRY, 1912: 589. Holotype ♀; China: Shanghai (Budapest) (examined) (*ignita* group).

Chrysis chinensis: ROSA et al. 2017b: 134 (cat., Western Siberia: Altai; Eastern Siberia: Khakass Rep., Zabaikalskii Terr.) ROSA et al. 2017f: 29 (cat., distr., Altai Rep.: 12 km SE Aktash, Chuya River; 15 km SE Kurai, Chuya River; Khakass Rep.: Zhemchuzhnyi, Shira Lake; Zabaikalskyi Terr.: "Dauria"); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Distribution. RUSSIA: Western Siberia (Altai Rep.); Eastern Siberia (Khakass Rep., Zabaikalskii Terr.). Trans-Palaeartic, from Mongolia and China (Heilongjiang, Shanghai) to Western Europe (LINSENMAIER 1959).

***Chrysis chosenensis* TSUNEKI, 1950 (Fig. 189)**

Chrysis nitidula var. *chosenensis* TSUNEKI, 1950: 71. Holotype ♀; Korea: Keijo (Tsukuba) (*ignita* group). HA et al. 2008: 75 (cat., distr., Far Eastern Russia).

Chrysis chosenensis (!): KURZENKO & LELEJ 2007: 1005 (cat., Primorskii Terr.); LELEJ & KURZENKO 2012: 402 (cat., Primorskii Terr.); ROSA et al. 2017b: 134 (cat., Far East: Primorskii Terr.).

D i s t r i b u t i o n . RUSSIA: Far East (Primorskii Terr.). Korea.

***Chrysis chrysoprasina* FÖRSTER, 1853 (Fig. 176)**

Chrysis chrysoprasina FÖRSTER, 1853: 321. Holotype ♂ [not ♀]; S Europe (Berlin) (*comparata* group). NIKOL'SKAYA 1978: 69 (key, southern European part of USSR); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Kameshkirskij Distr.: Novyy Chirchim; Kondolsky Distr.: Dmitrievki); SHIBAEV 2006a: 111 (cat., ecol., Penza Prov.: Kuncherovskaya steppe); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); ROSA et al. 2017b: 134 (cat., European Part: Centre; Ural).

Chrysis (Tetrachrysis) chrysoprasina: MOCSÁRY 1889: 471 (key), 472 (cat., descr., distr., Ural); MOCSÁRY 1890a: 68 (cat., Ural).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Astrakhan Prov. [MMC]); URAL (Orenburg Prov. [PRC]). Ukraine: Dnepropetrovsk [ZIN].

D i s t r i b u t i o n . RUSSIA: European part (Penza Prov.); Ural (Orenburg Prov.). Armenia (MOCSÁRY 1889). Southern Europe, west Asia (KIMSEY & BOHART 1991).

***Chrysis chryso stigma* MOCSÁRY, 1889 (Fig. 180)**

Chrysis (Tetrachrysis) chryso stigma MOCSÁRY, 1889: 450. Lectotype ♂ (designated by MÓCZÁR 1965: 172); Hungary: Diakovár (Budapest) (examined) (*comparata* group). KOHL 1913: 12 (cat., Walouyki [= Livenka]); ROSA et al. 2017b: 134 (cat., European Part: Centre, North Caucasus); ROSA et al. 2017h: 27 (cat., typ., Hungary, Pl. 9).

Chrysis (quadridentatae) chryso stigma: DU BUYSSON in ANDRÉ 1895: 517 (cat., descr., distr., key, Caucasus).

Chrysis (Tetrachrysis) ramburi: BALTHASAR 1953: 116 (key, Caucasus), 278 (descr., Caucasus).

Chrysis (Tetrachrysis) ramburi a. *chryso stigma*: BALTHASAR 1954: 219 (descr., Caucasus).

Chrysis (Chrysis) ramburi chryso stigma: LINSSENMAIER 1959: 147 (descr., distr., key, Caucasus).

Chrysis ramburi DAHLBOM, 1854: MÓCZÁR 1967a: 94 (cat., descr., distr., key, Caucasus); NIKOL'SKAYA 1978: 69 (key, southern European part of USSR); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Kolyshleysky Distr.: Skryabino); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); SHIBAEV 2006a: 111 (cat., Penza Prov.); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 84 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Belgorod Prov., Penza Prov.; North Caucasus: Stavropol Terr.). Caucasus. Central and south-eastern Europe (ROSA & XU 2015); Turkey (STRUMIA & YILDIRIM 2008).

R e m a r k s . Diagnostic characters and the history case are discussed in ROSA (2005), ROSA & ZU (2015), ROSA et al. (2017h). *Chrysis ramburi* is distributed in North Africa, South Spain and South France, whereas *C. chryso stigma* from Italy to Central-east Europe and Central Asia.

***Chrysis cingulicornis cingulicornis* FÖRSTER, 1853 (Fig. 158)**

Chrysis cingulicornis FÖRSTER, 1853: 313. Holotype ♂; Hungary (depository unknown) (*viridula* group). RADOSZKOWSKI 1889: 17 (descr., Caucasus), tab. III (Figs 33A–33I); TARBINSKY 2002c: 38 (key), 39 (southern Russia) [mis.]; ROSA et al. 2013: 18 (cat., distr., Russia); VINOKUROV 2016: 40 (cat., Dagestan Rep.: Samur Forest Reserve); ROSA et al. 2017b: 134 (cat., European Part: South, Crimea; Ural; Eastern Siberia: Krasnoyarsk Terr.).

Chrysis (Tetrachrysis) viridula var. *cingulicornis*: MOCSÁRY 1889: 439 (key), 440 (cat., descr., distr., Sarepta); MOCSÁRY 1890a: 67 (cat., Caucasus, southern Russia); BISCHOFF 1910: 479 (cat., Sarepta).

Chrysis viridula var. *cingulicornis*: DALLA TORRE 1892: 108 (cat., Caucasus).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Astrakhan Prov.: Enotaevsckij Distr. [MMC]; Volgograd Prov.: Sarepta [NMLS, sub *C. viridula* [ZIN]; North Caucasus: Dagestan Rep.: Magaramkent [MMC]; Crimea: Sevastopol [ZIN], Salgira Valley, env. Simferopol [ZIN]); URAL (Chelyabinsk Prov. [PRC]; Orenburg Prov.: Orenburg [sub *C. viridula*, ZIN]; Sverdlovsk Prov. [PRC]); EASTERN SIBERIA (Krasnoyarsk Terr.: vill. Birusa, SW Krasnoyarsk [sub *C. viridula*, ZIN]). Georgia: Lagodekhi [ZIN].

D i s t r i b u t i o n . RUSSIA: European part (South: Astrakhan Prov., Volgograd Prov.; North Caucasus: Dagestan Rep.; Crimea); Ural (Chelyabinsk Prov., Orenburg Prov., Sverdlovsk Prov.); Eastern Siberia (Krasnoyarsk Terr.). Caucasus, Georgia. West-Palaearctic, from Europe to Central Asia (ROSA et al. 2013).

***Chrysis cingulicornis pseudopyrrhina* LINSENMAIER, 1959**

Chrysis (Chrysis) cingulicornis ssp. *pseudopyrrhina* LINSENMAIER, 1959: 131. Holotype ♂; Russia: southern Russia (Sarepta) (*viridula* group). ROSA et al. 2017b: 134 (cat., European Part: South).

Chrysis cingulicornis FÖRSTER, 1853: TARBINSKY 2002c: 38 (key), 39 (southern Russia) [mis.].

D i s t r i b u t i o n . RUSSIA: European part (South: Volgograd Prov.).

****Chrysis circassica* MOCSÁRY, 1893**

Chrysis (Tetrachrysis) circassica MOCSÁRY, 1893: 222. Syntypes ♀♀; Caucasus: Araxes valley (Vienna) (examined) (*maculicornis* group). BISCHOFF 1913: 46 (cat., Caucasus).

Chrysis (quadridentatae) circassica: DU BUYSSON in ANDRÉ 1895: 616 (descr., Caucasus, Araxes valley).

Chrysis circassica: KIMSEY & BOHART 1991: 396 (cat., Caucasus, *succincta* group).

D i s t r i b u t i o n . Caucasus.

***Chrysis circe* MOCSÁRY, 1889 (Fig. 106)**

Chrysis (Olochrysis) circe MOCSÁRY, 1889: 230. Syntypes ♀♀; Caucasus (Kraków) (examined) (*phryne* group).

Chrysis (Holochoyris) circe: MOCSÁRY 1890a: 63 (cat., Caucasus); DALLA TORRE 1892: 51 (cat., Caucasus); BISCHOFF 1913: 38 (cat., Caucasus).

Chrysis (integerrimae) circe: DU BUYSSON in ANDRÉ 1894: 313 (cat., descr., distr., key, Caucasus).

Chrysis (Chryzogona) circe: LINSENMAIER 1959: 88 (descr., distr., key, Caucasus); LINSENMAIER 1968: 55 (descr., Caucasus).

Chrysis (Chrysis) circe: SCHMIDT 1977: 113 (cat., distr., Caucasus).

Chrysis circe: ZVANTSOV 1987: 63 (cat., North Ossetian Rep.: Nar, Gurkumta); KIMSEY & BOHART 1991: 398 (cat., Caucasus); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); ROSA et al. 2017b: 134 (cat., European Part: North Caucasus); ROSA et al. 2015e: 20 (cat., tax., Caucasus).

Material examined. Russia: EUROPEAN PART (North Caucasus: Dagestan Rep.: Choroga Tokhota [ZIN]; Ingushetia Rep.: Salgi [ZIN]).

Distribution. RUSSIA: European part (North Caucasus: Dagestan Rep., Ingushetia Rep., North Ossetian Rep.). Caucasus. Turkey (LINSENMAIER 1968).

***Chrysis clarinicollis* LINSENMAIER, 1951 (Fig. 188)**

Chrysis ignita var. *clarinicollis* LINSENMAIER, 1951: 77. Lectotype ♀ (designated by LINSENMAIER 1959: 154); Switzerland: Wallis (Luzern) (examined) (*ignita* group).

Chrysis clarinicollis: ROSA et al. 2017b: 134 (cat., European Part: South; Ural); ROSA et al. 2017d: 29 (cat., distr., tax., Kalmyk Rep.; Chelyabinsk Prov.).

Distribution. RUSSIA: European part (Kalmyk Rep.); Ural (Chelyabinsk Prov.). West Palearctic: southern and central Europe, northern Africa (LINSENMAIER 1997).

***Chrysis comparata* LEPELETIER, 1806 (Figs 177-179)**

Chrysis comparata LEPELETIER, 1806: 127. Neotype ♂ (designated by ROSA & XU 2015: 13); Italy (Turin) (examined) (*comparata* group). EVERSMANN, 1858: 557 (cat., descr., Orenburg Prov.); RADOSZKOVSKY 1866: 13 (cat., Orenburg); DE STEFANI 1888: 157 (cat., descr., distr., key, Caucasus, Russia); NIKOL'SKAYA 1978: 70 (key, southern European part of USSR); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Gorodishchenskij Distr.: Nikonovo); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); SHIBAEV 2006a: 111 (cat., Penza Prov.); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); RUCHIN et al. 2009: 165 (cat., Mordovia); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma river); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013d: 1106, 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); ROSA et al. 2017b: 134 (cat., European Part: Centre, South, North Caucasus, Crimea; Ural); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis distinguenda SPINOLA, 1838: RADOSZKOVSKY 1866: 12 (cat., Sarepta); RADOSZKOVSKY 1880: 45 (cat., Caucasus).

Chrysis (Tetrachrysis) chevrieri MOCSÁRY, 1879: MOCSÁRY 1882: 67 (cat., descr., distr., Caucasus); MOCSÁRY 1889: 479 (cat., descr., distr., key, lower Volga); MOCSÁRY 1890a: 68 (cat., lower Volga).

Chrysis chevrieri: RADOSZKOWSKI 1889: 28 (desc., Caucasus), tab. V (Figs 60A–60F); VORONTOVKIJ 1930: 68 (cat., Orenburg Prov.); PLAVIL'SHCHIKOV 1954: 121 (cat., Mordovian State Nature Reserve).

Chrysis (Tetrachrysis) chevrieri var. *orientalis* MOCSÁRY, 1889: 480. Lectotype ♂ (designated by MÓCZÁR 1965: 174); Caucasus (Budapest) (examined). MOCSÁRY 1890a: 68 (cat., Caucasus); ROSA et al. 2017h: 26 (cat., typ., Caucasus).

Chrysis chevrieri var. *orientalis*: DALLA TORRE 1892: 50 (cat., Caucasus).

Chrysis (Tetrachrysis) chevrieri: BISCHOFF 1910: 480 (cat., southern Russia).

Chrysis (Tetrachrysis) comparata: TRAUTMANN 1927: 139 (key), 154 (cat., descr., distr., Caucasus); BALTHASAR 1946: 253 (biol., distr., Caucasus); HAMMER 1950: 5 (cat., distr., Caucasus); BALTHASAR 1954: 157 (Figs 68–69), 163 (key), 209 (descr., Caucasus).

Chrysis (Tetrachrysis) comparata ab. *orientalis*: BALTHASAR 1953: 99 (key, Caucasus); 238 (descr., Caucasus).

Chrysis comparata ab. *orientalis*: MÓCZÁR 1965: 174 (tax., lectotype designation ♂: Caucasus); MÓCZÁR 1967a: 107 (cat., key, descr., distr., Caucasus).

Chrysis chevrieri var. *orientalis*: KIMSEY & BOHART 1991: 398 (syn., Caucasus); ROSA et al. 2015e: 18 (cat., tax., Caucasus).

Chrysis cumporata (!) *lurea*: VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody).

Chrysis comparata lurea: VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma River); VINOKUROV 2013d: 1106, 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysis (Chrysis) comparata: BRUSTILO & MARTYNOV 2009: 55 (biol., cat., distr., Siberia).

Material examined. Russia: EUROPEAN PART (Crimea: Sevastopol [ZIN]).

Distribution. RUSSIA: European part (Centre: Mordovian Rep., Penza Prov.; South: Volgograd Prov.; North Caucasus: Karachayevo-Cherkess Rep., Stavropol Terr.; Crimea); Ural (Orenburg Prov.); Siberia. Caucasus. West-Palaeartic from Europe and northern Africa to Caucasus. *Chrysis comparata orientica* LINSENMAIER, 1959 (replacement name for *C. chevrieri orientalis* MOCSÁRY, 1889), known for Caucasus and Anatolia, is the eastern form with male almost or fully green.

Remarks. *Chrysis comparata lurea* is a *nomen in collection* by Semenov and after VINOKUROV (2004) *nomen nudum*. It is the green variation of *C. comparata* (= *C. comparata orientica* LINSENMAIER, 1959).

Host. Megachilidae: *Anthidium manicatum* (LINNAEUS) (LINSENMAIER 1959).

***Chrysis comta* FÖRSTER, 1853**

Chrysis comta FÖRSTER, 1853: 314. Holotype ♂; Turkey (no locality) (depository unknown) (*ignita* group). ROSA 2002: 110 (cat., distr., southern Russia); VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.: State Nature Reserve: upper Cherek Balkarsky 6 km SE of vill. Verkhnyaya Balkariya; Tyzylskiy canyon, Tyzyl River, 20 km SW of the vill. Gundelen; Bezengi canyon; Chegemskiy canyon, Bashil); ROSA et al. 2014: 44 (cat., distr., southern Russia); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014e: 47 (cat., ecol., Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 90 (cat., Caucasian State Nature Biosphere Reserve: vill. Khudozhnikov); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 134 (cat., European Part: South, North Caucasus, Crimea; Ural).

Chrysis compta (!): RADOSZKOWSKI 1889: 29 (descr., Caucasus, Crimea), tab. V (Figs 61A–61I); DALLA TORRE 1892: 52 (cat., Caucasus, Tauria [= Crimea]).

Chrysis (Tetrachrysis) comta: MOCSÁRY 1889: 479 (key), 481 (cat., descr., distr., Caucasus, Crimea, Orenburg); MOCSÁRY 1890a: 68 (cat., Caucasus, southern and eastern Russia).

Chrysis (Chrysis) comta: LINSÉNMAIER 1959: 151 (key), 158 (descr., distr., southern Russia), 208 (Fig. 500); LINSÉNMAIER 1969: 367 (tax., southern Russia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Rostov Prov.: Taganrog [NMLS]).

D i s t r i b u t i o n . RUSSIA: European part (South: Rostov Prov.; North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.; Crimea); Ural (Orenburg Prov.). Caucasus. Trans-Palaeartic: from southern Europe, Iran and Turkey to China (ROSA et al. 2014).

****Chrysis concolor concolor* MOCSÁRY, 1893**

Chrysis (Tetrachrysis) concolor MOCSÁRY, 1893: 222. Holotype ♀; Caucasus: Araxes valley (Vienna) (*varidens* group). BISCHOFF 1913: 50 (cat., Caucasus).

Chrysis (quadridentatae) concolor: DU BUYSSON in ANDRÉ 1895: 615 (descr., Caucasus, Araxes valley).

Chrysis (Chrysozona) concolor: LINSÉNMAIER 1968: 51 (descr., Caucasus).

D i s t r i b u t i o n . Caucasus.

R e m a r k s . In KIMSEY & BOHART (1991) the type locality is erroneously Siberia (confused with *Chrysis fulgida* var. *concolor*), later reported by KURZENKO & LELEJ (2007).

***Chrysis consanguinea consanguinea* MOCSÁRY, 1889 (Fig. 160)**

Chrysis (Gonochrysis) consanguinea MOCSÁRY, 1889: 299. Syntypes ♀♀; Italy: Sicily; Algeria (Geneva) (examined) (*viridula* group).

(!) *Chrysis pyrhhina* DAHLBOM, 1845: LEONTIEV 2015: 134 (cat., mis., Tatar Rep.: Bol'shoj Bor, Otarka lake, Fig. 6).

Chrysis consanguinea: ROSA et al. 2017b: 134 (cat., Western Siberia: Altai; Eastern Siberia: Irkutsk Prov., Khakass Rep., Tuva Rep.); ROSA et al. 2017f: 23 (cat., distr., Altai Rep.: 12 km SE Aktash, Chuya River; 14 km SE Aktash, Chuya River; 15 km SE Kurai, Chuya River; 5 km SE Chagan-Uzun, Tuhtuyaryk River; Khakass Rep.: 20 km SW Abakan, Izykhskie Kopi; 27 km E Shira, Borets; Zhemchuzhnyi, Shira Lake; Tuva Rep.: 12 km SW Samagaltai, Dytyg-Khem River; 27 km SSW Erzin, Tore-Khol Lake [IBSS]; 31 km NEE Erzin, Erzin River; Irkutsk Prov.: Bratsk, Hidrostroitel', Sosnovyi Island); ROSA et al. 2017g: 39 (cat., distr., Siberia).

M a t e r i a l e x a m i n e d . Caucasus [sub *C. viridula*, ZIN].

D i s t r i b u t i o n . RUSSIA: Western Siberia (Altai Rep.); Eastern Siberia (Irkutsk Prov., Khakass Rep., Tuva Rep.). Caucasus. Southern Europe, northern Africa.

R e m a r k s . Some old identification of *C. viridula* given in literature are related to *C. consanguinea*. Its distributional range is only partly known due to its misidentification with other similar species in the *C. viridula* group. The Russian species could be attributable to the subspecies *C. consanguinea prominea* LINSENMAIER, 1959, but a revisional work of the species related to *C. viridula* is needed and planned in the next future. We postpone decisions after this future study.

***Chrysis csikiana* (MOCSÁRY, 1912) (Fig. 193)**

Chrysis (Tetrachrysis) csikiana MOCSÁRY, 1912: 406. Lectotype ♂ (designated by BOHART in BOHART & FRENCH 1986: 341); Kazakhstan: Semipalatinsk [= Semey] (Budapest) (examined) (*ignita* group). BISCHOFF 1913: 50 (cat., West Siberia); ROSA et al. 2017h: 30 (cat., typ., Kazakhstan), 31 (Pl. 12).

Chrysis (Chrysis) csikiana: LINSSENMAIER 1959: 161 (descr., distr., West Siberia (Altai)).

Chrysis csikiana: VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.: State mountain reserve: upper Malka River; Cherek-Balkarsky River; Bezengi canyon); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); VINOKUROV 2013d: 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA 2018b: 3 (Figs 6, 6A), 5 (tax., Stavropol Terr.).

Chrysis fouqueti: VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie).

Chrysis nitidularia MOCSÁRY, 1912: VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tyrnyauz).

Chrysis fouqueti csikiana: ROSA et al. 2017b: 135 (cat., European Part: North Caucasus: Western Siberia: Altai); ROSA et al. 2017g: 39 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep., Stavropol Terr.); Western Siberia (Altai Terr.). Kazakhstan.

***Chrysis cyaneata* MOCSÁRY, 1909**

Chrysis (Tetrachrysis) cyaneata MOCSÁRY, 1909: 4. Holotype ♂; Kazakhstan: Perovsk [= Kyzylorda] (Budapest) (examined) (*maculicornis* group). ROSA et al. 2017h: 31 (cat., typ., Kazakhstan), 33 (Pl. 14).

Chrysis (Tetrachrysis) uvarovi SEMENOV, 1967: 165. Holotype ♂; Russia: Ciscaucasia: lower Kuma River (St. Petersburg) (examined). ROSA et al. 2017a: 57 (cat., typ., syn. Ciscaucasia: Kuma River), 180 (Pl. 142); ROSA et al. 2017b: 134 (cat., European Part: North Caucasus).

Chrysis uvarovi: KIMSEY & BOHART 1991: 425 (synonym of *Chrysis invreai* BALTHASAR 1953, Ciscaucasia).

D i s t r i b u t i o n . Russia (Ciscaucasia). Kazakhstan.

***Chrysis cylindrica* EVERSMAAN, 1858 (Fig. 156)**

Chrysis cylindrica EVERSMAAN, 1858: 554. Holotype ♀; Russia: Kazan (Kraków) (examined) (*viridula* group). RADOSZKOVSKY 1866: 8 (cat., descr., Saratov, Crimea); KIRCHNER 1867: 208 (cat., Crimea); RADOSZKOVSKY 1880: 142 (cat., Caucasus); KIMSEY & BOHART 1991: 401 (cat., Kazan); MARTYNOVA & FATERYGA 2015: 476 (biol. Crimea: Tarkhankut Peninsula, Kipchak ravine); ROSA et al. 2017b: 134 (cat., European Part: East, South, Crimea; Ural; Eastern Siberia: Yakutsk Rep.); ROSA et al. 2017f: (cat., distr., Yakutsk Rep.: Yakutsk); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis viridula var. *integra* FABRICIUS 1787: DE STEFANI 1888: 141 (cat., descr., distr., key, Crimea, Russia).

Chrysis (Tetrachrysis) viridula var. *integra*: MOCSÁRY 1889: 439 (key), 445 (cat., descr., distr., Saratov, Orenburg, Ural); MOCSÁRY 1890a: 67 (cat., southern and eastern Russia).

Chrysis viridula var. *integra*: DALLA TORRE 1892: 108 (cat., Russia).

Chrysis (Tetrachrysis) viridula var. *integra*: BISCHOFF 1910: 479 (cat., South Russia).

Chrysis (quadridentatae) viridula var. *erythromelas* DAHLBOM, 1845: DU BUYSSON in ANDRÉ 1895: 522 (cat., descr., distr., southern Russia).

Chrysis (Chrysis) cylindrica: LINSSENMAIER 1959: 132 (Russia), 190 (cat.), 203 (Fig. 320), 210 (Fig. 533), 212 (Fig. 581); LINSSENMAIER 1968: 81 (descr., southern Russia, Crimea), 135 (Fig. 8); SCHMIDT 1977: 119 (cat., descr., Crimea, southern Russia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Kalmyk Rep. [MMC]; Volgograd Prov.: Sarepta [sub *C. viridula*, ZIN]; North Caucasus: Dagestan Rep.: Derbent Distr., Kamyshchay River valley [MMC]; Crimea: Sevastopol [sub *C. viridula*, ZIN], Simferopol [sub *C. viridula*, ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (East: Saratov Prov., Tatar Rep.; South: Kalmyk Rep., Volgograd Prov.; North Caucasus: Dagestan Rep.; Crimea); Ural (Orenburg Prov.); Eastern Siberia (Yakutsk Rep.). Caucasus. South-eastern Europe (LINSSENMAIER 1959, 1968).

H o s t . Vespidae (Eumeninae): *Tropidodynerus interruptus* (LINSSENMAIER 1968; MARTYNOVA & FATERYGA 2015).

R e m a r k s . Several misidentifications of *Chrysis cylindrica* occurred in old collections, where specimens are usually identified as *C. viridula*.

***Chrysis daphne* SMITH, 1874**

Chrysis daphne SMITH, 1874: 399. Holotype ♀; Japan: Hiogo (London) (*smaragdula* group). ROSA et al. 2017b: 134 (cat., Far East: Primorskii Terr.); ROSA et al. 2017d: 29 (cat., distr., Primorskii Terr.: Nakhodka, "Vostok" Scientific Station).

D i s t r i b u t i o n . RUSSIA: Far East (Primorskii Terr.). Japan.

R e m a r k s . Specimens published as *C. fasciata* OLIVIER from Russian Far East likely belong to *Chrysis daphne* SMITH, 1874. *C. daphne* has been considered a subspecies (LINSENMAIER 1959) or even synonym (KIMSEY & BOHART 1991) of *C. fasciata*, but unpublished molecular studies suggest that *C. daphne* (and *C. zetterstedti* DAHLBOM, 1845) represents a different species in relation to *C. fasciata* (PAUKKUNEN et al. 2014). Also from a morphological point of view, they show differences which support their separation. In particular *C. daphne* is easily recognizable by the elongate pit row on third metasomal tergite and the shortened black spots on the second sternite.

***Chrysis daphnis daphnis* MOCSÁRY, 1889 (Fig. 159)**

Chrysis (Gonochrysis) daphnis MOCSÁRY in RADOSZKOWSKI, 1889: 17. Syntypes ♂♂; Italy: Sicily (Kraków) (examined) (*viridula* group).

Chrysis daphnis: ROSA et al. 2017b: 135 (cat., European Part: Crimea); ROSA et al. 2017d: 25 (cat., distr., Crimea: Simferopol).

D i s t r i b u t i o n . RUSSIA: European part (Crimea). Southern Europe, Northern Africa.

***Chrysis daphnis syriensis* LINSENMAIER, 1959**

Chrysis (Chrysis) daphnis ssp. *syriensis* LINSENMAIER, 1959: 133. Holotype ♀; Syria: Homs (Luzern) (examined) (*viridula* group). LINSENMAIER 1997a: 277 (tax., Dagestan); ROSA et al. 2017b: 135 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Dagestan Rep.). Palestine, Iran, Syria, Turkey (ROSA et al. 2013).

***Chrysis dauriana* LINSENMAIER, 1959 (Figs 139-140)**

Chrysis (Chrysis) cavaleriei dauriana LINSENMAIER, 1959: 112. Holotype ♀; Russia Dauria (= Transbaikal) (Luzern) (*succincta* group).

Chrysis (Tetrachrysis) mongolica SEMENOV, 1967: 178. Holotype ♀; Transbaikal [= Zabaikalskii Terr.]: Ingoda River (St. Petersburg) (examined) (*succincta* group). ROSA et al. 2017a: 39 (cat., typ., syn., Ingoda River), 156 (Pl. 91).

Chrysis cavaleriei DU BUYSSON, 1908: KURZENKO & LELEJ 2007: 1005 (cat., Buryat Rep.: Chita).

Chrysis mongoliana BOHART, 1991: 440. Replacement name for *Chrysis mongolica* SEMENOV, 1967, nom. preocc., nec MOCSÁRY, 1914. KURZENKO & LELEJ 2007: 1005 (cat., Chita).

Chrysis dauriana: ROSA et al. 2017a: 40. ROSA et al. 2017g: 39 (cat., distr., Siberia); ROSA et al. 2017b: 135 (cat., Western Siberia: Altai; Eastern Siberia: Buryat Rep., Krasnoyarsk Terr., Tuva Rep., Zabaikalskii Terr.).

M a t e r i a l e x a m i n e d . Russia: WESTERN SIBERIA (Altai Rep.: 5 km SE Chagan-Uzun, Tudituyaryk River [IBSS]); EASTERN SIBERIA (Buryatia Rep.: Selenduma [IBSS]; Dzhida, Dzhida River [IBSS]; Ust'-Kiran, Chikoi River [IBSS]; Irkutsk Prov.: 15 km E Ust'-Ordynskiy [IBSS]; Krasnoyarsk Prov.: 10 km NE Minusinsk, Malaya Minusa River [IBSS]; Tuva Rep.: 13 km SW Samagaltai, Dytyg-Khem River [IBSS]; SW Tuva, south slope of W Tanu-Ola near Soglyi Village, 2000–2800 m [GLA]; Zabaikalskii Terr. [NMLS]); FAR EAST (Primorskyi Terr.: Lazovskiy Nature Reserve, Proselochnyi [IBSS]).

Distribution. RUSSIA: Western Siberia (Altai Rep.); Eastern Siberia (Buryat Rep., Irkutsk Prov., Krasnoyarsk Terr., Tuva Rep., Zabaikalskii Terr.); Far East (Primorskii Terr.). Mongolia.

***Chrysis diacantha diacantha* MOCSÁRY, 1889 (Fig. 108)**

Chrysis (Dichrysis) diacantha MOCSÁRY, 1889: 318. Lectotype ♀ (designated by MÓCZÁR 1965); Caucasus (Budapest) (examined) (*varidens-ragusae* group). MOCSÁRY 1889: 318 (cat., descr., distr., Caucasus); MOCSÁRY 1890a: 66 (cat., Caucasus); BISCHOFF 1913: 44 (cat., Caucasus); TRAUTMANN 1927: 134 (cat., descr., distr., key, Caucasus); ROSA et al. 2017h: 36 (cat., typ., Caucasus, Pl. 17).

Chrysis diacantha: DALLA TORRE 1892: 56 (cat., Caucasus); MÓCZÁR 1967a: 85 (cat., descr., distr., key, Fig. 46B, Caucasus); KIMSEY & BOHART 1991: 404 (cat., Caucasus); ROSA et al. 2017b: 135 (cat., European Part: North Caucasus).

Chrysis (bidentatae) diacantha: DU BUYSSON in ANDRÉ 1895: 427 (cat., descr., distr., key, Caucasus), pl. VI (Fig. 4).

Chrysis (Chrysozona) diacantha: LINSENMAIER 1959: 89 (distr., key, Caucasus), 206 (Fig. 439); SCHMIDT 1977: 111 (cat., distr., Caucasus).

Material examined. Russia: EUROPEAN PART (North Caucasus (Vinokurov coll.)).

Distribution. RUSSIA: European part (North Caucasus). Caucasus. West-Palaeartic from Middle East to Central Asia.

***Chrysis decora* MOCSÁRY, 1887**

Chrysis superba RADOSZKOWSKI, 1877: 20. Lectotype ♂ (designated by BOHART in KIMSEY & BOHART 1991: 402); Kazakhstan: Jaxartes River (Moscow) (examined) (*splendidula* group).

Chrysis decora MOCSÁRY, 1887: 16. Repl. name for *superba* RADOSZKOWSKI, nec CRESSON, 1865. VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma River); ROSA et al. 2017b: 135 (cat., European Part: East, South, North Caucasus, Crimea; Ural; Western Siberia: Tomsk Prov.; Eastern Siberia: Zabaikalskii Terr.); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Distribution. RUSSIA: Ural (Bashkir Rep.); Western Siberia (Tomsk Prov.); Eastern Siberia (Zabaikalskii Terr.). Kazakhstan (RADOSZKOWSKI 1890), Turkmenistan (MOCSÁRY 1889), Kyrgyzstan: Tian-Shan (TARBINSKY 2002c).

Remarks. *Chrysis decora* has been confused with *C. mesasiatica* SEMENOV (KIMSEY & BOHART 1991; ROSA et al. 2017b), yet they belong to different taxa and old citations should be double checked.

***Chrysis distincta distincta* MOCSÁRY, 1887 (Figs 200-201)**

Chrysis analis var. *incerta* RADOSZKOVSKY, 1880: 145. Holotype ♀; Caucasus (Kraków) (examined), nom. praeocc., nec DAHLBOM, 1854 (*maculicornis* group).

Chrysis distincta MOCSÁRY, 1887b. Replacement name for *Chrysis analis* var. *incerta* RADOSZKOVSKY, 1880, nom. praeocc., nec DAHLBOM, 1854. DALLA TORRE 1892: 57 (cat., Caucasus); KIMSEY & BOHART 1991: 404 (cat., Caucasus); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus);

VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 135 (cat., European part: South, North Caucasus, Crimea); ROSA et al. 2015e: 9 (cat., tax., Caucasus).

Chrysis (Tetrachrysis) distincta: MOCSÁRY 1890a: 68 (cat., Caucasus).

Chrysis (Cornuchrysis) distincta: LINSENMAIER 1959: 176 (descr., distr., key, Caucasus).

Cornuchrysis (!) distincta: VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Astrakhan Prov. [MMC]; Kalmyk Rep. [MMC]; Volgograd Prov.: Sarepta [sub *C. maculicornis*, ZIN]; Crimea: Sudak [sub *C. maculicornis*, ZIN]; North Caucasus: Dagestan Rep. [MMC]). Azerbaijan: Elisavetpol [ZIN]. Georgia: Alazanskaya Valley near Tiflis [ZIN].

D i s t r i b u t i o n . RUSSIA: European part (South: Astrakhan Prov., Kalmyk Rep., Volgograd Prov.; North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., Stavropol Terr.; Crimea). Caucasus. Palestine, Iran and Turkey, south of former USSR (ROSA et al. 2013).

***Chrysis distincta thalhammeri* MOCSÁRY, 1889**

Chrysis (Tetrachrysis) thalhammeri MOCSÁRY, 1889: 456. Lectotype ♀ (designated by MÓCZÁR 1965); Hungary: Vrdnik (Budapest) (examined) (*cerastes* group). TRAUTMANN 1927: 138 (key), 175 (cat., descr., distr., Caucasus); BISCHOFF 1913: 60 (cat. Caucasus); BALTHASAR 1953: 97 (key, Caucasus); BALTHASAR 1954: 164 (key), 226 (descr., Caucasus); ROSA et al. 2017h: 79 (cat., typ., Pl. 58).

Chrysis (quadridentatae) thalhammeri: DU BUYSSON in ANDRÉ 1895: 547 (cat., descr., distr., key, tax., Caucasus).

Chrysis distincta thalhammeri (!): VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Chrysis distincta thalhammeri: VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 135 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). Caucasus. Central and south-eastern Europe, Middle East to Transcaspiya (TRAUTMANN 1927).

R e m a r k s . *Chrysis d. distincta* and *C. d. thalhammeri* in Caucasus very likely represent only one species variable in colouration. *C. distincta* is a common and widely distributed species ranging from northern Africa to South-eastern Europe, from Caucasus to Pakistan, and described with different names by different authors. LINSENMAIER (1959) considered these taxa as different subspecies of *C. distincta*, whereas KIMSEY & BOHART (1991) as synonyms of *C. distincta*. A revision of this species "subgroup" is anyway needed (ROSA et al. 2017h).

****Chrysis eldari* (RADOSZKOWSKI, 1893)**

Olochrysis eldari RADOSZKOWSKI, 1893: 242. Holotype ♀; Caucasus (Kraków) (examined) (*elegans* group). ROSA et al. 2015e: 88 (cat., typ., Caucasus), 89 (Pl. 65).

Chrysura eldari: KIMSEY & BOHART 1991: 489 (cat., Caucasus).

Chrysis eldari: ROSA et al. 2015e: 88 (cat., tax., Caucasus).

D i s t r i b u t i o n . Caucasus. South-eastern Europe, Rhodes Is.

R e m a r k s . KIMSEY & BOHART (1991) and VINOKUROV (2012a, for Caucasus) listed and keyed *C. eldari* in the genus *Chrysura* DAHLBOM, 1845. They clearly refer to other species in the *Chrysura dichroa* group.

***Chrysis elegans elegans* LEPELETIER, 1806 (Figs 166-167)**

Chrysis elegans LEPELETIER, 1806: 128. Holotype ♀; unknown locality (Turin ?) (*elegans* group). RADOSZKOVSKY 1866: 10 (cat., southern Russia); RADOSZKOWSKI 1889: 17 (descr., Orenburg, Caucasus), tab. III (Figs 34A–34K); BRUSTILO 2008: 30 (cat., Crimea: Opukskiy Natural Reserve); ROSA et al. 2017b: 135 (cat., European Part: Crimea; Ural).

Chrysis (Gonochrysis) elegans: MOCSÁRY 1889: 299 (key), 300 (cat., descr., distr., Caucasus, southern Russia); MOCSÁRY 1890a: 65 (cat., southern Russia); BALTHASAR 1853: 214 (descr., Southern Russia); TRAUTMANN 1927: 127 (key), 129 (ecol., cat., descr., distr., Caucasus, southern Russia); BALTHASAR 1954: 160 (key), 191 (descr., Caucasus, European part of USSR).

D i s t r i b u t i o n . RUSSIA: European part (Crimea); Ural (Orenburg Prov.). Caucasus. Southern Europe (ROSA & SOON 2012).

***Chrysis equestris* DAHLBOM, 1854**

Chrysis equestris DAHLBOM, 1854: 307. Holotype ♀; locality unknown [most likely Sweden] (Stockholm) (examined) (*smaragdula* group). DALLA TORRE 1892: 59 (cat., Russia); KOHL 1913: 12 (cat., Walouyki [= Livenka]); NIEHUIS & HERRMANN 1998: 34 (distr., ecol. tax., southern Russia); KOWALCZYK & NADOLSKI 2007: 281 (distr., tab.), 285 (distr., tax.); ROSA et al. 2013: 20 (cat., southern Russia, Far East); PAUKKUNEN et al. 2014: 45 (cat., distr., southern Russia); ROSA et al. 2017b: 135 (cat., European Part: Centre, East; Ural; Far East: Primorskii Terr.); ROSA et al. 2017d: 30 (cat., distr., Primorskii Terr.: Lazovskyi Nature Reserve, Tachingouza).

Chrysis (Hexachrysis) equestris: MOCSÁRY 1889: 541 (key), 542 (cat., descr., distr. southern and eastern Russia, not rare in the provinces of Orenburg, Saratov, Spassk); MOCSÁRY 1890a: 70 (cat., southern and eastern Russia); BISCHOFF 1910: 486 (cat., southern Russia); LINSSENMAIER 1959: 163 (descr., distr., southern Russia), 205 (Fig. 402), 214 (Figs 622–623); LINSSENMAIER 1997b: 35 (key), 129 (colour drawing), 130 (descr., southern Russia, Fig. 114).

Chrysis (sexdentatae) equestris: DU BUYSSON in ANDRÉ 1896: 660 (cat., descr., distr., key, Spassk, Kazan).

Chrysis (Chrysis) equestris: KUNZ 1994: 61 (Fig. 123), 62 (key), 114 (biol., cat., descr., distr., ecol., southern Russia).

M a t e r i a l e x a m i n e d . Russia: URAL (Chelyabinsk Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Belgorod Prov., Penza Prov.; East: Saratov Prov., Tatar Rep.), Ural (Chelyabinsk Prov., Orenburg Prov.); Far East (Primorskii Terr.). West-Palaeartic, from West Europe to southern Russia (LINSSENMAIER 1997b).

H o s t . Vespidae (Zethinae): *Discoelius dufourii* LEPELETIER and *D. zonalis* (PANZER) (PÄRN et al. 2015; PAUKKUNEN et al. 2015).

***Chrysis erivanensis* RADOSZKOWSKI, 1880**

Chrysis erivanensis RADOSZKOVSKY, 1880: 146. Syntypes ♂♂; Armenia: Yerevan (Kraków) (examined) (*ignita* group).

Chrysis erivanensis: RADOSZKOWSKI 1889: 32 (descr., Mt. Kasbek), tab. VI (Figs 65A–65I); DALLA TORRE 1892: 59 (cat., Caucasus).

Chrysis (*Hexachrysis*) *erivanensis*: MOCSÁRY 1890a: 70 (cat., Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Mt. Kazbek).

***Chrysis fasciata* OLIVIER, 1791**

Chrysis fasciata OLIVIER, 1791: 677. Type unknown; South France (Paris ?) (*smaragdula* group).

NIKOL'SKAYA 1978: 68 (key, European part of USSR); BANASZAK 1980: 27 (biol., cat., Siberia); ZVANTSOV 1988: 90 (biol., cat., Moscow Prov.: Chashnikovo); RUDOISKATEL 1999a: 54 (cat., Chelyabinsk Prov.: Ilmen State Reserve); BUGANIN et al. 2000: 149 (cat., Ulyanovsk Prov.: Radischevsky Distr., Malaya Atmala, Ulyanovsky Distr., st. Okhotnich'ya); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep); RUDOISKATEL 2004: 17 (cat., Bashkir Rep.: Shulgan-Tash Nature Reserve); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Bessonovsky Distr.: Pobeda; Penza: Pobochino); ROSA 2006: 235 (key), 316 (biol., cat., descr., distr., ecol., tax., southern Russia), pl. 29 (Figs 146, 147); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); KIZILOV 2007: 82 (cat., Tomsk Prov.: Tomsk); KURZENKO & LELEJ 2007: 1005 (cat., Amur Prov., Irkutsk Prov., Primorskii Terr.); HA et al. 2008: 74 (cat., distr., Far Eastern Russia); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); RUDOISKATEL 2008b: 212 (cat., Chelyabinsk Prov.: East Ural Nature Reserve); MOKROUSOV 2009: 266 (biol., cat., Mari El Rep.: Chavaynur); DE OLIVEIRA et al. 2009: 44 (cat., distr., southern Russia); RUDOISKATEL 2011a: 166 (cat., Sverdlovsk Prov.); RUDOISKATEL 2011: 68 (cat., Bashkir Rep.: Shulgan-Tash Nature Reserve); LELEJ & KURZENKO 2012: 402 (cat., Amur, Primorskii Terr., Irkutsk); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); KOCHETKOV 2013: 170 (cat., Amur Prov.: Khingansky Zapovednik); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 135 (cat., European Part: Centre, East, Crimea; Ural; Western Siberia: Tomsk Prov.; Eastern Siberia: Irkutsk Prov.; Far East: Amur, Primorskii Terr.); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis violacea PANZER 1806: DU BUYSSON 1898: 539 (cat., Crimea).

Chrysis (*Hexachrysis*) *fasciata*: TRAUTMANN 1927: 181 (key), 183 (cat., descr., distr., Siberia); BALTHASAR 1953: 122 (key, southern Russia); BALTHASAR 1954: 179 (Figs 84–86), 168 (key), 235 (descr., Siberia); LINSEMAIER 1959: 163 (descr., distr., southern Russia), 205 (Fig. 401), 214 (Figs 620–621); SCHMIDT 1977: 127 (cat., distr., southern Russia).

Chrysis (*Cymatochrysis*) *fasciata*: HAUPT 1957: 96 (biol., cat., distr., key, Siberia).

Chrysis (*Chrysis*) *fasciata*: KUNZ 1994: 61 (Fig. 124), 62 (key), 114 (biol., cat., descr., distr., ecol., southern Russia), 115 (Fig. 248); BRUSTILO & MARTYNOV 2009: 57 (cat., distr., Siberia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Nizhny Novgorod Prov. [MMC]; East: Mari El Rep. [MMC]); URAL (Chelyabinsk Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Moscow Prov., Nizhny Novgorod Prov., Penza Prov.; East: Mari El Rep., Ulyanovsk Prov.; Crimea); Ural (Bashkir Rep., Chelyabinsk Prov., Sverdlovsk Prov); Western Siberia (Tomsk Prov.); Eastern Siberia (Irkutsk Prov./and or Buryat Rep); Far East (Amur Prov., Primorskii Terr.). West-Palaeartic: Mediterranean (from central and southern Europe to North Africa) to southern Russia.

R e m a r k s . Previous identification in collections and literature should be double checked, because the real distribution of this species is still unclear. For example, in Northern Europe only *C. zetterstedti* is found (PAUKKUNEN et al. 2014), whereas in the East Palaearctic, from Russian Far East to Japan, only *C. daphnis* should be present (ROSA et al. 2014), yet overlapping areas are currently unknown.

H o s t . Vespidae (Eumeninae): *Gymnomerus laevipes* (SHUCKARD) (DUFOUR & PERRIS 1840; GIRAUD 1863; BERLAND & BERNARD 1938; LINSSENMAIER 1959; KUNZ 1994); *Euodynerus quadrifasciatus* (FABRICIUS), *Symmorphus murarius* (LINNAEUS) (HEINRICH 1964). Citations for *Discoelius dufourii* (LEPELETIER) and *Discoelius zonalis* (PANZER) (TRAUTMANN 1927; BERLAND & BERNARD 1938; BLÜTHGEN 1961) could refer to *Chrysis equestris*. Reported associations with Megachilidae (e.g. *Hoplitis tridentata* (DUFOUR & PERRIS) (TRAUTMANN 1927; BERLAND & BERNARD 1938; LINSSENMAIER 1959), and Crabronidae (*Ectemnius rubicola* (DUFOUR & PERRIS)) (BERLAND & BERNARD 1938) are not considered reliable.

****Chrysis flexuosa* MOCSÁRY, 1912**

Chrysis (Tetrachrysis) flexuosa MOCSÁRY, 1912b: 590. Holotype ♂; Caucasus (Budapest) (examined) (*succincta* group). BISCHOFF 1913: 51 (cat., Caucasus); ROSA et al. 2017h: 40 (cat., typ., Caucasus), 41 (Pl. 21).

Chrysis flexuosa: KIMSEY & BOHART 1991: 411 (cat., Caucasus).

D i s t r i b u t i o n . Caucasus.

****Chrysis fortuna* SEMENOV, 1967**

Chrysis (Tetrachrysis) fortuna SEMENOV, 1967: 164. Holotype ♂; Azerbaijan [not Ukraine]: Elisavetpol (St. Petersburg) (examined) (*maculicornis* group). ROSA et al. 2017a: 25 (cat., typ., Azerbaijan), 130 (Pl. 42).

Chrysis fortuna: KIMSEY & BOHART 1991: 412 (cat., Elisavetpol).

D i s t r i b u t i o n . Caucasus (Azerbaijan).

***Chrysis frankenbergeri* BALTHASAR, 1953 (Fig. 165)**

Chrysis frankenbergeri BALTHASAR, 1953: 248. Holotype ♂; Israel/Palestine: Jerusalem (Prague) (*graelsii* group). VINOKUROV 2006d: 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 84 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); ROSA et al. 2017b: 135 (cat., European Part: North Caucasus).

Chrysis frankenbergeri (!): VINOKUROV 2006d: 19 (cat., ecol., Stavropol Terr.: Mineralnye Vody).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). Caucasus (Azerbaijan). South-eastern Europe, Armenia, Palestine (LINSSENMAIER 1959, 1968, 1987, 1997).

***Chrysis frivaldszkyi frivaldszkyi* MOCSÁRY, 1882 (Figs 123-124)**

Chrysis frivaldszkyi MOCSÁRY, 1882: 52 [descr. in Hungarian], 84 [descr. in Latin]. Lectotype ♂ (designated by MÓCZAR 1965); Hungary (Budapest) (examined) (*succincta* group). ROSA et al. 2017b: 135 (cat., European Part: Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai; Eastern Siberia: Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep.); ROSA et al. 2017f: 15 (cat., distr., Western Siberia: Altai Rep.: 14 km SE Aktash, Chuya River; 15 km SE Kurai, Chuya River; Eastern Siberia: Irkutsk Prov.: 15 km E Ust'-Ordynskiy; Khakass Rep.: 14 km SSW Abakan, Belyi Yar, Abakan River; 21 km SW Abakan, Izykhskie Kopi; Chernoe Lake; 10 km E Shira, Itkul' Lake; 22 km NW Shira, Belyi Iyus River; Zhemchuzhnyi, Shira Lake; 27 km E Shira, Borets; Krasnoyarsk Terr.: Minusinsk, Malaya Minusa River; 10 km NW Minusinsk, Bystraya River; Tuva Rep.: 20 km SSW Erzin, Tore-Khol' Lake; Ubsu-Nur Lake; 13 km SW Samagaltai, Dyttyg-Khem River; 31 km NEE Erzin, Erzin River; 32 km SW Kyzyl, Elegest River; W of Ujukskiy Mountains, Kamennyi River Valley, 1000 m); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis frivaldszkyi (!): NIKOL'SKAYA 1978: 68 (key, southern European part of USSR); KUZNETSOVA 1990: 9 (cat., ecol., Lipetsk Prov.: Galich'ya Gora); BUGANIN et al. 2000: 149 (cat., Ulyanovsk Prov.: Novospassky Distr., vill. Mar'evka); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga).

Chrysis frivoldskii (!): ZVANTSOV 1987: 63 (cat., North Ossetian Rep.: Unal).

Chrysis frivoldskii (!): VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

Chrysius (!) *frivaldszkyi* (!): VOROBYEVA 2007: 57 (cat., Belgorod).

Material examined. Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [ZIN]; Crimea: Saryi Krim [ZIN]); URAL (Chelyabinsk Prov. [PRC]; Kurgan Prov. [PRC]; Orenburg Prov. [PRC]). Georgia: Tiflis [ZIN].

Distribution. RUSSIA: European part (Centre: Belgorod Prov., Lipetsk Prov., Penza Prov.; East: Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: North Ossetian Rep.; Crimea); Ural (Chelyabinsk Prov., Kurgan Prov., Orenburg Prov.); Western Siberia (Altai Rep.); Eastern Siberia (Irkutsk Prov.; Khakass Rep., Krasnoyarsk Terr.; Tuva Rep.). Caucasus. Central and southern Europe, Turkey (LINSSENMAIER 1968).

***Chrysis fulgida* LINNAEUS, 1761 (Figs 191-192)**

Chrysis fulgida LINNAEUS, 1761: 415. Lectotype ♀ (designated by MORGAN 1984: 9); Sweden: Uppsala (London, Linnean Society) (*ignita* group). EVERSMAAN 1858: 557 (cat., descr., Orenburg, Saratov, Ural); ASSMUS 1862: 269 (cat., ecol., Moscow); RADOSZKOVSKY 1866: 11 (cat., Kazan, Ural, Orenburg, St. Petersburg, Siberia, Kamchatka, Caucasus); RADOSZKOVSKY 1880: 144 (cat., Caucasus); DALLA TORRE 1892: 61 (cat., Caucasus, Kamchatka, Siberia); WESTERLUND 1893: 30 (cat., Impilahi); RADOSZKOWSKI 1889: 28 (descr., St. Petersburg, Orenburg, Siberia, Caucasus), tab. V (Figs 58A–58K); KOHL 1913: 12 (cat., Walouyki [= Livenka]); HELLÉN 1920: 212 (cat., Kivennapa [= Pervomaiskoe], Impilaks); VORONTSOVKIJ 1930: 68 (cat., Orenburg Prov.); DMITRIEV 1935: 260 (cat., Samarskaya Luka: Mt. Zhiguli); GUSSAKOVSKIJ 1948: 732 (cat., key, European part of USSR); PLAVIL'SHCHIKOV 1950: 400 (cat., European part of USSR); BENNO 1950: 37 (key), 41 (biol., cat., Siberia); LEVI et al. 1974: 266 (cat., Kirov Prov.: Goltzy, Kirov, Belaya Kholunitsa); NIKOL'SKAYA 1978: 69 (key, without localities); ZVANTSOV 1988: 91 (biol., cat., Moscow Prov.); BLAGOVESHCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); KUZNETSOVA 1990: 10 (cat., ecol., Lipetsk Prov.: Galich'ya Gora); BLAGOVESHCHENSKAYA 1994: 84 (cat., ecol., Ulyanovsk Prov.: Gorodischi, Shakhovskoe); RUDOISKATEL 1999a: 54 (cat.,

Chelyabinsk Prov.: Ilmen State Reserve); BUGANIN et al. 2000: 149 (cat., Ulyanovsk Prov.: Inzensky Distr., vill. Palatovo; Pavlovsky Distr., vill. Shikovka); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); MOKROUSOV 2002: 143 (cat., Nizhny Novgorod Prov.: Kerzhensky Nature Reserve); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); HUMALA 2004: 86 (cat., Karelian Rep.: Russki Kuzov); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Pachelmskij Distr.: Malyy Burtas; Kuzneckij Distr.: Ulyanovka; Gorodishchenskij Distr.: Chemodanovka; Penza; Kamensky Distr.: Novaya Esineeovka); SHIBAEV 2006a: 111 (cat., ecol., Penza Prov.: Akhuny, Nikonovo, Penza); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); ROSA 2006: 235 (key), 313 (biol., cat., descr., distr., ecol., Siberia), pl. 28 (Fig. 144); VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State High-Mountain Reserve); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); RUDOISKATEL 2007: 75 (cat., Sverdlovsk Prov.: Denezhkin Kamen Nature Reserve); AA.VV. 2007: 279 (Samara Prov.: Samarskaya Luka National Park: Zhiguli Mt.); HA et al. 2008: 75 (cat., distr., from European part of Russia to Korea); HUMALA 2008: 86 (cat., Russkiy Kuzov island); KOCHETKOV et al. 2008: 259 (cat., Ryazan Prov.: Lubyanskijskij, Bednaya gora, Lipovaya gora); RUDOISKATEL 2008b: 212 (cat., Chelyabinsk Prov.: East Ural Nature Reserve); VINOGRADOV 2008: 4 (cat., Vladimir Prov.); Rudoiskatel 2008a: 142 (cat., Sverdlovsk Prov.); MOKROUSOV 2009: 266 (biol., cat., Mari El Rep.: Ruyka, Krasny Steklovar, Norka); VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); RUDOISKATEL 2011a: 166 (cat., Sverdlovsk Prov.); RUDOISKATEL et al. 2011: 30 (cat., Sverdlovsk Prov.: vill. Kluch); KOCHETKOV 2012: 241 (cat., Ryazan Prov.: env. Ryazan); LELEJ & KURZENKO 2012: 402 (cat., Primorskii Terr.); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); ROSA et al. 2013: 20 (cat., distr., Far Est Russia); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); PAUKKUNEN et al. 2014: 34 (cat., distr., Russian Fennoscandia); RUCHIN & ANTROPOV 2014: 30 (cat., Mordovia Nature Reserve); VINOKUROV 2014b: 96 (biogeogr., Karachayev-Cherkess Rep.: env. Vill. Psebjaj, Nikitino, Damhurts, Zakan); PAUKKUNEN & KOZLOV 2015: 62 (cat., Murmansk Prov.: Pyhäkuru, Malyy Vudjavr); LESHTAEV 2015: 97 (cat., distr., Tula Prov.: Aleksin, Leninsky); RUCHIN 2015: 391 (cat., Mordovia Nature Reserve); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); RUCHIN & ANTROPOV 2016: 400 (cat., Mordovian Rep.: Mordovia State Natural Reserve); ROSA et al. 2017b: 135 (cat., European Part: North, North-West, Centre, East, North Caucasus; Ural; Western Siberia: Altai, Tomsk Prov., Tyumen Prov.; Eastern Siberia: Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Zabaikalskii Terr.; Far East: Amur, Kamchatka, Primorskii Terr.); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis (Tetrachrysis) fulgida: MOCSÁRY 1882: 59 (cat., descr., distr., Kamchatka, Siberia); MOCSÁRY 1889: 433 (key), 434 (cat., descr., distr., Caucasus, Kamchatka, Siberia); MOCSÁRY 1890a: 67 (cat., Kamchatka, Siberia); BISCHOFF 1913: 51 (cat., Siberia).

Chrysis (Tetrachrysis) cruenta MOCSÁRY, 1883: 15 (Caucasus).

Chrysis fulgida var. *cruenta*: DALLA TORRE 1892: 63 (cat., Caucasus).

Chrysis (quadridentatae) fulgida: DU BUYSSON in ANDRÉ 1895: 512 (biol., cat., descr., key, southern Russia), pl. II (Fig. 10), pl. XXII (Fig. 9).

Chrysis fulgida var. *concolor* MOCSÁRY, 1912: 586. Lectotype ♂ (designated by BOHART in BOHART & FRENCH 1986: 341); Russia: *Sibiria orientalis*, Raddefka (Budapest) (examined). ROSA et al. 2017h: 42 (cat., typ., Russia: Raddefka).

Chrysis (Chrysis) fulgida: LINSSENMAIER 1959: 160 (descr., Siberia), 191 (cat.); LINSSENMAIER 1997b: 37 (key), 121 (colour drawings of male and females), 122 (descr., Siberia, Fig. 104, head in frontal view, genital capsula).

Chrysis concolor: KURZENKO & LELEJ 2007: 1005 (cat., E Siberia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North-West: Leningrad Prov.: Gatchina [ZIN]; Centre: Bryansk Prov. [ZIN]; Ivanovo Prov. [MMC]; Kaluga Prov. (Kaluzhskaya Gubernia) [ZIN]; Nizhny Novgorod Prov. [MMC]; Tver Prov.: Rzhevskij uezd [ZIN]; East: Chuvash Rep. [MMC], Kirov Prov.: Urzhum [ZIN]; Mari El Rep. [MMC]; North Caucasus: Dagestan Rep.: Choroga Tokhota [ZIN]); URAL (Chelyabinsk Prov. [PRC]; Perm Prov. [ZIN]; Sverdlovsk Prov.: env. Ekaterinburg [PRC, ZIN]; Visimskiy Nature Reserve [PRC]; Vladimir Prov. [MMC]); WESTERN SIBERIA (Altai Rep.: 80 km SSE Ust'-Koksa, Zaichikha River [IBSS]; 66 km SSE Ust'-Koksa, Ozernaya River [IBSS]; Tomsk Prov.: Barnaul [ZIN]; Tyumen Prov.: Tobolsk [ZIN]); EASTERN SIBERIA (Irkutsk Prov.: Irkutsk [ZIN]; Krasnoyarsk Terr.: Kansk [ZIN], Minusinsk [ZIN]; Chitaizki-Sterena [NMLS]; Khakass Rep.: 27 km E Shira, Borets [IBSS]; 50 km NW Shira, Kirovo [IBSS]; Tuva Rep.: 13 km SW Samagaltai, Dytytg-Khem River [IBSS]; Zabaikalskii Terr.: 20 km SSE Krasnokamensk [IBSS]); FAR EAST (Amur Prov.: Blagoveshchensk [ZIN]; Primorskii Terr.: Lazovskyi Nature Reserve, America [IBSS]; Sihote-Alin [ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (North: Karelian Rep., Murmansk Prov.; North-West: Leningrad Prov.; Centre: Belgorod Prov., Bryansk Prov., Ivanovo Prov. Kaluga Prov., Lipetsk Prov., Mordovia Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov., Tula Prov., Tver Prov., Vladimir Prov.; East: Chuvash Rep., Kirov Prov., Mari El Rep., Samara Prov., Saratov Prov., Tatar Rep., Ulyanovsk Prov.; North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep.); Ural (Chelyabinsk Prov., Orenburg Prov., Perm Prov., Sverdlovsk Prov.); Western Siberia (Altai Rep., Altai Terr., Tomsk Prov., Tyumen Prov.); Eastern Siberia (Irkutsk Prov., Irkutsk Prov. and/or Buryat Rep., Khakass Rep., Krasnoyarsk Terr., Tuva Rep., Zabaikalskii Terr.); Far East (Amur Prov., Kamchatka Terr., Primorskii Terr.). Caucasus. Trans-Palaeartic, from Europe to North-East China (Manchuria) and Russian Far East (LINSENMAIER 1997; KURZENKO & LELEJ 2007; ROSA et al. 2014).

H o s t . Vespidae (Eumeninae): *Symmorphus allobrogus* (SAUSSURE), *S. bifasciatus* (LINNAEUS), *S. crassicornis* (PANZER) and *S. murarius* (LINNAEUS) (TRAUTMANN & TRAUTMANN 1919; TRAUTMANN 1927; PÄRN et al. 2015; PAUKKUNEN et al. 2015). Doubtful is the association with *Ancistrocerus parietum* (LINNAEUS) (TRAUTMANN 1927).

***Chrysis galloisi* DU BUYSSON, 1908**

Tetrachrysis galloisi DU BUYSSON, 1908: 210. Lectotype ♂ (designated by BOHART in KIMSEY & BOHART 1991: 413), Japan (Paris) (examined) (*ignita* group).

Chrysis galloisi: KURZENKO & LELEJ 2007: 1005 (cat., Buryat Rep., Primorskii Terr.); HA et al. 2008: 75 (cat., distr., South East Russia); LELEJ & KURZENKO 2012: 402 (cat., Buryatia, Primorskii Terr.); ROSA et al. 2014: 49 (cat., distr., south-eastern Russia and Russian Far East); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 135 (cat., Eastern Siberia: Buryat Rep.; Far East: Primorskii Terr.); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis galboisi (!): VINOKUROV 2006d: 19 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Buryat Rep.); Far East (Primorskii Terr.). East-Palaeartic, from Far East to China (ROSA et al. 2014). Japan.

R e m a r k s . *Chrysis galloisi* DU BUYSSON is known from East Palaeartic: Japan (LINSENMAIER 1959; KIMSEY & BOHART 1991) and SE Russia (LELEJ & KURZENKO 2007). Data from Caucasus are doubtful and should be double checked.

***Chrysis germari germari* WESMAEL, 1839 (Fig. 120)**

Chrysis nitidula GERMAR, 1817: 260. Type ?; Croatia: Fiume [currently Rijeka] (depository unknown), nom. praeocc., nec FABRICIUS, 1775 (*succinctula* group).

Chrysis germari WESMAEL, 1839: 177. Replacement name for *C. nitidula* GERMAR, 1817, nom. praeocc., nec FABRICIUS, 1775.

Chrysis succinctula: RADOSZKOVSKY 1866: 10 (cat., Kazan, Orenburg); RADOSZKOWSKI 1889: 18 (descr., Orenburg, Caucasus), tab. III (Figs 37A–37I).

Chrysis succincta var. *germari*: KOHL 1913: 12 (cat., Walouyki [= Livenka]).

Chrysis germari: NIKOL'SKAYA 1978: 68 (key, southern European part of USSR); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); ROSA et al. 2017b: 135 (cat., European Part: Centre, East; Ural).

M a t e r i a l e x a m i n e d . Russia: URAL (Chelyabinsk Prov. [PRC]; Orenburg Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Belgorod Prov.; East: Tatar Rep.); Ural (Chelyabinsk Prov., Orenburg Prov.). Caucasus. Central and southern Europe, Middle East, with several subspecies (LINSENMAIER 1959).

***Chrysis gertabi* RADOSZKOWSKI, 1891**

Chrysis gertabi RADOSZKOWSKI, 1891: 189. Syntypes ♂, ♀; Turkmenistan: Ashgabat (Kraków) (examined) (*cerastes* group); ROSA et al. 2017b: 135 (cat., Russia).

Chrysis (Tetrachrysis) taczanovskyi (!) var. *germabi* (!): TRAUTMANN 1927: 152 (cat., descr., distr., Russia).

D i s t r i b u t i o n . RUSSIA (without locality). Turkmenistan and Transcaspia.

***Chrysis glasunovi* SEMENOV, 1967**

Chrysis (Gonochrysis) glasunovi SEMENOV, 1967: 156. Holotype ♀; Russia: Krasnoarmeysk [currently Volgograd], lower Volga River (St. Petersburg) (examined) (*succincta* group). ROSA et al. 2017a: 27 (cat., typ., Sarepta), 133 (Pl. 48).

Chrysis glasunovi: VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); ROSA et al. 2017b: 135 (cat., European Part: South, North Caucasus, Crimea).

Chrysis glazunovi (!): VINOKUROV 2012d: 89 (sexual dimorphism); VINOKUROV 2013d: 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [ZIN]; Crimea: Sudak [ZIN]). Georgia: Lagodekhi [ZIN].

Distribution. RUSSIA: European part (South: Volgograd Prov.; North Caucasus: Stavropol Terr.; Crimea). Caucasus, Georgia.

***Chrysis gracillima gracillima* (FÖRSTER, 1853) (Fig. 109)**

Chrysogona gracillima FÖRSTER, 1853: 328. Holotype ♂; Germany: Tischbein near Herrstein (Berlin) (examined) (*gracillima* group). ZVANTSOV 1988: 90 (biol., cat., Moscow Prov.: Leonovo); SHIBAEV 2006a: 111 (biol., cat., ecol., Penza Prov.: Goltsovka, Akhuny); VINOKUROV 2006d: 19 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); ROSA et al. 2017b: 135 (cat., European Part: Centre, South, North Caucasus; Ural; Western Siberia: Altai); ROSA et al. 2017f: 13 (cat., distr., Altai Rep.: 15 km SE Kurai, Chuya River); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis gracilima (!): VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody).

Chrysis gracillima styx TRAUTMANN, 1926a: VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysis gracillima aurofacies TRAUTMANN, 1926a: VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2015a: 32 (cat., Dagestan Rep.: Dagestan Reserve, Barkhan Sarykum).

Material examined. Russia: EUROPEAN PART (Centre: Belgorod Prov.: Borisovka [ZIN]; Nizhny Novgorod Prov. [MMC]; Voronezh Prov.: Khopyor Natural Reserve Alferovka [ZIN]; South: Kalmyk Rep. [MMC]; Rostov Prov. [MMC]; North Caucasus: Dagestan Rep.: Kumtorkalinskij Distr.: Barkhan Sarykum [MMC]; Stavropol Terr. [ZIN]; URAL (Chelyabinsk Prov. [PRC]; Orenburg Prov. [PRC]).

Distribution. RUSSIA: European part (Centre: Belgorod Prov., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Voronezh Prov.; South: Kalmyk Rep., Rostov Prov.; North Caucasus: Dagestan Rep.; Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.); Ural (Chelyabinsk, Orenburg); Western Siberia (Altai Rep.). Europe and northern Africa, Middle East, Iran (ROSA et al. 2013).

Host. Vespidae (Eumeninae): *Microdynerus exilis* (HERRICH-SCHÄFFER), *M. parvulus* (HERRICH-SCHÄFFER), *M. nugdunensis* (DE SAUSSURE) (ENSLIN 1929; BENNO 1950; WICKL 2001). The citation for the Crabronidae *Trypoxylon clavicerum* LEPELETIER & SERVILLE (MORGAN 1984) is doubtful.

***Chrysis graelsii graelsii* GUÉRIN-MÉNEVILLE, 1842 (Fig. 161)**

Chrysis graelsii GUÉRIN-MÉNEVILLE, 1842: 148. Holotype ♀; Spain: Barcelona (Genoa) (examined) (*graelsii* group). VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2013d: 1106, 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); PAUKKUNEN et al. 2014: 33 (cat., distr., Russian Fennoscandia: Kurkijoki, Soskua; Kurkijoki, Tervu; Kurkijoki, Vätikkä; Lahdenpohja); MARTYNOVA & FATERYGA 2015: 478 (biol., Crimea: Lisy Bay); ROSA et al. 2017b: 135 (cat., European Part: North, Centre, North

- Caucasus, Crimea; Ural; Western Siberia: Novosibirsk Prov.; Eastern Siberia: Buryat Rep., Khakass Rep., Krasnoyarsk Terr., Tuva Rep.); ROSA et al. 2017g: 39 (cat., distr., Siberia).
- Chrysis analis* SPINOLA, 1808: EVERSMAAN 1858: 560 (cat., descr., northern Ural).
- Chrysis sybarita* FÖRSTER, 1853: RADOSZKOWSKI 1889: 25 (descr., Caucasus), tab. V (Figs 54A–54I); DALLA TORRE 1892: 101 (cat., Caucasus); BALTHASAR 1954: 164 (key), 222 (descr., Caucasus); NIKOL'SKAYA 1978: 69 (key, southern and south-western European part of USSR); BANASZAK 1980: 31 (biol., cat., Siberia); ZVANTSOV 1988: 90 (biol., cat., Moscow Prov.: Izmailovo, Mytishchi, Zavety Il'icha, Pravda, Kosino, Ilinskoe, Vatutinki); KUZNETSOVA 1990: 9 (cat., ecol., Lipetsk Prov.: Galich'ya Gora); MOKROUSOV 2002: 143 (cat., Nizhny Novgorod Prov.: Kerzhensky Natural Reserve); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Bessonovsky Distr.: Pobeda); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); KOCHETKOV et al. 2008: 258 (cat., Ryazan Prov.: Severnyi); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); RUDOISKATEL 2008b: 212 (cat., Chelyabinsk Prov.: East Ural Nature Reserve); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); RUDOISKATEL 2011a: 166 (cat., Sverdlovsk Prov.); KOCHETKOV 2012: 241 (cat., Ryazan Prov.: Severnyi); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).
- Chrysis (quadridentatae) chevrieri* ABEILLE DE PERRIN, 1877: DU BUYSSON in ANDRÉ 1895: 550 (cat., descr., distr., key, tax., southern Russia), pl. XII (Fig. 7), pl. XXIII (Figs 5A–5B).
- Chrysis (Tetrachrysis) sybarita*: MOCSÁRY 1882: 64 (cat., descr., distr., Caucasus); MOCSÁRY 1890a: 68 (cat., Caucasus, eastern Russia); TRAUTMANN 1927: 138 (key), 174 (biol., cat., descr., distr., Caucasus, Siberia).
- Chrysis (quadridentatae) chevrieri* var. *pusilla* DU BUYSSON in ANDRÉ, 1895: 550. Syntypes ♀♀; Algeria, France, southern Russia (Paris).
- Chrysis (Tetrachrysis) sybarita* var. *pusilla*: BISCHOFF 1913: 60 (cat. southern Russia).
- Chrysis (Chrysis) sybarita*: TSUNEKI 1947: 56 (cat., distr., tax., Caucasus, Siberia); HAUPT 1957: 105 (cat., distr., key, Siberia); LINSSENMAIER 1959: 135 (key, descr., Fennoscandia), 191 (cat.), 203 (Fig. 320), 210 (Fig. 533), 212 (Fig. 581); KOFLER 1975: 355 (cat., distr., Fennoscandia).
- Chrysis joxartis* (!): VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody).
- Chrysis valesiana perezii*: VINOKUROV 2006d: 19 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106, 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).
- Chrysis sybarita pekinensis* TSUNEKI, 1947: VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tynyauz); VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).
- Chrysis sybarita opaca* LINSSENMAIER, 1959: VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysis graelsii sybarita: SHIBAEV 2006a: 111 (cat., ecol., Penza Prov.: Akhuny); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Lipetsk Prov. [PRC]; Nizhny Novgorod Prov. [MMC]; North Caucasus: Krasnodar Terr. [MMC]); URAL (Chelyabinsk Prov. [PRC]; Orenburg Prov. [PRC]; Sverdlovsk Prov. [PRC]); WESTERN SIBERIA (Novosibirsk Prov.: Chik Village [GLA]); EASTERN SIBERIA (Buryat Rep., Ulan-Ude City [GLA]; Khakass Rep.: 20 km SW Abakan, Izykhskie Kopi [IBSS]; Krasnoyarsk Terr.: 10 km NW Minusinsk, Bystraya River [IBSS]; Tuva Rep.: Ubsu-Nur Lake [IBSS]; 6 km SE Bai-Khaak, Sosnovka [IBSS]; 12 km SW Samagaltai, Dyttyg-Khem River [IBSS]; 25 km SE Erzint, Tes-Khem River [IBSS]; W of Ujukyskiy Mountains, Kamennyi River valley [GLA]).

D i s t r i b u t i o n . RUSSIA: European part (North: Karelian Rep.; Centre: Lipetsk Prov., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov.; North Caucasus: Krasnodar Terr., Kabardino-Balkarian Rep., Stavropol Terr.; Crimea); Ural (Chelyabinsk Prov., Orenburg Prov., Sverdlovsk Prov.); Western Siberia (Novosibirsk Prov.); Eastern Siberia (Buryat Rep., Khakass Rep., Krasnoyarsk Terr., Tuva Rep.). Caucasus. Trans-Palaearctic: from western Europe and Asia Minor to China (LINSENMAIER 1959, 1968; ROSA et al. 2014).

R e m a r k s . Under the names *Chrysis graelsii* and *C. sybarita* at least two species are found and a revision of this group is needed, after examination of type material. LINSSENMAIER's (1959) interpretation of the species is related to a different species. Possibly some sibling species are also distributed in Russia. The type of *C. graelsii* does not match the current interpretation of the species and the type of *C. sybarita* is currently lost, therefore a revision of this species group is needed.

H o s t . Vespidae (Eumeninae): *Euodynerus disconotatus* (LICHTENSTEIN) in Crimea (MARTYNOVA & FATERYGA 2015), yet this datum should be referred to *Chrysis jaxartisi* SEMENOV; *E. notatus* (JURINE) (HERRMANN 1996), *E. quadrifasciatus* (FABRICIUS) (SAURE 1998). The citation for *Odynerus spiricornis* SPINOLA (TRAUTMANN 1927) is doubtful. Associations with Megachilidae (*Hoplitis anthocopoides* (SCHENCK) and *Osmia rufa* (LINNAEUS) (TRAUTMANN 1927)) are unreliable.

***Chrysis grohmanni krkiana* LINSSENMAIER, 1959 (Figs 131-132)**

Chrysis (Chrysis) grohmanni krkiana LINSSENMAIER, 1959: 109. Holotype ♀; Croatia: Krk Is. (Luzern) (examined) (*succincta* group).

Chrysis grohmanni krkiana: ROSA et al. 2017b: 135 (cat., European Part: South, North Caucasus); ROSA et al. 2017d: 22 (cat., distr., tax., Volgograd Prov.; Krasnodar Terr.).

D i s t r i b u t i o n . RUSSIA: European part (South: Volgograd Prov.; North Caucasus: Krasnodar Terr.). South-eastern Europe (ROSA & SOON 2012).

***Chrysis grumorum* SEMENOV, 1892**

Chrysis grumorum SEMENOV, 1892: 92. Holotype ♂; Tibet: Amdo (St. Petersburg) (examined) (*ignita* group). VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2015b: 317 (cat.

Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 135 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep., Stavropol Terr.). Tibet.

R e m a r k s . Distributional data to be confirmed.

***Chrysis ignita ignita* (LINNAEUS, 1758)**

Sphex ignita LINNAEUS, 1758: 571. Lectotype ♀ (designated by RICHARDS 1935: 159); Europe (London, Linnean Society) (*ignita* group).

Chrysis ignita: EVERSMANN, 1858: 556 (cat., descr., fauna Volgo-Uralensis); NYLANDER 1859: 110 (cat., Walkjärvi) [= *ignita* s.l.]; ASSMUSS 1862: 270 (cat., Moscow); RADOSZKOVSKY 1866: 13 (cat., from St. Petersburg to Kamchatka); RADOSZKOWSKI 1877: 10 (key), 23 (cat., descr., distr., Russia to beginning of Kamchatka); MOCSÁRY 1878: 198 (cat., Siberia); ABEILLE DE PERRIN 1878: 56 (key), 73 (descr., Caucasus); ABEILLE DE PERRIN 1879: 56 (key), 73 (Caucasus, cat.); RADOSZKOVSKY 1880: 145 (cat., Caucasus); RADOSZKOWSKI 1889: 5 (Figs 1A–1K), 29 (descr., St. Petersburg, Orenburg, Ural, Siberia, Amur, Vladivostok, Crimea, Astrakhan, Caucasus); WESTERLUND 1893: 30 (cat., Salmi) [= *ignita* s.l.]; DU BUYSSON 1898: 535 (cat., Crimea); BECKER 1880: 150 (cat., Sarepta); DWIGUBSKY 1802: 168 (cat., Moscow Prov.); KOHL 1913: 12 (cat., Walouyki [= Livenka]); HELLEN 1920: 213 (Salla) [= *ignita* s.l.]; TRAUTMANN 1927: 145 (russisch Lappland) [= *ignita* s.l.]; GUSSAKOVSKIJ 1948: 732 (cat., key, European part of USSR); PLAVIL'SHCHIKOV 1950: 400 (cat., European part of USSR); PLAVIL'SHCHIKOV 1954: 121 (cat., Mordovian State Nature Reserve); LEVI et al. 1974: 266 (cat., Kirov Prov.: Belaya Kholunitsa, Klimkovka, Velikaya, Verkhovino, Goltzy, Kirov, Zlobino, Kyrmyzh); NIKOL'SKAYA 1978: 70 (key, without localities); ZVANTSOV 1987: 64 (cat., North Ossetian Rep.: Alagir, Zintsar, Buron, B. Tsey, Nar, Gurkumta, Satat, Lisri, Zgir); ZVANTSOV 1988: 94 (biol., cat., Moscow Prov.); BLAGOVESHCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); KUZNETSOVA 1990: 10 (cat., Lipetsk Prov.: Galich'ya Gora, Don River); BLAGOVESHCHENSKAYA 1994: 84 (cat., ecol., Ulyanovsk Prov.: Annenkovo, Staraya Mayna, Gorodischi, Surlovka); HUMALA 1997: 55 (Kivach) [= *ignita* s.l.]; RUDOISKATEL 1999a: 54 (cat., Chelyabinsk Prov.: Ilmen Nature Reserve); BUGANIN et al. 2000: 149 (cat., Ulyanovsk Prov.: Radischevsky, Inzensky, Ulyanovsky, Majnskij, Surskij Distr.); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); KRIVONOGOVA & RUDOISKATEL 2004: 109 (cat., ecol., Sverdlovsk Prov.); RUDOISKATEL 2004: 17 (cat., Bashkir Rep.: Shulgan-Tash Nature Reserve); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Kolyshleysky Distr.: Cherkassk; Kuzneckij Distr.: Ulyanovka; Pachelmskij Distr.: Malyy Burtas; Shemysheysky Distr.; Zemetchinskij Distr.: Pashkovo); POLEVOI et al. 2005: 111 (Kizhi archipelago) [= *ignita* s.l.]; VINOKUROV 2005: 89 (North Ossetia Rep.), 90 (cat., ecol., central Caucasus and Ciscaucasus); SHIBAEV 2006a: 111 (cat., ecol., Penza Prov.: Akhuny, Goltsovka, Zarechny, Selitba, Nikonovo, Penza, Stepanovka); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VERSHININA et al. 2006: 111 (cat., Pskov Prov.: Sebezhsy National Park); VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State Hight-Mountain Reserve); VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tyrnyauz); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); DROBOT & VOROBYEVA 2007 (cat., Yoshkar-Ola); KIZILOV 2007: 82 (cat., Toms Prov.: Toms); KURZENKO & LELEJ 2007: 1005 (cat., Amur Prov., Khabarovsk Terr., Primorskii Terr., Kamchatka Terr., Sakhalin, Irkutsk Prov., Buryat Rep., Zabaikalskii Terr.); RUDOISKATEL 2007: 75 (cat., Sverdlovsk

Prov.: Denezhkin Kamen Nature Reserve); AA.VV. 2007: 279 (Samara Prov.: Samarskaya Luka National Park); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve); KUTENKOVA 2008: 114 (cat., Kivach) [= *ignita* s.l.]; RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); RUDOISKATEL 2008b: 212 (cat., Chelyabinsk Prov.: East Ural Nature Reserve); RUDOISKATEL & FADEEV 2008: 254 (biol., Sverdlovsk Prov.); AA.VV. 2009: 277 (cat., Yoshkar-Ola); HUMALA & POLEVOI 2009: 63 (misidentified, see *Chrysis schencki*); MOKROUSOV 2009: 266 (biol., cat., Mari El Rep.: Ruyka, Senda, Norka); MOKROUSOV et al. 2009: 77 (cat., Mordovia: Pushta); RUCHIN et al. 2009: 165 (cat., Mordovia: Bolshebereznykovskiy; Saransk; Ichalkovskiy Distr.); VINOKUROV 2009c: 206, 207 (cat., ecol., Stavropol Terr., Kuma River); MIGRANOV & SATTOROV 2010: 16 (cat., South Ural State Nature Reserve); VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); RUDOISKATEL 2011a: 166 (cat., Sverdlovsk Prov.); RUDOISKATEL 2011: 68 (cat., Bashkir Rep.: Shulgan-Tash Nature Reserve); VOLYNKIN et al. 2011: 219 (cat., Tigirek); KOCHETKOV 2012: 241 (cat., Ryazan Prov.: Klepikovskij, Ryazanskij, Rybnovskij, Spasskij, and Shatskij Distr.); LELEJ & KURZENKO 2012: 402 (cat., Amur, Buryatia, Kamchatka, Khabarovsk Terr., Primorskii Terr., Irkutsk, Sakhalin, Transbaikal); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); MOKROUSOV et al. 2013: 195 (cat., Mordovia Nature Reserve); VINOKUROV 2013d: 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); PAUKKUNEN et al. 2014: 42 (cat., distr., Russian Fennoscandia); BESPATYH & PORFIREV 2014: 23 (cat., Kazan); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); LEONTIEV 2015: 132 (cat., Tatar Rep.: Yelabuga, Elabuzhsky district: vill. Bessonikha); LESHTAEV 2015: 97 (cat., distr., Tula Prov.: Tula, Novomoskovsk); MARTYNOVA & FATERYGA 2015: 479 (biol., Crimea: Krasnoperekopsk distr.: Pochetnoe, Tarkhankut Peninsula, Kipchak ravine, Simferopol, Simferopol distr.: Gvardeiskoe, Zhivopisnoe, Peraval'noe, Yalta); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 135 (cat., European Part: North, North-West, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai, Tomsk Prov.; Eastern Siberia: Buryat Rep., Irkutsk Prov., Zabaikalskii Terr.; Far East: Amur, Kamchatka, Khabarovsk Terr., Sakhalin, Primorskii Terr.); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis (Tetrachrysis) ignita: MOCSÁRY 1882: 68 (cat., descr., distr., Caucasus, Lapponia); MOCSÁRY 1890a: 69 (cat., Caucasus, Siberia); ATANASSOV 1940: 212 (cat., distr., Russia, Siberia); HAMMER 1950: 5 (cat., distr., Russia Lapponia); BALTHASAR 1953: 99 (key, Caucasus); BALTHASAR 1954: 157 (Figs 70–71), 163 (key), 199 (descr., Palaearctic Asia); ATANASSOV 1964: 150 (cat., Caucasus, Siberia).

Chrysis (quadridentatae) ignita: DU BUYSSON in ANDRÉ 1895: 579 (biol., cat., descr., distr., key, tax., Lapponia, Russia, Siberia), pl. I (Figs 1A–1R; 10), pl. II (Figs 1A–1E, 2–4, 9b, 11A, 12A–12B, 13–14), pl. XXI (Figs 6–8), pl. XXII (Fig. 5), pl. XXV (Figs 7, 13); DU BUYSSON 1899: 167 (cat., Crimea).

Chrysis (Chrysis) ignita form B: LINSSENMAIER 1959: 151 (key), 152 (key), 155 (descr., North Europe, West Asia (see material examined), 191 (cat.), 205 (Fig. 308), 217 (Fig. 696).

Material examined. Russia: EUROPEAN PART (North: Karelian Rep.: Sortavala [NMLS]; North-West: Leningrad Prov.: Kuolemajärvi [= Pionerskoye] [NMLS]; South: Rostov Prov.: Taganrog [NMLS]).

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov., Pskov Prov.; Centre: Belgorod Prov., Lipetsk Prov., Mordovian Rep., Moscow Prov., Penza Prov., Ryazan Prov., Tula Prov.; East: Kirov Prov., Mari El Rep., Samara Prov., Tatar Rep., Ulyanovsk Prov.; South: Astrakhan Prov., Rostov Prov., Volgograd Prov.; North Caucasus: Kabardino-Balkarian Rep., North Ossetian Rep.,

Stavropol Terr.; Crimea); Ural (Bashkir Rep., Chelyabinsk Prov., Orenburg Prov., Sverdlovsk Prov.); Western Siberia (Altai Terr., Tomsk Prov.); Eastern Siberia (Buryat Rep., Irkutsk Prov., Zabaikalskii Terr.); Far East (Amur Prov., Kamchatka Terr., Khabarovsk Terr., Primorskii Terr., Sakhalin Prov.). Trans-Palaearctic: from Europe and northern Africa, eastwards to India and China (LINSENMAIER 1959, 1968; ROSA et al. 2014).

R e m a r k s . Most citations of *Chrysis ignita* for Russia should be considered as "ignita group". A study of East Fennoscandian collections has shown that *C. ignita* had a wide distribution in Russian Fennoscandia during the early 20th century, but has thereafter become very rare and local (PAUKKUNEN et al. 2014).

H o s t . Vespidae (Eumeninae): *Ancistrocerus antilope* (PANZER); *A. auctus* (FABRICIUS), *A. gazella* (PANZER), *A. nigricornis* (CURTIS), *A. oviventris* (WESMAEL), *A. parietum* (LINNAEUS), *A. parietinus* (LINNAEUS), *A. scoticus* (CURTIS), *A. trifasciatus* (MÜLLER) (HOBBY 1938; MORGAN 1984; PETIT 1987; MARTYNOVA & FATERYGA 2015; PAUKKUNEN et al. 2015); other species recorded as possible host of *C. ignita*, yet very likely related to other species in the *C. ignita* group are: *Allodynerus delphinalis* (GIRAUD), *Euodynerus posticus* (HERRICH-SCHÄFFER), *Gymnomerus laevipes* (SHUCKARD), *Odynerus spinipes* (LINNAEUS), *Symmorphus bifasciatus* (LINNAEUS) (DU BUYSSON 1891; CHAPMAN 1896; GRANDI 1961; SCHNEIDER 1997). Several other hosts have been published for *C. ignita* (ROSA 2006), but most of these are unreliable, due to inconsistent taxonomic treatment of the species or for different biology.

***Chrysis illigeri* WESMAEL, 1839 (Figs 128-129)**

Chrysis illigeri WESMAEL, 1839: 176. Syntypes ♂♀; Belgium (Bruxelles, Genoa) (examined) (*succincta* group). BECKER 1880: 150 (cat., Sarepta); PAUKKUNEN et al. 2014: 29 (cat., distr., Russian Fennoscandia); ROSA et al. 2017b: 136 (cat., European Part: North-West, Centre, South, North Caucasus; Ural; Western Siberia: Altai; Eastern Siberia: Buryat Rep., Irkutsk Terr., Krasnoyarsk Terr., Tuva Rep., Yakutsk Rep.); ROSA et al. 2017f: 16 (cat., distr., Western Siberia: Altai Rep.: 14 km SE Aktash, Chuya River; Eastern Siberia: Buryat Rep.: Ust'-Kiran, Chikoi River; Irkutsk Prov.: Irkutsk; 15 km E Ust'-Ordynskiy; Krasnoyarsk Terr.: Minusinsk; Yakutsk Rep.: Yakutsk; Tuva Rep.: 6 km SE Bai-Khaak, Sosnovka; Primorskii Terr.: 15 km S Ternei, Udobnaya Bay; Lazovsky Nature Reserve, America; Khanka Lake, Prezhnevsky Foreland; Pravaya Sokolovka River); ROSA et al. 2017g: 39 (cat., distr.).

Chrysis succincta ab. *chrysoprasina*: HELLEN 1920: 211 (cat., descr., Kexholm [= Priozersk]) [= *bicolor* or *illigeri*].

Chrysis helleni LINSENMAIER, 1959: VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North-West: Leningrad Prov.: Luga [sub *C. succincta*, ZIN], env. St. Petersburg [sub *C. bicolor* ZIN], Lakhta Prim. zh.d. [sub *C. bicolor* ZIN]; Centre: Nizhny Novgorod Prov. [MMC]; Yaroslavl Prov.: Berditsino [sub *C. bicolor* ZIN]; Vladimir Prov. [MMC]; East: Kirov Prov.: env. Kirov [sub *C. bicolor* ZIN]); URAL (Chelyabinsk Prov. [PRC]; Kurgan Prov. [PRC]; Sverdlovsk Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (North-West: Leningrad Prov.; Centre: Nizhny Novgorod Prov., Yaroslavl Prov., Vladimir Prov.; East: Kirov Prov.; South: Volgograd Prov.; North Caucasus: Kabardino-Balkaria Rep.); Ural (Chelyabinsk Prov., Kurgan Prov., Sverdlovsk Prov.); Western Siberia (Altai Rep.); Eastern Siberia (Buryat

Rep., Irkutsk Prov., Krasnoyarsk Terr., Tuva Rep., Yakutsk Rep.); Far East (Primorskii Terr.). West-Palaeartic: Europe (PAUKKUNEN et al. 2014).

H o s t . Crabronidae: *Tachysphex pompiliformis* (PANZER) (MORGAN 1984; SAURE 1998).

R e m a r k s . LECLERQ (1988) synonymised *Chrysis helleni* LINSENMAIER with *C. illigeri* WESMAEL, a synonymy also approved by LINSENMAIER (1997a).

***Chrysis immaculata* DU BUYSSON, 1898**

Chrysis immaculata DU BUYSSON, 1898: 138. Holotype ♂; France: Mâcon (Paris) (examined) (*ignita* group). NIKOL'SKAYA 1978: 69 (key, western European part of USSR); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); VOROBYEVA 2007: 57 (cat., Belgorod); WENDZONKA & KLEJDYSZ 2012: 171 (tax., distr., Russia), 172 (key); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 136 (cat., European Part: Centre, North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Belgorod Prov.; North Caucasus: Kabardino-Balkarian Rep.). Central and southern Europe (ROSA & SOON 2012).

H o s t . Vespidae (Eumeninae): *Allodynerus rossii* (LEPELETIER) (LEFEBER 1981).

***Chrysis impressa* SCHENCK, 1856**

Chrysis impressa SCHENCK, 1856: 29. Lectotype ♀ (designated by MORGAN 1984: 9); Germany (Frankfurt) (*ignita* group). PAUKKUNEN et al. 2014: 43 (cat., distr., Russian Fennoscandia); JAKOVLEV et al. 2015: 300 (cat., Karelian Rep.: Vorob'i, Turastamozero); MARTYNOVA & FATERYGA 2015: 479 (biol., Crimea: Karadag Nature Reserve); ROSA et al. 2017b: 136 (cat., European Part: North, North-West, South, North Caucasus, Crimea).

Chrysis valida MOCSÁRY, 1912: HUMALA & POLEVOI 2009: 63 (cat., Novguda River [Vodlozersky National Park]).

Chrysis ignita impressa: VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.: State Highmountain Natural Reserve); HUMALA & POLEVOI 2012: 142 (cat., Vorob'i [Kizhi skerries reserve]); VINOKUROV 2013c: 60 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve, Dukka gorge); VINOKUROV 2013d: 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North-West: St. Petersburg, Kirovsk Distr., Sinyavino (Pavesi Coll.)); South: Rostov Prov.: Taganrog [NMLS]; Volgograd Prov.: Sarepta [NMLS]).

D i s t r i b u t i o n . RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.; South: Rostov Prov., Volgograd Prov.; North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep.; Stavropol Terr.; Crimea). West-Palaeartic: from West Europe to Central Asia (LINSENMAIER 1997b).

H o s t . Vespidae (Eumeninae): *Ancistrocerus claripennis* THOMSON, *A. parietinus* (LINNAEUS); *A. trifasciatus* (MÜLLER) (MORGAN 1984; MARTYNOVA & FATERYGA 2015; PÄRN et al. 2015; PAUKKUNEN et al. 2015).

***Chrysis inaequalis* DAHLBOM, 1845**

Chrysis inaequalis DAHLBOM, 1845: 8. Neotype ♂ (designated by ROSA & VÅRDAL 2015: 124); Switzerland: Roveredo (Luzern) (examined) (*inaequalis* group). DALLA TORRE 1892: 71 (cat., Siberia); NIKOL'SKAYA 1978: 69 (key, southern European part of USSR); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tyrnyauz); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); CHIBILYOV 2009 (cat., Orenburg); VINOKUROV 2009c: 206, 207 (cat., ecol., Stavropol Terr., Kuma river); VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.); VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2015a: 32 (cat., Dagestan Rep.: Dagestan Reserve, Barkhan Sarykum); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2013: 22 (cat., distr., Russian Far Est); VINOKUROV 2013d: 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); ROSA et al. 2014: 52 (cat., distr., Russian Far Est); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 136 (cat., European Part: East, South, North Caucasus, Crimea; Ural; Siberia); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis (Tetrachrysis) inaequalis: MOCSÁRY 1889: 482 (key), 483 (cat., descr., distr., Astrakhan, Crimea, Siberia); MOCSÁRY 1890a: 68 (cat., Astrakhan, Crimea); ATANASSOV 1940: 211 (cat., distr., Caucasus); BALTHASAR 1946: 252 (biol., distr., Caucasus); TSUNEKI 1947: 56 (cat., distr., Caucasus); TSUNEKI 1948: 126 (cat., distr., Caucasus); HAMMER 1950: 5 (cat., distr., Caucasus); BALTHASAR 1953: 97 (key, Caucasus) [referred to ab. *caucasica* MOCSÁRY, 1889), 255 (descr.); BALTHASAR 1954: 157 (Figs 64–65), 163 (key), 207 (descr., Caucasus, European part of USSR).

Chrysis inaequalis (!): VORONTSOVKIJ 1930: 68 (cat., Orenburg Prov.).

Chrysis (Pentachrysis) inaequalis: BRUSTILO & MARTYNOV 2009: 58 (biol., cat., distr., Caucasus).

D i s t r i b u t i o n . RUSSIA: European Part (East: Samara Prov.; South: Astrakhan Prov., Rostov Prov., Volgograd Prov.; North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep.; Krasnodar Terr., Stavropol Terr.; Crimea); Ural (Chelyabinsk Prov., Orenburg Prov.); Siberia; Far East. Trans-Palaeartic from western Europe to Central Asia and China (ROSA et al. 2014).

R e m a r k s . Old records of *Chrysis inaequalis* DAHLBOM from Caucasus or southern Russia could be misidentified, as in the case of *C. inaequalis* identified by RADOSZKOWSKI (1889), recognizable by the different line drawing of genitalia (tab. V: Fig. 59). Apparently *C. mysticalis* LINSSENMAIER, 1959 and *C. poetica* are also widespread, yet cannot be easily separated on the basis of different colour and punctuation as in western Europe, therefore the examination of genitalia is needed.

H o s t . Vespidae (Eumeninae): *Eumenes coarctatus* (LINNAEUS) (KUNZ 1994).

***Chrysis inconsueta* ROSA, 2017 (Fig. 130)**

Chrysis inconsueta ROSA in ROSA et al., 2017f: 18. Holotype ♀; Russia: Altai Rep., 5 km NW Chagan-Uzun, Chuya River (St. Petersburg) (examined) (*succincta* group), 19 (Figs 10A–F). ROSA et al. 2017g: 39 (cat., distr., Siberia). ROSA et al. 2017b: 136 (cat., Western Siberia: Altai).

***Chrysis indigotea* DUFOUR & PERRIS, 1840 (Fig. 196)**

Chrysis indigotea DUFOUR & PERRIS, 1840: 38. Syntypes; France (MNHN) (examined) (*ignita* group). RADOSZKOVSKY 1866: 10 (cat., Siberia, Amur Valley); RADOSZKOWSKI 1877: 10 (key), 14 (cat., desc., distr., Caucasus, Siberia); DALLA TORRE 1892: 72 (cat., Siberia); NIKOL'SKAYA 1978: 68 (key, southern European part of USSR); ZVANTSOV 1987: 63 (cat., North Ossetian Rep.: B. Tsey, B. Zaramag, Satat, Lisri, Zgir, Nar, Gurkumta); ROSA 2002: 112 (cat., distr., Caucasus, Siberia); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); DE OLIVEIRA et al. 2009: 44 (cat., distr., Siberia); VINOKUROV 2013d: 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State High-Mountain Reserve); VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tyrnauz); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2015a: 32 (cat., Dagestan Rep.: Dagestan Reserve, Barkhan Sarykum); VINOKUROV 2016: 40 (cat., Dagestan Rep.: Samur Forest Reserve); ROSA et al. 2017b: 136 (cat., European Part: South, North Caucasus, Crimea; Siberia; Far East: Amur); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis (Tetrachrysis) indigotea: MOCSÁRY 1882: 57 (cat., descr., distr., Amur, Siberia); MOCSÁRY 1889: 345 (key), 346 (cat., descr., distr., Siberia); MOCSÁRY 1890a: 66 (cat., Siberia); TRAUTMANN 1927: 140 (key), 141 (biol., cat., descr., distr., Siberia); BALTHASAR 1946: 251 (biol., distr., Caucasus, Siberia); BALTHASAR 1953: 103 (key, Caucasus, West and central Siberia); BALTHASAR 1954: 161 (key), 196 (descr., Caucasus, central Siberia); BRUSTILO & MARTYNOV 2009: 56 (biol., cat., distr., Caucasus, Caspian Sea coast, Western and Central Siberia).

Chrysis (Tetrachrysis) indigotea var. *Daghestanica* MOCSÁRY, 1889: 437. Holotype ♀; Dagestan (Kraków) (examined). MOCSÁRY 1890a: 66 (cat., Dagestan); DALLA TORRE 1892: 72 (cat., Caucasus); TRAUTMANN 1927: 140 (key), 141 (cat., descr., distr., Dagestan); BISCHOFF 1913: 53 (cat., Caucasus).

Chrysis (quadridentatae) indigotea var. *Daghestanica*: DU BUYSSON in ANDRÉ 1895: 490 (car., descr., distr., Dagestan).

Chrysis indogotea (!): BISCHOFF 1913: 438 (key), 475 (cat., descr., distr., Siberia).

Chrysis (Chrysis) indigotea dhagestanica (!): LINSENMAIER 1951: 83 (descr., Caucasus), 101 (cat.).

Chrysis (Tetrachrysis) zaitzevi SEMENOV, 1967: 168. Holotype ♂; Georgia, Kaketi Prov.: env. Telavi (St. Petersburg) (examined). ROSA et al. 2017a: 59 (cat., typ., Georgia), 183 (Pl. 148).

Chrysis zaitzevi: KIMSEY & BOHART 1991: 479 (cat., Georgia: Telavi).

Chrysis indica SCHRANK, 1804: STRAKA et al. 2004: 144 (cat., distr., ecol., southern Russia); VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [ZIN]; Crimea: Sevastopol [ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (South: Volgograd Prov.; North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., North Ossetian Rep.; Stavropol

Terr., Crimea). Siberia; Far East (Amur Prov.). Caucasus. Europe, Central Asia and Turkey.

H o s t . Vespidae (Eumeninae): *Allodynerus rossii* (LEPELETIER) (O. Niehuis, pers. comm.). *Gymnomerus laevipes* (SHUCKARD) (DUFOR & PERRIS 1840).

R e m a r k s . *Chrysis indigotea indigotea* DUFOR & PERRIS is apparently distributed from Europe to Russian Far East. Previous identifications of *Chrysis indigotea daghestanica* by LINSSENMAIER (1951) are referable to *C. tragica* SEMENOV, 1967, another blue species of the *C. ignita* group, also described from Dagestan.

***Chrysis insperata insperata* CHEVRIER, 1870 (Fig. 154)**

Chrysis insperata CHEVRIER, 1870: 265. Holotype ♂; Switzerland (Geneva) (examined) (*splendidula* group). MÓCZÁR 1967a: 101 (cat., key, descr., distr., Caucasus, Fig. 54E); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206, 207 (cat., ecol., Stavropol Terr., Kuma River); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 136 (cat., European Part: Centre, South, North Caucasus; Ural).

Chrysis (Chrysis) insperata: LINSSENMAIER 1959: 128 (descr., distr., key, Caucasus), 203 (Fig. 303), 211 (Fig. 570); LINSSENMAIER 1997b: 37 (key), 101 (descr., southern Russia), 102 (Fig. 82).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Ivanovo Prov. [MMC]; Nizhny Novgorod Prov. [MMC]; South: Astrakhan Prov.: Astrakhan [sub *C. rutilans*, ZIN]; Kalmyk Rep. [MMC]; Volgograd Prov.: Sarepta [sub *C. rutilans*, MMC, ZIN]; North Caucasus: Krasnodar Terr. [MMC]); URAL (Orenburg Prov. [PRC]). Azerbaijan: Elisavetpol [sub *C. rutilans*, ZIN].

D i s t r i b u t i o n . RUSSIA: European part (Centre: Ivanovo Prov., Nizhny Novgorod Prov.; South: Astrakhan Prov., Kalmyk Rep., Volgograd Prov.; North Caucasus: Krasnodar Terr., Stavropol Terr.); Ural (Orenburg Prov.). From southern Europe to Caucasus, Azerbaijan.

***Chrysis interjecta interjecta* DU BUYSSON, 1895 (Fig. 147)**

Chrysis interjecta DU BUYSSON in ANDRE, 1895: 541. Syntypes ♀♀ [not ♂ and ♀]; France: Provence, Rognac (Paris) (examined) (*aestiva* group). VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 136 (cat., European Part: North Caucasus; Ural).

Chrysis interjecta hemichlora LINSSENMAIER, 1951: VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 19 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006f: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206 (cat., ecol.,

Stavropol Terr.); VINOKUROV 2015a: 32 (cat., Dagestan Rep.: Dagestan Reserve, Barkhan Sarykum).

M a t e r i a l e x a m i n e d . Russia: URAL (Orenburg Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., Stavropol Terr.); Ural (Orenburg Prov.). Southern Europe to Middle East.

***Chrysis io* SEMENOV, 1967**

Chrysis (Holochrysis) io SEMENOV, 1967: 150. Holotype ♀; Russia: Crimea: Simferopol (depository unknown) (unknown group).

Chrysis io: KIMSEY & BOHART 1991: 425 (cat., Crimea: Simferopol); ROSA et al. 2017b: 136 (cat., European Part: Crimea).

D i s t r i b u t i o n . RUSSIA: European part (*Crimea*).

***Chrysis iris* CHRIST, 1791 (Fig. 190)**

Chrysis iris CHRIST, 1791: 405. Type unknown; no locality (lost) (*ignita* group). MÓCZÁR 1967a: 97 (cat., key, descr., distr., Caucasus), 99 (Figs 53A, 53B). GUSSAKOVSKIJ 1948: 732 (cat., key, North and central European part of USSR); NIKOL'SKAYA 1978: 69 (key, without localities); ZVANTSOV 1987: 63 (cat., North Ossetian Rep.: B. Tsey, Nar, Gurkumta, Satat, Lisri, Zgir); ZVANTSOV 1988: 90 (biol., cat., Moscow Prov.: Moscow, Polodl'sk, Serpukhov, Mozhaysk, Chashnikov, Pavlovskaya Sloboda); RUDOISKATEL 1999a: 54 (cat., Chelyabinsk Prov.: Ilmen Nature Reserve); SHIBAEV 2006a: 111 (cat., Penza Prov.: Akhuny); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); RUDOISKATEL 2011a: 166 (cat., Sverdlovsk Prov.); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); PAUKKUNEN et al. 2014: 35 (cat., distr., Russian Fennoscandia: Metsäpirtti [= Zaporozhskoe]; Antrea [= Kamenogorsk]; M. Gomselga); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 136 (cat., European Part: North-West, Centre, East, North Caucasus; Ural; Eastern Siberia: Khakass Rep., Tuva Rep.).

Chrysis nitidula FABRICIUS, 1775: ASSMUSS 1862: 268 (cat., Podolsk, Serpuchow, Mozhaysk); RADOSZKOVSKY 1880: 144 (cat., Caucasus); DALLA TORRE 1892: 80 (cat., Caucasus, Siberia); LEVI et al. 1974: 266 (cat., Kirov Prov.: Kyrmyzh, Urzhum, St.Yagul).

Chrysis soluta DAHLBOM, 1854: RADOSZKOVSKY 1866: 11 (cat., western Russia); RADOSZKOWSKI 1877: 16 (cat., descr., distr., western Russia).

Chrysis (Tetrachrysis) iris: MOCSÁRY 1882: 57 (cat., descr., distr., Caucasus); ATANASSOV 1962: 115 (cat., USSR).

Chrysis (Tetrachrysis) nitidula: MOCSÁRY 1890a: 66 (cat., Caucasus, Siberia); TRAUTMANN 1927: 140 (key), 141 (cat., descr., distr., Caucasus, Siberia); BALTHASAR 1946: 250 (biol., distr., Caucasus, Siberia); BENNO 1950: 37 (key), 40 (biol., cat., Caucasus, Siberia); BALTHASAR 1953: 103 (key, Siberia); BALTHASAR 1954: 157 (Fig. 60), 161 (key), 195 (descr., Caucasus, European part of USSR, Siberia).

Chrysis (quadridentate) nitidula: DU BUYSSON in ANDRE 1895: 485 (cat., descr., distr., Caucasus, Siberia).

Chrysis (Chrysis) iris: LINSENMAIER 1951: 83 (descr., Siberia), 102 (cat.); KOFLER 1975: 355 (biol., cat., distr., Siberia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North-West: Leningrad Prov.: Sablino [ZIN]; Centre: Nizhny Novgorod Prov. [MMC]; Vladimir Prov. [MMC]; Yaroslavl Prov. [ZIN]; East: Samara Prov. [ZIN]; North Caucasus: Stavropol Terr.: Stavropol [ZIN]); URAL (Bashkir Rep.: Irgizla [ZIN]; Chelyabinsk Prov. [PRC]; Sverdlovsk Prov. [PRC]); EASTERN SIBERIA (Khakass Rep.: 50 km NW Shira, Kirovo [IBSS]; Tuva Rep.: 6 km SE Bai-Khaak, Sosnovka [IBSS]).

D i s t r i b u t i o n . RUSSIA: European part (North-West: Leningrad Prov.; Centre: Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Vladimir Prov., Yaroslavl Prov.; East: Kirov Prov.; Samara Prov.; North Caucasus: Kabardino-Balkarian Rep., North Ossetian Rep. Stavropol Terr.); Ural (Bashkir Rep., Chelyabinsk Prov., Sverdlovsk Prov.); Eastern Siberia (Khakass Rep., Tuva Rep.). Caucasus. Tran-Palaeartic: from central and northern Europe (PAUKKUNEN et al. 2014) to Siberia.

H o s t . Vespidae (Eumeninae): *Symmorphus allobrogus* (SAUSSURE), *S. crassicornis* (PANZER) and *S. murarius* (LINNAEUS) (ZVANTSOV 1988; PÄRN et al. 2015; PAUKKUNEN et al. 2015).

***Chrysis japonica* CAMERON, 1887 (Fig. 199)**

Chrysis japonica CAMERON, 1887: 125. Lectotype ♀ (designated by BOHART in KIMSEY & BOHART 1991: 426); Japan (London) (*ignita* group). HA et al. 2008: 75 (cat., distr., Far Eastern Russia); KURZENKO & LELEJ 2007: 1005 (cat., Amur Prov., Zabaikalskii Terr.); LELEJ & KURZENKO 2012: 402 (cat., Amur, Zabaikalskii Terr.); ROSA et al. 2017b: 136 (cat., Eastern Siberia: Zabaikalskii Terr.; Far East: Amur); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis (Holochochrysis) daurica MOCSÁRY, 1914: 16. Holotype ♂ (not ♀); Russia: Transbaikal: Chita (Budapest) (examined). ROSA et al. 2017h: 35 (cat., typ., Russia, Transbaikal: Ishita).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Zabaikalskii Terr.); Far East (Amur Prov.). Japan.

***Chrysis jaxartis* SEMENOV, 1910 (Fig. 162)**

Chrysis sybarita var. *jaxartis* SEMENOV-TIAN-SHANSKY, 1910: 222. Lectotype ♂ (designated by ROSA et al. 2017a: 54). Kazakhstan: Djulek (Budapest) (examined) (*graelisii* group).

Chrysis jaxartis: ROSA et al. 2017b: 136 (cat., European Part: North Caucasus).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Crimea: Arabatskaya Strelka; env. Feodosia; Tarkankut [VKSS]).

D i s t r i b u t i o n . RUSSIA: European part (Crimea). South-eastern Europe, Rhodes, Iran, Kazakhstan, Turkey (ARENS 2002; ROSA et al. 2013; SCHMIDT 1977).

R e m a r k s . ROSA et al. (2017) erroneously placed *Chrysis jaxartis* in North Caucasus, based on some specimens identified as *C. valesiana perezi* and *C. sybarita opaca* by Vinokurov, which turned out to be *C. graelsii* (sensu LINSENMAIER).

***Chrysis karafutonis* TOSAWA, 1932**

Chrysis karafutonis TOSAWA, 1932: 35. Holotype ♂; Russia: Sakhalin Isl., Yubochaku (Osaka) (*varidens-gracillima* group). KIMSEY & BOHART 1991: 247 (cat., Sakhalin); KURZENKO & LELEJ 2007: 1005 (cat., Sakhalin); LELEJ & KURZENKO 2012: 402 (cat., southern Sakhalin); ROSA et al. 2017b: 136 (cat., Far East: Sakhalin).

D i s t r i b u t i o n . RUSSIA: Far East (Sakhalin Prov.).

****Chrysis keriensis* RADOSZKOWSKI, 1887**

Chrysis keriensis RADOSZKOWSKI, 1887: 47. Holotype ♂; China: Xinjiang: Keria-Daria (Kraków) (examined) (*ignita* group).

Chrysis (*quadridentate*) *viridans* RADOSZKOWSKI, 1891: DU BUYSSON in ANDRÉ 1895: 483 (cat., descr., distr., Caucasus).

D i s t r i b u t i o n . Caucasus. East-Palaearctic: from Iran, Turkey, Central Asia (Turkmenistan, Uzbekistan) to China (ROSA et al. 2014).

***Chrysis kolazyi* MOCSÁRY, 1889 (Figs 133-134)**

Chrysis (*Tetrachrysis*) *kolazyi* MOCSÁRY, 1889: 464. Holotypus ♀; Austria [loc. in error] (Budapest) (examined) (*succincta* group).

Tetrachrysis grohmanni var. *sareptana* TRAUTMANN, 1926: 10. Russia: Sarepta (Berlin).

Chrysis (*Holochrysis*) *grohmanni sareptana*: TRAUTMANN 1927: 163 (cat., descr., southern Russia).

Chrysis (*Chrysis*) *grohmanni sareptana*: LINSENMAIER 1959: 90 (southern Russia, possible synonym of *C. kolazyi* MOCSÁRY, 1889).

Chrysis (*Tetrachrysis*) *grohmanni a. sareptana*: BALTHASAR 1953: 118 (key, Caucasus), 251 (descr., Russia: Sarepta).

Chrysis kolazi: KIMSEY & BOHART 1991: 428 (cat., Sarepta); ROSA et al. 2017b: 136 (cat., European Part: South); ROSA et al. 2017h: 53 (cat., typ., type locality probably Sarepta).

D i s t r i b u t i o n . RUSSIA: European part (South: Volgograd Prov.). Greece (Cyclades) (LINSENMAIER 1968).

***Chrysis lanata* MOCSÁRY, 1912**

Chrysis (*Tetrachrysis*) *lanata* MOCSÁRY, 1912: 405. Holotype ♂; North Alai: Ispayran (Budapest) (examined) (*facialis* group). ROSA et al. 2017h: 56 (cat., typ.), 57 (Pl. 35). ROSA et al. 2017b: 136 (cat., Far East: Primorskii Terr.).

Chrysis (*Tetrachrysis*) *sapphirus* SEMENOV, 1967: 169. Holotype ♀; Uzbekistan: Fergana (St. Petersburg) (examined) (*ignita* group). ROSA et al. 2017a: 49 (cat., typ., syn., Uzbekistan), 169 (Pl. 120).

Chrysis sapphirus: KURZENKO & LELEJ 2007: 1005 (cat., Primorskii Terr.); LELEJ & KURZENKO 2012: 402 (cat., Primorskii Terr.).

D i s t r i b u t i o n . RUSSIA: Far East (Primorskii Terr.). Uzbekistan.

R e m a r k s . *Chrysis lanata* MOCSÁRY and *C. sapphirus* SEMENOV could be both synonyms of *C. regalis* MOCSÁRY, 1912.

***Chrysis lanceolata* LINSENMAIER, 1959**

Chrysis (Chrysis) lanceolata LINSENMAIER, 1959: 121. Holotype ♀; Russia: Taganrog, 207 (Fig. 471) (Luzern) (examined) (*leachii* group). SCHMIDT 1977: 117 (cat., descr., southern Russia).

Chrysis lanceolata: KIMSEY & BOHART 1991: 413 (cat., Russia); ROSA 2002: 110 (cat., distr., southern Russia); TARBINSKY 2002a: 13 (key), 14 (southern Russia), 20 (Fig. 12) [mis.]; DE OLIVEIRA et al. 2009: 44 (cat., distr., southern Russia); ROSA et al. 2017b: 136 (cat., European Part: South, North Caucasus, Crimea; Ural).

Chrysis lanciolata (!): VINOKUROV 2013d: 1106, 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Rostov Prov.: Taganrog [NMLS]; Crimea [ZIN]); URAL (Chelyabinsk Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (South: Rostov Prov.; North Caucasus: Stavropol Terr.; Crimea); Ural (Chelyabinsk Prov.). Southern and eastern Europe (LINSENMAIER 1959; ROSA 2005).

H o s t . Crabronidae: probably *Diodontus minutus* (FABRICIUS) and *Miscophus bicolor* JURINE (LINSENMAIER 1959; HEINRICH 1964; GERTH et al. 2010). The records of other host species (e.g. *Tachysphex nitidus* (SPINOLA)) are uncertain for lacking of supporting information.

***Chrysis leachii* SHUCKARD, 1837 (Figs 141-142)**

Chrysis leachii SHUCKARD, 1837: 168. Type ?; locality unknown [not England] (lost ?) (*leachii* group). DALLA TORRE 1892: 75 (cat., Caucasus); MANTERO 1905: 52 (cat., distr., Caucasus); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tyrnyauz); VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); KIZILOV 2007: 82 (cat., Altai Rep.); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma River); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013d: 1106, 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2015a: 32 (cat., Dagestan Rep.: Dagestan Reserve, Barkhan Sarykum); ROSA et al. 2017b: 136 (cat., European Part: Centre, East, South, North Caucasus, Crimea; Western Siberia: Altai); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis (Monochrysis) leachii: MOCSÁRY 1889: 310 (key), 311 (cat., descr., distr. Caucasus); MOCSÁRY 1890a: 66 (cat., Caucasus).

Chrysis leachi (!): NIKOL'SKAYA 1978: 68 (key, southern European part of USSR); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland).

Chrysis (Chrysis) leachii: BRUSTILO & MARTYNOV 2009: 53 (biol., cat., distr., Caucasus).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Belgorod Prov.; Novyi Oskol [ZIN]; Mordovian Rep. [MMC]; Nizhny Novgorod Prov. [MMC]; Kursk Prov.: Grajvoronskij uезд [ZIN]; East: Mari El Rep. [MMC]; South: Volgograd Prov. [MMC]; North Caucasus: Krasnodar Terr. [MMC]; Crimea: Kerch [ZIN], Sevastopol [ZIN]); Western Siberia (Altai Rep.). Azerbaijan: Elisavetpol [ZIN], Geoktapa [ZIN].

Distribution. RUSSIA: European part (Centre: Mordovian Rep., Nizhny Novgorod Prov., Kursk Prov.; East: Mari El Rep.; South: Volgograd Prov.; North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., Krasnodar Terr., Stavropol Terr.; Crimea); Western Siberia (Altai Rep.). Azerbaijan, Caucasus. West-Palaeartic: central and southern Europe, northern Africa, Middle East, Iran (ROSA et al. 2013).

Host. Crabronidae: *Miscophus bicolor* JURINE (TRAUTMANN & TRAUTMANN 1919; LINSSENMAIER 1959; HEINRICH 1964; GERTH et al. 2010), *Tracheliodes quinquenotatus* (JURINE) (GRANDI 1961). Pemphredoninae: *Diodontus minutus* (FABRICIUS) (GERTH et al. 2010).

****Chrysis lepida* MOCSÁRY, 1889**

Chrysis (Olochrysis) lepida MOCSÁRY, 1889: 278. Syntypes ♀♀; Armenia: Yerivan (Kraków, Budapest) (examined) (*elegans* group). ROSA et al. 2017h: 58 (cat., typ., Armenia, Pl. 36).

Chrysis lepida: DALLA TORRE 1892: 75 (cat., Caucasus).

Chrysis (integerrimae) lepida: DU BUYSSON in ANDRÉ 1894: 376 (cat., descr., distr., key, Caucasus).

Chrysis (Holoichrysis) lepida: BISCHOFF 1913: 39 (cat., Caucasus).

Distribution. Caucasus. Armenia, Iran, Turkey (ROSA et al. 2013).

***Chrysis leptomandibularis* NIEHUIS, 2000**

Chrysis leptomandibularis NIEHUIS, 2000b: 192. Holotype ♀; Germany: Rheinland-Pfalz, Monsheim (Frankfurt) (*ignita* group). PAUKKUNEN et al. 2014: 38 (cat., distr., Russian Fennoscandia: Kivennapa [= Pervomaiskoe]; Metsäpirtti [= Zaporozhskoe]; Muolaa [= Pravdino]; Pyhäjärvi [= Plodovoe]; Rautu [= Sosnovo]; Terijoki [= Zelenogorsk]; Uusikirrko [= Polyany]; Äyräpää [= Baryshevo]; Seiskari [= Seskar island]; Suursaari [= Gogland island]; Viipuri [= Vyborg]; Käkisalmi [= Priozersk]; Sortavala; Petrozavodsk; Kostomuksha); ROSA et al. 2017b: 136 (cat., European Part: North, North-West; Ural).

Material examined. Russia: URAL (Chelyabinsk Prov. [PRC]; Sverdlovsk Prov. [PRC], Pervouralsk [PRC]).

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.); Ural (Chelyabinsk Prov., Sverdlovsk Prov.). West-Palaeartic from Europe to Turkey (NIEHUIS 2000).

Host. Vespidae (Eumeninae): probably *Symmorphus debilitatus* (SAUSSURE) (NIEHUIS 2000; PÄRN et al. 2015).

***Chrysis longula longula* ABEILLE DE PERRIN, 1879 (Fig. 185)**

Chrysis ignita var. *longula* ABEILLE DE PERRIN, 1879: 74. Lectotype ♀ (designated by MORGAN 1984: 9); Germany: Frankfurt (Paris) (examined) (*ignita* group). DALLA TORRE 1892: 70 (cat., Siberia).

Chrysis (Tetrachrysis) ignita var. *longula*: MOCSÁRY 1889: 491 (descr., distr., Siberia); BISCHOFF 1913: 53 (cat., Siberia).

Chrysis (quadridentatae) ignita var. *longula*: DU BUYSSON in ANDRÉ 1895: 580 (cat., descr., distr., tax., Russia, western Siberia).

Chrysis (Chrysis) longula ssp. *aeneopaca* LINSSENMAIER, 1959: 160. Holotype ♀; Transcaspia (type series: Fennoscandia, Siberia) (Luzern) (examined).

Chrysis longula: NIKOL'SKAYA 1978: 70 (key, western European part of USSR); ZVANTSOV 1987: 63 (cat., North Ossetian Rep.: Buron, B. Zaramag, Gurkumta, Lisri, Zgir); ZVANTSOV 1988: 93 (biol., cat., Moscow Prov.: Izmailovo, Krylatskoye, Zveligorod, Moscow State University, Pushkino, Chashnikovo, Pavlovskaya Sloboda, Mytishchi, Bolshevo, Prioksko-Terrasny Reserve); KUZNETSOVA 1990: 10 (cat., ecol., Lipetsk Prov.: Galich'ya Gora); RUDOISKATEL 1999a: 54 (cat., Chelyabinsk Prov.: Ilmen State Reserve); BUGANIN et al. 2000: 149 (cat., Ulyanovsk Prov.: Ulyanovsky, Inzensky, Radischevsky, Novospassky Distr.); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); RUDOISKATEL 2004: 17 (cat., Bashkir Rep.: Shulgan-Tash Nature Reserve); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Bessonovsky Distr.: Pobeda, Kamensky Distr.: Novaya Esineevka; Kuzneckij Distr.: Kuznetsk; Luninsky Distr.: Goltsovka; Pachelmskij Distr.: Malyy Burtas; Penza: Barkovki; Shemysheysky Distr.); VINOKUROV 2005: 89 (North Ossetian Rep.), 90 (cat., ecol., central Caucasus and Ciscaucasus); SHIBAEV 2006a: 111 (cat., ecol., Penza Prov.: Akhney, Goltsovka, Novaya Yesineyevka, Stepanovka, Urochishche "Cherdak", Chibirley); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State Hight-Mountain Nature Reserve); VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tyrnyauz); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); KIZILOV 2007: 82 (cat., Altai Rep.); RUDOISKATEL 2007: 75 (cat., Sverdlovsk Prov.: Denezhkin Kamen Nature Reserve); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); RUDOISKATEL 2008b: 212 (cat., Chelyabinsk Prov.: East Ural Nature Reserve); RUCHIN et al. 2009: 165 (cat., Mordovia: Bolshebereznykovsky; Simkin; Ichalkovskiy; Temnikovskij); CHIBILYOV 2009 (cat., Orenburg); VINOKUROV 2009c: 206, 207 (cat., ecol., Stavropol Terr., Kuma river); VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); RUCHIN 2011: 173 (cat., Mordovia Nature Reserve); RUDOISKATEL 2011a: 166 (cat., Sverdlovsk Prov.); RUDOISKATEL 2011b: 68 (cat., Bashkir Rep.: Shulgan-Tash Nature Reserve); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013c: 60 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve, Dukka gorge); VINOKUROV 2013d: 1106, 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); PAUKKUNEN et al. 2014: 38 (cat., distr., Russian Fennoscandia: Kivennapa [= Pervomaiskoe]; Metsäpirtti [= Zaporozhskoe]; Muolaa [= Pravdino]; Pyhäjärvi [= Plodovoe]; Rautu [= Sosnovo]; Terijoki [= Zelenogorsk]; Uusikirkko [= Polyany]; Äyräpää [= Baryshevo]; Ka: Seiskari [= Seskar Island]; Suursaari [= Gogland island]; Viipuri [= Vyborg]; Käkisalmi [= Priozersk]; Sortavala; Petrozavodsk; Kostomuksha); MARTYNOVA & FATERYGA 2015: 479 (biol., Crimea: Bakhchisarai distr.: Vilino, Nauchnyi; Simferopol distr.: Lozovoe, env. of Krasnolesye; Crimea Nature Reserve, Karadag Nature Reserve); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014e: 47 (cat., ecol., Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 90 (cat., Kabardino-Balkarian Rep.; Caucasian State Nature Biosphere Reserve); VINOKUROV 2015a: 32 (cat., Dagestan Rep.: Dagestan Reserve, Barkhan Sarykum); VINOKUROV 2015b: 318 (cat., Kabardino-Balkarian Rep.: High Mountain Nature Reserve); VINOKUROV 2016: 40 (cat., Dagestan Rep.: Samur Forest Reserve); ROSA et al. 2017b: 136 (cat., European Part: North, North-West, Centre, East, North Caucasus, Crimea; Ural; Western Siberia: Altai; Eastern Siberia: Buryat Rep., Irkutsk Prov.); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Material examined. Russia: EUROPEAN PART (North: Leningrad Prov.: Vyborg [NMLS]; Centre: Nizhny Novgorod Prov. [MMC]; North Caucasus: Krasnodar Terr. [MMC]); URAL (Chelyabinsk Prov. [PRC]; Sverdlovsk Prov. [PRC]); Eastern Siberia (Irkutsk Prov.: 8 km N Irkutsk, Angara River, sandy slopes (sub *C. longula aeneopaca*) [GLA]).

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.; Centre: Lipetsk Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov.; East: Ulyanovsk Prov.; North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Krasnodar Terr., North Ossetian Rep., Stavropol Terr.; Crimea); Ural (Bashkir Rep., Chelyabinsk Prov., Orenburg Prov., Sverdlovsk, Prov.); Western Siberia (Altai Rep.); Eastern Siberia (Irkutsk Prov. and/or Buryat Rep.). Trans-Palaearctic: from Europe to Central Asia and Siberia (LINSENMAIER 1959, 1997).

Remarks. According to LINSSENMAIER (1959) *Chrysis longula aeneopaca* is the eastern subspecies of *C. longula*. Morphologically it is similar to *C. l. longula*, but tergites are basally darker brown dorsally, and the basal part of the second tergite has finer and denser punctation. Analysis of mitochondrial DNA has shown that genetic divergence between *C. longula aeneopaca* and *C. longula longula* is very low, suggesting that they probably are conspecific (SOON et al. 2014).

Host. Vespidae (Eumeninae): *Ancistrocerus antilope* (PANZER) and *Euodynerus posticus* (HERRICH-SCHÄFFER) in Crimea (MARTYNOVA & FATERYGA 2015); it is also confirmed *A. parietinus* (LINNAEUS) (BLÜTHGEN 1961; MORGAN 1984; MARTYNOVA & FATERYGA 2015); *Symmorphus crassicornis* (PANZER), *S. murarius* (LINNAEUS) (LINSSENMAIER 1959; HEINRICH 1964; MORGAN 1984; BRECHTEL 1985; PETIT 1987). Data for Crabronidae and Megachilidae (DORONIN 1996) are unreliable.

***Chrysis longula sublongula* LINSSENMAIER, 1951**

Chrysis longula ssp. *sublongula* LINSSENMAIER, 1951: 76. Lectotype ♀ (designated by LINSSENMAIER 1959: 159); Switzerland: Wallis (Luzern) (examined) (*ignita* group).

Chrysis longula sublongula: VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.: State High-mountain Natural Reserve); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); VINOKUROV 2013d: 1106, 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014e: 47 (cat., ecol., Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 91 (cat., Kabardino-Balkarian Rep.; Caucasian State Nature Biosphere Reserve: vill. Khudozhnikov); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); VINOKUROV 2016: 40 (cat., Dagestan Rep.: Samur Forest Reserve); ROSA et al. 2017b: 136 (cat., European Part: North Caucasus).

Distribution. RUSSIA: European part (North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.). Europe (LINSSENMAIER 1959).

***Chrysis lyda* ROSA, 2017 (Fig. 145)**

Chrysis ignescola (!) [nec LINSSENMAIER, 1959]: VINOKUROV 2006d: 20 (Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 207 (Stavropol Terr.).

Chrysis ignescoa [nec LINSENMAIER, 1959]: VINOKUROV 2006d: 21 (Stavropol Terr.: Mineralnye Vody).

Chrysis exursa (!) [nec LINSENMAIER, 1959]: VINOKUROV 2011a: 1062 (Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2013d: 1106, 1107 (Stavropol Terr.: env. Mineralnye Vody).

Chrysis exursa [nec LINSENMAIER, 1959]: VINOKUROV 2014a: 1151 (Stavropol Terr.: Mineralnye Vody).

Chrysis lyda ROSA in ROSA et al. 2017d: 23. Holotype ♀; Russia: Krasnodar Terr., Temryukskii Distr., vill. Sennyoy (St. Petersburg) (examined) (*leachii* group) (paratypes from Stavropol Terr., Mineralnye Vody, St. Podkumok; env. Kizlovodsk), 20 (Figs 7E, 7F), 24 (Figs 9A–F). ROSA et al. 2017b: 136 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Krasnodar Terr., Stavropol Terr.). Abkhazia Rep.

****Chrysis maculicornis* KLUG, 1845**

Chrysis maculicornis KLUG, 1845: Table 45, Fig. 6. Type ♂; Egypt: Alexandria (Berlin) (*maculicornis* group).

Chrysis (Tetrachrysis) maculicornis: TRAUTMANN 1927: 155 (cat., descr., distr., Caucasus); BALTHASAR 1953: 96 (key, Caucasus), 260 (descr., Caucasus).

D i s t r i b u t i o n . Caucasus. Tadzhikistan (RADOSZKOWSKI 1891), Palestine, Saudi Arabia, North Africa (LINSENMAIER 1959, 1994), Middle East, southern former USSR (KIMSEY & BOHART 1991), Turkey (STRUMIA & YILDIRIM 2009).

R e m a r k s . The identification of *Chrysis maculicornis* is doubtful. Different authors (e.g. Linsenmaier) identified a different species as *C. maculicornis*, which is matching the type by Klug. A revision of this species group is needed.

***Chrysis maderi* LINSENMAIER, 1959**

Chrysis (Chrysis) maderi LINSENMAIER, 1959: 122. Holotype ♂; Croatia: Krk Is. (Luzern) (examined) (*aestiva* group).

Chrysis maderi: VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 136 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep., Stavropol Terr.). South-eastern Europe (LINSENMAIER 1959).

***Chrysis marginata marginata* MOCSÁRY, 1889 (Fig. 175)**

Chrysis marginata MOCSÁRY, 1889: 451. Holotype ♀; Turkestan (Kraków) (*comparata* group). PAGLIANO et al. 2002: 292 (distr., ecol., invasive species, Caucasus); VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2015e:

39 (cat., typ., Uzbekistan), 40 (Pl. 27); ROSA et al. 2017b: 136 (cat., European Part: North Caucasus; Ural).

Chrysis (Tetrachrysis) marginata: BALTHASAR 1953: 109 (key, Caucasus), 262 (descr., Caucasus).

Chrysis (Chrysis) marginata: BRUSTILO & MARTYNOV 2009: 55 (cat., distr., Caucasus).

M a t e r i a l e x a m i n e d . Russia: URAL (Orenburg Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.); Ural (Orenburg Prov.). Caucasus. South-eastern Europe, Middle East, central Asia, Iran and Turkey (ROSA et al. 2013).

H o s t . Megachilidae: *Anthidium oblongatum* (ILLIGER) (HERMANN & NIEHUIS 2015).

***Chrysis martinella martinella* DU BUYSSON, 1900 (Fig. 146)**

Chrysis martinella DU BUYSSON, 1900: 142. Holotype ♀; Iran: Tehran (Paris) (examined) (*aestiva* group); ROSA et al. 2017b: 136 (cat., European Part: North Caucasus).

Chrysis satunini SEMENOV, 1967: VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

D i s t r i b u t i o n . RUSSIA (Ciscaucasus). Azerbaijan. South-West Europe, Turkey.

H o s t . Megachilidae: *Anthidium* sp. (LINSENMAIER 1969).

***Chrysis mediadentata* LINSENMAIER, 1951**

Chrysis (Chrysis) ignita var. *mediadentata* LINSENMAIER, 1951: 75. Lectotype ♂ (designated by LINSENMAIER 1959: 157); Switzerland: Wallis (Luzern) (examined) (*ignita* group).

Chrysis ignita mediadentata: VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State Hight-Mountain Reserve); VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tynnyauz); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013c: 60 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve, Dukka gorge); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).

(!) *Chrysis longula* ABEILLE DE PERRIN: LEONTIEV 2015: 133 (cat., mis., Tatar Rep.: Yelabuga, Bol'shoj Bor, Otarka Lake, vill. Bessonikha, Fig. 5, doubtful identification by picture).

Chrysis mediadentata: ROSA et al. 2017b: 136 (cat., European Part: East, North Caucasus; Eastern Siberia: Irkutsk Prov.); ROSA et al. 2017f: 30 (cat., distr., Irkutsk Prov.: Irkutsk); ROSA et al. 2017g: 39 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: European part (East: Tatar Rep.; North Caucasus: Kabardino-Bakarian Rep., Karachayevo-Cherkess Rep.); Eastern Siberia (Irkutsk Prov.). Europe (ROSA & SOON 2012).

H o s t . Vespidae (Eumeninae): *Odynerus spinipes* (LINNAEUS) and *O. reniformis* (GMELIN) (VAN LITH 1958; LINSENMAIER 1959; BANASZAK 1980; MORGAN 1984).

R e m a r k s . Some identifications could refer to *Chrysis borealis* PAUKKUNEN, ØDEGAARD & SOON, 2015.

***Chrysis mediata mediata* LINSENMAIER, 1951**

(?) *Chrysis* (quadridentatae) *ignita* var. *lugubris* DU BUYSSON in ANDRÉ, 1895: 582. Syntypes ♂♀; France, Russia: Siberia (Paris) (*ignita* group).

(?) *Chrysis* (*Tetrachrysis*) *ignita* var. *lugubris* DU BUYSSON: TRAUTMANN, 1927: 146 (cat., descr., distr., Siberia); BISCHOFF 1913: 53 (cat., Siberia).

Chrysis (*Chrysis*) *ignita* var. *mediata* LINSENMAIER, 1951: 76. Lectotype ♀ (designated by LINSENMAIER 1959: 154); Switzerland: Wallis (Luzern) (examined).

Chrysis (*Chrysis*) *mediata*: LINSENMAIER 1959: 151 (key), 154 (descr., Transcaspia: see material examined), 191 (cat.), 205 (Fig. 389).

Chrysis ignita var. *mediata*: MÓCZÁR 1967a: 114 (cat., descr., distr., key, Caucasus).

Chrysis mediata: VINOKUROV 2013d: 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1278 (cat., Kabardino-Balkarian Rep.); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2012b: 203 (cat. Caucasus); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 137 (cat., European Part: North Caucasus; Western Siberia: Tomsk Prov., Eastern Siberia: Yakutsk Rep.; Far East: Primorskii Terr.); ROSA et al. 2017g: 39 (cat., distr., Siberia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North Caucasus: Kabardino-Balkarian Rep.; Stavropol Terr); WESTERN SIBERIA (Kolpashevo [NMLS]); EASTERN SIBERIA (Yakutsk Rep.: Yakutsk [NMLS]); FAR EAST (Primorskii Terr.: Primorskii Terr.: Okeanskaya [NMLS]; Vladivostok, Sedanka [NMLS]).

D i s t r i b u t i o n . RUSSIA: European part (Kabardino-Balkarian Rep., Stavropol Terr.); Western Siberia (Tomsk Prov.); Eastern Siberia (Yakutsk Rep., Zabaikalskii Terr.); Far East (Primorskii Terr.). Caucasus. Palaeartic Region excluding Japan (LINSENMAIER 1997). The occurrence of *C. mediata* in Russian Fennoscandia is uncertain.

R e m a r k s . *Chrysis ignita lugubris* DU BUYSSON is a complex of several species dorsally with darker metasoma. Two possible syntypes are housed at the Genoa Museum and are related to *C. mediata*. The name *lugubris* is not listed in KIMSEY & BOHART (1991).

H o s t . Vespidae (Eumeninae): *Odynerus spinipes* LINNAEUS (MORGAN 1984), *Ancistrocerus trifasciatus* (MÜLLER) (PETIT 1987).

***Chrysis mesasiatica* SEMENOV, 1912 (Fig. 155)**

Chrysis rutilans var. *asiatica* MOCSÁRY, 1889: 448. Syntypes ♀♀; Turkmenistan: Ashkabad (depository unknown).

Chrysis rutilans var. *mesasiatica* SEMENOV, 1912: 194. Replacement name for *C. asiatica* MOCSÁRY (cat., descr., Saratov Prov.: Sarepta; Crimea: Yevpatoria; Ural Prov.: Uralsk; Siberia, Tomsk Prov.: Ongudaj, Mt. Altaj).

Chrysis (*Chrysis*) *insperata mesasiatica*: LINSENMAIER 1959: 129 (descr., Transcaspia).

Chrysis rutilans mesasiatica: VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central

Caucasus and Ciscaucasus); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 84 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma River); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysis mesasiatica: ROSA, 2018b: 2 (tax., Astrakhan Prov.: Volskij; Stavropol Terr.: Kuma River), 3 (Fig. 1–3).

D i s t r i b u t i o n . RUSSIA: European part (East: Saratov prov.; South: Volgograd Prov.; North Caucasus: Stavropol Terr.; Crimea); Ural (Bashkir Rep.). Iran (ROSA et al. 2013), Kazakhstan (RADOSZKOWSKI 1890), Turkmenistan (MOCSÁRY 1889), Palestine, Transcaspia, Turkey (LINSENMAIER 1959 as *Ch. insperata mesasiatica*), Kyrgyzstan: Tian-Shan (TARBINSKY 2002c).

R e m a r k s . *Chrysis mesasiatica* SEMENOV (= *C. insperata mesasiatica* SEMENOV sensu LINSENMAIER 1959) was synonymised by KIMSEY & BOHART (1991) with *C. decora* and is here considered as a valid species. Data from Western Siberia (Tomsk Prov.) and Eastern Siberia (Zabaikalskii Terr.) are related to other species, likely *C. amurensis* SEMENOV.

***Chrysis mirabilis* RADOSZKOWSKI, 1877 (Fig. 118)**

Chrysis mirabilis RADOSZKOVSKY, 1877: 106. Syntypes ♂♂ [not holotype]; Caucasus (Berlin, Kraków) (examined) (*facialis* group); RADOSZKOVSKY, 1880: 144 (cat., Caucasus); RADOSZKOWSKI 1889: 23 (descr., Caucasus), tab. IV (Figs 49A–49I); KIMSEY & BOHART 1991: 439 (cat., Caucasus); ROSA et al. 2015e: 41 (cat., tax., Caucasus); ROSA et al. 2017b: 137 (cat., European Part: Crimea).

Chrysis sinuosa [nec DAHLBOM, 1845]: RADOSZKOVSKY 1866: 10 (cat., Crimea); DALLA TORRE 1892: 78 (cat., Caucasus).

Chrysis (Tetrachrysis) mirabilis: MOCSÁRY 1889: 503 (cat., descr., distr., key, Caucasus); MOCSÁRY 1890a: 69 (cat., Caucasus); BISCHOFF 1910: 483 (cat., Caucasus); BISCHOFF 1913: 53 (cat., Caucasus).

Chrysis (quadridentatae) mirabilis: DU BUYSSON in ANDRÉ 1895: 602 (cat., descr., distr., key, tax., Caucasus).

Chrysis (Tetrachrysis) verae SEMENOV, 1967: 175. Holotype ♀; Georgia, Lagodekhi (St. Petersburg) (examined). ROSA et al. 2017a: 58 (cat., typ., Georgia), 182 (Pl. 145).

Chrysis (Chrysis) mirabilis: LINSENMAIER 1968: 61 (descr., Caucasus); SCHMIDT 1977: 115 (cat., descr., Caucasus).

Chrysis verae: KIMSEY & BOHART 1991: 476 (cat., Georgia: Lagodekhi).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Crimea: Kara Dag Nature Reserve [RMC]). Georgia: Khando NW Akhalkhalaki.

D i s t r i b u t i o n . RUSSIA: European part (Crimea). Caucasus, Georgia. South-eastern Europe, Greece and Turkey (LINSENMAIER 1959, 1968).

N o t e s . *Chrysis sinuosa* from Crimea identified by RADOSZKOWSKI (1866) could be also *C. jucunda* MOCSÁRY, 1889. Nevertheless, *C. mirabilis* is common in Crimea and we consider *C. sinuosa* RADOSZKOWSKI a misidentification of *C. mirabilis*, species not yet described when Radoszkowski wrote the catalogue of the Russian Chrysididae.

***Chrysis mokrousovi* ROSA, 2017 (Fig. 125)**

Chrysis mokrousovi ROSA in ROSA et al. 2017d: 16. Holotype ♀; Abkhazia Rep.: Gudautskii Dist., env. Novy Afon (St. Petersburg) (examined) (*succincta* group) (paratypes from Sochi: Lazareskoe), 17 (Figs 5A–F), 18 (6A–F), 20 (Figs 7C, 7D). ROSA et al. 2017b: 137 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Krasnodar Terr.), Abkhazia Rep.

***Chrysis mutabilis mutabilis* DU BUYSSON, 1887**

Chrysis mutabilis DU BUYSSON, 1887b: 194. Lectotype ♂ (designated by BOHART in KIMSEY & BOHART 1991: 441); Israel: Tiberias (Paris) (examined) (*cerastes* group). DALLA TORRE 1892: 79 (cat., Caucasus); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State Hight-Mountain Reserve); VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tyrnyauz); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206, 207 (cat., ecol., Stavropol Terr., Kuma River); VINOKUROV 2012d: 89 (sexual dimorphism); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 137 (cat., European Part: North Caucasus, Crimea).

Chrysis (Tetrachrysis) mutabilis: MOCSÁRY 1889: 496 (cat., descr., distr., key, Caucasus); MOCSÁRY 1890a: 69 (cat., Caucasus).

Chrysis (quadridentatae) mutabilis: DU BUYSSON in ANDRÉ 1895: 576 (cat., descr., distr., key, tax., Caucasus).

Chrysis (Cornuchrysis) mutabilis: LINSSENMAIER 1959: 174 (key), 175 (descr., Transcaspia), 193 (cat.), 214 (Figs 631, 634).

Chrysis (quadridentatae) mutabilis var. *araxana*: DU BUYSSON in ANDRÉ 1895: 577 (cat., descr., distr., tax., Caucasus).

Chrysis mutabilis araxana MOCSÁRY, 1893: VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Crimea: Sevastopol [ZIN], Sudak [ZIN]). Azerbaijan: Elisavetpol [ZIN]. Georgia: Lagodekhi [ZIN].

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep., Stavropol Terr.; Crimea). Caucasus. Cyprus, Middle East, Central Asia, Iran, Turkey (ROSA et al. 2013).

R e m a r k s . *Chrysis araxana* (examined) belongs to the *C. comparata* group and not to the *C. cerastes* group. The identifications of *C. mutabilis araxana* (DU BUYSSON in ANDRÉ 1895; VINOKUROV 2006d, 2006e, 2009) may be related to the green male variation of *C. mutabilis* or to *C. ambigua*.

***Chrysis mysta* DU BUYSSON, 1900 (Figs 137-138)**

Chrysis mysta DU BUYSSON, 1900: 152. Holotype ♀; Palestine: Jericho (Paris) (examined) (*succincta* group). ROSA et al. 2017b: 137 (cat., European Part: South).

Chrysis (Chrysis) mysta: LINSSENMAIER 1969: 361 (tax., southern Russia).

Distribution. RUSSIA (southern Russia, without localities). Kazakhstan (SEMENOV, 1967). Middle East, western Asia, Iran, Syria, Turkey (FARHAD et al. 2015).

Remarks. *Chrysis mysta* could be synonym of *C. apicalis* RADOSZKOWSKI, 1880, but we wait for the examination of additional material for a better understanding of their relationship.

***Chrysis mysticalis mysticalis* LINSSENMAIER, 1959**

Chrysis inaequalis [nec DAHLBOM]: RADOSZKOWSKI 1889: 28 (descr., Crimea, Astrakhan, Siberia, Caucasus), tab. V (Figs 59A–59I).

Chrysis mysticalis LINSSENMAIER, 1959: 165. Holotype ♀; Spain: Zamora (Luzern) (examined) (*inaequalis* group).

Chrysis mysticalis: ROSA et al. 2017b: 137 (cat., European part: South, Crimea; Western Siberia: Altai; Eastern Siberia: Krasnoyarsk Terr., Tuva Rep., Zabaikalskii Rep.); ROSA et al. 2017f: 31 (cat., distr., tax., Altai Rep.: 15 km SE Kurai, Chuya River; Krasnoyarsk Terr.: Minusinsk; Tuva Rep.: W Ujukskyi Mountains, Kamennyi River valley; Zabaikalskii Terr.: 20 km SSE Krasnokamensk); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Distribution. RUSSIA: European part (South: Astrakhan Prov.; Crimea); Western Siberia (Altai Rep.); Eastern Siberia (Krasnoyarsk Terr., Tuva Rep., Zabaikalskii Terr.). Caucasus. Southern Europe (LINSSENMAIER 1959).

Remarks. RADOSZKOWSKI's (1889) line drawings do not depict the genitalia of *Chrysis inaequalis* but those of *C. mysticalis* or *C. poetica*.

***Chrysis neobule* SEMENOV, 1954 (Fig. 110)**

Chrysis (Tetrachrysis) neobule SEMENOV in SEMENOV & NIKOL'SKAYA 1954: 131. Holotype ♀; Kazakhstan: Balamurun (St. Petersburg) (examined) (*varidens* group).

Chrysis neobile (!): VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody).

Chrysis neobule: VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma River); VINOKUROV 2010c: 855 (cat., descr., Stavropol Terr.: Novozavedennoe); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 137 (cat., European Part: North Caucasus).

Distribution. RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep.; Stavropol Terr.). Caucasus. Kazakhstan, Tajikistan, Uzbekistan.

***Chrysis nevelskiana* SEMENOV, 1967**

Chrysis (Tetrachrysis) nevelskiana SEMENOV, 1967: 179. Holotype ♀; Russia: Primorskii Terr.: Peschanoe (St. Petersburg) (examined) (*ignita* group). ROSA et al. 2017a: 42 (cat., typ., Ussuri Terr.: Peschanoe), 157 (Pl. 96).

Chrysis nevelskiana: KIMSEY & BOHART 1991: 442 (cat., Primorskii Terr.: Peschanoe); KURZENKO & LELEJ 2007: 1005 (cat., Primorskii Terr.); KURZENKO & LELEJ 2007: 1005 (cat., Primorskii Terr.); LELEJ & KURZENKO 2012: 402 (cat., Primorskii Terr.); ROSA et al. 2017b: 137 (cat., Far East: Primorskii Terr.).

D i s t r i b u t i o n . RUSSIA: Far East (Primorskii Terr.).

***Chrysis nox* SEMENOV, 1954 (Fig. 119)**

Chrysis (Tetrachrysis) nox SEMENOV in SEMENOV & NIKOL'SKAYA, 1954: 128. Lectotype ♀ (designated by BOHART in KIMSEY & BOHART 1991: 444); Tajikistan: Peter the Great Range (St. Petersburg) (examined) (*facialis* group).

Chrysis nox: ROSA et al. 2017b: 137 (cat., Western Siberia: Altai); ROSA et al. 2017f: 13 (cat., distr., Western Siberia: Altai Rep.: 15 km SE Kurai, Chuya River); ROSA et al. 2017g: 39 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Western Siberia (Altai Rep.). Mongolia, Tajikistan.

***Chrysis obtusidens obtusidens* DUFOUR & PERRIS, 1840 (Fig. 197)**

Chrysis obtusidens DUFOUR & PERRIS, 1840: 37. Syntypes; France: Landes (Paris) (examined) (*ignita* group). NIKOL'SKAYA 1978: 70 (key, western European part of USSR); BUGANIN et al. 2000: 149 (cat., Ulyanovsk Prov.: Majnskij, Ulyanovskij Distr.); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); KIZILOV 2007: 82 (cat., Tomsk Prov.: Seversk, Tomsk); VINOKUROV 2013c: 60 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve, Dukka gorge); VINOKUROV 2013d: 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014e: 47 (cat., ecol. Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 91 (cat., Kabardino-Balkarian Rep.; Caucasian State Nature Biosphere Reserve); ROSA et al. 2017b: 137 (cat., European Part: Centre, East, North Caucasus, Crimea; Western Siberia: Tomsk Prov.); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Chrysis (Chrysis) obtusidens: BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Penza Prov.; East: Ulyanovsk Prov.; North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.; Crimea); Western Siberia (Tomsk Prov.). Caucasus. Europe (ROSA & SOON 2012).

****Chrysis pallidicornis* SPINOLA, 1838**

Chrysis pallidicornis SPINOLA, 1838: 451. Lectotype ♀ (designated by ROSA & XU 2015: 32); Egypt (Turin) (examined) (*pallidicornis* group). DALLA TORRE 1892: 83 (cat., Caucasus).

Chrysis armena DAHLBOM, 1854: RADOSZKOVSKY 1866: 12 (cat., Caucasus); RADOSZKOWSKI 1877: 22 (cat., Caucasus); RADOSZKOVSKY 1880: 45 (cat., Caucasus).

Chrysis (Tetrachrysis) pallidicornis: MOCSÁRY 1889: 510 (cat., descr., distr., Caucasus and Armenia); MOCSÁRY 1890a: 69 (cat., Caucasus); BISCHOFF 1913: 57 (cat., Caucasus); BALTHASAR 1953: 94 (key, Caucasus) [mis.].

Chrysis (quadridentatae) pallidicornis: DU BUYSSON in ANDRÉ 1895: 586 (cat., descr., distr., key, tax., Caucasus).

Chrysis humeralis KLUG, 1845: MOCSÁRY 1909: 401 (cat., distr., tax., Caucasus).

Pseudochrysis pallidicornis: INVREA 1932: 45 (cat., distr., Caucasus); HAMMER 1950: 4 (cat., distr., southern Russia).

D i s t r i b u t i o n . Caucasus. Turkey. Middle East, northern Africa.

R e m a r k s . Some citations could be misidentified with other species in the *maculicornis* group.

***Chrysis pavesii* ROSA, 2017 (Figs 173-174)**

Chrysis pavesii ROSA in ROSA et al. 2017f: 27. Holotype ♀; Russia: Western Siberia, Altai Rep.: 5 km SE Chagan-Uzun, Tudtuyaryk River, 1780 m (St. Petersburg) (examined) (*bihamata* group), 25 (Figs 13A, C), 28 (Figs 15A–F). ROSA et al. 2017g: 39 (cat., distr., Siberia); ROSA et al. 2017b: 137 (cat., Western Siberia: Altai).

D i s t r i b u t i o n . RUSSIA: Western Siberia (Altai Rep.).

***Chrysis perrini* RADOSZKOWSKI, 1880**

Chrysis analis var. β EVERSMANN, 1858: 560 (cat., descr., northern Ural).

Chrysis analis var. *perrisi* RADOSZKOVSKY, 1880: 144. Syntypes ♀♀; Caucasus (Berlin, Kraków) (examined) (*analis* group).

Chrysis perrini RADOSZKOWSKI, 1889: 25. Emendation of *Chrysis analis perrisi* RADOSZKOVSKY, 1880; RADOSZKOWSKI 1889: 25 (descr., Caucasus), tab. V (Figs 55A–55I); ROSA et al. 2015e: 10 (cat., tax., Caucasus), 11 (Pl. 4); ROSA et al. 2017b: 137 (cat., European Part: North Caucasus; Ural).

Chrysis (Tetrachrysis) analis: MOCSÁRY 1889: 452 (key), 453 (cat., descr., distr., Caucasus).

Chrysis analis var. *perrinii* (!): DALLA TORRE 1892: 43 (cat., Caucasus).

Chrysis (Tetrachrysis) sybarita (!) var. *perrini*: BISCHOFF 1910: 479 (cat., Caucasus, Dagestan).

Chrysis (Chrysis) perrini: LINSSENMAIER 1987: 151 (tax., Caucasus, synonym *C. caucasiensis* LINSSENMAIER 1968).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Dagestan Rep.). Ural.

***Chrysis phryne* ABEILLE DE PERRIN, 1878 (Fig. 107)**

Chrysis phryne ABEILLE DE PERRIN, 1878: 5. Holotype ♀; France (Paris) (examined) (*phryne* group). NIKOL'SKAYA 1978: 67 (key, southern European part of USSR); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma River); ROSA et al. 2017b: 137 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). South and central Europe (ROSA & SOON 2012).

H o s t . Megachilidae: *Osmia melanura* MORAWITZ (TRAUTMANN 1927).

***Chrysis placida* MOCSÁRY, 1879**

Chrysis (Tetrachrysis) placida MOCSÁRY, 1879: 122. Lectotype ♂ (designated by MÓCZÁR 1965: 175); Hungary: Budapest (Budapest) (examined) (*inaequalis* group). MOCSÁRY 1889: 433

(cat., descr., distr., key, Caucasus); MOCSÁRY 1890a: 67 (cat., Caucasus); ROSA et al. 2017h: 67 (cat., typ., Hungary), 69 (Pl. 47).

Chrysis placida: DALLA TORRE 1892: 85 (cat., Caucasus); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106, 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 137 (cat., European Part: South, North Caucasus, Crimea; Ural), ROSA 2018b: 6 (Fig. 8), 7 (Fig. 15), 8 (Fig. 20).

Chrysis (quadridentatae) placida: DU BUYSSON in ANDRÉ 1895: 503 (cat., descr., key, Caucasus).

Chrysis inaequalis m. *placida*: SEMENOV 1912: 193 (cat., descr., tax., Saratov Prov.: Sarepta; Dagestan: Petrovsk [= Makhachkala]).

Chrysis (Tetrachrysis) inaequalis var. *placida*: BISCHOFF 1913: 53 (cat., Caucasus).

Chrysis (Pentachrysis) placida: LINSSENMAIER 1959: 165 (descr., distr., Caucasus), 205 (Fig. 407), 214 (Fig. 613).

Chrysis inaequalis placida: MÓCZÁR 1967a: 98 (cat., descr., distr., key, Caucasus), 99 (Figs 53C, 53D); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tyrnyauz); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge).

Material examined. RUSSIA: EUROPEAN PART (South: Volgograd Prov.: Sarepta [ZIN]; Crimea: Sevastopol [ZIN]; North Caucasus: Dagestan Rep.: Petrovka [=Makhachkala] [ZIN]); URAL (Chelyabinsk Prov. [PRC]; Orenburg Prov.: Orenburg [ZIN, PRC]).

Distribution. RUSSIA: European part (South: Volgograd Prov.; North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., Stavropol Terr.; Crimea); Ural (Chelyabinsk Prov., Orenburg Prov.), Caucasus. South-eastern Europe to Turkey (ROSA & SOON 2012).

***Chrysis poetica* SEMENOV, 1954**

Chrysis inaequalis var. *caucasica* MOCSÁRY, 1889: 484. Holotype ♂; Azerbaijan: Helenendorf [= Goygol] (Berlin) (examined), nom. praeocc., nec RADOSZKOWSKI, 1877.

Chrysis inaequalis var. *sapphirina* SEMENOV, 1912. ROSA et al. 2017b: 136 (cat., European Part: South).

Chrysis (Tetrachrysis) inaequalis var. *sapphirina*: TRAUTMANN 1927: 154 (cat., descr., distr., Sarepta).

Chrysis inaequalis var. *poëtica* SEMENOV 1954: 131. Replacement name for *Chrysis inaequalis* var. *caucasica* MOCSÁRY, 1889.

Chrysis (Pentachrysis) inaequalis sapphirina: LINSSENMAIER 1959: 165 (descr., distr., southern Russia); LINSSENMAIER 1969: 368 (tax., southern Russia); SCHMIDT 1977: 124 (cat., distr., southern Russia).

Chrysis poetica: ROSA 2018b: 6 (tax., syn., Stavropol Terr.: Novozavedennoe; Kislovodsk; Mineralnye Vody; Karachayevo-Cherkess Rep.: Teberda N. R.; Dagestan Rep.: Barkhan Sarykum; Ural: Orenburg prov.: Semenovka), (Fig. 7), 7 (Fig. 13), 8 (Fig. 18).

Distribution. RUSSIA: European part (South: Volgograd Prov.; Ural; North Caucasus; Crimea). South-eastern Europe, Cyprus, Iran, Kyrgyzstan, Palestine.

R e m a r k s . *Chrysis poetica* and *C. sapphirina*, have been recently separated by ROSA (2018b).

***Chrysis popovi* SEMENOV, 1954**

Chrysis popovi SEMENOV in SEMENOV & NIKOL'SKAYA, 1954: 119. Holotype ♀; Tajikistan (St. Petersburg) (examined) (*succincta* group).

Chrysis popovi: ROSA et al. 2017b: 137 (cat., Western Siberia: Altai); ROSA et al. 2017f: 16 (cat., distr., tax., Altai Rep.: 5 km SE Chagan-Uzun, Tuditaryk River; 15 km SW Tashanta), 17 (Figs 9A–F); ROSA et al. 2017g: 40 (cat., distr.).

D i s t r i b u t i o n . RUSSIA: Western Siberia (Altai Rep.); Tajikistan.

***Chrysis proauriceps* ROSA, 2017 (Fig. 144)**

Chrysis proauriceps ROSA in ROSA et al., 2017f: 20. Holotype ♂; Russia: Eastern Siberia, Krasnoyarsk Terr.: 10 km NW Minusinsk, Bystraya River (St. Petersburg) (examined) (*leachii* group), 21 (Fig. 11B) 22 (Figs 12A–F). ROSA et al. 2017g: 40 (cat., distr., Siberia); ROSA et al. 2017b: 137 (cat., Eastern Siberia: Krasnoyarsk Terr.).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Krasnoyarsk Terr.).

***Chrysis pseudobrevitarsis* LINSSENMAIER, 1951**

Chrysis (Chrysis) ignita var. *pseudobrevitarsis* LINSSENMAIER, 1951: 79. Lectotype ♀ (designated by LINSSENMAIER 1959: 158); Switzerland: Wallis (Luzern) (examined).

Chrysis (Chrysis) pseudobrevitarsis: LINSSENMAIER 1959: 151 (key), 158 (descr., Fennoscandia: see material examined), 191 (cat.), 205 (Fig. 394); KOFLER 1975: 353 (cat., distr., Fennoscandia); KUNZ 1994: 63 (Fig. 142c), 64 (key), 130 (biol., cat., descr., distr., ecol., Fennoscandia), 131 (Fig. 279).

Chrysis pseudobrevitarsis: VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1278 (cat., Kabardino-Balkarian Rep.: State High-mountain Natural Reserve); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); PAUKKUNEN et al. 2014: 39 (cat., distr., Russian Fennoscandia: Terijoki [= Zelenogorsk]; Äyräpää [= Baryshevo]; Antrea [= Kamenogorsk]; Jääski [= Lesogorskiy]; Seiskari [= Seskar island]; Viipuri [= Vyborg]; Kurkijoki; Sortavala); VINOKUROV 2014e: 47 (cat., ecol. Caucasian State Nature Biosphere Reserve); MARTYNOVA & FATERYGA 2015: 480 (biol., Crimea: Bakhchisarai distr.: Nauchnyi; Karadag Nature Reserve); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 137 (cat., European Part: North, North-West, North Caucasus, Crimea; Eastern Siberia: Khakass Rep., Krasnoyarsk Terr., Tuva Rep.); ROSA et al. 2017f: 29 (cat., distr., Altai Rep.: 24 km NWW Aktash, Chuya River; 12 km SE Aktash, Chuya River; Khakass Rep.: 26 km NW Shira, 4th Sunduk Mt.; 20 km SW Abakan, Izykhskie Kopi; Tuva Rep.: 6 km SE Bai-Khaak, Sosnovka; Krasnoyarsk Terr.: Krasnoyarsk); ROSA et al. 2017g: 39 (cat., distr.).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North-West: Leningrad Prov.: Vyborg [NMLS]).

D i s t r i b u t i o n . RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.; North Caucasus: Kabardino-Balkarian Rep., Stavropol Terr.; Crimea);

Western Siberia (Altai Rep.); Eastern Siberia (Khakass Rep., Krasnoyarsk Terr., Tuva Rep.). Trans-Palaeartic: from western Europe to Mongolia (Paukkunen et al. 2014).

H o s t . Vespidae (Eumeninae): *Ancistrocerus antilope* (PANZER) in Crimea (MARTYNOVA & FATERYGA 2015); *Euodynerus notatus* (JURINE) (PÄRN et al. 2015; PAUKKUNEN et al. 2015), *E. quadrifasciatus* (FABRICIUS) (HEINRICH 1964; MORGAN 1984; KUNZ 1994; SAURE 1998; MARTYNOVA & FATERYGA 2015).

***Chrysis pulchella pulchella* SPINOLA, 1807 (Figs 116-117)**

Chrysis pulchella SPINOLA, 1807: 28. Lectotype ♂ (designated by ROSA & XU 2015: 33); Italy: Liguria (Turin) (examined) (*pulchella* group). EVERSMAAN 1858: 562 (cat., descr., Orenburg Prov.); RADOSZKOWSKI 1866: 13 (cat., Spassk, Orenburg); RADOSZKOWSKI 1877: 11 (key), 23 (cat., descr., distr., Volgo-Ural); BALTHASAR 1954: 179 (Fig. 83), 168 (key), 232 (descr., Caucasus); NIKOL'SKAYA 1978: 68 (key, southern European part of USSR); BANASZAK 1980: 27 (biol., cat., Caucasus); ZVANTSOV 1987: 63 (cat., North Ossetian Rep.: Gurkumta); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve); ROSA et al. 2017b: 137 (cat., European Part: Centre, East, South, North Caucasus, Crimea; Ural).

Chrysis (Hexachrysis) pulchella: MOCSÁRY 1889: 533 (cat., descr., distr., key, Orenburg, Sarepta); MOCSÁRY 1890a: 70 (cat., southern Russia).

Chrysis (Chrysis) pulchella: BRUSTILO & MARTYNOV 2009: 52 (cat., distr., Caucasus).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Astrakhan Prov. [MMC]; Volgograd Prov. [MMC]; North Caucasus: Dagestan Rep., Kumtorkalinskiy Distr., Barkhan Sarykum).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Penza Prov.; South: Astrakhan Prov., Volgograd Prov.; East: Tatar Rep.; North Caucasus: Dagestan Rep., North Ossetian Rep.; Crimea); Ural (Orenburg Prov.). Southern Europe, Central Asia, Iran, Iraq (ROSA et al. 2013).

***Chrysis pushkiniana* SEMENOV, 1967 (Figs 168-169)**

Chrysis (Holoachrysis) pushkiniana SEMENOV, 1967: 154. Holotype ♂; Crimea: Yevpatoria, Sevastopol (St. Petersburg) (examined) (*elegans* group).

Chrysis pushkiniana: KIMSEY & BOHART 1991: 454 (cat., Crimea: Yevpatoria); ROSA et al. 2017b: 137 (cat., European Part: Crimea).

D i s t r i b u t i o n . RUSSIA: European part (Crimea).

***Chrysis ragusae* DE STEFANI, 1888 (Fig. 111)**

Chrysis ragusae DE STEFANI, 1888: 125. Holotype ♂; Italy: Sicily (lost) (*varidens-ragusae* group). ROSA et al. 2017b: 137 (cat., European Part: Crimea).

Chrysis (Tetrachrysis) taurica MOCSARY, 1889: 345. Holotype ♀; Ukraine: Crimea (Kraków) (*varidens-ragusae* group). BISCHOFF 1913: 60 (cat. Tauria [= Crimea]).

Chrysis taurica: DALLA TORRE 1892: 102 (cat. Tauria [= Crimea]); NIKOL'SKAYA 1978: 69 (key, southern European part of USSR); KIMSEY & BOHART 1991: 455 (synonym of *Chrysis ragusae* DE STEFANI, Crimea).

Chrysis (quadridentate) *taurica*: DU BUYSSON in ANDRE 1895: 464 (cat., descr., distr., Crimea).

Chrysis (*Tetrachrysis*) *ragusae*: TRAUTMANN 1927: 140 (key), 143 (cat., descr., distr., southern Russia, including the synonym *C. taurica*); BALTHASAR 1946: 251 (biol., distr., southern Russia); HAMMER 1950: 5 (cat., distr., southern Russia); BALTHASAR 1953: 112 (key, southern Russia), 276 (descr., southern Russia, including the synonym *C. taurica*); BALTHASAR 1954: 157 (Figs 61–62), 162 (key), 198 (descr., European part of USSR).

Chrysis (*Chrysogona*) *taurica*: LINSENMAIER 1959: 90 (key, descr., Russia), 202 (Fig. 265), 189 (cat.).

Chrysis (*Chrysogona*) *ragusai* (!): LINSENMAIER 1959: 90 (distr., southern Russia), 202 (Fig. 265).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Crimea: Sevastopol [ZIN]; Kara Dag Nature Reserve [RMC]).

D i s t r i b u t i o n . RUSSIA: European part (southern Russia, without locality; Crimea). West-Palaeartic, from southern Europe to Asia Minor (LINSENMAIER 1959).

***Chrysis remota remota* MOCSÁRY, 1889 (Fig. 163)**

Chrysis (*Tetrachrysis*) *remota* MOCSÁRY in RADOSZKOWSKI, 1889: 21. Lectotype ♂ (designated by ROSA et al. 2015e: 50); Caucasus; Iran: Demavend (tab. IV: Figs 48A–48I) (Kraków) (examined) (*graelisii* group). MOCSÁRY 1890a: 69 (cat., Caucasus); MOCSÁRY 1889: 511 (key), 514 (cat., descr., distr., Caucasus).

Chrysis remota: DALLA TORRE 1892: 90 (cat., Caucasus); KIMSEY & BOHART 1991: 456 (cat., Caucasus); ROSA et al. 2017b: 137 (cat., European Part: North Caucasus).

Chrysis (*Chrysis*) *remota*: LINSENMAIER 1968: 83 (descr., Caucasus).

Chrysis margiana: VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). Caucasus. Central Asia (LINSENMAIER 1968), Kyrgyzstan: Tian-Shan, Turkmenistan (TARBINSKY 2002c).

***Chrysis rubripyga* TSUNEKI, 1950**

Chrysis rubripyga TSUNEKI, 1950: 78. Holotype ♀; Japan: Tokio (Osaka) (*ignita* group). KURZENKO & LELEJ 2007: 1005 (cat., Primorskii Terr.); LELEJ & KURZENKO 2012: 402 (cat., Primorskii Terr.); ROSA et al. 2017b: 137 (cat., Far East: Primorskii Terr.).

D i s t r i b u t i o n . RUSSIA: Far East (Primorskii Terr.). Japan.

***Chrysis ruddii ruddii* SHUCKARD, 1837 (Fig. 187)**

Chrysis ruddii SHUCKARD, 1837: 163. Syntypes; England (lost?) (*ignita* group). ASSMUSS 1862: 269 (cat., Zvenigorod); DALLA TORRE 1892: 91 (cat., Caucasus); HELLÉN 1920: 213 (cat., Kuolemajärvi [= Pionerskoye], Pälkjärvi); NIKOL'SKAYA 1978: 70 (key, without localities); ZVANTSOV 1987: 63 (cat., North Ossetia-Alania: Nar, B. Zaramag); ZVANTSOV 1988: 93 (biol., cat., Moscow Prov.); JAKOVLEV et al. 1999: 163 (cat., Karelian Rep.: Kizhi); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); POLEVOI et al. 2005: 111 (cat., Karelian Rep.: Kizhi archipelago); SHIBAEV 2006a: 111 (cat., ecol., Penza Prov.: Akhuny); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); YAKOVLEV et al. 1999: 163 (cat., Kizhi skerries Reserve);

VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2012b: 203 (cat. Caucasus); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); PAUKKUNEN et al. 2014: 35 (cat., distr., Russian Fennoscandia); JAKOVLEV et al. 2015: 300 (cat., Karelian Rep.: Kizhi Is.); MARTYNOVA & FATERYGA 2015: 480 (biol., Crimea: Demerdzhi Mt.); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 137 (cat., European Part: North, North-West, Centre, North Caucasus, Crimea; Ural).

Chrysis auripes WESMAEL, 1839: RADOSZKOVSKY 1880: 145 (cat., Caucasus).

Chrysis (Tetrachrysis) ruddii: MOCSÁRY 1882: 68 (cat., descr., distr., Caucasus).

Chrysis auripes: RADOSZKOWSKI 1889: 21 (descr., Caucasus), tab. IV (Figs 47A–47I).

Chrysis (Tetrachrysis) ignita var. *ruddii*: MOCSARY 1889: 493 (descr., distr., Caucasus (Yerevan), Moscow Gov.); MOCSARY 1890a: 69 (cat., Caucasus, Russia).

Chrysis ruhdi (!): GUSSAKOVSKIJ 1948: 732 (cat., key, European part of USSR); LEVI et al. 1974: 266 (cat., Kirov Prov.: Kyrmyzh, Goltzy, Makar'e, Medvezhij Bor, Kiknur, St. Yagul).

Chrysis ruddii brevimarginata LINSENMAIER, 1959: VINOKUROV 2010b: 1278 (cat., Kabardino-Balkarian Rep.: State High-mountain Natural Reserve); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2012b: 203 (cat. Caucasus); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).

Material examined. Russia: EUROPEAN PART (Leningrad Prov.: Peterhof, Gatchina [ZIN]); URAL (Sverdlovsk Prov. [PRC]).

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.; Centre: Moscow Prov., Penza Prov.; East: Kirov Prov.; North Caucasus: Kabardino-Balkarian Rep., North Ossetian Rep.; Crimea); Ural (Sverdlovsk Prov.). Caucasus. West-Palaearctic from Europe to Asia Minor (LINSENMAIER 1959).

Host. Vespidae (Eumenidae): *Ancistrocerus oviventris* (WESMAEL) (BERLAND & BERNARD 1938; BANASZAK 1980; MORGAN 1984; KUNZ 1994; PAUKKUNEN et al. 2015), *A. parietum* (LINNAEUS), *A. scoticus* (CURTIS). Also *Eumenes coronatus* (PANZER), *Odynerus spinipes* (LINNAEUS) and *O. reniformis* (GMELIN) (TRAUTMANN 1927; BERLAND & BERNARD 1938; BANASZAK 1980; KUNZ 1994; MARTYNOVA & FATERYGA 2015; PAUKKUNEN et al. 2015). Citations for other Vespidae (e.g. *Delta*) and Megachilidae (*Hoplitis adunca* (PANZER) and *H. anthocopoides* (SCHENCK)), are unreliable, because differ significantly in their biology from the known vespid hosts.

***Chrysis rufitarsis rufitarsis* BRULLÉ, 1833 (Fig. 170)**

Chrysis rufitarsis BRULLÉ, 1833: 375. Syntypes ♂, ♀; Greece: Peloponnese (Paris) (examined (*rufitarsis* group). PAGLIANO & SCARAMOZZINO 1999: 146 (distr., Caucasus); TARBINSKY 2002b: 25 (key), 26 (southern Russia), 29 (Figs 11, 12); ROSA et al. 2013: 28 (cat., distr., southern Russia); ROSA et al. 2017b: 137 (cat., European Part: South).

Pseudochrysis rufitarsis: TRAUTMANN 1927: 93 (key), 98 (cat., descr., distr., Caucasus, Sarepta); BALTHASAR 1946: 244 (biol., cat., distr., Caucasus, southern Russia).

Chrysis (Tetrachrysis) rufitarsis: BALTHASAR 1953: 114 (key, Caucasus, Southern Russia), 279 (descr., Southern Russia); BALTHASAR 1954: 179 (Figs 76–79), 168 (key), 231 (descr., European part of USSR).

Chrysis (Chrysis) rufitarsis: LINSENMAIER 1959: 138 (descr., distr., key, Caucasus, southern Russia), 203 (Fig. 292), 211 (Figs 547–548); SCHMIDT 1977: 121 (cat., distr., Caucasus, southern Russia).

Material examined. Russia: EUROPEAN PART (North Caucasus: Derbent, Kamyshchay River valley [MMC]).

Distribution. RUSSIA: European part (South: Volgograd Prov.; North Caucasus: Dagestan Rep.). Caucasus. West-Palaearctic, from Europe and North Africa to Central Asia (TARBINSKY 2002b; ROSA et al. 2013).

***Chrysis russica* LINSENMAIER, 1959**

Chrysis (Chrysis) russica LINSENMAIER, 1959: 116. Holotype ♀, South Russia (no locality), 208 (Fig. 492) (Helsinki ?) (*succincta* group). ROSA et al. 2017b: 137 (cat., European Part: South),

Distribution. RUSSIA: European part (southern Russia, without locality).

***Chrysis rutilans extranea* LINSENMAIER, 1959**

Chrysis (Chrysis) rutilans ssp. *extranea* LINSENMAIER, 1959: 128. Holotype ♂; Japan (Luzern) (examined) (*splendidula* group).

Chrysis rutilans extranea: ROSA et al. 2017b: 137 (cat., Eastern Siberia: Khakass Rep.; Far East: Primorskii Terr.); ROSA et al. 2017f: 24 (cat., distr., Khakass Rep.: 14 km SSW Abakan, Belyi Yar, Abakan River; 20 km SW Abakan, Izykhskie Kopi; Primorskii Terr.: 7 km E Khasan, Golubinyi Utes); ROSA et al. 2017g: 40 (cat., distr., Siberia).

Material examined. Russia: FAR EAST (Primorskii Terr.: Vladivostok [NMLS]).

Distribution. RUSSIA: Eastern Siberia (Khakass Rep); Far East (Primorskii Terr.). China and Japan (LINSENMAIER 1959).

Remarks. LINSENMAIER (1959) labelled the specimen collected at Vladivostok in his collection as paratype, but this type locality was not included in the list of type localities.

***Chrysis rutilans rutilans* OLIVIER, 1791 (Fig. 152)**

Chrysis rutilans OLIVIER, 1791: 676. Type ?; France: Angoumois (depository unknown) (*splendidula* group). EVERSMANN 1858: 559 (cat., descr., northern Ural); RADOSZKOVSKY 1866: 12 (cat., Spassk, Saratov, Caucasus); RADOSZKOWSKI 1877: 10 (key), 20 (cat., descr., distr., Volgo-Ural); RADOSZKOVSKY 1880: 144 (cat., Caucasus); SEMENOV 1912: 194 (distr., Jaroslavl Prov.: Berditzino; Saratov Prov.: Sarepta; Crimea: Evpatorija; Uralsk; Altai: Onguday); NIKOL'SKAYA 1978: 69 (key, southern European part of USSR); PAGLIANO & SCARAMOZZINO 1999: 146 (distr., Caucasus); BUGANIN et al. 2000: 149 (cat., Ulyanovsk Prov.: Radischevsky Distr., Malaya Atmala, vill. Srednikovo); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); ROSA 2006: 234 (key), 270 (cat., descr., distr., ecol., tax., southern Russia), pl. 23 (Fig. 133); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian

Rep.: env. Tynyauz); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); KIZILOV 2007: 82 (cat., Altai Rep.); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VOROBYEVA 2007: 57 (cat., Belgorod); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma River); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); RUDOISKATEL 2011: 68 (cat., Bashkir Rep.: Shulgan-Tash Nature Reserve); FATERYGA 2012: 235 (biol., Crimea); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); PAUKKUNEN et al. 2014: 32 (cat., distr., Russian Fennoscandia: Säkkijärvi [= Kondratyevoy]; Kivach); MARTYNOVA & FATERYGA 2015: 477 (biol., Crimea: Simferopol, Krasnolesye, Perevalnoe); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebah, Nikitino, Damhurts, Zakan); VINOKUROV 2014e: 47 (cat., ecol. Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 90 (cat., Caucasian State Nature Biosphere Reserve); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 137 (cat., European Part: North, North-West, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai; Eastern Siberia: Irkutsk Prov., Khakass Rep., Tuva Rep.; Far East: Primorskii Terr.); ROSA et al. 2017g: 40 (cat., distr., Siberia).

Chrysis (Tetrachrysis) rutilans: MOCSÁRY 1889: 439 (key), 447 (cat., descr., distr., Moscow Gov.); MOCSÁRY 1890a: 67 (cat., Russia); BISCHOFF 1910: 479 (cat., Astrakhan).

(?) *Chrysis (Tetrachrysis) splendidula* var. *aurotecta* ABEILLE DE PERRIN, 1878: BISCHOFF 1910: 479 (cat., Astrakhan).

Chrysis (Chrysis) rutilans: LINSSENMAIER 1959: 128 (descr., distr., key, Caucasus), 203 (Fig. 302), 211 (Figs 566, 569); KUNZ 1994: 60 (key, Figs 117, 119), 133 (biol., cat., descr., distr., ecol., Caucasus), 133 (Fig. 286); LINSSENMAIER 1997b: 37 (key), 101 (descr., southern Russia, Fig. 81); SCHMIDT 1977: 119 (cat., distr., Caucasus); BRUSTILO & MARTYNOV 2009: 54 (biol., cat., distr., Caucasus).

Chrysis splendidula ROSSI, 1790: HUMALA 1997: 55 (cat., Kivach).

Material examined. Russia: EUROPEAN PART (East: Udmurt Rep. [PRC]; North-West: Leningrad Prov.: env. St. Petersburg [ZIN]; North Caucasus: Stavropol Terr. [ZIN]; Crimea: Sevastopol [ZIN], Alushta [ZIN]); URAL (Chelyabinsk Prov. [PRC]; Orenburg Prov.: Orenburg [ZIN, PRC]; Sverdlovsk Prov. [PRC]); EASTERN SIBERIA (Khakass Rep.: Chernoe Lake [IBSS]; 20 km SW Abakan, Izykhskie Kopi [IBSS]; Tuva Rep.: 27 km SSW Erzin, Tore-Khol Lake [IBSS]; 6 km SE Bai-Khaak, Sosnovka [IBSS]); FAR EAST (Primorskij Terr.: vill. Troitskoe [ZIN]).

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.; Centre: Belgorod Prov., Moscow Prov., Penza Prov., Yaroslav Prov.; East: Saratov Prov., Udmurt Rep., Ulyanovsk Prov.; South: Astrakhan Prov., Volgograd Prov.; North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.; Crimea); Ural (Bashkir Rep., Chelyabinsk Prov.; Orenburg Prov.; Sverdlovsk Prov.); Western Siberia (Altai Rep., Altai Terr.); Eastern Siberia (Irkutsk Prov. and/or Buryat Rep., Khakass Rep., Tuva Rep.); Far East (Primorskij Terr.). Caucasus. Trans-Palaearctic, from western Europe and North Africa to China and Japan (LINSSENMAIER 1997).

Host. Vespidae (Eumeninae): nest inquiline of potter wasps, such as *Gymnomerus laevipes* (SHUCKARD) (FATERYGA 2012), *Jucancistrocerus caspicus* (GIORDANI SOIKA) (FATERYGA & AMOLIN 2014), *Katamenes flavigularis* (BLÜTHGEN) (MARTYNOVA &

FATERYGA 2015), *Microdynerus nugdunensis* (DE SAUSSURE) (NIEHUIS et al. 2017). Other solitary wasps and bees have been associated to *C. rutilans* but most of them are unreliable (e.g. *Osmia andrenoides* SPINOLA and *Heriades truncorum* (LINNAEUS)) or doubtful, without evidence or possibly related to other similar species in the *C. splendidula* group.

***Chrysis rutiliventris rutiliventris* ABEILLE DE PERRIN, 1879**

Chrysis rutiliventris ABEILLE DE PERRIN, 1879: 74. Syntypes ♀♀; France: Bordeaux (Paris) (examined) (*ignita* group). DE OLIVEIRA et al. 2009: 45 (distr., Siberia); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1278 (cat., Kabardino-Balkarian Rep.: State High-mountain Natural Reserve); VINOKUROV 2011c: 171 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve, Dzhemagat River); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013c: 60 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve, Dukka gorge); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014e: 47 (cat., ecol. Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 92 (cat., Kabardino-Balkarian Rep.; Caucasian State Nature Biosphere Reserve: vill. Khudozhnikov, vill. Damkurts); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 137 (cat., European Part: North Caucasus; Siberia).

Chrysis (Tetrachrysis) ignita var. *rutiliventris*: MOCSÁRY 1890a: 69 (cat., Siberia).

Chrysis (Chrysis) rutiliventris: LINSSENMAIER 1968: 97 (tax., Siberia); KOFLER 1975: 354 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.). Trans-Palaeartic species, widely distributed from western Europe and North Africa to Korea (LINSSENMAIER 1959, 1968) with several subspecies. In Mediterranean countries it is found mostly on montaneous areas up to the elevation of 2400 m (ROSA 2006).

****Chrysis sacrata caucasiaca* LINSSENMAIER, 1987**

Chrysis (Chrysozona) sacrata ssp. *caucasiaca*: LINSSENMAIER, 1987: 155. Holotype ♀; Caucasus: Azerbaijan (Budapest) (*cerastes* group). ROSA et al. 2017h: 74 (cat., typ., Azerbaijan).

Chrysis sacrata caucasiaca: KIMSEY & BOHART 1991: 459 (cat., Caucasus).

D i s t r i b u t i o n . Caucasus.

***Chrysis sardarica* RADOSZKOWSKI, 1890**

Chrysis sardarica RADOSZKOWSKI, 1890: 509. Holotype ♂; Turkey: Ağrı prov.: Mt. Ararat [= Ağrı (Ağrı Dağı)] (Kraków) (*aestiva* group). VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); ROSA et al. 2017b: 137 (cat., European Part: North Caucasus).

Chrysis sardarica lepidula LINSENMAIER, 1959: VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysis sardarica perrecta LINSENMAIER, 1959: VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.).

Chrysis cardarica (!) *lepidula*: VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). Caucasus. Northern Africa, Middle East, Turkey, Central Asia (KIMSEY & BOHART 1991).

***Chrysis schencki* LINSENMAIER, 1968**

Chrysis (Chrysis) ignita ssp. *schenckiana* LINSENMAIER, 1959: 156, nom. praeocc., nec MOCSÁRY, 1912. Holotype ♀; Switzerland: Graubünden (Luzern) (examined) (*ignita* group). VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.: State High-mountain Natural Reserve); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).

Chrysis (Chrysis) ignita schencki LINSENMAIER, 1968: 99. Replacement name for *C. ignita schenckiana* LINSENMAIER, 1959.

Chrysis ignita: HUMALA & POLEVOI 2009: 63 (cat., Vodlozersky National Park, Okhtoma).

Chrysis sp.: POLEVOI & HUMALA 2011: 278 (cat., Pasvik Nature Reserve, Vaarlam island).

Chrysis schencki: PAUKKUNEN et al. 2014: 42 (cat., distr., Russian Fennoscandia: Vodlozersky National Park; Pasvik Nature Reserve, Valaam island); PAUKKUNEN & KOZLOV 2015: 62 (cat., Murmansk: Kuolajärvi, Pyhäkuru, Valaam island, Vuorijärvi); ROSA et al. 2017b: 138 (cat., European Part: North, North-West, North Caucasus: Western Siberia: Tomsk Prov.); ROSA et al. 2017f: 30 (cat., distr., Tomsk Prov.: Kolpashevo); ROSA et al. 2017g: 40 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: European part (North: Arkhangelsk Prov., Murmansk Prov.; North West: Karelian Rep.; North Caucasus: Kabardino-Balkarian Rep. Stavropol Terr.); Western Siberia (Tomsk Prov.). Trans-Palaeartic, from western Europe to Central Asia, Siberia and Japan (PAUKKUNEN et al. 2014).

H o s t . Vespidae (Eumeninae): *Ancistrocerus trifasciatus* (MÜLLER) (PÄRN et al. 2015; PAUKKUNEN et al. 2015), *A. gazella* (PANZER) and *A. nigricornis* (CURTIS) (SCHNEIDER & LECLERCQ 1987).

***Chrysis schousboei* DAHLBOM, 1854**

Chrysis schousboei [nec DAHLBOM, 1854 ?]: RADOSZKOVSKY 1866: 12 (cat., Dagestan); RADOSZKOVSKY 1880: 45 (cat., Caucasus); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1278 (cat., Kabardino-Balkarian Rep.: State High-mountain Natural Reserve); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2011c: 172 (cat., Karachayevo-

Cherkess Rep.: Teberda, Dzhemagat River valley); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013d: 1106, 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014c: 285 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014e: 47 (cat., ecol. Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 90 (cat., Caucasian State Nature Biosphere Reserve); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).

Distribution. RUSSIA: European part (North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.). Abkhazia Rep., Caucasus. Turkey (STRUMIA & YILDIRIM 2008). Northern Africa.

Remarks. *Chrysis schousboei* DAHLBOM is a northern African species, doubtfully distributed in Caucasus and Turkey. The Caucasian and Turkish species recently cited (VINOKUROV 2010a, b, 2011a, b, etc.) could be referable to an underscribed species or other similar species known from Turkey, yet never mentioned: *Chrysis illudens* DU BUYSSON in ANDRÉ, 1894, *C. marani* BALTHASAR, 1953, *C. striatifacialis* LINSENMAIER, 1968, *C. aurimaculifrons* LINSENMAIER, 1968.

***Chrysis sculpturata* MOCSÁRY, 1912**

Chrysis (Tetrachrysis) ignita var. *sculpturata* MOCSÁRY, 1912b: 589. Holotype ♀; Portugal (Budapest) (examined) (*ignita* group). ROSA et al. 2017h: 48 (cat., typ.), 49 (Pl. 27).

Chrysis sculpturata: VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State High-Mountain Reserve); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); ROSA et al. 2017b: 138 (cat., European Part: North Caucasus).

Chrysis lusitanica BISCHOFF, 1910: VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013d: 1106, 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014d: 93 (cat., Adygei Rep.: Maykop); VINOKUROV 2014e: 47 (cat., ecol. Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 91 (cat., Kabardino-Balkarian Rep.; Caucasian State Nature Biosphere Reserve); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).

Distribution. RUSSIA: European part (North Caucasus: Adygei Rep., Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.). Caucasus. Europe (ROSA & SOON 2012).

***Chrysis scutellaris* FABRICIUS, 1794 (Figs 148-149)**

Chrysis scutellaris FABRICIUS, 1794: 458. Holotype ♀; Italy (Copenhagen) (examined) (*scutellaris* group). ASSMUS 1862: 269 (cat., Mozhaisk); RADOSZKOVSKY 1866: 12 (cat., Caucasus); RADOSZKOVSKY 1880: 145 (cat., Nikolajeff); BECKER 1880: 151 (cat., Sarepta); DE STEFANI 1888: 178 (cat., descr., distr., key, Caucasus); RADOSZKOWSKI 1889: 21 (descr., Caucasus), tab. IV (Figs 46A–46I); DALLA TORRE 1892: 93 (cat., Caucasus); BENNO 1950: 38 (key), 44 (distr., Caucasus); NIKOL'SKAYA 1978: 69 (key, southern European part of USSR); ZVANTSOV 1988: 91 (biol., cat., Moscow Prov.: Mozhaysk); BUGANIN et al. 2000: 149 (cat., Ulyanovsk Prov.: Inzensky Distr., Yulovo Lake, vill. Vasil'evka); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 138 (cat., European Part: Centre, East, South, North Caucasus).

Chrysis (Tetrachrysis) scutellaris: MOCSÁRY 1882: 65 (cat., descr., distr., Caucasus); MOCSÁRY 1889: 453 (key), 457 (cat., descr., distr., Caucasus, Moscow Prov.); MOCSÁRY 1890a: 68 (cat., Caucasus); TRAUTMANN 1927: 137 (key), 176 (cat., descr., distr., ecol., Caucasus); BALTHASAR 1946: 257 (biol., distr., Caucasus); BALTHASAR 1953: 113 (key, Caucasus), 282 (descr., Caucasus); BALTHASAR 1954: 179 (Figs 80–82), 167 (key), 229 (descr., Caucasus).

Chrysis (quadridentatae) scutellaris: DU BUYSSON in ANDRÉ 1895: 610 (cat., descr., distr., key, tax., Russia).

Chrysis (Chrysis) scutellaris: BRUSTILO & MARTYNOV 2009: 53 (biol., cat., distr., Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Moscow Prov., Penza Prov.; East: Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: Kabardino-Balkarian Rep., Stavropol Terr.). Caucasus. Western Europe and north-western Africa; Turkish and Russian distributional data could be referred to other species in the group.

R e m a r k s . Most of the Russian distributional data should be checked, because they may refer to similar species in the *C. scutellaris* group.

H o s t . Megachilidae: *Anthidium oblongatum* (ILLIGER) (O. Niehuis pers. obs.), *Megachile leachella* CURTIS (SÖRENSON et al. 2012; A. Berg pers. obs.). Other records (e.g. *Halictus maculatus* SMITH) are unreliable.

***Chrysis sexdentata sexdentata* CHRIST, 1791**

Chrysis sexdentata CHRIST, 1791: 404. Type ?; (depository unknown) (*smaragdula* group). DE STEFANI 1888: 144 (cat., descr., distr., key, Caucasus); DALLA TORRE 1892: 95 (cat., Caucasus, Circassia); MANTERO 1905: 53 (cat., distr., Circassia); GUSSAKOVSKIJ 1948: 733 (cat., key southern European part of USSR); BRUSTILO 2008: 30 (cat., Crimea: Opuksy Natural Reserve); NIKOL'SKAYA 1978: 68 (key, southern and eastern European part of USSR); ZVANTSOV 1987: 64 (cat., North Ossetian Rep.: Mizur); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Luninsky Distr.: Goltsovki); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); SHIBAEV 2006a: 111 (cat., Penza Prov.: Penza); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tyrnauz); VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); MARTYNOVA & FATERYGA 2015: 480 (biol., Crimea: Krasnoperekopsk dist.: Pochetnoe; Tarkhankut Peninsula, Kipchak ravine; Bakhchisarai distr.: Tabachnoe; Simferopol distr.:

Urozhaihoe); ROSA et al. 2017b: 138 (cat., European Part: Centre, South, North Caucasus, Crimea; Ural); ROSA et al. 2017g: 40 (cat., distr., Siberia).

Chrysis caucasica RADOSZKOWSKI, 1877: 108. Syntypes ♀♀; Caucasus (Kraków) (examined). RADOSZKOVSKY 1880: 146 (cat., Caucasus); KIMSEY & BOHART 1991: 475 (synonym of *Chrysis variegata* OLIVIER, Caucasus); ROSA et al. 2015e: 17 (cat., tax., Caucasus).

Chrysis (Hexachrysis) sexdentata: MOCSÁRY 1889: 537 (cat., descr., distr., key, Caucasus); MOCSÁRY 1890a: 70 (cat., Caucasus); BISCHOFF 1913: 68 (cat., Caucasus); MAIDL 1922: 104 (cat., distr., Caucasus); TRAUTMANN 1927: 180 (key), 181 (cat., descr., distr., Caucasus); BALTHASAR 1946: 258 (biol., distr., Caucasus); HAMMER 1950: 7 (biol., distr., Caucasus); BALTHASAR 1953: 123 (key, Caucasus), 304 (descr., Caucasus); BALTHASAR 1954: 179 (Fig. 87), 168 (key), 234 (descr., Caucasus).

Chrysis (sexdentatae) micans ROSSI, 1790: DU BUYSSON in ANDRÉ 1896: 662 (biol., cat., descr., distr., key, Russia), pl. XII (Fig. 5).

Chrysis (sexdentatae) sexdentata: DU BUYSSON 1899: 168 (cat., Siberia).

Hexachrysis sexdentata: VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2010b: 1279 (cat., Kabardino-Balkarian Rep.: State High-mountain Natural Reserve); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2013d: 1106, 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2015a: 32 (cat., Dagestan Rep.: Dagestan Reserve, Barkhan Sarykum); VINOKUROV 2015b: 319 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).

Chrysis (Chrysis) sexdentata: BRUSTILO & MARTYNOV 2009: 57 (biol., cat., distr., Caucasus).

Chrysis variegata OLIVIER, 1790: VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2012b: 203 (cat. Caucasus); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Rostov Prov. [MMC]; North Caucasus: Krasnodar Terr. [MMC]; Crimea: Sevastopol [ZIN]); URAL (Chelyabinsk Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Penza Prov.; South: Rostov Prov.; North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., North Ossetian Rep., Kabardino-Balkarian Rep., Krasnodar Terr., Stavropol Terr.; Crimea); Ural (Chelyabinsk Prov.). Siberia. Caucasus. West-Palaeartic, from western Europe and northern Africa, to Central Asia and Iran (ROSA et al. 2013).

H o s t . Vespidae (Eumeninae): *Euodynerus dantici* (ROSSI) (MARTYNOVA & FATERYGA 2015); *Ancistrocerus parietum* (LINNAEUS) (MOCSÁRY 1912; BERLAND & BERNARD 1938). Host citations for Megachilidae (*Osmia brevicornis* (FABRICIUS), *O. caerulea* (LINNAEUS), *Hoplitis adunca* (PANZER) and *Megachile sicula* (ROSSI)) (TRAUTMANN 1927) or other Vespidae are not supported by evidence and considered doubtful by KUNZ (1994) and MARTYNOVA & FATERYGA (2005).

***Chrysis sibirica* ROSA, 2017 (Figs 171-172)**

Chrysis sibirica ROSA in ROSA et al. 2017f: 24. Holotype ♀; Russia: Eastern Siberia, Tuva Rep.: 31 km NEE Erzin, Erzin River (St. Petersburg) (examined) (*bihamata* group) (paratypes from Buryatia Rep.: Gusinoe Lake, Baraty), 13 (Figs 13B, 13D), 26 (Figs 14A–F). Rosa et al.

2017b: 138 (cat., Eastern Siberia: Buryat Rep., Tuva Rep.); ROSA et al. 2017f: 40 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Buryatia Rep., Tuva Rep.).

***Chrysis sickmanni* MOCSÁRY, 1893 (Fig. 186)**

Chrysis (Tetrachrysis) sickmanni MOCSÁRY, 1893: 228. Holotype ♀; Russia: eastern Siberia: Amur (lost) (*ignita* group).

Chrysis (Tetrachrysis) uljanini RADOSZKOWSKI, 1877: BISCHOFF 1913: 58 (cat., eastern Siberia, synonym of *C. sarafschana* MOCSÁRY).

Chrysis (Tetrachrysis) sarafschana sickmanni: TSUNEKI 1953b: 27 (cat., distr., eastern Siberia: Amur).

Chrysis (Chrysis) sarafschana sickmanni: LINSENMAIER 1959: 161 (descr., distr., eastern Siberia).

Chrysis sickmanni: KIMSEY & BOHART 1991: 473 (synonym of *Chrysis uljanini* RADOSZKOWSKI, Siberia).

Chrysis uljanini: KURZENKO & LELEJ 2007: 1005 (cat., Eastern Siberia); HA et al. 2008: 76 (cat., distr., eastern Russia); LELEJ & KURZENKO 2012: 402 (cat., Amur, Khabarovsk Terr.).

Chrysis uljanini sickmanni: ROSA et al. 2017b: 138 (cat., Far East: Amur, Khabarovsk Terr., Primorskii Terr.); ROSA et al. 2017g: 40 (cat., distr., Siberia).

Chrysis sickmanni: ROSA 2018b: 3 (Fig. 4), 4 (tax., Amur Prov.: Blagoveshchensk; Primorskii Terr.; Vladivostok; Okeanskaya; Lazovsky N.R.; Popov Is.; Yakovlevsky distr.).

M a t e r i a l e x a m i n e d . Russia: FAR EAST (Amur Prov.: Blagoveshchensk [ZIN]; Primorskii Terr. [RMC]; Vladivostok [NMLS]; Okeanskaya [NMLS]; Lazovsky Nature Reserve, America [IBSS], Tachingouza [IBSS]; Popov Island [IBSS]; Yakovlevsky distr., Pritsepilovka [IBSS]).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia; Far East (Amur Prov., Khabarovsk Terr., Primorskii Terr.).

***Chrysis singula* RADOSZKOWSKI, 1891 (Fig. 135)**

Chrysis singula RADOSZKOWSKI, 1891: 187. Syntypes ♀♀; Turkmenistan: Ashkhabad (Berlin, Budapest, Kraków) (examined) (*succincta* group). ROSA et al. 2015e: 56 (cat., typ., Turkmenistan), 57 (Pl. 39); ROSA et al. 2017b: 138 (cat., European Part: South).

Chrysis (Chrysis) grohmanni singula: LINSENMAIER 1959: 109 (Transcaspia (!): see material examined).

Chrysis (Tetrachrysis) grohmanni a. singula: BALTHASAR 1953: 118 (key, Caucasus), 251 (descr., Transcaucasia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [NMLS]).

D i s t r i b u t i o n . RUSSIA: European part (South: Volgograd Prov.). Caucasus. Transcaspia, Transcaucasia.

***Chrysis solida* HAUPT, 1957**

Chrysis ignita solida HAUPT, 1957: 115. Lectotype ♀ (designated by NIEHUIS 2000: 199); Poland: Bellinchen [= Bielinek] (Halle) (*ignita* group).

- Chrysis (Chrysis) mediata* ssp. *fenniensis* LINSSENMAIER, 1959: 154. Holotype ♀; Finland: Hattula (Luzern) (examined). Junior subjective synonym according to NIEHUIS 2000. LINSSENMAIER 1968: 99 (tax., Siberia); KOFLER 1975: 354 (cat., distr., Fennoscandia, Siberia).
- Chrysis scintillans* VALKEILA, 1971: 85. Holotype ♀; Finland: Vanaja (MZH) (examined) (cat., descr., Viipuri [= Vyborg], Terijoki [= Zelenogorsk], Rautu [= Sosново]; Metsäpirtti [= Zaporožskoe], Kuujärvi [= Mikhaylovskoe]). Junior subjective synonym according to PAUKKUNEN et al. 2014.
- Chrysis (Chrysis) mediata fennensis* (!): SCHMIDT 1977: 123 (cat., distr., Siberia).
- Chrysis mediata fenniensis*: VINOKUROV 2010b: 1278 (cat., Kabardino-Balkarian Rep.: State High-mountain Natural Reserve); VINOKUROV 2013d: 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).
- Chrysis mediata berberiana* LINSSENMAIER: VINOKUROV 2010b: 1278 (cat., Kabardino-Balkarian Rep.: State High-mountain Natural Reserve (KBSU)); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013c: 60 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve, Dukka gorge); VINOKUROV 2013d: 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014c: 285 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).
- Chrysis mediata feniensis* (!): VINOKUROV 2011c: 171 (cat., Karachayevo-Cherkess Rep.: env. Teberda, Teberda River valley); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve).
- Chrysis mediata solida*: HUMALA & POLEVOI 2012: 142 (cat., Kurgenitsy [Kizhi skerries reserve]).
- Chrysis solida*: PAUKKUNEN et al. 2014: 41 (cat., distr., Russian Fennoscandia); JAKOVLEV et al. 2015: 300 (cat., Karelian Rep.: Kurgenitsy); ROSA et al. 2017b: 138 (cat., European Part: North, North-West, North Caucasus; Eastern Siberia: Krasnoyarsk Terr.; Far East: Kamchatka); ROSA et al. 2017g: 40 (cat., distr., Siberia).
- Chrysis mediata fenninensis* (!): VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan).
- M a t e r i a l e x a m i n e d .** Russia: EUROPEAN PART (North-West: Leningrad Prov.: Tytärsaari [= Bol'shoj Tyuters island] [NMLS]); EASTERN SIBERIA (Krasnoyarsk Prov.: Minusinsk [NMLS]); FAR EAST (Kamchatka [NMLS]).
- D i s t r i b u t i o n .** RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.; North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.); Eastern Siberia (Krasnoyarsk Terr.); Far East (Kamchatka Terr.). Caucasus. Trans-Palaeartic, from Europe to Japan (PAUKKUNEN et al. 2014).
- H o s t .** Vespidae (Eumeninae): *Ancistrocerus trifasciatus* (MÜLLER), *Euodynerus notatus* (JURINE) and possibly *Symmorphus debilitatus* (SAUSSURE) (PÄRN et al. 2015).

***Chrysis sooni* ROSA, 2017 (Fig. 198)**

Chrysis sooni ROSA in ROSA et al. 2017d: 26. Holotype ♀; Russia: Far East, Primorskii Terr., Novokachalinsk (St. Petersburg) (examined) (*ignita* group) (paratype from Primorskii Terr., Yakovlevsky distr., Pritsepilovka), 27 (Figs. 10A–H), 28 (Figs. 11A–F). ROSA et al. 2017b: 138 (cat., Far East: Primorskii Terr.).

D i s t r i b u t i o n . RUSSIA: Far East (Primorskii Terr.).

***Chrysis soror* DAHLBOM, 1854 (Fig. 150)**

Chrysis soror DAHLBOM, 1854: 240. Lectotype ♂ (designated by ROSA & VÅRDAL 2015: 107); Greece: Rhodes (Stockholm) (examined) (*scutellaris* group). KUZNETSOVA 1990: 9 (cat., Lipetsk Prov.: Galich'ya Gora); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206, 207 (cat., ecol., Stavropol Terr., Kuma River); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 138 (cat., European Part: Centre, East, South, North Caucasus; Ural; Eastern Siberia: Irkutsk Prov., Krasnoyarsk Terr.); ROSA et al. 2017f: 40 (cat., distr., Siberia).

Chrysis (Tetrachrysis) ariadne MOCSÁRY, 1889: 414 (key), 416 (cat., descr., distr., Dagestan); MOCSÁRY 1890a: 67 (cat., Caucasus); ROSA et al. 2017h: 21 (cat., typ., Dagestan).

Chrysis ariadne: DALLA TORRE 1892: 44 (cat., Caucasus); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); ROSA et al. 2015e: 13 (cat., tax., Dagestan).

Chrysis scutellaris var. *ariadne*: BALTHASAR 1954: 94 (key, descr., Caucasus); MÓCZÁR 1965: 172 (cat., lectotype designation: Dagestan); MÓCZÁR 1967a: 94 (cat., descr., distr., key, Caucasus).

Chrysis (Tetrachrysis) soror calandra SEMENOV, 1967: 167. Holotype ♀; Georgia: Tbilisi (St. Petersburg) (examined). VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma River); ROSA et al. 2017a: 54 (cat., typ., Georgia), 173 (Pl. 128).

Chrysis sorror (!): NIKOL'SKAYA 1978: 69 (key, southern and eastern European part of USSR); BUGANIN et al. 2000: 149 (cat., Ulyanovsk Prov.: Staromajnskij Distr., env. Staraya Majna); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.).

Chrysis scutellaris ariadne: VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Nizhny Novgorod Prov. [MMC]; South: Volgograd Prov. [MMC]; North Caucasus: Dagestan Rep. [MMC]; Krasnodar Terr. [MMC]); URAL (Chelyabinsk Prov. [PRC]; Orenburg Prov. [PRC]); EASTERN SIBERIA (Krasnoyarsk Prov.: 10 km NW Minusinsk, Bystraya River [IBSS]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Lipetsk Prov., Nizhny Novgorod Prov., Penza Prov.; East: Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: Dagestan Rep., Krasnodar Terr., Stavropol Terr.); Ural (Chelyabinsk Prov., Orenburg Prov.); Eastern Siberia (Irkutsk Prov. and/or Buryat Rep., Krasnoyarsk Terr.). Caucasus. South-eastern Europe, Middle-East to Central Asia.

***Chrysis speciosa* RADOSZKOWSKI, 1877**

Chrysis speciosa RADOSZKOWSKI, 1877: 17. Lectotype ♂ (designated by BOHART in KIMSEY & BOHART 1991); Uzbekistan: steppe between Syr-Darya and Tashkent (Moscow) (examined)

(*maculicornis* group). ROSA et al. 2015a: 10 (cat., typ., Uzbekistan), 11 (Pl. 7); ROSA et al. 2017b: 138 (cat., Western Siberia); ROSA et al. 2017g: 40 (cat., distr.).

Chrysis (Tetrachrysis) speciosa: MOCSÁRY 1889: 414 (key), 417 (cat., descr., distr., Siberia); MOCSÁRY 1890a: 67 (cat., western Siberia); BISCHOFF 1913: 59 (cat. western Siberia).

D i s t r i b u t i o n . RUSSIA: Western Siberia. Cyprus, Iran, Uzbekistan (LINSENMAIER 1968).

***Chrysis splendidula splendidula* ROSSI, 1790 (Fig. 151)**

Chrysis splendidula ROSSI, 1790: 78. Syntypes ♂♂ [not holotype]; Italy: Tuscany (Berlin) (*splendidula* group). ASSMUSS 1862: 269 (cat., Vereja); BECKER 1880: 150 (cat., Sarepta); KOHL 1913: 12 (cat., Walouyki [= Livenka]); VORONTSOVKIJ 1930: 68 (cat., Orenburg Prov.); GUSSAKOVSKIJ 1948: 732 (cat., key, southern European part of USSR); BALTHASAR 1953: 284 (descr., Caucasus); BALTHASAR 1954: 164 (key), 219 (descr., Caucasus); NIKOL'SKAYA 1978: 69 (key, European part of USSR, excluding north); ZVANTSOV 1988: 91 (biol., cat., Moscow Prov.: Vereya); BUGANIN et al. 2000: 149 (cat., Ulyanovsk Prov.: Surskij Distr., vill. Barishskaya Sloboda); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Penza); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); SHIBAEV 2006a: 111 (cat., ecol., Penza Prov.); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); KURZENKO & LELEJ 2007: 1005 (cat., southern Russia); TYRNER 2007: 58 (cat., distr., southern Russia); BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); RUDOISKATEL 2011a: 166 (cat., Sverdlovsk Prov.); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); MARTYNOVA & FATERYGA 2015: 477 (biol., Crimea: Sasyk Lake, Cape Martyan Reserve); ROSA et al. 2017b: 138 (cat., European Part: Centre, East, South, North Caucasus, Crimea; Ural).

Chrysis cyanopyga DAHLBOM, 1854: EVERSMAAN 1858: 557 (cat., descr., Orenburg Prov., Ural); RADOSZKOVSKY 1866: 11 (cat., Kazan, Orenburg); RADOSZKOWSKI 1877: 10 (key), 19 (cat., descr., distr., Volgo-Ural); BECKER 1880: 150 (cat., Sarepta); DE STEFANI 1888: 143 (cat., descr., distr., key, Russia); RADOSZKOWSKI 1889: 19 (descr., Crimea, Orenburg, Caucasus), tab. III (Figs 40A–40I).

Chrysis (Tetrachrysis) cyanopyga: MOCSÁRY 1882: 64 (cat., descr., distr., Kazan, Orenburg, Ural).

Chrysis (Tetrachrysis) splendidula: MOCSÁRY 1889: 439 (key), 446 (cat., descr., distr., Spassk, Orenburg, Ural); MAIDL 1922: 104 (cat., distr., Caucasus); TRAUTMANN 1927: 141 (key), 170 (biol., cat., descr., distr., Caucasus); BALTHASAR 1946: 255 (biol., distr., Caucasus).

Chrysis (quadridentatae) splendidula: DU BUYSSON 1895: 536 (biol., cat., descr., distr., key, tax., Russia).

Chrysis (Chrysis) splendidula: LINSSENMAIER 1959: 127 (key, descr., southern Russia: see in material examined), 190 (cat.), 203 (Fig. 301).

Chrysis splendidula abdominata LINSSENMAIER, 1959: VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Chrysis splendidula chlorisans DU BUYSSON, 1895: VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

Chrysis splendidula (!) *abdominata*: VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysis (Tetrachrysis) tamara SEMENOV, 1967: 165. Holotype ♂; Azerbaijan: Ganja (St. Petersburg) (examined). ROSA et al. 2017a: 55 (cat., typ., syn., Azerbaijan).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Nizhny Novgorod Prov. [MMC]; South: Kalmyk Rep. [MMC]; Rostov Prov.: Razdovskaya Vill. (Pavesi coll.); Volgograd Prov.: Sarepta [NMLS, ZIN]; North Caucasus: Krasnodar Terr.: Sochi [MMC, ZIN]; Crimea: Kerch [ZIN], Sevastopol [ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Belgorod Prov., Moscow Prov., Nizhny Novgorod Prov., Penza Prov. East: Tatar Rep.; Ulyanovsk Prov.; South: Kalmyk Rep., Rostov Prov., Volgograd Prov.; North Caucasus: Krasnodar Terr., Stavropol Terr.; Crimea); Ural (Orenburg Prov., Sverdlovsk Prov.). Caucasus. Trans-Palaeartic: Europe, Central Asia (LINSENMAIER 1997), China (ROSA et al. 2014), Japan and Korea (KURZENKO & LELEJ 2007).

R e m a r k s . Some data from Russia and Russian Fennoscandia (HUMALA 1997) could be based on erroneous synonymization of *C. rutilans* with *C. splendidula*, or misidentifications (PAUKKUNEN et al. 2014). *C. splendidula chlorisans* is the eastern form with greenish males.

H o s t . Vespidae (Eumeninae): *Eumenes coarctatus* (LINNAEUS) (Vespidae) (MARTYNOVA & FATERYGA 2015), *E. mediterraneus* KRIECHBAUMER and *E. pomiformis* (FABRICIUS) (DU BUYSSON 1895; FERTON 1910; MARTYNOVA & FATERYGA 2015), *Gynomermus laevipes* (SHUCKARD), *Symmorphus allobrogus* (SAUSSURE), *S. laevipes* (SHUCKARD) (TRAUTMANN 1927). Citation for Crabronidae (*Trypoxylon figulus* (LINNAEUS)) and Megachilidae (*Osmia andreoides* (SPINOLA)) are unreliable (MARTYNOVA & FATERYGA 2015).

***Chrysis subcoriacea* LINSENMAIER, 1959**

Chrysis (Chrysis) longula ssp. *subcoriacea* LINSENMAIER, 1959: 160. Holotype ♀; Finland: Kyrkslätt [= Kirkkonummi] (Luzern) (examined) (*ignita* group).

Chrysis subcoriacea: PAUKKUNEN et al. 2014: 37 (cat., distr., Russian Fennoscandia: Muolaa [= Pravdino]; Rautu [= Sosnovo]; Terijoki [= Zelenogorsk]; Seiskari [= Seskar island]; Viipuri [= Vyborg]; Petrozavodsk).

Chrysis longula subcoriacea: VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebj, Nikitino, Damhurts, Zakan); VINOKUROV 2014e: 47 (cat., ecol., Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 91 (cat., Kabardino-Balkarian Rep.; Caucasian State Nature Biosphere Reserve: vill. Khudozhnikov); VINOKUROV 2015a: 32 (cat., Dagestan: Dagestan Reserve, Barkhan Sarykum); ROSA et al. 2017b: 138 (cat., European Part: North, North-West, North Caucasus).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North-West: Leniniograd Prov.: Vyborg [NMLS]).

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov.; North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., Karachayevo-Cherchess Rep., Stavropol Terr.). Trans-Palaeartic, from Europe to central Asia and Japan (LINSENMAIER 1997; ROSA 2006).

Host. Vespidae (Eumeninae): possibly *Ancistrocerus trifasciatus* (MÜLLER) (PAUKKUNEN et al. 2015).

***Chrysis subsinuata fallax* MOCSÁRY, 1882 (Fig. 114)**

Chrysis fallax MOCSÁRY, 1882: 52. Lectotype ♂ (designated by MÓCZÁR 1965); Hungary (Budapest) (examined) (*subsinuata* group). DALLA TORRE 1892: 60 (cat., Tauria [= Crimea]).

Chrysis mediocris DAHLBOM, 1854: DALLA TORRE 1892: 77 (cat., Caucasus); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma River).

Chrysis (Gonochrysis) fallax: MOCSÁRY 1889: 304 (key), 305 (cat., descr., distr., Tauria [= Crimea]); MOCSÁRY 1890a: 65 (cat., Tauria [= Crimea]).

Chrysis (Gonochrysis) mediocris: MOCSÁRY 1890a: 65 (cat., Caucasus); BALTHASAR 1946: 250 (biol., distr., southern Russia).

Chrysis (inaequales) mediocris: DU BUYSSON in ANDRÉ 1895: 401 (cat., descr., distr., key, Russia).

Chrysis (inaequales) mediocris var. *fallax*: DU BUYSSON in ANDRÉ 1895: 401 (cat., descr., distr., key, Russia).

Chrysis (Gonochrysis) subsinuata MARQUET, 1878: TRAUTMANN 1927: 127 (key), 130 (cat., distr., South Russia); BALTHASAR 1953: 85 (key, Southern Russia); BALTHASAR 1954: 157 (Figs 56–57), 160 (key), 189 (descr., European part of USSR).

Chrysis mediactris (!): VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody).

Chrysis subsinuata: VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysis subsinuata fallax: VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 138 (cat., European Part: North Caucasus, Crimea).

Chrysis subsinuata unifasciata HOFFMANN, 1937: VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysis mochii ZIMMERMANN, 1940: VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysis subsinuata nochii (!): VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

Chrysis subsinuata fallax (!): VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North Caucaus: Krasnodar Terr. [MMC]; Crimea: Sevastopol [sub *C. mediocris* DAHLBOM, ZIN]). Georgia: Tiflis [= Tbilisi] [sub *C. mediocris* DAHLBOM, ZIN].

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep., Krasnodar Terr., Stavropol Terr.; Crimea). Armenia (MOCSÁRY 1889), eastern Europe to Turkey. According to LINSENMAIER (1959) *C. subsinuata subsinuata* is distributed in western Mediterranean countries.

R e m a r k s . *Chrysis mediocris* DAHLBOM, 1854 is a primary junior homonym of *C. mediocris* DAHLBOM, 1845, described from Africa.

***Chrysis succincta* LINNAEUS, 1767**

Chrysis succincta LINNAEUS 1767: 947. Neotype ♂ (designated by ROSA & XU 2015: 74); Poland: Bromberg [= Bydgoszcz, Kuyavian-Pomeranian Voivodeship] (Luzern) (examined) (*succincta* group). ASSMUSS 1862: 269 (cat., Moscow); RADOSZKOVSKY 1866: 12 (cat., Orenburg); BECKER 1880: 151 (cat., Sarepta); HELLÉN 1920: 211 (cat., distr., Impilaks [= Lagoda Lake], Kirjavalaks [= Kirjavalahiti], Salmis [= Salmi]); GUSSAKOVSKIJ 1948: 732 (cat., key, European part of USSR); LEVI et al. 1974: 266 (cat., Kirov Prov.: Goltzy, Kirov, Aleksandrovscoe); NIKOL'SKAYA 1978: 68 (key, European part of USSR); ZVANTSOV 1988: 90 (biol., cat., Moscow Prov.: Izmailovo, Mytishchi, Moscow State University, Prioksko-Terrasny Reserve); BLAGOVESCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); KUZNETSOVA 1990: 9 (cat., Lipetsk Prov.: Galich'ya Gora); BLAGOVESCHENSKAYA 1994: 84 (cat., ecol., Ulyanovsk Prov.: Tiinsk); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Bessonovsky Distr.: Pobeda; Kolyshleysky Distr.: Skryabino); SHIBAEV 2006a: 111 (cat., Penza Prov.); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); KURZENKO & LELEJ 2007: 1005 (cat., Buryat Rep., Chita); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); ROSA et al. 2017b: 138 (cat., European Part: North, Centre, East, South; Ural; Eastern Siberia: Buryat Rep., Zabaikalskii Terr.); ROSA et al. 2017g: 40 (cat., distr., Siberia).

Chrysis (Monochrysis) succincta: MOCSÁRY 1882: 54 (cat., descr., distr., Caucasus); MOCSÁRY 1890a: 66 (cat., Caucasus).

Chrysis (Tetrachrysis) succincta: BALTHASAR 1946: 252 (biol., distr., Siberia); BALTHASAR 1953: 105 (key, Siberia); BALTHASAR 1954: 179 (Figs 68–69), 209 (central Siberia) [sensu lato].

Chrysis sicincta (!): BUGANIN et al. 2000: 149 (cat., Ulyanovsk Prov.: Radischevsky Distr.).

M a t e r i a l e x a m i n e d . Russia: URAL (Chelyabinsk Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (North: Karelian Rep.; Centre: Lipetsk Prov., Moscow Prov., Penza Prov.; East: Kirov Prov., Ulyanovsk Prov.; South: Volgograd Prov.); Ural (Chelyabinsk Prov., Orenburg Prov., Stavropol Terr.); Eastern Siberia (Buryat Rep., Zabaikalskii Terr.). Caucasus. Trans-Palaeartic, from Europe to Russian Far East (LINSENMAIER 1959, KURZENKO & LELEJ 2007). Identifications are often referable to other species in the *C. succincta* group.

R e m a r k s . Recent and old identifications should be double checked because very likely there are misidentifications with other species in the *C. succincta* group, e.g. *C. albanica* TRAUTMANN, *C. bicolor* LEPELETIER, *C. caspiensis* LINSENMAIER, *C.*

frivaldszkyi MOCSÁRY, *C. illigeri* GERMAR. Data reported by BALTHASAR (1946, 1953, 1954) for *Chrysis (Tetrachrysis)* are clearly related to *C. bicolor* or *C. illigeri*.

***Chrysis taczanovskii* RADOSZKOWSKI, 1877 (Figs 204-205)**

Chrysis taczanovskii RADOSZKOWSKY, 1877: 146. Holotype ♀; Egypt (Kraków) (examined) (*taczanovskii* group). MARTYNOVA & FATERYGA 2015: 481 (biol., Crimea: Tarkhankut Peninsula, Kipchak ravine); ROSA et al. 2015c: 61 (cat., typ.), 62 (Pl. 42); ROSA et al. 2017b: 138 (cat., European Part: North Caucasus, Crimea); ROSA et al. 2017g: 40 (cat., distr., Siberia).

Chrysis (Tetrachrysis) taczanovskii: MOCSÁRY 1890a: 68 (cat., Caucasus); BALTHASAR 1953: 99 (key, Caucasus, Siberia), 293 (descr., Caucasus, Siberia); BALTHASAR 1954: 162 (key), 204 (descr., Caucasus, Siberia); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.).

Chrysis (Tetrachrysis) taczanowskyi (!): BISCHOFF 1910: 479 (cat., Caucasus).

Chrysis (Tetrachrysis) taczanowskyi (!): TRAUTMANN 1927: 138 (key), 150 (cat., descr., distr., Caucasus, Siberia); HAMMER 1950: 5 (cat., distr., Caucasus, Siberia).

Chrysis teszanovskii (!): VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody).

Chrysis (Tetrachrysis) znojtkoi SEMENOV, 1967: 170. Holotype ♂; Transcaucasia: Araks River (St. Petersburg) (examined). Junior subjective synonym of *C. taczanovskii* RADOSZKOWSKII, 1877 according to KIMSEY & BOHART 1991. VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2015a: 32 (cat., Dagestan Rep.: Dagestan Reserve, Barkhan Sarykum).

Chrysis znoikoi (!): VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody).

Chrysis taczanowskyi (!): VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

Cornychrysis (!) *taczanovskii*: VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.).

Chrysis taczanowskyi (!): VINOKUROV 2012d: 89 (sexual dimorphism); FATERYGA & KOVBLIYUK 2013: 332 (biol., Crimea); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Cornuchrysis taczanovskii: VINOKUROV 2015a: 32 (cat., Dagestan Rep.: Dagestan Reserve, Barkhan Sarykum).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., Stavropol Terr.; Crimea); Siberia. Caucasus. Trans-Palaeartic, from southern Europe and northern Africa to Azerbaijan, Iran, Palestine, Syria (ROSA et al. 2013); the Siberian record could be referred to other Central Asian species (TARBINSKY 2002a).

H o s t . Vespidae (Eumeninae): *Euodynerus disconotatus* (LICHTENSTEIN) (MARTYNOVA & FATERYGA 2015). The Eumenine wasp nested in the abandoned nest of the Sphecidae *Sceliphron destillatorium* (ILLIGER) and probably previous citations for the sphecid wasp as possible parasite were erroneous (FATERYGA & KOVBLIYUK 2013).

***Chrysis tenella* MOCSÁRY, 1889 (Fig. 113)**

Chrysis (Olochrysis) tenella MOCSÁRY, 1889: 197. Holotype ♂ [not ♀]; Caucasus (Kraków) (examined) (*millenaris* group). ROSA et al. 2015e: 63 (cat., typ.), 64 (Pl. 44).

Chrysis (Holochoyris) tenella: MOCSÁRY 1890a: 62 (cat., Caucasus); BISCHOFF 1913: 41 (cat., Caucasus).

Chrysis (integerrimae) tenella: DU BUYSSON in ANDRÉ 1894: 269 (cat., descr., key, Caucasus).

Chrysis (integerrimae) tenella var. *chalcophana* MOCSÁRY, 1889: DU BUYSSON in ANDRÉ 1894: 269 (cat., descr., Caucasus).

Chrysis (integerrimae) tenella var. *mlokosiewitzii* RADOSZKOWSKI, 1889: DU BUYSSON in ANDRÉ 1894: 269 (cat., descr., Caucasus).

Chrysis (Holochoyris) tenella var. *chalcophana*: BISCHOFF 1913: 41 (cat., Caucasus [currently Araxes River]).

Chrysis (Holochoyris) tenella var. *mlokosiewitzii*: BISCHOFF 1913: 41 (cat., Caucasus [currently Araxes River]).

Chrysis tenella: KIMSEY & BOHART 1991: 471 (cat., Caucasus); ROSA et al. 2017b: 138 (cat., European Part: North Caucasus); ROSA et al. 2017d: 15 (cat., distr., Dagestan Rep.: Kuma River).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North Caucasus: Dagestan Rep.: Kumtorkalinskij Distr.: Barkhan Sarykum (MMC)).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Dagestan Rep.).

***Chrysis terminata* DAHLBOM, 1854 (Fig. 182)**

Chrysis terminata DAHLBOM, 1854: 261. Holotype ♂; Austria (Vienna) (examined) (*ignita* group). ROSA et al. 2017b: 138 (cat., European Part: South; Ural); ROSA et al. 2017d: 25 (cat., distr., Volgograd Prov.: Sarepta; Orenburg Prov.).

D i s t r i b u t i o n . RUSSIA: European part (South: Volgograd Prov.); Ural (Orenburg Prov.). West-Palaeartic from Europe to Central Asia (PAUKKUNEN et al. 2014).

H o s t . Vespidae (Eumeninae): *Ancistrocerus nigricornis* (CURTIS) (VAN LITH 1954; LINSSENMAIER 1959; PAUKKUNEN et al. 2015).

***Chrysis tianshanica* SEMENOV, 1967(Fig. 194)**

Chrysis tianshanica SEMENOV, 1967: 171. Holotype ♀; Kyrgyzstan: near Przhevalsk (St. Petersburg) (examined) (*ignita* group). VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1278 (cat., Kabardino-Balkarian Rep.: State High-mountain Natural Reserve); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 138 (cat., European Part: North Caucasus); ROSA et al. 2017a: 56 (cat., typ., Kyrgyzstan), 178 (Pl. 138).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep.); Central Asia.

***Chrysis tragica* SEMENOV, 1967 (Fig. 195)**

Chrysis (Tetrachrysis) tragica SEMENOV, 1967: 171. Holotype ♀; Dagestan Rep., Dzhurmut (St. Petersburg) (examined) (*ignita* group). ROSA et al. 2017a: 56 (cat., typ., Dagestan: Dzhurmut), 179 (Pl. 139); ROSA et al. 2017b: 138 (cat., European part: North Caucasus).

Chrysis (Chrysis) indigotea daghestanica: LINSENMAIER 1959: 162 (descr., Caucasus); SCHMIDT 1977: 124 (cat., distr., Caucasus); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2015e: 33 (cat., tax., Pl. 22, Dagestan); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).

Chrysis tragica: KIMSEY & BOHART 1991: 472 (cat., Dagestan Rep.: Dzhurmut).

Chrysis daghestanica: VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State High-Mountain Reserve).

Chrysis ignita (!) *dagestanica* (!): VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Dagestan Rep.).

R e m a r k s . Some citations of *Chrysis indigotea daghestanica* RADOSZKOWSKI from North Caucasus are related to *C. tragica* (see citations under *C. indigotea*).

***Chrysis turceyana* LINSENMAIER, 1959 (Fig. 115)**

Chrysis (Chrysis) turceyana LINSENMAIER, 1959: 105. Holotype ♀; Turkey: Uludag (Luzern) (examined) (*pulchella* group).

Chrysis (Gonodonto-chrysis) flagrans SEMENOV, 1967: 160. Holotype ♂; Caucasus: Uzaly [= Ssalty] (examined). ROSA et al. 2017a: 25 (cat., typ., syn., Caucasus), 129 (Pl. 39).

Chrysis flagrans: KIMSEY & BOHART 1991: 411 (cat., Caucasus: Uzaly).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Dagestan Rep.). Turkey.

****Chrysis undulata* RADOSZKOWSKI, 1880**

Chrysis undulata RADOSZKOVSKY, 1880: 145. Holotype ♂; Caucasus (Kraków ?). DALLA TORRE 1892: 104 (cat., Caucasus).

Chrysis (Tetrachrysis) undulata: MOCSÁRY 1889: 463 (key), 469 (cat., descr., distr., Caucasus); MOCSÁRY 1890a: 68 (cat., Caucasus).

Chrysis (quadridentatae) scutellaris var. *undulata*: DU BUYSSON in ANDRÉ 1895: 611 (cat., descr., distr., key, tax., Caucasus).

Chrysis (Tetrachrysis) scutellaris var. *undulata*: BISCHOFF 1913: 59 (cat. Caucasus).

Chrysis undulata RADOSZKOWSKI: KIMSEY & BOHART 1991: 461 (synonym of *Chrysis scutellaris* FABRICIUS, Caucasus).

D i s t r i b u t i o n . Caucasus.

***Chrysis valesiana valesiana* FREY-GESSNER, 1887**

Chrysis sybarita var. *valesiana* FREY-GESSNER, 1887: 74. Syntypes ♂, ♀; Switzerland: Wallis (Geneva) (examined) (*graelsii* group).

Chrysis valesiana: VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2011c: 171 (cat., Karachayevo-Cherkess Rep.: env. Teberda, Teberda River valley); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); FATERYGA & IVANOV 2013: 596 (biol., Crimea); VINOKUROV 2013d: 1106, 1107 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014c: 285 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); MARTYNOVA & FATERYGA 2015: 478 (biol., Crimea: Tarkhankut Peninsula, Kipchak ravine, Lisya Bay); ROSA et al. 2017b: 138 (cat., European Part: South, North Caucasus, Crimea).

Material examined. Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [NMLS]).

Distribution. RUSSIA: European part (South: Volgograd Prov.; North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep.; Stavropol Terr.; Crimea). South Europe.

Host. Vespidae (Eumeninae): *Tropidodynerus interruptus* (BRULLÉ) (FATERYGA 2009), *Paravespa rex* (VON SCHULTHESS) (FATERYGA & IVANOV 2013; MARTYNOVA & FATERYGA 2015), *Paragymnomerus spiricornis* (SPINOLA) (FREY-GESSNER 1887).

***Chrysis valida* MOCSÁRY, 1912**

Chrysis (Tetrachrysis) ignita var. *valida* MOCSÁRY, 1912: 589. Lectotype ♀ (designated by MÓCZÁR 1965: 176); Hungary: Budapest (Budapest) (examined) (*ignita* group).

Chrysis ignita var. *valida*: HUMALA & POLEVOI 2009: 63 [mis.].

Chrysis valida: NIKOL'SKAYA 1978: 70 (key, western European part of USSR); RUDOISKATEL 1999a: 54 (cat., Chelyabinsk Prov.: Ilmen State Reserve); RUDOISKATEL 2001: 188 (cat., Sverdlovsk Prov.: Visimsky State Reserve); RUDOISKATEL 2006: 281 (cat., Sverdlovsk Prov.: Visimsky State Reserve); KIZILOV 2007: 82 (cat., Atai Rep.; Tomsk Prov.: Kozhevnikovskiy Distr.: env. vill. Kireevskoe); KURZENKO & LELEJ 2007: 1005 (cat., Amur Prov., Primorskii Terr.); KOCHETKOV et al. 2008: 259 (cat., Ryazan Prov.: Bednaya gora, Lipovaya gora, Poluninsky); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1278 (cat., Kabardino-Balkarian Rep.: State High-mountain Natural Reserve); RUDOISKATEL 2011a: 166 (cat., Sverdlovsk Prov.); Kochetkov 2012: 241 (cat., Ryazan Prov.); LELEJ & KURZENKO 2012: 402 (cat., Amur, Primorskii Terr.); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014e: 47 (cat., ecol. Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 92 (cat., Kabardino-Balkarian Rep.; Caucasian State Nature Biosphere Reserve); VINOKUROV 2015b: 319 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 139 (cat., European Part: Centre, North Caucasus; Ural; Western Siberia: Altai, Tomsk Prov.; Far East: Amur Prov., Primorskii Terr.).

Material examined. Russia: EUROPEAN PART (Centre: Nizhny Novgorod Prov. [MMC]).

Distribution. RUSSIA: European part (Centre: Nizhny Novgorod Prov., Ryazan Prov.; North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.); Ural (Chelyabinsk Prov., Sverdlovsk Prov.); Far East (Amur Prov., Primorskii Terr.); West Siberia (Altai Rep., Tomsk Prov.). Trans-Palaeartic: confirmed identification are available only for central European and Central Asian specimens. *C. valida* is also cited for Spain and Turkey (ROSA & SOON 2012; STRUMIA & YILDIMIR 2008).

Remarks. HUMALA & POLEVOI (2009: 63) listed *Chrysis valida* from Russian Fennoscandia, but it later turned out to represent *C. impressa* (PAUKKUNEN et al. 2014). *C. valida* is a very rarely collected species; most of the above citations, as well as material identified in collections, are misidentified and should be double checked.

***Chrysis verna* DAHLBOM, 1854**

Chrysis verna DAHLBOM, 1854: 285. Holotype ♀; Greece: Rhodes Is. (lost) (*comparata* group).

DALLA TORRE 1892: 105 (cat., Caucasus); BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve); ROSA et al. 2017b: 139 (cat., European Part: Crimea).

Chrysis verna [nec DAHLBOM]: RADOSZKOWSKI 1889: 29 (descr., Caucasus), tab. V (Figs 62A–62K) [mis.]

Chrysis (Tetrachrysis) verna: MOCSÁRY 1889: 477 (key), 478 (cat., descr., distr., Caucasus) [mis.]

Chrysis (quadridentatae) verna: DU BUYSSON in ANDRÉ 1895: 5 (cat., descr., distr., tax., Caucasus), pl. XXVI (Fig. 7).

Chrysis (Tetrachrysis) verna: BALTHASAR 1953: 113 (key, Caucasus).

Chrysis (Chrysis) verna: LINSSENMAIER 1959: 147 (descr., distr., key, Caucasus), 204 (Fig. 371), 213 (Fig. 608); SCHMIDT 1977: 122 (cat., distr., Caucasus).

Distribution. RUSSIA: European part (Crimea). Caucasus. South-eastern Europe, Rhodes, Palestine (LINSSENMAIER 1959).

Remarks. The line drawings of *Chrysis verna* genitalia by RADOSZKOWSKI (1889) do not correspond to *C. verna* (LINSSENMAIER 1959) and belong to a different group, probably *C. pallidicornis* group. The current systematic and taxonomic status of *C. verna* and related species (*C. handlirschi* MOCSÁRY, 1889) is under investigation.

***Chrysis vicana* VINOKUROV, 2010**

Chrysis vicana VINOKUROV, 2010a: 886. Holotype ♀; Russia: Central Ciscaucasia, Stavropol Terr., Georgievsky District, Novozavedennoe Vill., left bank of Kuma River, 29.viii.2004 (Vinokurov coll.) (examined) (*varidens* group). VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2010c: 856 (cat., descr., Stavropol Terr.: Novozavedennoe); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 139 (cat., European Part: North Caucasus).

Distribution. RUSSIA: European part (North Caucasus: Stavropol Terr.).

***Chrysis vinokurovi* ROSA, 2017 (Fig. 136)**

Chrysis mavromoustakisi [nec TRAUTMANN, 1929]: VINOKUROV 2013d: 1106; VINOKUROV 2014a: 1150.

Chrysis vinokurovi ROSA in ROSA et al. 2017d: 19. Holotype ♀; Russia: North Caucasus, Stavropol Terr., Mineralnye Vody, St. Podkumok (St. Petersburg) (examined) (*succincta* group), 20 (Figs 7A), 21 (8A–F). ROSA et al. 2017b: 139 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.).

***Chrysis viridula* LINNAEUS, 1761 (Fig. 157)**

Chrysis viridula LINNAEUS, 1761: 415. Type?; Sweden (lost?) (*viridula* group). DALLA TORRE 1892: 106 (cat., Caucasus); HELLÉN 1920: 212 (cat., Jaakkima); GUSSAKOVSKIJ 1948: 732 (cat., key, European part of USSR); NIKOL'SKAYA 1978: 69 (key, European part of USSR); ZVANTSOV 1987: 63 (cat., North Ossetian Rep.: Nar, Gurkumta, Lisri); ZVANTSOV 1988: 90 (biol., cat., Moscow Prov.: Izmailovo, Peredelkino, Ruza, Zvenigorod, Nikolina Gora, Chashnikovo, Zelenaya Gavan, Mytishchi); RUDOISKATEL 1999a: 54 (cat., Chelyabinsk Prov.: Ilmen State Reserve); TARBINSKY 2002c: 38 (key, as *viridula*), 40 (European USSR, center and South Siberia, Caucasus), 43 (Figs 40, 41); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); KRIVONOGOVA & RUDOISKATEL 2004: 109 (cat., ecol., Sverdlovsk Prov.); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Gorodishchenskij Distr.: Nikonovo); ROSA 2006: 233 (key), 274 (biol., cat., descr., distr., ecol., Siberia), pl. 21 (Fig. 128); SHIBAEV 2006a: 111 (cat., ecol., Penza Prov.); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State Hight-Mountain Reserve); KURZENKO & LELEJ 2007: 1005 (cat., Khabarovsk Terr., Primorskii Terr., Irkutsk Prov.); KOCHETKOV et al. 2008: 259 (cat., ecol., Ryazan Prov.: Krasyi Kholm); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); RUDOISKATEL 2008b: 212 (cat., Chelyabinsk Prov.: East Ural Nature Reserve); VINOGRADOV 2008: 4 (cat., Vladimir Prov.); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma River); VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); RUDOISKATEL 2011a: 166 (cat., Sverdlovsk Prov.); KOCHETKOV 2012: 241 (cat., ecol., Ryazan Prov.: Krasnyi Kholm); LELEJ & KURZENKO 2012: 402 (cat., Khabarovsk Terr., Primorskii Terr., Irkutsk); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); PAUKKUNEN et al. 2014: 32 (cat., Russian Far East, Russian Fennoscandia); ROSA et al. 2014: 67 (cat., distr., Russian Far East); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); LESHTAEV 2015: 98 (cat., distr., ecol., Tula Prov.: Shchyokino); VINOKUROV 2015b: 319 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 139 (cat., European Part: North, Centre, North Caucasus, Crimea; Ural; Western Siberia: Altai; Eastern Siberia: Irkutsk Prov., Krasnoyarsk Terr., Tuva Rep.; Far East: Khabarovsk Terr., Primorskii Terr.); ROSA et al. 2017g: 40 (cat., distr., Siberia).

Chrysis (Tetrachrysis) viridula: MOCSÁRY 1882: 61 (cat., descr., distr., Caucasus).

Chrysis bidentata var. *gemma* DU BUYSSON, 1895: 521. Syntypes; France, Italy, Spain, Tauria [= Crimea] (Paris).

Chrysis (Tetrachrysis) viridula: BALTHASAR 1946: 255 (biol., distr., Caucasus); BENNO 1950: 37 (key), 40 (biol., cat., Caucasus); HAMMER 1950: 6 (cat., distr., Caucasus).

Chrysis (Chrysis) viridula: LINSENMAIER 1987: 149 (tax., Caucasus); KUNZ 1994: 59 (key, Figs 113, 115), 141 (biol., cat., descr., distr., ecol., Caucasus), 142 (Fig. 305).

Chrysis viridula georgii SEMENOV, 1967: VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody).

Chrysis georgii: VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 84 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.).

M a t e r i a l e x a m i n e d . Russia: WESTERN SIBERIA (Altai Rep.: 66 km SSE Ust'-Koksa, Ozernaya River [IBSS]; 15 km SE Kurai, Chuya River [IBSS]); EASTERN SIBERIA (Krasnoyarsk Terr.: Berezovyi [IBSS]); Tuva Rep.: 13 km NEE Samagaltai, Kaldar-Khamar Pass [IBSS]; Shuurmak, Shuurmak River [IBSS]; 13 km SW Samagaltai, Dyttyg-Khem River [IBSS]; Ubsu-Nur Lake [IBSS]; 25 km SE Erzin, Tes-Khem River [IBSS]; W of Ujukyski Mountains, Kamennyi River Valley, 1000 m); FAR EAST (Primorskii Terr.: Luk'yanovka [IBSS]; Razdolnoe, Terekhovka [IBSS]; 70 km SE Chuguevka, "Zov tigra" Natural Park [IBSS]).

D i s t r i b u t i o n . RUSSIA: European part (North: Karelian Rep.; Centre: Moscow Prov., Penza Prov., Ryazan Prov., Tula Prov., Vladimir Prov.; North Caucasus: Kabardino-Balkarian Rep., North Ossetian Rep., Stavropol Terr.; Crimea); Ural (Chelyabinsk Prov., Orenburg Prov., Sverdlovsk Prov.); Western Siberia (Altai Rep.); Eastern Siberia (Irkutsk Prov. and/or Buryat Rep., Krasnoyarsk Terr., Tuva Rep.); Far East (Khabarovsk Terr., Primorskii Terr.). Trans-Palaeartic, from Europe to Russian Far East, China and Japan (LINSENMAIER 1997; KURZENKO & LELEJ 2007; ROSA et al. 2014).

H o s t . Vespidae (Eumeninae): *Odynerus alpinus*, *O. melanocephalus* (GMELIN), *O. spinipes* (LINNAEUS), and *O. reniformis* (Gmelin) (ADLERZ 1910; BERLAND & BERNARD 1938; MORGAN 1984; PAUKKUNEN et al. 2015); *Ancistrocerus parietum* (LINNAEUS) (TRAUTMANN 1927). Records for Crabronidae and Megachilidae are unreliable.

***Chrysis westerlundi* TRAUTMANN, 1927**

Chrysis succincta ab. *westerlundi* HELLÉN, 1920: 211, invalid name (cat., descr., Salmis [= Salmi]).

Chrysis succincta var. *westerlundi* TRAUTMANN, 1927: 159. Holotype ♂; Salmis [= Salmi] (MZH) (examined) (*succincta* group).

Chrysis succincta f. *westerlundi* BALTHASAR, 1953: 289, nom. praecoc., nec TRAUTMANN, 1927.

Chrysis westerlundi: PAUKKUNEN et al. 2014: 27 (cat., distr., Salmis [= Salmi]); ROSA et al. 2017b: 139 (cat., European Part: North).

D i s t r i b u t i o n . RUSSIA: European part (North: Karelian Rep.). Endemic to Finland and Russian Fennoscandia (PAUKKUNEN et al. 2014).

****Chrysis xanthocera* KLUG, 1845**

Chrysis xanthocera KLUG, 1845: Tab. 45, Fig. 5. Holotype ♂; Egypt (Berlin) (*comparata* group). MOCSÁRY 1909: 400 (cat., tax., distr., Caucasus: Araxes valley).

Pseudochrysis pallidicornis var. *barrei* RADOSZKOWSKI, 1891: TRAUTMANN 1927: 101 (cat., descr., distr., Caucasus).

Chrysis (Tetrachrysis) xanthocera: BALTHASAR 1953: 108 (key, Caucasus), 300 (descr., Caucasus).

Chrysis (Chrysis) xanthocera: LINSEMAIER 1959: 147 (key, descr., Transcaspia), 191 (cat.), 204 (Fig. 374), 212 (Figs 590–592) (= *imperatrix* BUYSSON, 1891, *apiata houskiana* BALTHASAR, 1953).

D i s t r i b u t i o n . Caucasus. Iran, Turkey.

***Chrysis zetterstedti* DAHLBOM, 1845**

Chrysis zetterstedti DAHLBOM, 1845: 11. Lectotype ♂ (designated by PAUKKUNEN et al. 2014: 46); Sweden, Laxbro (Lund) (examined) (*smaragdula* group). EVERSMANN 1858: 563 (cat., descr., Orenburg Prov., Saratov Prov.); ASSMUSS 1862: 270 (cat., ecol., Klin); RADOSZKOVSKY 1866: 14 (cat., Kazan, Spassk, Sarepta, Orenburg); RADOSZKOWSKI 1889: 32 (descr., Orenburg, Vladivostok), tab. V (Figs 64A–64I); SEMENOV 1912: 196 (cat., Crimea: Melitopol; Kazan Prov.; Volgograd Prov.: Sarepta; Orenburg Prov.; Ural Prov.: Uralsk; Western Siberia: Altaj; Ulbinskoe; Eastern Siberia: Irkutsk, Markovo, Padun: Angara River; Vladivostok; DMITRIEV 1935: 260 (cat., Samara Prov.: Samarskaya Luka: Mt. Zhiguli); GUSSAKOVSKIJ 1948: 733 (cat., key, North and central European part of USSR); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); ROSA et al. 2017b: 139 (cat., European Part: North-West, Centre, East, South, North Caucasus, Crimea; Ural, West Siberia: Altai; Eastern Siberia: Irkutsk Prov.; Far East: Primorskii Terr.); ROSA et al. 2017g: 40 (cat., distr., Siberia).

Chrysis (Hexachrysis) zetterstedti: BISCHOFF 1913: 68 (cat., Russia, Siberia); TSUNEKI 1947: 57 (cat., distr., Kazan, Sarepta, Ural, Irkutsk).

Chrysis (Hexachrysis) fasciata var. *zetterstedti*: TRAUTMANN 1927: 181 (key), 183 (cat., descr., distr., southern Russia); TSUNEKI 1953a: 60 (cat., distr., tax., Siberia); TSUNEKI 1953b: 28 (cat., distr., tax., Siberia); LINSEMAIER 1959: 163 (descr., Fennoscandia, Russia, Siberia).

Chrysis fasciata zetterstedti: ZVANTSOV 1988: 90 (cat., Moscow Prov.: Chashnikovo, Klin, Mytishchi); SHIBAEV 2006a: 111 (cat., Penza Prov.: Akhuni); AA.VV. 2007: 279 (Samara Prov.: Samarskaya Luka National Park: Zhiguli Mt.); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysis (Chrysis) fasciata zetterstedti: BRUSTILO & MARTYNOV 2009: 57 (cat., distr., Russia, Siberia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North-West: Leningrad Prov.: env. St. Petersburg [ZIN]; Centre: Nizhny Novgorod Prov. [MMC]; Yaroslavl Prov.: Berditsino [ZIN]; North Caucasus: Krasnodar Terr. [MMC]); URAL (Chelyabinsk Prov. [PRC]; Sverdlovsk Prov. [PRC]); EASTERN SIBERIA (Irkutsk Prov.: Irkutsk [ZIN]); FAR EAST (Primorskii Terr.: Vladivostok [NMLS]).

D i s t r i b u t i o n . RUSSIA: European part (North-West: Leningrad Prov.; Centre: Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Yaroslavl Prov.; East: Samara Prov., Tatar Rep.; South: Volgograd Prov.; North Caucasus: Krasnodar Terr., Stavropol Terr.; Crimea); Ural (Chelyabinsk Prov., Orenburg Prov., Sverdlovsk Prov.); Western Siberia (Altai Terr.); Eastern Siberia (Irkutsk Prov.); Far East (Primorskii Terr.). North Europe, Ukraine, western and southern Russia. Records from Siberia and Russian Far East are related to *C. daphnis* SMITH (TSUNEKI 1963).

R e m a r k s . Specimens from Russian Far East very likely belong to *Chrysis daphne* SMITH, 1874. Unpublished molecular studies suggest that *C. zetterstedti* and *C. daphne* represent different species (PAUKKUNEN et al. 2014). Also from a morphological point of view they show differences which support their separation. Therefore we consider *zetterstedti* as a distinct species.

H o s t . Vespidae (Eumeninae): possibly *Euodynerus notatus* (JURINE) (PAUKKUNEN et al. 2015).

***Chrysis zonata zonata* DAHLBOM, 1854**

Chrysis zonata DAHLBOM, 1854: 244. Syntypes; Asia Minor (Berlin ?). ROSA 2018a: (tax., syn.).

Chrysis serena RADOSZKOWSKI, 1891: 194. Holotype ♂; Iran [not Turkmenistan]: Sarakhs (Kraków) (examined) (*viridula* group). ROSA et al. 2015e: 55 (cat., typ., Iran), 56 (Pl. 38); ROSA et al. 2017b: 138 (cat., European Part: Centre, East, South, North Caucasus, Crimea; Ural).

Chrysis pyrrhina DAHLBOM, 1845: EVERSMANN 1858: 558 (cat., descr., Orenburg Prov., Saratov Prov., Ural); RADOSZKOVSKY 1866: 11 (cat., Saratov, Orenburg); KIRCHNER 1867: 209 (cat., Saratov); RADOSZKOWSKI 1889: 20 (descr., Orenburg), tab. IV (Figs 42A–42I).

Chrysis (Chrysis) pyrrhina: LINSSENMAIER 1959: 130 (key), 133 (descr., Transcaspia), 190 (cat.), 203 (Fig. 311), 211 (Fig. 558); LINSSENMAIER 1968: 82 (descr., southern Russia); LINSSENMAIER 1969: 364 (tax., southern Russia); SCHMIDT 1977: 119 (cat., distr., southern Russia).

Chrysis pyrrhina: NIKOL'SKAYA 1978: 69 (key, southern European part of USSR); BUGANIN et al. 2000: 149 (cat., Ulyanovsk Prov.: Novospassky Distr., vill Vasil'evka); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody).

Chrysis viridula pyrrhina: VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga).

Chrysis pyrrhina siciliaca LINSSENMAIER, 1959: VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysis pyrrhina rhodesiaca LINSSENMAIER, 1959: VINOKUROV 2006d: 19 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Dagestan Rep. [MMC]; Stavropol Terr.: Stavropol [ZIN]; Crimea: Evpatoria [ZIN], Kerch [ZIN]; Mukhalatka [ZIN]; Sevastopol [ZIN], Staryi Krim [ZIN]; Sudak [ZIN]); URAL (Chelyabinsk Prov. [PRC]; Orenburg Prov. [PRC]). Azerbaijan: Elisavetpol [ZIN].

D i s t r i b u t i o n . RUSSIA: European part (Centre: Penza Prov.; East: Saratov Prov., Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: Dagestan Rep.; Stavropol Terr.; Crimea); Ural (Chelyabinsk Prov.; Orenburg Prov.). Caucasus, Azerbaijan, Trans-Palaeartic, from western Europe to Middle East, Syria, Iran and China (Heilongjiang) (ROSA et al. 2014).

15. Genus *Chrysura* DAHLBOM, 1845

Chrysura DAHLBOM, 1845: 6. Type species: *Chrysis austriaca* FABRICIUS, 1804, by subsequent designation of BODENSTEIN 1939: 125.

Olochrysis LICHTENSTEIN, 1876: 27. Type species: *Chrysis aerata* DAHLBOM, 1854 [= *Chrysis trimaculata* FÖRSTER, 1853)], by subsequent designation of ASHMEAD 1902: 226. Junior subjective synonym of *Chrysura* DAHLBOM, 1845 according to KIMSEY & BOHART 1991.

Monochrysis LICHTENSTEIN, 1876: 27. Type species: *Chrysis hybrida* LEPELETIER, 1806, by subsequent designation of ASHMEAD 1902: 226. Junior subjective synonym of *Chrysura* DAHLBOM, 1845 according to LINSSENMAIER 1959.

Holochrysis RYE, 1878: 134. Invalid emendation of *Olochrysis* LICHTENSTEIN, 1876.

Arctochrysis HAUPT, 1957: 72. Type species: *Chrysis austriaca* DAHLBOM, 1854 by original designation. Objectively invalid name: junior homonym of *Chrysura* DAHLBOM, 1845.

Chrysura alticola (SEMENOV, 1912)

Chrysis petri alticola SEMENOV, 1912: 190. Lectotype ♀ (designated by ROSA in ROSA et al. 2017a: 45); Eastern Bukharia (St. Petersburg) (examined) (*radians* group).

Chrysura alticola: ROSA et al. 2017b: 139 (cat., Western Siberia: Altai); ROSA et al. 2017f: 31 (cat., distr., Altai Rep.: 5 km SE Chagan-Uzun, Tuduuyaryk River; 15 km SE Kurai, Chuya River); ROSA et al. 2017g: 40 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Western Siberia (Altai Rep.); Tajikistan.

**Chrysura angusticollis* (MOCSÁRY, 1893)

Chrysis (Holochrysis) angusticollis MOCSÁRY, 1893: 219. Syntypes ♀♀; Caucasus: Araxes valley (Vienna) (*dichroa* group). BISCHOFF 1913: 37 (cat., Caucasus).

Chrysis (integerrimae) angusticollis: DU BUYSSON in ANDRÉ 1894: 383 (cat., descr., Caucasus).

Chrysis (Chrysozona) angusticollis: LINSSENMAIER 1959: 84 (descr., distr., key, Caucasus).

D i s t r i b u t i o n . Caucasus.

Chrysura austriaca (FABRICIUS, 1804) (Fig. 219)

Chrysura austriaca FABRICIUS, 1804: 173. Holotype ♀; Austria (Copenhagen) (examined) (*austriaca* group). ASSMUSS 1862: 268 (cat., Podolsk, Moshaisk, Zvenigorod); RADOSZKOVSKY 1880: 142 (cat., Caucasus); DE STEFANI 1888: 160 (cat., descr., distr., key, Caucasus); RADOSZKOWSKI 1889: 14 (descr., Caucasus, Siberia), tab. II (Figs 23A–23I); DALLA TORRE 1892: 46 (cat., Caucasus, Siberia); GUSSAKOVSKIJ 1948: 732 (cat., key, South and central European part of USSR); BENNO 1950: 39 (key), 44 (biol., distr., Caucasus, Siberia); NIKOL'SKAYA 1978: 67 (key, without localities); ZVANTSOV 1988: 90 (biol., cat., Moscow Prov.: Podolsk, Mzhaysk, Zvenigorod); MINGO et al. 1990: 43 (biol., cat., distr., Siberia); BUGANIN et al. 2000: 148 (cat., Ulyanovsk Prov.: Radischevsky Distr., Malaya Atmala); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland).

Chrysis (Olochrysis) austriaca: MOCSÁRY 1882: 47 (cat., descr., distr., Caucasus); MOCSÁRY 1889: 251 (key), 254 (cat., descr., distr., Caucasus, Siberia).

Chrysis (Holochrysis) austriaca: MOCSÁRY 1890a: 64 (cat., Caucasus, Siberia); BISCHOFF 1913: 37 (cat., Siberia); MAIDL 1922: 103 (cat., distr., Siberia); TRAUTMANN 1927: 106 (key), 113 (biol., cat., descr., distr., Caucasus, Siberia); BALTHASAR 1946: 247 (biol., distr., Caucasus,

Siberia); BALTHASAR 1953: 80 (key, Caucasus, Siberia); BALTHASAR 1954: 157 (Fig. 53), 158 (key), 175 (descr., Caucasus, Siberia).

Chrysis (integerrimae) austriaca: DU BUYSSON in ANDRÉ 1894: 324 (cat., descr., distr., key, Russia).

Chrysis (Chrysis) austriaca: LINSSENMAIER 1951: 39 (key) 42 (descr., Siberia), 100 (cat.); LINSSENMAIER 1959: 95 (biol., descr., distr., key, Siberia), 202 (Fig. 266); KOFLEK 1975: 350 (biol., cat., distr., Siberia); LINSSENMAIER 1997b: 37 (key) 84 (descr., Siberia, Fig. 58).

Chrysis (Arctochrysis) austriaca: HAUPT 1957: 77 (biol., cat., descr., key, Siberia).

Chrysis (Chrysura) austriaca: KUNZ 1994: 57 (Fig. 101), 58 (key), 104 (biol., cat., descr., distr., ecol., Siberia), 105 (Fig. 226).

Chrysura austriaca: SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); KURZENKO & LELEJ 2007: 1006 (cat., Siberia); PAUKKUNEN et al. 2014: 47 (cat., distr., tax., Siberia); ROSA et al. 2017b: 139 (cat., European Part: Centre, East; Siberia); ROSA et al. 2017g: 40 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Moscow Prov., Penza Prov.; East: Ulyanovsk Prov.); Siberia. Caucasus. Trans-Palaeartic: from western Europe and northern Africa to Siberia.

H o s t . Megachilidae: *Hoplitis adunca* (PANZER), *H. anthocopoides* (SCHENCK), *H. tuberculata* (NYLANDER) and *H. uncinata* GERSTAECKER; *Osmia parietina* SMITH, *O. bicolor* (SCHRANK), *O. caeruleascens* (LINNAEUS), *O. gallarum* SPINOLA *O. nigriventris* (ZETTERSTEDT), *O. rufa* (LINNAEUS), *O. ventralis* (PANZER) (TRAUTMANN 1927; LINSSENMAIER 1959; Kofler 1975; BANASZAK 1980; SAURE 1998). Host associations related to Vespidae (e.g. *Ancistrocerus dusmetiolus* (STRAND) and *Symmorphus crassicornis* (PANZER) (TRAUTMANN 1927)), are unreliable considering the biology of the species in the genus *Chrysura*.

***Chrysura cuprea cuprea* (ROSSI, 1790) (Fig. 216)**

Chrysis cuprea ROSSI, 1790: 78. Syntypes; Italy: Tuscany (Berlin) (*cuprea* group). DE STEFANI 1888: 179 (cat., descr., distr., key, Caucasus); GUSSAKOVSKIJ 1948: 732 (cat., key, southern European part of USSR); PLAVIL'SHCHIKOV 1950: 400 (cat., European part of USSR); NIKOL'SKAYA 1978: 67 (key, southern European part of USSR).

Chrysis coeruleipes FABRICIUS, 1804: RADOSZKOVSKY 1866: 8 (cat., Abkhazia Rep.); BECKER 1880: 150 (cat., Sarepta); RADOSZKOVSKY 1880: 142 (cat., Caucasus); RADOSZKOWSKI 1889: 15 (descr., Caucasus), tab. II (Figs 28A–28K).

Chrysis (Olochrysis) cuprea: MOCSÁRY 1882: 50 (cat., descr., distr., Caucasus).

Chrysis (Holochrysis) cuprea: MOCSÁRY 1890a: 65 (cat., Caucasus).

Chrysis (integerrimae) cuprea: DU BUYSSON in ANDRÉ 1894: 352 (biol., cat., descr., distr., key, Russia).

Chrysura cuprea: VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2015a: 32 (cat., Dagestan Rep.: Dagestan Reserve, Barkhan Sarykum); ROSA et al. 2017b: 139 (cat., European Part: South, North Caucasus, Crimea).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Astrakhan Prov., Enotaevskiy [MMC]; North Caucasus: Dagestan Rep.: Derbent [ZIN]; Krasnodar Terr.:

Novorossiysk [ZIN], Gelendzhik [ZIN]; Crimea: Miskhor [ZIN], Sevastopol [ZIN], Tarkhankut [ZIN]).

Distribution. RUSSIA: European part (South: Volgograd Prov.; North Caucasus: Dagestan Rep., Krasnodar Terr., Stavropol Terr.; Crimea). Abkhazia Rep. West-Palaeartic from western Europe to Caucasus.

Host. Megachilidae: *Osmia andreoides* SPINOLA, *O. bicolor* SCHRANCK, *O. rufohirta* LATREILLE, *O. spinulosa* TRAUTMANN, *O. versicolor* LATREILLE (TRAUTMANN 1927).

***Chrysura desertorum* (DU BUYSSON, 1887)**

Chrysis desertorum DU BUYSSON, 1887: 175. Lectotype ♂ (designated by BOHART in KIMSEY & BOHART 1991: 488); Israel: Ramle (Paris) (examined) (*radians* group).

Chrysis (Olochrysis) cyanocoelia MOCSÁRY, 1889: MOCSÁRY 1889: 249 (cat., descr., Georgia); ROSA et al. 2017h: 32 (cat., typ., Georgia).

Chrysis cyanocoelia: DALLA TORRE 1892: 55 (cat., Caucasus).

Chrysis (Holochoyris) desertorum: BALTHASAR 1953: 82 (key, Caucasus), 182 (descr., Caucasus).

Chrysis (Chryzogona) desertorum: LINSSENMAIER 1959: 82 (descr., key, Caucasus); LINSSENMAIER 1969: 356 (tax., southern Russia); SCHMIDT 1977: 108 (cat., distr., Caucasus).

Chrysura desertorum: ROSA et al. 2017b: 139 (cat., European Part: South).

Distribution. RUSSIA: European part (Southern Russia, without locality). Caucasus (Georgia). Middle East from Israel to Turkey.

****Chrysura desidiosa* (DU BUYSSON, 1894)**

Chrysis (integerrimae) desidiosa DU BUYSSON in ANDRÉ, 1894: 280. Holotype ♀; Caucasus (Paris) (examined) (*radians* group).

Chrysis (Holochoyris) desidiosa: BISCHOFF 1913: 38 (cat., Caucasus).

Chrysis (Chryzogona) desidiosa: LINSSENMAIER 1959: 80 (descr., distr., key, Caucasus).

Chrysura desidiosa: KIMSEY & BOHART 1991: 488 (cat., Caucasus).

Distribution. Caucasus. Kyrgyzstan, Tajikistan (KIMSEY & BOHART 1991).

***Chrysura dichroa dichroa* (DAHLBOM, 1854) (Fig. 217)**

Chrysis dichroa DAHLBOM, 1854: 146. Lectotype ♀ (designated by ROSA & XU 2015: 17); Hungary: Budapest (Turin) (*dichroa* group). EVERSMAHNS 1858: 553 (cat., descr., Orenburg, southern Ural); RADOSZKOVSKY 1866: 8 (cat., Orenburg); RADOSZKOVSKY 1880: 142 (cat., Caucasus); DALLA TORRE 1892: 56 (cat., Caucasus); GUSSAKOVSKIY 1948: 732 (cat., key, European part of USSR); NIKOL'SKAYA 1978: 67 (key, South and West of the European part of USSR); BANASZAK 1980: 24 (biol., cat., Caucasus); BLAGOVESHCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); BLAGOVESHCHENSKAYA 1994: 84 (cat., ecol., Ulyanovsk Prov.: Tiinsk); BUGANIN et al. 2000: 148 (cat., Ulyanovsk Prov.); PRISNIJ 2003: 100 (cat., ecol., Central Russian Upland); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central

Caucasus and Ciscaucasus); KIZILOV 2007: 81 (cat., Tomsk Prov.: Asinovksy Distr.: Asino); RUDOISKATEL 2011a: 165 (cat., Sverdlovsk Prov.).

Chrysis baeri RADOSZKOWSKI, 1866: 9. Type unknown; Caucasus (depository unknown); RADOSZKOVSKY 1880: 142 (cat., Caucasus).

Chrysis (Olochrysis) dichroa: MOCSÁRY 1882: 49 (cat., descr., distr., Caucasus); MOCSÁRY 1889: 266 (key), 273 (cat., descr., distr., Orenburg, Ural).

Chrysis (Holoachrysis) dichroa: MOCSÁRY 1890a: 64 (cat., Caucasus); HAMMER 1950: 4 (cat., distr., Caucasus); BALTHASAR 1953: 77 (key, Caucasus), 182 (descr., Caucasus); BALTHASAR 1954: 155 (key), 182 (descr., Caucasus).

Chrysis (integerrimae) dichroa: DU BUYSSON in ANDRÉ 1894: 380 (cat., descr., distr., key, Russia).

Chrysis dichroa dichroa: MÓCZÁR 1967a: 80 (cat., key, descr., key, Caucasus), 81 (Figs 45A–D).

Chrysis (Chrysura) dichroa: KUNZ 1994: 58 (key, Fig. 106), 113 (biol., cat., descr., distr., ecol., Fig. 245, Caucasus).

Chrysura dichroa: SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma River); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.: env. Kashkhatau); VINOKUROV 2012a: 54 (key, North Caucasus); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 139 (cat., European Part: Centre, East, North Caucasus; Ural; Western Siberia: Tomsk); ROSA et al. 2017g: 40 (cat., distr., Siberia).

Chrysis (Chrysozona) dichroa: BRUSTILO & MARTYNOV 2009: 51 (biol., cat., distr., Caucasus).

Material examined. Russia: EUROPEAN PART (North Caucasus: Krasnodar Terr. [MMC]).

Distribution. RUSSIA: European part (Centre: Penza Prov.; East: Ulyanovsk Prov.; North Caucasus: Kabardino-Balkarian Rep., Krasnodar Terr., Stavropol Terr.); Ural (Orenburg Prov., Sverdlovsk Prov.); Western Siberia (Tomsk Prov.). Caucasus. West-Palaearctic from western Europe to Central Asia.

Host. Megachilidae: *Osmia* which build nests in empty snail shells: *O. andrenoides* SPINOLA, *O. aurulenta* PANZER, *O. caerulescens* (LINNAEUS), *O. ferruginea* LATREILLE, *O. rufohirta* LEPELETIER, *O. spinulosa* (KIRBY), *O. versicolor* LATREILLE (DALLA TORRE 1892; FERTON 1905; TRAUTMANN 1927; GRANDI 1959; HEINRICH 1964). Anyway, some of these records could be related to other species in the *C. dichroa* group.

****Chrysura erigone* (MOCSÁRY, 1889)**

Chrysis (Olochrysis) erigone MOCSÁRY, 1889: 239. Lectotype ♀ (designated by BOHART in BOHART & FRENCH 1986: 341); Caucasus (Budapest) (*radians* group). MOCSÁRY 1890a: 63 (cat., Caucasus); ROSA et al. 2017h: 37 (cat., typ., Caucasus, Pl. 18).

Chrysis erigone: DALLA TORRE 1892: 59 (cat., Caucasus); BOHART & FRENCH 1986: 341 (Caucasus); ROSA et al. 2015e: 27 (cat., tax., Caucasus).

Chrysis (integerrimae) erigone: DU BUYSSON in ANDRÉ 1894: 296 (cat., descr., distr., key, Caucasus).

Chrysis (Holoachrysis) erigone: BISCHOFF 1913: 38 (cat., Caucasus); BALTHASAR 1953: 82 (key, Caucasus), 185 (descr., Caucasus).

Chrysis (Chrysogona) erigone: LINSSENMAIER 1959: 82 (descr., distr., key, Caucasus); SCHMIDT 1977: 108 (cat., distr., Caucasus).

Chrysura erigone: KIMSEY & BOHART 1991: 489 (cat., Caucasus).

D i s t r i b u t i o n . Caucasus. Cyprus, Iran, Israel, Turkey (ROSA et al. 2013).

***Chrysura filiformis* (MOCSÁRY, 1889)**

Chrysis (Olochrysis) filiformis MOCSÁRY, 1889: 266. Lectotype ♂ (designated by MÓCZÁR 1965: 168); Croatia [not Hungary]: Fiume [currently Rijeka] (Budapest) (examined) (*dichroa* group).

Chrysis socia DAHLBOM, 1854: RADOSZKOVSKY 1880: 142 (cat., Caucasus); RADOSZKOWSKI 1889: 15 (descr., Caucasus), tab. II (Figs 29A–29I).

Chrysis (Holoachrysis) dichroa var. *filiformis*: TRAUTMANN 1927: 121 (cat., descr., distr., Caucasus).

Chrysis (Holoachrysis) filiformis: BALTHASAR 1953: 77 (key, Caucasus), 183 (descr., Caucasus).

Chrysura dichroa socia: VINOKUROV 2012a: 54 (key, North Caucasus); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysura filiformis: ROSA et al. 2017b: 139 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). Caucasus. South-eastern Europe to Turkey (LINSSENMAIER 1968).

***Chrysura hirsuta* (GERSTAECKER, 1869)**

Chrysis hirsuta GERSTAECKER, 1869: 185. Holotype ♀; Austria: Ober-Kärnten [= Oberkärnten] (Berlin) (examined) (*radians* group). HELLÉN 1920: 210 (cat., distr., Impilaks [= Lagoda Lake]); MÓCZÁR 1967a: 73 (biol., cat., descr., distr., key, Caucasus); NIKOL'SKAYA 1978: 68 (key, northern and central European part of USSR); KRIVONOGOVA & RUDOISKATEL 2004: 109 (cat., ecol., Sverdlovsk Prov.); KOCHETKOV et al. 2008: 258 (cat., ecol., Ryazan Prov.: Timoshkino, Oka River); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); RUDOISKATEL 2011a: 165 (cat., Sverdlovsk Prov.); KOCHETKOV 2012: 241 (cat., ecol., Ryazan Prov.: Timoshkino); HUMALA & POLEVOI 2012: 142 (cat., Vorob'i [Kizhi skerries reserve]).

Chrysis bicolor DAHLBOM, 1829: ASSMUS 1862: 268 (cat., ecol., Moscow); WOLDSTEDT 1875: 345 (cat., Valkjärvi [= Michurinskoe]).

Chrysis osmie THOMSON, 1870: WESTERLUND 1893: 30 (cat., Impilahti [= Lagoda Lake]); SAHLBERG 1910: 97 (cat., Kola Peninsula).

Chrysis (integerrimae) osmiae: DU BUYSSON in ANDRÉ 1894: 328 (cat., descr., distr., key, Caucasus).

Chrysis (Holoachrysis) hirsuta: BALTHASAR 1946: 247 (biol., distr., Caucasus).

Chrysis (Chrysogona) hirsuta: LINSSENMAIER 1959: 79 (key, descr., Fennoscandia), 188 (cat.), 202 (Fig. 244); KOFLER 1975: 348 (cat., distr., Fennoscandia).

Chrysis (Chrysura) hirsuta: KUNZ 1994: 57 (key, Fig. 98), 119 (biol., cat., descr., distr., ecol., Fig. 257, Fennoscandia).

Chrysura hirsuta: ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); SHIBAEV 2006a: 110 (cat., Penza Prov.: Penza); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); RUCHIN et al. 2009: 165 (cat., Mordovia: Lyambirskiy Distr.); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); PAUKKUNEN et al. 2014: 48 (cat., distr., tax., Russian

Fennoscandia); JAKOVLEV et al. 2015: 300 (cat., Karelia: Vorob'i); PAUKKUNEN & KOZLOV 2015: 62 (cat., Murmansk: Chavanga); ROSA et al. 2017b: 139 (cat., European Part: North, North-West, Centre; Ural; Eastern Siberia: Buryat Rep., Irkutsk Prov., Yakutsk Rep.).

Chrysis pustulosa ABEILLE DE PERRIN, 1879: POLEVOI et al. 2005: 111. [mis.].

Material examined. Russia: EUROPEAN PART (North: Arkhangelsk Prov. [ZIN]; North-West: Leningrad Prov. [ZIN]); URAL (Sverdlovsk Prov. [PRC]); EASTERN SIBERIA (Yakutsk Rep.: Yakutia [ZIN]).

Distribution. RUSSIA: European part (North: Arkhangelsk Prov., Karelian Rep., Murmansk Prov.; North-West: Leningrad Prov.; Centre: Mordovian Rep., Moscow Prov., Penza Prov., Ryazan Prov.); Ural (Bashkir Rep., Sverdlovsk Prov.); Eastern Siberia (Irkutsk Prov. and/or Buryat Rep., Yakutsk Rep.). Caucasus. Trans-Palaeartic: from Europe to China, Korea and Japan (PAUKKUNEN et al. 2014).

Host. Megachilidae: *Osmia brevicornis* (FABRICIUS), *O. inermis* (ZETTERSTEDT), *O. nigriventris* (ZETTERSTEDT), *O. parietina* CURTIS, *Osmia uncinata* GERSTAECKER, *O. xanthomelana* KIRBY, *Hoplitis tuberculata* (NYLANDER), *Hoplosmia spinulosa* (KIRBY) (SMITH 1862; TRAUTMANN 1927; MORGAN 1984; PAUKKUNEN et al. 2015). Host records mentioning bees of other genera, e.g. *Chelostoma florissomme* (LINNAEUS) (FREY-GESSNER 1887), are questionable as supporting evidence is lacking.

***Chrysuria ignifrons* (BRULLÉ, 1833) (Figs 221-222)**

Chrysis ignifrons BRULLÉ, 1833: 375. Holotype ♂ [not ♀]; Greece: Peloponnese (Paris) (examined) (*austriaca* group). DALLA TORRE 1892: 66 (cat., Caucasus); MATTHEY 1949: 292 (distr., Caucasus).

Chrysis (Olochrysis) ignifrons: MOCSÁRY 1889: 262 (cat., descr., distr., key, Caucasus).

Chrysis (Holochoyris) ignifrons: MOCSÁRY 1890a: 64 (cat., Caucasus); TRAUTMANN 1927: 106 (key), 115 (biol., cat., descr., distr., Caucasus); BALTHASAR 1953: 79 (key, Caucasus), 191 (descr., Caucasus); BALTHASAR 1954: 158 (key), 180 (descr., Caucasus).

Chrysis (integerrimae) aurifrons DAHLBOM, 1854: DU BUYSSON in ANDRÉ 1894: 305 (cat., descr., distr., key, Caucasus).

Chrysis (Chrysis) ignifrons: LINSSENMAIER 1959: 96 (descr., distr., key, Siberia), 202 (Fig. 269), 207 (Figs 455–456); SCHMIDT 1977: 112 (cat., distr., Caucasus).

Chrysis gnifrons (!): VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

Chrysuria ignifrons: VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.: State mountain reserve); Cherek Balkarskij; Sukanskoe canyon, vill. Zhemtala; Chegem canyon, Bashil); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2011c: 171 (cat., Karachayevo-Cherkess Rep.: Teberda); VINOKUROV 2012b: 203 (cat. Caucasus); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2014c: 285 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2015b: 316 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 139 (cat., European Part: North Caucasus).

Material examined. Russia: EUROPEAN PART (North Caucasus: Dagestan Rep.: Choroga Tokhota [ZIN]).

Distribution. RUSSIA: European part (North Caucasus: Dagestan Rep., Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.). West-Palaearctic, from southern Europe and northern Africa to Middle East and Central Asia.

****Chrysura isabella* (TRAUTMANN, 1926)**

Holochrysis hirsuta var. *isabella* TRAUTMANN, 1926: 7. Lectotype ♂ (designated by BOHART in KIMSEY & BOHART 1991: 491); Spain: Montarco (paralectotype from Caucasus) (Berlin) (examined) (*radians* group).

Chrysis (*Chrysura*) *hirsuta* var. *isabella*: LINSSENMAIER 1951: 40 (descr., Caucasus), 102 (cat.).

Chrysis (*Chrysogona*) *isabella*: LINSSENMAIER 1959: 79 (key, descr., Caucasus), 188 (cat.).

Distribution. Caucasus. Southern Europe, northern Africa and Turkey (STRUMIA & YILDIRIM 2008).

***Chrysura koma* (TSUNEKI, 1950) (Fig. 223)**

Chrysis koma TSUNEKI, 1950: 65. Holotype ♀; Korea: Kogendo (Tsukuba) (*radians* group).

Chrysura koma: ROSA et al. 2017b: 139 (cat., Far East: Primorskii Terr.); ROSA et al. 2017d: 15 (cat., distr., Primorskii Terr.: Gornotaezhnoe; Ussuriyskiy Nature Reserve).

Distribution. RUSSIA: Far East (Primorskii Terr.). China, Korea.

***Chrysura laevigata laevigata* (ABEILLE DE PERRIN, 1879)**

Chrysis laevigata ABEILLE DE PERRIN, 1879: 81. Syntypes ♂♀; Caucasus (Paris) (examined) (*dichroa* group). MÓCZÁR 1967a: 79 (Fig. 44A, descr., distr., key, Caucasus).

Chrysis (*integerimae*) *dichroa* var. *laevigata*: DU BUYSSON in ANDRÉ 1894: 380 (cat., descr., distr., key, Caucasus).

Chrysis (*Holochrysis*) *dichroa* var. *laevigata* (!): TRAUTMANN 1927: 121 (cat., descr., distr., Caucasus).

Chrysis (*Chrysura*) *dichroa* var. *laevigata* (!): LINSSENMAIER 1951: 41 (descr., Caucasus), 101 (cat.).

Chrysis (*Holochrysis*) *dichroa* ab. *laevigata*: BALTHASAR 1953: 184 (descr., Caucasus).

Chrysis (*Chrysogona*) *laevigata* (!): LINSSENMAIER 1959: 87 (descr., distr., key, Caucasus), 202 (Fig. 254), 206 (Fig. 425); SCHMIDT 1977: 110 (cat., distr., Caucasus).

Chrysura laevigata: KIMSEY & BOHART 1991: 492 (cat., Caucasus); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2012c: 1873 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014d: 92 (cat., Adygei Rep.: env. vill. Krasnooktyabrskiy); VINOKUROV 2014e: 47 (cat., ecol. Caucasian State Nature Biosphere

Reserve); VINOKUROV 2014f: 89 (cat., Kabardino-Balkarian Rep.; Caucasian State Nature Biosphere Reserve); ROSA et al. 2017b: 139 (cat., European Part: North Caucasus; Ural).

Chrysura loevigata (!) *fortiterpunctata* (LINSENMAIER, 1959): VINOKUROV 2012a: 54 (key, North Caucasus); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).

Chrysura loevigata (!) *purpurascens* (MOCSÁRY, 1889): VINOKUROV 2012a: 54 (key, North Caucasus); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North Caucasus: Krasnodar Terr. [MMC]); URAL (Chelyabinsk Prov. [PRC]). Azerbaijan: Ordubadskij reg. Bilav [ZIN], Elisavetpol [ZIN].

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Adygei Rep., Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Krasnodar Terr., Stavropol Terr.); Ural (Chelyabinsk Prov.). Azerbaijan. West-Palaeartic: Europe, North Africa, Middle East, south-west former USSR, Iran (ROSA et al. 2013).

H o s t . Megachilidae: *Osmia coerulescens* (LINNAEUS) (MARTYNOVA 2014).

****Chrysura lampa* (SEMENOV, 1967)**

Chrysis (*Holochrysis*) *lampa* SEMENOV, 1967: 150. Holotype ♂; Georgia: Lagodekhi (St. Petersburg) (examined) (*radians* group). ROSA et al. 2017a: 35 (cat., typ., Georgia), 149 (Pl. 79).

Chrysura lampa: KIMSEY & BOHART 1991: 492 (cat., Georgia: Lagodekhi).

D i s t r i b u t i o n . Caucasus (Georgia).

***Chrysura lydiae lydiae* (MOCSÁRY, 1889)**

Chrysis (*Olochrysis*) *lydiae* MOCSÁRY, 1889: 268. Holotype ♂; Turkey: Bursa prov.: Brussa [= Bursa] (Budapest) (*dichroa* group).

Chrysura lydiae: VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); ROSA et al. 2017b: 139 (cat., European Part: North Caucasus).

Chrysura lydiae allegata LINSENMAIER, 1968: VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.: Tyzylskoe canyon, Tyzyl River, 20 km SW of n. Gundelen); VINOKUROV 2012a: 54 (key, North Caucasus); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep., Stavropol Terr.). South-east Europe, Middle East (LINSENMAIER 1959, 1968).

****Chrysura mlokosewitszi* (RADOSZKOWSKI, 1889)**

Chrysis (*Olochrysis*) *mlokosewitszi* RADOSZKOWSKI, 1889: 13. Holotype ♂ [not ♀]; Caucasus (Kraków) (examined) (*dichroa* group).

Chrysis (*Holochrysis*) *mlokosewitszi*: MOCSÁRY 1890a: 62 (cat., Caucasus).

Chrysis mlokosewitszi (!): DALLA TORRE 1892b: 78 (cat., Caucasus).

Chrysis mlokosewitszi: KIMSEY & BOHART 1991: 440 (cat., Caucasus).

Chrysura mlokosewitszi: ROSA et al. 2015e: 41 (cat., tax., Caucasus) (*dichroa* group), 42 (Pl. 28).

D i s t r i b u t i o n . Caucasus.

***Chrysura nikolaji* ROSA, 2017 (Fig. 225)**

Chrysis (Holo-chrysis) medea SEMENOV, 1967: 148. Holotype ♂; Abkhazia Rep.: Pitsunda, NW Sukhumi (St. Petersburg) (examined) (*radians* group), nom. praecoc., nec BALTHASAR, 1953. ROSA et al. 2017a: 38 (cat., typ., Georgia), 153 (Pl. 88).

Chrysura medea: VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014e: 47 (cat., ecol., Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 89 (cat., Kabardino-Balkarian Rep.; Caucasian State Nature Biosphere Reserve).

Chrysura nikolaji ROSA in ROSA et al. 2017a: 38. Replacement name for *Chrysis medea* SEMENOV, 1967 nec BALTHASAR, 1953. ROSA et al. 2017b: 139 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep., Karachayevo-Cherkess Rep., Stavropol Terr.). Abkhazia Rep.

***Chrysura oraniensis porphyrea* (MOCSÁRY, 1889)**

Chrysis (Olochrysis) porphyrea MOCSÁRY, 1889: 284. Holotype ♀; Turkey: İzmir Prov.: Smyrna (Budapest) (examined) (*cuprea* group).

Chrysis (integerrimae) oraniensis LUCAS, 1849: DU BUYSSON in ANDRÉ 1894: 353 (biol., cat., descr., distr., key, Dagestan).

Chrysura oraniensis porphyrea: ROSA et al. 2017b: 139 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Dagestan Rep.).

H o s t . Megachilidae: *Anthidium sticticum* (FABRICIUS) (TRAUTMANN 1927). South-eastern Europe to Turkey (LINSENMAIER 1959).

***Chrysura pseudodichroa* (LINSENMAIER, 1959)**

Chrysis (Chrysogona) pseudodichroa LINSENMAIER, 1959: 86. Holotype ♂; Cyprus (Luzern) (examined) (*dichroa* group).

Chrysura pseudodichroa: BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve).

Chrysura pseudodichroa: VINOKUROV 2012a: 54 (key, North Caucasus); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 139 (cat., European Part: North Caucasus, Crimea).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.; Crimea). West-Palaearctic: Mediterranean countries, Middle East, Iran, Turkey (LINSENMAIER 1959, 1997; ROSA et al. 2013).

***Chrysura purpureifrons* (ABELLE DE PERRIN, 1878) (Fig. 218)**

Chrysis purpureifrons ABELLE DE PERRIN, 1878: 4. Syntypes ♂♂ [not holotype]; France (Paris) (examined) (*dichroa* group). NIKOL'SKAYA 1978: 67 (key, southern European part of USSR); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve).

Chrysis (Olochrysis) purpureifrons: MOCSÁRY 1889: 281 (cat., descr., distr., key, Sarepta).

Chrysis (Holochochrysis) purpureifrons: MOCSÁRY 1890a: 65 (cat., southern Russia).

Chrysis (Chrysogona) purpureifrons ssp. *helleniensis* LINSENMAIER, 1968: 48. Holotype ♀; Greece: Athens (paratype from southern Russia) (Luzern) (examined).

Chrysura purpureifrons: VINOKUROV 2012a: 53 (key, North Caucasus); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); ROSA et al. 2017b: 139 (cat., European Part: Centre, South, North Caucasus, Crimea).

Material examined. Russia: EUROPEAN PART (Centre: Kursk Prov.: Gruzskoe [ZIN]; South: Volgograd Prov.: Sarepta [ZIN]; Crimea: Kara Dag Nature Reserve [ZIN]; Kalmyk Rep. [MMC]).

Distribution. RUSSIA: European part (Centre: Kursk Prov.; South: Kalmyk Rep., Volgograd Prov.; North Caucasus: Stavropol Terr.; Crimea). Caucasus. West-Palaeartic: southern Europe, northern Africa, Central Asia, Iran, Turkey (ROSA et al. 2013).

**Chrysura pyrogaster pyrogaster* (BRULLÉ, 1833) (Fig. 220)

Chrysis pyrogaster BRULLÉ, 1833: 374. Lectotype ♀ (designated by BOHART in KIMSEY & BOHART 1991: 494); Greece: Peloponnese (Paris) (examined) (*austriaca* group).

Chrysis (Olochochrysis) pyrocoelia MOCSÁRY, 1889: 255 (descr., Caucasus).

Chrysis (Holochochrysis) pyrocoelia: MOCSÁRY 1890a: 64 (cat., Caucasus).

Distribution. Caucasus. South-eastern Europe, Middle East, Iran, Turkey (ROSA et al. 2013).

Chrysura radians (HARRIS, 1776) (Fig. 224)

Chrysis radians HARRIS, 1776: 69. Lectotype ♀ (designated by ROSA, in press); England (London) (examined) (*radians* group).

Chrysis bicolor DAHLBOM, 1829: RADOSZKOVSKY 1880: 142 (cat., Caucasus); RADOSZKOWSKI 1889: 14 (descr., Caucasus), tab. II (Figs 24A–22K).

Chrysis (Olochochrysis) pustulosa ABEILLE DE PERRIN, 1878: MOCSÁRY 1889: 252 (key), 259 (cat., descr., distr., Caucasus, Moscow Gov.).

Chrysis (Holochochrysis) pustulosa: MOCSÁRY 1890a: 64 (cat., Caucasus); TRAUTMANN 1927: 105 (key), 110 (biol., cat., descr., distr., Caucasus, Siberia); BALTHASAR 1946: 246 (biol., distr., Caucasus, Siberia); BALTHASAR 1953: 74 (key, Caucasus, Siberia), 204 (descr., Caucasus, Siberia); BALTHASAR 1954: 155 (key), 157 (Figs 51–52), 172 (descr., Caucasus, Lapland, Siberia).

Chrysis pustulosa: DALLA TORRE 1892: 88 (cat., Caucasus); KOHL 1913: 12 (cat., Walouyki [=Livenka]); DMITRIEV 1935: 260 (cat., Samara Prov.: Samarskaya Luka: Mt. Zhiguli); BENNO 1950: 39 (key), 45 (biol., distr., Caucasus, Siberia); MÓCZÁR 1967a: 72 (biol., cat., descr., distr., key, Caucasus); NIKOL'SKAYA 1978: 68 (key, without localities); ZVANTSOV 1988: 90 (biol., cat., Moscow Prov.: Peredelkino); KUZNETSOVA 1990: 9 (cat., ecol., Lipetsk Prov.: Galich'ya Gora); BANASZAK 1975: 26 (biol., cat., distr., Caucasus, Siberia); BUGANIN et al. 2000: 148 (cat., Ulyanovsk Prov.: Radischevsky Distr., env. Vyazovka, Malaya Atmala); RUDOISKATEL 2004: 17 (cat., Bashkir Rep.: Shulgan-Tash Nature Reserve); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.:

Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); RUDOISKATEL 2011a: 165 (cat., Sverdlovsk Prov.); RUDOISKATEL 2011b: 68 (cat., Bashkir Rep.: Shulgan-Tash Nature Reserve).

Chrysis (integerrimae) pustulosa: DU BUYSSON in ANDRÉ 1894: 296 (cat., descr., distr., key, Russia), pl. XXIV (Fig. 3).

Chrysis (Arctochrysis) pustulosa: HAUPT 1957: 77 (biol., cat., descr., key, Siberia).

Chrysis (Chrysozona) pustulosa: LINSSENMAIER 1959: 80 (descr., distr., key, Caucasus), 202 (Fig. 238), 216 (Fig. 693); LINSSENMAIER 1969: 355 (tax., Palaearctic to Siberia: see material examined); KOFLER 1975: 349 (cat., distr., Caucasus, Fennoscandia, Siberia); SCHMIDT 1977: 107 (cat., distr., Caucasus, Fennoscandia, Siberia); BRUSTILO & MARTYNOV 2009: 50 (biol., cat., distr., Caucasus, Siberia).

Chrysis (Chrysura) radians: KUNZ 1994: 57 (key, Fig. 97), 131 (biol., cat., descr., distr., ecol., Caucasus, Siberia), 132 (Fig. 284).

Chrysis pustulosa (!): PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland).

Chrysura radians: ROSA 2006: 207 (key ♂), 208 (biol., cat., descr., distr., ecol. tax., Caucasus, Siberia), tab. IX (Figs 47, 50), pl. 12 (Figs 111, 112); SHIBAEV 2006a: 110 (cat., Penza Prov.: Akhuny); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); AA.VV. 2007: 279 (Samara Prov.: Samarskaya Luka National Park: Zhiguli Mt.); DE OLIVEIRA et al. 2009: 46 (cat., distr., Caucasus, Siberia); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2016: 39 (cat., Dagestan Rep.: Samur Forest Reserve); ROSA et al. 2017g: 40 (cat., distr., Siberia).

Chrysura pustulosa: VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr., Kuma River); VINOKUROV 2010b: 1277 (cat., Kabardino-Balkarian Rep.: Chegem); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014e: 47 (cat., ecol., Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 89 (cat., Kabardino-Balkarian Rep.; Caucasian State Nature Biosphere Reserve: vill. Khudozhnikov); VINOKUROV 2015b: 316 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 140 (cat., European Part: North, Centre, East, South, North Caucasus; Ural; Eastern Siberia: Buryat Rep., Irkutsk Prov.).

Material examined. Russia: EUROPEAN PART (Centre: Kirov Obast: Vyatskiy uezd [ZIN]; East: Chuvash Rep. [MMC]; South: Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Dagestan Rep., Krasnodar Terr. [ZIN]; Crimea: Alushta [ZIN]); URAL (Chelyabinsk Prov. [PRC]); EASTERN SIBERIA (Buryat Rep.: Chamar-Daban [ZIN], Irkutsk Prov.: Bratsk [NMLS]). Abkhazia Rep.: Gagry [ZIN].

Distribution. RUSSIA: European part (North: "Fennoscandia"; Centre: Belgorod Prov., Lipetsk Prov., Moscow Prov., Penza Prov.; East: Chuvash Rep., Kirov Obast, Samara Prov., Ulyanovsk Prov.; South: Volgograd Prov.; North Caucasus: Karachayevo-Cherkess Rep., Kabardino-Balkarian Rep., Krasnodar Terr., Stavropol Terr.; Crimea); Ural (Bashkir Rep., Chelyabinsk Prov., Sverdlovsk Prov.); Eastern Siberia (Buryat Rep., Irkutsk Prov.); Abkhazia Rep. Trans-Palaearctic: from western Europe and northern Africa to west Asia and Siberia (PAUKKUNEN et al. 2014).

Remarks. The species was reported from Russian Fennoscandia (Kizhi archipelago) by POLEVOI et al. (2005: 111, as *Chrysis pustulosa*), but this record was

based on a misidentified specimen of *Ch. hirsuta* (PAUKKUNEN et al. 2014). However other previous citations for "Fennoscandia" are known in literature and the species is surely distributed also in this area.

H o s t . Megachilidae: *Hoplitis adunca* (PANZER), *H. anthocopoides* (SCHENCK), *Osmia caerulea* (LINNAEUS), *Osmia leaiana* (KIRBY), *O. melanogaster* SPINOLA (FREY-GESSNER 1887; DU BUYSSON 1891; TRAUTMANN 1927; STÖCKHERT 1933).

***Chrysura refulgens* (SPINOLA, 1806)**

Chrysura refulgens SPINOLA, 1806: 8. Lectotype ♀ (designated by ROSA & XU 2015: 38); Italy: Liguria (Turin) (examined) (*austriaca* group). DAHLBOM 1854: 131 (southern Russia); RADOSZKOVSKY 1880: 142 (cat., Caucasus); DE STEFANI 1888: 159 (cat., descr., distr., key, Caucasus); NIKOL'SKAYA 1978: 67 (key, without localities); MÓCZÁR 1967a: 69 (biol., descr., distr., key, Caucasus); VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State Hight-Mountain Reserve).

Chrysura (Olochrysis) refulgens: MOCSÁRY 1882: 46 (cat., descr., distr., Caucasus); MOCSÁRY 1889: 241 (key), 245 (cat., descr., distr., southern Russia).

Chrysura (Holochrysis) refulgens: MOCSÁRY 1890a: 63 (cat., Caucasus, southern Russia); TRAUTMANN 1927: 105 (key), 108 (cat., descr., distr., Caucasus); BALTHASAR 1953: 78 (key, Caucasus), 205 (descr., Caucasus); BALTHASAR 1954: 155 (key), 171 (descr., Caucasus).

Chrysura (Chrysogona) refulgens: LINSSENMAIER 1959: 80 (descr., distr., Caucasus), 202 (Fig. 243); SCHMIDT 1977: 109 (cat., distr., Caucasus).

Chrysura refulgens: DE OLIVEIRA et al. 2009: 47 (cat., distr., Caucasus); ROSA et al. 2017b: 140 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep.). Caucasus. Trans-Palaearctic, from south-western Europe and northern Africa to China (ROSA et al. 2014).

****Chrysura rufiventris* (DAHLBOM, 1854)**

Chrysura rufiventris DAHLBOM, 1854: 119. Holotype ♂; locality unknown (Stockholm) (examined) (*radians* group). RADOSZKOVSKY 1880: 142 (cat., Caucasus); ROSA & VÅRDAL 2015: 102 (cat., typ.), 103 (Pl. 17).

Chrysura (Holochrysis) rufiventris: TRAUTMANN 1927: 105 (key), 109 (cat., descr., distr., Caucasus); BALTHASAR 1953: 71 (key, Caucasus), 186 (Fig. 12), 206 (descr., Caucasus).

Chrysura (Chrysogona) rufiventris: LINSSENMAIER 1959: 78 (distr., key, Caucasus), 202 (Fig. 242).

Chrysura mulsanti ABEILLE DE PERRIN, 1878: MÓCZÁR 1967a: 70 (biol., cat., descr., distr., key, Caucasus).

Chrysura rufiventris: DE OLIVEIRA et al. 2009: 47 (cat., distr., Caucasus).

D i s t r i b u t i o n . Caucasus. Southern Europe, northern Africa, Middle East, Central Asia (LINSSENMAIER 1999).

H o s t . Megachilidae: *Osmia aurulenta* (PANZER) (SCHNEIDER & HERBRECHT 2010).

***Chrysura simplex simplex* (DAHLBOM, 1854)**

Chrysus simplex DAHLBOM, 1854: 127. Syntypes ♀♀ [not holotype ♀]; Greece; S Europe (Berlin, Lund ?) (*austriaca* group).

Chrysus (*integerrimae*) *simplex*: DU BUYSSON in ANDRÉ 1894: 315 (cat., descr., distr., key, Caucasus).

Chrysus (*Holochrysis*) *simplex*: TRAUTMANN 1927: 106 (key), 114 (biol., cat., descr., distr., Caucasus); BALTHASAR 1953: 79 (key, Caucasus), 208 (descr.); BALTHASAR 1954: 158 (key), 176 (descr., Caucasus).

Chrysus simplex: NIKOL'SKAYA 1978: 67 (key, southern European part of USSR); VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State Hight-Mountain Reserve); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

Chrysura simplex: ROSA et al. 2017b: 140 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Kabardino-Balkarian Rep.). Caucasus. Warmer areas of Central and southern Europe, northern Africa (LINSENMAIER 1959).

H o s t . Megachilidae: *Hoplitis anthocopoides* (SCHENCK) (TRAUTMANN & TRAUTMANN 1919), *Hoplitis adunca* group (MANEVAL 1937) (TRAUTMANN 1927; MINGO et al., 1990), possibly *Osmia mustelina* GERSTAECKER (SAURE & DURRENFELD 1995) and *Megachile parietina* (DE STEFANI 1888). The citation for *Osmia cornuta* (LATREILLE) is unreliable.

****Chrysura sulcata* DAHLBOM, 1845**

Chrysura sulcata DAHLBOM, 1845: 7 [not *Chrysus*]. Lectotype ♀ (designated by ROSA & VÁRDAL 2015: 112); Greece: Rhodes (Stockholm) (examined) (*radians* group).

Chrysus sulcata [nec DAHLBOM]: RADOSZKOVSKY 1866: 8 (cat., Caucasus); RADOSZKOVSKY 1880: 142 (cat., Caucasus); RADOSZKOWSKI 1889: 13 (descr., Caucasus), tab. II (Figs 22A–22I); MÓCZÁR 1967a: 71 (descr., distr., key, Caucasus).

Chrysus picticornis MOCSÁRY in RADOSZKOWSKI, 1889: 15 (descr., Caucasus), tab. II (Figs 27A–27K); DALLA TORRE 1892: 85 (cat., Caucasus).

Chrysus (*Olochrysis*) *picticornis*: MOCSÁRY 1889: 234 (key), 236 (cat., descr., distr., Caucasus).

Chrysus (*Holochrysis*) *picticornis*: MOCSÁRY 1890a: 63 (cat., Caucasus).

Chrysus (*integerrimae*) *sulcata*: DU BUYSSON in ANDRÉ 1894: 293 (cat., descr., distr., key, Caucasus), pl. XXIV (Fig. 9).

Chrysus (*Holochrysis*) *sulcata*: TRAUTMANN 1927: 105 (key), 108 (cat., descr., distr., Caucasus); HAMMER 1950: 4 (cat., distr., Caucasus); BALTHASAR 1953: 81 (key, Caucasus).

Chrysus (*Chrysozona*) *sulcata*: LINSSENMAIER 1959: 78 (distr., key, Caucasus), 188 (cat.), 202 (Fig. 241); LINSSENMAIER 1969: 356 (tax., southern Russia); SCHMIDT 1977: 108 (cat., distr., Caucasus).

D i s t r i b u t i o n . Caucasus. West-Palaearctic, from southern Europe, to Cyprus, Middle East, Iran and Turkey (ROSA et al. 2013).

R e m a r k s . The genitalia line drawings of *Chrysus sulcata* RADOSZKOWSKI [nec DAHLBOM] do not match the genitalia of *C. sulcata* DAHLBOM, whereas that of *C. picticornis* MOCSÁRY is in accordance with the line drawing of *C. sulcata* by LINSSENMAIER (1959).

***Chrysura trimaculata* (FÖRSTER, 1853)**

Chrysura trimaculata FÖRSTER, 1853: 307. Syntypes ♀♀; Hungary (depository unknown) (*radians* group); BENNO 1950: 39 (key), 45 (biol., distr., Caucasus); NIKOL'SKAYA 1978: 67 (key, southern European part of USSR).

Chrysis (Holochochrysis) trimaculata: TRAUTMANN 1927: 105 (key), 106 (biol., cat., descr., distr., Caucasus); BALTHASAR 1946: 246 (biol., distr., Caucasus).

Chrysis (Chrysozona) trimaculata: BRUSTILO & MARTYNOV 2009: 50 (biol., cat., distr., Caucasus).

Chrysura trimaculata: ROSA et al. 2017b: 140 (cat., Eastern Siberia: Tuva Rep.); ROSA et al. 2017f: 31 (cat., distr., Tuva Rep.: Sayany); ROSA et al. 2017g: 40 (cat., distr., Siberia).

Distribution. RUSSIA: Eastern Siberia (Tuva Rep.). Caucasus. Central and southeastern Europe, Turkey. The northern African distributional record (KIMSEY & BOHART 1991) is in error (ROSA & VÅRDAL 2015). Recorded from Eastern Ukraine (BRUSTILO & MARTYNOV 2009).

Host. Megachilidae: possible hosts are *Osmia bicolor* (SCHRANK), *O. aurulenta* (PANZER), *O. spinulosa* (KLUG) (TRAUTMANN 1927; BERLAND & BERNARD 1938; HEINRICH 1964; SÖRENSSON 2008).

***Chrysura varicornis* (SPINOLA, 1838)**

Chrysura varicornis SPINOLA, 1838: 449. Holotype ♂; Egypt (Turin) (*radians* group); DE STEFANI 1888: 160 (cat., descr., distr., key, Caucasus, Russia); MÓCZÁR 1967a: 69 (descr., distr., key, Caucasus).

Chrysis (integerrimae) varicornis: DU BUYSSON in ANDRÉ 1894: 290 (cat., descr., distr., key, southern Russia).

Chrysis (Holochochrysis) sodalis MOCSÁRY, 1893: 217. Holotype ♂; Caucasus: Araxes valley (Vienna); BISCHOFF 1913: 41 (cat., Caucasus).

Chrysis (bicolores) sodalis: DU BUYSSON in ANDRE 1894: 383 (cat., descr., Caucasus).

Chrysis (Holochochrysis) varicornis: TRAUTMANN 1927: 105 (key), 109 (cat., descr., distr., Caucasus, southern Russia); BALTHASAR 1953: 81 (key, Caucasus, Southern Russia), 210 (descr., Caucasus).

Chrysis (Chrysozona) varicornis: LINSENMAIER 1959: 78 (distr., key., Caucasus), 202 (Fig. 240); SCHMIDT 1977: 108 (cat., distr., Caucasus).

Chrysura varicornis: ROSA et al. 2017b: 140 (cat., European Part: South).

Distribution. RUSSIA: European part (southern Russia, without locality). West-Palaearctic, from southern Europe and northern Africa to Middle East, Turkey and Central Asia (LINSENMAIER 1959).

16. Genus *Euchroeus* LATREILLE, 1809

Euchroeus LATREILLE, 1809: 49. Type species: *Chrysis purpurata* FABRICIUS, 1775, by monotypy.

Brugmoia RADOSZKOWSKI, 1877: 27. Type species: *Brugmoia pellucida* RADOSZKOWSKI, 1877, by monotypy.

***Euchroeus limbatus limbatus* DAHLBOM, 1854 (Figs 81-82)**

Euchroeus limbatus DAHLBOM, 1854: 368. Holotype ♀; southern Russia (Berlin). RADOSZKOVSKY 1866: 14 (cat., Orenburg); KIRCHNER 1867: 210 (cat., Russia); BECKER 1880: 151 (cat., Sarepta); RADOSZKOWSKI 1889: 35 (descr., Astrakhan), tab. VI (Figs 71A–71K); DU BUYSSON in ANDRÉ 1893: 254 (cat., descr., key, southern Russia); TRAUTMANN 1927: 83 (key), 86 (cat., descr., distr., southern Russia); BALTHASAR 1953: 67 (key, Southern Russia); MINGO 1975: 131 (key), 133 (descr., distr., southern Russia); NIKOL'SKAYA 1978: 71 (key, south and eastern European part of USSR); ROSA et al. 2017b: 140 (cat., European Part: South, North Caucasus; Ural).

Euchroeus beckeri TOURNIER, 1878: ABEILLE DE PERRIN 1879: 107 (synonym of *E. limbatus*).

Chrysis (Euchroeus) limbata DAHLBOM: MOCSARY 1889: 595 (cat., descr., distr., key, southern and eastern Russia, Caucasus [actually Baku, Azerbaijan]); MOCSARY 1890a: 70 (cat., Caucasus), southern and eastern Russia).

Chrysis limbata: DALLA TORRE 1892: 75 (cat., Caucasus).

Brugmoia limbata: BISCHOFF 1910: 448 (cat., southern Russia); KIMSEY & BOHART 1991: 295 (cat., "*Rossia meridionalis*").

Spintharis limbata: ZIMMERMANN 1950: 21 (cat., tax., southern Russia).

Euchroeus (Euchroeus) limbatus: LINSSENMAIER 1951: 32 (descr. southern Russia: see material examined), 99 (cat.); LINSSENMAIER 1959: 71 (descr., distr., key, southern Russia), 200 (Fig. 215), 201 (Fig. 222).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Astrakhan Prov. [MMC]; Kalmyk Rep. [MMC]; Volgograd Prov.: Sarepta [NMLS, ZIN]; North Caucasus: Dagestan Rep. [MMC]; Stavropol Terr.: Zimnyaya Stavka [ZIN]); URAL (Orenburg Prov. [PRC]).

D i s t r i b u t i o n . RUSSIA: European part (South: Astrakhan Prov., Kalmyk Rep., Volgograd Prov.; North Caucasus: Dagestan Rep., Stavropol Terr.); Ural (Orenburg Prov.). Caucasus. Central Asia, Turkey (KIMSEY & BOHART 1991; LINSSENMAIER 1959). In southern Europe, *Euchroeus limbatus dusmeti* TRAUTMANN, 1926a is known for the Iberian peninsula.

***Euchroeus mongolicus* TSUNEKI, 1947 (Figs 83-84)**

Euchroeus purpuratus f. *mongolicus* TSUNEKI, 1947: 54. Holotype ♀; China: Inner Mongolia: Apaka (Tsukuba).

Euchroeus mongolicus: ROSA et al. 2017b: 140 (cat., Eastern Siberia: Buryat Rep.); ROSA et al. 2017f: 8 (cat., distr., Buryatia Rep.: Ulan-Ude); ROSA et al. 2017g: 38 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Buryat Rep.). China: Inner Mongolia.

R e m a r k s . *Euchroeus par* (SEMENOV) is possibly the junior synonym of *E. mongolicus* TSUNEKI. Type examination of the latter is anyway necessary prior to proceed with the synonymization.

***Euchroeus par* (SEMENOV, 1967)**

Spinolia (Euchroeus) par SEMENOV, 1967: 182. Holotype ♂; Russia: Transbaikalia, Kyakhtha (St. Petersburg) (examined). ROSA et al. 2017a: 63 (cat., typ., Transbaikalia: Kiachta), 192–193 (Pls 166, 167).

Euchroeus par: MÓCZÁR 1967b: 189 (distr., tax., Transbaikal); ROSA et al. 2017a: 63 (cat., tax., typ.), 192 (Fig. 166), 193 (Fig. 167); ROSA et al. 2017b: 140 (cat., Eastern Siberia: Buryat Rep.); ROSA et al. 2017g: 38 (cat., distr., Siberia).

Brugmoia par: KIMSEY & BOHART 1991: 296 (synonym of *Brugmoia quadrata* (Shuckard)).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Buryat Rep., Zabaikalskii Terr.).

***Euchroeus purpuratus purpuratus* (FABRICIUS, 1787) (Figs 86-87)**

Chrysis purpurata FABRICIUS, 1787: 283. Neotype ♀ (designated by PAVESI & STRUMIA 1997: 195); France (Turin) (examined).

Euchroeus quadratus (SHUCKARD, 1837): DAHLBOM 1854: 374 (descr., Siberia); EVERS-MANN 1858: 566 (cat., descr., Russia); RADOSZKOVSKY 1866: 15 (cat., Spassk, Orenburg); RADOSZKOVSKI 1877: 27 (cat., descr., distr., Volgo-Ural); BECKER 1880: 151 (cat., Sarepta); MOCSÁRY 1882: 73 (cat., descr., distr., Caucasus); RADOSZKOWSKI 1889: 35 (descr., Caucasus, Orenburg), tab. VI (Figs 72A–72K).

Euchroeus purpuratus: EVERS-MANN 1858: 565 (cat., descr., Volgo-Uralensis); RADOSZKOVSKY 1866: 14 (cat., Orenburg, Sarepta); RADOSZKOVSKY 1880: 147 (cat., Caucasus); BECKER 1880: 151 (cat., Sarepta); MOCSÁRY 1882: 73 (cat., descr., distr., Caucasus, southern Russia); RADOSZKOWSKI 1889: 35 (tax., Caucasus, Orenburg, *E. purpuratus* and *E. quadratus* are probably male and female of the same species); DU BUYSSON in ANDRÉ 1893: 258 (cat., descr., key, Russia), pl. II (Fig. 5), pl. XX (Figs 1–9); KOHL 1913: 12 (cat., Walouyki [= Livenka]); VORONTSOVKIJ 1930: 68 (cat., Orenburg Prov.); ATANASSOV 1940: 209 (cat., distr., Russia); ZVANTSOV 1988: 95 (biol., cat., Moscow Prov.: Zvenigorod); GUSSAKOVSKIJ 1948: 733 (cat., key, southern European part of USSR); PLAVIL'SHCHIKOV 1950: 399 (cat., European part of USSR); KUZNETSOVA 1990: 10 (cat., ecol., Lipetsk Prov.: Galich'ya Gora); BUGANIN et al. 2000: 149 (cat., ecol., Ulyanovsk Prov.: Radischevsky Distr., env. Srednikovo, Malaya Atmala); SHIBAEV 2006a: 111 (cat., ecol., Penza Prov.: "Cherdak"); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); ROSA et al. 2017b: 140 (cat., European Part: Centre, East, South; Ural; Western Siberia: Altai, Osmk Prov.; Eastern Siberia: Buryat Rep., Khakass Rep., Krasnoyarsk Terr.); ROSA et al. 2017f: 5 (Fig. 2A), 7 (Khakass Rep., Figs 4A–4D, 4G–4H); ROSA et al. 2017g: 38 (cat., distr., Siberia).

Euchraeus (!) *quadratus*: ASSMUSS 1862: 270 (cat., Zvenigorod); NIKOL'SKAYA 1978: 71 (key, southern and eastern European part of USSR).

Chrysis (*Euchroeus*) *purpurata*: MOCSÁRY 1889: 596 (cat., descr., distr., key, Moscow, Orenburg, Sarepta, Siberia, Ural); MOCSÁRY 1890a: 70 (cat., Caucasus, Moscow, southern and eastern Russia, Siberia).

Euchroeus purpuratus var. *smaragdinus* TRAUTMANN, 1926: 7. Syntypes ♀♀; southern Russia (Berlin). TRAUTMANN, 1927: 83 (key), 84 (cat., descr., distr., Caucasus, southern Russia).

Euchroeus purpuratus ab. *smaragdinus*: MÓCZÁR 1967a: 60 (cat., descr., distr., Caucasus).

Brugmoia quadrata: KURZENKO & LELEJ 2007: 1004 (cat., Buryat Rep.).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Dagestan, st. Nevskaya Kizliar [= Aleksandro-Nevskoe] [ZIN]); URAL (Chelyabinsk Prov. [PRC]; Orenburg Prov.: Orenburg [ZIN]; Sverdlovsk Prov. [PRC]); WESTERN SIBERIA (Altai Terr.: Aleysk [ZIN]; vill. Noven'koe [ZIN]; Omsk Prov.: st. Kulyash [ZIN]); EASTERN SIBERIA (Khakass Rep.: 20 km SW Abakan, Izykhskie Kopi [IBSS]; Krasnoyarsk Terr.: Minusinsk [ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Belgorod Prov., Lipetsk Prov., Moscow Prov., Penza Prov.; East: Ulyanovsk Prov.; South: Volgograd Prov. North Caucasus: Dagestan Rep.); Ural (Chelyabinsk Prov., Orenburg Prov., Sverdlovsk Prov.); Western Siberia (Altai Terr., Omsk Prov.); Eastern Siberia (Buryat Rep., Khakass Rep., Krasnoyarsk Terr.). West-Palaearctic from western Europe to Central Asia (TARBINSKY 2000).

R e m a r k s . The generic name *Euchroeus* LATREILLE, 1809 and the specific name *Chrysis purpurata* FABRICIUS, 1787 were conserved by ICZN (1998). As a result, the generic name *Brugmoia* RADOSZKOWSKI, 1877 (used by KIMSEY & BOHART (1991)) is a junior synonym of *Euchroeus* LATREILLE, 1809, and the name *quadrata* is a junior synonym of *purpurata* FABRICIUS.

H o s t . Unknown; probably Sphecidae such as *Podalonia hirsuta* (SCOPOLI) (MOLITOR 1935; LINSENMAIER 1968) and *Podalonia caucasica* (TSUNEKI 1947).

***Euchroeus purpuratus irradians* (SEMENOV, 1910)**

Pseudochrysis purpurata irradians SEMENOV-TIAN-SHANSKY, 1910: 213, Syntypes ♂♂, ♀♀; Russia: Ural, Krasnoyarsk; Kyrgyzstan (St. Petersburg).

Euchroeus purpuratus irradians: ROSA et al. 2017b: 140 (cat., Ural; Eastern Siberia: Krasnoyarsk Terr.); ROSA et al. 2017g: 38 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Ural, Eastern Siberia (Krasnoyarsk Terr.). Kyrgyzstan.

***Euchroeus rugulosus* (MOCSÁRY, 1909) (Figs 88-89)**

Chrysis (Euchroeus) rugulosus MOCSÁRY, 1909: 8. Lectotype ♂ (designated by KIMSEY 1986: 106); Kazakhstan: Karatau, near Djulek (Budapest) (examined). ROSA et al. 2017h: 73 (cat., typ., tax., Kazakhstan), 74–75 (Pls 53, 54).

Pseudochrysis rugulosa: SEMENOV 1912: 184 (cat., descr., Saratov Prov.: Sarepta; Ural Prov.: Krasnoyarsk).

Euchroeus doursi GRIBODO, 1875: TRAUTMANN 1927: 85 (cat., descr., distr., Sarepta); HAMMER 1950: 4 (cat., distr., Sarepta); BALTHASAR 1953: 67 (key, Southern Russia: Sarepta), 168 (descr., Sarepta).

Euchroeus (Euchroeus) doursi: LINSENMAIER 1951: 32 (descr., southern Russia), 99 (cat.); LINSENMAIER 1969: 355 (tax., southern Russia).

Euchroeus (Euchroeus) rugulosus: LINSENMAIER 1959: 72 (descr., distr., key, Russia).

Brugmoia rugulae KIMSEY in KIMSEY & BOHART, 1991: 296. Unnecessary replacement name for *Chrysis (Euchroeus) rugulosa* MOCSÁRY, 1909 (see ROSA et al. 2017h: 73).

Euchroeus rugulosus: ROSA et al. 2017b: 140 (cat., European Part: South, Crimea; Ural; Eastern Siberia: Krasnoyarsk Terr.).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [ZIN]; Crimea: Simferopol [ZIN], Saki [ZIN]); URAL (Orenburg Prov. [ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (South: Volgograd Prov.; Crimea); Ural (Orenburg Prov.); Eastern Siberia (Krasnoyarsk Terr.). Kazakhstan, Kyrgyzstan and Uzbekistan (TARBINSKY 2000).

***Euchroeus victorius* ROSA, 2017 (Fig. 85)**

Euchroeus victorius ROSA in ROSA et al., 2017f: 4. Holotype ♂; Russia: Eastern Siberia, Khakass Rep.: 20 km SW Abakan, Izykhskie Kopi (St. Petersburg) (examined) (*purpuratus* group), 5 (Fig. 2B), 6 (Figs 3A–F), 7 (Figs 4E–F). ROSA et al. 2017g: 38 (cat., distr., Siberia); ROSA et al. 2017b: 140 (cat., Eastern Siberia: Khakass Rep.).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Khakass Rep.).

17. Genus *Pentachrysis* LICHTENSTEIN, 1876

Pentachrysis LICHTENSTEIN, 1876: 227. Type species: *Chrysis amoena* EVERS-MANN, 1857, by subsequent designation of ASHMEAD 1902: 226.

***Pentachrysis amoena* (EVERSMANN, 1858) (Fig. 214)**

Chrysis amoena EVERS-MANN, 1858: 562. Holotype ♀; Russia: "*campis transuralensibus*" (Kraków). RADOSZKOVSKY 1866: 13 (cat., descr., Omsk); ROSA et al. 2015e: 9 (cat., typ., "*campis transuralensibus*", Fig. 1).

Chrysis (Pentachrysis) amoena: MOCSARY 1889: 530 (cat., descr., distr., key, Omsk, southern and western Siberia); MOCSARY 1890a: 69 (cat., Transural, southern and western Siberia); TRAUTMANN 1927: 177 (key), 178 (cat., descr., distr., Sarepta, Ural); BALTHASAR 1953: 120 (key, Caucasus, Southern Russia); BISCHOFF 1913: 62 (cat., Siberia).

Chrysis amöna (!): DALLA TORRE 1892: 42 (cat., Transural).

Chrysis (quinquedentatae) amoena: DU BUYSSON in ANDRE 1896: 639 (cat., descr., distr., key, tax., southwestern Siberia, Omsk).

Pentachrysis amoena: ROSA et al. 2017b: 140 (cat., European Part: South; Western Siberia: Omsk Prov.); ROSA et al. 2017g: 40 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: European part (South: Volgograd Prov.); Western Siberia (Omsk Prov.); Siberia. Trans-Palaeartic, from eastern Europe to Caucasus, Central Asia and Mongolia (LINSENMAIER 1959).

18. Genus *Pseudochrysis* SEMENOV, 1891

Pseudochrysis SEMENOV, 1891: 444. Type species: *Chrysura humboldti* DAHLBOM, 1845, by subsequent designation of SEMENOV 1892b: 485.

Pseudospinolia LINSSENMAIER, 1951: 31. Type species: *Chrysis uniformis* DAHLBOM, 1854, by original designation. Junior subjective synonym of *Pseudochrysis* SEMENOV, 1891 according to ROSA et al. 2017e.

***Pseudochrysis aureicollis* (ABELLE DE PERRIN, 1879) (Fig. 92)**

Chrysis aureicollis ABELLE DE PERRIN, 1879: 82. Syntypes ♀♀; Spain: Madrid (Paris) (examined).

Pseudochrysis aureicollis: BISCHOFF 1913: 24 (cat., Caucasus); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); ROSA et al. 2017b: 140 (cat., European Part: North Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (North Caucasus: Stavropol Terr.). Caucasus. South-western Europe, northern Africa, Iran (Rosa et al. 2013).

***Pseudochrysis fahringeri* TRAUTMANN, 1926 (Fig. 96-97)**

Pseudochrysis incrassata var. *fahringeri* TRAUTMANN, 1926: 7. Holotype ♀; Austria: Leithag Mts. (Berlin).

Pseudochrysis fahringeri: ROSA et al. 2017b: 140 (cat., Western Siberia: Altai; Eastern Siberia: Khakass Rep., Krasnoyarsk Terr.); ROSA et al. 2017f: 11 (cat., distr., tax., Altai Rep.: 14 km SE Aktash, Chuya River; Khakass Rep.: Chernoe Lake; Zhemchuzhnyi, Shira Lake; Krasnoyarsk Terr.: Minusinsk, Malaya Minusa River), 5 (Fig. 2E), 12 (Figs 6A–F, 7G–H, 8C, 8F, 8I); ROSA et al. 2017g: 39 (cat., distr., Siberia).

D i s t r i b u t i o n . RUSSIA: Western Siberia (Altai Rep.); Eastern Siberia (Khakass Rep., Krasnoyarsk Terr.). Central Europe.

R e m a r k s . *Pseudochrysis fahringeri* is an Euro-Sibiric species. In Europe it is very rarely collected and occasionally found only on mountainous steppe areas (Wallis, Switzerland) and on mountains in central Europe (Leitha Mts., an offshoot of the Alps and a connection to the Carpathians, and at Marchfeld), which serve as refuges. The distribution is still poorly known due to the confusion of *Ps. fahringeri* with *Ps. incrassata*.

***Pseudochrysis gengiskhan* ROSA, 2017 (Fig. 91)**

Pseudochrysis gengiskhan ROSA in ROSA et al., 2017f: 9. Holotype ♀; Mongolia: Övörkhangay, 137 km NE Aravaykheer, 47°20'N 103°40.5'E, 1250 m (St. Petersburg) (Paratypes from Russia: Eastern Siberia: Tuva Rep., 20 km SSW Erzin, Tore-Khol' Lake; 13 km SW Samagaltai, Dytyg-Khem River; 25 km SE Erzin, Tes-Khem River), 5 (Fig. 2D), 10 (Figs 5A–F), 14 (Fig. 7F), 15 (Figs 8A, 8D, 8G). ROSA et al. 2017g: 39 (cat., distr., Siberia). ROSA et al. 2017b: 140 (cat., Eastern Siberia: Tuva Rep.).

D i s t r i b u t i o n . RUSSIA: Eastern Siberia (Tuva Rep.). Mongolia.

***Pseudochrysis humboldti humboldti* (DAHLBOM, 1845) (Fig. 95)**

Chrysura humboldti DAHLBOM, 1845: 6. Holotype ♂; Greece: Rhodes Isl. (Stockholm) (examined). ROSA & VÄRDAL 2015: 110 (cat., typ.), 112 (Pl. 25).

Chrysis cyanura DAHLBOM 1854: 109 (southern Russia); EVERS-MANN 1858: 554 (cat., descr., Orenburg Prov., southern Volga, Ural); DE STEFANI 1888: 142 (cat., descr., distr., key, Caucasus, Russia).

Chrysis cyanura: RADOSZKOVSKY 1866: 10 (cat., Orenburg, Ural, Sarepta, Kazan).

Chrysis fedtchenkoi RADOSZOWSKI, 1877: RADOSZOWSKI 1880: 141 (cat., Caucasus).

Chrysis (Olochrysis) humboldti: MOCSÁRY 1889: 222 (cat. descr., distr., key, southern Russia).

Chrysis (Holochrysis) humboldti: MOCSÁRY 1890a: 63 (cat., southern Russia).

Chrysis (Holochrysis) humboldti var. *minuta* MOCSÁRY, 1889: MOCSÁRY 1890a: 63 (cat., southern Russia).

Pseudochrysis humboldti var. *minuta*: DALLA TORRE 1892: 66 (cat., Russia); BISCHOFF 1913: 24 (cat., Sarepta).

Chrysis (integerrimae) cyanura: DU BUYSSON in ANDRÉ 1894: 277 (cat., descr., key, Russia), pl. 1 (Figs 6A–6B; 8A–8B), pl. XXIII (Fig. 11), pl. XXIV (Fig. 7).

Chrysis (integerrimae) cyanura var. *minuta*: DU BUYSSON in ANDRÉ 1894: 277 (cat., descr., key, Sarepta).

Chrysis cyanura: KIRCHNER 1867: 209 (cat., Russia); BECKER 1880: 150 (cat., Sarepta).

Pseudochrysis humboldti: BISCHOFF 1910: 448 (cat., southern Russia); NIKOL'SKAYA 1978: 70 (key, southern European part of USSR); ROSA et al. 2017b: 140 (cat., European part: East, South, North Caucasus, Crimea; Ural; Eastern Siberia: Irkutsk Prov.); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Euchroeus (Pseudospinolia) humboldti: LINSENMAIER 1987: 142 (tax., southern Russia).

Pseudospinolia incrassata: ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.).

Material examined. Russia: EUROPEAN PART (South: Kalmyk Rep. [MMC]; Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Dagestan Rep. [MMC]; Stavropol Terr.: Zimnyaya Stavka [ZIN]; Crimea: Kerch [ZIN], Sevastopol [ZIN]). Azerbaijan: Kosmol'yan [ZIN].

Distribution. RUSSIA: European part (East: Tatar Rep.; South: Kalmyk Rep., Volgograd Prov.; North Caucasus: Dagestan Rep., Stavropol Terr.; Crimea); Ural (Orenburg Prov.); Eastern Siberia (Irkutsk Prov. and/or Buryat Rep.). Caucasus, Azerbaijan. Trans-Palaeartic: from West Europe to Caucasus, Central Asia, Iran, China (ROSA et al. 2014).

Host. Vespidae (Eumeninae): *Paravespa grandis albida* BLÜTGHEN (LINSENMAIER 1987).

***Pseudochrysis incrassata* (SPINOLA, 1838) (Fig. 94)**

Chrysis incrassata SPINOLA, 1838: 454. Lectotype ♀ (designated by ROSA & XU 2015: 27); France: Corse [not Egypt] (Turin) (examined). RADOSZKOVSKY 1880: 141 (cat., Caucasus).

Chrysis (Olochrysis) incrassata: MOCSÁRY 1889: 222 (key), 224 (cat. descr., distr., Sarepta).

Chrysis (Holochrysis) incrassata: MOCSÁRY 1890a: 63 (cat., southern Russia).

Pseudochrysis incrassata: TRAUTMANN 1927: 92 (key), 97 (cat., descr., distr., southern Russia); BALTHASAR 1953: 62 (key, Caucasus, Southern Russia), 157 (descr., Caucasus, Southern Russia); HAMMER 1950: 4 (cat., distr., southern Russia); BALTHASAR 1954: 142 (key), 145 (descr., souther part of USSR), 157 (Fig. 47); NIKOL'SKAYA 1978: 70 (key, southern European part of USSR); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); SHCHERBAKOV 2008: 211 (cat., Transbaikalia: Argun near Olochi); VINOKUROV 2009c: 206, 207 (cat., ecol., Stavropol Terr., Kuma River); VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1276 (cat., Kabardino-Balkarian Rep.: Sukanskoe canyon, vill. Zhemtala); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2015b: 316 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); ROSA et al. 2017b: 140 (cat., European Part: South, North Caucasus).

Euchroeus (Pseudospinolia) incrassata: MINGO 1975: 137 (key), 140 (cat., descr., distr., southern Russia).

Euchroeus (Pseudospinolia) incrassatus var. *minor* (MOCSÁRY 1889): LINSENMAIER 1951: 32 (descr., southern Russia), 99 (cat.).

Euchroeus (Pseudospinolia) graciosus minutus (MOCSÁRY 1889): LINSSENMAIER 1968: 40 (descr., southern Russia, ecologic form of *minor*).

Pseudochrysis incrassatus (!): VINOKUROV 2006d: 19 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

Distribution. RUSSIA: European part (South: Volgograd Prov.; North Caucasus: Kabardino-Balkarian Prov., Stavropol Terr.). Caucasus. West-Palaearctic, from southern Europe, from Spain to Greece, Turkey (TRAUTMANN 1927; ARENS 2014).

Remarks. Some distributional data (ANICHTCHENKO 2002) are very likely related to *Pseudochrysis fahringeri* TRAUTMANN or *P. gengiskhan* ROSA, 2017 (ROSA et al. 2017f).

***Pseudochrysis neglecta* (SHUCKARD, 1837) (Fig. 90)**

Chrysis austriaca DAHLBOM, 1829: 14. Syntypes ♂, ♀; Sweden: Ostro- & Westrogothia [= Öster- & Västergötland] (Lund), nom. praeocc., nec FABRICIUS, 1804.

Chrysis neglecta SHUCKARD, 1837: 169. Lectotype ♀ (designated by MORGAN 1984: 9); England (London-Linnean Society). WOLDSTEDT 1875: 345 (cat., Valamo).

Chrysis integrella DAHLBOM, 1854: 134 (Type locality: Tauria [= Crimea]). ASSMUSS 1862: 268 (cat., Klin).

Chrysis (integerrimae) neglecta: DU BUYSSON in ANDRÉ 1894: 322 (biol., cat., descr., distr., key, Russia), pl. XXI (Fig. 3), pl. XXIV (Fig. 10).

Euchroeus (Pseudospinolia) neglectus: LINSSENMAIER 1959: 66 (key, Asia: see material examined).

Pseudochrysis neglecta: GUSSAKOVSKIJ 1948: 733 (cat., key, North and central European part of USSR); LEVI et al. 1974: 266 (cat., Kirov Prov.: Kirov, Zlobino, Korshik); NIKOL'SKAYA 1978: 70 (key, European part of USSR); ZVANTSOV 1988: 94 (biol., cat., Moscow Prov.: Serebryany Bor, Chashnikovo, Klin, Zelenaya Gavan, Mytishchi, Ilinskoe, Prioksko-Terrasny Reserve, Ruza, Seleznevo); BLAGOVESCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); KUZNETSOVA 1990: 10 (cat., ecol., Lipetsk Prov.: Galich'ya Gora); BLAGOVESCHENSKAYA 1994: 84 (cat., ecol., Ulyanovsk Prov.: Krasny Bor); BUGANIN et al. 2000: 149 (cat., Ulyanovsk Prov.); KRIVONOGOVA & RUDOISKATEL 2004: 109 (cat., ecol., Sverdlovsk Prov.); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 19, 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); KIZILOV 2007: 84 (cat., Tomsk Prov.: Kozhevnikovskiy Distr.: env. vill. Kireevskoe); KOCHETKOV et al. 2008: 259 (cat., ecol., Ryazan Prov.: dist. Ryabova zatona, Krasnyi Kholm, Timoshkino, Oka River); Rudoiskatel 2008a: 142 (cat., Sverdlovsk Prov.); RUDOISKATEL 2011a: 166 (cat., Sverdlovsk Prov.); KOCHETKOV 2012: 241 (cat., ecol., Ryazan Prov.: env. Ryazan); ROSA et al. 2017b: 140 (cat., European Part: North, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai, Tomsk Prov.; Eastern Siberia: Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep.; Far East: Khabarovsk Terr.); ROSA et al. 2017g: 39 (cat., distr., Siberia).

Pseudospinolia neglecta: ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Bessonovsky Distr.: Pobeda; Luninsky Distr.: Stepanovka); SHIBAEV 2006a: 111 (cat., ecol., Penza Prov.); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); AA.VV. 2007: 280 (Samara Prov.: Samarskaya Luka National Park); KURZENKO & LELEJ 2007: 1006 (cat., Khabarovsk Terr.); RUDOISKATEL 2007: 75 (cat., Sverdlovsk Prov.: Denezhkin Kamen Nature Reserve); VINOKUROV 2009c: 206, 207 (cat., ecol., Stavropol Terr., Kuma River); SHIBAEV & POLUMORDVINOV 2012: 276

(cat., Penza Prov.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); PAUKKUNEN et al. 2014: 25 (cat., distr., Russian Fennoscandia, Russian Far East); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014d: 92 (cat., ecol., Adygei Rep.: Maykop, env. vill. Krasnoarmeyskiy).

Pseudochrysis neglectus (!): VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

Material examined. Russia: EUROPEAN PART (Centre: Belgorod Prov.: Borisovka [ZIN]; Mordovian Rep. [MMC]; Nizhny Novgorod Prov. [MMC]; South: Astrakhan Prov. [MMC]; Kalmyk Rep. [MMC]; Volgograd Prov.: Sarepta [NMLS]; Dagestan Rep.: Tarumkova, Magaramkent [MMC]); WESTERN SIBERIA (Altai Rep.: 66 km SSE Ust'-Koksa, Ozernaya River [IBSS]; 12 km SE Aktash, Chuya River [IBSS]; 24 km NW Aktash, Chuya River [IBSS]); EASTERN SIBERIA (Khakass Rep.: 27 km E Shira, Borets [IBSS]; 50 km NW Shira, Chernyi Iyus River [IBSS]; Krasnoyarsk Terr.: Magansk [IBSS]; Berezovyi [IBSS]; Tuva Rep.: 12 km SW Samagaltai, Dyttyg-Khem River [IBSS]).

Distribution. RUSSIA: European part (North: Karelian Rep.; Centre: Belgorod Prov., Lipetsk Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov.; East: Kirov Prov., Samara Prov., Ulyanovsk Prov.; South: Astrakhan Prov., Kalmyk Rep., Volgograd Prov.; North Caucasus: Adygei Rep., Dagestan Rep., Stavropol Terr.; Crimea); Ural (Sverdlovsk Prov.); Western Siberia (Altai Rep., Tomsk Prov.); Eastern Siberia (Irkutsk Prov. and/or Buryat Rep., Khakass Rep., Krasnoyarsk Terr., Tuva Rep.); Far East (Khabarovsk Terr.). Holarctic: from west Europe to Turkey, Siberia, Manchuria and Russian Far East (LINSENMAIER 1959; KURZENKO & LELEJ 2007; ROSA et al. 2014); North America (BOHART & KIMSEY 1982).

Host. Vespidae (Eumeninae): *Odynerus spinipes* (LINNAEUS) and *O. reniformis* (GMELIN) (ADLERZ 1910; TRAUTMANN 1927; LINSSENMAIER 1959; BANASZAK 1980; MORGAN 1984). Possible hosts are *Ancistrocerus parietum* (LINNAEUS) and *Gymnomerus laevipes* (SHUCKARD) (DAHLBOM 1854; BERLAND & BERNARD 1938). Several observations of parasitism on solitary bees (Megachilidae) (TRAUTMANN 1927; MANEVAL 1932) are known and excluded by Kunz (1994).

***Pseudochrysis uniformis* (DAHLBOM, 1854) (Fig. 93)**

Chrysis fasciata SPINOLA, 1805: 14. Holotype ♂; Italy: Liguria (lost ?), nom. praecoc., nec OLIVIER 1791.

Chrysis uniformis DAHLBOM, 1854: 149. Holotype ♀; Asia Minor (Lund ?). RADOSZKOVSKY 1866: 8 (cat., Caucasus); RADOSZKOWSKI 1877: 9 (key), 12 (cat., descr., distr., Samara); ABEILLE DE PERRIN 1878: 75 (key), 82 (descr., Caucasus); ABEILLE DE PERRIN 1879: 75 (key), 82 (Caucasus, cat.); RADOSZKOVSKY 1880: 142 (cat., Caucasus); DE STEFANI 1888: 178 (cat., descr., distr., key, Caucasus, Russia); RADOSZKOWSKI 1889: 16 (descr., Caucasus), tab. III (Figs 31A–31K); DALLA TORRE 1892: 104 (cat., Caucasus).

Chrysis (Olochrysis) uniformis: MOCSÁRY 1889: 265 (cat., descr., distr., key, Caucasus).

Chrysis (Holochrysis) uniformis: MOCSÁRY 1890a: 64 (cat., Caucasus).

Chrysis (integerrimae) uniformis: DU BUYSSON in ANDRÉ 1894: 350 (cat., descr., distr., key, Caucasus), pl. XXII (Figs 10–11), pl. XXIV (Fig. 15).

Pseudochrysis uniformis: TRAUTMANN 1927: 92 (key), 93 (cat., descr., distr., Caucasus); BALTHASAR 1953: 62 (key, Caucasus), 160 (descr., Caucasus); VINOKUROV 2016: 39 (cat., Dagestan Rep.: Samur Forest Reserve); ROSA et al. 2017b: 141 (cat., European part: East).

Euchroeus (Pseudospinolia) uniformis: MINGO 1975: 137 (key), 138 (cat., descr., distr., Russia).

Pseudospinolia uniformis: MOKROUSOV & ZRYANIN 2015: 38 (cat., distr., Caucasus).

D i s t r i b u t i o n . RUSSIA: European part (East: Samara Prov.; North Caucasus: Dagestan Rep.). Caucasus. West-Palaeartic: from southern Europe and North Africa to western Asia, Iran, Turkey (ROSA et al. 2013).

19. Genus *Spinolia* DAHLBOM, 1854

Spinolia DAHLBOM, 1854: 363. Type species: *Spinolia magnifica* DAHLBOM, 1854 [= *Spinolia lamprosoma* (Förster, 1853)], by monotypy.

Polyodontus RADOSZKOWSKI, 1877: 27. Type species: *Polyodontus stchurovskyi* RADOSZKOWSKI, 1877, by monotypy and original designation. Junior subjective synonym of *Spinolia* DAHLBOM, 1854 according to KIMSEY & BOHART 1991.

Achrysis SEMENOV, 1892: 486. Type species: *Chrysis unicolor* DAHLBOM, 1831 [= *Spinolia unicolor* (DAHLBOM, 1831)], by monotypy and original designation. Junior subjective synonym of *Spinolia* DAHLBOM, 1854 according to TRAUTMANN 1927.

Spinolia chalcites (MOCSÁRY, 1890) (Fig. 99)

Chrysis (Gonochrysis) chalcites MOCSÁRY, 1890b: 55. Holotype ♀; Russia: Sarepta (Zurich).

Chrysis chalcites: DALLA TORRE 1892: 49 (cat., Russia).

Spinolia chalcites: DU BUYSSON in ANDRÉ 1893: 249 (cat., descr., key, southern Russia, Sarepta); BISCHOFF 1913: 25 (cat., southern Russia); TRAUTMANN 1927: 87 (key), 89 (cat., descr., distr., southern Russia); BALTHASAR 1953: 64 (key, Southern Russia); MÓCZÁR 1964b: 447 (tax., Sarepta); NIKOL'SKAYA 1978: 71 (key, southern European part of USSR); ROSA et al. 2013: 38 (cat., distr., south European part); ROSA et al. 2017b: 141 (cat., European Part: East, South, North Caucasus).

Pseudochrysis (Spinolia) chalcites: SEMENOV 1912: 183 (descr., distr., Volgograd Prov.: Sarepta).

Euchroeus (Spinolia) chalcites: LINSSENMAIER 1951: 30 (descr., southern Russia), 99 (cat.); LINSSENMAIER 1959: 69 (descr., distr., key, southern Russia), 201 (Fig. 221); SCHMIDT 1977: 107 (cat., distr., southern Russia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Volgograd Prov.: Sarepta [= Volgograd] [ZIN]; North Caucasus: Stavropol Terr.: Stavropol [ZIN]).

D i s t r i b u t i o n . RUSSIA: European part (East: Saratov Prov.; South: Volgograd Prov.; North Caucasus: Stavropol Terr.). Iran, southern Russia, Turkey (ROSA et al. 2013).

**Spinolia dallatorreana dallatorreana* (MOCSÁRY, 1896) (Fig. 101)

Chrysis pulchra RADOSZKOVSKY, 1880: 143. Holotype ♀ [not ♂]; Caucasus (Kraków) (examined). ROSA et al. 2015e: 48 (cat., tax., Caucasus), 49 (Fig. 6).

Chrysis (Spinolia) dallatorreana MOCSÁRY, 1896: 2. Lectotype ♀ (designated by MÓCZÁR 1964a: 448); Hungary: Isaszegh (Budapest) (examined).

Spinolia dallatorreana: NIKOL'SKAYA 1978: 71 (key, southern European part of USSR).

D i s t r i b u t i o n . Caucasus. Central and south-eastern Europe to Turkey (LINSSENMAIER 1959).

Remarks. The name currently in use is *Spinolia dallatorreana*, but *Spinolia pulchra* (RADOSZKOWSKI) has priority. The case is discussed in ROSA et al. (2015e).

***Spinolia dournovii* (RADOSZKOWSKI, 1866) (Fig. 100)**

Chrysis dournovii RADOSZKOVSKY, 1866: 303. Holotype ♀; Caucasus (Kraków) (examined). RADOSZKOVSKY 1866: 9 (cat., descr., Caucasus); KIRCHNER 1867: 209 (cat., Caucasus); ROSA et al. 2015e: 25 (cat., tax., Caucasus), 26 (Pl. 16).

Chrysis dournovoi (!): RADOSZKOVSKY 1880: 142 (cat., Caucasus).

Chrysis (Olochrysis) durnovi (!): MOCSÁRY 1889: 284 (key, sub *durnovi* (!), 285 (cat., descr., distr., Dagestan).

Chrysis (Holochrysis) durnovi (!): MOCSÁRY 1890a: 65 (cat., Caucasus).

Chrysis dournowi (!): MAGRETTI 1890: 532 (cat., Caucasus).

Chrysis dournovii (!): DALLA TORRE 1892: 57 (cat., Caucasus).

Spinolia durnovi (!): DU BUYSSON in ANDRE 1893: 246 (cat., descr., key, Caucasus).

Spinolia dournovii: ROSA et al. 2017b: 141 (cat., European Part: North Caucasus).

Distribution. RUSSIA: European part (North Caucasus: Dagestan Rep.). Caucasus. West-Palaeartic: from South-eastern Europe and North Africa to Middle East, Iran, Turkey (ROSA et al. 2013).

***Spinolia lamprosoma* (FÖRSTER, 1853) (Fig. 102)**

Chrysis lamprosoma FÖRSTER, 1853: 311. Holotype ♀; Turkey (no loc.) (Budapest) (examined). DALLA TORRE 1892: 74 (cat., Caucasus). ROSA et al. 2017h: 56 (cat., typ., Turkey, Pl. 34).

Chrysis (Euchroeus) lamprosoma: MOCSÁRY 1889: 604 (key), 606 (cat., descr., distr., Caucasus); MOCSÁRY 1890a: 70 (cat., Caucasus).

Spinolia (!) *lamprosoma*: VORONTSOVKIJ 1930: 68 (cat., Orenburg Prov.).

Spinolia lamprosoma: ROSA et al. 2017b: 141 (cat., Ural).

Distribution. RUSSIA: Ural (Orenburg Prov.). Caucasus. Southern Europe, from France to Greece, eastward to Caucasus and Turkey (ROSA & SOON 2012).

Host. Vespidae (Eumeninae): *Paragymnomerus spiricornis* (SPINOLA) (ROSA 2006).

***Spinolia morawitzii* (MOCSÁRY, 1889) (Fig. 103)**

Chrysis (Spinolia) morawitzii MOCSÁRY, 1889: 607. Holotype ♂; Turkmenistan (Budapest) (examined). ROSA et al. 2017h: 63 (cat., typ., Turkmenistan), 65 (Pl. 43).

Chrysis morawitzi (!): DALLA TORRE 1892: 79 (cat., Caspian region).

Euchroeus (Spinolia) morawitzi (!): LINSSENMAIER 1969: 355 (tax., southern Russia).

Spinolia morawitzi (!): TRAUTMANN 1927: 87 (key), 91 (cat., descr., distr., Caucasus, Sarepta).

Spinolia morawitzii: ROSA et al. 2017b: 141 (cat., European Part: South)

Distribution. RUSSIA: European part (South: Volgograd Prov.). Caucasus. Turkmenistan, Turkey (LINSSENMAIER 1959).

***Spinolia stchurovskyi* (RADOSZKOWSKI 1877) (Figs 104-105)**

Polyodontus stchurovskyi RADOSZKOWSKI, 1877: 25. Holotype ♀; locality unknown (Moscow) (examined). ROSA et al. 2015a: 27 (cat., typ.), 28 (Pl. 22).

Chrysis (*Polyodontus*) *stchurovskyi*: MOCSÁRY 1889: 595. Emendation of *Polyodontus stchurovskyi* RADOSZKOWSKI, 1877.

Euchroeus stchurovskyi (!): TRAUTMANN 1927: 83 (key), 86 (cat., descr., distr., Astrakhan, Ural).

Spinolia stchurovskyi: ROSA et al. 2017b: 141 (cat., European Part: South; Ural).

D i s t r i b u t i o n . RUSSIA: European part (South: Astrakhan Prov.); Ural. Central Asia.

***Spinolia unicolor* (DAHLBOM, 1831) (Fig. 98)**

Chrysis unicolor DAHLBOM, 1831: 32. Syntypes ♂♂ [not holotype]; Sweden: Scania, Lomma and Käflinge [= Kävlinge] (Lund) (examined).

Spinolia unicolor: RADOSZKOVSKY 1880: 143 (cat., Caucasus); DU BUYSSON in ANDRÉ 1893: 244 (cat., descr., key, Lepssinsk); TRAUTMANN 1927: 87 (cat., descr., distr., key, southern Russia); BALTHASAR 1946: 243 (biol., cat., distr., western Russia); BALTHASAR 1954: 135 (key), 139 (descr., European part of USSR), 157 (Fig. 38); NIKOL'SKAYA 1978: 70 (key, southern European part of USSR); SHCHERBAKOV 2008: 211 (cat., near Ramenskoe, Tver); BOGUSH et al. 2011: 91 (biol., cat., distr., western Russia); ROSA et al. 2017b: 141 (cat., European Part: Centre).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Centre: Nizhny Novgorod Prov. [MMC]).

D i s t r i b u t i o n . RUSSIA: European part (Centre: Moscow Prov., Nizhny Novgorod Prov., Tver Prov.). Trans-Palaeartic: from West Europe to Mongolia (PAUKKUNEN et al. 2014).

H o s t . Vespidae (Eumeninae): *Pterocheilus phaleratus* (PANZER) (ERLANDSSON 1968; SÖRENSON & CEDERBERG 2010). TRAUTMANN (1927) also listed the Crabronidae *Bembecinus hungaricus* (FRIVALDSZKY).

20. Genus *Spintharina* SEMENOV, 1892

Spintharina SEMENOV, 1892: 485. Type species: *Chrysis vagans* RADOSZKOWSKI, 1877, by original designation.

***Spintharina Mocsáryi* (RADOSZKOWSKI, 1890)**

Chrysis cuprata [nec DAHLBOM, 1854]: RADOSZKOVSKY 1880: 142 (cat., Caucasus); DE STEFANI 1888: 182 (cat., descr., distr., key, Caucasus); RADOSZKOWSKI 1889: 16 (descr., Caucasus), tab. IV (Figs 41A–41K) [mis.]; DALLA TORRE 1892: 52 (cat., Caucasus).

Chrysis (*Holochrysis*) *cuprata* [nec Dahlbom]: MOCSÁRY 1889: 276 (cat., descr., distr., key, Caucasus); MOCSÁRY 1890a: 64 (cat., Caucasus).

Spintharis Mocsáryi RADOSZKOWSKI, 1890: 508. Holotype ?; Turkey: Buyuk Agri Dagi (depository unknown, not Kraków).

Chrysis (*integerrimae*) *cuprata*: DU BUYSSON in ANDRÉ 1894: 342 (cat., descr., distr., key, Caucasus).

Chrysis (Holochochrysis) cuprata: TRAUTMANN 1927: 104 (key), 124 (cat., descr., distr., Caucasus).
Spintharis mocsáryi: BALTHASAR 1953: 59 (key, Caucasus), 153 (descr., Caucasus), 172 (Figs 2–4).

Chrysis (Spintharina) Mocsáryi: LINSSENMAIER 1968: 369 (tax., southern Russia).

Spintharina Mocsáryi: ROSA et al. 2017b: 141 (cat., European Part: South).

D i s t r i b u t i o n . RUSSIA: European part (southern Russia, without locality).
Caucasus. Middle East and Turkey.

R e m a r k s . The line drawings of the genitalia of *Chrysis cuprata* [nec DAHLBOM] in RADOSZKOWSKI (1889) do not match the shape of the typical specimens (LINSSENMAIER 1959). All citations for *Spintharina. cuprata*, known for western Mediterranean, are related to other species, very likely *S. Mocsáryi* RADOSZKOWSKI.

****Spintharina vagans* (RADOSZKOWSKI, 1877)**

Chrysis vagans RADOSZKOWSKI, 1877: 11. Lectotype ♂ (designated by ROSA et al. 2015e: 70);
Karak (Kraków). DALLA TORRE 1892: 105 (cat., Caucasus).

Spintharina vagans: TRAUTMANN 1927: 102 (cat., descr., distr., Caucasus); HAMMER 1950: 4 (cat.,
distr., Caucasus); NIKOL'SKAYA 1978: 67 (key, southern European part of USSR).

Spintharis vagans: BALTHASAR 1953: 59 (key, Caucasus), 154 (descr., Caucasus).

D i s t r i b u t i o n . Caucasus. Middle East to Central Asia.

***Spintharina versicolor* (SPINOLA, 1808) (Fig. 211)**

Chrysis versicolor SPINOLA, 1808: 241. Lectotype ♀ (designated by ROSA & XU 2015: 48);
Italy: Liguria (Turin) (examined).

Chrysis patriarchalis RADOSZKOWSKI, 1880: 142. Syntypes ♂♂; Armenia: Etschmiadzine
[Etschmiadzin, currently Vagharshapat] (Kraków) (examined).

Chrysis (Gonochrysis) versicolor: MOCSÁRY 1890a: 65 (cat., Caucasus).

Chrysis (inaequales) versicolor: DU BUYSSON in ANDRÉ 1895: 411 (cat., descr., distr., key,
Russia).

Spintharis versicolor: BALTHASAR 1953: 59 (key, Caucasus), 151 (descr., Caucasus); BALTHASAR
1954: 149 (descr., Caucasus), 157 (Figs 48–49).

Chrysis (Holochochrysis) kuznetzovi SEMENOV, 1967: 154. Holotype ♀; Crimea: South coast (St.
Petersburg) (examined). ROSA et al. 2017a: 33 (cat., typ., Crimea).

Chrysis (Chrysis) ? versicolor: BRUSTILO & MARTYNOV 2009: 51 (biol., cat., distr., Caucasus).

Spintharina versicolor: Rosa et al. 2017b: 141 (cat., European part: Crimea).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (Crimea: Kara Dag Nature
Reserve [RMC]).

D i s t r i b u t i o n . RUSSIA: European part (Crimea). Caucasus. West-Palaeartic,
from western Europe to Iran (ROSA et al. 2013).

H o s t . Vespidae (Masarinae): *Celonites abbreviatus* (VILLERS), *C. apiformis*
FABRICIUS (TRAUTMANN 1927; LINSSENMAIER 1959).

21. Genus *Stilbum* SPINOLA, 1806

Stilbum SPINOLA, 1806: 9. Type species: *Chrysis calens* FABRICIUS, 1781, by subsequent designation of LATREILLE, 1810: 437.

Stilbum calens (FABRICIUS, 1781) (Fig. 226)

Chrysis calens FABRICIUS, 1781: 455. Holotype ♀; Russia: Siberia (London).

Stilbum calens: RADOSZKOVSKY 1866: 14 (cat., Crimea, Caucasus, Mt. Kazbek); RADOSZKOWSKI 1877: 24 (cat., descr., distr., Caucasus, southern Russia); RADOSZKOVSKY 1880: 147 (cat., Caucasus); LINSSENMAIER 1959: 181 (descr., distr., key, Siberia); NIKOL'SKAYA 1978: 70 (key, southern European part of USSR); VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); CHIBILYOV 2009 (cat., Orenburg); FATERYGA & IVANOV 2009: 323 (Fig. 1: 11), 327 (biol., Crimea); VINOKUROV 2009a: 84 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2011c: 172 (cat., Karachayevo-Cherkess Rep.: env. Teberda, Teberda River valley); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); MARTYNOVA & FATERYGA 2015: 481 (biol., Crimea: env. Katsiveli); ROSA et al. 2017b: 141 (cat., European Part: South, North Caucasus, Crimea; Ural; Eastern Siberia: Buryat Rep., Zabaikalskii Terr.); ROSA et al. 2017f: 2 (cat.); ROSA et al. 2017g: 40 (cat., distr., Siberia).

? *Stilbum nobile* SULZER, 1776: MOCSÁRY 1882: 42 (cat., destr., distr., Caucasus, southern Russia); RADOSZKOWSKI 1889: 34 (descr., Sarepta, Crimea, Orenburg, Siberia, Astrakhan, Caucasus), tab. VI (Figs 67A–67I).

Stilbum cyanurum var. *nobile*: MOCSÁRY 1889: 191 (cat., descr., distr., Caucasus, Siberia); MOCSÁRY 1890a: 62 (cat., Caucasus, Siberia).

Stilbum splendidum var. *calens*: DU BUYSSON in ANDRÉ 1896: 680 (biol., cat., descr., distr., tax., Tauria [= Crimea]), pl. XXVIII (Figs 5–7), pl. XXIX (Fig. 5).

Stilbum cyanurum cyanurum f. *calens*: TSUNEKI 1948: 124 (cat., distr., Siberia); TSUNEKI 1953a: 58 (cat., distr., Siberia).

Stilbum ? *cyanura* (!): ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.).

Stilbum cyanurum (Forster, 1771): KURZENKO & LELEJ 2007: 1006 (cat., Chita);

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (East: Elshanka [ZIN]; North Caucasus: Dagestan Rep.: Kumtoralinskij Distr., Barkhan Sarykum; Crimea: Gelindzhik [ZIN], Kara Dag Nature Reserve [MMC], Simferopol [ZIN]); URAL (Chelyabinsk Prov. [PRC]); EASTERN SIBERIA (Buryat Rep.: Gusinoe Lake, Baraty [IBSS]; Zabaikalskii Terr.: 20 km SSE Krasnokamensk [IBSS]).

D i s t r i b u t i o n . RUSSIA: European part (East: Saratov Prov.; South: Astrakhan Prov., Volgograd Prov.; North Caucasus: Dagestan Rep., Karachayevo-Cherkess Rep., Stavropol Terr.; Crimea); Ural (Chelyabinsk Prov.); Eastern Siberia (Buryat Rep., Zabaikalskii Terr.); Caucasus (Mt. Kazbek). Trans-Palaearctic: from Europe and northern Africa to Central Asia, Siberia, China and Japan (LINSSENMAIER 1999; ROSA et al. 2014).

R e m a r k s . LINSENMAIER (1959, 1968) subdivided *Stilbum calens* into several subspecies. *S. calens calens* was described from Siberia, other subspecies cannot be recognized from Russian literature and future molecular systematic research will clarify the systematic arrangement of this genus.

H o s t . Vespidae (Eumeninae): nest inquiline of *Katamenes arbustorum* (PANZER) and *K. flavigularis* BLÜTHGEN (FABRE 1924; FATERYGA & IVANOV 2009; MARTYNOVA & FATERYGA 2015); other citations are known for *Delta uncuiculatum*, *K.* (PANZER) and *Sceliphron madraspatanum tubifex* (LATREILLE). Possibly the species is also parasitoid of Megachilidae (e.g. *Chalicodoma parietina* (GEOFFROY)) as observed by many entomologists (ROSA 2006).

***Stilbum cyanurum cyanurum* (FORSTER, 1771) (Fig. 227)**

Chrysis cyanura FORSTER [not FÖRSTER], 1771: 89. Holotype ♂; Spain (London).

Stilbum splendidum (FABRICIUS, 1775): RADOSZKOVSKY 1866: 14 (cat., Spassk, Sarepta, Orenburg); BECKER 1880: 153 (cat., Sarepta); DU BUYSSON 1899: 169 (cat., Caucasus); BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve).

Stilbum amethystinum (FABRICIUS, 1775): MOCSÁRY 1882: 43 (cat., destr., distr., Caucasus, Astrakhan, Orenburg, Saratov).

Stilbum cyanurum var. *amethystinum*: MOCSÁRY 1889: 191 (cat., descr., distr., Caucasus); MOCSÁRY 1890a: 62 (cat., Caucasus).

Stilbum cyanurum: ZIMMERMANN 1937: 647 (tax., southern Russia: Uralsk, Orenburg); LINSENMAIER 1951: 88 (descr., Caucasus), 107 (cat.); GUSSAKOVSKIJ 1948: 733 (cat., key, southern European part of USSR); TSUNEKI 1953b: 24 (cat., distr., tax., Caucasus); NIKOL'SKAYA 1978: 70 (key, southern European part of USSR); BRUSTILO & MARTYNOV 2009: 59 (biol., cat., distr., Caucasus); VINOKUROV 2009b: 84 (cat., Krasnodar Terr.: Sochi, Lazarevskoe, Bolshoy Utrish); VINOKUROV 2014f: 92 (Krasnodar Terr.: Sochi, Lazarevskoe, Krasnaya Polyana); FATERYGA 2015: 202 (red list, distributional map, Crimea); VINOKUROV 2015a: 32 (cat., Dagestan Rep.: Dagestan Reserve, Barkhan Sarykum); ROSA et al. 2017b: 141 (cat., European Part: Centre, East, South, North Caucasus, Crimea; Ural).

Stilbum calens var. *pici* DU BUYSSON in ANDRÉ 1896: LINSENMAIER 1951: 91 ([= *caspicum* DU BUYSSON] descr., southern Russia), 107 (cat.).

Stilbum picic: LINSENMAIER 1959: 182 (descr., distr., key, southern Russia [= *caspicum* DU BUYSSON, 1891 (!) [mis.]], 215 (Figs 659–662); LINSENMAIER 1969: 371 ([= *caspicum* DU BUYSSON] tax., southern Russia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (South: Kalmyk Rep. [MMC]; North Caucasus: Dagestan Rep. [MMC]; Krasnodar Terr. [MMC]; Crimea: Kara Dag Nature Reserve [MMC]). Caucasus [NMLS].

D i s t r i b u t i o n . RUSSIA: European part (Centre: Penza Prov.; East: Saratov Prov.; South: Astrakhan Prov., Kalmyk Rep., Volgograd Prov.; North Caucasus: Dagestan Rep.; Krasnodar Terr.; Crimea); Ural (Orenburg Prov.). Caucasus. Worldwide except for North and South America (KIMSEY & BOHART 1991).

H o s t . Sphecidae: *Sceliphron caementarium* (DRURY) (CAMPADELLI et al. 1999; MATTEINI PALMERINI et al. 2014), *S. destillatorium* ILLIGER (DE STEFANI 1888; LICHTENSTEIN 1873; MÓCZÁR 1961; MINGO et al. 1990). Vespidae (Eumeninae): *Katamenes arbustorum* (PANZER), *Delta emarginatum* (LINNAEUS) (MINGO et al., 1990),

D. unguiculatum (VILLERS) (INVREA 1921; GRANDI 1961). Possibly the species is also parasitoid of Megachilidae: *Megachile fraterna* SMITH and *M. sicula* (ROSSI) (BINGHAM 1903; MOCSÁRY 1912).

22. Genus *Trichrysis* LICHTENSTEIN, 1876

Trichrysis LICHTENSTEIN, 1876: 227. Type species: *Sphex cyanea* LINNAEUS, 1758, by monotypy.

Trichrysis cyanea (LINNAEUS, 1758)

Sphex cyanea LINNAEUS, 1758: 572. Lectotype ♂ (designated by MORGAN 1984: 10); Europe (London-Linnean Society).

Chrysis cyanea: EVERS-MANN, 1858: 556 (cat., descr., Orenburg Prov., Ural); ASSMUS 1862: 268 (cat., Moscow); RADOSZKOVSKY 1866: 10 (cat., Kazan, Spassk, Orenburg, St. Petersburg, Caucasus); RADOSZKOWSKI 1877: 9 (key), 13 (cat., descr., distr., St. Petersburg, Volgo-Ural); RADOSZKOVSKY 1880: 144 (cat., Caucasus); Becker 1880: 150 (cat., Sarepta); RADOSZKOWSKI 1889: 19 (descr., Crimea, Orenburg, Caucasus), tab. III (Figs 38A–38I); DALLA TORRE 1892: 53 (cat., Caucasus); DWIGUBSKY 1802: 168 (cat., Moscow Prov.); WESTERLUND 1893: 30 (cat., Salmi); KOHL 1913: 12 (cat., Walouyki [=Livenka]); HELLÉN 1920: 211 (cat., distr., Kivinebb [=Pervomayskoye], Salmis [=Salmi]); GUSSAKOVSKIJ 1948: 732 (cat., key, North and central European part of USSR); PLAVIL'SHCHIKOV 1950: 400 (cat., European part of USSR); LEVI et al. 1974: 266 (cat., Kirov Prov.: Goltzy, Kirov, Kyrmyzh); RUDOISKATEL 2004: 17 (cat., Bashkir Rep.: Shulgan-Tash Nature Reserve); VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); HA et al. 2008: 73 (cat., distr., Siberia); RUDOISKATEL 2011: 68 (cat., Bashkir Rep.: Shulgan-Tash Nature Reserve).

Chrysis (Trichrysis) cyanea: MOCSÁRY 1882: 56 (cat., descr., distr., Caucasus); MOCSÁRY 1889: 320 (cat., descr., distr., key, Caucasus); MOCSÁRY 1890a: 66 (cat., Caucasus); TRAUTMANN 1927: 136 (biol., cat., descr., distr., Caucasus, Siberia); ATANASSOV 1940: 210 (cat., distr., Caucasus, Siberia); BALTHASAR 1946: 250 (biol., distr., Caucasus, Siberia); TSUNEKI 1947: 55 (cat., distr., Caucasus, Siberia); TSUNEKI 1953a: 58 (cat., distr., Siberia); TSUNEKI 1953b: 25 (cat., distr., tax., Caucasus, Siberia); BALTHASAR 1954: 157 (Fig. 59), 161 (key), 193 (descr., Caucasus, Siberia); BRUSTILO & MARTYNOV 2009: 57 (cat., distr., Caucasus, Siberia).

Chrysis (tridentatae) cyanea: DU BUYSSON in ANDRÉ 1895: 437 (cat., descr., key, Amur), pl. 1 (Figs 3A–3F; 9A–9C), pl. II (Figs 11B, 15A–15B), pl. XXV (Fig. 14), pl. XXVI (Fig. 1).

Chrysis (Alocochrysis) cyanea: HAUPT 1957: 83 (biol., cat., descr., key, Siberia).

Chrysis (Chrysis) cyanea: LINSSENMAIER 1951: 70 (key), 84 (descr., Siberia: see material examined), 101 (cat.).

Trichrysis cyanea: NIKOL'SKAYA 1978: 52 (tab. 23: Fig. 14), 67 (key, European part of USSR); BOHART 1987: 347 (key); ZVANTSOV 1987: 63 (cat., North Ossetian Rep.: Alagir, Buron, Nar, Lisri, Zgil); ZVANTSOV 1988: 89 (biol., cat., Moscow Prov.); KUZNETSOVA 1990: 9 (cat., Lipetsk Prov.: Galich'ya Gora); RUDOISKATEL 1999a: 54 (cat., Chelyabinsk Prov.: Ilmen State Reserve); BUGANIN et al. 2000: 148 (cat., Ulyanovsk Prov.: Surskij, Ul'yanovskij, Veshkajmskij, Baryshskij, Novospassky, Radischevsky Distr.); TSURIKOV 2001 (cat., Krasnaya Gorka, Bolshaya Kokshaga); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); MOKROUSOV 2002: 143 (cat., Nizhny Novgorod Prov.: Kerzhensky Reserve); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Penza); VINOKUROV 2005: 89 (North Ossetian Rep.), 90 (cat., ecol., central Caucasus and Ciscaucasus); RUDOISKATEL 2006: 281 (cat., Sverdlovsk Prov.:

Visimsky State Nature Reserve); SHIBAEV 2006a: 110 (biol., cat., ecol., Penza Prov.: Akhuny, Kuncherovskaya, Nikonovo, Novaya Esineevka, Penza, Svetlaya Polyana, Shalkeyev kordon); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VERSHININA et al. 2006: 111 (cat., Pskov Prov.: Sebezhsy National Park); VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State Hight-Mountain Reserve); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); AA.VV. 2007: 280 (Samara Prov.: Samarskaya Luka National Park); KIZILOV 2007: 84 (cat., Tomsk Prov.: Seversk); KURZENKO & LELEJ 2007: 1006 (cat., Amur Prov. Kamchatka Terr., Primorskii Terr., Sakhalin); RUDOISKATEL 2007: 75 (cat., Sverdlovsk Prov.: Denezhkin Kamen Nature Reserve); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); HUMALA & POLEVOI 2008: 131 (cat., Karelian Rep.: White Sea coast); KOCHETKOV et al. 2008: 258 (cat., ecol., Ryazan Prov.: Severnyi); RUDOISKATEL 2008a: 142 (cat., Sverdlovsk Prov.); RUDOISKATEL 2008b: 212 (cat., Chelyabinsk Prov.: East Ural Nature Reserve); AA.VV. 2009: 277 (cat., Krasnaya Gorka, Bolshaya Kokshaga State Reserve); MOKROUSOV 2009: 266 (biol., cat., Mari El Rep.: Suyka, Krasny Steklovar); MOKROUSOV et al. 2009: 77 (cat., Mordovian Rep.: Pushta); RUCHIN et al. 2009: 165 (cat., Mordovian Rep.: Içalkovskij); STRUMIA 2009: 589 (distr., Caucasus), 591 (Fig. 4), 592 (key); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2010a: 40 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); RUCHIN 2011: 173 (cat., Mordovia Nature Reserve); RUDOISKATEL 2011a: 165 (cat., Sverdlovsk Prov.); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.); KOCHETKOV 2012: 241 (cat., Ryazan Prov.: env. Ryazan); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); MOKROUSOV et al. 2013: 195 (cat., Mordovia Nature Reserve); ROSA et al. 2013: 40 (cat., distr., Far East Russia); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); PAUKKUNEN et al. 2014: 46 (cat., distr., Russian Fennoscandia, Siberia); ROSA et al. 2014: 76 (cat., distr., Russian Far Est); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 95, 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014c: 283 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014d: 92 (cat., Adygei Rep.: env. vill. Guzeripl, vill. Kalinin, vill. Kamennomostsky); VINOKUROV 2014e: 47 (cat., ecol., Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 88 (cat., Krasnodar Terr.: Sochi National Park, vill. Solokhaul, Adygei Rep.: env. vill. Kamennomostsky; Kabardino-Balkarian Rep.: Damhurts; Caucasian State Nature Biosphere Reserve); LESHTAEV 2015: 98 (cat., distr., Tula Prov.: Shchyokino, Inshinsky); VINOKUROV 2015b: 316 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve); VINOKUROV 2016: 39 (cat., Dagestan Rep.: Samur Forest Reserve); ROSA et al. 2017b: 141 (cat., European Part: North, North-West, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Altai, Tomsk Prov.; Eastern Siberia: Buryat Rep., Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep., Zabaikalskii Terr.; Far East: Amur, Kamchatka, Khabarovsk Terr., Sakhalin, Primorskii Terr.); ROSA et al. 2017g: 40 (cat., distr., Siberia).

M a t e r i a l e x a m i n e d . Russia: EUROPEAN PART (North-West: Leningrad Prov., Sestroretsk [ZIN]; Centre: Yaroslavl [ZIN]; Ivanovo Prov. [MMC]; Nizhny Novgorod Prov. [MMC]; Mordovian Rep. [MMC]; Penza Prov. [ZIN]; Belgorod Prov. [MMC]; East: Mari El Rep. [MMC]; Chuvash Rep. [MMC]; South: Rostov Prov.: Taganrog [ZIN]; Volgograd Prov.: Sarepta [PRC, ZIN]; Kalmyk Rep. [MMC]; Astrakhan Prov. [ZIN]; North Caucasus: North Caucasus [ZIN]; Krasnodar Terr.: Razdol'noe Sochi [ZIN], Gelendzhik [ZIN]; Stavropol Terr.: Kislovodsk [ZIN]; Crimea: Sevastopol [ZIN]); Ural (Sverdlovsk Prov. [PRC];

Chelyabinsk Prov. [PRC]; Orenburg Prov. [PRC]; Kurgan Prov. [PRC]); WESTERN SIBERIA (Altai Rep.: 15 km SE Kurai, Chuya River [IBSS]); EASTERN SIBERIA (Buryat Rep.: Dzida, Dzhida River [IBSS]; Irkutsk Prov.: Irkutsk [ZIN]; Khakass Rep.: Zhemchuzhnyi, Shira Lake [IBSS]; 21 km SW Abakan, Izykhskie Kopi [IBSS]; Krasnoyarsk Terr.: Berezovyi [IBSS]; 40 km NE Minusinsk, Tuba River [IBSS]; Tuva Rep.: Tuva W of Ujukskiy Mountains, Kamennyi River Valley, 1000 m [GLA]; 20 km SSW Erzin, Tore-Khol' Lake [IBSS]; Sayan Mts. [ZIN]; Shuurmak, Shuurmak River [IBSS]; 27 km SSW Erzin, Tore-Khol Lake [IBSS]; 6 km SE Bai-Khaak, Sosnovka [IBSS]; Zabaikalskii Terr.: 20 km SSE Krasnokamensk [IBSS]); FAR EAST (Khabarovsk Terr. [ZIN]; Jewish Autonomous Region: Birobidzhan [ZIN]; Primorskii Terr.: Lazovskiy Nature Reserve, America [IBSS], Korpada' [IBSS]; 70 km SE Chuguevka, "Zov tigr" Natural Park [IBSS]; env. Vladivostok [NMLS, ZIN]; Kamchatka Terr. [NMLS]). Abkhazia Rep. [MMC].

Distribution. RUSSIA: European part (North: Karelian Rep.; North-West: Leningrad Prov., Pskov Prov.; Centre: Belgorod Prov., Ivanovo Prov., Lipetsk Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov., Tula Prov., Yaroslavl Prov.; East: Chuvash Rep., Kirov Prov., Mari El Rep., Samara Prov., Tatar Rep., Ulyanovsk Prov.; South: Astrakhan Prov., Kalmyk Rep., Rostov Prov., Volgograd Prov.; North Caucasus: Adygei Rep., Dagestan Rep., Karachayevo-Cherkess Rep., Kabardino-Balkarian Rep., Krasnodar Terr., North Ossetian Rep., Stavropol Terr.; Crimea); Ural (Bashkir Rep., Chelyabinsk Prov., Kurgan Prov., Orenburg Prov., Sverdlovsk Prov.); Western Siberia (Altai Rep., Tomsk Prov.); Eastern Siberia (Buryat Rep., Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep., Zabaikalskii Terr.); Far East (Amur Prov., Kamchatka Terr., Khabarovsk Terr., Jewish Autonomous Region, Primorskii Terr., Sakhalin Is.). Trans-Palaeartic, from Europe and northern Africa to Central Asia, China and Japan (LINSSENMAIER 1999; ROSA et al. 2014).

Host. Crabronidae: *Trypoxylon attenuatum* SMITH, *T. beaumonti* ANTROPOV, *T. clavigerum* LEPELETIER & SERVILLE, *T. figulus* LINNAEUS, *T. medium* DE BEAUMONT (TRAUTMANN 1927; MORGAN 1984; ASÍS et al., 1994), *Pison atrum* (SPINOLA) (GRANDI 1936). Pemphredoninae: *Pemphredon lethifer* (SHUCKARD), *P. unicolor* (TRAUTMANN 1927; TORMOS et al. 1996), *Passaloecus eremita* KOHL and *P. gracilis* (CURTIS) (JACOBS & OEHLKE 1990), *Ectemnius rubicola* (DUFOUR & PERRIS) (KUNZ 1994). PÄRN et al. (2014) listed the Pompilidae *Auplopus carbonarius* (SCOPOLI) and *Dipogon* FOX as host for *T. cyanea*. This was the first evidence for Pompilidae, probably due to the biology of these species, which supply the nest with aphids, as the known Crabronidae hosts. Citations for Megachilidae (TRAUTMANN 1927) are unreliable due to the different biology of these bees compared with Crabronid and Pompilid wasps.

***Trichrysis lusca* (FABRICIUS, 1804) (Fig. 214)**

Chrysis lusca FABRICIUS, 1804: 171. Holotype ♀; Italy (Copenhagen).

Praestochrysis lusca: KURZENKO & LELEJ 2007: 1006 (cat., south Far East).

Trichrysis lusca: ROSA et al. 2016: 119 (cat., tax., descr., China, Korea), 120 (Figs 37–42); ROSA et al. 2017b: 141 (cat., Far East: Primorskii Terr.).

Distribution. RUSSIA: Far East. China, widely distributed in the Oriental Region, accidentally introduced in Europe, yet without permanent populations.

***Trichrysis pellucida* (DU BUYSSON, 1887)**

Chrysis pellucida DU BUYSSON, 1887: 183. Lectotype ♀ (designated by ROSA et al. 2016: 123); China (Paris) (examined).

Chrysis (Trichrysis) buyssoni (MOCSÁRY, 1889): 323. Replacement name for *Chrysis pellucida* DU BUYSSON, 1887. KURZENKO & LELEJ 2007: 1006 (cat., Khabarovsk Terr., Primorskii Terr., Sakhalin Is.).

Trichrysis pellucida: ROSA et al. 2016: 123 (cat., tax., descr., Russian Far East), 124 (Figs 49–54); ROSA et al. 2017b: 141 (cat., Far East: Khabarovsk Terr., Sakhalin, Primorskii Terr.).

D i s t r i b u t i o n . RUSSIA: Far East (Khabarovsk Terr., Primorskii Terr., Sakhalin Is.).

Subfamily Chrysidinae

Tribe Parnopini

23. Genus *Parnopes* LATREILLE, 1797

Parnopes LATREILLE, 1797: 126. Type species: *Chrysis carnea* FABRICIUS, 1775 [= *Parnopes grandior* (PALLAS, 1771)], by monotypy.

***Parnopes glasunowi* SEMENOV, 1901 (Fig. 228)**

Parnopes glasunowi SEMENOV, 1901: 25. Holotype ♂; Tajikistan: Jagnob (St. Petersburg) (examined). Rosa et al. 2017a: 64 (cat., typ. Tajikistan), 195–196 (Pl. 172–173). ROSA et al. 2017b: 142 (cat., European Part: South); ROSA et al. 2017d: 30 (cat., distr., Kalmyk Rep.).

D i s t r i b u t i o n . RUSSIA: European part (South: Kalmyk Rep.). Central Asia.

***Parnopes grandior grandior* (PALLAS, 1771) (Fig. 229)**

Chrysis grandior PALLAS, 1771: 474. Holotype ♂; Russia (Berlin) (examined).

Parnopes carnea (FABRICIUS, 1775): EVERSMANN 1858: 566 (cat., descr., Orenburg Prov., northern Ural); RADOSZKOVSKY 1866: 15 (cat., Spassk, Orenburg); RADOSZKOWSKI 1877: 27 (cat., descr., distr., Volgo-Ural); RADOSZKOVSKY 1880: 147 (cat., Caucasus); BECKER 1880: 153 (cat., Sarepta); DU BUYSSON in ANDRÉ 1896: 688 (biol., cat., descr., distr., tax., southern Russia), pl. XXX (Figs 1, 5A–5C), pl. XXXI (Figs 1–8), pl. XXXII (Figs 2–4).

Parnopes grandior: MOCSÁRY 1882: 74 (cat., descr., distr., Caucasus); DE STEFANI 1888: 95 (cat., descr., distr., Caucasus, Russia); RADOSZKOWSKI 1889: 37 (descr., Caucasus, Orenburg), tab. VI (Figs 74A–74K); MOCSÁRY 1889: 614 (cat., descr., distr., southern and eastern Russia); MOCSÁRY 1890a: 71 (cat., Caucasus); SEMENOV 1912: 179 (cat., St. Petersburg Prov.: Pargolovo; Ryazan Prov.: Spassk; Dankov Prov.: Gremyachka and Muraevnja; Saratov Prov.: Sarepta, Buzovlevo, Chvalynsk); KOHL 1913: 12 (cat., Walouyki [= Livenka]); MAIDL 1922: 103 (cat., distr., south-eastern Siberia); VORONTSOVKIJ 1930: 68 (cat., Orenburg Prov.); BALTHASAR 1946: 241 (biol., cat., distr., Caucasus); GUSSAKOVSKIJ 1948: 733 (cat., key, European part of USSR); PLAVIL'SHCHIKOV 1950: 400 (cat., European part of USSR); PLAVIL'SHCHIKOV 1954: 121 (cat., Mordovian State Nature Reserve); MAMAEV et al. 1976: 237 (cat., European part of USSR); NIKOL'SKAYA 1978: 59

(tab. 22: Fig. 2), 71 (key, European part of USSR); ZVANTSOV 1988: 95 (biol., cat., Moscow Prov.: Zvenigorod, Prioksko-Terrasny Nature Reserve, Belopesotskaya); BLAGOVESHCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); KUZNETSOVA 1990: 10 (cat., ecol., Lipetsk Prov.: Galich'ya Gora); BLAGOVESHCHENSKAYA 1994: 84 (cat., ecol., Ulyanovsk Prov.: Staraya Majna, Krasny Bor, Nalejka, Spechnevka); MINORANSKIJ et al. 1996: 131 (endangered species, Rostov Prov.); KUZNETZOVA 1997: 220 (cat., Lipetszk Prov.); BUGANIN et al. 2000: 150 (cat., Ulyanovsk Prov.: Staromajnsky Distr., Ulyanovsk Distr., Inzensky Distr., Nikolaevsky Distr., Novospassky Distr.); KOCHETKOV 2001: (cat., Ryazan Prov., endangered species); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); KHARISOV 2004: (Ulyanovsk Prov.: Sursky Distr., Staromajnsky Distr., Ulyanovsk Distr., Cherdaklinsky Distr., Inzensky Distr., Veshkaymsky Distr., Kuzovatovsky Distr., Nikolaevsky Distr. and Novospassky Distr.); KOSTANTINOV 2004: 196 (cat., Lipetsk Prov., endangered species); STOJKO & POLUMORDVINOV 2004: 55 (cat., Penza Prov.: Bashmakovsky Distr.: Samarichi; Bessonovsky Distr.: Pobeda; Gorodishchensky Distr.: Nikonovo; Kameshkirsky Distr.: Borok; Maloserdobinsky Distr.: Chunaki; Nikolsky Distr.: Novoarapovka); SHIBAEV 2006a: 111 (cat., ecol., Penza Prov.: Nikonovo, Svetlaya Polyana); STOJKO 2005: 74 (cat., Penza); Shibaev 2006b: 93 (cat., Penza Prov.: Middle Volga); ANIKIN 2006: 52 (cat., endangered species, Saratov Prov.); JAROSZEWICZ 2007: 21 (ecol., Russian Federation); RUCHIN 2007 (cat., Mordovian Rep.); BRUSTILO 2008: 30 (cat., Crimea: Opuksy Natural Reserve); KOCHETKOV et al. 2008: 259 (cat., Ryazan Prov.: Erus, Lipovaya gora, Lubyanskiy Distr.); SHCHERBAKOV 2008: 211 (cat., Ramenskoe, near Luzhki); BRUSTILO & MARTYNOV 2009: 60 (biol., cat., distr., Caucasus, Siberia); LAGUNOV 2009: 186 (cat., endangered species, South Urals); RUCHIN et al. 2009: 165 (cat., Mordovian Rep.: Bolsheberezchnikovsky; Simkin; Ichalkovsky); VINOKUROV 2009b: 84 (cat., ecol. Stavropol Terr.: Khutor Grushovy Distr.: European Russia; Central Black Earth, Povolzhye, Stavropol Terr., Krasnodar Terr., southern Ural); MOKROUSOV & ZRYANIN 2010: 93 (cat., distr., Nizhny Novgorod); RUCHIN et al. 2010: 126 (Mordovian Rep.: Mordovskij Nature Reserve, Ichalkovsky Distr., Bolsheberezchnikovsky Distr.); AA.VV. 2011: 243 (endangered species, Ryazan Prov., Kasimovskiy Distr., Spassk Distr., Shatsk Distr., Ryazansky Distr., Urals); NIKOLAEVA & ANANIEVA 2011: 243 (cat., endangered species, Ryazan Prov.); AA.VV. 2012: 9 (cat., endangered species, Orenburg Prov.); KOCHETKOV 2012: 241 (cat., Ryazan Prov.: Kasimovskiy Distr., Spassky Distr., Shilovskiy Distr.); LELEJ & LOKTIONOV 2012: 46 (Fig. 5); POLUYANOV et al. 2012: 7 (cat., Kursk Prov.: Kreydyanka); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); YEMETS & YEMETS 2012: 8 (cat., Lipetsk Prov., endangered species); LAGUNOV 2013: 29, 31 (cat., endangered species, South Urals); SAVRANSKAYA 2013: 55 (cat., Kalmyk Rep., endangered species); LAGUNOV 2014: 1158 (cat., endangered species, Chelyabinsk Prov.: Arkaim Reserve); PAUKKUNEN et al. 2014: 50 (cat., descr., tax. Russia: Pargolovo, near St. Petersburg); RUCHIN et al. 2014: 210 (cat., Mordovian Rep.: Atyuryevskiy Distr.: env. Klopinka; Temnikov Distr.: env. Lavrentiev); MOKROUSOV 2014: 259 (cat., Nizhny Novgorod, endangered species); TERSKOV 2014: 441 (cat., Rostov Prov., endangered species); VINOKUROV 2014g: 160 (Dagestan Rep.: Dagestan Nature Reserve; Ryazan Prov.; Ulyanovsk Prov.; Stavropol Terr.: Grushevo; Krasnodar Terr.: Utrish; South Urals); FATERYGA 2015: 202 (red list, distributional map, Crimea); LEONTIEV 2015: 135 (cat., Tatar Rep.: Yelabuga, Toyma River; Bol'shoj Bor); RUCHIN & ANTROPOV 2016: 400 (cat., Mordovian Rep.: Mordovia State Natural Reserve); ROSA et al. 2017b: 141 (cat., European Part: North-West, Centre, East, South, North Caucasus, Crimea; Ural; Western Siberia: Novosibirsk Prov.; Eastern Siberia); ROSA et al. 2017f: 2 (cat.); ROSA et al. 2017g: 40 (cat., distr., Siberia); RUCHIN & EGOROV 2017: 5 (cat., Mordovia Rep.: env. Steklyannij; Novenkovskij).

Parnopes grandior var. *semiviolacea* SEMENOV, 1912: LINSSENMAIER 1951: 34 (descr., Russia, Siberia).

Parnopes grandior ssp. *semiviolacea*: LINSSENMAIER 1959: 184 (descr., southern Russia); BISCHOFF 1913: 33 (cat., SE Siberia); TRAUTMANN 1927: 79 (cat., descr., distr., biol., southern Russia).

Parnopes grandior var. *fasciata* MOCSÁRY, 1889: ATANASSOV 1964: 149 (cat., Caucasus).

Material examined. Russia: EUROPEAN PART (North-West: Pskov Prov.: Aleksino [ZIN]; Centre: Belgorod Prov.: Borisovka [ZIN]; Kursk Prov.: Grajvoronskij uezd [ZIN]; Nizhny Novgorod Prov. [MMC]; Ryazan Prov.: Gremyachka [ZIN], Spassk [ZIN]; Tver Prov.: Kimry distr., Shchelkovo vill. [GLA]; Ulyanovsk Prov.: Ulyanovsk [GLA]; East: Saratov Prov.: Khvalynsk [ZIN]; Mari El Rep. [MMC]; South: Astrakhan Prov. [MMC]; Volgograd Prov.: Sarepta [ZIN]; North Caucasus: Kuban' [ZIN]; Crimea: Dzhankoj [ZIN]; URAL (Bashkir Rep.: Udryakbash [ZIN]). Azerbaijan: Elisavetpol [ZIN], Lenkoran [ZIN], Kalinovka River [ZIN].

Distribution. RUSSIA: European part (North-West: Leningrad Prov., Pskov Prov.; Centre: Belgorod Prov., Kursk Prov., Lipetsk Prov., Mordovian Rep., Moscow Prov., Nizhny Novgorod Prov., Penza Prov., Ryazan Prov., Tula Prov., Vladimir Prov.; East: Mari El Rep., Saratov Prov., Tatar Rep., Ulyanovsk Prov.; South: Astrakhan Prov., Kalmyk Rep., Rostov Prov., Volgograd Prov.; North Caucasus: Dagestan Rep., Krasnodar Terr., Stavropol Terr.; Crimea); Ural (Bashkir Rep., Chelyabinsk Prov., Orenburg Prov.); Eastern Siberia (South-East Siberia). Caucasus, Azerbaijan. West-Palaeartic, from Europe to northern Africa and Central Asia.

Remarks. Considered as declining for Russia (Red Data Book of Russian Federation (animals) 2001) and endangered in different administrative areas (e.g. Provinces of Lipetsk, Moscow, Novosibirsk, Penza, Rostov, Ryazan, Vladimir, Tula; Republics of Kalmykia and Mordovia).

Host. Crabronidae: *Bembix bicolor* RADOSZKOWSKI, *B. cinctella* HANDLIRSCH, *B. integra* PANZER, *B. oculata* LATREILLE, *B. olivacea* FABRICIUS, *B. rostrata* (LINNAEUS), *B. sinuata* PANZER, *B. zonata* KLUG (BALTHASAR 1946; GRANDI 1927, 1961; GAUSS 1967; LINSSENMAIER 1968; GAYUBO et al. 1987; STRUMIA 1997; ASIS et al. 2004), and other species of *Bembix* FABRICIUS (LINSSENMAIER 1968; KUNZ 1994).

***Parnopes popovii* EVERSMAAN, 1858 (Fig. 230)**

Parnopes popovii EVERSMAAN, 1858: 567. Holotype ♀; Russia: "*campis orientabilibus*" (Kraków). RADOSZKOVSKY 1866: 15 (cat., descr., Irkutsk, south Siberia); MOCSARY 1890a: 71 (cat., Kiachta in Siberia); DALLA TORRE 1892: 112 (cat., Siberia); DU BUYSSON in ANDRE 1896: 689 (cat., descr., distr., tax., Siberia); KURZENKO & LELEJ 2007: 1006 (cat., Amur Prov., Buryat Rep., Primorskii Terr.); HA et al. 2008: 73 (cat., distr., Far Eastern Russia); ROSA et al. 2015e: 90 (cat., typ.), 89 (Fig. 12); ROSA et al. 2017b: 141 (cat., European Part: Centre; Ural; Eastern Siberia: Buryat Rep., Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Zabaikalskii Terr.; Far East: Amur, Primorskii Terr.); ROSA et al. 2017g: 40 (cat., distr., Siberia).

Parnopes popovi (!): BISCHOFF 1913: 33 (cat., Siberia); TSUNEKI 1953a: 58 (cat., distr., Siberia); TSUNEKI 1953b: 24 (cat., distr., tax., Siberia); LINSSENMAIER 1959: 184 (descr., distr., key, Siberia); SHCHERBAKOV 2008: 211 (cat., Transbaikalia: Turga, 10 km NE Mirmaya; 10km SE Zapokrovsky; Argun' near Olochi).

Material examined. Russia: EASTERN SIBERIA (Buryat Rep.: Gusinoe Lake, Baraty [IBSS]; Khakass Rep.: 21 km SW Abakan, Izykhskie Kopi [IBSS]; Krasnoyarsk Terr.: 40 km NE Minusinsk, Tuba River [IBSS]; Minusinsk, Malaya Minusa River [IBSS]; 10 km NW Minusinsk, Bystraya River, [IBSS]; Minusinsk [NMLS, ZIN]; Tuva Rep.: 6 km SE Bai-Khaak, Sosnovka [IBSS]; 32 km SW Kyzyl, Elegest River [IBSS]; W of Ujukskji Mts., Kamennji valley [GLA]; Zabaikalskii Terr.: Peschanka [ZIN], Dureni [ZIN]; FAR EAST (Primorskii Terr.: Khasan [ZIN]).

Distribution. RUSSIA: European part (Centre: Yaroslavl Prov.); Ural; Eastern Siberia (Buryat Rep., Irkutsk Prov., Khakass Rep., Krasnoyarsk Terr., Tuva Rep., Zabaikalskii Terr.); Far East (Amur Prov., Primorskii Terr.). North China, Korea (TSUNEKI 1953b).

Species erroneously or doubtfully reported for Russia

The following records were originally described in ex Soviet countries (Kazakhstan, Uzbekistan, etc.), and later reported as for "southern Russia" and "Russia" and to be excluded from the Russian fauna, till precise records and identifications are available. We also include species considered erroneously or doubtfully identified.

***Cleptes afer* LUCAS, 1849**

Cleptes afer LUCAS: SEMENOV 1920: 312 (key, descr., Crimea, without precise locality).

Cleptes afra: DU BUYSSON in ANDRÉ 1891: 79 (cat., descr., key, Crimea) (*nitidulus* group).

Remarks. *Cleptes afer* is a Northern African species (LINSENMAIER 1999). Distributional data from Crimea are datable and should be related to *Cl. ignitus*, or to another species in the *Cl. nitidulus* group.

***Cleptes Mocsáryi* SEMENOV, 1891**

Cleptes mocsarii SEMENOV: NIKOL'SKAYA 1978: 58 (key, southern European part of USSR).

Cleptes Mocsáryi: DU BUYSSON in ANDRÉ, 1896: 701. Emendation of *Cleptes mocsarii* SEMENOV, 1891.

Remarks. Currently *Cleptes Mocsáryi* is known only from Montenegro (type locality) and Greece (ARENS 2014).

***Hedychridium cupratum* (DAHLBOM, 1854)**

Hedychridium cupratum (DAHLBOM): VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1276 (cat., Kabardino-Balkar Rep.: Sukanskoe canyon, vill. Zhemtala); VINOKUROV 2011c: 171 (cat., Western Caucasus: Teberda reserve, Arkhyz vill.); VINOKUROV 2012e: 136 (cat., Kabardino-Balkar Republic: Prielbrusie National Park); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2015b: 316 (cat. Kabardino-Balkarin Rep.: High Mountain Nature Reserve).

R e m a r k s . *Hedychridium cupratum* (DAHLBOM) is an endemic species found on the Alps (Austria, France, Germany, Italy, Switzerland) (ROSA et al. 2017i). Vinokurov's identifications are referable to a similar undescribed species in the *H. ardens* group.

***Hedychridium ibericum* LINSENMAIER, 1959**

Hedychridium ibericum LINSENMAIER: VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

R e m a r k s . *Hedychridium ibericum* LINSENMAIER is endemic of the Iberian peninsula (LINSENMAIER 1959, 1968). LINSENMAIER (1997) wrote that this taxon could be distributed till Central Asia, without providing any collecting data. In his personal collection, only Spanish specimens are deposited. The Caucasian record is related to another very likely undescribed species in the *H. ardens* group.

***Hedychridium lampadum* LINSENMAIER, 1959**

Euchrum lampadum (LINSENMAIER): VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2007c: 140 (cat., Stavropol Terr.: Novozavedennoe); VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 83 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

R e m a r k s . *Hedychridium lampadum* LINSENMAIER, 1959 is an unnecessary replacement name for *H. lampas* (CHRIST, 1790) (KIMSEY & BOHART 1991). Under the name *H. lampadum* LINSENMAIER there are different species of the *H. roseum* group (ROSA 2006; ARENS 2010).

***Hedychrum coelestinum* SPINOLA, 1838**

Hedychrum coelestinum SPINOLA: KIRCHNER 1867: 208 (cat., southern Russia).

Hedychrum caelestinum (!): DALLA TORRE 1892: 31 (cat., Russia).

R e m a r k s . The distributional range of *Hedychrum coelestinum* is wide, ranging from Palaearctic (North Africa (Egypt, southern Morocco), Arabia, Turkey (DAHLBOM 1845)) to Afrotropical (widespread). This record is very likely a misidentification by KIRCHNER (1867). Nevertheless another old record is known for Turkey, Bosphor (DAHLBOM 1845). It is not clear whether at the beginning of the XIX century the species was distributed along the Black Sea and the Caspian See, and later its distribution has been restricted to sub-saharian Africa and Nile course. Other possibilities are that older records are accidental introductions or specimens are mislabelled or misidentified.

***Hedychrum satunini* VINOKUROV, 2006**

Hedychrum satunini SEMENOV [nomen in collection]: VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.).

R e m a r k s . *Hedychrum satunini* SEMENOV was a nomen in collection based on specimens housed at ZIN, and was never described. VINOKUROV (2006e, 2006f, 2009c)

listed this name, without providing any description, therefore *Hedychrum satunini* must be considered a *nomen nudum*. One specimen examined from Stavropol Terr., Kuma river, resulted a female of *H. alexeii* SEMENOV, 1967.

***Hedychrum sinicum* SEMENOV, 1967**

Hedychrum sinicum SEMENOV: VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.).

R e m a r k s . *Hedychrum sinicum* SEMENOV is known only for a few Chinese specimens. A double check of these identifications is needed.

***Hedychrum gerstaeckeriformes* VINOKUROV, 2012**

Hedychrum gerstaeckeriformes VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve).

R e m a r k s . KILIMNIK (1993) described *He. tobiasi* (named after dr. Vladimir Ivanovich Tobias; specimen housed at ZIN), but labelled the holotype with the label: "Holotypus *Hedychrum gerstaeckeriformes* A. Kilimnik". VINOKUROV (2006e, f, 2007c, 2009a, c, 2012f, 2013d, 2014d) reported both *He. gerstaeckeriformes* and *He. tobiasi*. Therefore one of the two identifications is related to an unknown species.

***Holopyga gloriosa* (FABRICIUS, 1793)**

Holopyga ovata var. *gloriosa* (FABRICIUS): EVERSMAAN 1858: 550 (cat., descr., Orenburg Prov., Saratov Prov.).

Holopyga ovata var. *glariosa* (!): BECKER 1880: 151 (cat., Sarepta).

Holopyga gloriosa: RADOSZKOWSKI 1889: 9 (descr., Sarepta, Orenburg, Caucasus), tab. I (Figs 12A–12B); DALLA TORRE 1892: 26 (cat., Caucasus); DU BUYSSON in ANDRÉ 1892: 176 (cat., descr., key, Caucasus, Russia); MANTERO 1905: 51 (cat., distr., Caucasus); Kohl 1913: 12 (cat., Walouyki [= Livenka]); ATANASSOV 1940: 207 (cat., distr., Caucasus, Russia); BENNO 1950: 29 (biol., cat., descr., key, Siberia); NIKOL'SKAYA 1978: 65 (key, European part of USSR, excluding north); ZVANTSOV 1988: 86 (cat., Moscow Prov.: Okrestnosti nr. Ruzy, Mytishchi, Prioksko-Terrasny Nature Reserve); BLAGOVESHCHENSKAYA 1990: 7 (cat., Ulyanovsk Prov.); KUZNETSOVA 1990: 8 (cat., ecol., Lipetsk Prov.: Galich'ya Gora); BLAGOVESHCHENSKAYA 1994: 84 (cat., ecol., Ulyanovsk Prov.: Ulyanovsk, Cheremshanskij Bay); BUGANIN et al. 2000: 147 (cat., Ulyanovsk Prov.: Majsky Distr., Sengileevsky Distr., Nikolaevsky Distr., Novospassky Distr., Radishchevsky Distr., Pavlovskij Distr.); ANICHTCHENKO 2002 (cat., Irkutsk Prov. and/or Buryat Rep.); PRISNIJ 2003: 101 (cat., ecol., Central Russian Upland); STOJKO & POLUMORDVINOV 2004: 54 (cat., Penza Prov.: Akhuny; Kamensky Distr.: Novaya Esineevka; Kondolsky Distr.: Novoye Nazimkino); SHIBAEV 2006a: 110 (cat., ecol., Penza Prov.: Stepanovka); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); VINOKUROV 2006d: 19, 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VOROBYEVA 2007: 57 (cat., Belgorod); VINOKUROV 2007c: 142 (cat., Stavropol Terr.: Novozavedennoe, Yessentuki,

Podkumok) [distr., SW Siberia, Caucasus, Transcaucasia, Uzbekistan, Tajikistan, Kazakhstan]; VINOKUROV 2008: 44 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009a: 84 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); SHIBAEV & POLUMORDVINOV 2012: 276 (cat., Penza Prov.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Holopyga (Holopyga) gloriosa: MOCSÁRY 1889: 131 (cat., descr., distr., key, Caucasus, eastern Siberia); MOCSÁRY 1890a: 60 (cat., Caucasus, Siberia).

R e m a r k s . The name *Holopyga gloriosa* (FABRICIUS, 1793) has been used for a long time, although mistakenly, till today. In particular, several European species of *Holopyga* have been identified as varieties of *Ho. gloriosa*. Previous identifications of Russian chrysidids as *Holopyga gloriosa* must refer to different species, for example *Ho. inflammata*, *Ho. lucida*, *Ho. chrysonota* and females of *Ho. jurinei* and *Ho. ignicollis*, or even *Ho. generosa*. The Commission on Zoological Nomenclature (ICZN 1998, Opinion 1906) suppressed the name *Chrysis gloriosa* FABRICIUS, 1793. The name *Chrysis gloriosa* FABRICIUS is placed on the Official Index of Rejected and Invalid Specific Names in Zoology and cannot be used anymore. All previous references must be double checked.

***Holopyga pulawskii* LINSENMAIER, 1968**

Holopyga pulawskii LINSENMAIER, 1968: 14. Holotype ♀; Turkmenistan: Aşgabat (Luzern) (examined) [given as southern Russia]. KIMSEY & BOHART 1991: 235 (cat., southern Russia).

R e m a r k s . *Holopyga pulawskii* is currently known only for specimens collected in Turkmenistan, erroneously given as southern Russia (instead of southern USSR) by LINSENMAIER (1968).

***Omalus imbecillus* (MOCSÁRY, 1889)**

Holophris imbecillus (MOCSÁRY): STRUMIA 2008: 375 (cat., distr., southern Russia), 378 (Pl. 1).

Omalus imbecillus (MOCSÁRY): WEI et al. 2014: 31 (key), 41 (cat., descr., distr., Russia), 42 (Pl. 9), 43 (Pl. 10); ROSA et al. 2014: 29 (cat., distr., Russia).

R e m a r k s . *Omalus imbecillus* is a trans-Palaeartic species, ranging from Anatolia and Iran to Central Asia and China (LINSENMAIER 1959; KIMSEY & BOHART 1991; ROSA et al. 2013, 2014). Citations after STRUMIA (2008) are related to specimens from Turkmenistan and not from Russia.

***Philoctetes* sp.**

(!) *Holopyga amoenua* (DAHLBOM): LEONTIEV 2015: 132 (cat., mis., Tatar Rep.: Yelabuga, Bol'shoj Bor, Fig. 1).

***Pseudomalus auratus virescens* (MOCSÁRY, 1889)**

Omalus auratus virescens MOCSÁRY: VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody).

Omalus auratus virescens (!): VINOKUROV 2006d: 19, 10 (cat., ecol., Stavropol Terr.: Mineralnye Vody).

Omalus auratus virescens: VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus).

Pseudomalus auratus virescens: VINOKUROV 2014b: 95 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan).

R e m a r k s . MÓCZÁR (1964b: 436) designated the lectotype at Zürich (ETH) and synonymised *P. auratus virescens* with *P. auratus* (LINNAEUS). The type series includes specimens belonging to different species: *Pseudomalus auratus* (LINNAEUS, 1758), *Omalus biaccinctus* (DU BUYSSON, 1893) and *Pseudomalus pusillus* (FABRICIUS, 1804).

***Chrysis abeillei* GRIBODO, 1879**

Chrysis (Tetrachrysis) abeillei GRIBODO: BALTHASAR 1953: 99 (key, Caucasus, Russia: Sarepta), 224 (descr., Caucasus, Russia: Sarepta) [mis.]

R e m a r k s . *Chrysis abeillei* is currently known only on the Syrian type deposited at Genova (examined) (ROSA 2009), but it could be also distributed in Caucasus. However, we observe that some misidentifications of this rare species occurred in literature. For example, BALTHASAR's (1953) description is a misidentification based on TRAUTMANN's (1927) wrong interpretation of *Chrysis abeillei*.

***Chrysis angustula gracilis* SCHENCK, 1856**

Chrysis angustula gracilis SCHENCK: VINOKUROV 2010b: 1277 (cat., Kabardino-Balkar Rep.: State mountain reserve (KBSU); Cherek Balkarskij, 6 km SE of vill. Verkhnyaya Balkariya); VINOKUROV 2013c: 60 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve, Dukka gorge); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).

R e m a r k s . NIEHUIS (2000) synonymised *Chrysis gracilis* SCHENCK with *C. angustula* SCHENCK. Vinokurov listed both *C. angustula* and *C. angustula gracilis* for the same localities and these identifications are likely referable to *C. leptomandibularis* NIEHUIS, 2000 or *C. corusca* VALKEILA, 1974.

***Chrysis aurotecta* ABELLE DE PERRIN, 1878**

Chrysis aurotecta ABELLE DE PERRIN: VINOKUROV 2006d: 19 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).

R e m a r k s . *Chrysis aurotecta* is an endemic species of Corsica and Sardinia. It could be a similar species, for example *C. mesasiatica* or *C. tchuensis* TARBINSKY, 2002, described from Kyrgyzstan and Central Asia.

***Chrysis bidentata* LINNAEUS, 1767**

Chrysis bidentata LINNAEUS: EVERSMAAN 1858: 561 (cat., descr., Orenburg, Ural); ASSMUSS 1862: 269 (cat., ecol., Moscow); RADOSZKOVSKY 1866: 11 (cat., Kazan, Orenburg,

Caucasus); RADOSZKOVSKY 1880: 144 (cat., Caucasus); BECKER 1880: 150 (cat., Sarepta); RADOSZKOWSKI 1889: 20 (descr., Orenburg, Caucasus), tab. IV (Figs 44A–44K); VORONTSOVKIJ 1930: 68 (cat., Orenburg Prov.).

R e m a r k s . *Chrysis bidentata* LINNAEUS is a synonym of *C. viridula* LINNAEUS, 1761 (LINSENMAIER 1997; PAUKKUNEN et al. 2014). *C. bidentata* sensu LINSENMAIER (1959) is a misidentification of *C. consanguinea* MOCSÁRY, 1889 (LINSENMAIER 1997a). Yet, in old literature and old collections, several species within the *C. viridula* group (e.g. *C. consanguinea*, *C. daphnis*, *C. cylindrica*, *C. viridula*) were identified as *C. bidentata* and all these old identifications should be double checked.

***Chrysis bihamata* SPINOLA, 1838**

Chrysis (Chrysis) bihamata SPINOLA: LINSENMAIER 1969: 366 (tax., southern Russia) [actually W Asia].

R e m a r k s . *Chrysis bihamata* is currently known for Southern Europe (Spain) and northern Africa. The distributional data given by LINSENMAIER (1969) for southern Russia is in error and is referable to Western Asia (LINSENMAIER 1959); anyway this identification is referable to an underscribed species in the *C. bihamata* group.

***Chrysis distincta exigua* MOCSÁRY, 1889**

Chrysis (Cornuchrysis) distincta exigua MOCSÁRY: LINSENMAIER 1959: 176 (key, descr., southern Russia), 193 (cat.), 215 (Figs 633–634).

Chrysis distincta ssp. *exigua*: STRUMIA & FALLAHZADEH 2015: 20 (distr., southern Russia).

R e m a r k s . *Chrysis distincta exigua* is the Oriental form of *C. distincta* described from Uzbekistan. The locality southern Russia refers to southern USSR. For more details see under the name *C. distincta* in the check-list.

***Chrysis distinguenda* SPINOLA, 1838**

Chrysis distinguenda SPINOLA: EVERSMAAN 1858: 559 (cat., descr., northern Volga).

R e m a r k s . *Chrysis distinguenda* is a *nomen dubium* (ROSA & XU 2015).

***Chrysis gribodoi* ABEILLE DE PERRIN, 1877**

Chrysis (Monochrysis) succincta var. *gribodoi* ABEILLE DE PERRIN: BISCHOFF 1910: 457 (cat., southern Russia).

R e m a r k s . *Chrysis gribodoi* is known only for South-western Europe. BISCHOFF's (1910) identification is doubtful and possibly related to another species later described in the *Chrysis succincta* group, for example *Chrysis vinokurovi* ROSA, 2017.

***Chrysis grohmanni grohmanni* DAHLBOM, 1854**

Chrysis grohmanni DAHLBOM: RADOSZKOWSKI 1877: 10 (key), 22 (cat., descr., distr., Caucasus), tab. 2 (Fig. 7); NIKOL'SKAYA 1978: 68 (key, southern European part of USSR); VINOKUROV 2007b: 51 (cat., tax., Ciscaucasia); VINOKUROV 2012d: 89 (sexual dimorphism); BRUSTILO 2008: 30 (cat., Crimea: Opuksky Natural Reserve); VINOKUROV 2013d: 1106, 1107 (cat.,

ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014d: 92 (cat., Adygei Rep.: env. vill. Kamennomostsky); VINOKUROV 2014f: 89 (cat., Adygei Rep.: env. vill. Kamennomostsky); VINOKUROV 2015a: 32 (cat., Dagestan Rep.: Dagestan Reserve, Barkhan Sarykum).

Chrysis (Tetrachrysis) grohmanni: MOCSÁRY 1889: 469 (cat., descr., distr., key, Caucasus); MOCSÁRY 1890a: 68 (cat., Caucasus); BALTHASAR 1946: 252 (biol., distr., Caucasus); HAMMER 1950: 6 (cat., distr., Caucasus); BALTHASAR 1953: 118 (key, Caucasus) [referred to: *C. apicalis* RADOSZKOWSKI, *C. sareptana* TRAUTMANN or *C. singula* RADOSZKOWSKI]; BALTHASAR 1954: 179 (Fig. 75), 167 (key), 215 (descr., Caucasus).

Chrysis gloriosa FABRICIUS, 1793: VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2011a: 1062 (cat., ecol., Kabardino-Balkarian Rep./Stavropol Terr.).

Chrysis grohmanni (!): SHIBAEV 2006a: 111 (cat., Penza Prov.: Verkhov'ye Sury); SHIBAEV 2006b: 93 (cat., Penza Prov.: Middle Volga); SHIBAEV & POLUMORDVINOVA 2012: 276 (cat., Penza Prov.).

Chrysis (Chrysis) grohmanni DAHLBOM: BRUSTILO & MARTYNOV 2009: 53 (biol., cat., distr., Caucasus).

R e m a r k s . *Chrysis grohmanni grohmanni* is limited to western Mediterranean countries. Citations from Southern Russia, Middle East and Central Asia are referable to other species or subspecies within the *C. succincta* group (e.g. *C. kolazyi* [= *C. grohmanni sareptana*], described from Volgograd, *C. grohmanni krkiana* or *C. grohmanni bolivieri* both known from Turkey and Syria and not mentioned by Vinokurov or other similar subspecies). The name *Chrysis gloriosa* FABRICIUS, 1793 has been suppressed by ICZN (1998) and placed in the Official Index of Rejected and Invalid Specific Names in Zoology [also, see above the case of *Holopyga gloriosa*].

***Chrysis ignita bischoffi* LINSSENMAIER, 1959**

Chrysis bischoffi LINSSENMAIER: VINOKUROV 2006a: 23 (cat., ecol., Kabardino-Balkarian Rep.: State High-Mountain Reserve); VINOKUROV 2006b: 32 (cat., Kabardino-Balkarian Rep.: env. Tynyaux); VINOKUROV 2006d: 20, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2011c: 171 (cat., Karachayevo-Cherkess Rep.: Teberda).

Chrysis ignita bischoffi: VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013c: 60 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve, Dukka gorge); VINOKUROV 2013b: 230 (cat., ecol., Kabardino-Balkarian Rep.: Baksan gorge); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014c: 285 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014d: 93 (cat., Adygei Rep.: Shuntuk); VINOKUROV 2014e: 47 (cat., ecol., Caucasian State Nature Biosphere Reserve); VINOKUROV 2014f: 90 (cat., Krasnodar Terr.: Adygei Rep.: vill. Shuntuk; Caucasian State Nature Biosphere Reserve: vill.

Khudozhnikov); VINOKUROV 2015b: 317 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).

R e m a r k s . We examined some specimens identified by Vinokurov as *C. ignita bischoffi* which belong to different species and subgroups within the *C. ignita* group; they are all characterized by darkened colouration of metasoma. All identifications should be double checked.

***Chrysis ignita melaensis* LINSENMAIER, 1968**

Chrysis ignita melaensis LINSENMAIER: VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2013c: 60 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve, Dukka gorge); VINOKUROV 2014f: 90 (cat., Kabardino-Balkarian Rep.: Caucasian State Nature Biosphere Reserve).

Chrysis melaensis: VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1278 (cat., Kabardino-Balkarian Rep.: State High-mountain Natural Reserve (KBSU)); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014b: 96 (biogeogr., Karachayevo-Cherkess Rep.: env. Vill. Psebaj, Nikitino, Damhurts, Zakan); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014e: 47 (cat., ecol. Caucasian State Nature Biosphere Reserve); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).

R e m a r k s . *Chrysis ignita melaensis* is an endemic subspecies restricted to Corsica and Sardinia. Also in this case, specimens examined from Caucaus belong to different taxa with darkened colouration of the metasoma and these identifications must be double checked.

***Chrysis inaequipunctata* BISCHOFF, 1910**

Chrysis inaequipunctata BISCHOFF: ROSA et al. 2017b: 136; ROSA et al. 2017c: 29.

R e m a r k s . In ROSA et al. (2017b, 2017f) this specimen was listed for the Russian fauna (European part: Udmurt Rep., Maigan) for an error in the transliteration of the handwritten Cyrillic locality label (ROSA 2018b). The correct collecting locality is Shaydan, currently in Tajikistan.

***Chrysis mauritanica* TRAUTMANN, 1926**

Chrysis mauritanica TRAUTMANN: VINOKUROV 2006d: 19, 21 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2009c: 206 (cat., ecol., Stavropol Terr.).

R e m a r k s . *Chrysis mauritanica* is known only for Tunisia, based on a very few specimens hardly recognizable. The specimens from Caucasus should belong to an undescribed species.

***Chrysis pseudoignita* LINSENMAIER, 1987**

Chrysis pseudoignita LINSENMAIER: VINOKUROV 2010a: 41 (biogeogr., Kabardino-Balkarian Rep.: National Park Prielbrusie); VINOKUROV 2010b: 1278 (cat., Kabardino-Balkarian Rep.: State High-mountain Natural Reserve (KBSU)); VINOKUROV 2011c: 172 (cat., Karachayevo-Cherkess Rep.: env. Teberda, Teberda River valley); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014a: 1051 (biogeogr.,

Stavropol Terr.: Mineralnye Vody); VINOKUROV 2012e: 136 (cat., Kabardino-Balkarian Rep.: Prielbrusie National Park); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2015b: 318 (cat. Kabardino-Balkarian Rep.: High Mountain Nature Reserve).

R e m a r k s . *Chrysis magnidens pseudoignita* is endemic of the Balearic islands (Palma, Tenerife) and possibly conspecific with *C. magnidens*, endemic of the Canary Islands. Vinokurov's identifications are referable to different species such as *C. impressa* Schenck and *C. schencki* LINSENMAIER.

***Chrysis rutilans rigiana* LINSENMAIER, 1951**

Chrysis rutilans rigiana LINSENMAIER: VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2011c: 171 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve, Dzhemagat River Valley); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve).

R e m a r k s . *Chrysis rutilans rigiana* was found only in a small Swiss Valley (Wallis, Mt. Rigi) and specimens from Caucasus are related to other species in the *C. splendida* group close to *C. insperata* CHEVRIER.

***Chrysis splendida decora* MOCSÁRY, 1887**

Chrysis splendida decora MOCSÁRY: VINOKUROV 2004: 34 (cat., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006d: 20 (cat., ecol., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2006e: 21 (cat., ecol., central Caucasus and Ciscaucasus); VINOKUROV 2009c: 207 (cat., ecol., Stavropol Terr.); VINOKUROV 2013d: 1106 (cat., ecol., Stavropol Terr.: env. Mineralnye Vody).

Chrysis decora: VINOKUROV 2005: 90 (cat., ecol., central Caucasus and Ciscaucasus).

Chrysis splendiddula (!) *decora*: VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody).

R e m a r k s . *Chrysis decora* is the replacement name for *Chrysis superba* RADOSZKOWSKI, also named *Chrysis rutilans mesasiatica* or *C. insperata mesasiatica*. It is a small and slender species, not related to *C. splendida*. Vinokurov's identification is likely related to a colour variation of *C. splendida* or similar species, for example *C. tchuensis* TARBINSKY, 2002.

***Chrysis stilboides* SPINOLA, 1838**

Chrysis (sexdentatae) *stilboides* (!) SPINOLA: DU BUYSSON in ANDRÉ 1896: 649 (cat., descr., distr., key, Caucasus).

R e m a r k s . DU BUYSSON in ANDRÉ (1896) listed *C. stilboides* in Caucasus, Syria and Turkestan. This Afrotropical and Oriental species was cited for Persia too (DU

BUYSSON 1898) and recently found in Iran (Ebrahimi 2015). No recent record for Caucasus is available, but very likely at the beginning of the XIX century the species could be distributed till southern Caucasus and along the Caspian Sea, as in the case of *Hedychrum coelestinum*, or could be an accidental introduction along the Silk Road.

***Chrysura dichropsis* (DU BUYSSON, 1894)**

Chrysura dichropsis (DU BUYSSON): VINOKUROV 2012a: 54 (key, North Caucasus); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody).

R e m a r k s . The occurrence of *Chrysura dichropsis* should be double checked, since several identifications of the *Ch. dichroa* group in VINOKUROV 2012a are incorrect.

***Chrysura fulminatrix* (DU BUYSSON, 1888)**

Chrysura fulminatrix (!) (DU BUYSSON): VINOKUROV 2012a: 53 (key, North Caucasus).

Chrysura fulminatrix: VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody).

R e m a r k s . *Chrysura fulminatrix* (DU BUYSSON) is known only on few specimens collected in Algeria and Tunisia, deposited in Paris and Genova (coll. Gribodo). Vinokurov did not examined the type specimen (pers. comm.) and his identification are referable to other species in the *C. dichroa* group. *C. fulminatrix* is a remarkable species in this group and closer to *Ch. purpureifrons* (ABEILLE DE PERRIN, 1878).

***Chrysura interdichroa* (LINSENMAIER, 1959)**

Chrysura interdichroa (LINSENMAIER): VINOKUROV 2012a: 54 (key, North Caucasus); VINOKUROV 2012c: 1873 (cat., ecol. Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2012f: 40 (cat., ecol., Karachayevo-Cherkess Rep.: Teberda Nature Reserve); VINOKUROV 2014a: 1150 (biogeogr., Stavropol Terr.: Mineralnye Vody); VINOKUROV 2014c: 284 (cat., Karachayevo-Cherkess Rep.: Teberda Nature Reserve).

R e m a r k s . The occurrence of *Chrysura interdichroa* should be double checked, since the species is closely related to *Ch. mlokozewitzi* (RADOSZKOWSKI, 1889), a species not listed by VINOKUROV (2012a) in his key to the Caucasian taxa of this group.

***Chrysura prodichroa* (LINSENMAIER, 1959)**

Chrysura prodichroa (LINSENMAIER): VINOKUROV 2012a: 53 (key, North Caucasus); VINOKUROV 2014a: 1051 (biogeogr., Stavropol Terr.: Mineralnye Vody).

R e m a r k s . *Chrysis prodichroa* LINSENMAIER, 1959 was synonymised by LINSENMAIER (1968) himself with *C. isabellae* (TRAUTMANN, 1926) (species included in the *C. radians* group, with blue head and mesosoma). Vinokurov's identification is related to another species in the *C. dichroa* group.

***Euchroeus orientis* SEMENOV, 1910**

Euchroeus (Euchroeus) purpuratus orientis SEMENOV: LINSSENMAIER 1968: 46 (descr. East Russia).

R e m a r k s . *Euchroeus orientis* is known for China. LINSSENMAIER (1968) confused the Chinese Dzhugaria with other countries in the southern USSR.

***Euchroeus purpuratus consularis* DU BUYSSON, 1896**

Euchroeus purpuratus consularis DU BUYSSON: TRAUTMANN 1927: 84 (cat., descr., distr., southern Russia)

R e m a r k s . *Euchroeus purpuratus consularis* DU BUYSSON is known with certainty only for Algeria, Morocco and Tunisia (LINSSENMAIER 1997). TRAUTMANN (1927) listed *E. p. consularis* for southern Russia, Central Asia, Mesopotamia, Palestine, and Persia, but he forgot to mention some common species described from Central Asia and Middle East, such as *E. eous*, *E. pellucidus*, *E. rugulosus*. Indeed, TRAUTMANN's (1927) interpretation of "variations" (e.g. *E. hellenicus* and *E. herculeanus*) are clearly in error, because Trautmann did not check the type material. As a consequence, all data related to *E. p. consularis* and *E. doursi* in TRAUTMANN (1927) should be double checked and referable to other similar species or subspecies within the genus.

Conclusions

The recorded Russian chrysidids are 340 species, 13 subspecies and 23 genera so far. In the present checklist we add 39 species and 3 subspecies described or generically cited for Caucasus, without precise locality and possibly collected in North Caucasus (Russia) or anyway expected for North Caucasus and South Russia.

The highest number of known species resulted from Caucasus and southern Russia (from the Caspian Sea to the Orenburg Province in the Urals). The abundance of chrysidids in this area is explained by two main reasons: 1) the high diversity of species found in the Mediterranean region and Central Asia, compared with relatively low diversity found in the North, at higher latitudes and altitudes (MORGAN 1984; ROSA 2006; PAUKKUNEN et al. 2014); 2) disparity in research activity: some provinces are still without records of Chrysididae (e.g. Smolensk) and the current low number of taxa from most administrative Oblast and Republics is clearly related to lack of knowledge.

Endemic or highly adapted species are expected from the southern provinces of Siberia bordering Mongolia (e.g. Altai, Tuva and Buryat Republics and Zabaikalskii Territory) and other species from Japan, north China and Korea are expected for Russian Far East (HA et al. 2008; TERAYAMA et al. 2010; ROSA et al. 2014). The aim of this checklist is to summarize what has been published since today and provide new impulse to the study of Russian Chrysididae, as recently occurred in Iran and China.

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APPENDIX A

We here propose a species list based on supposed relationships between taxa, according to the following sources: *Cleptes*: MÓCZÁR (1997a, 1997b, 1998a, 1998b, 1998c, 2000a, 2000b, 2001); *Chrysellampus*, *Colpopyga*, *Philoctetes*, *Trichrysis* (ROSA 2018b; ROSA et al. 2015d, 2016); *Hedychridium*, *Hedychrum*, *Holopyga*, *Euchroeus*, *Chrysis*: LINSENMAIER (1959, 1968, 1997); *Omalus*, *Pseudomalus* and *Philoctetes* (partim), *Chrysuria* KIMSEY & BOHART (1991), LINSENMAIER (1959, 1968, 1997 (partim)). Relationships and systematic placement of Chrysidinae genera and *Chrysis* groups are artificial and based on LINSENMAIER's (1959) systematic and *Chrysis* groups are here rearranged according to PAULI et al. (2018); however, new molecular data and host association (PAULI et al., in preparation), will likely modify it. *C. ignita* subgroups follow SOON & SARMA (2011) and PAUKKUNEN et al. (2015).

I. Subfamily Cleptinae

Genus *Cleptes* LATREILLE, 1802

Cleptes semiauratus group (*Cleptes*)

Cleptes semiauratus (LINNAEUS, 1761)

Cleptes striatipleuris ROSA, FORSHAGE, PAUKKUNEN & SOON, 2015

Cleptes satoi group (*Cleptes*)

Cleptes halinae KUZNETZOV-UGAMSKII, 1927

Cleptes asianus group (*Cleptes*)

Cleptes primorensis MÓCZÁR, 2000

***Cleptes aerosus* group (*Holcocleptes*)**

Cleptes aerosus FÖRSTER, 1853

Cleptes radoszkowskii MOCSÁRY, 1889

***Cleptes nitidulus* group (*Leiocleptes*)**

Cleptes dauriensis MÓCZÁR, 1997

Cleptes femoralis MOCSÁRY, 1890

Cleptes ignitus (FABRICIUS, 1787)

Cleptes insidiosus DU BUYSSON, 1891

Cleptes nitidulus (FABRICIUS, 1793)

Cleptes obsoletus SEMENOV, 1891

Cleptes semicyaneus TOURNIER, 1879

Cleptes splendidus (FABRICIUS, 1794)

***Cleptes putoni* group (*Chrysoleptes*)**

Cleptes putoni DU BUYSSON, 1886

II. Subfamily Chrysidinae

Tribe Elampini

Genus *Pseudomalus* ASHMEAD, 1902

Pseudomalus auratus auratus (LINNAEUS, 1758)

Pseudomalus auratus nigridorsus (TSUNEKI, 1953)

Pseudomalus auratus viridiventris (MOCSÁRY, 1890)

Pseudomalus cupratus (MOCSÁRY, 1889)

Pseudomalus agnolii ROSA, 2017

Pseudomalus triangulifer (ABEILLE DE PERRIN, 1877)

Pseudomalus punctatus (UCHIDA, 1927)

Pseudomalus bergi (SEMENOV, 1932)

Pseudomalus violaceus (SCOPOLI, 1763)

Pseudomalus grandis (TSUNEKI, 1950)

Pseudomalus corensis (UCHIDA, 1927)

Pseudomalus pusillus pusillus (FABRICIUS, 1804)

Pseudomalus pusillus semicupreus (LINSENMAIER, 1959)

Genus *Omalus* PANZER, 1801

Omalus aeneus (FABRICIUS, 1787)

Omalus berezovskii (SEMENOV, 1932)

Omalus biaccinctus (DU BUYSSON, 1892)

Omalus hohlbecki (SEMENOV, 1932)

Omalus stella (SEMENOV, 1932)

Genus *Philoctetes* ABEILLE DE PERRIN, 1879

- Philoctetes mongolicus* (DU BUYSSON, 1901)
Philoctetes cynthiae ROSA, 2017
Philoctetes lyubae ROSA, 2017
Philoctetes horvathi (MOCSÁRY, 1889)
Philoctetes conifer (SEMENOV, 1932)
Philoctetes sareptanus (MOCSÁRY, 1889)
Philoctetes truncatus (DAHLBOM, 1831)
Philoctetes bidentulus (LEPELETIER, 1806)
Philoctetes kuznetsovi (SEMENOV, 1932)
Philoctetes punctulatus (DAHLBOM, 1854)
Philoctetes bogdanovii (RADOSZKOVSKI, 1877)
Philoctetes stackelbergi (SEMENOV, 1932)
Philoctetes pynovi (SEMENOV, 1932)

Genus *Chrysellampus* SEMENOV, 1932

- Chrysellampus duplipunctatus* TSUNEKI, 1948a
Chrysellampus sculpticollis (ABEILLE DE PERRIN, 1878)

Genus *Elampus* SPINOLA, 1806

- Elampus assamensis* (MOCSÁRY, 1911)
Elampus bidens (FÖRSTER, 1853)
Elampus albipennis (MOCSÁRY, 1889)
Elampus eversmanni (MOCSÁRY, 1889)
Elampus pliginskii (SEMENOV, 1967)
Elampus rufitarsis (TOURNIER, 1879)
Elampus ussuriensis (SEMENOV, 1967)
Elampus spina (LEPELETIER, 1806)
Elampus foveatus (MOCSÁRY, 1914)
Elampus agnolii ROSA, 2017
Elampus sanzii GOGORZA, 1887
Elampus tauricus (SEMENOV, 1967)
Elampus caeruleus DAHLBOM, 1854
Elampus constrictus (FÖRSTER, 1853)
Elampus panzeri (FABRICIUS, 1804)
Elampus pallasi (SEMENOV, 1967)
Elampus petri (SEMENOV, 1967)
Elampus retusus (SEMENOV, 1967)
Elampus coloratus ROSA, 2017
Elampus pyrosomus (FÖRSTER, 1853)

Elampus turcmenicus (LINSENMAIER, 1968)

Genus *Holopyga* DAHLBOM, 1845

Holopyga fervida (FABRICIUS, 1781)

Holopyga metallica (DAHLBOM, 1854)

Holopyga amoenula amoenula DAHLBOM, 1845

Holopyga amoenula occidenta LINSENMAIER, 1959

Holopyga minima LINSENMAIER, 1959

Holopyga generosa asiatica LINSENMAIER, 1959

Holopyga generosa generosa (FÖRSTER, 1853)

Holopyga punctatissima DAHLBOM, 1854

Holopyga pavlovskii SEMENOV & NIKOL'SKAYA, 1954

Holopyga raziborskii SEMENOV, 1967

Holopyga medvedevi SEMENOV, 1967

Holopyga turkestanica MOCSÁRY, 1909

Holopyga vigora LINSENMAIER, 1959

Holopyga mlokosiewitzi (RADOSZKOWSKI, 1877)

Holopyga lucida (LEPELETIER, 1806)

Holopyga inflammata caucasica MOCSÁRY, 1889

Holopyga inflammata inflammata (FÖRSTER, 1853)

Holopyga jurinei CHEVRIER, 1862

Holopyga chrysonota appliata LINSENMAIER, 1959

Holopyga chrysonota chrysonota (FÖRSTER, 1853)

Holopyga ignicollis DAHLBOM, 1854

Holopyga australis LINSENMAIER, 1959

Genus *Colpopyga* SEMENOV, 1954

Colpopyga flavipes (EVERSMANN, 1858)

Genus *Haba* SEMENOV, 1954

Haba almasyana (MOCSÁRY, 1911)

Genus *Prochridium* LINSENMAIER, 1968

Prochridium sp.

Genus *Hedychridium* ABEILLE DE PERRIN, 1878

***Hedychridium incrassatum* group**

Hedychridium aheneum (DAHLBOM, 1854)

Hedychridium moricei DU BUYSSON, 1904

***Hedychridium ardens* group**

Hedychridium ardens ardens (COQUEBERT, 1801)

Hedychridium jucundum (MOCSÁRY, 1889)

Hedychridium belokobylskiji ROSA, 2017

Hedychridium arensi ROSA, 2017

Hedychridium caspicum (MOCSÁRY, 1890)

Hedychridium pulchellum (MOCSÁRY, 1893)

Hedychridium dzhanelidzei SEMENOV, 1967

Hedychridium lucidiventre SEMENOV, 1967

Hedychridium krajniki krajniki BALTHASAR, 1946

Hedychridium adventicium ZIMMERMANN, 1962

Hedychridium parkanense BALTHASAR, 1946

Hedychridium trossolus (SEMENOV, 1954)

Hedychridium sibiricum ROSA, 2017

Hedychridium gabriellae ROSA, 2017

Hedychridium longigena ROSA, 2017

Hedychridium propodeale ROSA, 2017

Hedychridium zelleri (DAHLBOM, 1854)

Hedychridium cupreum (DAHLBOM, 1854)

Hedychridium asianum LINSSENMAIER, 1997

Hedychridium purpurascens (DAHLBOM, 1854)

Hedychridium femoratum (DAHLBOM, 1854)

Hedychridium elegantulum DU BUYSSON, 1887

Hedychridium coriaceum (DAHLBOM, 1854)

Hedychridium satunini SEMENOV, 1967

Hedychridium uvarovi SEMENOV, 1967

Hedychridium leleji ROSA, 2017

Hedychridium laktionovi ROSA, 2017

Hedychridium proshchalykini ROSA, 2017

***Hedychridium monochroum* group**

Hedychridium monochroum DU BUYSSON, 1888

***Hedychridium roseum* group**

Hedychridium caputaureum TRAUTMANN & TRAUTMANN, 1919

Hedychridium chloropygum DU BUYSSON, 1888

Hedychridium erschovi (RADOSZKOWSKI, 1877)

Hedychridium roseum (ROSSI, 1790)

Hedychridium tsunekii LINSSENMAIER, 1959

Hedychridium caucasicum TRAUTMANN, 1926

Hedychridium gemma (SEMENOV, 1967)
Hedychridium sculpturatum (ABEILLE DE PERRIN, 1877)
Hedychridium mediocreum LINSSENMAIER, 1987
Hedychridium rossicum GUSSAKOVSKIJ, 1848
Hedychridium turcicum ARENS, 2010
Hedychridium scutellare (TOURNIER, 1878)
Hedychridium palestinense BALTHASAR, 1953

Genus *Hedychrum* LATREILLE, 1802

Hedychrum rutilans rutilans DAHLBOM, 1854
Hedychrum rutilans ermak SEMENOV, 1967
Hedychrum aureicolle MOCSÁRY, 1889
Hedychrum niemelai LINSSENMAIER, 1959
Hedychrum chalybaeum DAHLBOM, 1854
Hedychrum viridilineolatum KILIMNIK, 1993
Hedychrum nobile (SCOPLI, 1763)
Hedychrum simile MOCSÁRY, 1889
Hedychrum luculentum bytinskii LINSSENMAIER, 1959
Hedychrum alexii SEMENOV, 1967
Hedychrum virens DAHLBOM, 1854
Hedychrum caucasicum MOCSÁRY, 1889
Hedychrum frivaldszkyi MOCSÁRY, 1889
Hedychrum cholodkovskii SEMENOV, 1967
Hedychrum gerstaeckeri gerstaeckeri CHEVRIER, 1869
Hedychrum gerstaeckeri plicatus KILIMNIK, 1993
Hedychrum tobiasi KILIMNIK, 1993
Hedychrum kozhantshikovi SEMENOV, 1967
Hedychrum longicolle ABEILLE DE PERRIN, 1877

Subfamily Chrysidinae

Tribe Chrysidini

Genus *Euchroeus* LATREILLE, 1809

Euchroeus limbatus limbatus DAHLBOM, 1854
Euchroeus purpuratus purpuratus (FABRICIUS, 1787)
Euchroeus purpuratus irradians (SEMENOV, 1910)
Euchroeus victorius ROSA, 2017
Euchroeus par (SEMENOV, 1967)
Euchroeus mongolicus TSUNEKI, 1947
Euchroeus rugulosus (MOCSÁRY, 1909)

Genus *Pseudochrysis* SEMENOV, 1891

- Pseudochrysis neglecta* (SHUCKARD, 1837)
Pseudochrysis aureicollis (ABEILLE DE PERRIN, 1879)
Pseudochrysis uniformis (DAHLBOM, 1854)
Pseudochrysis gengiskhan ROSA, 2017
Pseudochrysis fahringeri TRAUTMANN, 1926
Pseudochrysis humboldti (DAHLBOM, 1845)
Pseudochrysis incrassata (SPINOLA, 1838)

Genus *Spinolia* DAHLBOM, 1854

- Spinolia unicolor* (DAHLBOM, 1831)
Spinolia chalcites (MOCSÁRY, 1890)
- Spinolia dournovii* (RADOSZKOWSKI, 1866)
Spinolia dallatorreana (MOCSÁRY, 1896)
Spinolia lamprosoma (FÖRSTER, 1853)
Spinolia morawitzii (MOCSÁRY, 1889)
Spinolia stchurovskyi (RADOSZKOWSKI 1877)

Genus *Chrysura* DAHLBOM, 1845

***Chrysura cuprea* group**

- Chrysura cuprea* (ROSSI, 1790)
Chrysura oraniensis porphyrea (MOCSÁRY, 1889)

***Chrysura dichroa* group**

- Chrysura dichroa* (DAHLBOM, 1854)
Chrysura laevigata (ABEILLE DE PERRIN, 1879)
Chrysura pseudodichroa (LINSENMAIER, 1959)
Chrysura angusticollis (MOCSÁRY, 1893)
Chrysura mlokosewitszi (RADOSZKOWSKI, 1889)
Chrysura filiformis (MOCSÁRY, 1889)
Chrysura lydiae (MOCSÁRY, 1889)
Chrysura purpureifrons (ABEILLE DE PERRIN, 1878)

***Chrysura austriaca* group**

- Chrysura austriaca* (FABRICIUS, 1804)
Chrysura simplex (DAHLBOM, 1854)
Chrysura pyrogaster (BRULLÉ, 1833)
Chrysura ignifrons (BRULLÉ, 1833)

***Chrysura radians* group**

Chrysura rufiventris (DAHLBOM, 1854)

Chrysura sulcata DAHLBOM, 1845

Chrysura varicornis (SPINOLA, 1838)

Chrysura koma (TSUNEKI, 1950)

Chrysura radians (HARRIS, 1776)

Chrysura nikolaji ROSA, 2017

Chrysura erigone (MOCSÁRY, 1889)

Chrysura trimaculata (FÖRSTER, 1853)

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- Chrysis taczanovskii* RADOSZKOWSKI, 1877

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- Chrysis splendidula* ROSSI, 1790
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- Chrysis subsinuata fallax* MOCSÁRY, 1882

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- Chrysis angolensis* RADOSZKOWSKI, 1881

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- Chrysis amneris* BALTHASAR, 1953

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- Chrysis neobule* SEMENOV, 1954
Chrysis vicana VINOKUROV, 2010
Chrysis concolor MOCSÁRY, 1893

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Chrysis immaculata DU BUYSSON, 1898

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Chrysis brevitarsis THOMSON, 1870

Chrysis pseudobrevitarsis LINSSENMAIER, 1959

Chrysis leptomandibularis NIEHUIS, 2000

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Chrysis borealis PAUKKUNEN, ØDEGAARD & SOON, 2015

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Chrysis comta FÖRSTER, 1853

Chrysis bergi SEMENOV, 1967

Chrysis bianchii SEMENOV, 1967

Chrysis rubripyga TSUNEKI, 1950

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Chrysis rutiliventris ABEILLE DE PERRIN, 1879

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Chrysis chosenensis TSUNEKI, 1950

Chrysis galloisi DU BUYSSON, 1908

Chrysis fulgida LINNAEUS, 1761

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Chrysis keriensis RADOSZKOWSKI, 1887

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Chrysis indigotea indigotea DUFOR & PERRIS, 1840

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Chrysis calimorpha MOCSÁRY, 1889

Chrysis pulchella SPINOLA, 1808

Chrysis turceyana LINSENMAIER, 1959

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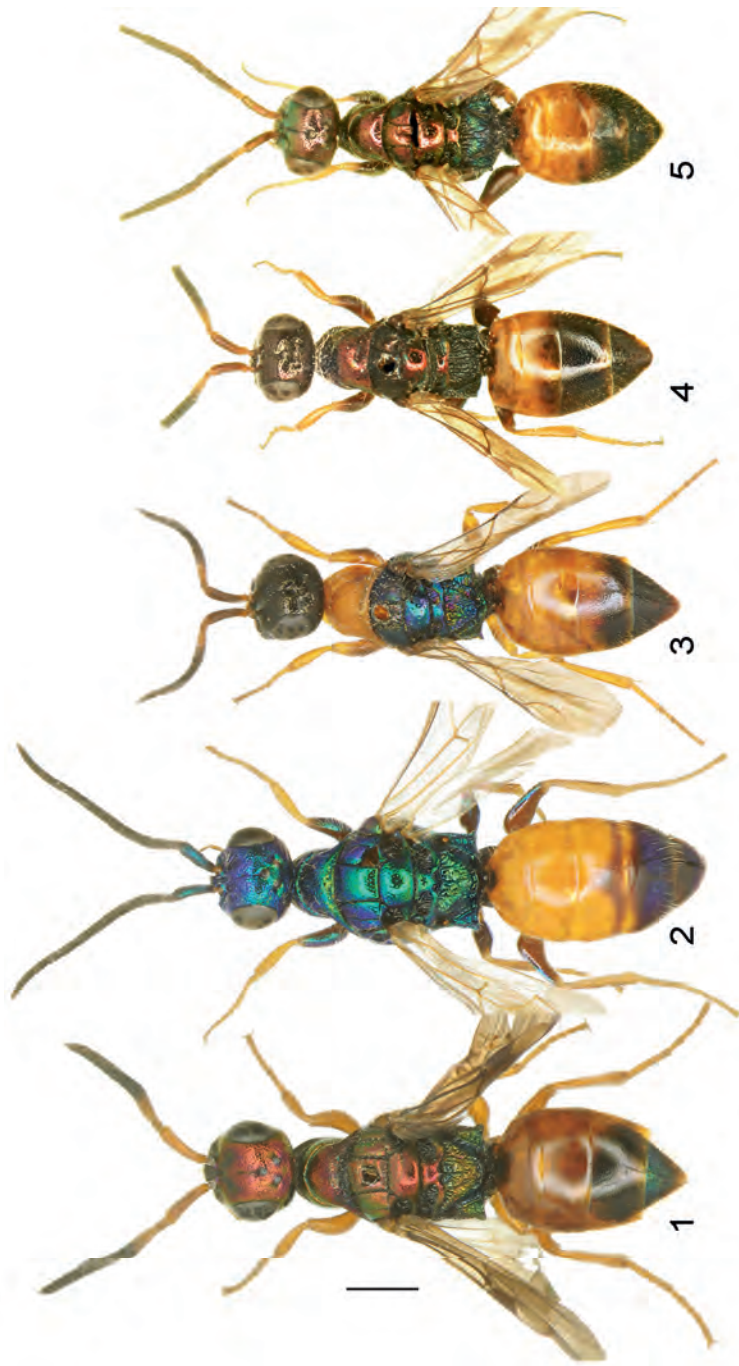
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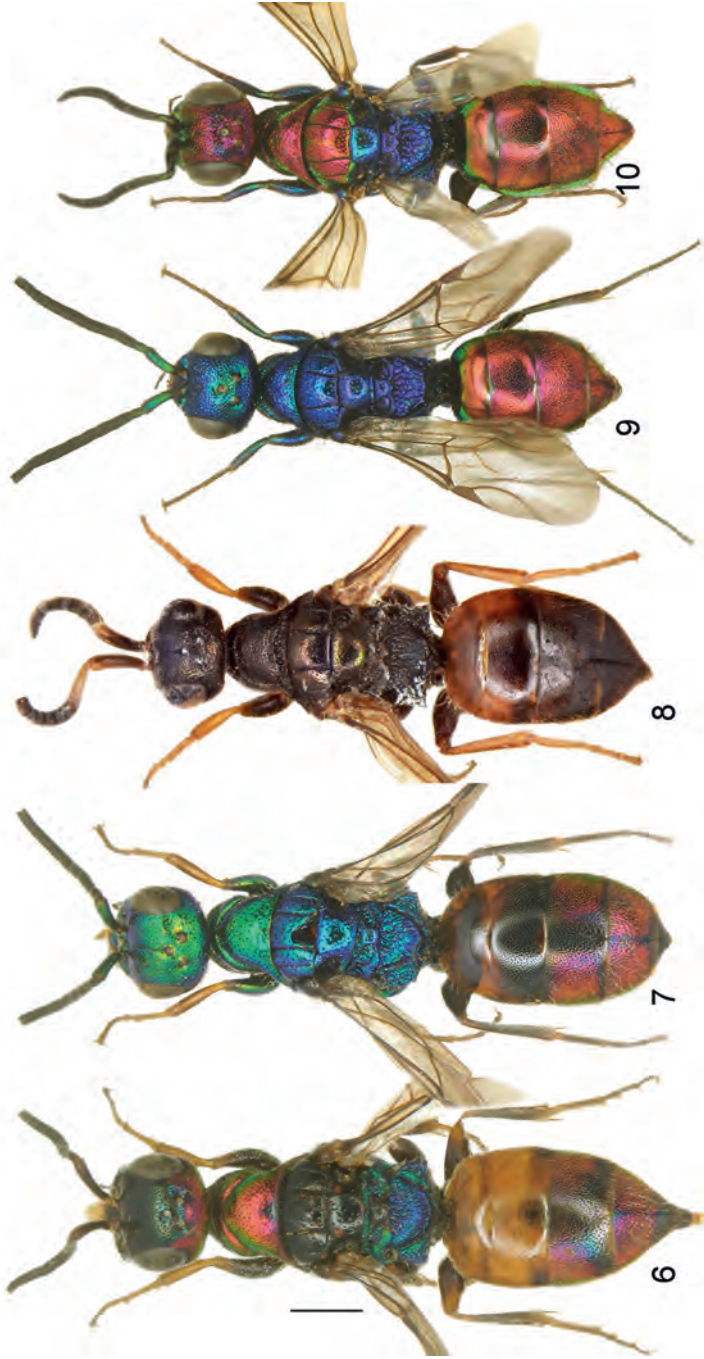
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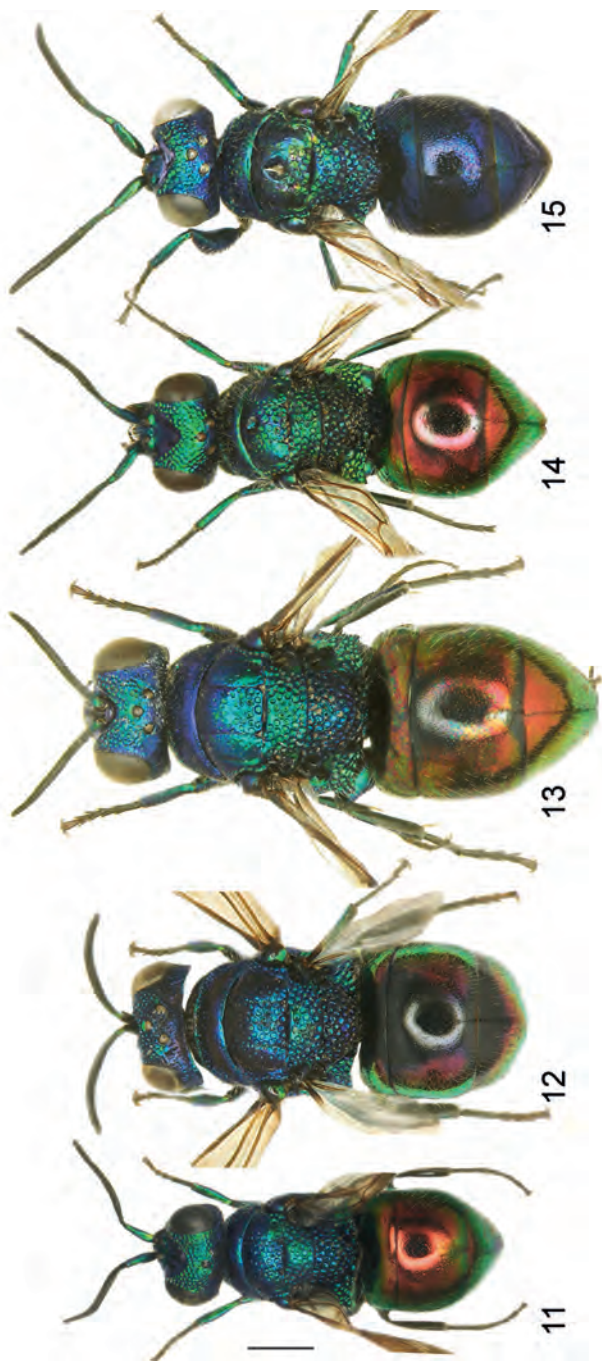
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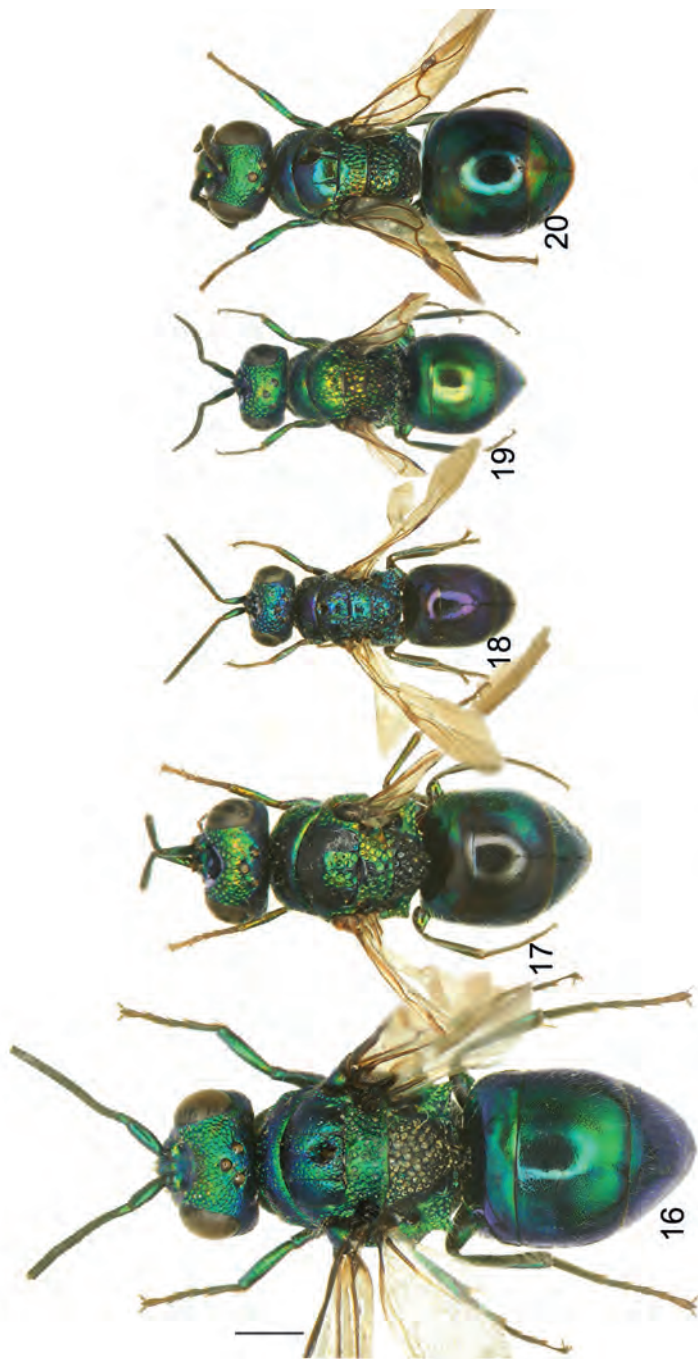
Figs 1-5: (1) *Cleptes semiauratus*, ♀ (Russia: Nizhny Novgorod). (2) *Ci. semiauratus*, ♂ (Russia: Nizhny Novgorod). (3) *Ci. nitidulus*, ♀ (Russia: Rostov Prov.). (4) *Ci. dauriensis*, ♀ (Mongolia: Övörkhangai Prov.). (5) *Ci. dauriensis*, ♂ (Mongolia: Bayankhongor Prov.). Scale bar: 1.0 mm.



Figs 6-10: (6) *Cleptes ignitus*, ♀ (Turkey: Agri Prov.). (7) *Cl. ignitus*, ♂ (Russia: Crimea). (8) *Cl. halinae*, ♀ (Russia: Primorskii Terr.). (9) *Cl. putoni*, ♂ (Italy: Tuscany Reg.). (10) *Cl. putoni*, ♀ (Italy: Valle d'Aosta Reg.). Scale bar: 1.0 mm.



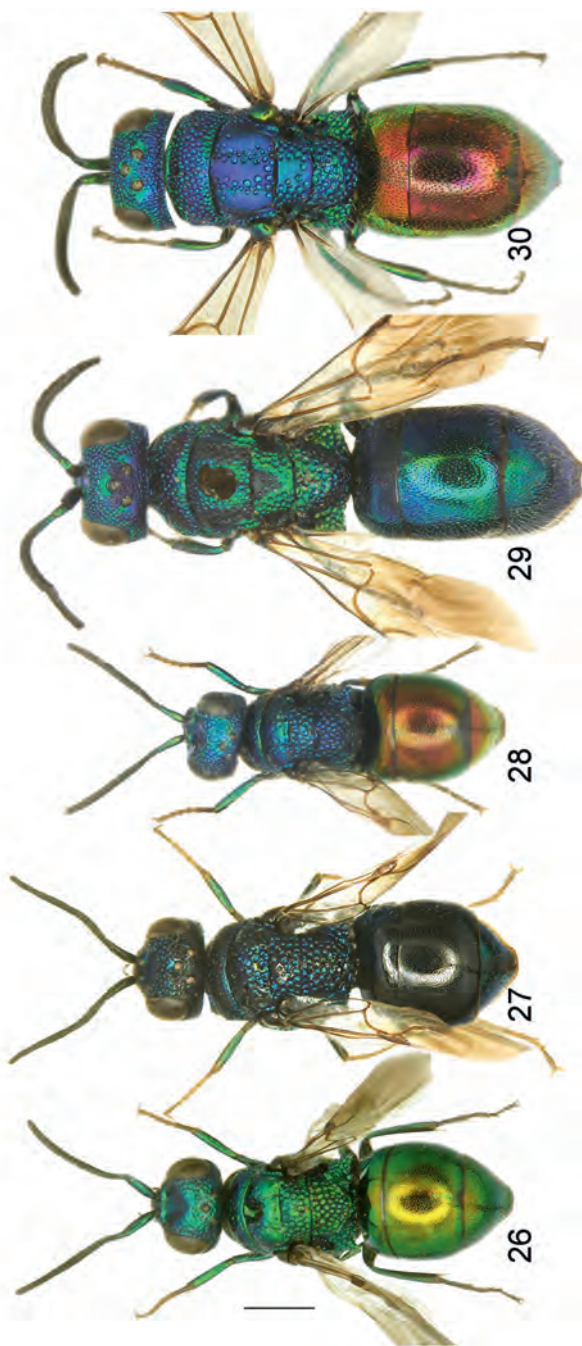
Figs 11-15: (11) *Pseudomalus auratus*, ♀ (Russia: Stavropol Terr.). (12) *Ps. cupratus*, ♂ (Italy: Emilia-Romagna Prov.). (13) *Ps. agnolii*, ♀ (Russia: Tver Prov.). (14) *Ps. triangulifer*, ♀ (Russia: Chelyabinsk Prov.). (15) *Ps. violaceus*, ♀ (Russia: Chelyabinsk Prov.). Scale bar: 1.0 mm.



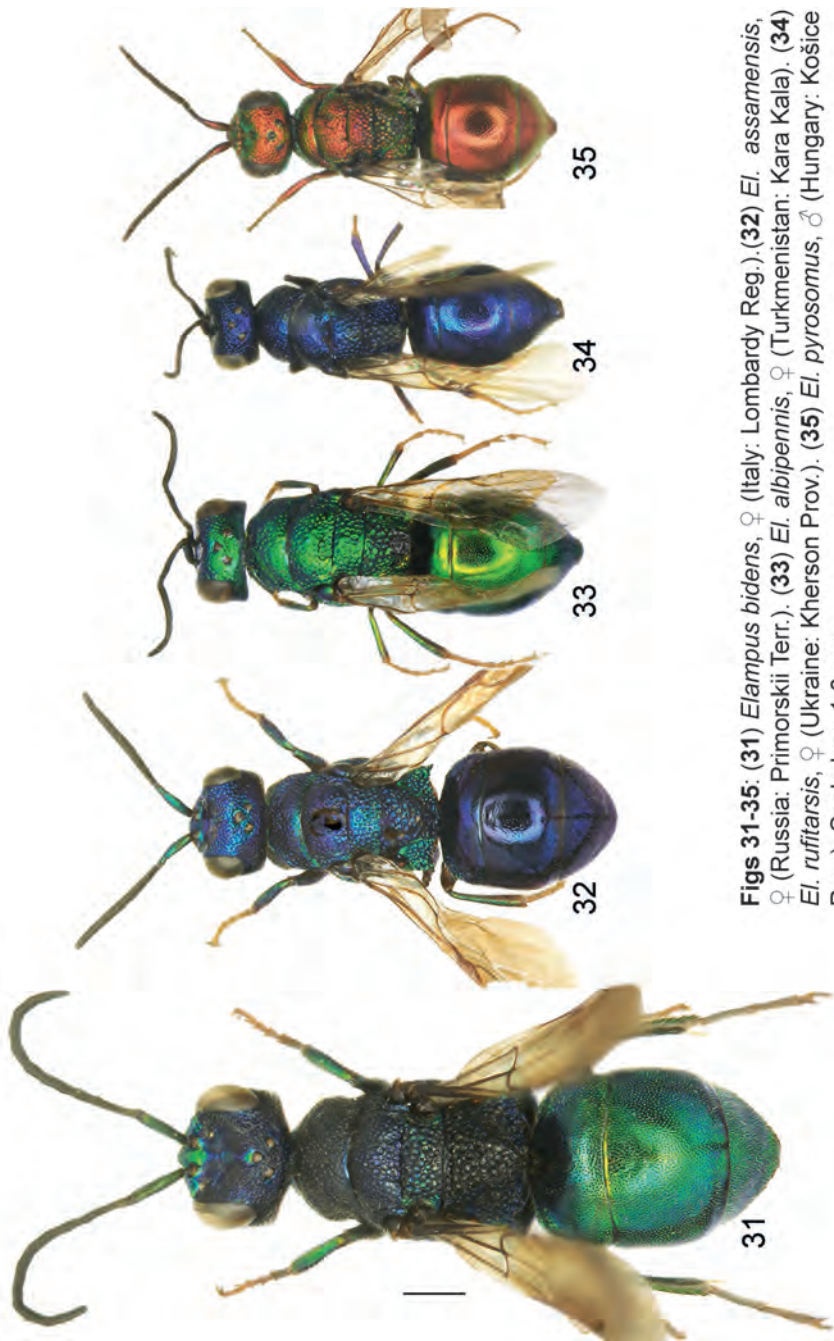
Figs 16-20: (16) *Pseudomalus grandis*, ♀ (Russia: Primorskii Terr.). (17) *Ps. punctatus*, ♀ (Russia: Primorskii Terr.). (18) *Ps. corensis*, ♂ (Russia: Primorskii Terr.). (19) *Ps. pusillus*, ♀ (Russia: Stavropol Terr.). (20) *Omalus aeneus*, ♂ (Russia: Nizhny Novgorod). Scale bar: 1.0 mm.



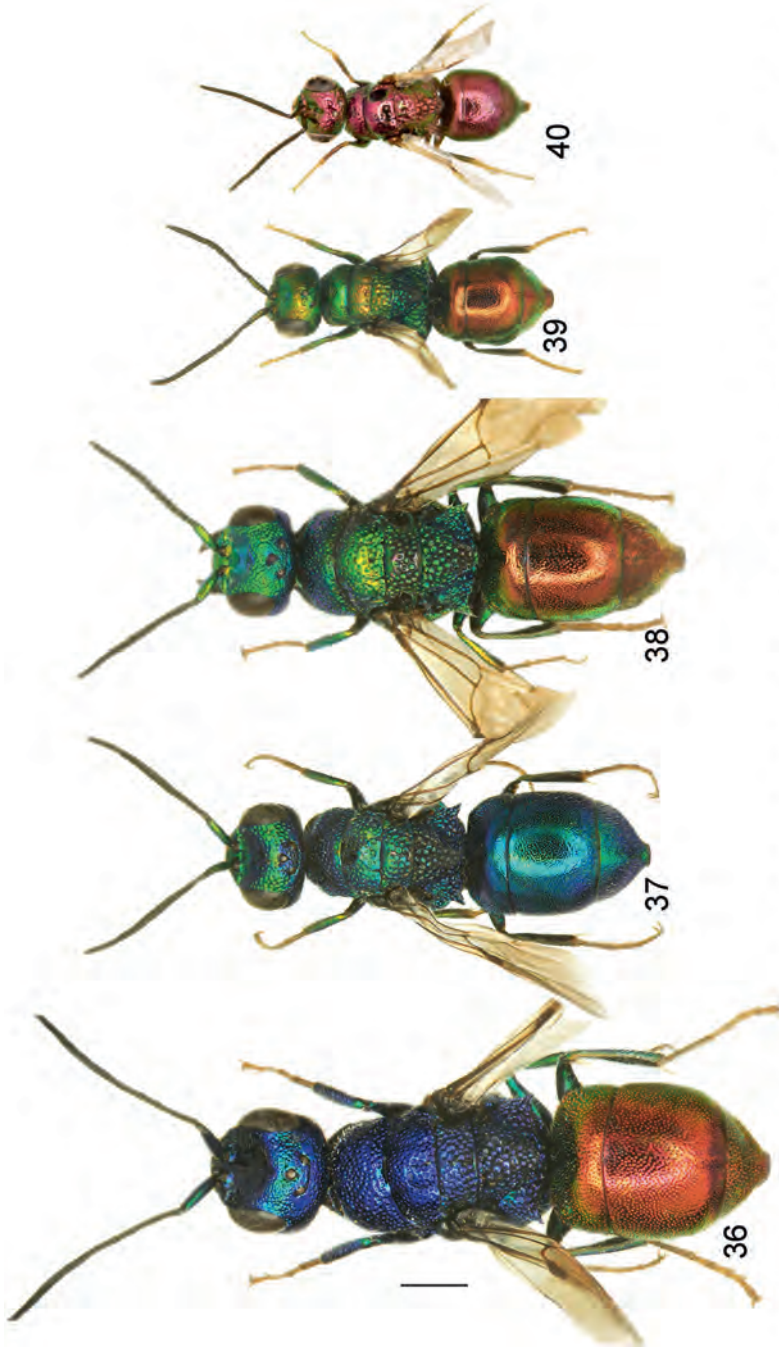
Figs 21-25: (21) *Omalus biaccinctus*, ♂ (Russia: Stavropol Terr.). (22) *O. stella*, ♀ (Russia: Astrakhan Prov.). (23) *O. hohibecki*, ♀ (Russia: Karachayevo-Cherkess Rep.). (24) *Philoctetes mongolicus*, ♀ (Russia: Tuva Rep.). (25) *Ph. cynthiae*, ♀ (Russia: Tuva Rep.). Scale bar: 1.0 mm.



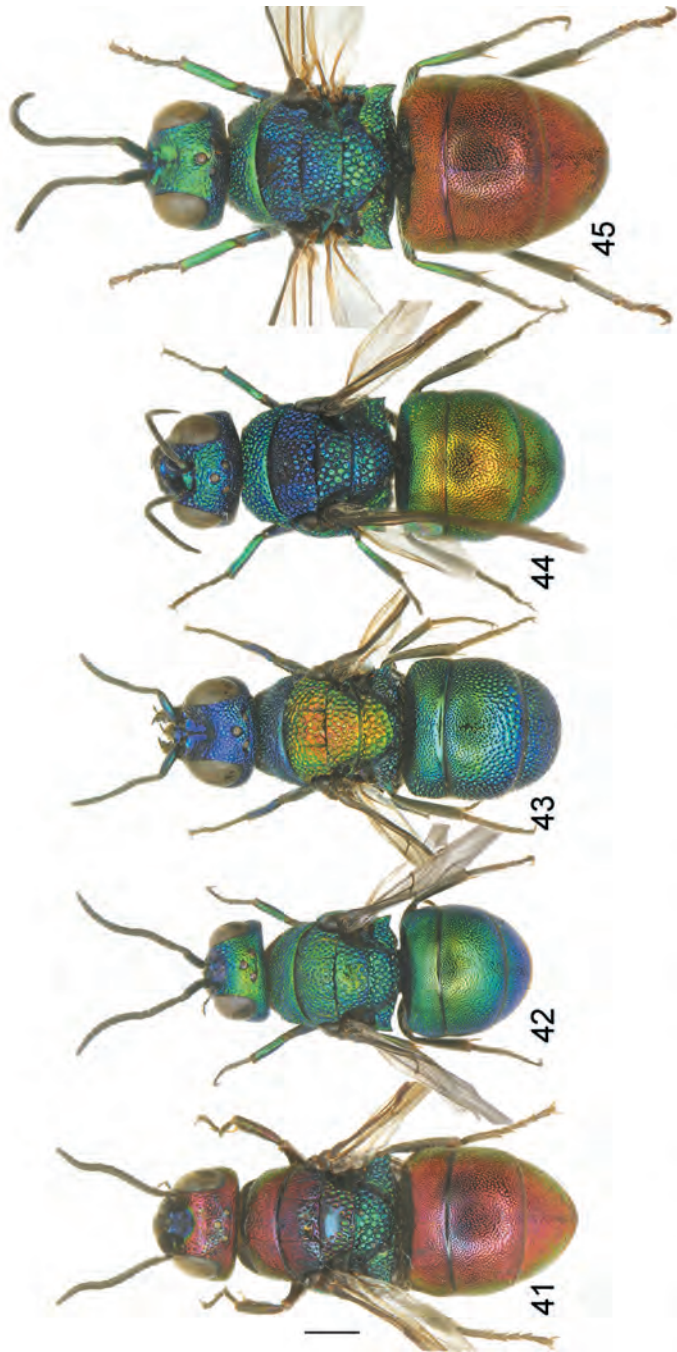
Figs 26-30: (26) *Philoctetes lyubae*, ♂ (Russia: Altai Rep.). (27) *Ph. truncatus*, ♀ (Russia: Krasnoyarsk Terr.). (28) *Ph. bidentulus*, ♀ (Russia: Khakass Rep.). (29) *Chrysellampus duplipunctatus*, ♀ (Russia: Primorskii Terr.). (30) *Chrysel. sculpticollis*, ♀ (Italy: Emilia-Romagna Reg.). Scale bar: 1.0 mm.



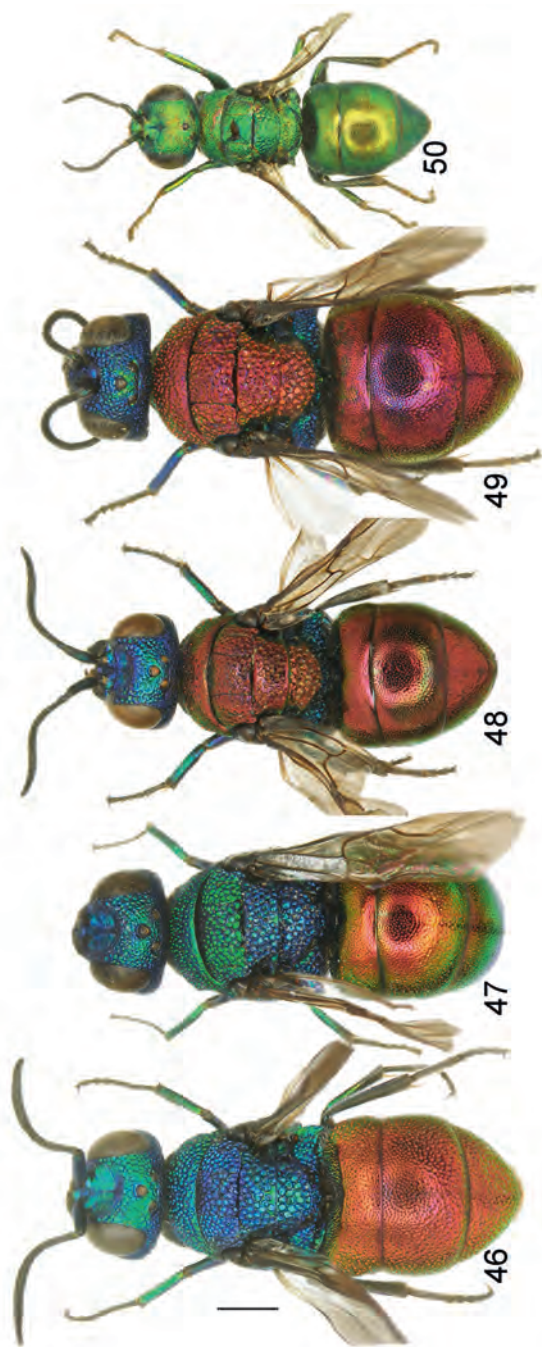
Figs 31-35: (31) *Elampus bidens*, ♀ (Italy: Lombardy Reg.). (32) *El. assamensis*, ♀ (Russia: Primorskii Terr.). (33) *El. albigennis*, ♀ (Turkmenistan: Kara Kala). (34) *El. rufitarsis*, ♀ (Ukraine: Kherson Prov.). (35) *El. pyrosomus*, ♂ (Hungary: Košice Reg.). Scale bar: 1.0 mm.



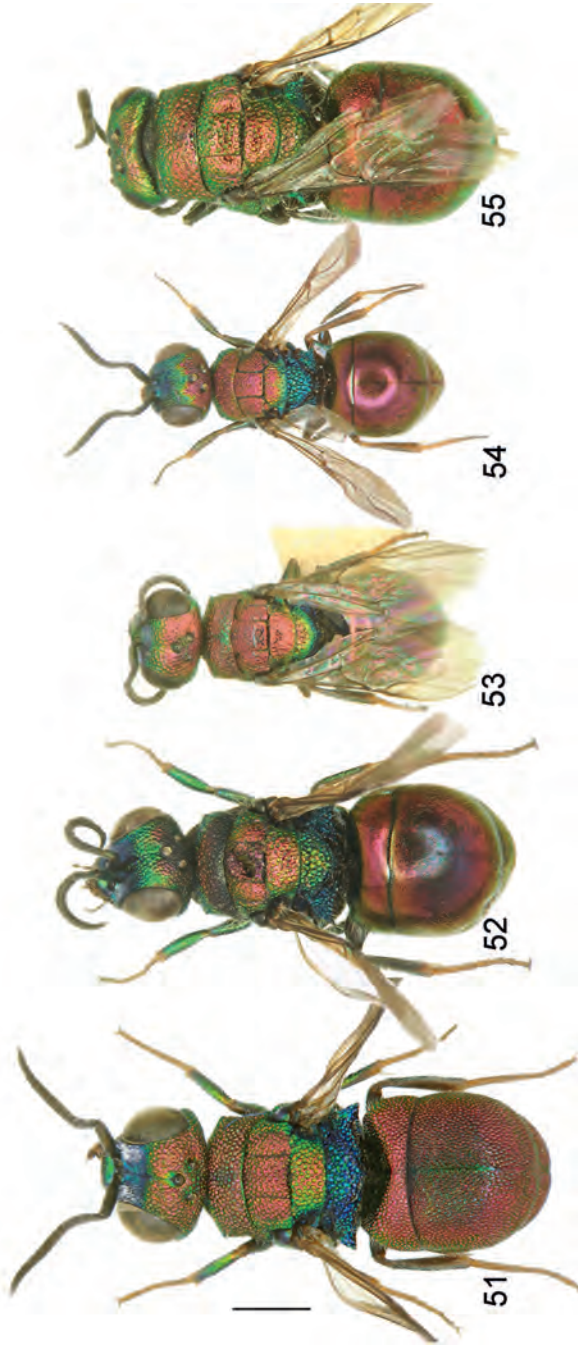
Figs 36-40: (36) *Elampus spina*, ♀ (Russia: Astrakhan Prov.). (37) *El. caeruleus*, ♀ (Russia: Krasnoyarsk Terr.). (38) *El. panzeri*, ♀ (Czech Rep.: Moravia). (39) *El. coloratus*, ♀ (Russia: Tuva Rep.). (40) *El. turcmenicus*, ♂ (Russia: Astrakhan Prov.). Scale bar: 1.0 mm.



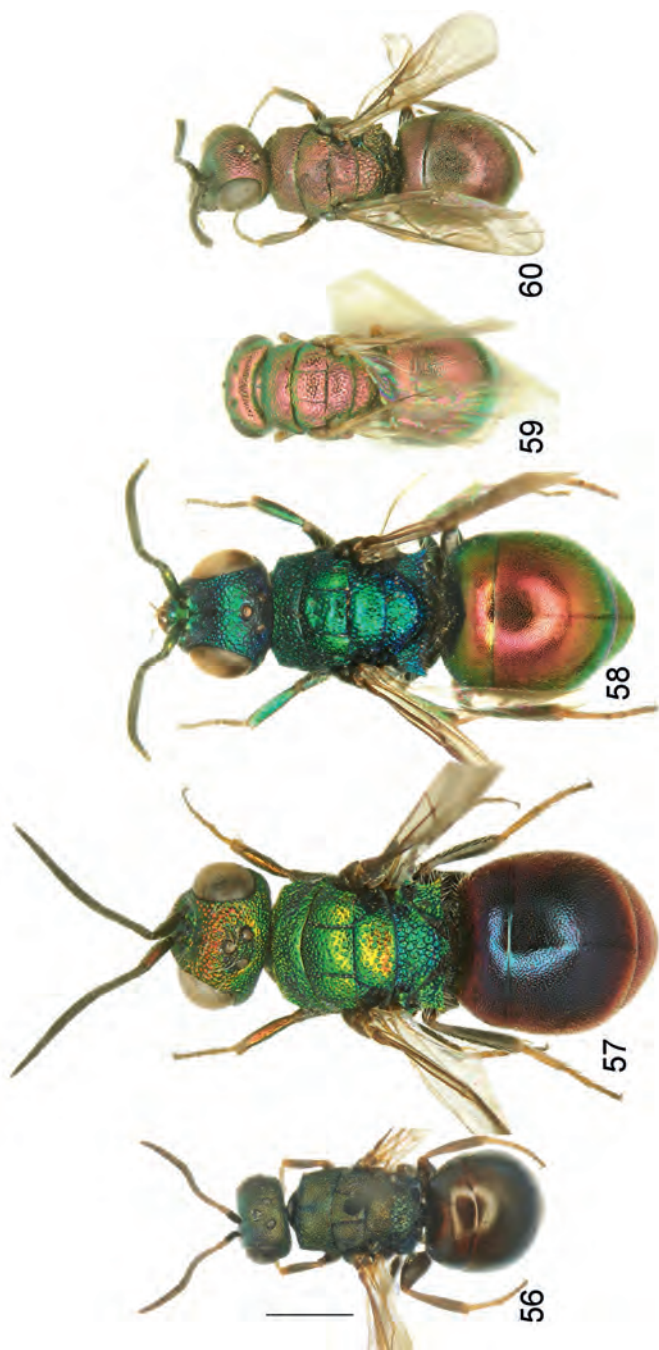
Figs 41-45: (41) *Holopyga fervida*, ♀ (Slovakia: Nitra Reg.). (42) *Ho. fervida*, ♂ (Russia: Astrakan Prov.). (43) *Ho. mikosiewitzi*, ♂ (Russia: Dagestan Rep.). (44) *Ho. generosa asiatica*, ♂ (Russia: Altai Rep.). (45) *Ho. generosa generosa*, ♀ (Russia: Nizhny Novgorod Prov.). Scale bar: 1.0 mm.



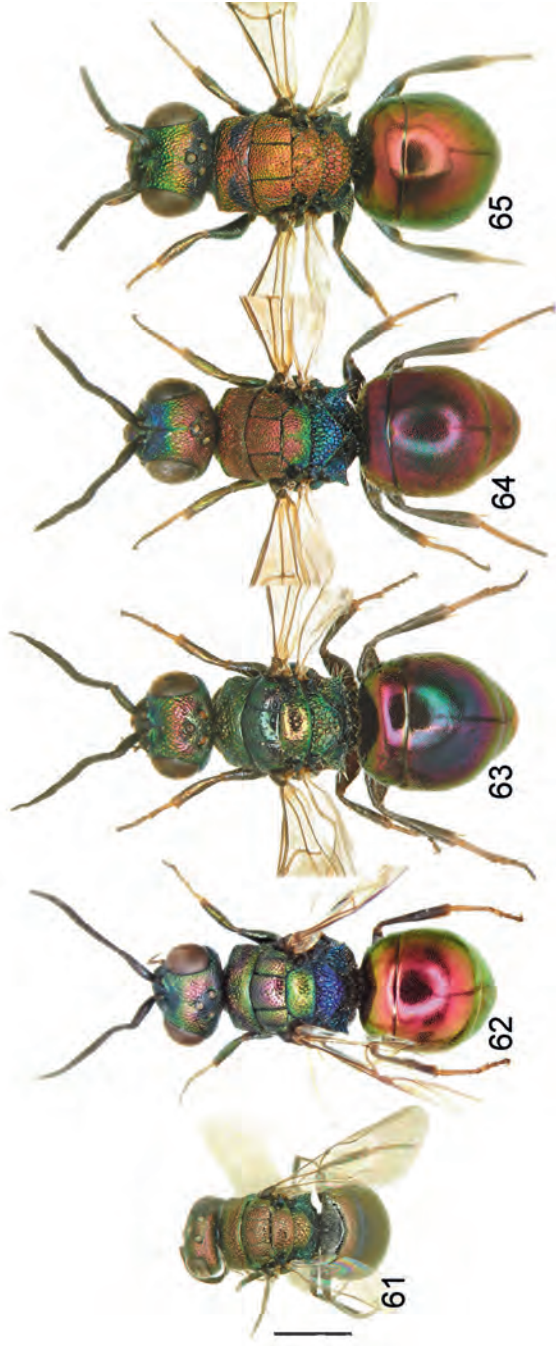
Figs 46-50: (46) *Holopyga punctatissima*, ♀ (Russia: Dagestan Rep.). (47) *Ho. pavlovskii*, ♂ (Russia: Stavropol Terr.). (48) *Ho. lucida*, ♀ (Russia: Irkutsk Prov.). (49) *Ho. inflammata*, ♀ (Russia: Stavropol Terr.). (50) *Haba almasyana*, ♀ (Russia: Astrakhan Prov.). Scale bar: 1.0 mm.



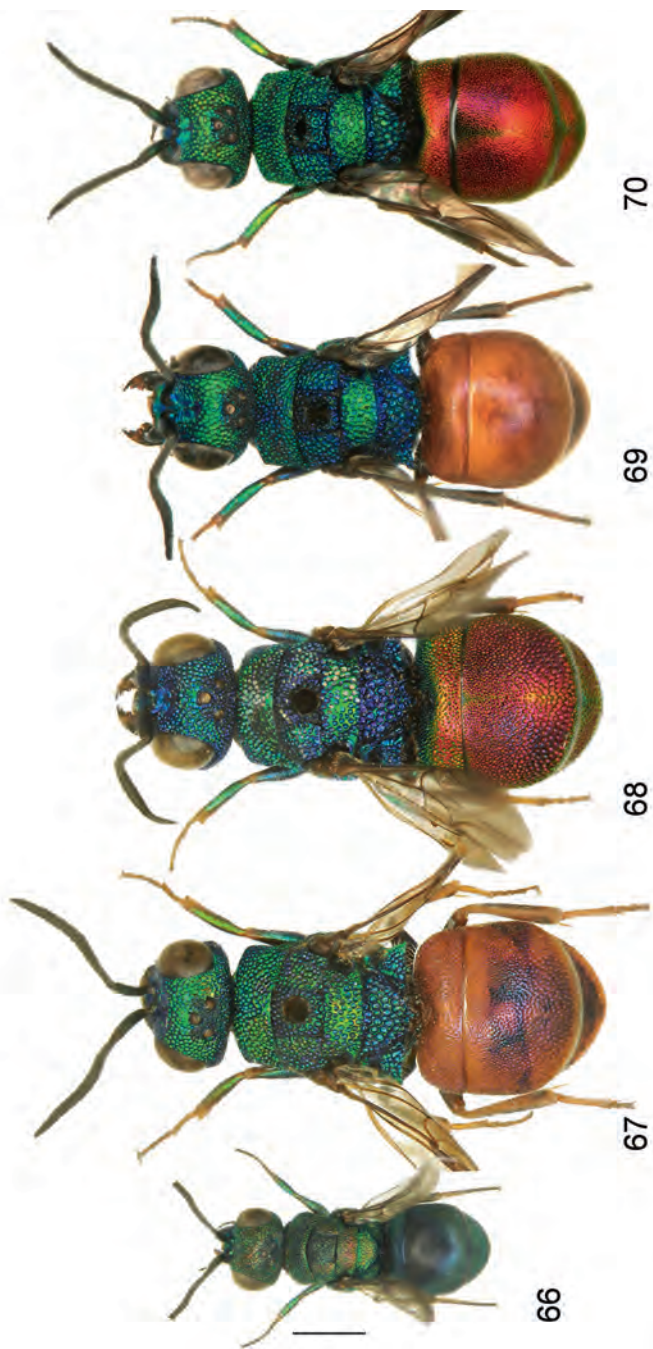
Figs 51-55: (51) *Hedychridium aheneum*, ♀ (Russia: Crimea). (52) *H. ardens*, ♀ (Russia: Khakass Rep.). (53) *H. belokobylskiji*, ♂ (Russia: Tuva Rep.). (54) *H. krajniki*, ♀ (Russia: Nizhny Novgorod Prov.). (55) *H. arensi*, ♀ (Russia: Tuva Rep.). Scale bar: 1.0 mm.



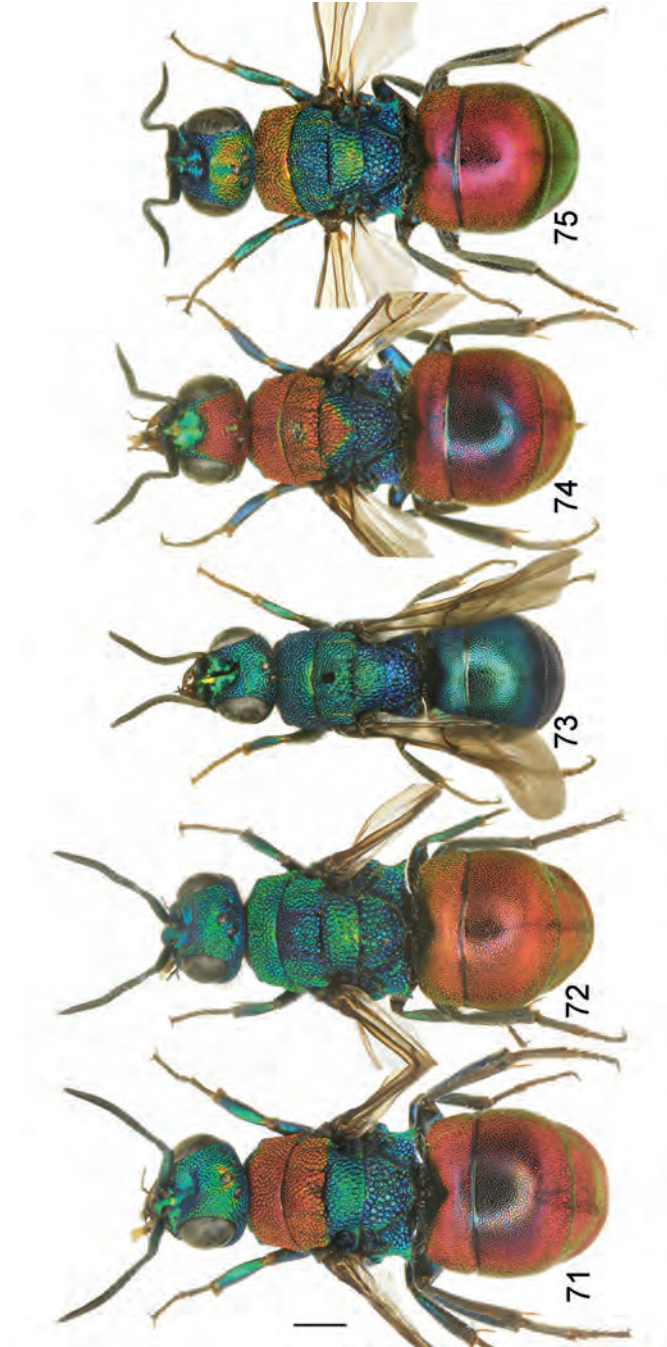
Figs 56-60: (56) *Hedychridium parkanense*, ♀ (Russia: Astrakhan Prov.). (57) *H. trossolus*, ♂ (Russia: Stavropol Terr.). (58) *H. sibiricum*, ♀ (Russia: Tuva Rep.). (59) *H. gabriellae*, ♀ (Russia: Tuva Rep.). (60) *H. longigena*, ♀ (Russia: Irkutsk Prov.). Scale bar: 1.0 mm.



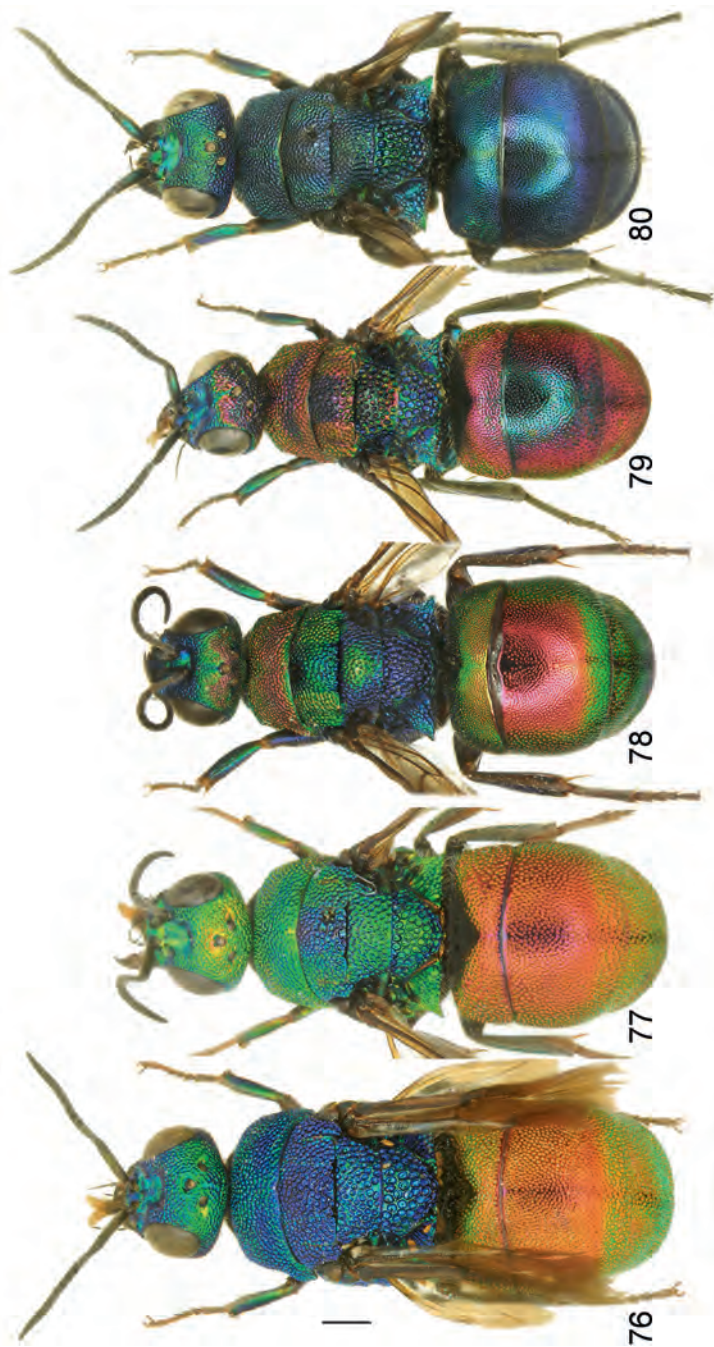
Figs 61-65: (61) *Hedychridium propodeale*, ♀ (Russia: Tuva Rep.), (62) *H. asianum*, ♂ (Russia: Tuva Rep.), (63) *H. cupreum*, ♀ (Russia: Altai Rep.), (64) *H. coriaceum*, ♀ (Russia: Crimea), (65) *H. leleji*, ♀ (Russia: Tuva Rep.). Scale bar: 1.0 mm.



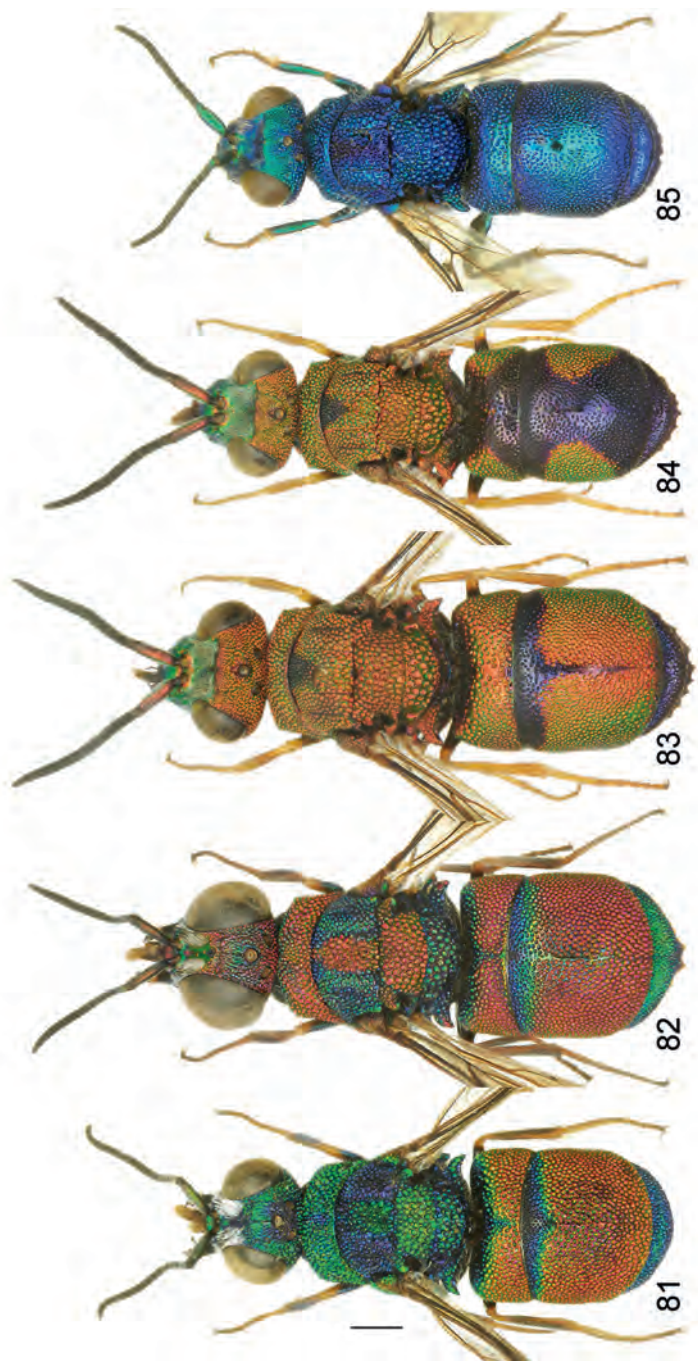
Figs 66-70: (66) *Hedychridium monochroum*, ♂ (Russia: Crimea). (67) *H. caucasium*, ♀ (Russia: Stavropol Terr.). (68) *H. caucasium*, ♀ (Russia: Stavropol Terr.). (69) *H. turcicum*, ♀ (Russia: Krasnoyarsk Terr.). (70) *H. turcicum*, ♂ (Russia: Krasnoyarsk Terr.). Scale bar: 1.0 mm.



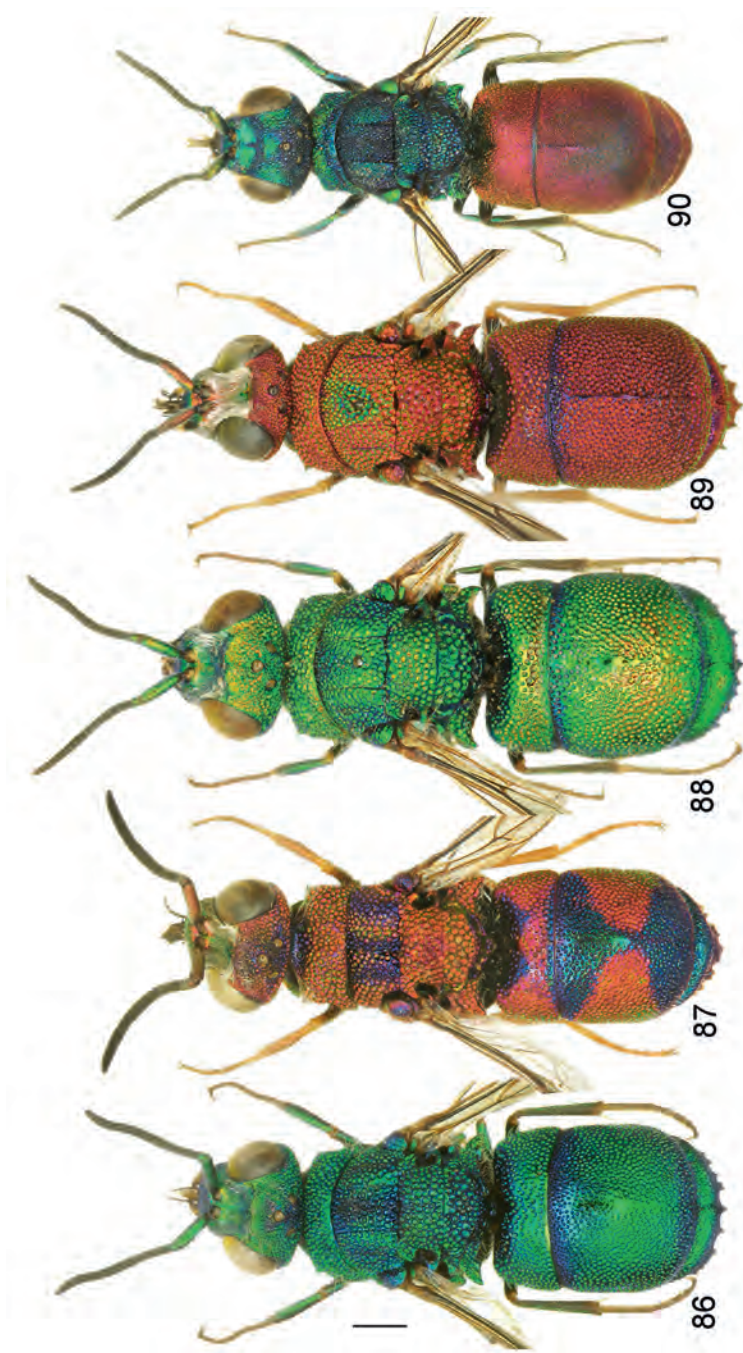
Figs 71-75: (71) *Hedychrum nobile*, ♀ (Russia: Crimea). (72) *He. nobile*, ♂ (Russia: Crimea). (73) *He. chalybaeum*, ♂ (Russia: Primorskii Terr.). (74) *He. chalybaeum*, ♀ (Russia: Buryat Rep.). (75) *He. aureicolle*, ♀ (Russia: Dagestan Rep.). Scale bar: 1.0 mm.



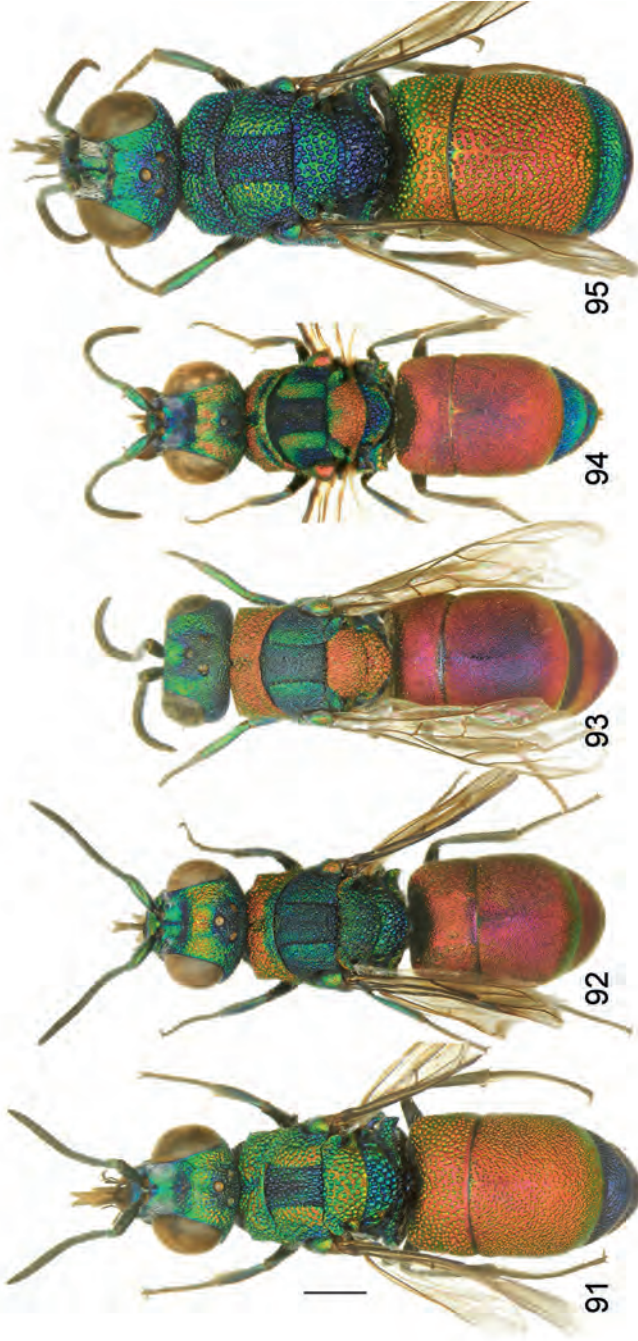
Figs 76-80: (76) *Hedychrum virens*, ♂ (Russia: Crimea). (77) *He. caucasicum*, ♂ (Russia: Dagestan Rep.). (78) *He. rutilans rutilans*, ♀ (Russia: Stavropol Terr.). (79) *He. rutilans ermak*, ♀ (Russia: Tuva Rep.). (80) *He. simile*, ♀ (Russia: Primorskii Terr.). Scale bar: 1.0 mm.



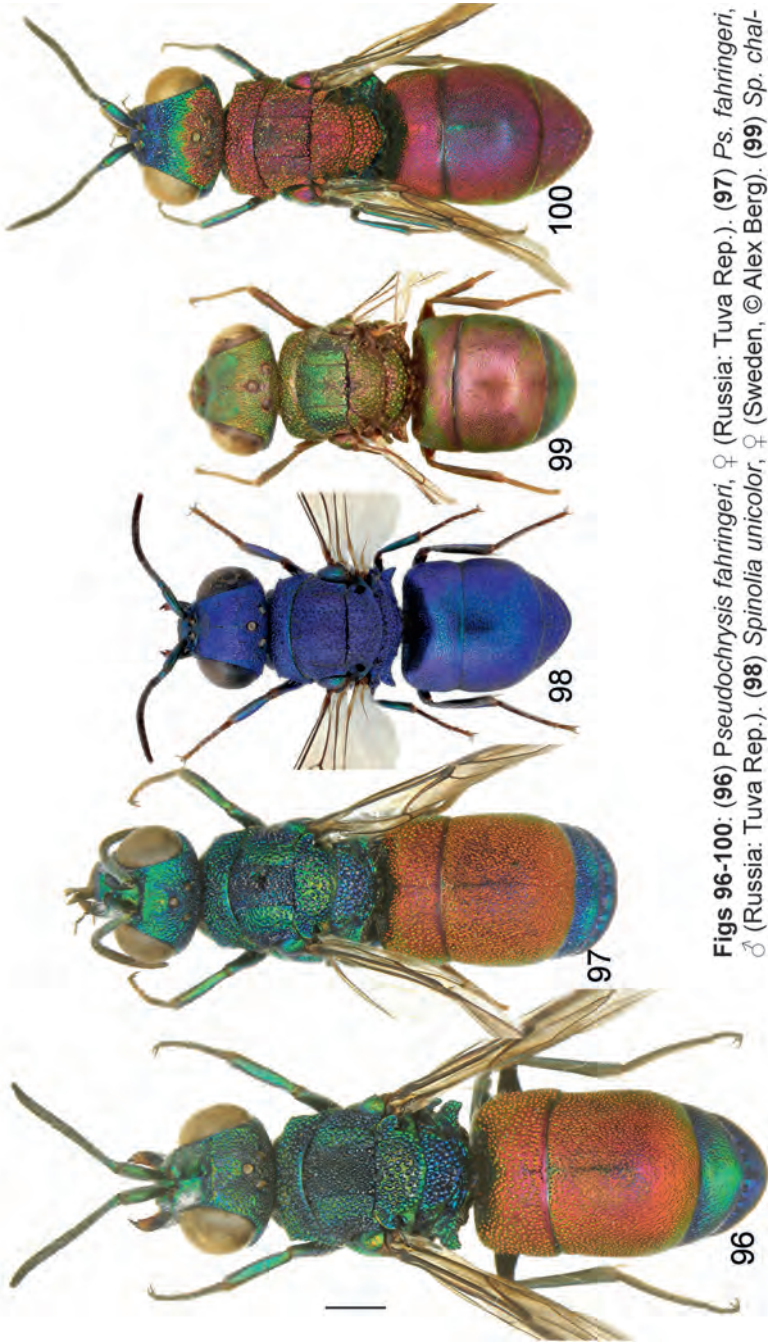
Figs 81-85: (81) *Euchroeus limbatus*, ♂ (Russia: Astrakhan Prov.). (82) *Eu. limbatus*, ♀ (Russia: Astrakhan Prov.). (83) *Eu. mongolicus*, ♀ (Mongolia: Govi-Altai Prov.). (84) *Eu. mongolicus*, ♂ (Mongolia: Govi-Altai Prov.). (85) *Eu. victorius*, ♂ (Russia: Khakass Rep.). Scale bar: 1.0 mm.



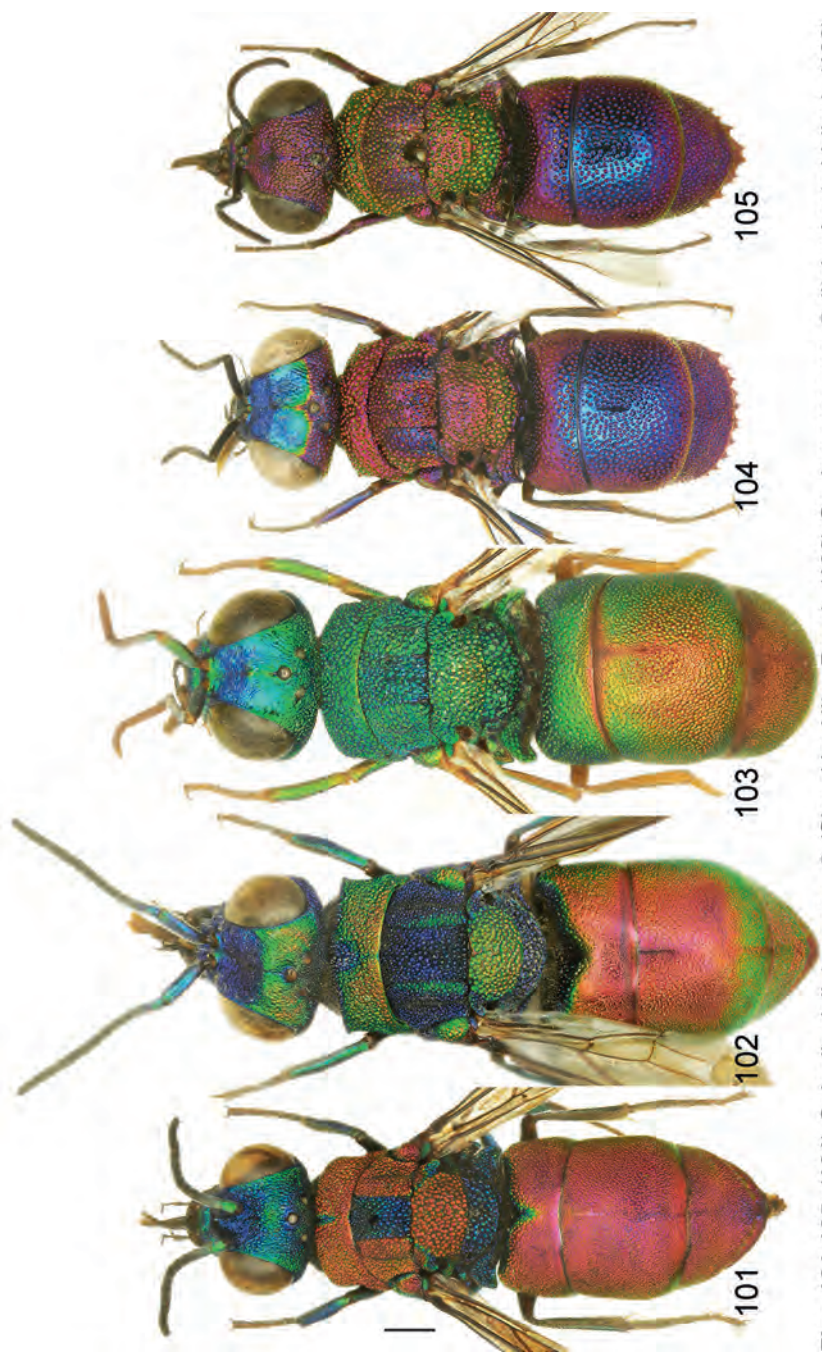
Figs 86-90: (86) *Euchroeus purpuratus*, ♂ (Russia: Khakass Rep.). (87) *Eu. purpuratus*, ♀ (Russia: Crimea). (88) *Eu. rugulosus*, ♂ (Uzbekistan: Kashkadaria Reg.). (89) *Eu. rugulosus*, ♀ (Turkmenistan: Türkmenbaşy Reg.). (90) *Pseudochrysis neglecta*, ♀ (Russia: Sverdlovsk Prov.). Scale bar: 1.0 mm.



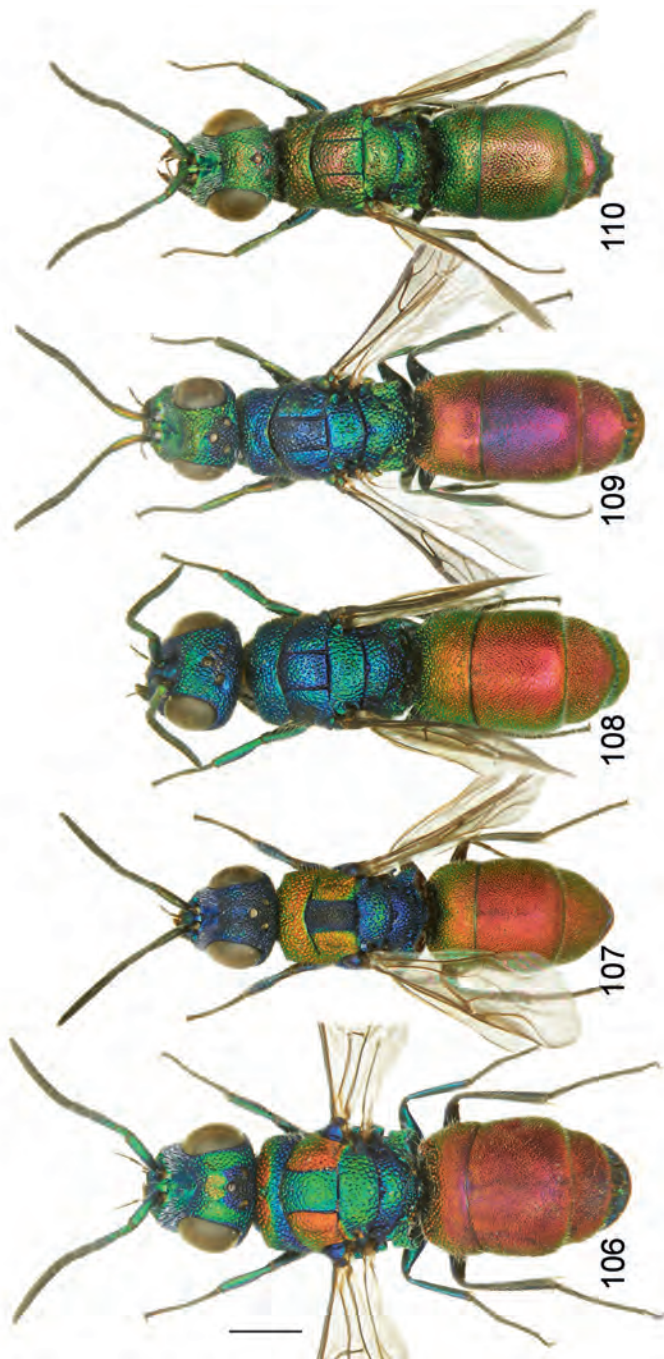
Figs 91-95: (91) *Pseudochrysis gengiskhan*, ♀ (Mongolia: Övörkhangay). (92) *Ps. aureicollis*, ♀ (Spain: Granada Prov.). (93) *Ps. uniformis*, ♀ (Kazakhstan: Shymkent Reg.). (94) *Ps. incrassata*, ♀ (Italy: Sardinia Reg.). (95) *Ps. humboldti*, ♂ (Russia: Crimea). Scale bar: 1.0 mm.



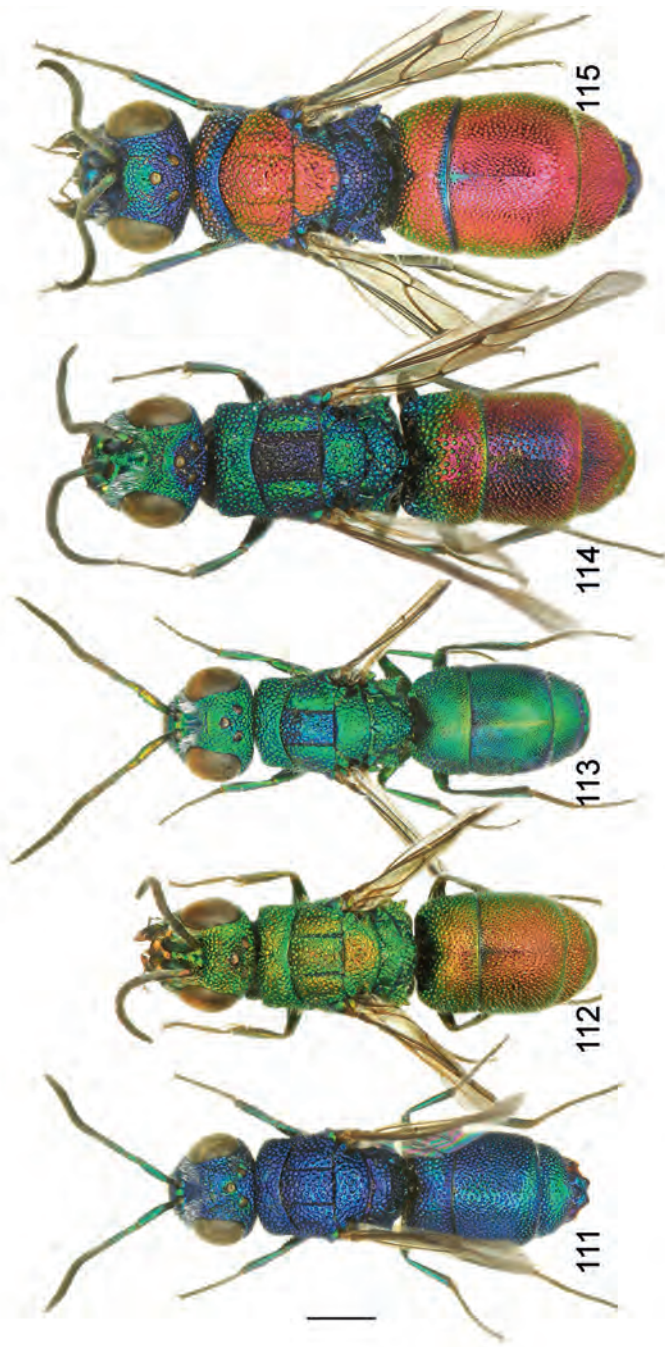
Figs 96-100: (96) *Pseudochrysis fahringeri*, ♀ (Russia: Tuva Rep.). (97) *Ps. fahringeri*, ♂ (Russia: Tuva Rep.). (98) *Spinolia unicolor*, ♀ (Sweden, © Alex Berg). (99) *Sp. chalcites*, ♀ (Russia: Caucasus). (100) *Sp. dournovii*, ♂ (Syria). Scale bar: 1.0 mm.



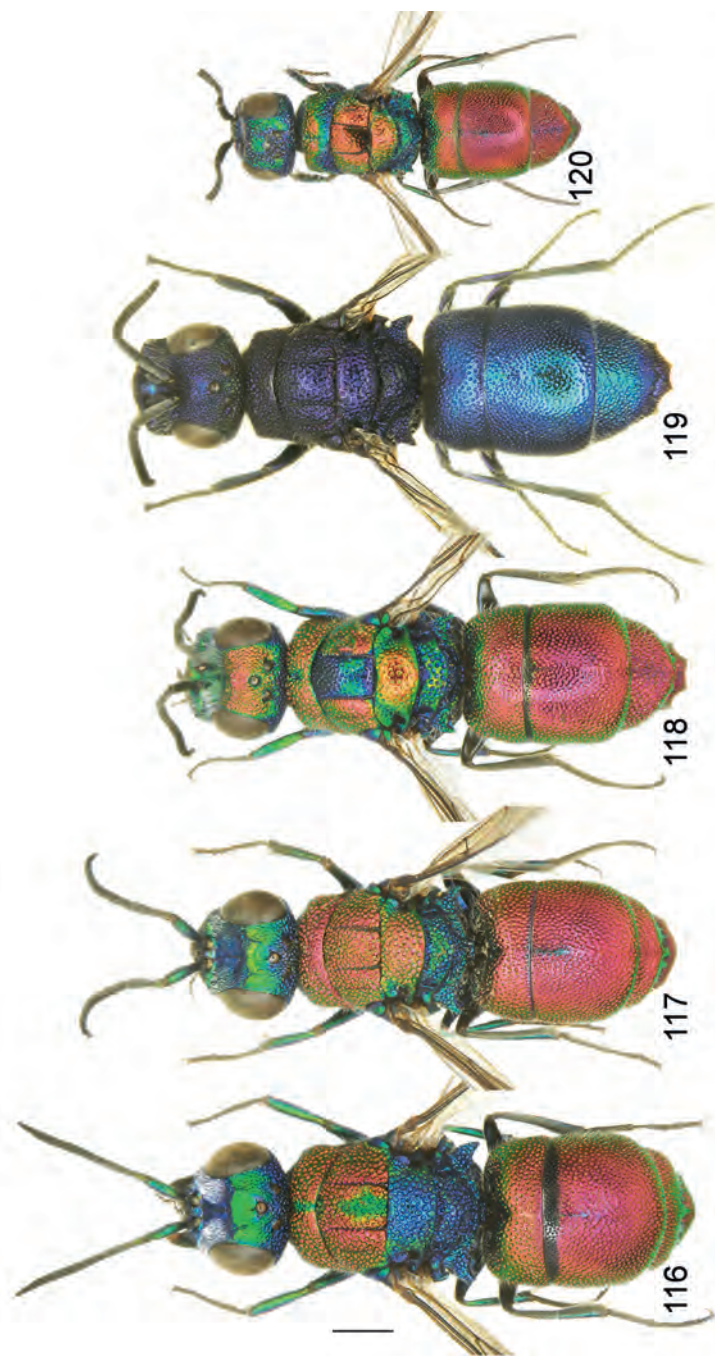
Figs 101-105: (101) *Spinolia dallatorreana*, ♀ (Slovakia: Nitra Prov.). (102) *Sp. lamprosoma*, ♀ (Italy: Aosta Valley). (103) *Sp. morawitzi*, ♂ (Iran). (104) *Sp. stchurovskiyi*, ♂ (Kazakhstan: Almaty Reg.). (105) *Sp. stchurovskiyi*, ♀ (Kazakhstan: Almaty Reg.). Scale bar: 1.0 mm.



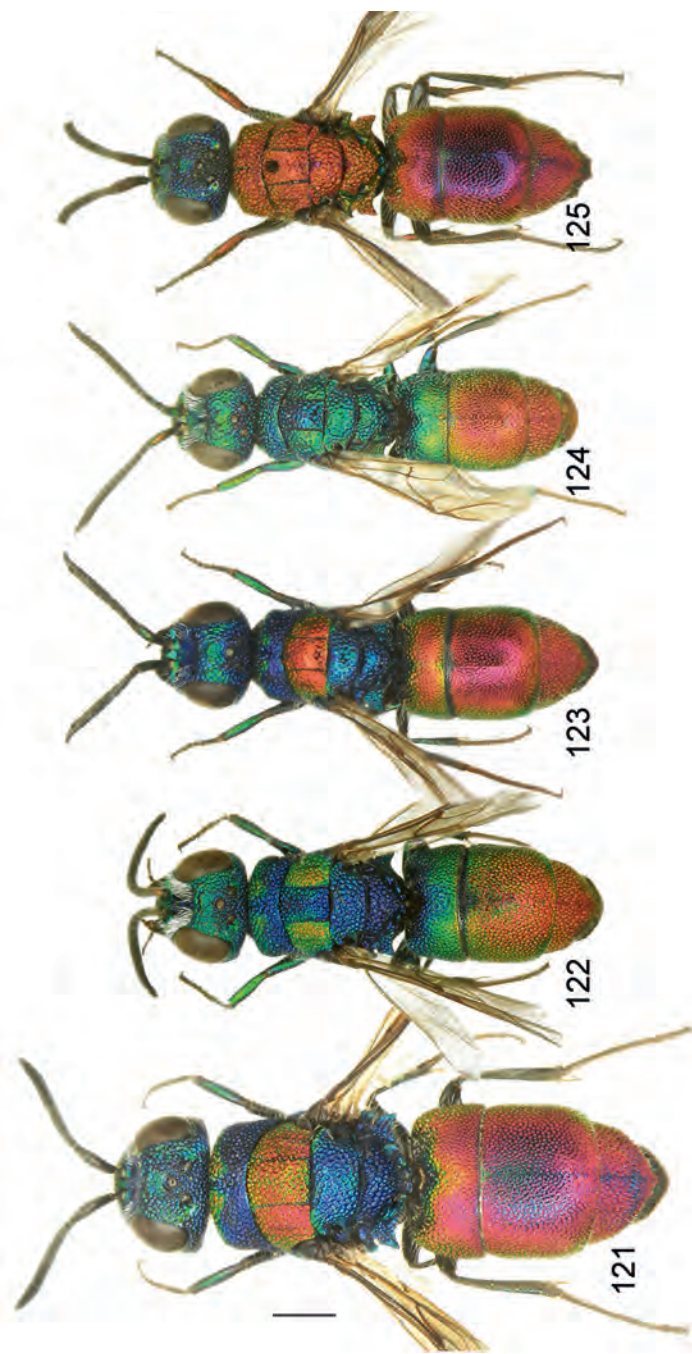
Figs 106-110: (106) *Chrysis circe*, ♂ (Turkey: Lycia). (107) *C. phryne*, ♀ (Italy: Emilia-Romagna Reg.). (108) *C. diacantha*, ♂ (Russia: Stavropol Terr.). (109) *C. gracillima*, ♂ (Russia: Dagestan Rep.). (110) *C. neobule*, ♀ (Russia: Stavropol Terr.).
Scale bar: 1.0 mm.



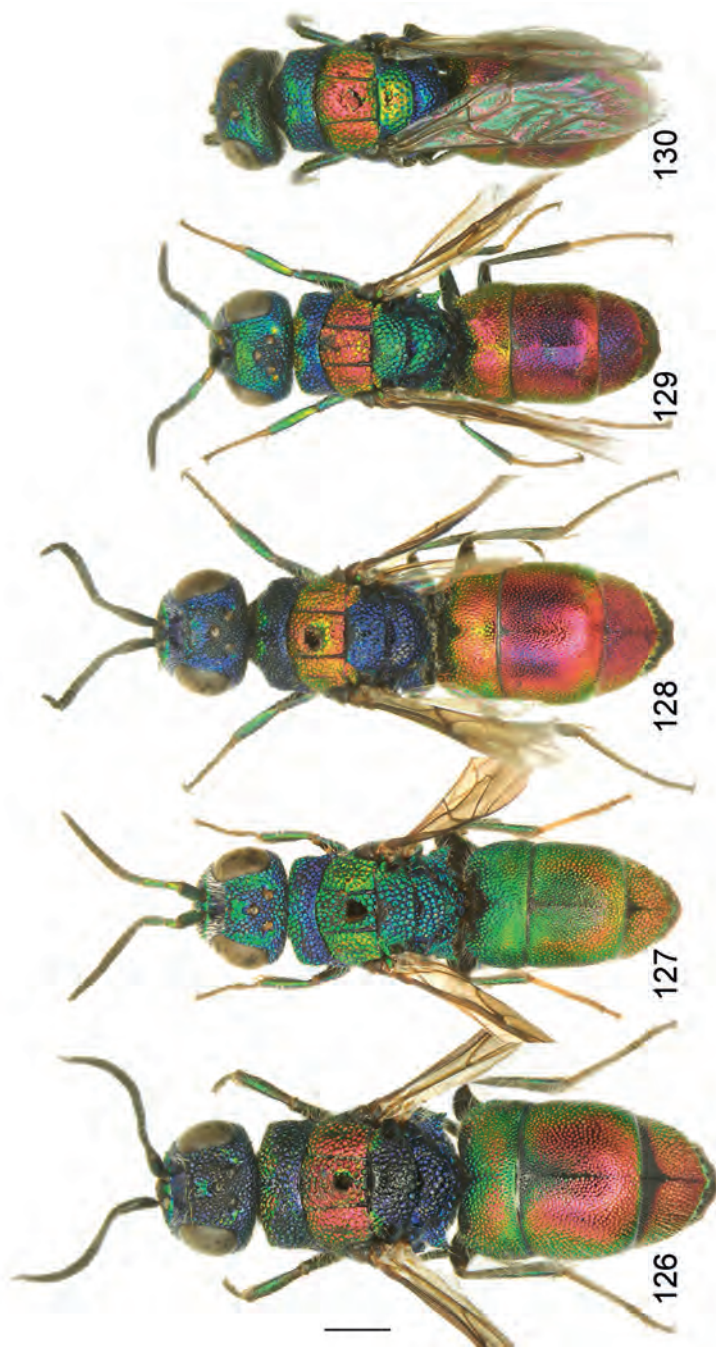
Figs 111-115: (111) *Chrysis ragusae*, ♀ (Russia: Crimea). (112) *C. bilobata*, ♂ (Russia: Stavropol Terr.). (113) *C. tenella*, ♂ (Russia: Dagestan Rep.). (114) *C. subsinuata fallax*, ♂ (Russia: Stavropol Terr.). (115) *C. turceyana*, ♀ (Tajikistan: Pamir). Scale bar: 1.0 mm.



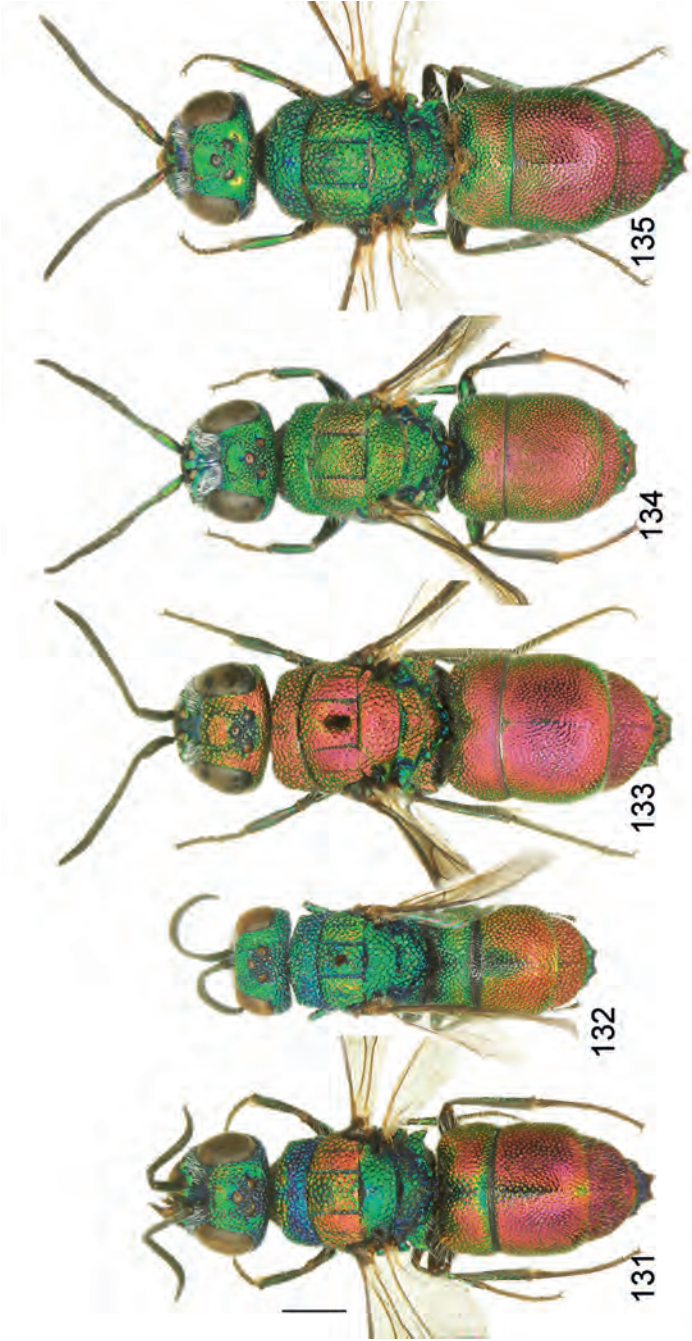
Figs 116-120: (116) *Chrysis pulchella*, ♂ (Russia: Dagestan Rep.). (117) *C. pulchella*, ♀ (Russia: Crimea). (118) *C. mirabilis*, ♀ (Russia: Crimea). (119) *C. nox*, ♀ (Russia: Altai Rep.). (120) *C. germari*, ♀ (Russia: Crimea). Scale bar: 1.0 mm.



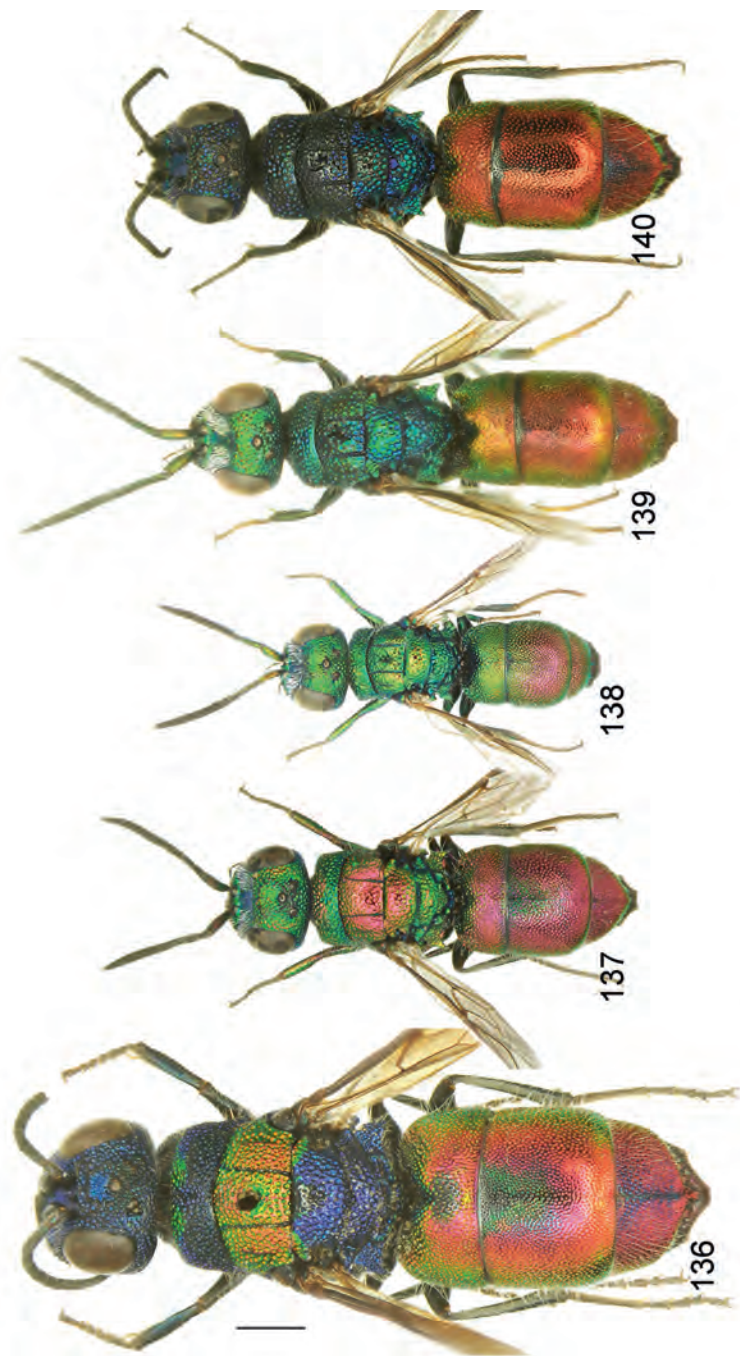
Figs 121-125: (121) *Chrysis albanica*, ♀ (Russia: Astrakhan Prov.). (122) *C. albanica*, ♂ (Russia: Stavropol Terr.). (123) *C. frivaldszkyi*, ♀ (Russia: Tuva Rep.). (124) *C. frivaldszkyi*, ♂ (Russia: Tuva Rep.). (125) *C. mokrousovi*, ♀ (Abkhazia Rep.). Scale bar: 1.0 mm.



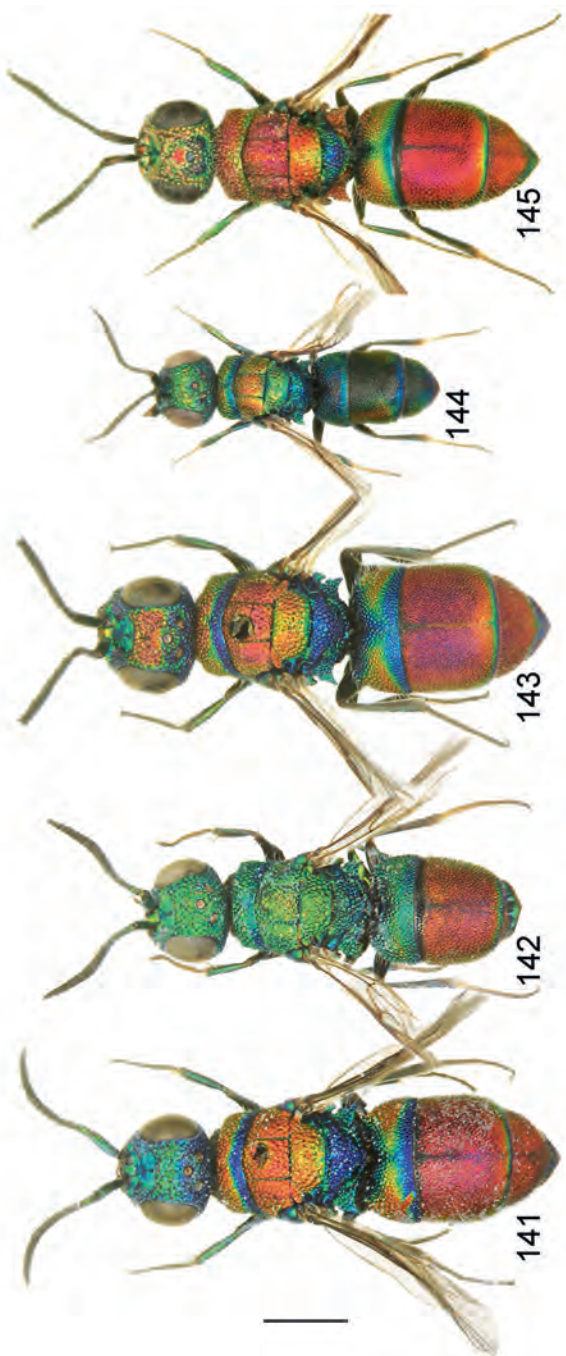
Figs 126-130: (126) *Chnysis bicolor*, ♀ (Russia: Nizhny Novgorod Prov.). (127) *C. bicolor*, ♂ (Russia: Nishny Novgorod Prov.). (128) *C. illigeri*, ♀ (Russia: Primorskii Terr.). (129) *C. illigeri*, ♂ (Russia: Primorskii Terr.). (130) *C. inconsueta*, ♀ (Russia: Altai Rep.). Scale bar: 1.0 mm.



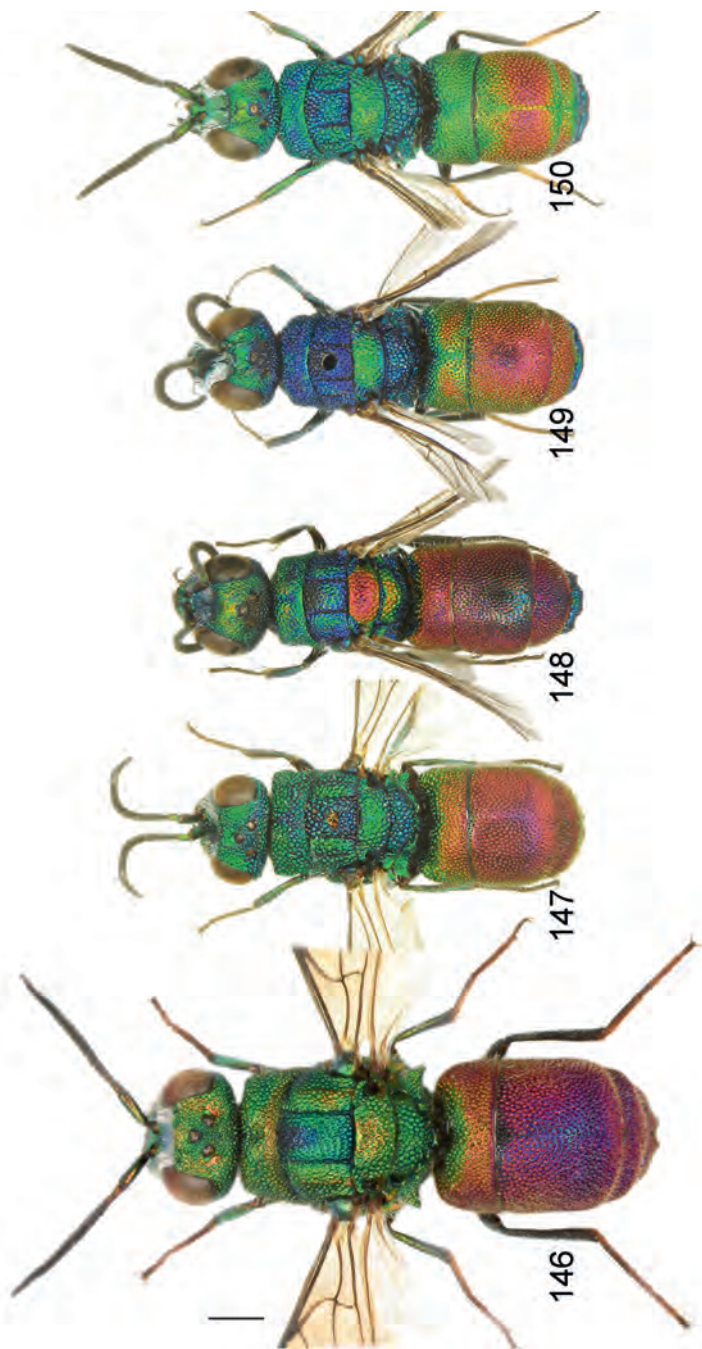
Figs 131-135: (131) *Chrysis grohmanni* *krkiana*, ♀ (Russia: Stavropol Terr.). (132) *C. grohmanni* *krkiana*, ♂ (Russia: Stavropol Terr.). (133) *C. kolazyi*, ♀ (Greece: Aegean Is.). (134) *C. kolazyi*, ♂ (Greece: Aegean Is.). (135) *C. singula*, ♀ (Uzbekistan: Kaltakol Distr.). Scale bar: 1.0 mm.



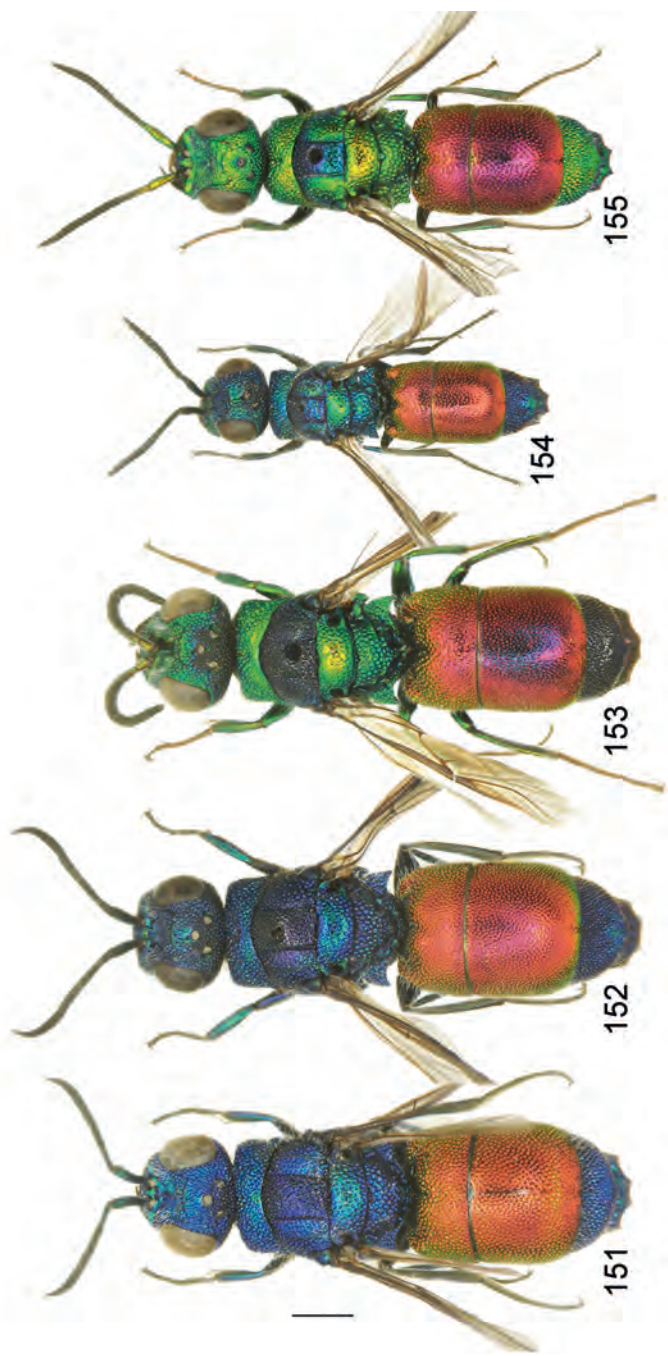
Figs 136-140: (136) *Chrysis vinokurovi*, ♀ (Russia: Stavropol Terr.). (137) *C. mysta*, ♀ (Russia: Crimea). (138) *C. mysta*, ♂ (Russia: Crimea). (139) *C. dauriana*, ♀ (Russia: Altai Rep.). (140) *C. dauriana*, ♀ (Russia: Altai Rep.). Scale bar: 1.0 mm.



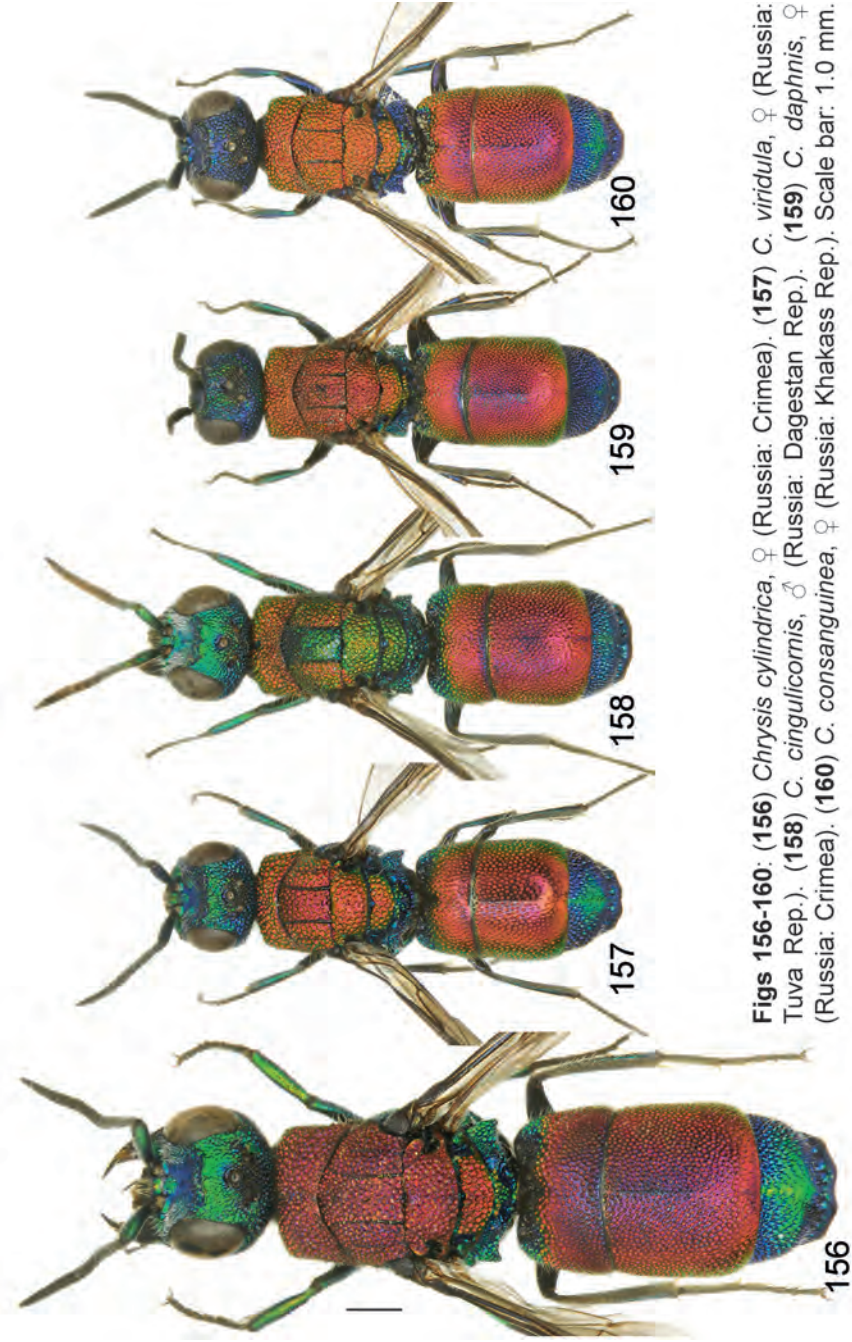
Figs 141-145: (141) *Chrysis leachii*, ♀ (Russia: Astrakhan Prov.). (142) *C. leachii*, ♂ (Russia: Astrakhan Prov.). (143) *C. auriceps*, ♀ (Russia: Crimea). (144) *C. proauriceps*, ♂ (Russia: Krasnoyarsk Terr.). (145) *C. lyda*, ♀ (Russia: Krasnodar Terr.). Scale bar: 1.0 mm.



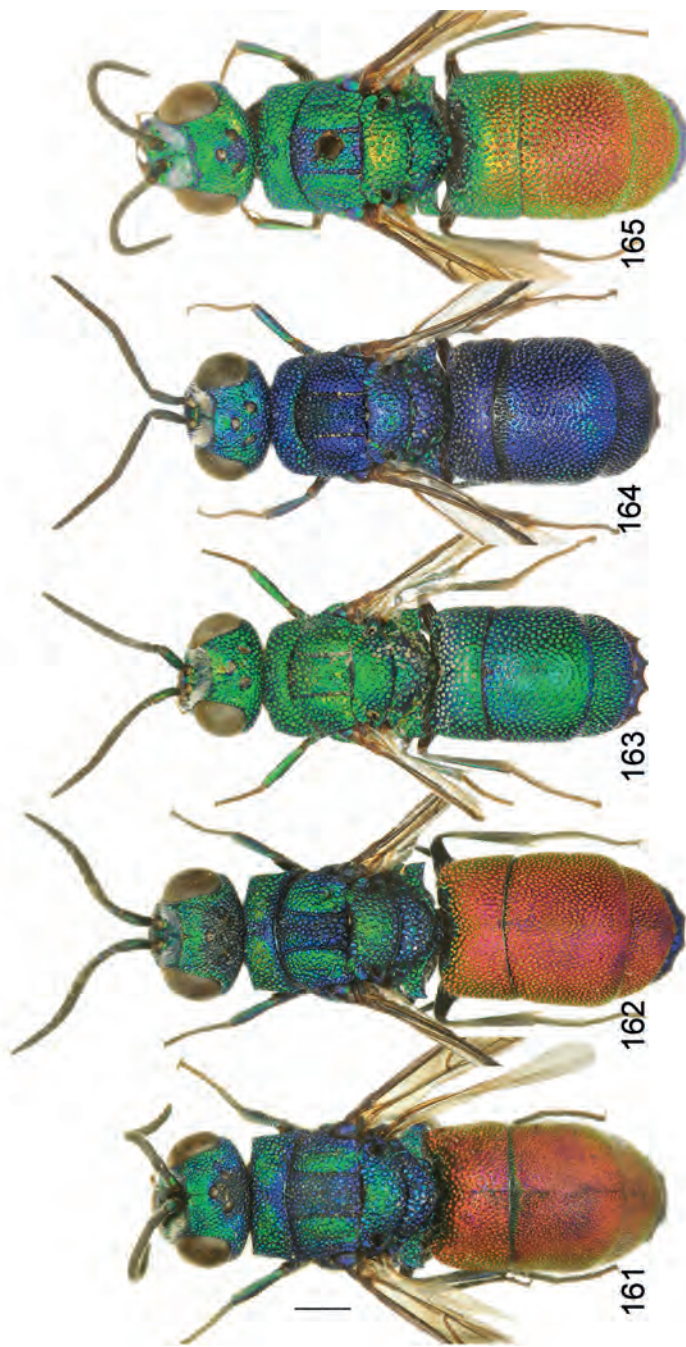
Figs 146-150: (146) *Chrysis martinella*, ♂ (Azerbaijan). (147) *C. interjecta*, ♂ (Russia: Stavropol Terr.). (148) *C. scutellaris*, ♀ (Russia: Stavropol Terr.). (149) *C. scutellaris*, ♂ (Russia: Stavropol Terr.). (150) *C. soror*, ♂ (Russia: Dagestan Rep.). Scale bar: 1.0 mm.



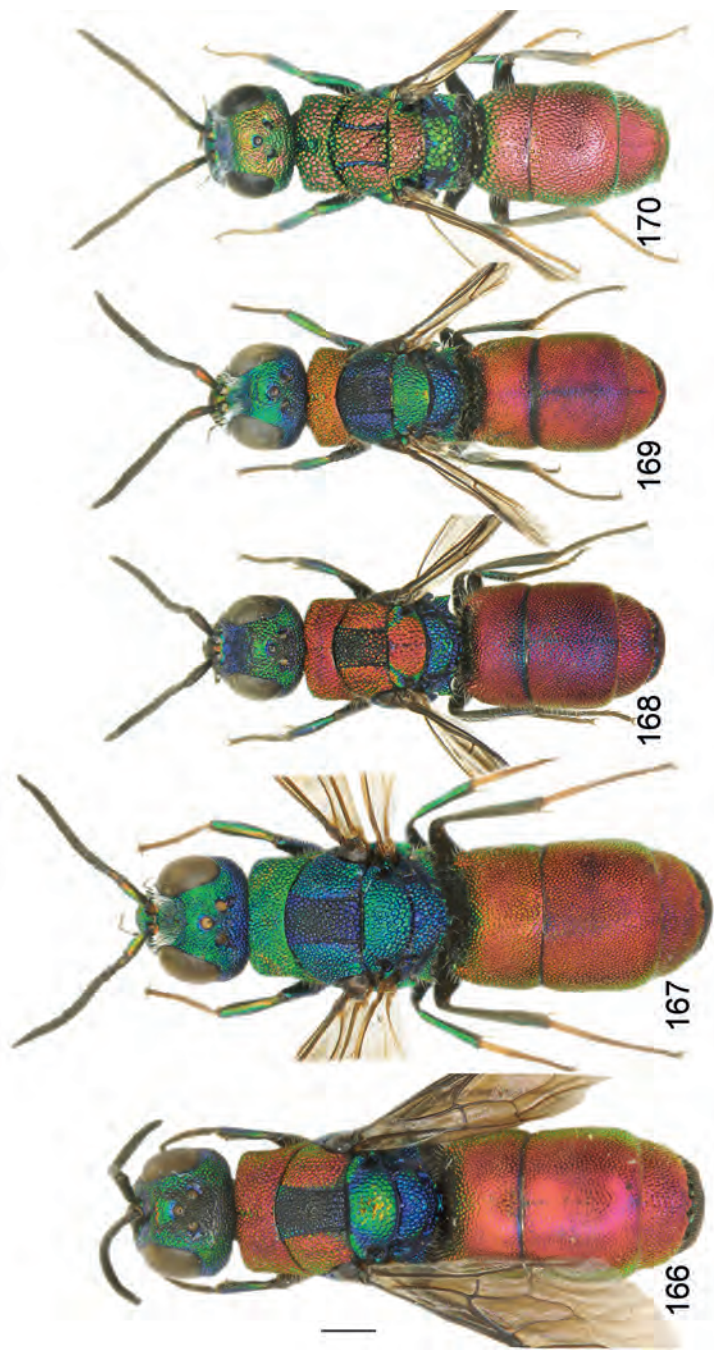
Figs 151-155: (151) *Chrysis splendidula*, ♀ (Russia: Crimea). (152) *C. rutilans*, ♀ (Russia: Crimea). (153) *C. amurensis*, ♀ (Russia: Khakassia Rep.). (154) *C. insperata*, ♂ (Russia: Crimea). (155) *C. mesasiatica*, ♀ (Russia: Astrakhan Prov.). Scale bar: 1.0 mm.



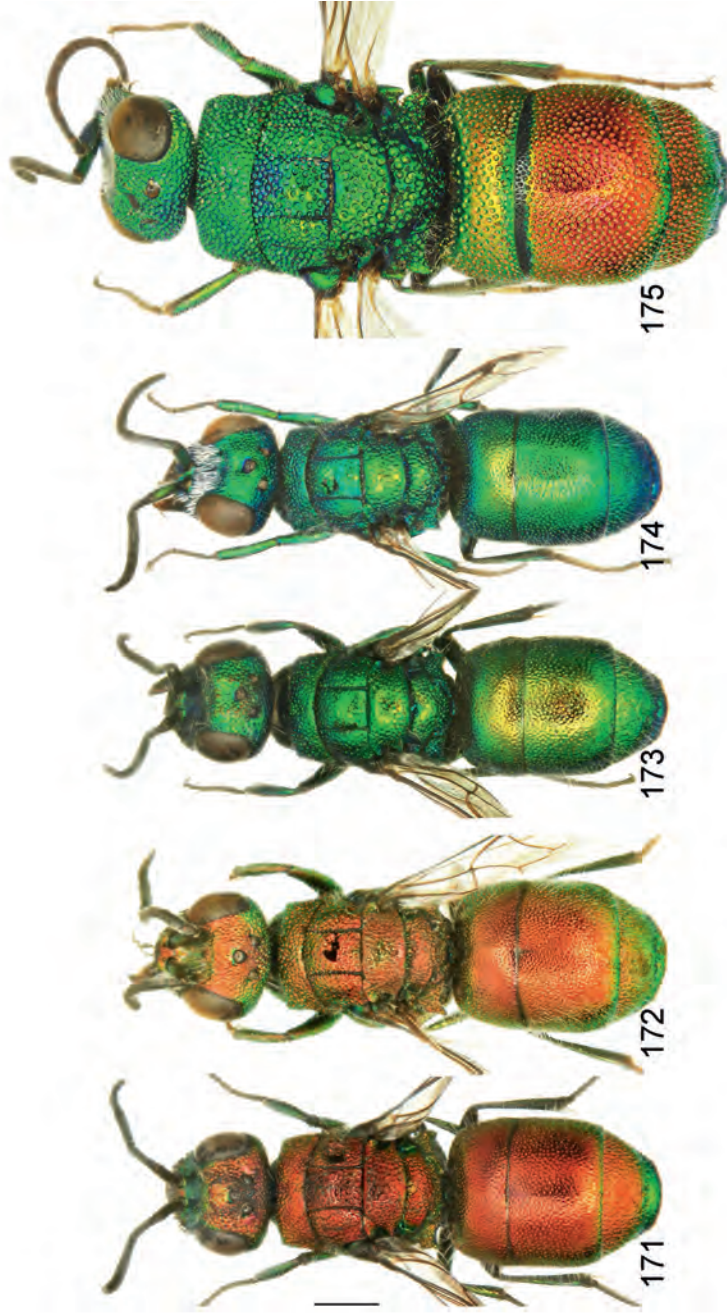
Figs 156-160: (156) *Chrysis cylindrica*, ♀ (Russia: Crimea). (157) *C. viridula*, ♀ (Russia: Tuva Rep.). (158) *C. cingulicornis*, ♂ (Russia: Dagestan Rep.). (159) *C. daphnis*, ♀ (Russia: Crimea). (160) *C. consanguinea*, ♀ (Russia: Khakass Rep.). Scale bar: 1.0 mm.



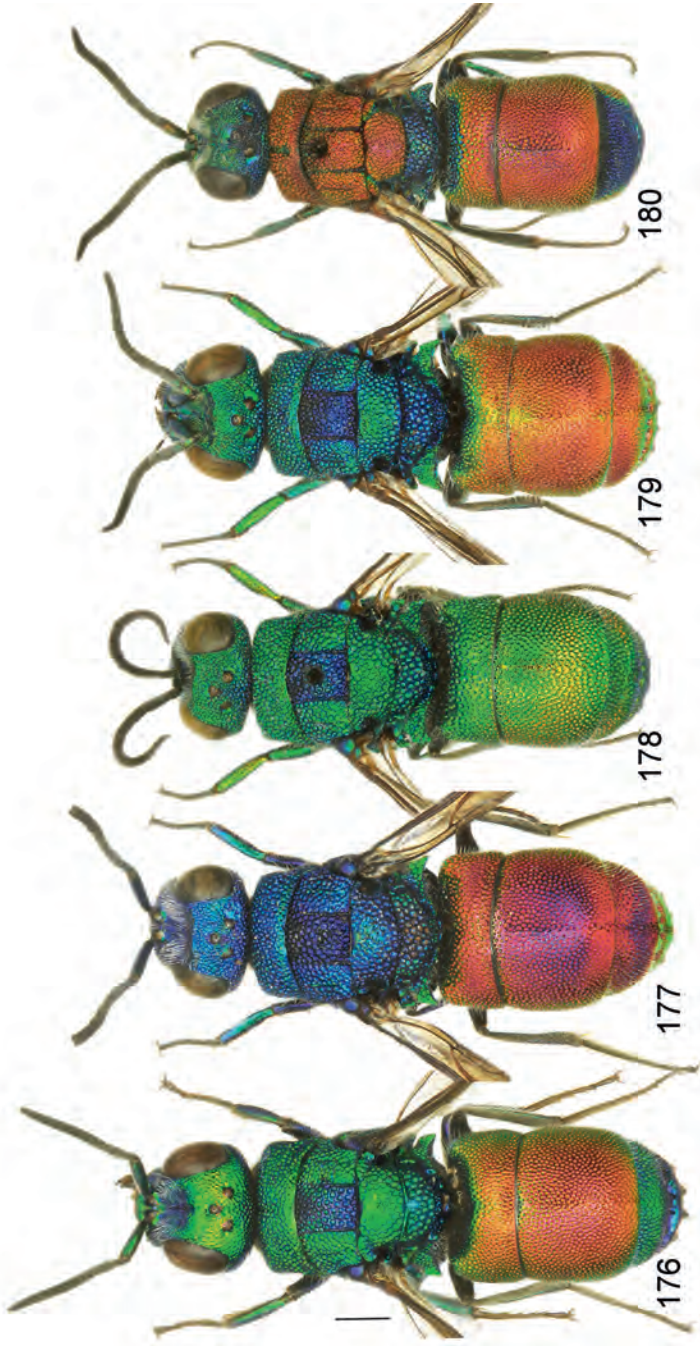
Figs 161-165: (161) *Chrysis graelsii*, ♀ (Russia: Stavropol Prov.), (162) *C. jaxartisi*, ♀ (Russia: Crimea), (163) *C. remota*, ♂ (Kazakhstan), (164) *C. buechneri*, ♂ (Uzbekistan: Bukhara Reg.), (165) *C. frankenbergeri*, ♂ (Bulgaria: Blagoevgrad Prov.). Scale bar: 1.0 mm.



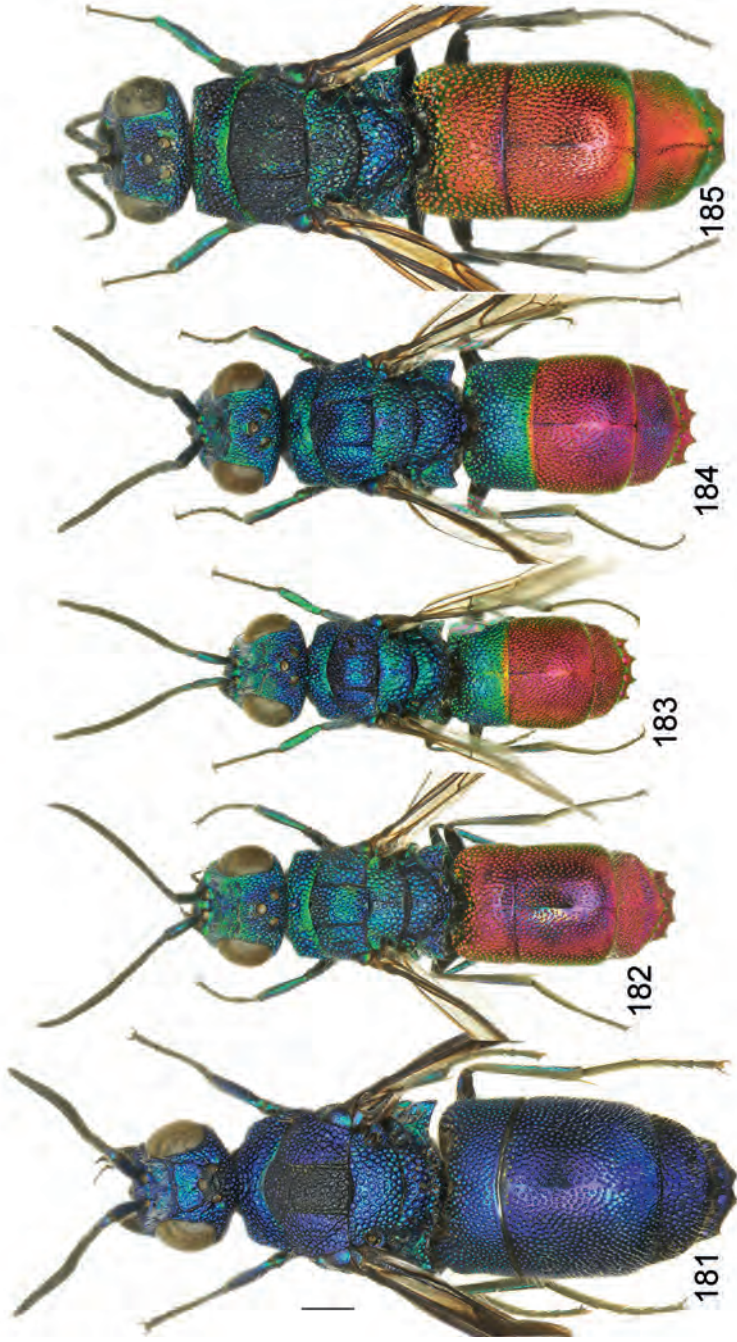
Figs 166-170: (166) *Chrysis elegans*, ♀ (Greece: Peloponnese). (167) *C. elegans*, ♂ (Greece: Peloponnese). (168) *C. pushkiniana*, ♀ (Russia: Crimea). (169) *C. pushkiniana*, ♂ (Russia: Crimea). (170) *C. ruffitarsis*, ♂ (Russia: Dagestan Reg.). Scale bar: 1.0 mm.



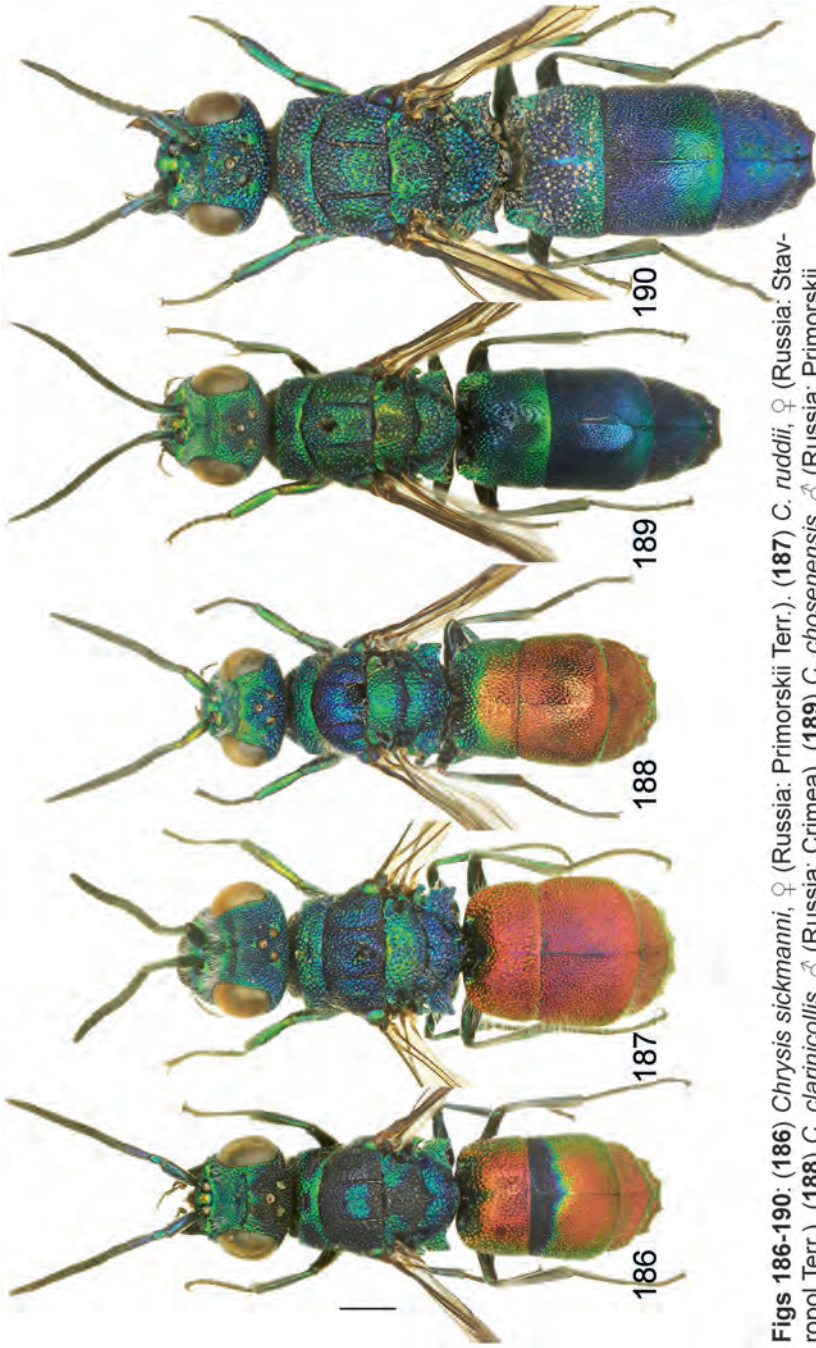
Figs 171-175: (171) *Chrysis sibirica*, ♀ (Russia: Tuva Rep.). (172) *C. sibirica*, ♂ (Russia: Tuva Rep.). (173) *C. pavesii*, ♀ (Russia: Altai Rep.). (174) *C. pavesii*, ♂ (Russia: Altai Rep.). (175) *C. marginata*, ♂ (Russia: Stavropol Terr.).
Scale bar: 1.0 mm



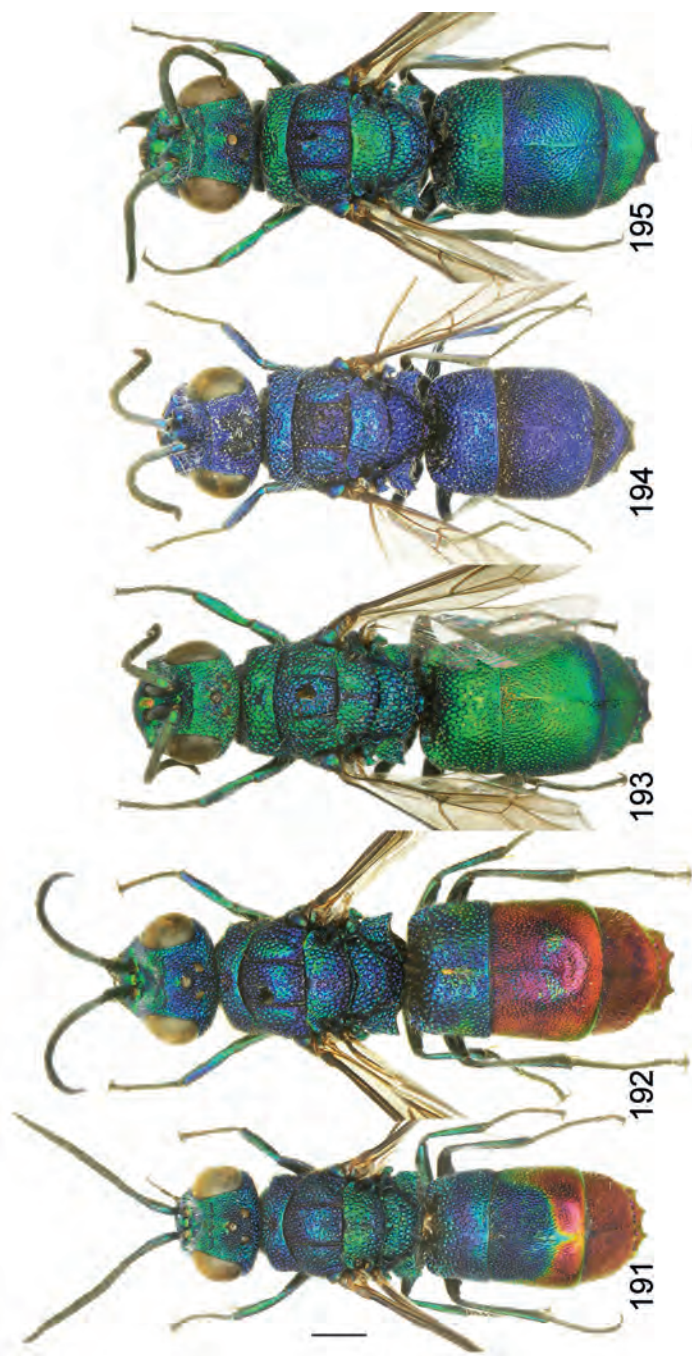
Figs 176-180: (176) *Chrysis chrysoprasina*, ♀ (Russia: Astrakhan Prov.). (177) *C. comparata*, ♀ (Russia: Crimea). (178) *C. comparata orientica*, ♂ (Russia: Stavropol Terr.). (179) *C. comparata*, ♂ (Russia: Crimea). (180) *C. chryso stigma*, ♂ (Russia: Crimea). Scale bar: 1.0 mm.



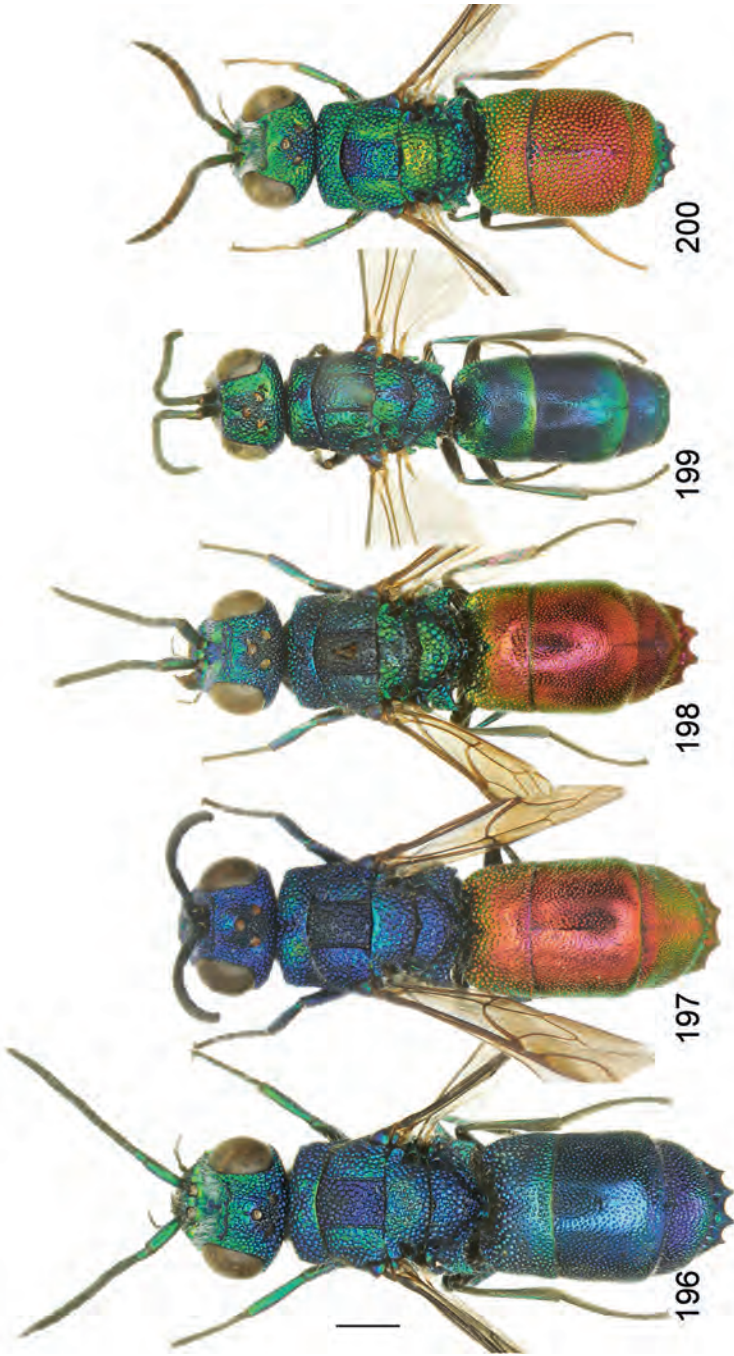
Figs 181-185: (181) *Chrysis angolensis*, ♀ (Russia: Primorskii Terr.). (182) *C. terminata*, ♀ (Russia: Crimea). (183) *C. castigata*, ♂ (Russia: Tuva Rep.). (184) *C. castigata*, ♀ (Russia: Tuva Rep.). (185) *C. longula*, ♀ (Russia: Crimea).
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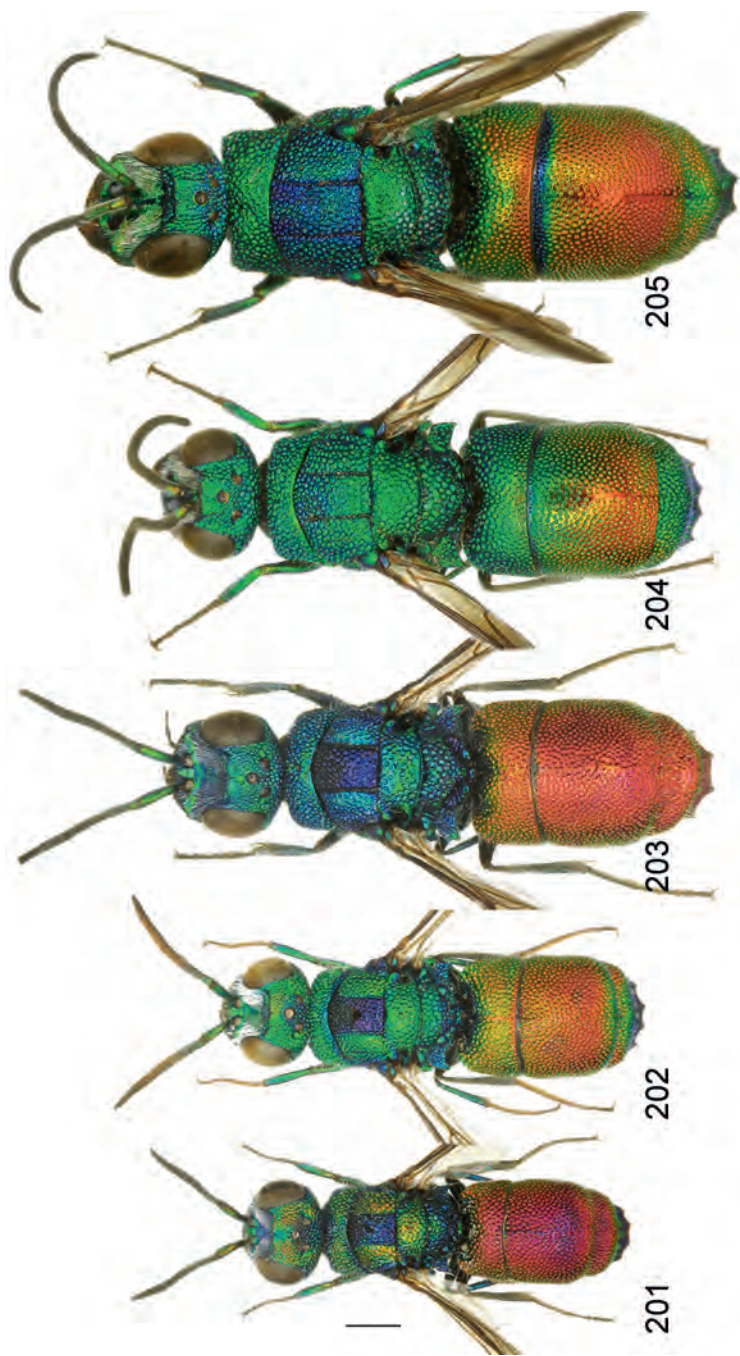
Figs 186-190: (186) *Chrysis sickmanni*, ♀ (Russia: Primorskii Terr.). (187) *C. ruddii*, ♀ (Russia: Stavropol Terr.). (188) *C. clarincollis*, ♂ (Russia: Crimea). (189) *C. chosenensis*, ♂ (Russia: Primorskii Terr.). (190) *C. iris*, ♀ (Russia: Tuva Rep.). Scale bar: 1.0 mm.



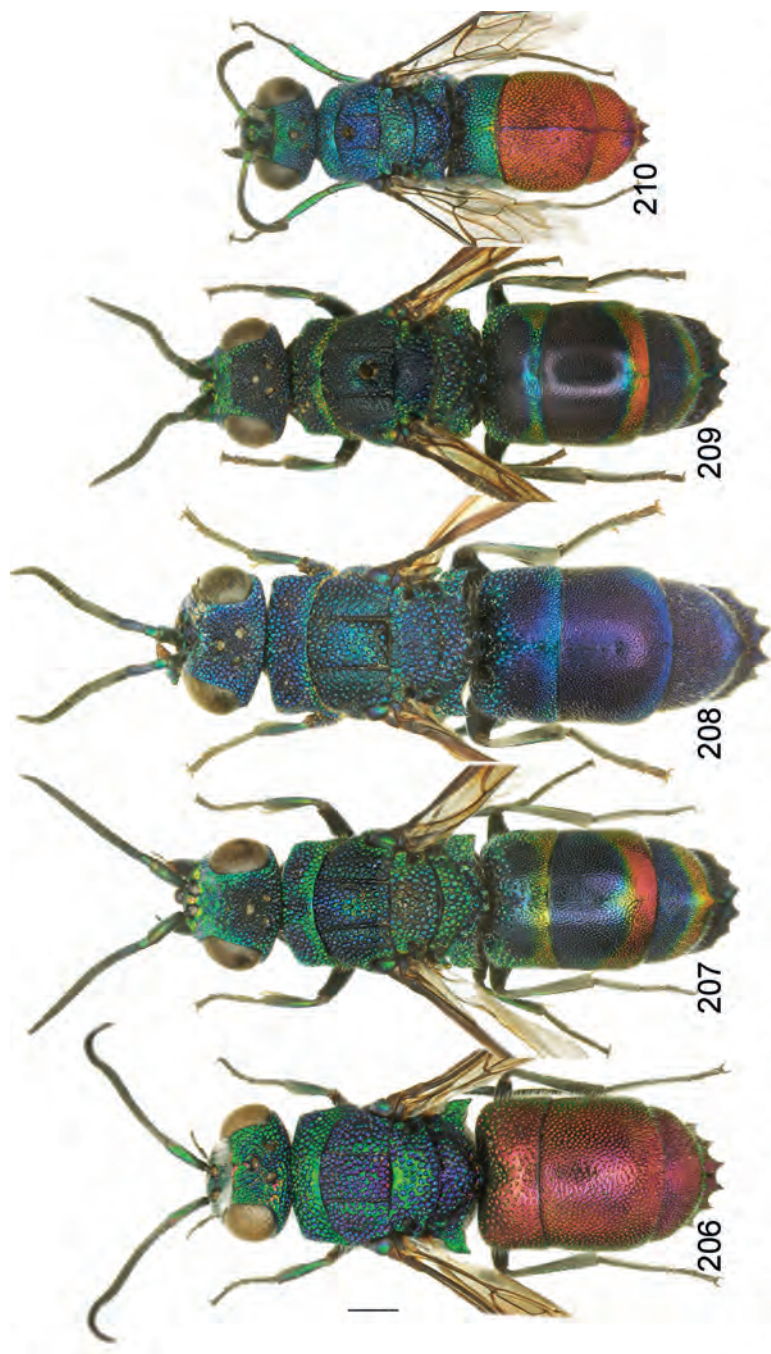
Figs 191-195: (191) *Chrysis fulgida*, ♂ (Russia: Khakass Rep.). (192) *C. fulgida*, ♀ (Russia: Altai Rep.). (193) *C. csikiana*, ♀ (Russia: Stavropol Terr.). (194) *C. tianshanica*, ♀ (Russia: Kabardino-Balkarian Rep.). (195) *C. tragica*, ♀ (Russia: Kabardino-Balkarian Rep.). Scale bar: 1.0 mm.



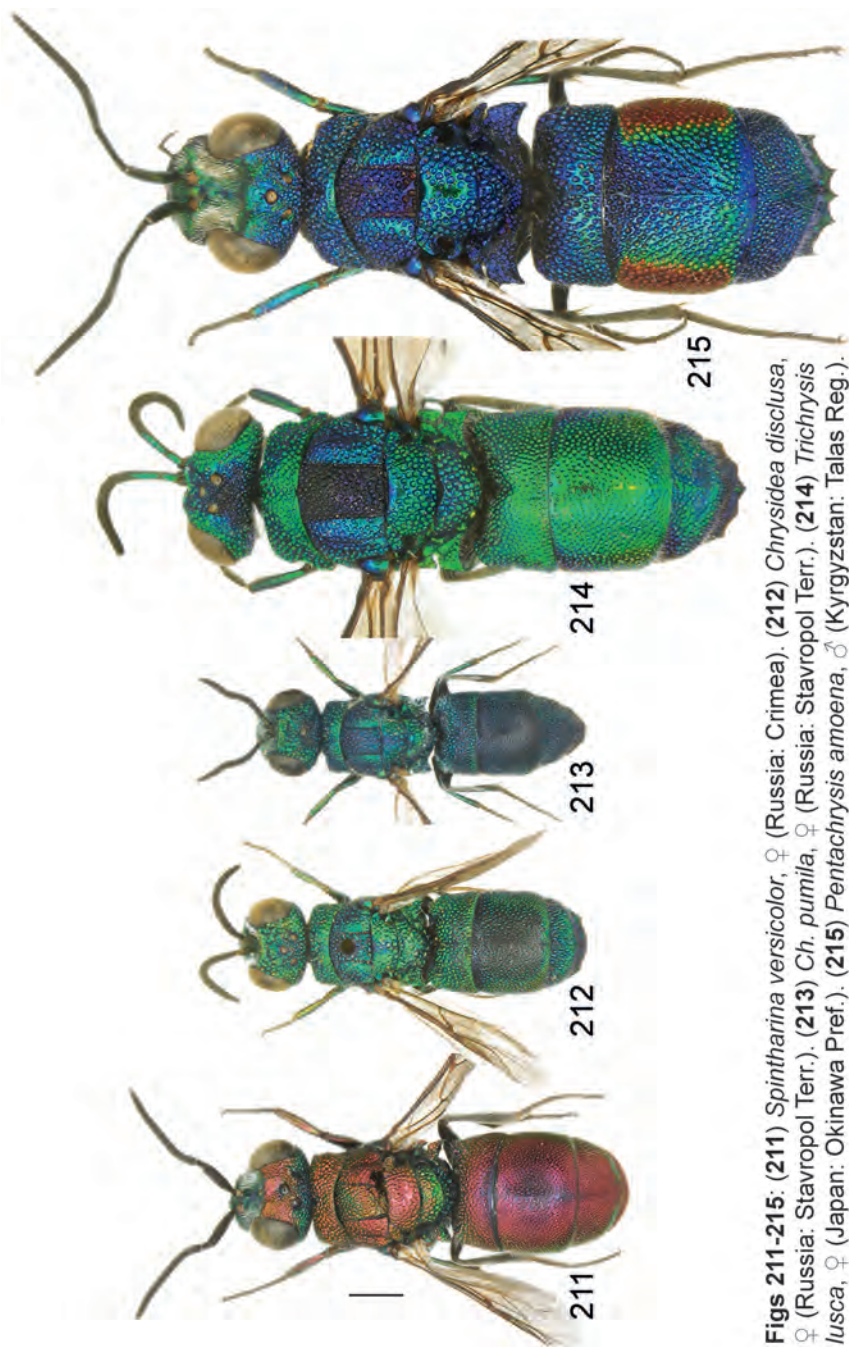
Figs 196-200: (196) *Chrysis indigotea*, ♀ (Russia: Crimea). (197) *C. obtusidens*, ♀ (Russia: Volgograd Prov.). (198) *C. sooni*, ♀ (Russia: Primorskii Terr.). (199) *C. japonica*, ♀ (Japan: Niigata). (200) *C. distincta*, ♂ (Russia: Crimea). Scale bar: 1.0 mm.



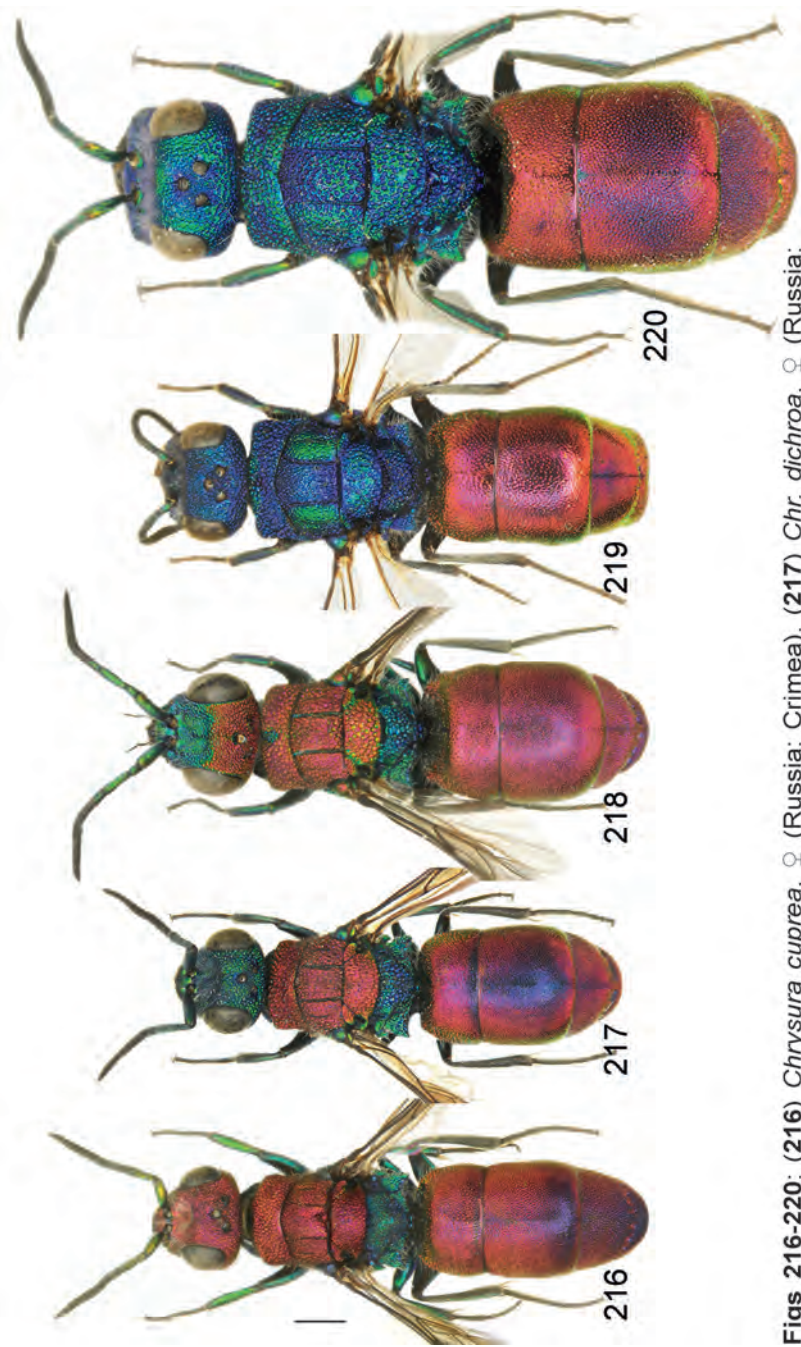
Figs 201-205: (201) *Chrysis distincta*, ♀ (Russia: Crimea). (202) *C. ambigua*, ♂ (Russia: Stavropol Prov.). (203) *C. ambigua*, ♀ (Russia: Crimea). (204) *C. taczanovskii*, ♂ (Russia: Dagestan Rep.). (205) *C. taczanovskii*, ♀ (Russia: Stavropol Prov.). Scale bar: 1.0 mm.



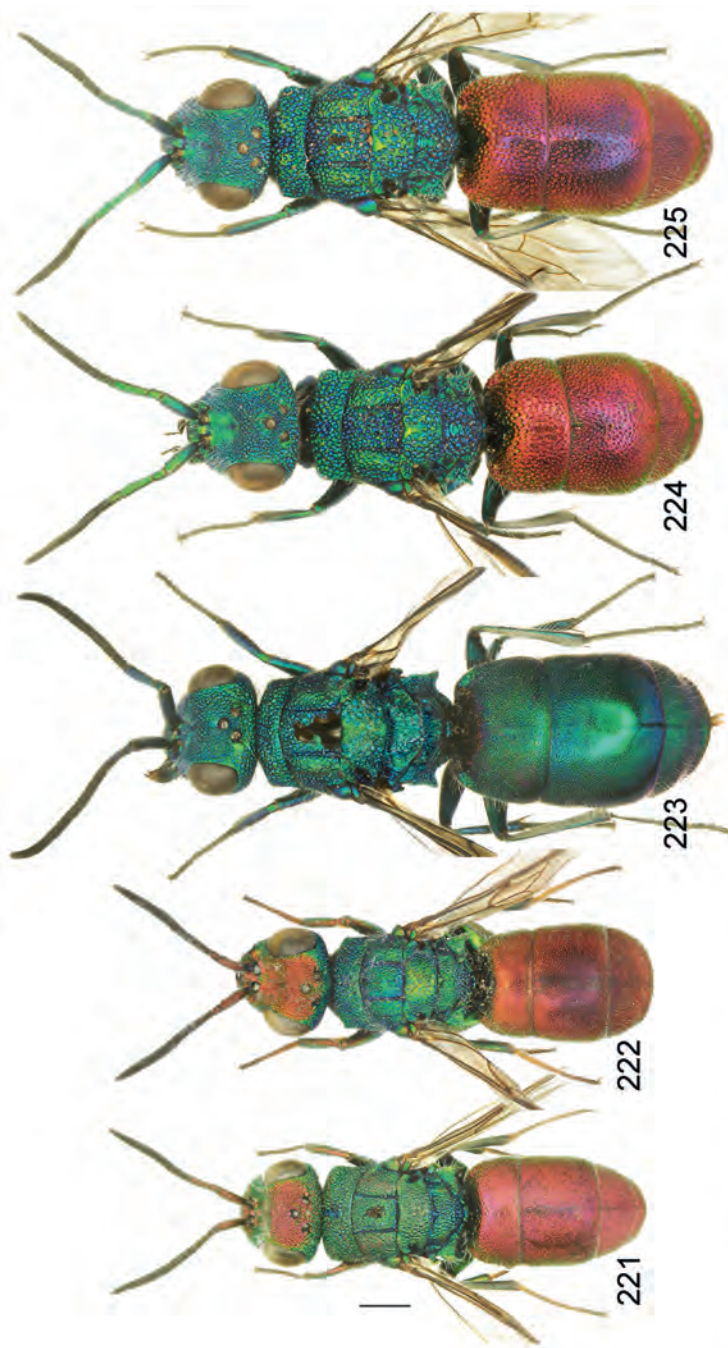
Figs 206-210: (206) *Chrysis sexdentata*, ♀ (Russia: Crimea). (207) *C. zetterstedti*, ♀ (Russia: Crimea). (208) *C. daphne*, ♀ (Russia: Primorskii Terr.). (209) *C. equestris*, ♂ (Russia: Primorskii Terr.). (210) *C. placida*, ♂ (Russia: Orenburg Prov.). Scale bar: 1.0 mm.



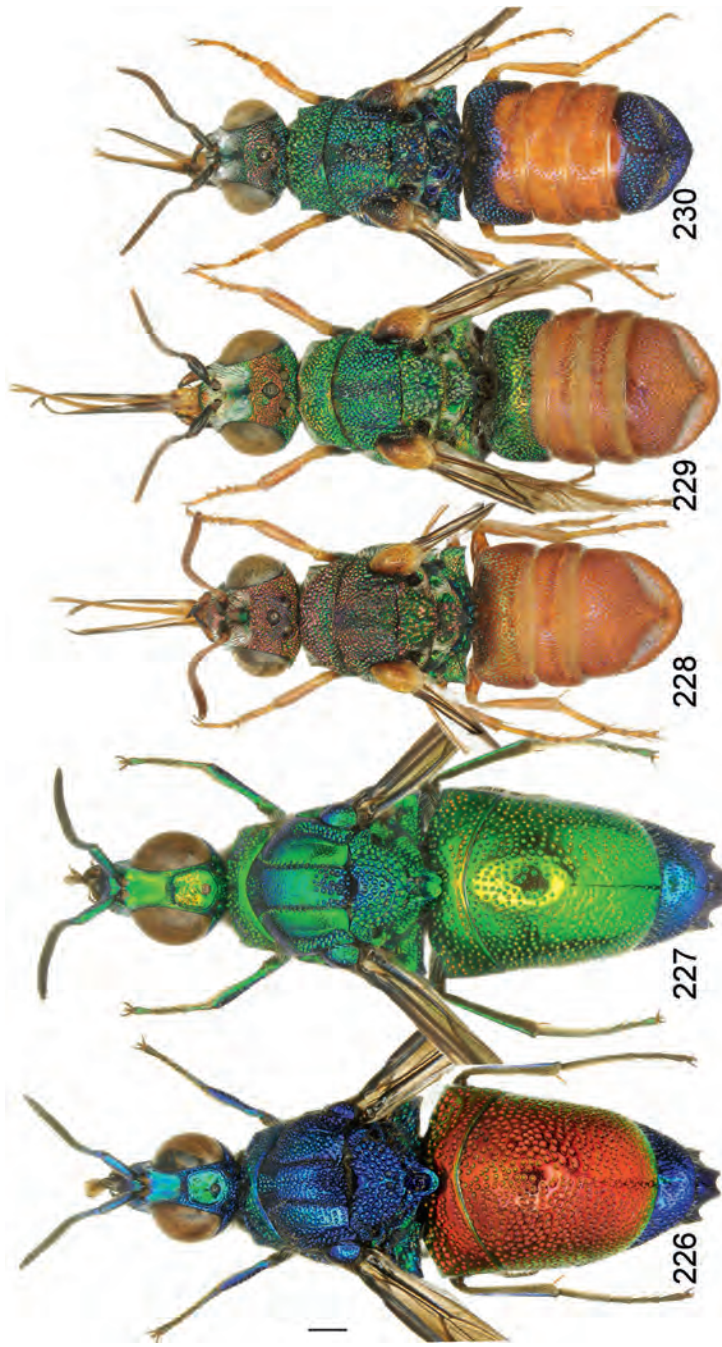
Figs 211-215: (211) *Spintharina versicolor*, ♀ (Russia: Crimea). (212) *Chrysidea disculsa*, ♀ (Russia: Stavropol Terr.). (213) *Ch. pumila*, ♀ (Russia: Stavropol Terr.). (214) *Trichrysis lusca*, ♀ (Japan: Okinawa Pref.). (215) *Pentachrysis amoena*, ♂ (Kyrgyzstan: Talas Reg.). Scale bar: 1.0 mm.



Figs 216-220: (216) *Chrysura cuprea*, ♀ (Russia: Crimea). (217) *Chr. dichroa*, ♀ (Russia: Crimea). (218) *Chr. purpureifrons*, ♀ (Russia: Crimea). (219) *Chr. austriaca*, ♀ (Czech Rep.: Bohemia). (220) *Chr. pyrogaster*, ♀ (Armenia: Megri Reg.). Scale bar: 1.0 mm.



Figs 221-225: (221) *Chrysura ignifrons*, ♀ (Russia: Crimea). (222) *Chr. ignifrons*, ♂ (Russia: Crimea). (223) *Chr. koma*, ♀ (Russia: Primorskii Terr.). (224) *Chr. radians*, ♀ (Russia: Kabardino-Balkarian Rep.). (225) *Chr. nikolaji*, ♀ (Russia: Stavropol Terr.). Scale bar: 1.0 mm.



Figs 226-230: (226) *Stilbum calens*, ♀ (Russia: Crimea). (227) *St. cyanurum*, ♀ (Russia: Crimea). (228) *Parnopes glasunowi*, ♀ (Russia: Volgograd Prov.). (229) *P. grandior*, ♂ (Russia: Crimea). (230) *P. popovi*, ♂ (Russia: Krasnoyarsk Terr.). Scale bar: 1.0 mm.



Fig. 231. Crimea, Karadag (Photo: P. Rosa).



Fig. 232. Altai Rep., 5 km SE Chagan-Uzun, Tuhtuyaryk River (Photo: V. Loktionov).



Fig. 233. Altai Rep., Katunskii Ridge, Ozernaya River. **Fig. 234.** Tyva Rep., 13 km SW Samagaltai, Dytytg-Khem River. **Fig 235.** Krasnoyarsk Terr., 10 km NW Minusinsk, Bystraya River. Photos: V.M. Loktionov.

