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## NEW RECORDS OF CUCKOO WASPS (HYMENOPTERA, CHRYSIDIDAE) FROM RUSSIA WITH TAXONOMIC NOTES

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**Summary.** *Hedychrum caucasicum* Mocsáry, 1889, *Hedychridium palestinense* Balthasar, 1953, and *Pseudomalus corensis* (Uchida, 1927) are newly recorded from Russia. *Chrysis inaequipunctata* Bischoff, 1910 and *Pseudomalus nipponicus* (Tsuneki, 1970) are removed from the list of the Russian fauna. The status of *C. rutilans* var. *mesasiatica* Semenov, 1912, *C. csikiana* Mocsáry, 1912 and *C. sickmanni* Mocsáry, 1893 are reinstated and for the former is updated to specific level. The status of *C. inaequalis* var. *poetica* Semenov, 1954, *C. inaequalis* var. *sapphirina* Semenov, 1912, and *Hedychrum virens* var. *caucasicum* Mocsáry, 1889 are raised to the specific rank. Currently the fauna of Russian Chrysididae numbers 331 species and 12 subspecies in 23 genera.

**Key words:** Chrysididae, taxonomy, new status, reinstated name, new records.

**П. Роза. Новые указания ос-блестянок (Hymenoptera: Chrysididae) из России с таксономическими замечаниями // Дальневосточный энтомолог. 2018. N 360. С. 1-14.**

**Резюме.** Впервые для фауны России указываются *Hedychrum caucasicum* Mocsáry, 1889, *Hedychridium palestinense* Balthasar, 1953 и *Pseudomalus corensis* (Uchida, 1927). Из списка фауны России исключены *Chrysis inaequipunctata* Bischoff, 1910 и *Pseudomalus nipponicus* (Tsuneki, 1970). Восстановлен статус

*Chrysis rutilans* var. *mesasiatica* Semenov, 1912, *C. csikiana* Mocsáry, 1912 и *C. sickmanni* Mocsáry, 1893 и статус первого повышен до видового. Статус *C. inaequalis* var. *poetica* Semenov, 1954, *C. inaequalis* var. *sapphirina* Semenov, 1912 и *Hedychrum virens* var. *caucasicum* Mocsáry, 1889 повышен до видового уровня. В настоящее время фауна ос-блестянок России насчитывает 331 вида и 12 подвидов из 23 родов.

## INTRODUCTION

After the publication of the checklist of the Russian Chrysididae (Rosa *et al.* 2017b), I examined additional chrysidids recently collected by M. Mokrousov and N. Vinokurov, and types deposited in the historical collections of Vienna and Berlin. This resulted in an increased the number of known Russian species up to 331 species and 12 subspecies in 23 genera, as herewith briefly discussed.

## MATERIAL AND METHODS

All specimens were examined and described under the stereomicroscope Togonal SCZ; images were taken with Nikon D-700 connected to the stereomicroscope Togonal SCZ and stacked with software Combine ZP; white color balance was optimized by photo-camera settings, to reduce blue dominance due to fluorescent light of Togonal microscope.

Next abbreviations are used for the collectors: MM – M.V. Mokrousov, NV – N.B. Vinokurov. Materials have been checked in the following collections: EIHU – Entomology Institute, Hokkaido University, Hokkaido, Japan; HNHM – Magyar Természettudományi Múzeum Budapest, Hungary; IBSS – Federal Scientific Center of the Biodiversity (formerly Institute of Biology and Soil Science), Vladivostok, Russia; JNMP – Národní Museum, Prague, Czech Republic; MMC – Mikhail Mokrousov Collection, Nizhny Novgorod, Russia; MNHN – National Natural History Museum, Paris, France; MNHU – Natural History Museum of the Humboldt-University, Berlin, Germany; NHMW – Naturhistorisches Museum Wien, Vienna, Austria; NMLS – NaturMuseum, Luzern, Switzerland; PRC – Paolo Rosa Collection, Milan, Italy; ZIN – Zoological Institute, St. Petersburg, Russia.

## RESULTS

### ***Chrysis mesasiatica* Semenov, 1912, nom. resurr., stat. n.**

Figs 1–3

*Chrysis rutilans* var. *asiatica* Mocsáry, 1889: 448. Syntypes – ♀♀, Turkmenistan: Ashkabad (depository unknown), nom. praeocc., nec Radoszkowski, 1889.

*Chrysis rutilans* var. *mesasiatica* Semenov, 1912: 194. Replacement name for *C. asiatica* Mocsáry, 1889.

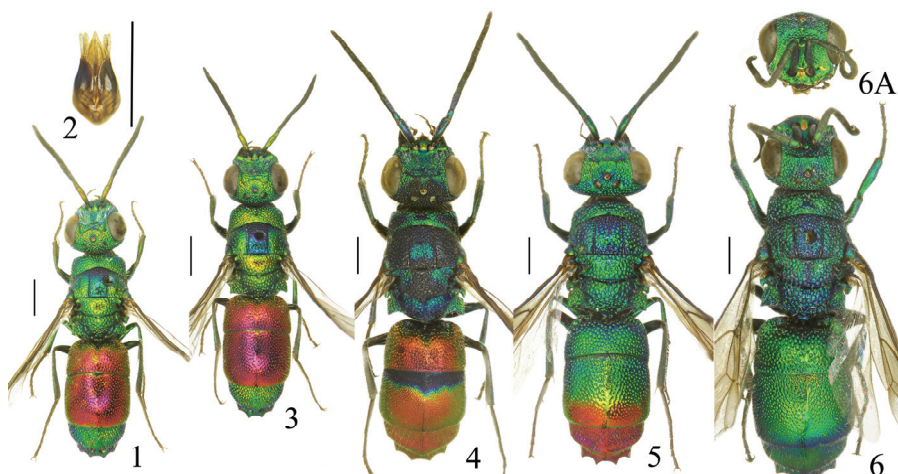
*Chrysis (Chrysis) insperata mesasiatica*: Linsenmaier, 1959: 129.

*Chrysis rutilans mesasiatica*: Vinokurov, 2004: 34; 2005: 90.

*Chrysis decora*: Rosa *et al.*, 2017b: 135, part.

**SPECIMENS EXAMINED.** **Russia:** Astrakhan Prov.: Volskij 10–12.VII 2017, 3♀, 1♂ MM) [PRC, MMC]; Stavropol Terr.: Stavropol, Kuma river, 29.VI–3.VII 2003, 2♀ [PRC].

**DISTRIBUTION.** Russia (European part), Iran (Rosa *et al.*, 2013), Kazakhstan (Radoszkowski, 1890), Turkmenistan (Mocsáry, 1889), Palestine, Turkey (Linsenmaier, 1959), Kyrgyzstan (Tian-Shan) (Tarbinsky, 2002). The collecting data from Ural and Siberia are doubtful and should be checked; the species is seemingly restricted to dry and coastal habitats.



Figs 1–6. 1 – *Chrysis mesasiatica* Mocsáry, ♂ (Astrakhan Prov., Volskij); 2 – idem, genital capsule; 3 – idem, ♀; 4 – *C. sickmanni* Mocsáry, ♀ (Primorskij Terr., Lazovskij Reserve); 5 – *C. uljanini* Radoszkowski, ♀ (Tajikistan, Obigarm); 6 – *C. csikiana* Mocsáry, ♀ (Stavropol Terr., env. Kislovodsk); 6A – idem, face in frontal view. Scale bar: 1.0 mm.

**REMARKS.** The type of *Chrysis rutilans asiatica* Mocsáry is supposedly lost, not to be found in Budapest (Rosa *et al.* 2017d), Krakow (Rosa *et al.*, 2015b), or other European collections. *Chrysis rutilans mesasiatica* was considered as a subspecies of *C. insperata* Chevrier, 1870 by Linsenmaier (1959), for their affinities in general habitus and male genital capsule (Figs 1–3). Later it was synonymised with *C. decora* Mocsáry, 1887 (replacement name for *C. superba* Radoszkowski, *nec* Cresson, 1865) by Kimsey & Bohart (1991), interpretation followed by Rosa *et al.* (2017b). Vinokurov (2004, 2005) considered *C. rutilans mesasiatica* as a valid subspecies, yet without providing any diagnostic analysis. A recent examination of several specimens, collected by M. Mokrousov from Southern Russia and N. Vinokurov from Caucasus, confirmed that this taxon is clearly different from *C. decora* (the type of *C. superba* Radoszkowski has been examined in Moscow). *Chrysis mesasiatica* is easily recognizable for its peculiar luster, a shining green and golden-green coloration observed in both sexes (Figs 1, 2) and not found in any

other species of the *C. splendidula* species-group, due to the spaced and shallow punctures. It also differs from *C. decora* by the shape of the metasomal tergum 3, with shortened space between pit-row and apical teeth (quite elongate in *C. decora*, see Plate 8 in Rosa *et al.*, 2015a).

***Chrysis sickmanni* Mocsáry, 1893, stat. resurr.**

Fig. 4

*Chrysis (Tetrachrysis) sickmanni* Mocsáry, 1893: 228. Holotype – ♀, Russia: Eastern Siberia: Amur (depository unknown) (*ignita* group). Junior synonym of *Chrysis uljanini* Radoszkowski, 1877 according to Kimsey & Bohart, 1991.

*Chrysis (Tetrachrysis) uljanini* Radoszkowski, 1877 (♀ nec ♂): Bischoff, 1913: 58 (synonym of *C. sarafschana* Mocsáry, 1889).

*Chrysis (Tetrachrysis) sarafschana sickmanni*: Tsuneki, 1953: 27.

*Chrysis (Chrysis) sarafschana sickmanni*: Linsenmaier, 1959: 161.

*Chrysis uljanini*: Kurzenko & Lelej, 2007: 1005; Ha *et al.*, 2008: 76; Lelej & Kurzenko, 2012: 402.

*Chrysis uljanini sickmanni*: Rosa *et al.* 2017b: 138; 2017f: 40.

**SPECIMENS EXAMINED. Russia:** Amur Prov.: Blagoveshchensk [ZIN]; Dalnevostochnij Terr. [ZIN]; Primorskii Terr. [PRC]; Vladivostok [NMLS]; Okeanskaya (NMLS); Lazovsky Nature Reserve, America Bay [IBSS], Ta-Chingouza [IBSS]; Popov Island (IBSS); Yakovlevsky distr., Pritsepilovka [IBSS].

**DISTRIBUTION.** Russia (Eastern Siberia, Far East).

**REMARKS.** Du Buysson (1896) synonymized *C. sickmanni* (described from Amur) with *C. sarafschana* Mocsáry, 1889 (described from Uzbekistan). Tsuneki (1953) pointed out that the two taxa are different and should be considered at least as different subspecies; Linsenmaier (1959) followed this interpretation. Kimsey & Bohart (1991) synonymized *C. sarafschana* Mocsáry, 1889 and *C. sickmanni* Mocsáry, 1893 with *C. uljanini* Radoszkowski, 1877 (for the nomenclatorial case see Rosa *et al.* 2015b). Nevertheless, these two taxa are clearly separated and therefore considered as valid subspecies in Rosa *et al.* (2017b). The recent examination of additional material from the Russian Far East confirmed that the Far Eastern *C. sickmanni* must be treated as valid species (Figs 4, 5). These two species can be at once separated not only for the different coloration of metasoma, but also for the metasomal punctation and the shape of the apical teeth on the last tergum. In *C. sickmanni* the metasoma is red to golden red, with a more or less narrow dark blue stripe at base of the tergum 2, sometimes also at base of the tergum 3 (Fig. 4) (*vs.* tergum 1 and large basal part of the tergum 2 green, with distal part of the tergum 2 and the tergum 3 flame red in *C. uljanini* (Fig. 5)); the metasomal punctation of *C. sickmanni* is characterized by tiny and dense punctures all over the tergum 2 (Fig. 4), whereas in *C. uljanini* punctures on the tergum 2 are large and foveate decreasing towards the distal margin (Fig. 5).

***Chrysis csikiana* Mocsáry, 1912, stat. n.**

Fig. 6, 6A

*Chrysis csikiana* Mocsáry, 1912: 406, ♀, ♂; lectotype – ♂ (design. Bohart & French, 1986), "Altai, Semipalatinsk" [Kazakhstan], examined [HNHM] (*ignita* group).

*Chrysis csikiana*: Vinokurov, 2006c: 21; 2010b: 1277; 2013: 1107.

*Chrysis fouqueti*: Vinokurov, 2010a: 40.

*Chrysis fouqueti csikiana*: Rosa *et al.*, 2017b: 135.

**SPECIMENS EXAMINED. Russia:** North Caucasus: Stavropol Terr.: Dzhinalskij crest, env. Kislovodsk, 820 m, 23.V 2009, 2♀ (NV) [PRC]; 6 km from vill. Vernaya Balkarya on Cherek river, 26.V 2005, 1♀ (NV) [PRC].

**DISTRIBUTION.** Russia (European part), China (Xinjiang), Kazakhstan, Kyrgyzstan (Tarbinsky, 2000).

**REMARKS.** Linsenmaier (1959) considered *Chrysis csikiana* Mocsáry, 1912 as a valid species and *C. fouqueti* du Buysson, 1908 as its subspecies, disregarding the Principle of Priority. According to Linsenmaier (1959) *C. c. csikiana* is the Central Asian subspecies, with simple punctuation on the metasomal terga 2–3, and *C. c. fouqueti* the Oriental subspecies with different (closer) punctuation on the metasomal tergum 2. *Chrysis csikiana* Mocsáry, 1912 and *C. nitidularia* Mocsáry, 1912 were synonymized by Kimsey & Bohart (1991) with *C. fouqueti* (du Buysson, 1908).

Vinokurov (2006a, 2006c, 2010a) changed his interpretation of this species, found on Caucasian mountains. Therefore Linsenmaier's (1959) interpretation was followed by Rosa *et al.* (2017b), considering this taxon as *C. fouqueti csikiana* because of obvious differences in body punctuation and shape of the black spots on the sternum 2. After a recent examination of some Caucasian specimens (Fig. 6), collected by N. Vinokurov, and material preserved in Semenov's collection from Kazakhstan, I confirm that *C. csikiana* is a valid species, whose female is easily recognizable from *C. fouqueti* for the different structure of the head in frontal view, with subparallel malar spaces, the shape of the apical margin of the last tergum, and the shape of the black spots. The female is highly dimorphic, for its peculiar shape of the head (Fig. 6A), whereas the male has a typical *C. ignita* face (see pictures of the male lectotype in Rosa *et al.* 2017d).

***Chrysis inaequipunctata* Bischoff, 1910**

*Chrysis inaequipunctata* Bischoff, 1910: 462. Lectotype – ♀ (design. Kimsey & Bohart, 1991), Uzbekistan: Buchara [MNHU] (*ignita* group). Rosa *et al.* 2017b: 136; 2017c: 29.

**SPECIMENS EXAMINED. Tajikistan:** 1♀, Shaydan, 15.V 1931 [ZIN].

**DISTRIBUTION.** Tajikistan, Uzbekistan.

**REMARKS.** In Rosa *et al.* (2017b, 2017c) 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. The correct collecting locality is Shaydan, currently in Tajikistan (new record). This species should be excluded from the list of Russian fauna.

***Chrysis poetica* Semenov, 1954, stat. n.**

Figs 7, 13, 18

*Chrysis inaequalis* var. *caucasica* Mocsáry, 1889: 484. Holotype – ♂, Azerbaijan: Helenendorf [= Goygol] [MNHU], examined (*inaequalis* group), nom. praeocc., nec Radoszkowski, 1876.

*Chrysis (Tetrachrysis) inaequalis* var. *sapphirina*: Trautmann, 1927: 154.

*Chrysis inaequalis* var. *poëtica* Semenov, 1954: 131. Replacement name for *Chrysis inaequalis* var. *caucasica* Mocsáry, 1889.

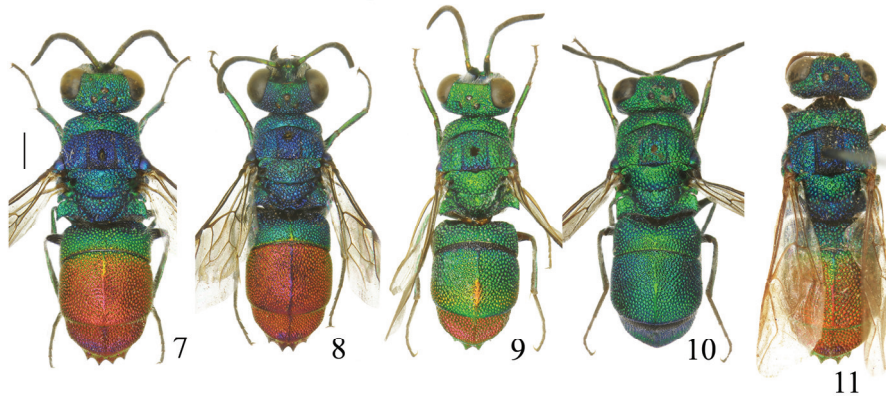
*Chrysis (Pentachrysis) inaequalis sapphirina*: Linsenmaier, 1959: 165; 1969: 368; Schmidt, 1977: 124.

*Chrysis inaequalis caucasica*: Vinokurov, 2012: 1873.

*Chrysis inaequalis poetica*: Rosa et al., 2017a: 14.

*Chrysis inaequalis sapphirina*: Rosa et al., 2017b: 136.

**SPECIMENS EXAMINED.** **Russia:** North Caucasus: Stavropol Terr.: Novozavedennoe, 10.VI 2002, 1♂ (NV) [PRC]; same place, 18.VII 2004, 1♂ (NV) [PRC]; env. Kislovodsk, 26.VI 2008, 1♂ (NV) [PRC]; Mineralnye Vody, 12.VI 2007, 1♂ (NV) [PRC]; Karachayev-Cherkess Rep.: Teberda Nature Reserve, 17.VIII 2011, 1♂ (NV) [PRC]; same place, 18.VIII 2011, 1♂ (NV) [PRC]; Dagestan Rep.: Barkhan Sarykum, 31.V 2017, 1♂ (MM) [PRC]. Ural: Orenburg Prov.: Semenovka, 28.VIII 2012, 1♂, leg. (MM) [PRC]. **Georgia:** Mtskheta-Mtianeti, 14.VI 2016, 1♂ (MM) [PRC]. Several dozen specimens from Greece, Bulgaria and Turkey in Linsenmaier and Rosa's collection.



Figs 7–11. 7 – *Chrysis poetica* Semenov, ♂ (Stavropol Terr., env. Kislovodsk); 8 – *C. placida* Mocsáry, ♂ (Orenburg Prov., Semenovka); 9, 10 – *C. sapphirina* Semenov, ♂ (9, Tajikistan; 10, Turkmenistan); 11 – *C. lucidovenalis* Tarbinsky, holotype, ♂ (Kyrgyzstan, Tian-Shan, Chatkal Valley). Scale bar: 1.0 mm.

**DISTRIBUTION.** Russia (European part, Ural), Georgia, Azerbaijan, Bulgaria, Cyprus, Greece, Iran, Kyrgyzstan, Palestine, Tajikistan, Uzbekistan (Linsenmaier 1959, 1968; Semenov & Nikol'skaya 1954).

REMARKS. The name *Chrysis inaequalis caucasica* Mocsáry, 1889 is a junior homonym of *C. caucasica* Radoszkowski, 1876 and it was replaced with *C. inaequalis poetica* (Semenov, 1954). The type of *C. inaequalis* var. *caucasica*, doubtfully considered deposited at the NHMW (Kimsey & Bohart 1991), has been found at MNHU. The name *C. inaequalis poetica* has been overlooked by all authors (e.g. Linsenmaier, 1959, 1968; Schmidt, 1977; Tarbinsky, 2002; Rosa & Soon, 2012; Vinokurov, 2012; Arens, 2014, Rosa *et al.*, 2017b), who used for this species the name *C. inaequalis sapphirina* Semenov, 1912. However *C. sapphirina* Semenov, 1912, herewith raised to species rank (see below), is not conspecific in southeastern Europe with *C. inaequalis poetica*, and so far only known for Central Asian countries.



Figs 12–16. Male genital capsule. 12 – *Chrysis inaequalis* Dahlbom, ♂ (Italy, Aosta Valley); 13 – *C. poetica* Semenov, ♂ (Karachayevo-Cherkess Rep., Teberda Nat. Res.); 14 – *C. mysticalis* Linsenmaier (Spain, Girona); 15 – *C. placida* Mocsáry, ♂ (Orenburg Prov., Semenovka); 16 – *C. sapphirina* Semenov, ♂ (Tajikistan, Kondara). Scale bar: 1.0 mm.

*Chrysis inaequalis poetica* is usually easily recognizable for the extensively green to golden-green coloration of male metasoma (Linsenmaier 1959); nevertheless the extent of the green color is variable, and specimens with the same coloration of *C. inaequalis* Dahlbom, 1845, with blue fore body and red metasoma, or *C. placida* Mocsáry, 1879 (Fig. 8), with the metasomal tergum 1 greenish to blue and the following flame red (Fig. 7), also occur. Females consistently have completely red metasoma, as in both *C. inaequalis* and *C. placida*. Most reliable characters for its identification are the shape of male genitalia, with the inner side of gonocoxae slightly curved and apex more tapering (Fig. 13), and the teeth of the apical margin of metasoma sharper and usually elongate (Fig. 18). For these consistent differences in both external and genitalia features, together with barcoding data, supporting a genetic gap between the central European *C. inaequalis* and *C. poetica* from Bulgaria (Rosa, unpublished data), I consider *C. poetica* as a valid species.

Lastly, I temporarily consider *C. inaequalis cyprenensis* Linsenmaier, 1987 as a subspecies of *C. poetica* for its body coloration and the shape of male genitalia; this Cypriot taxon was identified by Linsenmaier (1959) as *C. inaequalis sapphirina* and only later (Linsenmaier, 1987) considered it as a separate subspecies for the coarser punctures on metasoma and the shorter apical margin of the last tergum between pit-row and apical teeth. I wait for future molecular analyses prior to synonymise *C. i. cyprenensis* with *C. poetica*.

***Chrysis sapphirina* Semenov, 1912, stat. n.**

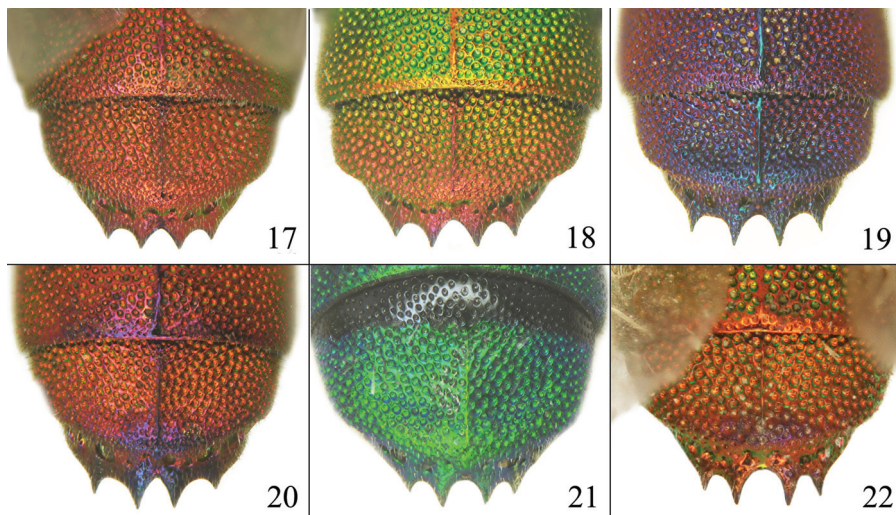
Figs 9, 10, 16, 21

*Chrysis inaequalis* var. *sapphirina* Semenov, 1912: 194. Holotype – ♂, South-East Kazakhstan: Semirechye [ZIN], examined (*inaequalis* group). Rosa *et al.* 2017a: 30, 141 (Pl. 64).

*Chrysis inaequalis sapphirina*: Rosa *et al.*, 2017b: 136.

**SPECIMENS EXAMINED.** **Turkmenistan:** Chaek, SE Dushak-Eregdag, Kopetdag, 25.VI 1991, 1♂, leg. Krivokhatskij [PRC]. **Tajikistan:** Kondara, 1100 m, Varsob, 28.VIII 1937, 1♂, leg. Gussakowski [ZIN].

**DISTRIBUTION.** South-East Kazakhstan, Tajikistan, Turkmenistan.



Figs 17–22. Metasomal tergum 3. 17 – *Chrysis inaequalis* Dahlbom, ♂ (Italy, Emilia-Romagna); 18 – *C. poetica* Semenov, ♂ (Stavropol Terr., Mineralnye Vody); 19 – *C. mysticalis* Linsenmaier (Spain, Girona); 20 – *C. placida* Mocsáry, ♂ (Orenburg Prov., Semenovka); 21 – *C. sapphirina* Semenov, ♂ (Turkmenistan); 22 – *C. lucidovenalis* Tarbinsky, holotype ♂ (Kyrgyzstan, Tian-Shan). Scale bar: 1.0 mm.

**REMARKS.** This species has been confused for a long time with *Chrysis poetica* Semenov (e.g. Linsenmaier, 1959, 1968; Schmidt, 1977) for the blue male body coloration (Rosa *et al.*, 2017a: Plate 64). Linsenmaier (1959) e.g., without knowing the type, considered the wholly blue coloration of this as the already known condition of other chrysidids, whose eastern forms are uniformly green to blue, as in *C. comparata orientalis* Mocsáry, 1889. Nevertheless, *C. sapphirina* is no doubt a valid species, only known from Central Asian countries, easily recognizable for the shape of male genitalia (Fig. 16 vs. Fig. 13), with inner side of gonocoxae largely arched. The genital capsula is more comparable to that of *C. lucidovenalis* Tarbinsky, 2002 (described from Tian-Shan), whose body punctation and apical teeth on the tergum 3 are anyway different (Figs 11, 21, 22).

*Chrysis sapphirina* is only known on male specimens; the female may have the typical coloration of *C. inaequalis*. The coloration is rather variable also in this species: the type is almost completely deep blue, with last tergum a little more greenish, while a specimen from Turkmenistan is entirely green (Fig. 10) and another one from Tajikistan is green with the last tergum golden red (Fig. 9), somehow similar to some male specimens of *C. poetica* Semenov.

***Hedychrum caucasicum* Mocsáry, 1889, stat. n.**

Figs 24, 28

*Hedychrum virens* var. *caucasicum* Mocsáry, 1889: 171. Holotype – ♂, Azerbaijan: Helenendorf [= Goygol], examined [NHMW]; Trautmann, 1927: 71, 76.

SPECIMENS EXAMINED. **Russia:** Kalmyk Rep., 26 km NW of Artesian, 14.VI 2017, 1♀ (MM) [PRC]; Dagestan Rep.: Kamyshchay river valley, 11.VI 2017, 1♂ (MM) [PRC]. **Georgia:** Kvemo-Kartli, 6 km N vill. Dzhandari, 24.VI 2016, 1♂ (MM) [PRC]. **Syria:** ar-Raqqa, Mishirfeh, 4.VI 2000, 1♀, leg. K. Deneš jr. [PRC].

DISTRIBUTION. Russia (new record) (European part), Azerbaijan, Cyprus, Georgia, Iran (East Azerbaijan or Qazvin), Greece (Rhodes), Syria (new record), Turkey (Linsenmaier, 1959, Rosa et al., 2013).

REMARKS. Color, punctuation and male genitalia of *H. caucasicum* are different compared with *H. virens* Dahlbom, 1854: head and mesosoma green to greenish, metasoma red to golden red (Fig. 24) (*vs.* head and mesosoma dark blue to dark purple and metasoma golden red to flame red in *H. virens* (Fig. 23)); female metasoma with larger punctures along lateral and distal margins, sparser on disc of tergum 2 (*vs.* even punctuation with small punctures in *H. virens*); male genitalia with digitus reaching well beyond cuspis half-length (Fig. 28) (*vs.* hardly reaching half-length in *H. virens*) (Fig. 27). Due to these morphological features, I here raise *H. caucasicum* to the specific rank.

***Hedychridium palestinense* Balthasar, 1953**

Figs 26, 30

*Hedychridium sculpturatum* var. *palestinense* Balthasar, 1953: 145. Syntypes, Israel: Jerusalem [JNMP] (*roseum* group).

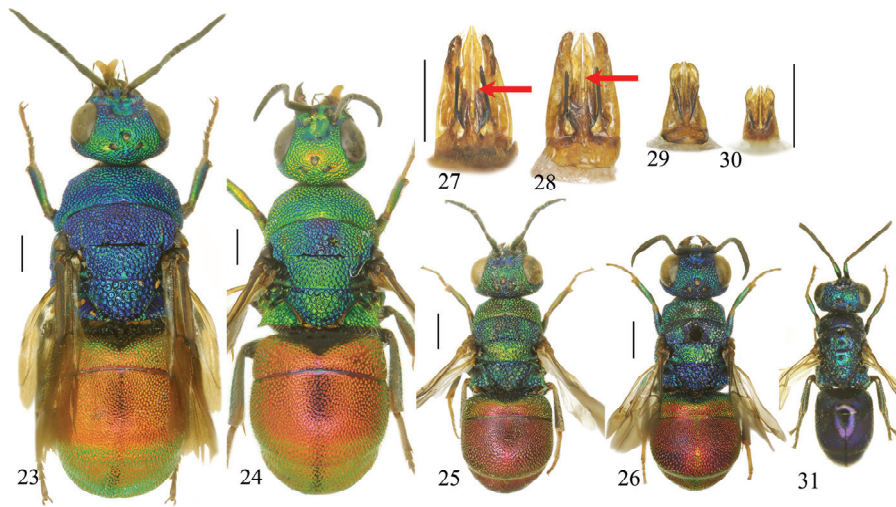
*Euchrum maculiventre*: Vinokurov, 2006b: 19, 21; 2006c: 21.

*Hedychridium palestinense*: Linsenmaier, 1997: 258.

SPECIMENS EXAMINED. **Russia:** Astrakhan Prov.: env. Volskij 10–12.VII 2017, 1♂ (MM) [PRC]; Stavropol Terr., Novozavedennoe Vill., left bank of Kuma River, 5.VI 2016, 1♂ (NV) [PRC].

DISTRIBUTION. Russia (new record) (European part), Palestine, Syria, Turkey (Arens 2010).

REMARKS. The taxonomic status of *Hedychridium maculiventre* Linsenmaier, 1959 is rather confused (see Arens 2010, 2011), however, *H. maculiventre* is an unnecessary replacement name for *H. sculpturatum* var. *palestinense* Balthasar, 1953 (known from Palestine, Syria and Asia Minor), considered by Linsenmaier (1959) as infrasubspecific and therefore unavailable name, yet correctly described. I temporarily assign the Caucasian specimens to this species, waiting for the examination of more materials. The two examined specimens have double punctation on the metasomal tergum 2 with foveate-reticulate punctures on distal half; the ventral surface of metasoma is black, only with sternum 2 largely golden-red metallic; genital capsula shaped as in Arens (2010) (Fig. 30). Other specimens collected by N. Vinokurov in the same Caucasian locality belong to the similar *H. caucasicum* Trautmann, 1926 (Figs 25, 29) easily recognizable for the differently shaped male genitalia. The other closest species in the Caucasian area is *H. gemma* (Semenov, 1967), described from Georgia, with sterna 2–3 largely metallic red, and punctation of the tergum 2 with large punctures, not reticulate.



Figs 23–31. 23, 27 – *Hedychrum virens* Dahlbom, ♂ (Crimea, Karadag); 24, 28 – *H. caucasicum* Mocsáry, ♂ (Stavropol Terr., Mineralnye Vody); 26, 29 – *Hedychridium caucasicum* Trautmann, ♂ (Stavropol Prov., Novozavednoe); 25, 30 – *H. palestinense* Balthasar, ♂ (Stavropol Prov., Novozavednoe); 31 – *Pseudomalus corensis* (Uchida) (Chanka Lake, Primorski Terr.), ♂. Scale bar: 1.0 mm.

***Philoctetes lyubae* Rosa, 2017**

*Philoctetes lyubae* Rosa in Rosa *et al.* 2017e: 39. Holotype – ♀; Russia: Tuva Rep., 20 km SSW Erzin, Tore-Khol' Lake, 3.VII 2013, leg. Loktionov & Proshchalykin – misprinting label, see remark below.

DISTRIBUTION. Russia (Altai Rep.). Kyrgyzstan (new record). Several specimens of *P. lyubae* have been examined in the Tarbinsky collection, collected in the Issyk Kul region.

REMARKS. A printing error has been published in Rosa *et al.* (2017e). The correct label of the holotype of *Philoctetes lyubae* Rosa is Russia: Western Siberia: Altai Rep., 5 km SE of Chagan-Uzun, Tydtuyaryk River, 1780 m, 50°04,367'N 99°25,193'E, 12.VII 2016, leg. Proshchalykin & Loktionov [ZIN].

### ***Pseudomalus corensis* (Uchida, 1927)**

*Philoctetes punctatus* var. *corensis* Uchida, 1927: 153. Holotype – ♂, Korea [South Korea near Seoul]: Seiryori, leg. E. Gallois [EIHU].

*Pseudomalus punctatus* (Uchida, 1927): Kimsey & Bohart, 1991: 268, part.

*Pseudomalus corensis*: Rosa *et al.*, 2014: 35.

*Pseudomalus nipponicus*: Rosa *et al.* 2017e: 34, ♀ (Russia: Krasnoyarsk Terr.; Primorsky Terr.), misidentification.

DISTRIBUTION: Russia (Krasnoyarsk Terr.; Primorsky Terr.), South Korea, China (Heilongjiang, Liaoning, Shanxi) (Rosa *et al.* 2014, 2017e).

REMARKS. The Russian specimens collected in Primorskii Territories match the description of *Pseudomalus corensis* (Uchida, 1927) from Korea. It has been described as a variation of *Ps. punctatus* (Uchida, 1927) and synonymized by Kimsey & Bohart (1991) under *Ps. punctatus*. Nevertheless, *Ps. punctatus* is a species easily recognizable for the peculiar coloration, with a green-golden spot on mesoscutum, and the robust habitus similar to *Ps. violaceus* (Scopoli, 1763). All the examined specimens of *Ps. corensis* from Russia show a blue to violet coloration, with slender and elongate habitus (Fig. 31).

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