

An illustrated and annotated catalogue of the Chrysididae (Insecta: Hymenoptera) types deposited at the Natural History Museum Vienna

P. Rosa*¹, M. Madl**, H. Zettel** & D. Zimmermann**

Abstract

A critical and annotated catalogue of 309 types of Chrysididae belonging to 144 species, subspecies, and taxonomically available variations housed in the Natural History Museum Vienna is given. The neotypes of *Chrysis austriaca* FABRICIUS, 1804, *Chrysis radians* HARRIS, 1776, *Chrysis socia* DAHLBOM, 1854, *Holopyga gloriosa* var. *caucasica* MOCSÁRY, 1889 and the lectotypes of the following fifteen taxa are designated: *Chrysis albipennis* DAHLBOM, 1854, *Chrysis araxana* MOCSÁRY, 1893, *Chrysis circassica* MOCSÁRY, 1893, *Chrysis kaeufeli* ZIMMERMANN, 1944, *Chrysis kohli* MOCSÁRY, 1889, *Chrysis priesneri* ZIMMERMANN, 1959, *Chrysis procera* ZIMMERMANN, 1954, *Chrysis pyrocoelia* MOCSÁRY, 1889, *Chrysis succincta* var. *pannonica* HOFFMANN, 1935, *Chrysis valenciana* HOFFMANN, 1935, *Gonochrysis mochii* ZIMMERMANN, 1938, *Cleptes mutilloides* DUCKE, 1902, *Hedychridium adventicium* ZIMMERMANN, 1962, *Hedychridium luteum* ZIMMERMANN, 1940, and *Holopyga ignicollis* EVERSMAAN, 1858. Previous lectotype designations of *Amisega mocsaryi* DUCKE, 1902, *Chrysis callosa* MOCSÁRY, 1889, *Chrysis falsifica* DU BUYSSON, 1891, *Chrysogona alfkeni* DUCKE, 1902, and *Cleptes mutilloides* DUCKE, 1902 are considered as invalid. Six new synonymies are proposed: *Chrysis germari* ssp. *aeneibasalis* LINSSENMAIER, 1987 syn.n. of *C. germari* ssp. *calviensis* KUSDAS, 1974; *Chrysis persephone* SEMENOV & NIKOLSKAYA, 1954 syn.n. of *Chrysis picticornis* MOCSÁRY, 1887; *C. succincta* var. *pannonica* HOFFMANN, 1935 syn.n. of *C. frivaldszkyi* MOCSÁRY, 1882; *C. stanleyana* SCHLETTERER, 1891 syn.n. of *C. senegalensis* MOCSÁRY, 1887; *Holopyga pulchella* MOCSÁRY, 1893 syn.n. of *Hedychridium jakowlewi* SEMENOV, 1892; *Holopyga ignicollis* EVERSMAAN, 1858 syn.n. of *Holopyga chrysonota* (FÖRSTER, 1853). *Chrysis anthea* ZIMMERMANN, 1963 sp.rev., *Chrysis picticornis* MOCSÁRY, 1887 sp.rev., *Chrysis sodalis* MOCSÁRY, 1893 sp.rev., *Chrysis separanda* MOCSÁRY, 1889 sp.rev., *Chrysis seyrigi* ZIMMERMANN, 1961 sp.rev., *Chrysis valenciana* HOFFMANN, 1935 sp.rev. are restored from synonymy. Pictures of 78 types are presented. The case of *Holopyga ovata* var. h DAHLBOM, 1854 (= *Holopyga ignicollis*) is discussed: the first author who used the name *ignicollis* as a valid name is EVERSMAAN (1858), who is therefore the author of this taxon. The type of *Holopyga chrysonota* (FÖRSTER, 1853) was found in the Berlin museum and matches both the lectotype of *Holopyga ignicollis* and the interpretation of *Holopyga ignicollis* sensu LINSSENMAIER (1959). As a consequence, *Holopyga ignicollis* EVERSMAAN, 1858 is synonymised with *Holopyga chrysonota* (FÖRSTER, 1853). The first available name for *Holopyga chrysonota* sensu LINSSENMAIER (1959) is *Holopyga similis* MOCSÁRY, 1889.

Key words: Chrysididae, catalogue, taxonomy, neotype, lectotype, synonym, new status.

Zusammenfassung

Ein kritischer und kommentierter Typenkatalog der Chrysididae im Naturhistorischen Museum Wien wird erstellt; 309 Typusexemplare gehören zu 144 Arten, Unterarten oder taxonomisch verfügbaren Variationen. Neotypen werden für *Chrysis austriaca* FABRICIUS, 1804, *Chrysis radians* HARRIS, 1776, *Chrysis socia* DAHLBOM, 1854 und *Holopyga gloriosa* var. *caucasica* MOCSÁRY, 1889 designiert. Lectotypen werden für die folgenden fünfzehn Taxa bestimmt: *Chrysis albipennis* DAHLBOM, 1854, *Chrysis araxana* MOCSÁRY,

* Paolo Rosa, Via Belvedere 8/d, I-20881, Bernareggio (MB), Italy

** Michael Madl, Herbert Zettel, Dominique Zimmermann, Naturhistorisches Museum Wien, 2. Zoologische Abteilung, Burggring 7, 1010 Wien, Österreich (Vienna, Austria).

¹ Corresponding author: Paolo Rosa – rosa@chrysis.net

1893, *Chrysis circassica* MOCSÁRY, 1893, *Chrysis kaeufeli* ZIMMERMANN, 1944, *Chrysis kohli* MOCSÁRY, 1889, *Chrysis priesneri* ZIMMERMANN, 1959, *Chrysis procera* ZIMMERMANN, 1954, *Chrysis pyrocoelia* MOCSÁRY, 1889, *Chrysis succincta* var. *pannonica* HOFFMANN, 1935, *Chrysis valenciana* HOFFMANN, 1935, *Gonochrysis mochii* ZIMMERMANN, 1938, *Cleptes mutilloides* DUCKE, 1902, *Hedychridium adventicium* ZIMMERMANN, 1962, *Hedychridium luteum* ZIMMERMANN, 1940 und *Holopyga ignicollis* EVERSMAAN, 1858. Frühere Lectotypusdesignationen für *Amisega mocsaryi* DUCKE, 1902, *Chrysis callosa* MOCSÁRY, 1889, *Chrysis falsifica* DU BUYSSON, 1891, *Chrysogona alfkeni* DUCKE, 1902 und *Cleptes mutilloides* DUCKE, 1902 werden für ungültig erklärt. Sechs neue Synonymien werden vorgeschlagen: *Chrysis germari* ssp. *aeneibasalis* LINSSENMAIER, 1987 syn.n. von *C. germari* ssp. *calviensis* KUSDAS, 1974; *Chrysis persephone* SEMENOV & NIKOLSKAYA, 1954 syn.n. von *Chrysis picticornis* MOCSÁRY, 1887; *C. succincta* var. *pannonica* HOFFMANN, 1935 syn.n. von *C. frivaldszkyi* MOCSÁRY, 1882; *C. stanleyana* SCHLETTERER, 1891 syn.n. von *C. senegalensis* MOCSÁRY, 1887; *Holopyga pulchella* MOCSÁRY, 1893 syn.n. von *Hedychridium jakowlewi* SEMENOV, 1892; *Holopyga ignicollis* EVERSMAAN, 1858 syn.n. von *Holopyga chrysonota* (FÖRSTER, 1853). *Chrysis anthea* ZIMMERMANN, 1963 sp.rev., *Chrysis picticornis* MOCSÁRY, 1887 sp.rev., *Chrysis sodalis* MOCSÁRY, 1893 sp.rev., *Chrysis separanda* MOCSÁRY, 1889 sp.rev., *Chrysis seyrigi* ZIMMERMANN, 1961 sp.rev., *Chrysis valenciana* HOFFMANN, 1935 sp.rev. werden von ihren Synonymien wiederhergestellt. Fotografien von 78 Typusexemplaren werden präsentiert. Der Fall von *Holopyga ovata* var. h DAHLBOM, 1854 (= *Holopyga ignicollis*) wird diskutiert: Als erster Autor verwendete EVERSMAAN (1858) das Artepithet *ignicollis* als gültigen Namen und ist daher Autor dieses Taxons. Der Typus von *Holopyga chrysonota* (FÖRSTER, 1853) wurde im Museum Berlin gefunden und entspricht LINSSENMAIERS (1959) Beschreibung von *Holopyga ignicollis*. Es wird daher festgestellt: *Holopyga ignicollis* EVERSMAAN, 1858 = *Holopyga chrysonota* (FÖRSTER, 1853). Der erste verfügbare Name für *Holopyga chrysonota* sensu LINSSENMAIER (1959) ist *Holopyga similis* MOCSÁRY, 1889.

Introduction

The Chrysididae collection of the Natural History Museum Vienna consists of two collections, the General Collection and the Zimmermann Collection.

The General Collection includes historical specimens, comprising those collected in Austria by Franz Blühweiss, Eduard H. Gräffe, Karl Hammer, Anton P. J. Handlirsch, Adolf Hoffmann, Franz Käufel, Franz F. Kohl, Josef Kolazy, Leopold Mader, Johann C. Megerle von Mühlfeld, and other Austrian collectors (ROSA & ZETTEL 2011). In the past, the collection or its types were studied by some of the most important chrysidologists, in particular by Johan C. FABRICIUS (1804), Anders G. DAHLBOM (1854), Alexander MOCSÁRY (1889, 1893), Robert DU BUYSSON (1901), Werner TRAUTMANN (1927); more recently by László Móczár, who visited the Museum several times and published conspicuous data (MÓCZÁR 1964a, 1964b, 1965, 1968, 1996, 1997, 1998a, 1998b, 2001), Lynn S. KIMSEY (1986b), Richard M. BOHART (BOHART & KIMSEY 1982, KIMSEY & BOHART 1991), Oliver NIEHUIS (2000) and Pavel Tyrner (in MACEK et al. 2010).

The General Collection is kept in 18 large insect drawers. Genera and subgenera are arranged in the systematic order given by MOCSÁRY (1889), and species in alphabetical order. This part includes around 6,500 specimens and 105 types belonging to 69 species: 29 holotypes, one paratype, 20 syntypes, 16 lectotypes, 41 paralectotypes, and one neotype (after taxonomic changes made in this study).

At the end of the 19th century, a curator (possibly Anton Handlirsch) combined several collections into the General Collection, removed the original handwritten labels of the oldest authors (e. g. Dahlbom, Fabricius and Mocsáry) and substituted them with semi-printed labels (see the type labels in the plates). Types described by DAHLBOM (1854) and MOCSÁRY (1889) in Vienna bear these semi-printed labels with handwritten species

names in red; in very few cases, the types have handwritten names in black. On the other side, a few specimens bear labels with red handwritten names though they are not truly types, which generated confusion among researchers.

The formerly private collection of Stephan Zimmermann is larger than the General Collection. With about 24,000 specimens in a perfect condition it can be considered one of the largest chrysidid collections in Europe. It includes 861 identified species and subspecies, and 200 types belonging to 79 species: 17 holotypes, two neotypes, 57 paratypes, seven syntypes, eleven lectotypes, and 107 paralectotypes (after taxonomic changes set in this study).

Dr. med. Stephan Zimmermann (*27.10.1896 in Kutteneberg/Bohemia, †4.7.1980 in Vienna) was an oculist by profession and a dedicated and very active entomologist (FISCHER 1980). He wrote more than twenty articles dealing with chrysidids. Most of them treat the Austrian fauna, e.g., the “Catalogus Faunae Austriae” (ZIMMERMANN 1954b). He also provided important contributions to the fauna of Madagascar and wrote interesting papers on African chrysidids. Altogether, Zimmermann described 33 new species of Chrysididae. He was in contact with contemporary entomologists like Vladimir Balthasar, Richard M. Bohart, Karl Hammer, Adolf Hoffmann, Karl V. Krombein, Karl Kusdas, Walter Linsenmaier, Rudolf Löberbauer, Leopold Mader, Georgios A. Mavromoustakis, Alessandro Mochi, and Henrik Steinmann, and he practiced a vivid exchange of specimens with them. He bought several chrysidid collections, among them the collections of Karl Hammer, Heinrich Priesner (material from Egypt), Richard Hicker, Leopold Mader, Franz Blühweiss, and Henrik Steinmann (FISCHER 1980). Additionally, he extended his collection with duplicates acquired in the course of determination work, e.g., from the Seyrig collection (material from Madagascar) and the Royal Museum for Central Africa in Tervuren (material from Central Africa; FISCHER 1980). To honor his outstanding contributions to the taxonomy of Chrysididae, one subgenus (*Zimmermannia* MÓCZÁR, 1962), two species (*Chrysis zimmermanni* BALTHASAR, 1953 and *Hedychridium zimmermanni* BALTHASAR, 1953), and one subspecies (*Stilbum calens zimmermanni* LINSENMAIER, 1959) were dedicated to him.

The Zimmermann Collection was bought by the Natural History Museum in the year 1976 under the condition that it is permanently kept as a separate collection.

Material and methods

Terminology and classification of the genera follow KIMSEY & BOHART (1991). Classification of species and species-groups follow Fauna Europaea (ROSA & SOON 2012), LINSENMAIER (1959, 1968, 1987, 1997a, 1999), and PAUKKUNEN et al. (2015).

Selected types are illustrated, such as the holotypes and the newly designated lectotypes. Pictures of the types were taken with a Nikon D-80 connected to the stereomicroscope Togonal SCZ and stacked with the software Combine Z.

The type catalogue is arranged alphabetically according to the original combination. The types from both the General Collection and the Zimmermann Collection are listed together. For each taxon the following informations are given: type locality from original publication; category of the type; number and sex of specimens; wording of all labels, in which handwritten text is given in italics and labels are separated from each other by

	HT	HTZ	PT	PTZ	ST	STZ	LT	LTZ	PLT	PLTZ	NT	NTZ
<i>araxana</i> MOCSÁRY, 1893 (<i>Chrysis</i>)								1				
<i>ariadne</i> MOCSÁRY, 1889 (<i>Chrysis</i>)										1		
<i>arizonica</i> BOHART, 1962 (<i>Chrysis</i>)				1								
<i>armata</i> MOCSÁRY, 1889 (<i>Chrysogona</i>)									2			
<i>assimilis</i> DAHLBOM, 1854 (<i>Chrysis</i>)									1			
<i>atlanticus</i> KROMBEIN, 1958 (<i>Parnopes westcottii</i> ssp.)				2								
<i>auriceps</i> LINSENMAIER, 1959 (<i>Chrysis</i>)										1		
<i>auropicta</i> MOCSÁRY, 1889 (<i>Chrysis</i>)					3							
<i>austriaca</i> FABRICIUS, 1804 (<i>Chrysis</i>)											1	
<i>bayadera</i> DU BUYSSON, 1896 (<i>Chrysis</i>)										1		
<i>benoitii</i> ZIMMERMANN, 1956 (<i>Hedychridium</i>)				4								
<i>bequaerti</i> BOHART, 1962 (<i>Chrysis</i>)				2								
<i>bicolor</i> DAHLBOM, 1829 (<i>Chrysis</i>)					1							
<i>caffra</i> MOCSÁRY, 1889 (<i>Chrysis</i>)	1											
<i>callosa</i> MOCSÁRY, 1889 (<i>Chrysis</i>)					4							
<i>calviensis</i> KUSDAS, 1974 (<i>Chrysis germari</i> ssp.)				2								
<i>caucasica</i> MOCSÁRY, 1893 (<i>Holopyga gloriosa</i> var.)												1
<i>causicum</i> MOCSÁRY, 1889 (<i>Hedychrum virens</i> var.)		1										
<i>cemicola</i> KROMBEIN, 1958 (<i>Chrysis</i>)				1								
<i>chloroideum</i> DAHLBOM, 1854 (<i>Hedychrum</i>)									3			
<i>circassica</i> MOCSÁRY, 1893 (<i>Chrysis</i>)					1	1						
<i>clypeata</i> MOCSÁRY, 1889 (<i>Chrysis</i>)	1											
<i>concolor</i> MOCSÁRY, 1893 (<i>Chrysis</i>)	1											
<i>contraria</i> MADER, 1939 (<i>Omalus auratus</i> ab.)						(1)						
<i>corniger</i> ZIMMERMANN, 1950 (<i>Spintharis</i>)								1		1		
<i>crassiscuta</i> MOCSÁRY, 1889 (<i>Chrysis</i>)									1			
<i>cupreum</i> DAHLBOM, 1845 (<i>Hedychrum</i>)							1					
<i>cyanopyga</i> DAHLBOM, 1854 (<i>Chrysis</i>)					2							
<i>deaurata</i> MOCSÁRY, 1889 (<i>Spintharis</i>)	1											
<i>decorata</i> MOCSÁRY, 1889 (<i>Chrysis</i>)	1											
<i>eucerastes</i> MADER, 1939 (<i>Chrysis cerastes</i> ab.)		(1)										
<i>eximia</i> MOCSÁRY, 1889 (<i>Chrysis</i>)	1											
<i>extraniens</i> ROHWER, 1921 (<i>Chrysis</i>)				1								
<i>femoratum</i> DAHLBOM, 1854 (<i>Hedychrum</i>)	1											
<i>floridensis</i> KROMBEIN, 1960 (<i>Mesitipterus</i>)				2								
<i>frankenbergeri</i> BALTHASAR, 1953 (<i>Chrysis</i>)				1								
<i>fraterna</i> MOCSÁRY, 1889 (<i>Chrysis</i>)	1											
<i>glomeratus</i> DU BUYSSON, 1901 (<i>Ellampus</i>)	1											
<i>gracilentia</i> MOCSÁRY, 1889 (<i>Chrysis</i>)		1										
<i>gujaratica</i> NÜRSE, 1903 (<i>Chrysis</i>)										2		

	HT	HTZ	PT	PTZ	ST	STZ	LT	LTZ	PLT	PLTZ	NT	NTZ
<i>valenciana</i> HOFFMANN, 1935 (<i>Chrysis</i>)								1		1		
<i>variana</i> DU BUYSSON, 1901 (<i>Chrysis</i>)	1											
<i>vazimba</i> MITA & ROSA, 2019 (<i>Chrysidea</i>)		1										
<i>violacea</i> HOFFMANN, 1935 (<i>Holopyga curvata</i> var.)						1						
<i>viridefasciata</i> HOFFMANN, 1935 (<i>Chrysis ignita</i> var.)											7	
<i>xanthomelas</i> MOCSÁRY, 1889 (<i>Cleptes</i>)									1			
<i>xui</i> ROSA, 2018 (<i>Odontochrydium</i>)		1										
<i>zavattarii</i> ZIMMERMANN, 1952 (<i>Tetrachrydium</i>)		1										
<i>zenobia</i> ROSA, 2019 (<i>Hedychrum</i>)				1								
<i>zimmermanni</i> BALTHASAR, 1953 (<i>Chrysis</i>)		1										
<i>zimmermanni</i> BALTHASAR, 1953 (<i>Hedychridium</i>)				3								
<i>zuluana</i> MOCSÁRY, 1889 (<i>Chrysis</i>)	1											
Totals	29	17	1	57	20	7	16	11	41	107	1	2

Adelphé anisomorphae KROMBEIN, 1960

Adelphé anisomorphae KROMBEIN, 1960: 35.

Type locality: U.S.A.: holotype ♂ from Georgia (Stone Mt., De Kalb Co., August or September 1957, reared by D.J. Pirone at Ithaca, N.Y., from an egg of *Anisomorpha ferruginea* (BEAUV.) collected by E.F. Menhinick, May 12, 1957 (Washington)); allotype, 11 ♀♀ and 110 ♂♂ paratypes from the same locality in Georgia; 3 ♀♀ and 10 ♂♂ from Florida (Gainesville), 1 ♂ from Georgia (Tifton); 1 ♀ and 1 ♂ from Louisiana (Alexandria).

Paratypes: 1 ♀ [A.f.ova. Stone Mt., Georgia May 12, 1957 E.F. Menhinick C.] [Collection of D.J. Pirone] [*Anisomorpha ferruginea* (Beau) *Ex wild ova of above* Det. D.J. Pirone 1958] [Paratype *Adelphé anisomorphae* ♀ Krombein] <light blue label> (Zimmermann Coll. 1); 1 ♂ [Gainesville Fla. *Sep 1.* 1958 K.W. Cooper] [Paratype *Adelphé anisomorphae* ♂ Krombein] <light blue label> (Zimmermann Coll. 1).

Current status: *Adelphé anisomorphae* KROMBEIN, 1960.

Amisega aeneiceps DUCKE, 1903

Amisega aeneiceps: DUCKE, 1903: 130.

Type locality: Brazil: “Bei Obidos am Amazonenstrom (Juli und August 1902) und bei Itaituba am Tapajós (August und September 1902) häufig, in ähnlichen Verhältnissen wie die vorige Art, aber in trockenerem, mässig hohem Buschwalde gesammelt”.

Paralectotypes: 1 ♂ [Itaituba VIII.1902] [*Amisega aeneiceps* Ducke det. Ducke Type] [Type] <red label> [Paralectotype *Amisega aeneiceps* Ducke, 1903 des. by Kimsey 1991] (General Coll. 19); 1 ♀ [Itaituba 1902 Ducke leg.] [*Amisega aeneiceps* Ducke det. Ducke Type] [Type] <red label> [Paralectotype *Amisega aeneiceps* Ducke, 1903 des. by Kimsey 1991] (General Coll. 19); 1 ♂ [Obidos 24.7.1902 Ducke leg.] [*Amisega aeneiceps* Ducke ♂ Typ. det. A. Ducke] (Zimmermann Coll. 1); 1 ♀ [Obidos 1902 Ducke] [Brésil Obidos Alfken 1904] <handwritten by Alfken> (Zimmermann Coll. 1).

Remarks: DUCKE (1903: 132) listed the type localities for both, *Amisega aeneiceps* and *Amisega aeneiceps* var. *azurescens*. Kimsey (in KIMSEY & BOHART 1991: 92) designated

a male syntype in Paris as the lectotype of *Amisega aeneiceps*. The lectotype was collected at Obidos on the 25th July 1902 by Ducke and arrived in Paris with the Alfken collection; two other specimens in Paris are paralectotypes: one female collected on the 5th of September 1902 at Itaituba along the Rio Tapajós; one male from Obidos collected on the 24th of July 1902. Two paralectotypes are housed in Bern (OBRECHT & HUBER 1993: 173), and nine paralectotypes in Budapest: 1 ♀ collected at Itaituba on Rio Tapajós on the 4th of September 1902; 5 ♂♂ and 2 ♀♀ collected at Itaituba in 1902, without further data; 1 ♂ collected at Obidos on the 14th of July 1902. Two other specimens housed in Vienna, originating from the Alfken collection, were labelled as “type” by a previous curator, but there is no evidence that they are part of the type series.

Current status: *Amisega aeneiceps* DUCKE, 1903.

***Amisega mocsaryi* DUCKE, 1902**

Amisega Mocsaryi DUCKE, 1902c: 142.

Type locality: Brazil: “Von dieser Art sammelte ich bisher vier Exemplare bei Pará, die sich im Igapó (Sumpfwalde) an sonnigen Stellen auf dem Blattwerke umhertrieben; ein ♂ am 22., ein Pärchen am 29. August, ein ♀ am 5. September 1901”.

Syntype: 1 ♀ [Brasil Pará] [5.9.1901 Ducke] [*Amisega mocsaryi* Ducke *Type* ♀ det. A. Ducke] (Zimmermann Coll. 1).

Remarks: DUCKE (1902c) described *Amisega mocsaryi* based on four specimens collected in Pará. One syntype is housed in Vienna; two syntypes are housed in Budapest: one male labelled [Brasil Pará 22.8.1901 Ducke] [*Amisega Mocsaryi* Ducke ♂ *typ.* det. A. Ducke] [Paralectotypus *Amisega mocsaryi* Ducke] <handwritten by Móczár> [id nr. 134818 HNHM Hym. coll.]; one female labelled [Brasil, Pará 29.8.1901 Ducke] [*Amisega mocsaryi* Ducke ♀ *typ.* det. A. Ducke] [id nr. 022804 HNHM Hym. coll.]. We do not know the depository of the male collected in Pará on the 29th of August 1901.

A male in Vienna (General Collection 19) labelled as “type” by Ducke [Itaituba VIII.1902] [*Amisega Mocsaryi* Ducke det. Ducke *Type*] [*Paratype*] <red label> is not part of the type series because the specimen was collected after the original description.

Kimsey (in KIMSEY & BOHART 1991: 93) designated a male specimen from Itaituba in Paris as the lectotype. This specimen was examined and bears the following labels: [Museum Paris *Brésil Itaituba (!) Alfken 1903*] [*Itaituba* Ducke] [*Amisega Mocsaryi* Ducke] [*Type*] <printed in red>. A female specimen housed in Paris bears the same handwritten type and locality labels. These two specimens do not bear any handwritten label by Ducke, unlike the three syntypes deposited in Vienna and Budapest, or any other evidence that they were examined by the author; these specimens were collected at Itaituba, a locality not mentioned in the original description, and originated from the Alfken collection. Since the “lectotype” specimen housed in Paris is not part of the type series, it cannot be considered as the lectotype. We suggest designating the lectotype in a revisional work.

Current status: *Amisega mocsaryi* DUCKE, 1902.

***Chrysidea antiope* ZIMMERMANN, 1961**

Chrysidea sp.: ZIMMERMANN, 1956: 149.

Chrysidea antiope ZIMMERMANN, 1961: 308.

Type locality: Madagascar: “Madagascar Est: Rogez (S). Madagascar Sud: Bekily (S.). Type (Bekily) im Muséum National d’Histoire Naturelle, Paris”.

Paratype: 1 ♀ [Coll. Mus. Congo Madagascar: Rogez III.1944 A. Seyrig] (Zimmermann Coll. 20).

Remarks: ZIMMERMANN (1961) described *Chrysidea antiope* based on at least three females: two specimens from Bekily listed by ZIMMERMANN (1956) and one from Rogez. The holotype, from Bekily, is deposited in Paris and bears the following labels: [Muséum Paris II.40 A. Seyrig] <light blue label> [Madagascar Bekily Rég. Sud de l’île] [*Chrysidea antiope* Zimm. det. Zimmermann] [Type] <red label> [♀ *Chrysidea antiope* Zimmermann Holotype] <handwritten by Bohart>. In Vienna there is another specimen labelled as “type” by Zimmermann, but collected at Moramanga, a locality not mentioned in Zimmermann’s works. This specimen has no type status (MADL 2008: 82). The repository of the second paratype from Bekily is unknown (not in Tervuren).

Current status: *Chrysidea antiope* ZIMMERMANN, 1961.

***Chrysidea phragmiticola* ZIMMERMANN, 1961**

Chrysidea phragmiticola ZIMMERMANN, 1961: 306.

Type locality: Madagascar: “Madagascar Sud: Bekily (S.); Ivondro (S.) [= Madagascar Est]; Antanimora (S.); Ranomafana (S.). Type (Bekily) im Muséum National d’Histoire Naturelle, Paris”.

Paratypes: 1 ♀ [Madagascar Bekily Rég. Sud de l’île] [Muséum Paris I.37 A. Seyrig] <light blue label> [*Chrysidea phragmiticola* Zimm. det. Zimmermann Type] <red label> (Zimmermann Coll. 20); 1 ♀ [Ivondro] [Madagascar] [Muséum Paris II.40 A. Seyrig] <light blue label> (Zimmermann Coll. 20).

Remarks: ZIMMERMANN (1961) described *Chrysidea phragmiticola* based on six females collected at four different localities. He designated the female in Paris as the holotype, but he did not provide information on the paratype depositories. In Paris there are four specimens, three of which have been labelled as types by Bohart: the holotype from Bekily and two paratypes from Antanimora and Ranomafana respectively, bearing the following labels: (1) holotype ♀: [Madagascar Bekily Rég. Sud de l’île] [Muséum Paris X.36 A. Seyrig] <light blue label> [*Chrysidea phragmiticola* Zim. det. Zimmermann] [♀ Holotype *Chrysidea phragmiticola* (!) Zimmermann] <red label>; (2) paratype ♀ [Madagascar Antanimora] [Muséum Paris II.37 A. Seyrig] [*Chrysidea phragmiticola* (!) ♀ Zimmermann Paratype] <red label>; (3) paratype ♀ [Madagascar Ranomafana] [Muséum Paris X.38 A. Seyrig] [*Chrysidea phragmiticola* (!) ♀ Zimmermann Paratype] <red label>; the fourth specimen, identified by Seyrig, also belongs to the type series, because ZIMMERMANN (1961: 297) mentioned that the type material was partly identified by Seyrig himself.

Current status: *Chrysidea phragmiticola* ZIMMERMANN, 1961.

***Chrysidea vazimba* MITA & ROSA, 2019**

Chrysidea vazimba MITA & ROSA, 2019: 6.

Type locality: Madagascar: “Annanarivo”.

Holotype: ♀ [Annanarivo] (Zimmermann Coll. 20).

Current status: *Chrysidea vazimba* MITA & ROSA, 2019.

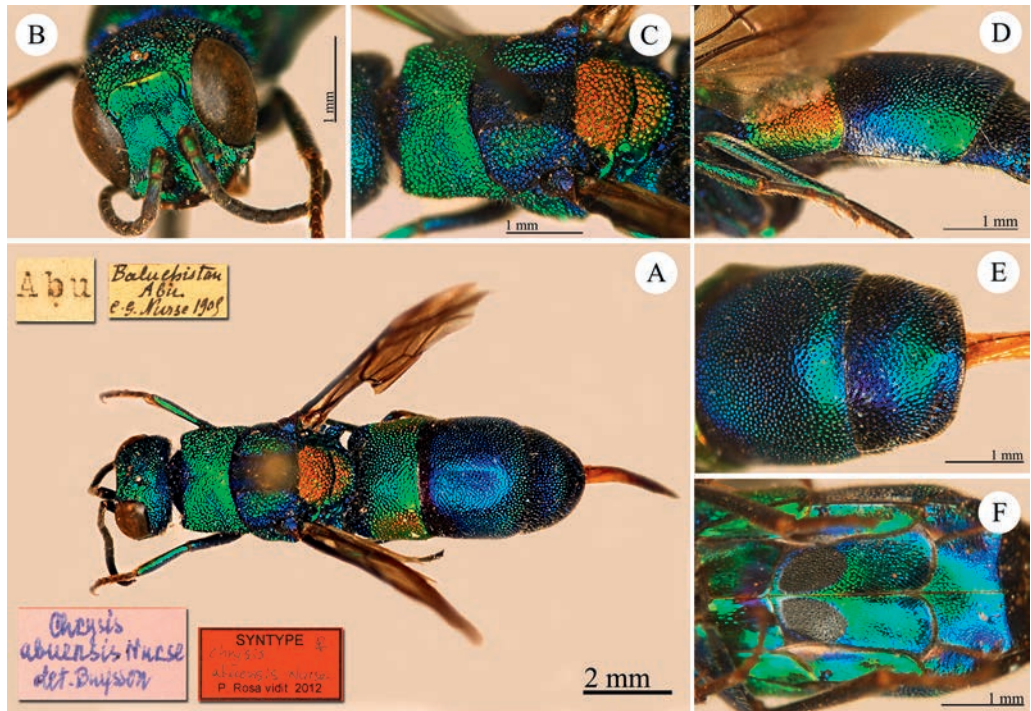


Fig. 1: *Chrysis abuenensis* NURSE, 1902, syntype, ♀: (A) Habitus, dorsal view; (B) head, frontal view; (C) mesosoma, dorsal view; (D) first and second tergum, lateral view; (E) second and third tergum, dorsal view; (F) second sternum, ventral view.

Chrysis abuenensis NURSE, 1902 (Fig. 1)

Chrysis abuenensis NURSE, 1902: 307.

Type locality: India, Rajasthan: “Mt. Abu; common in September and October”.

Syntype: 1 ♀ [Abu] [*Baluchistan Abu C.G. Nurse 1909*] [*Chrysis abuenensis det. Buysson*] <handwritten by Zimmermann> (Zimmermann Coll. 25).

Remarks: The year 1909 handwritten on the second label corresponds to the arrival of Nurse’s specimens at London (see also under *Chrysis gujaratica*). Two syntypes are housed at London (David Notton, pers. comm.), four syntypes at MNHN, and five syntypes in Budapest (ROSA et al. 2017). They all bear the same labels, and some of them bear an additional handwritten type label by Nurse or “cotype” by du Buysson.

Current status: *Chrysis abuenensis* NURSE, 1902.

Chrysis adonis ZIMMERMANN, 1956

Chrysis (Tetrachrysis) adonis ZIMMERMANN, 1956: 153.

Type locality: Madagascar: “Madagascar Centre: Ankaratra. Madagascar Sud: Bekily. Type (Bekily) au Muséum National d’Histoire Naturelle de Paris; Paratypes (Bekily) au Musée du Congo Belge, Tervuren”.

Paralectotypes: 1 ♀ [Coll. Mus. Congo Madagascar: Bekily II.1941 A. Seyrig] [*Chrysis adonis Zimm.* ♀ det. Zimmermann Type] <red label>; 1 ♂ [Coll. Mus. Congo Madagascar: Bekily II.1941 A. Seyrig]

[*Chrysis adonis* Zimm. ♂ det. Zimmermann Type] <red label> <cocoon glued on a label>; 1 ♀ [Coll. Mus. Congo Madagascar: Bekily IV.1942 A. Seyrig]; 1 ♂, 1 ♀ [Coll. Mus. Congo Madagascar: Ankaratra II.1941 A. Seyrig] (all in Zimmermann Coll. 44).

Remarks: Kimsey (in KIMSEY & BOHART 1991: 379) designated a female syntype in Paris as the lectotype, bearing the followings labels: [Madagascar: Bekily II.1941 A. Seyrig] [*Tetrachrysis adonis* Zimm. ♀ det. Zimmermann Type !] [red label] [Lectotype] <red label>. A male specimen housed in Paris bears the same labels and was selected by Zimmermann as the allotype (male type). Other paralectotypes are housed in Paris: two males and three females from Bekily, and five females collected at Ankaratra by A. Seyrig in February 1941. According to the original description, Zimmermann examined twenty-seven females and ten males from Paris and Tervuren. All specimens bear the white labels of Tervuren. Overall, eighteen specimens are housed at Tervuren, twelve specimens at Paris and five specimens in Vienna.

The following specimens were later published by ZIMMERMANN (1961) and cannot be considered as types: 1 ♀ [Madagascar Bekily Rég. Sud de l'île] [Muséum Paris II.41 A. Seyrig]; 1 ♂: [Madagascar Bekily Rég. Sud de l'île] [Muséum Paris VI.38 A. Seyrig] <light blue label> [*sur petit Tachysphex noir*] <light blue label>; 1 ♂ [Madagascar Bekily Rég. Sud de l'île] [Muséum Paris XI.38 A. Seyrig].

Current status: *Chrysis adonis* ZIMMERMANN, 1956.

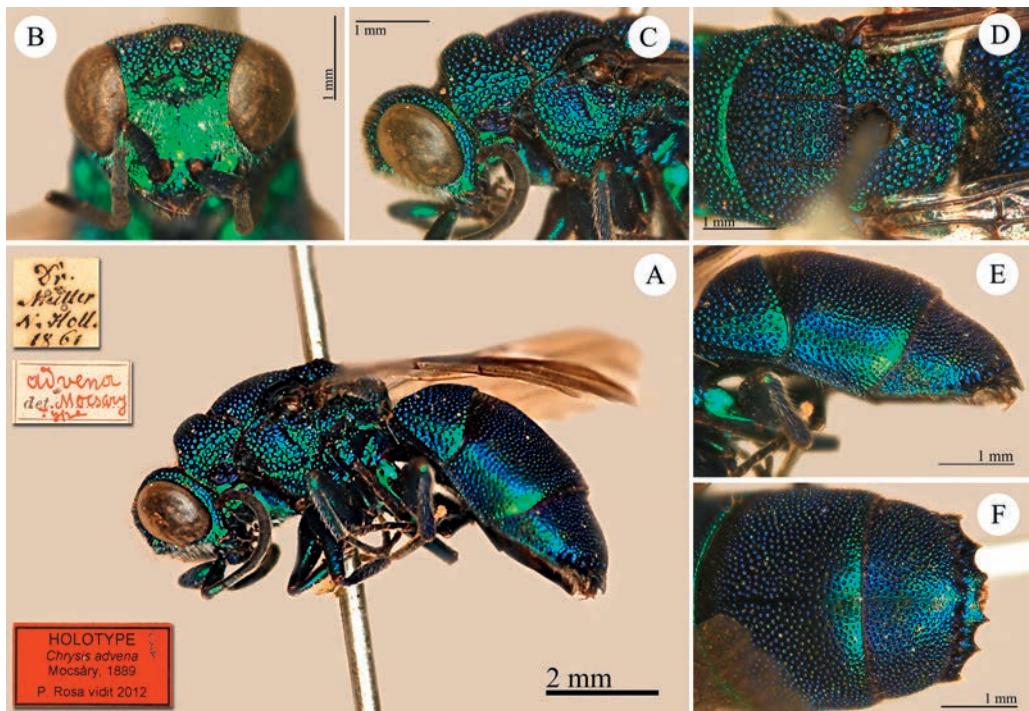
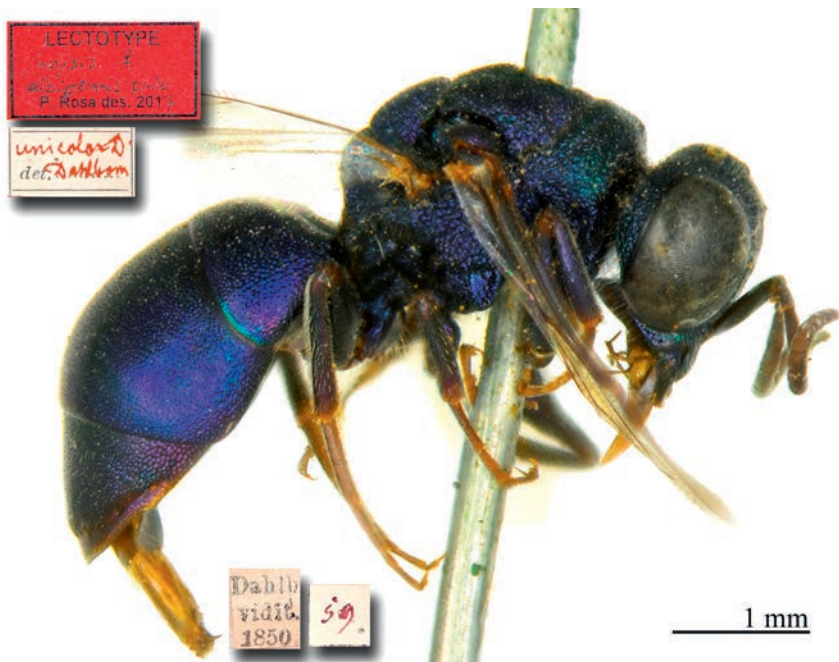


Fig. 2: *Chrysis advena* MOCSÁRY, 1899, holotype, ♀: (A) Habitus, lateral view; (B) head, frontal view; (C) head and mesosoma, lateral view; (D) mesosoma, dorsal view; (E) metasoma, lateral view; (F) second and third tergum, dorsal view.

Chrysis advena* MOCSÁRY, 1889 (Fig. 2)Chrysis (Hexachrysis) advena* MOCSÁRY, 1889: 563.**Type locality:** Australia: “Australia (Nova Hollandia, Mus. Vindob.)”.**Holotype:** ♀ [Dr. Muller N. Holl. 1861] [*advena* det. Mocsáry Type] <handwritten in red> (General Coll. 17).**Remarks:** On the locality label and in the original description the type locality is Nova Hollandia (= Australia) and not Papua New Guinea as given by KIMSEY & BOHART (1991: 400). The collector’s name is Müller (Ferdinand von Müller 1825–1896, a former curator of the Botanical Garden in Melbourne): Therefore, we believe that the correct type locality is Australia.KIMSEY & BOHART (1991: 400) placed *Chrysis advena* in synonymy with *Chrysis cristovallensis* MONTROUZIER, 1864 (in PERROUD & MONTROUZIER 1864) without type examination of the latter. As the description of *Chrysis cristovallensis* is very short and suitable for almost all the species of the *Chrysis smaragdula* species-group found in the Australian region, the synonymy requires verification.**Current status:** *Chrysis cristovallensis* MONTROUZIER, 1864 (synonymised by KIMSEY & BOHART 1991: 400).***Chrysis albipennis* DAHLBOM, 1854 (Fig. 3)***Chrysis albipennis* DAHLBOM, 1854: 175.**Type locality:** Hungary: “? *Elampus albipennis* Klug. Mus. Berolin. *Hedychrum chalybaeum* Megerl. teste Kollár Mus. Vienn., *Chrysis micans* Megerl. teste Kollár Mus. Vienn. Habitat in Hungaria, Mus. Vienn.”. Austria [given in the keys].Fig. 3: *Chrysis albipennis* DAHLBOM, 1854, lectotype, ♀: Habitus, lateral view.

Lectotype (♀, hereby designated): [59] [Dahlbom vidit 1850] [*unicolor* D. det. Dahlbom] <handwritten in red> (General Coll. 8).

Remarks: DAHLBOM (1854) examined at least three syntype specimens of *Chrysis albipennis* in Berlin and Vienna: one specimen from Berlin (in the publication under the name “? *Elampus albipennis* Klug”) and two specimens from Vienna (under the names: *Chrysis micans* and *Hedychrum chalybaeum* Megerle Museum Vienna teste Kollár). The specimen in Berlin bears the following labels: [*Hung. simpliciter* (= simply Hungary)] [*albipenne Chrysis albipennis* Dahlb. Berolin] [*Paratypus*] <added later> [*Dahlb 1854 175* det. Bischoff] [7971] [*Achrysis unicolor* Dahlb. det. Bischoff]. The type locality “Hungary”, given in the text, is based on the latter syntype.

The type locality given by DAHLBOM (1854) in the key (Austria) differs from that in the description (Hungaria). The two specimens in Vienna miss the original locality labels. The identification label of the lectotype (in red) should be correctly written “*albipennis* D. det. Dahlbom”. It is very likely that the locality is Hungary, because the species is very rare in Austria (M. Madl, unpublished catalogue of the Austrian Chrysididae).

Bohart (in KIMSEY & BOHART 1991: 552) considered one specimen preserved in Lund as the holotype. This specimen bears the following labels: <Wien> <62> <*Chry. albipennis* Kl.> <typ> [red label added later]. Yet, it likely does not belong to the type series. In fact, the type series includes syntypes still housed in Vienna and Berlin and the locality



Fig. 4: *Chrysis albomarginata* MOCSÁRY, 1889, holotype, ♂: (A) Head and mesosoma, dorsal view; (B) head, frontal view; (C) head and mesosoma, lateral view; (D) metasoma, lateral view; (E) metasoma, dorsal view; (F) metasoma, ventral view.

Vienna is not mentioned by Dahlbom, as he did in other cases (e. g. *Chrysis mediocris*). According to the Code (ICZN 1999: Article 74.5), the specimen housed in Lund cannot be considered as the lectotype by inference of “holotype”. Since the type in Lund does not clearly belong to the type series, we here designate the lectotype of *Chrysis albipennis* DAHLBOM based on the specimen labelled as [Dahlbom vidit], which was surely examined by the author. Another female specimen originating from Megerle’s collection is deposited in Vienna; it bears the labels: [Megerle] [*unicolor* D. det. Kohl] (General Coll. 8) and could be a paralectotype.

Current status: *Spinolia unicolor* (DAHLBOM, 1831) (synonymised by MOCSÁRY 1889: 287; transferred to the genus *Spinolia* by DU BUYSSON (in ANDRÉ) 1893: 244).

***Chrysis albomarginata* MOCSÁRY, 1889** (Fig. 4)

Chrysis (*Tetrachrysis*) *albomarginata* MOCSÁRY, 1889: 409.

Type locality: Brazil: “Brasilia (Rio-Janeiro, Mus. Cæs. Vindob.)”.

Holotype: ♂ [Natterer Brasilien.] [*albomarginata* Type det. Mocsáry] <handwritten in red> (General Coll. 16).

Current status: *Pleurochrysis postica* (BRULLÉ, 1846) (synonymised by DU BUYSSON 1901: 102; transferred to *Pleurochrysis* by KIMSEY 1985: 280).

***Chrysis amphinome* ZIMMERMANN, 1963** (Fig. 5)

Chrysis amphinome: ZIMMERMANN, 1963: 415.

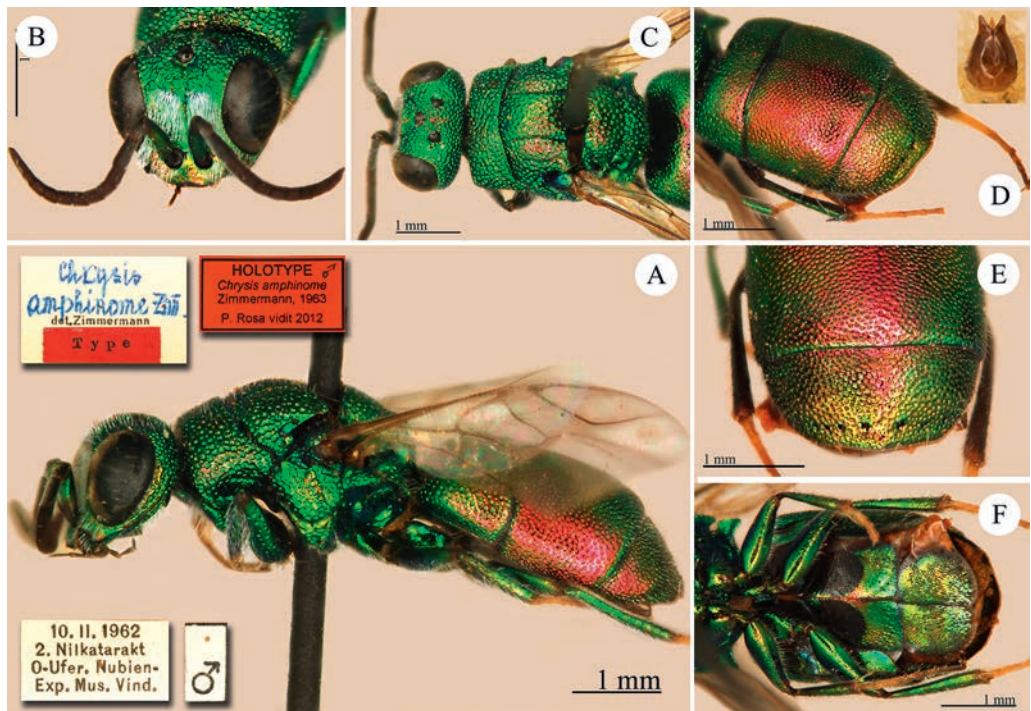


Fig. 5: *Chrysis amphinome* ZIMMERMANN, 1963, holotype, ♂: (A) Habitus, lateral view; (B) head, frontal view; (C) mesosoma, dorsal view; (D) metasoma, postero-lateral view and genital capsule; (E) third tergum, posterior view; (F) metasoma, ventral view.

Type locality: Sudan: “Type 1 ♂, 2. Nilkatarakt, O.-Ufer, 10.II.1962, im Naturhistorischen Museum Wien. Paratypen: 3 ♂ vom gleichen Fundort”.

Holotype: ♂ [10.II.1962 2. Nilkatarakt O-Ufer, Nubien-Exp. Mus. Vind.] [♂] [*Chrysis amphinome* Zimm. det. Zimmermann Type] <red label> (General Coll. 14).

Paratypes: 1 ♂ [10.II.1962 2. Nilkatarakt O-Ufer, Nubien-Exp. Mus. Vind.] [♂] [*Chrysis amphinome* Zimm. det. Zimmermann Paratype] (General Coll. 14); 2 ♂♂ [10.II.1962 2. Nilkatarakt O-Ufer, Nubien-Exp. Mus. Vind.] [♂] [*Chrysis amphinome* Zimm.] (Zimmermann Coll. 26).

Current status: *Chrysis amphinome* ZIMMERMANN, 1963.

***Chrysis angularis* MOCSÁRY, 1889**

Chrysis (Tetrachrysis) angularis MOCSÁRY, 1889: 366.

Type locality: Egypt: “Aegyptus (Mus. Cæs. Vindob.)”.

Holotype: ♀ [Ägypten ?] [*angularis* det. Mocsáry Type] <handwritten in red> [*Chrysis nitidula* ♀ F. R M Bohart] (General Coll. 11).

Remarks: The type locality is doubtful, as marked on the locality label. KIMSEY & BOHART (1991: 443) placed *Chrysis angularis* in synonymy with *Chrysis nitidula* after type examination. They considered the type locality in error, because *Chrysis nitidula* is widely distributed only in the Nearctic region. In fact, *Chrysis angularis* very likely does not belong to the northern African fauna.

Current status: *Chrysis nitidula* FABRICIUS, 1775 (synonymised by KIMSEY & BOHART 1991: 443).

***Chrysis angusticollis* MOCSÁRY, 1893**

Chrysis (Olochrysis) angusticollis MOCSÁRY, 1893: 219.

Type locality: “Caucasus (in valle Araxes legit Dom. H. Leder et e Musaeo Aulico Vindobonensi mecum benevole communicavit amicus Fr. Kohl)”.

Holotype (?): ♀ [Caucasus Araxesthal Leder Reitter] [*angusticollis* Mocs. det. Mocsary] <handwritten by Zimmermann> (Zimmermann Coll. 23).

Remarks: KIMSEY & BOHART (1991: 486) placed the holotype doubtfully in Budapest. We consider the specimen housed in the Zimmermann Collection doubtfully as a type, because at least two main differences are found compared with the original description: the colour of the pronotal antero-median depression, which does not contrast with the colour of the pronotum, and the punctuation on the mesosoma, which is dense.

Current status: *Chrysura angusticollis* MOCSÁRY, 1893 (transferred to *Chrysura* by KIMSEY & BOHART 1991).

***Chrysis anthea* ZIMMERMANN, 1963 (Fig. 6)**

Chrysis (Holo-chrysis) anthea ZIMMERMANN, 1963: 413.

Type locality: Sudan: “1 ♂, 1 ♀, Khor Musa Pascha S.v. Wadi Halfa, 27.I und 10.II.1962. Typen im Naturhistorischen Museum Wien”.

Lectotype: ♂ [27.I.1962 Khor Musa Pascha S v. Wadi-Halfa, Nubien-Exp. Mus. Vindob.] [♂] [*Chrysis anthea* Zim. det Zimmermann Type] <red label> [Lectotype ♂ *anthea* Zimm. R.M. Bohart] <red label> (General Coll. 14).

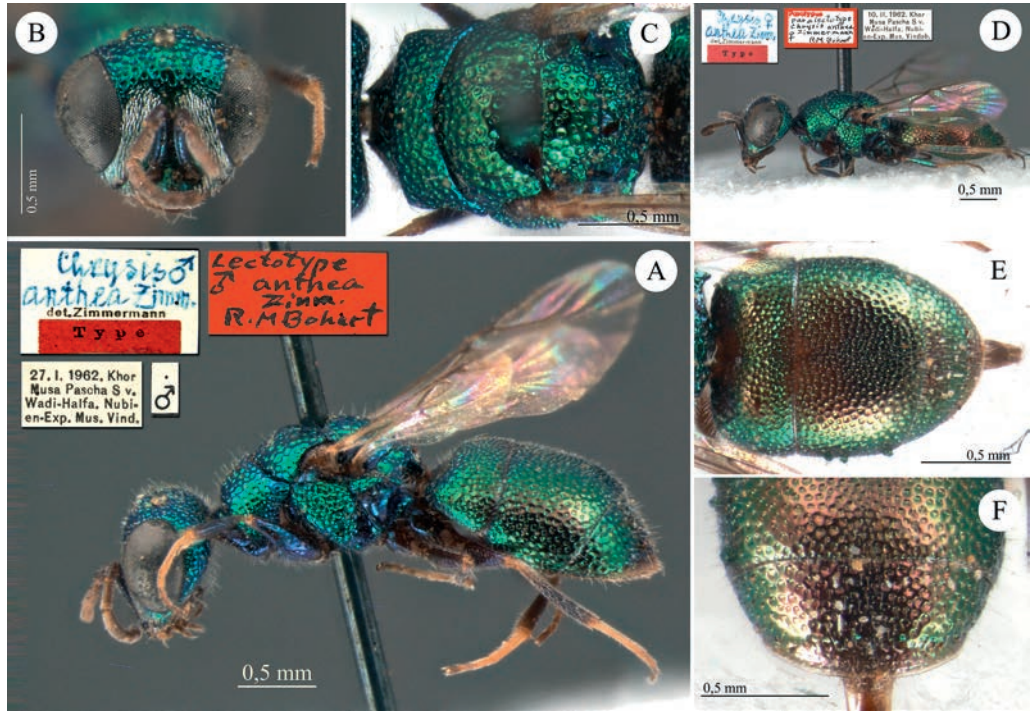


Fig. 6: *Chrysis anthea* ZIMMERMANN, 1963, lectotype, ♂: (A) Habitus, lateral view; (B) head, frontal view; (C) mesosoma, dorsal view. *Chrysis anthea* ZIMMERMANN, 1963, paralectotype, ♀: (D) Habitus, lateral view; (E) metasoma, dorsal view; (F) third tergum, posterior view.

Paralectotype: 1 ♀ [10.II.1962 Khor Musa Pascha S v. Wadi-Halfa, Nubien-Exp. Mus. Vindob.] [♀] [*Chrysis* ♀ *anthea* Zim. det Zimmermann Type] <red label> [*Paralectotype Chrysis anthea* ♀ Zimmermann RM Bohart] <red label> (General Coll. 14).

Remarks: The lectotype was designated by Bohart (in KIMSEY & BOHART 1991: 475). KIMSEY & BOHART (1991) placed *Chrysis anthea* in synonymy with *Chrysis variipes* MOCSÁRY, 1911, a species previously known only from India. The two species are clearly related and belong to the *Chrysis millenaris* species-group, nevertheless they are not conspecific. The main diagnostic characteristics for *Chrysis anthea* are: clypeus evidently incised in the middle (straight in *C. variipes*); malar space short (equals median ocellus diameter, but longer than median ocellus diameter in *C. variipes*); head, excluding the scapal basin, with large and not deeply impressed punctures (small, deep and dense in *C. variipes*); punctation on mesosoma and metasoma consisting of very large, irregular and not deeply impressed punctures (punctation very small, uniform and dense in *C. variipes*); anal margin of third metasoma tergite with large semitransparent rim (without semitransparent rim in *C. variipes*); metasoma metallic greenish to coppery (first tergite metallic rose to red, second and third tergite black, along the posterior margin metallic green to blue in *C. variipes*). For the mentioned differences, we consider *Chrysis anthea* as a separate species.

Current status: *Chrysis anthea* ZIMMERMANN, 1963 sp.rev.

***Chrysis apiata houskiana* BALTHASAR, 1953**

Chrysis (Tetrachrysis) apiata ssp. *houškiana* BALTHASAR, 1953: 232.

Type locality: Israel, West Bank: “Jérusalem env., Wadi el Kelt, Jérico, VI-X, assez fréquente. Holotypus: 1 ♀, 15.IX.1942, Jérusalem, Paratypi: 12 ♀♀, loc. class, Jérico, Wadi el Kelt”.

Paratypes: 1 ♀ [Jerusalem Palestina 15.VIII.44 Houska lgt.] [Typus] <red label> [*Ch. apiata* ssp. *houškiana* n. Dr.V. Balthasar det.] (Zimmermann Coll. 14); 1 ♀ [Jerusalem Palestina 31.VII.42 Houska lgt.] [Typus] <red label> (Zimmermann Coll. 14); 1 ♀ [Jerusalem Palestina 20.IX.42 Houska lgt.] [*Ch. apiata* ssp. *houškiana* Dr. V. Balthasar det.] (Zimmermann Coll. 14).

Current status: *Chrysis apiata* DU BUYSSON, 1900.

***Chrysis araxana* MOCSÁRY, 1893 (Fig. 7)**

Chrysis (Tetrachrysis) Araxana MOCSÁRY, 1893: 230.

Type locality: “Caucasus (Vallis fluvii Araxes, pariter e Musæo Aulico Vindobonensi)”.

Lectotype (♂, hereby designated): [*Araxes Thal*] [*araxana* Mocs det. Mocsáry] (Zimmermann Coll. 42).

Remarks: MOCSÁRY (1893) described *Chrysis araxana* based on two syntype specimens. KIMSEY & BOHART (1991: 385) considered the specimen in Vienna as the holotype, yet this term does not establish a lectotype designation (ICZN 1991: Article 74.5). *Chrysis araxana*, based on the shortened first and second flagellomeres, the short malar spaces

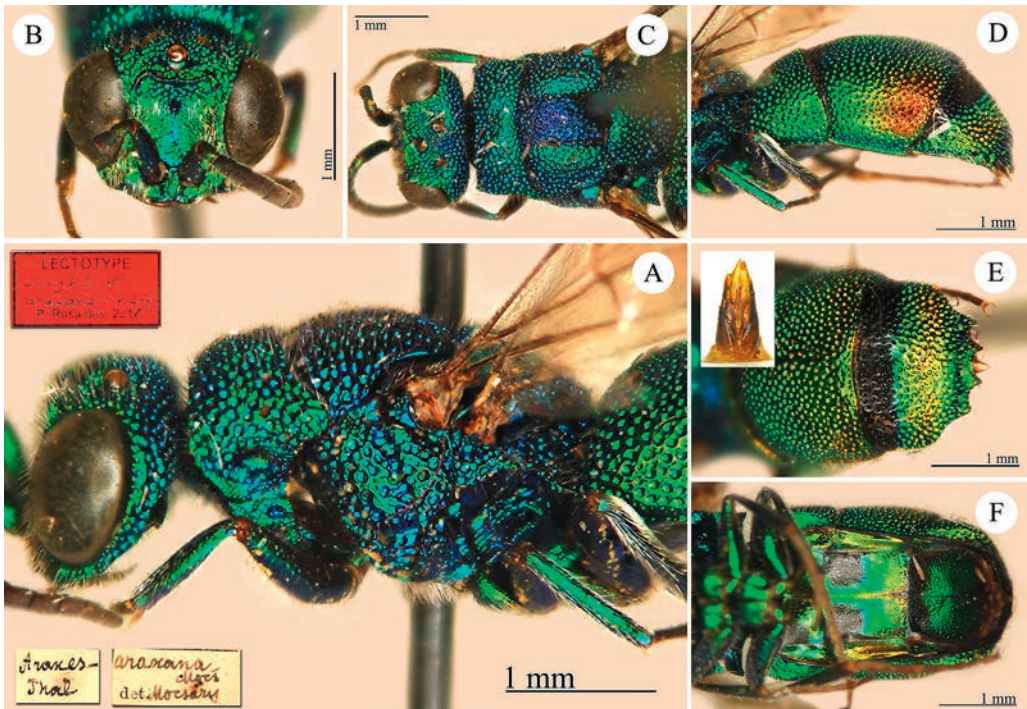


Fig. 7: *Chrysis araxana* MOCSÁRY, 1893, lectotype, ♂: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, lateral view; (E) metasoma, posterior view, and genital capsule; (F) metasoma, ventral view.

and the shape of genital capsula, belongs to the *Chrysis maculicornis* species-group (sensu KIMSEY & BOHART 1991) and not to the *Chrysis ignita* species-group as stated by KIMSEY & BOHART (1991). We here designate the lectotype of *Chrysis araxana* to fix the interpretation of the species, based on the only syntype currently known, included for the first time in a different species group.

Current status: *Chrysis araxana* MOCSÁRY, 1893.

***Chrysis ariadne* MOCSÁRY, 1889**

Chrysis (Tetrachrysis) Ariadne MOCSÁRY, 1889: 416.

Type locality: Greece, Daghestan, Transcaspia: “Græcia (Morea, Mus. Cæs. Vindob.! Et Mus. Hung.); Caucasus (Daghestan, Coll. Rad.!); territorium Transcaspicum (Coll. Rad.!)”.

Paralectotype: 1 ♂ [*Morea*] (Zimmermann Coll. 41).

Remarks: MÓCZÁR (1965: 172) designated the lectotype in Budapest (ROSA et al. 2017). Three paralectotypes are housed in the Radoszkowski Collection in Kraków (ROSA et al. 2015).

Current status: *Chrysis soror* DAHLBOM, 1854 (synonymised by LINSSENMAIER 1959: 125).

***Chrysis arizonica* BOHART, 1962**

Chrysis arizonica BOHART, 1962: 366.

Type locality: U.S.A.: holotype ♂ from Arizona (Ruby, St. Cruz Co., Arizona, Sept. 9, 1957, leg. T.R. Haig (Davis)); 14 ♂♂ and 19 ♀♀ paratypes from Arizona (Granite Reef Dam, Maricopa, Co., Sells; Apache; near Portal; Tucson; Sabino Canyon, Santa Catalina Mts.; Santa Rita Mts.; SE of Globe; Bowie; Organ Pipe Natl. Mon): 1 paratype from Texas (Devils River).

Paratype: 1 ♀ [Granite Reef Dam Maricopa Co. Ariz VI-19-1961 K.V. Krombein] [Year 1961 Nest 460 Cell 10] [Paratype *Chrysis arizonica* ♀ R.M. Bohart] <red label> (Zimmermann Coll. 50).

Current status: *Chrysis arizonica* BOHART, 1962.

***Chrysis assimilis* DAHLBOM, 1854**

Chrysis assimilis DAHLBOM, 1854: 201.

Type locality: Sicily and Egypt (?): “Habitat in Sicilia et Aegypto. Tria specimina lustravi: unum a D. Grohmann in Sicilia lectum, Mus. Vienn. teste D. Kollàr; alterum e Stansnio a D. Loew communicatum, tertium ex Aegypto D. Walzl, Mus. D. Spinolae”.

Paralectotype: 1 ♂ [55a] [Dahlbom vidit 1850] [*assimilis* det. *Dahlbom*] [*pumila* det. *Mocsáry*] (General Coll. 6).

Remarks: DAHLBOM (1854) described *Chrysis assimilis* based on three syntypes. The syntype series includes specimens belonging to different species (ROSA & XU 2015). The Sicilian syntype housed in Vienna belongs to *Chrysidea disclusa* (LINSSENMAIER, 1959). The Egyptian syntype housed in the Spinola Collection (Turin) belongs to *Chrysidea pumila* (KLUG, 1845). ROSA & XU (2015) designated the latter specimen as the lectotype to preserve the current systematic arrangement given by LINSSENMAIER (1987). The depository of the third syntype is unknown.

Current status of species: *Chrysidea pumila* (KLUG, 1845) (synonymised by MOCSÁRY 1889: 183; transferred to the genus *Chrysidea* by BISCHOFF 1913: 35).

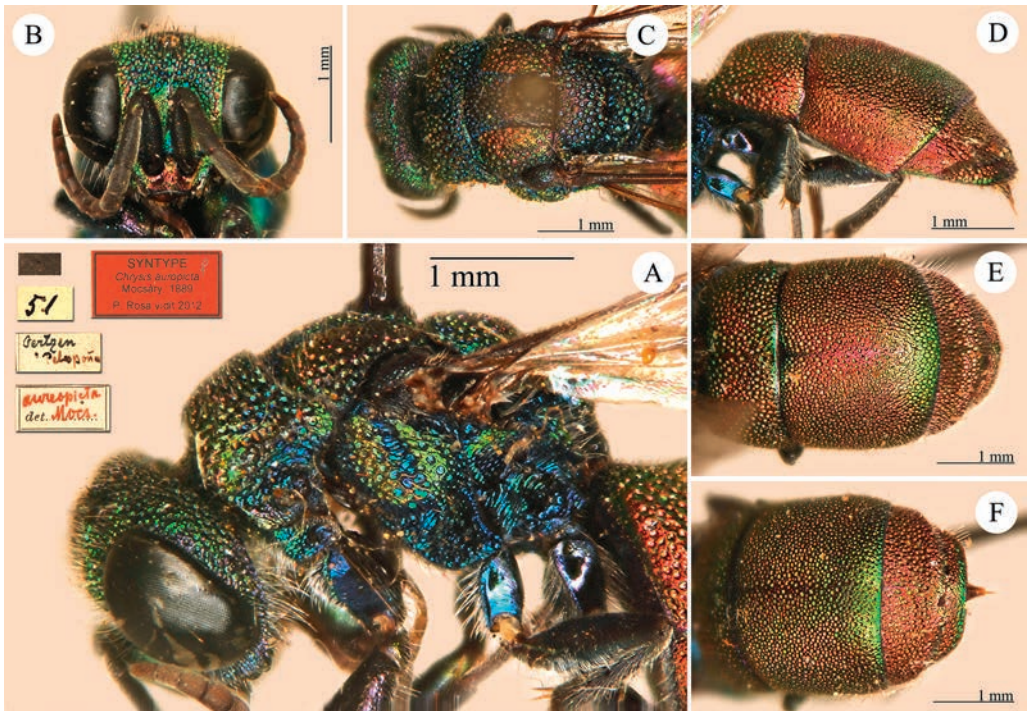
Chrysis auriceps* LINSENMAIER, 1959Chrysis leachi* (!) a. *auriceps* MADER, 1936: 288.*Chrysis auriceps* LINSENMAIER, 1959: 119.**Type locality:** Croatia, Greece, Italy, Macedonia: “Dalmatien (Insel Krk), Italien, Macédonien, Korfu”.**Paralectotype:** 1 ♀ [Insel Krk Cro., Mader] [Type, *Chr. leachi auriceps* Mad.] (Zimmermann Coll. 27).**Remarks:** MADER (1936) described *Chrysis auriceps* as an aberration of *Chrysis leachii* SHUCKARD, 1837, therefore the name *auriceps* MADER is not available (ICZN 1999: Article 45.5). For the first time LINSENMAIER (1959: 119) treated *Chrysis auriceps* as a valid species, thus made the name available as a species-group name (ICZN 1999: Article 45.6.3), and must be treated as the taxon author (ICZN 1999, Article 50.3.1). ROSA et al. (2015b) selected another female type specimen as the lectotype; it bears the same labels and is housed in the Linsenmaier Collection (Luzern). According to KIMSEY & BOHART (1991: 387) the depository is unknown. *Chrysis auriceps* belongs to the *Chrysis leachii* species-group.**Current status:** *Chrysis auriceps* LINSENMAIER, 1959.***Chrysis auropicta* MOCSÁRY, 1889 (Fig. 8)***Chrysis (Olochrysis) auropicta* MOCSÁRY, 1889: 264.**Type locality:** Greece: “Graecia (Attica, Mus. Cæs. Vindob.)”.

Fig. 8: *Chrysis auropicta* NURSE, 1902, syntype, ♀: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, lateral view; (E) metasoma, dorsal view; (F) metasoma, posterior view.

Syntypes: 1 ♂ <brown label> [*Attica Oertzen*] [42] [*auropicta* det. Kohl] (General Coll. 6); 1 ♀ <brown label> [51] [*Oertzen Peloponnes*] [*auropicta* det. Mocs.] <handwritten in red> (General Coll. 6); 1 ♀ <brown label> [*Peloponnes Oertzen*] [*auropicta* det. Kohl] (General Coll. 6).

Remarks: MOCSÁRY (1889) described *Chrysis auropicta* based on several specimens from Greece (including at least one male and one female). We consider also the male and the female collected in the Peloponnese as syntypes because the latter were labelled with a red handwritten label, even if the locality “Peloponnes” was not mentioned in the original description. The locality, the Peloponnese, could have been overlooked by Mocsáry, otherwise the red label could have been reversed between the female from the Peloponnese and the male from Attica. In the second case, the female syntype from Attica could be lost. No other syntype has been found in European museums, including Budapest. We consider the red handwritten label placed under the female as the evidence that all three specimens are syntypes, according to the Code (ICZN 1999: Article 72.4.1.1).

Current status: *Chrysura auropicta* (MOCSÁRY, 1889) (transferred to the genus *Chrysura* by KIMSEY & BOHART 1991: 486).

***Chrysis bayadera* DU BUYSSON, 1896** (Fig. 9)

Chrysis bayadera DU BUYSSON, 1896: 470.

Type locality: India, Maharashtra, Pune: “Provinces centrales; Poona (R. C. Wroughton)”.

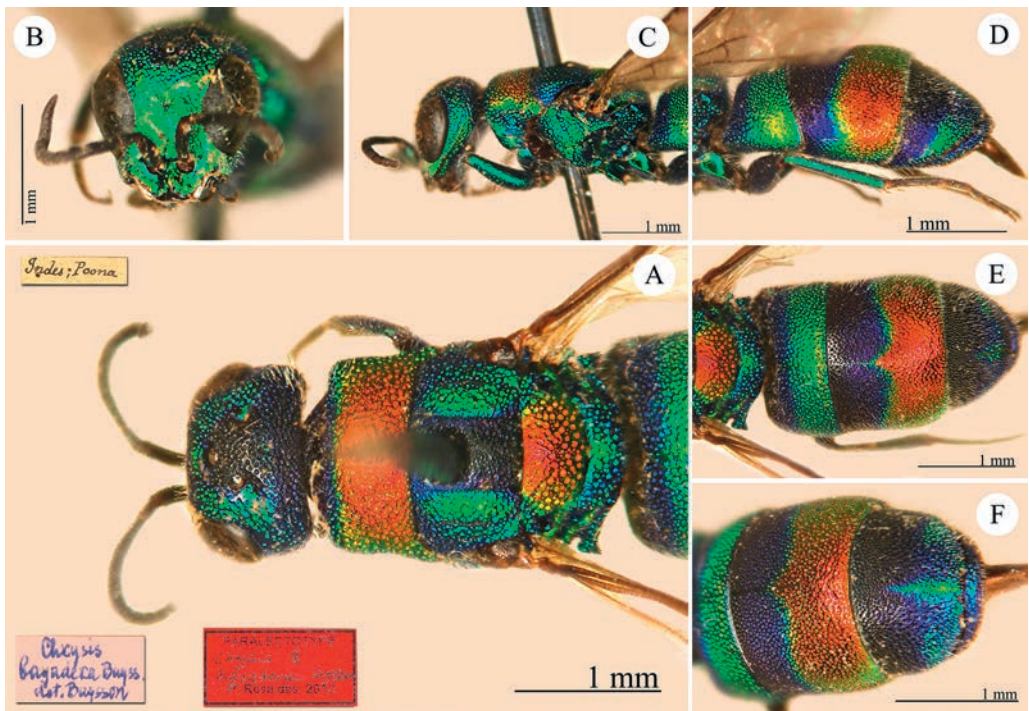


Fig. 9: *Chrysis bayadera* DU BUYSSON, 1896, paralectotype, ♀: (A) Head and mesosoma, dorsal view; (B) head, frontal view; (C) head and mesosoma, lateral view; (D) metasoma, lateral view; (E) metasoma, dorsal view; (F) metasoma, posterior view.

Paralectotype: 1 ♀ [*Indes: Poona*] [*Chrysis bayadera* Buyss. det. Buysson] <handwritten by Zimmermann> (Zimmermann Coll. 25).

Remarks: DU BUYSSON (1896) described *Chrysis bayadera* based on an unknown number of males and females. Bohart (in KIMSEY & BOHART 1991: 388) designated a female syntype in Paris as the lectotype, bearing the following labels: [Museum Paris *Inde anglaise Poona* Coll. R. du Buysson 1900] [*Chrysis bayadera* Buyss. Types R. du Buysson det.] [Type] <printed in red> [Lectotype] <red label>.

Current status: *Chrysis bayadera* DU BUYSSON, 1896.

***Chrysis bequaerti* BOHART, 1962**

Chrysis bequaerti BOHART, 1962: 366.

Type locality: U.S.A.: holotype ♂ from Texas (Dallas, leg. Boll (MCZ)); 43 ♂♂ and 28 ♀♀ paratypes from: Texas (New Braunfels; Dallas; “Tex.”, Fedor; Lee Co.; Denison; Brownsville; Giddings; Hidalgo Co.; Hereford; Weser); New Mexico (Las Cruces); Oklahoma (Lawton); Kansas (Pratt Co.; Sherman Co.; Topeka; Dickinson Co. Meade CO.; Seward Co.; Harvey Co.; Phillips Co.; Scott Co. Lawrence); Nebraska (Squaw Canyon, Sioux Co.); South Dakota; Arkansas (Marion Co.); Missouri (Colombia); Indiana (Lafayette); Georgia (Atlanta); D.C. (Washington).

Paratypes: 1 ♀ [Texas Belfrage] [Paratype *Chrysis bequaerti* ♀ R.M. Bohart] <red label> (Zimmermann Coll. 50); 1 ♂ [Tex.] [Collection Belfrage] [Paratype *Chrysis bequaerti* ♂ R.M. Bohart] <red label> (Zimmermann Coll. 50).

Current status: *Chrysis bequaerti* BOHART, 1962.

***Chrysis bicolor* DAHLBOM, 1829**

Chrysis bicolor DAHLBOM, 1829: 10.

Type locality: Sweden and Finland: “Hab. in Westro Gothia rarius; etiam in Smolandia a D. Boheman detecta, museo D. Zetterstedt; duo quoque specimina feminea unum Upsaliae a D. Falander, alterum in Finnlandia captum Celeberrimus Domin. a Conciliis Commerciorum & Eques Schönher sub nomine Chr. Austriaca mihi benevole communicavit”.

Possible syntype: 1 ♂ [44] [1845 don. Dahlbom] [*bicolor* det. Dahlb] [*osmia* det. Kohl] [*hirsuta* Gerst. det. Trautmann] (General Coll. 6).

Remarks: Dahlbom donated some specimens to the collection in Vienna. Therefore, the listed specimen is a possible syntype as in the case of *Hedychridium cupreum* (DAHLBOM 1845). *Chrysis bicolor* DAHLBOM, 1829 is a primary junior homonym of *Chrysis bicolor* LEPELETIER, 1806. Recently, PAUKKUNEN et al. (2014) stated that the type series of *Chrysis bicolor* DAHLBOM includes specimens of both *Chrysura hirsuta* and *Chrysura radians*. The specimen housed at Vienna is a male of *Chrysura hirsuta* (GERSTAECKER, 1869).

Current status: *Chrysura hirsuta* (GERSTAECKER, 1869) [partim] and *Chrysura radians* (HARRIS, 1776) [partim] (transferred to the genus *Chrysura* by DAHLBOM 1845).

***Chrysis caffra* MOCSÁRY, 1889** (Fig. 10)

Chrysis (Olochrysis) Caffra MOCSÁRY 1889: 214.

Type locality: South Africa: “Caffraria (Mus. Cæs. Vindobonense)”.

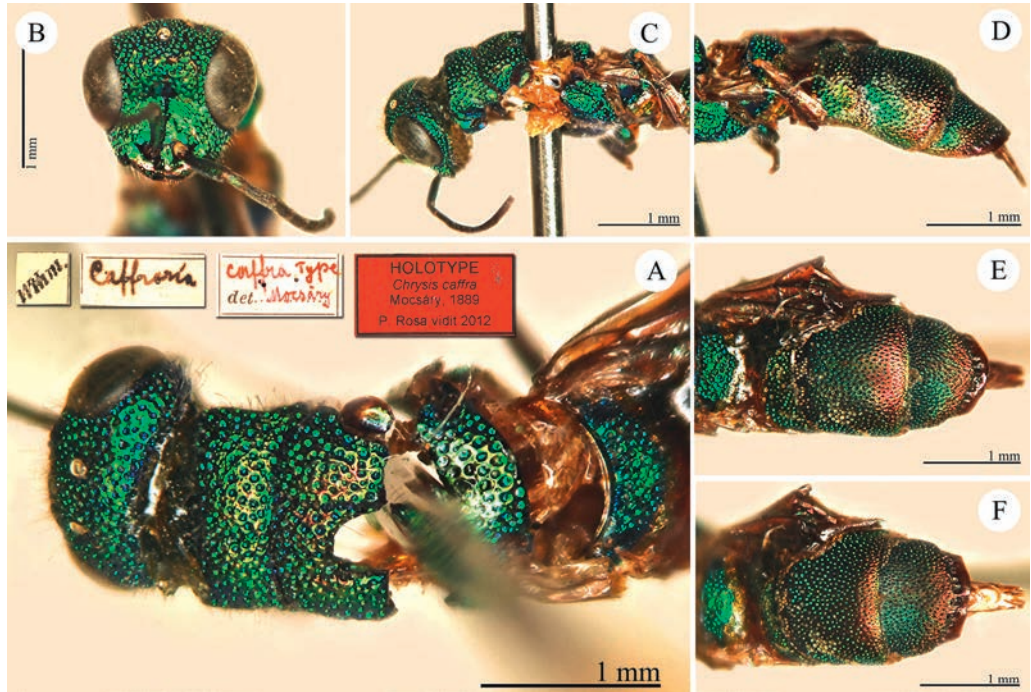


Fig. 10: *Chrysis caffra* MOCSÁRY, 1889, holotype, ♀: (A) Head and mesosoma, dorsal view; (B) head, frontal view; (C) head and mesosoma, lateral view; (D) metasoma, lateral view; (E) metasoma, dorsal view; (F) metasoma, posterior view.

Holotype: ♀ [*Caffraria*] [Wthm] [*caffra* Type det. Mocsáry] <handwritten in red> (General Coll. 9).

Remarks: The type is badly damaged. The mesosoma is broken and glued in two parts; the metasoma is glued to the mesosoma; legs are broken and lost, with the exception of the right hind femur and tibia; the left forewing is lost, and only a part of the right forewing is still glued to the metasoma; the left antenna is lost. *Chrysis caffra* belongs to the *Chrysis exsecata* species-group (MADL & ROSA 2012: 23).

Current status: *Chrysis caffra* MOCSÁRY, 1889.

Chrysis callosa MOCSÁRY, 1889

Chrysis (Tetrachrysis) callosa MOCSÁRY, 1889: 406.

Type locality: probably Chile: “Patria: ignota, forsan Chile? mihi a Clariss. Domino Léon Fairmaire in speciminibus numerosis benigne donata (Mus. Hung.)”.

Syntypes: 1 ♀ [Chile?] [*callosa* det. Mocsáry] [*Chrysis callosa* Mocs.] <handwritten by Mocsáry> (General Coll. 15); 1 ♀ [Chile?] [*callosa* det. Mocsáry] (General Coll. 15); 2 ♀♀ [Chile] [*callosa* Type det. Mocsáry] <handwritten in red> (General Coll. 15).

Remarks: Bohart (in KIMSEY & BOHART 1991: 415) published a female syntype in Vienna being the lectotype. Unfortunately, he did not pin a lectotype label under the selected specimen; thus this designation is not valid. In Budapest there are further three syntypes labelled as: [*callosa* Mocs. typ. det. Mocsáry] [red label] [*Vienna type is*

grandis] <handwritten by Bohart> [*Chrysis subfoveolata* Brullé det. R.M. Bohart] [id nr. 135560–135563 HNHM Hym.coll.].

LINSENMAIER (1987: 153) considered *Chrysis callosa* as a valid species in the *Chrysis carinata* species-group [= *Chrysis grandis* group] which includes: *Chrysis carinata* GUÉRIN-MÉNEVILLE, 1842 [= *Chrysis grandis* BRULLÉ, 1846], *Chrysis subfoveolata* BRULLÉ, 1846, *Chrysis guerini* MOCSÁRY, 1887 and *Chrysis callosa*. KIMSEY & BOHART (1991) placed *Chrysis carinata*, *Chrysis chilensis* SPINOLA, 1851 and *Chrysis callosa* MOCSÁRY in synonym of *Chrysis grandis*, and *Chrysis guerini* in synonym of *Chrysis subfoveolata*. Since the systematic position of the species in this group is not clear, we let the lectotype designation of *Chrysis callosa* be designated by the first revisor of the group.

Current status: *Chrysis grandis* BRULLÉ, 1846 (synonymised by KIMSEY & BOHART 1991: 415).

***Chrysis cembraicola* KROMBEIN, 1958**

Chrysis cembraicola KROMBEIN, 1958b: 53.

Type locality: U.S.A.: holotype ♀ from West Virginia (Lost River State Park, W. Va., July 5, 1955, leg. K.V. Krombein (Washington); allotype and 28 ♀♀ paratypes from Virginia (from the same locality; Arlington; Dunn Loring, Fairfax Co.; Westmoreland State Park, Westmoreland Co.); 3 ♀♀ from D.C. (Brookland and Washington D.C.); 2 ♀♀ from North Carolina (Biltmore); 2 ♀♀ from Pennsylvania (Harrisburg, Dauphin Co.; Overbrook, Philadelphia).

Paratype: 1 ♀ [Biltmore, N.C.] [R. St. George Colr] [June 10.24] [Paratype 63508] <light blue label> [Paratype *Chrysis cembraicola* Karl V. Krombein] <red label> (Zimmermann Coll. 44).

Current status: *Chrysis cembraicola* KROMBEIN, 1958.

***Chrysis chevrieri* var. *orientalis* MOCSÁRY, 1889**

Chrysis (Tetrachrysis) Chevrieri var. *orientalis* MOCSÁRY, 1889: 480, nec GUÉRIN-MÉNEVILLE, 1842.

Type locality: Greece and Caucasus: “Graecia (Parnassus, Coll. Schmiedecknechti!; Ephesus, Mus. Turicense!) et Caucasus (Coll. Rad.! Mus. Hung. et Vindob.! et Coll. Fairmaire!)”.

Paralectotype: 1 ♂ [Transkauk. Helenendorf 1886] [77] (Zimmermann Coll. 34).

Remarks: MÓCZÁR (1965: 174) designated a male syntype in Budapest as the lectotype. The lectotype and one paralectotype are deposited in Budapest (ROSA et al. 2017); another paralectotype is deposited in Kraków (ROSA et al. 2015). LINSSENMAIER (1959) replaced the primary homonym *orientalis* MOCSÁRY (nec *orientalis* GUÉRIN-MÉNEVILLE, 1842) by *Chrysis comparata orientica* and considered it as a valid subspecies of *Chrysis comparata* LEPELETIER, 1806.

Current status: *Chrysis comparata orientica* LINSSENMAIER, 1959.

***Chrysis circassica* MOCSÁRY, 1893 (Fig. 11)**

Chrysis (Tetrachrysis) Circassica MOCSÁRY, 1893: 222.

Type locality: “Caucasus (pariter e valle fluvii Araxes) (Musæum Aulicum Vindobonense)”.

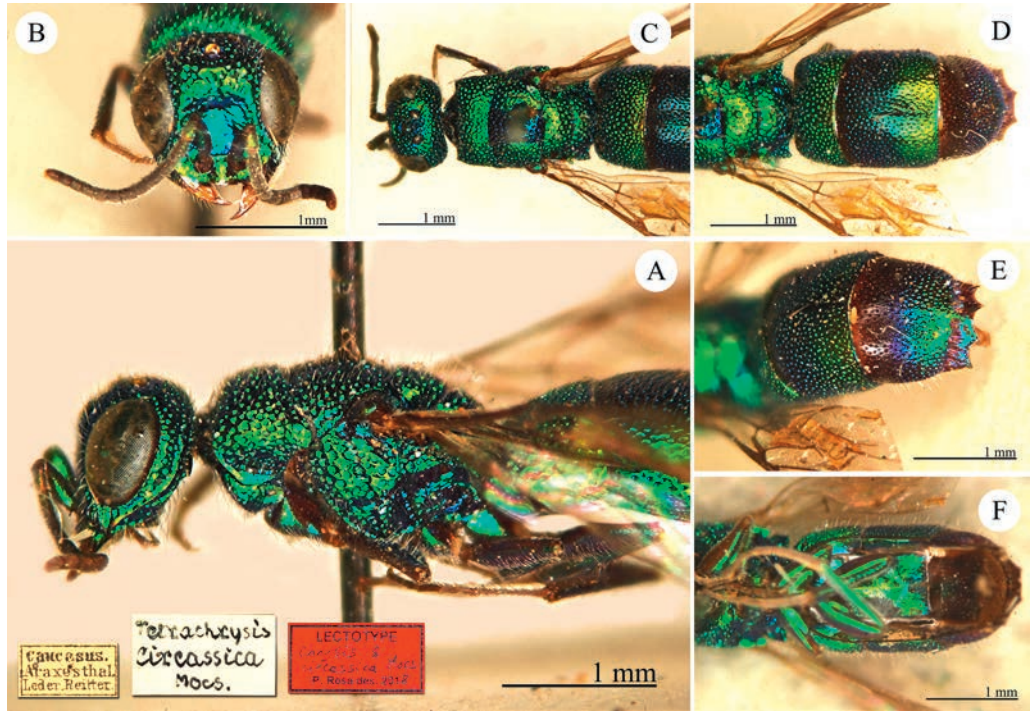


Fig. 11: *Chrysis circassica* MOCSÁRY, 1893, lectotype, ♀: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) head, mesosoma and first tergum, dorsal view; (D) metasoma, dorsal view; (E) metasoma, posterior view; (F) metasoma, ventral view.

Lectotype (♀, hereby designated): [Caucasus Araxesthal Leder. Reitter.] [*circassica* Mocs det. Mocsáry] [*Chrysis Circassica* Mocs. n.sp.] (General Coll. 11).

Paralectotype: 1 ♀ [Caucasus Araxesthal Leder. Reitter.] [*Tetrachrysis circassica* Mocs] <handwritten by Zimmermann> (Zimmermann Coll. 42).

Remarks: MOCSÁRY (1893) described *Chrysis circassica* based on two syntype specimens. KIMSEY & BOHART (1991: 397) listed the holotype at Vienna, but this term does not establish a lectotype designation (ICZN 1999: Article 74.5). KIMSEY & BOHART (1991) included *Chrysis circassica* in the *Chrysis succincta* species-group. However, this species belongs to a different species group, even if the unusual narrow and deep facial basin is polished. It can be related to the *Chrysis splendidula* species-group by the following characters: the slender general habitus, the subparallel and elongate malar spaces, the darker blue colour, the shape of the last metasomal tergum, the narrow and elongate black spots on the second sternum, connected to lateral margins of the sternite. We here designate the lectotype to fix the interpretation of this species on the specimen housed in the General Collection.

Current status: *Chrysis circassica* MOCSÁRY, 1893.

***Chrysis clypeata* MOCSÁRY, 1889** (Fig. 12)

Chrysis (*Tetrachrysis*) *clypeata* MOCSÁRY, 1889: 393.

Type locality: Mexico, Chapultepec: “Mexico (Chapultepek, Mus. Cæs. Vindobonense)”.

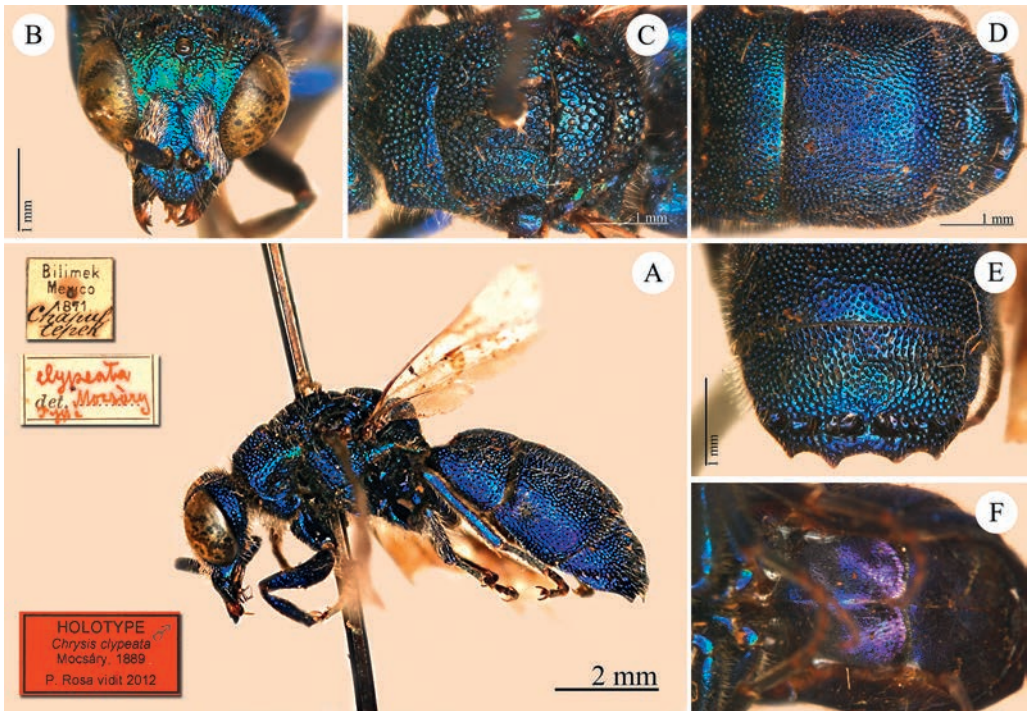


Fig. 12: *Chrysis clypeata* MOCSÁRY, 1889, holotype, ♂: (A) Habitus, lateral view; (B) head, frontal view; (C) mesosoma, dorsal view; (D) metasoma, dorsal view; (E) third tergum, posterior view; (F) second sternum, ventral view.

Holotype: ♂ [Bilimek Mexico 1871 *Chapultepek*] [*clypeata* det. *Mocsáry Type*] <handwritten in red> (General Coll. 15).

Remarks: The type lacks the antennae, with the exception of the right scapus.

Current status: *Chrysis lauta* CRESSON, 1865 (synonymised by BOHART & KIMSEY 1982: 115).

Chrysis concolor MOCSÁRY, 1893 (Fig. 13)

Chrysis (Tetrachrysis) concolor MOCSÁRY, 1893: 222.

Type locality: “Caucasus (Vallis fluvii Araxes, e Musæo Aulico Vindobonensi)”.

Holotype: ♀ [Araxes- Ihalgo] [*concolor Mcs* det. *Mocsáry*] [*Chrysis concolor Mocs. n.sp.*] <handwritten by Mocsáry> (General Coll. 11).

Remarks: KIMSEY & BOHART (1991: 399) erroneously report “Lectotype male (desig. Bohart 1986b); USSR: ‘Siberia or.’ (Budapest)”, by that confusing types and localities of *Chrysis concolor* MOCSÁRY, 1893 with those of *Chrysis fulgida* var. *concolor* MOCSÁRY, 1912. The lectotype of *Chrysis concolor* MOCSÁRY, 1893 was not designated, and the holotype by monotypy is housed in Vienna.

Current status: *Chrysis concolor* MOCSÁRY, 1893.

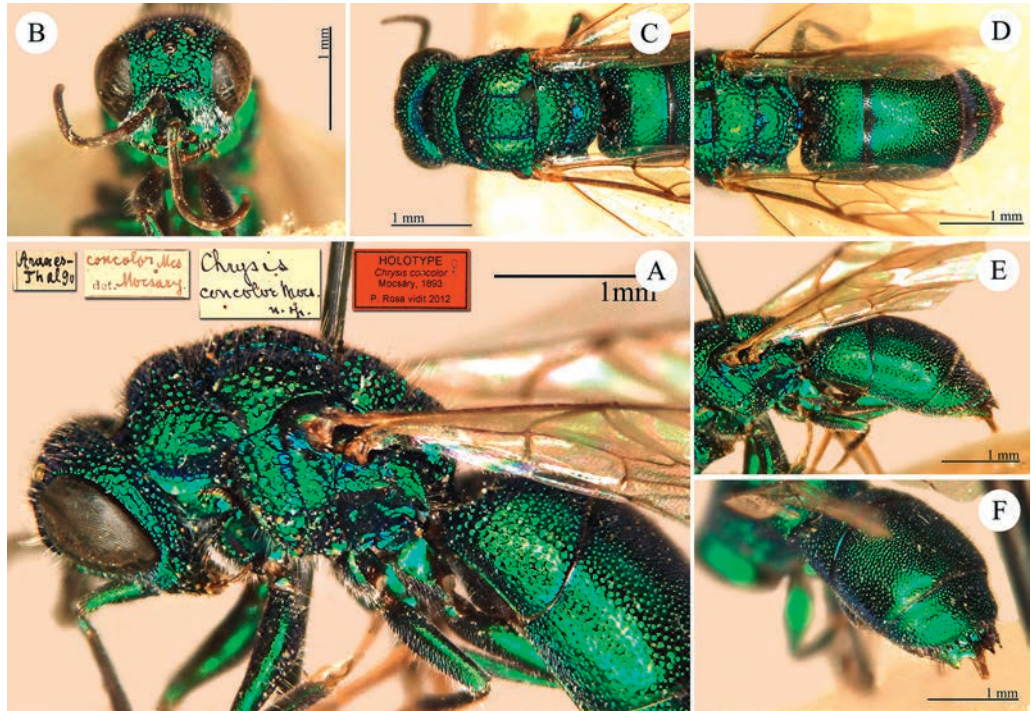


Fig. 13: *Chrysis concolor* MOCSÁRY, 1893, holotype, ♀: (A) Head, mesosoma and first tergum, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, dorsal view; (E) metasoma, lateral view; (F) metasoma, postero-lateral view.

Chrysis crassiscuta MOCSÁRY, 1889

Chrysis (*Pentachrysis*) *crassiscuta* MOCSÁRY, 1889: 524.

Type locality: India and Sumatra: “India orientalis (Coll. Saussurei!) et Sumatra (Mus. Vindob.!)”.

Paralectotype: 1 ♀ [Sumatra 877-2] [*crassiscuta* Type det. Mocsáry] [*shangaiensis* sec. Gen. Ins.] [*Chrysis* (*Pentachrysis*) *shangaiensis* Sm.] (General Coll. 16).

Remarks: Bohart (in KIMSEY & BOHART 1991: 531) designated the female specimen deposited in the Museum Geneva as the lectotype.

Current status: *Praestochrysis crassiscuta* (MOCSÁRY, 1889) (transferred to the genus *Praestochrysis* by KIMSEY & BOHART 1991: 531).

Chrysis cyanopyga DAHLBOM, 1854

Chrysis cyanopyga DAHLBOM, 1854: 253.

Type locality: At least one syntype was collected in Algeria. The type locality for the specimens housed in Vienna is unknown. “Habitat in Algeria; tantum duo specimina vidi, unum anno 1847 in collectione Sehestedti Musei R. Havniensis ita inscriptum “Chr. n.sp. Alger. Stub”, alterum e Museo Imp. Viennensi a D. Kollár benevole transmissum”.

Syntypes: 1 ♂ [41] <handwritten in red> [Dahlbom vidit 1850] [*splendidula* det. Kohl] (General Coll. 14); 1 ♂ [43] <handwritten in red> [Dahlbom vidit 1850 n43] [*splendidula* det. Kohl] (General Coll. 14).

Remarks: The typical locality “Algeria” given in KIMSEY & BOHART (1991: 465) is found in the original description, but it is related only to the syntype housed in Copenhagen (Musei Havniensis). The type locality for the syntype in Vienna is unknown. In the collection, there are two specimens labelled “Dahlbom vidit” and not one, as written in the original description. However, both can be considered as syntypes according to the Code (ICZN 1991: Article 72.4.1.1). The labels [Dahlbom vidit 1850] and the numerical square label are the evidence that the author examined both specimens, which are conspecific.

Current status: *Chrysis splendidula* ROSSI, 1790 (synonymised by MOCSÁRY 1889: 446).

***Chrysis decorata* MOCSÁRY, 1889** (Fig. 14)

Chrysis (Tetrachrysis) decorata MOCSÁRY, 1889: 425.

Type locality: unknown: “Patria: ignota; forsan est species Africana?”.

Holotype: ♀ [Africa ?] [*decorata* type det. Mocsáry] <handwritten in red> (General Coll. 15).

Remarks: The type locality is unknown. However *Chrysis decorata* can be assigned to the African fauna, because it belongs to the Afrotropical *Chrysis maindroni* species group (MADL & ROSA 2012: 30).

Current status: *Chrysis decorata* MOCSÁRY, 1889.

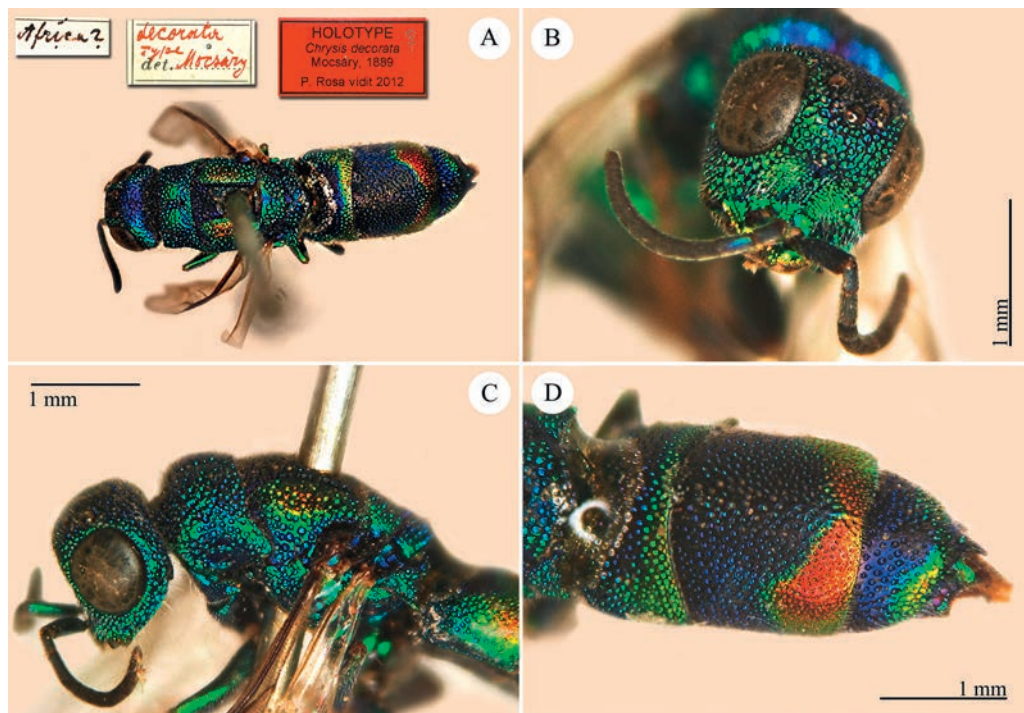


Fig. 14: *Chrysis decorata* MOCSÁRY, 1889, holotype, ♀: (A) Habitus, dorsal view; (B) head, frontal view; (C) head and mesosoma, lateral view; (D) metasoma, dorso-lateral view.

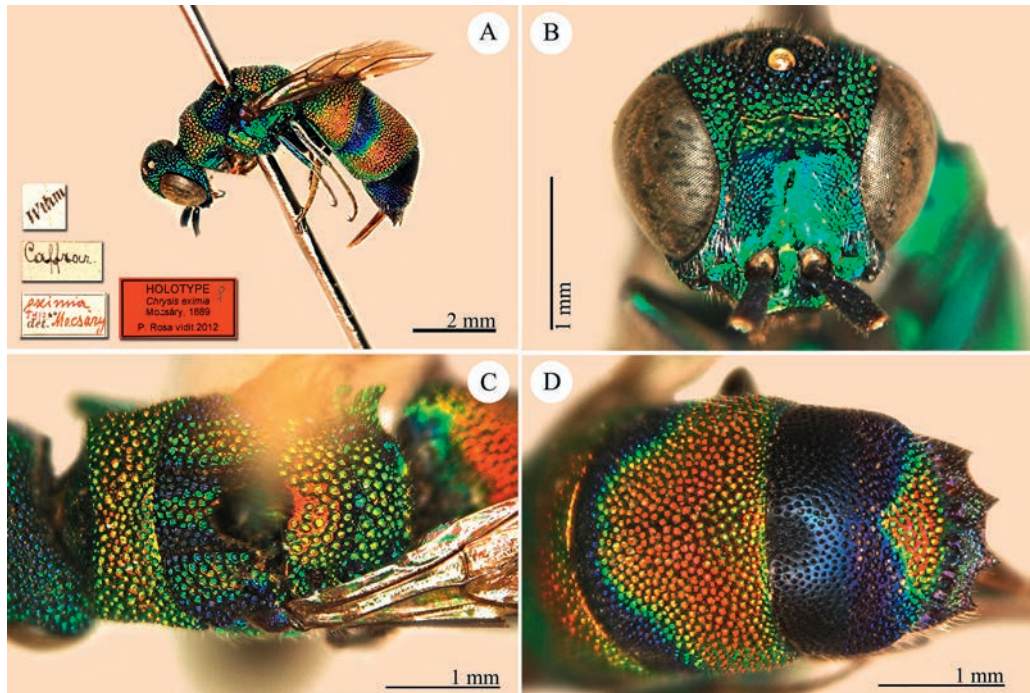
Chrysis eximia* MOCSÁRY, 1889 (Fig. 15)Chrysis (Tetrachrysis) eximia* MOCSÁRY, 1889: 428.**Type locality:** South Africa: “Caffraria (Mus. Vindob.)”.**Holotype:** ♀ [*Caffrar.*] [Wthm.] [*eximia* type det. *Mocsáry*] <handwritten in red> (General Coll. 15).**Remarks:** ROSA & VÅRDAL (2015) reviewed the Afrotropical species related to *Chrysis sinuata* DAHLBOM, 1845 and *Chrysis sinuosa* DAHLBOM, 1854. As a result *Chrysis poecila* MOCSÁRY, 1889 (replacement name for *Chrysis sinuata* DAHLBOM, 1845 nec BRULLÉ, 1833) is a senior synonym of *Chrysis eximia* MOCSÁRY, 1889 and *Chrysis westwoodi* MOCSÁRY, 1912 and belongs to the *Chrysis splendidula-senegalensis* species-group, whereas *Chrysis sinuosa* DAHLBOM, 1854 (synonym: *Chrysis ceres* EDNEY, 1954) belongs to the *Chrysis capitalis* species-group.**Current status:** *Chrysis poecila* MOCSÁRY, 1889 (synonymised by ROSA & VÅRDAL 2015: 106).***Chrysis extraniens* ROHWER, 1921***Chrysis extraniens* ROHWER, 1921: 68.**Type locality:** Hawaii: “Honolulu, Oahu, Hawaii. Allotype locality Black Point, Oahu. Described from five females and one male collected by P.H. Timberlake. [...] Three paratype females were collected at Honolulu on May 15, 1918, May 15, 1920, and June 22, 1919”.**Paratype:** 1 ♀ [*Honolulu June 22.19*] [*Timberlake Coll.*] [Paratype 24645 U.S.N.M.] <red label> [Paratype *Chrysis extraniens Rohwer*] <red label> (Zimmermann Coll. 46).

Fig. 15: *Chrysis eximia* MOCSÁRY, 1889, holotype, ♀: (A) Habitus, dorso-lateral view; (B) head, frontal view; (C) mesosoma, dorsal view; (D) second and third tergum, dorsal view.

Current status: *Praestochrysis lusca* (FABRICIUS, 1804) (synonymised by KIMSEY & BOHART 1991: 533).

***Chrysis frankenbergeri* BALTHASAR, 1953**

Chrysis (*Tetrachrysis*) *frankenbergeri* BALTHASAR, 1953: 248.

Type locality: Israel: “Palestine: Jérusalem env., IV–V, assez rare, Jar. Houška leg. Holotypus: 1 ♂, 14.V.1943, Jérusalem, Allotypus: 1 ♀, 29.IV.1946. Paratypi: 6 ♂♂ et 2 ♀♀, loc. class.”.

Paratype: 1 ♂ [Jerusalem Palestina 11.V.46 Houška lgt.] [Typus] <red label> [*Chrysis frankenbergeri* n.sp. Dr. V. Balthasar det.] (Zimmermann Coll. 40).

Current status: *Chrysis frankenbergeri* BALTHASAR, 1953.

***Chrysis fraterna* MOCSÁRY, 1889** (Fig. 16)

Chrysis (*Tetrachrysis*) *fraterna* MOCSÁRY, 1889: 399.

Type locality: Brazil: “Brasilia (Blumenau, Mus. Cæs. Vindob.)”.

Holotype: ♀ [Blumenau Brasil 1885.I Hetschko.] [*fraterna* det. Mocsáry] [*binominata* det. Mocsáry Type] <handwritten in red> (General Coll. 10).

Remarks: The holotype is a female and not a male, as written in the original description. *Chrysis binominata* MOCSÁRY, 1889 is the replacement name for *Chrysis fraterna* MOCSÁRY, 1889: 399 (nec *Chrysis fraterna* MOCSÁRY, 1889: 322).

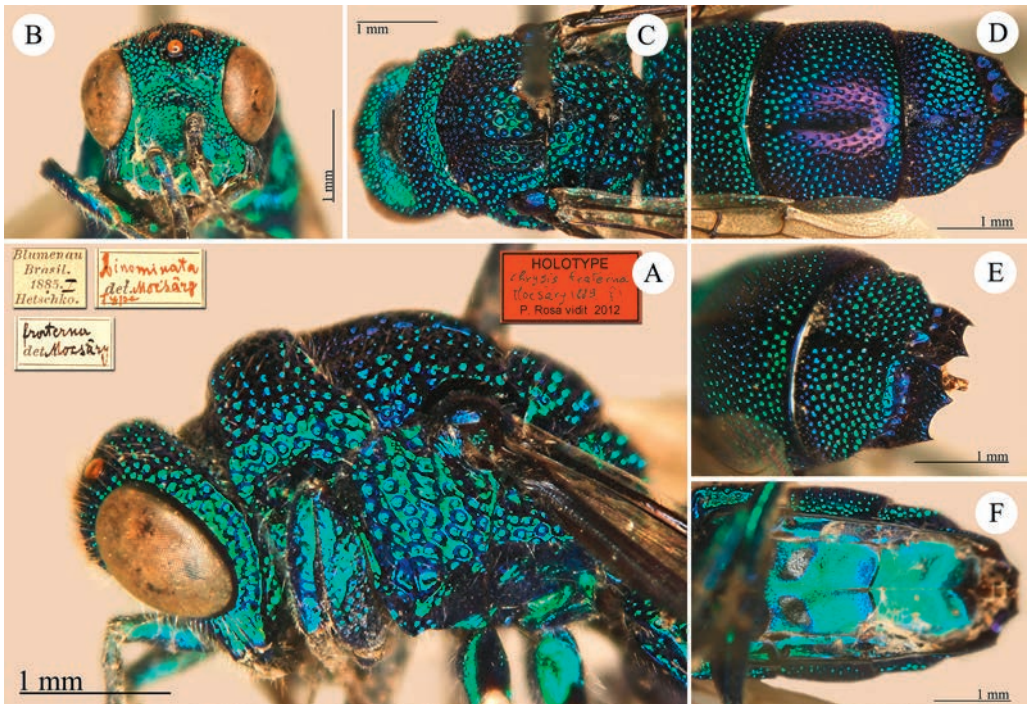


Fig. 16: *Chrysis fraterna* MOCSÁRY, 1893, holotype, ♀: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, dorsal view; (E) third tergum, postero-lateral view; (F) metasoma, ventral view.

Current status: *Chrysis excavata* BRULLÉ, 1846 (synonymised by KIMSEY & BOHART 1991: 409).

***Chrysis germari calviensis* KUSDAS, 1974** (Fig. 17)

Chrysis germari ssp. *calviensis* KUSDAS, 1974: 157.

Type locality: France, Corse: “Holotypus ♀ 12.5.1971 Calvi Umgebung; Allotypus ♂ 11.5.1971 Calvi Umgebung; Paratypen 12.5.1971 1 ♀ und 17.5.1971 1 ♀ in Coll. Dr. Zimmermann; Wien und 21.5.1971 2 ♀♀, 1 ♂ sowie 22.5.1971 1 ♀ in coll. Kusdas”.

Paratypes: 1 ♀ [Corse Calvi 12.5.1971 leg. K. Kusdas] [*Chrysis germari* Wesm. ssp. *calviensis* Kusdas K. Kusdas det. 19] (Zimmermann Coll. 36); 1 ♀ [Corse Calvi 17.5.1971 leg. K. Kusdas] [*Chrysis germari* Wesm. ssp. *calviensis* Kusdas K. Kusdas det. 19] (Zimmermann Coll. 36).

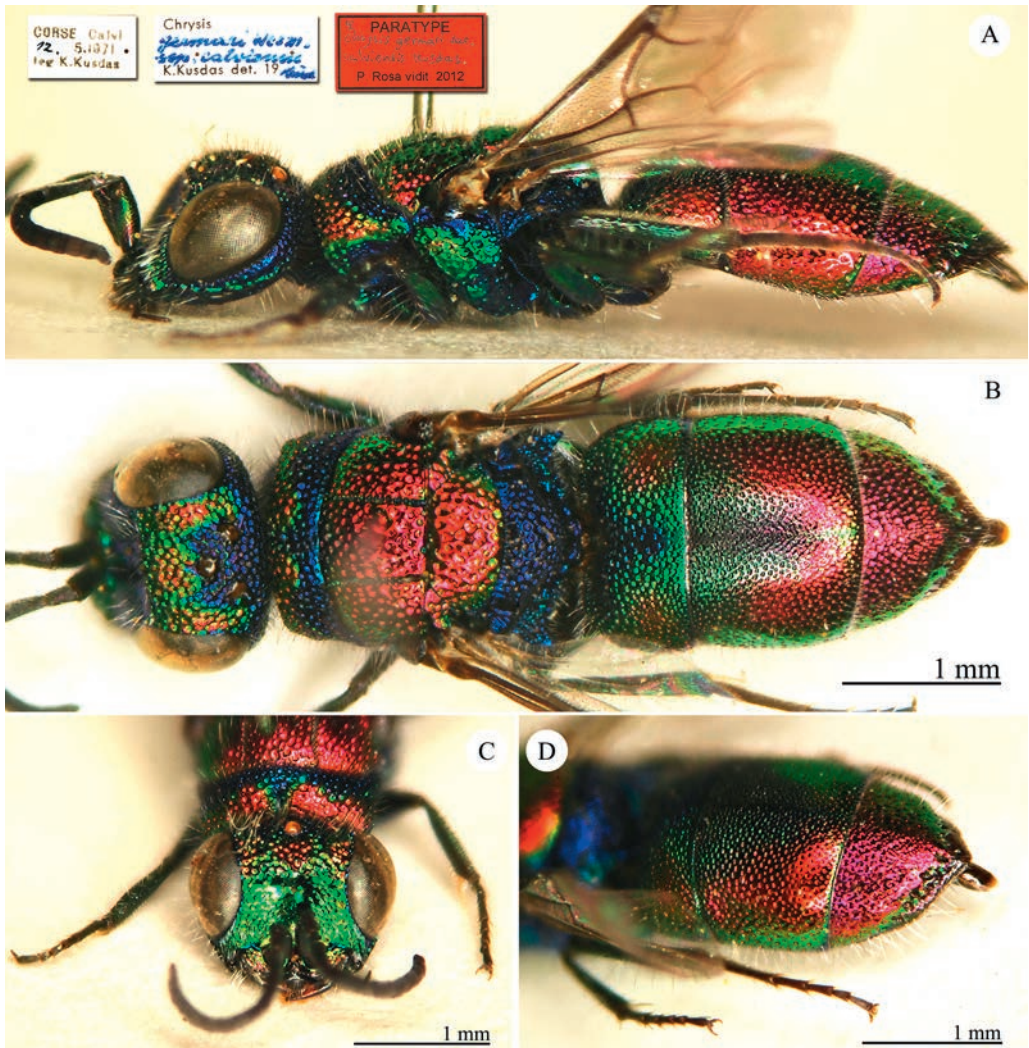


Fig. 17: *Chrysis germari* ssp. *calviensis* KUSDAS, 1974, paratype, ♀: (A) Habitus, lateral view; (B) habitus, dorsal view; (C) head, frontal view; (D) metasoma, dorso-lateral view.

Remarks: *Chrysis germari calviensis* KUSDAS is not listed in the main revisional works of LINSSENMAIER (1987, 1997a) and KIMSEY & BOHART (1991). It is the Corsican subspecies of *Chrysis germari* WESMAEL. The first author examined the type of *Chrysis germari aeneibasalis* LINSSENMAIER described from Corsica and housed in the Museum Luzern, which fully agrees with *Chrysis germari calviensis*. Therefore, we propose the new synonymy *Chrysis germari calviensis* KUSDAS, 1974 = *Chrysis germari aeneibasalis* LINSSENMAIER, 1987 syn.n. PAGLIANO & STRUMIA (2000: 211) reported *Chrysis germari aeneibasalis* LINSSENMAIER as a Sardo-Corsican Endemic although the Sardinian specimens show a different colouration.

Current status: *Chrysis germari calviensis* KUSDAS, 1974.

Chrysis gracilentata MOCSÁRY, 1889

Chrysis (Tetrachrysis) gracilentata MOCSÁRY, 1889: 375.

Type locality: China: “China (Hong Kong, Mus. Cæs. Vindob.)”.

Holotype: ♀ [Hong Kong] <handwritten by Zimmermann> [*Tetrachrysis gracilentata*] <handwritten by Zimmermann> (Zimmermann Coll. 44).

Remarks: Pictures of the type are published in ROSA et al. (2014).

Current status: *Chrysis gracilentata* MOCSÁRY, 1889.

Chrysis gujaratica NURSE, 1903 (Fig. 18)

Chrysis gujaratica NURSE, 1903: 11.

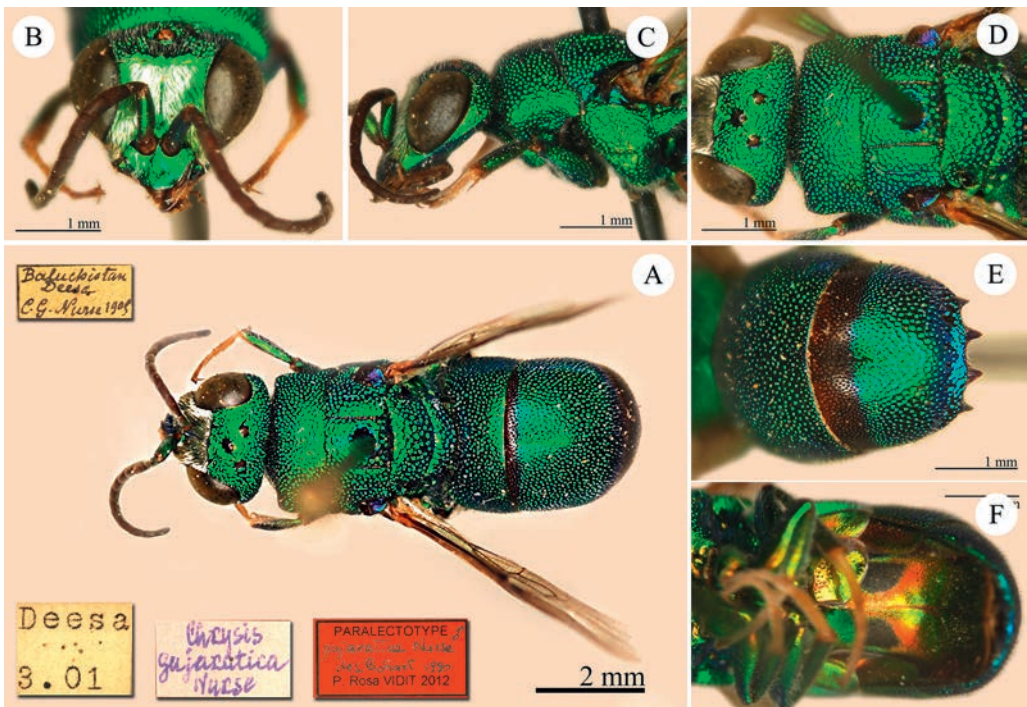


Fig. 18: *Chrysis gujaratica* NURSE, 1903, paralectotype, ♂: (A) Habitus, dorsal view; (B) head, frontal view; (C) head and mesosoma, lateral view; (D) head and mesosoma, dorsal view; (E) third tergum, posterior view; (F) metasoma, ventral view.

Type locality: India: “Deesa”.

Paralectotypes: 1 ♀ [Deesa 3.01] [*Baluchistan Deesa C.G. Nurse 1909*] [*Chrysis gujaratica Nurse*] <pink label handwritten by Zimmermann> (Zimmermann Coll. 41A); 1 ♂ [Deesa 3.01] [*Baluchistan Deesa C.G. Nurse 1909*] [*Chrysis gujaratica Nurse*] <pink label handwritten by Zimmermann> (Zimmermann Coll. 41A).

Remarks: Bohart (in KIMSEY & BOHART 1991: 416) designated a male syntype in London as the lectotype. The specimens were collected in 1901 and newly labelled in 1909, when Nurse’s collection arrived at London, as in the case of *Chrysis abuensis* (see above). Other five paralectotypes, bearing the same locality labels, are deposited in Budapest and another paralectotype is deposited at London. They bear the additional handwritten type labels by Nurse and Bingham. Zimmermann received the specimens in exchange.

Current status: *Chrysis gujaratica* NURSE, 1903.

***Chrysis handlirschi* MOCSÁRY, 1889** (Fig. 19)

Chrysis (*Tetrachrysis*) *Handlirschi* MOCSÁRY, 1889: 477.

Type locality: Turkey: “Asia minor (Brussa, Mus. Cæs. Vindobonense)”.

Holotype: ♀ [Mann 1863 Brussa] [*Handlirschi* det. Mocsáry] <handwritten in red> [*Pseudochrysis verna* Dahlb. det. Hammer] (General Coll. 8).

Remarks: The type of *Chrysis handlirschi* matches the description of *Chrysis verna* DAHLBOM, 1854 sensu LINSSENMAIER (1959). We could not examine the type of *Chrysis*

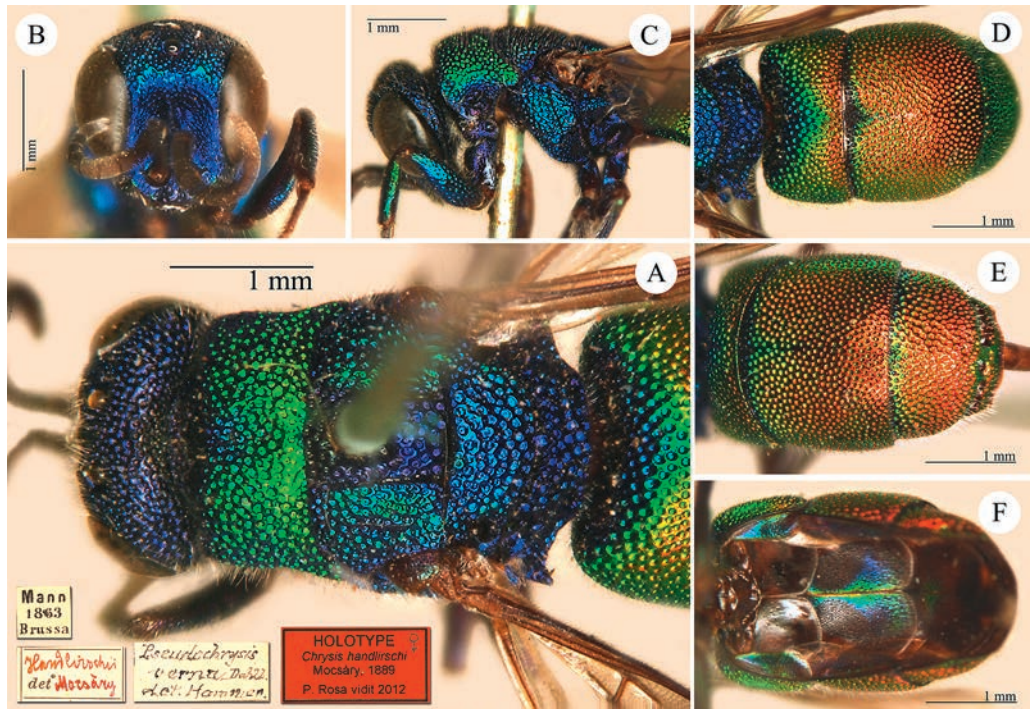


Fig. 19: *Chrysis handlirschi* MOCSÁRY, 1889, holotype, ♀: (A) Head and mesosoma, dorsal view; (B) head, frontal view; (C) head and mesosoma, lateral view; (D) first and second tergum, dorsal view; (E) second and third tergum, dorsal view; (F) metasoma, ventral view.

verna, described based on a specimen from the Hermann Loew Collection. Dahlbom's types based on Loew's material were not found in Copenhagen (L.B. Vilhelmsen, pers. comm.), London (D. Notton, pers. comm.), Stockholm (ROSA & VARDAL 2015) or Berlin. Consequently, we cannot synonymise *Chrysis handlirschi* with *Chrysis verna* yet, until Loew's chrysidids are found. LINSSENMAIER'S (1959) interpretation of *C. handlirschi* might represent an undescribed species.

Current status: *Chrysis handlirschi* MOCSÁRY, 1889.

Chrysis heliaca MOCSÁRY, 1902

Chrysis (Tetrachrysis) heliaca MOCSÁRY, 1902b: 551.

Type locality: South Africa: "Capland: Uitenhage 12/5-96, Sunday River 22/12-97 (Coll. Br.), Algoa Bay 31/3-97 (Coll. Br. et M.H.); Oranje: Bothaville 10/12-98. (Coll. Br. et M.H.)".

Paralectotype: 1 ♀ [Algoa Bay Capland Dr. H. Brauns 31.3.97] [*Chr. heliaca* Mocs] <handwritten by Brauns> (Zimmermann Coll. 43).

Remarks: Bohart (in BOHART & FRENCH 1986: 341) designated a female syntype in Budapest as the lectotype. Another paralectotype is also deposited in Budapest.

Current status: *Chrysis senegalensis* MOCSÁRY, 1887 (synonymised by KIMSEY & BOHART 1991: 462).

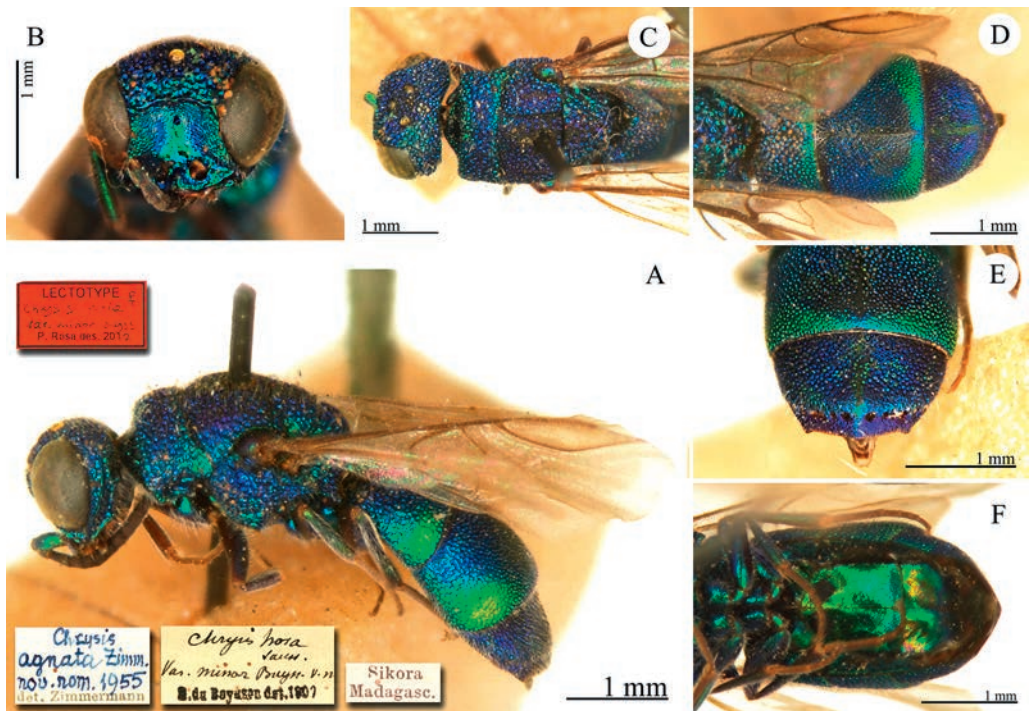


Fig. 20: *Chrysis hova* var. *minor* DU BUYSSON, 1901, lectotype, ♀: (A) Habitus, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, dorsal view; (E) third tergum, posterior view; (F) metasoma, ventral view.

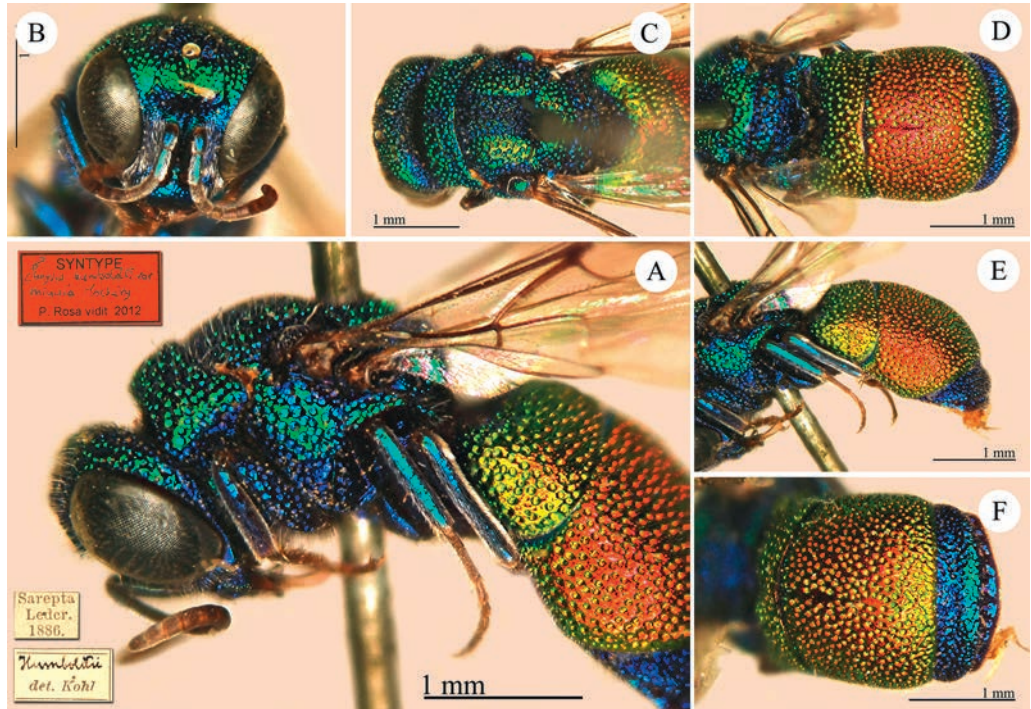
Chrysis hova* var. *minor* DU BUYSSON, 1901** (Fig. 20)*Chrysis* (*bidentatae*) *hova* SAUSS. var. *minor* DU BUYSSON, 1901: 100.**Type locality:** Madagascar: “Madagascar, Sikora”.**Lectotype:** ♀ [Sikora Madagasc.] [*Chrysis hova* Sauss. var. *minor* Buyss. var. nov. R. du Buysson det. 1901] [*Chrysis agnata* Zimm. nov. nom. 1955 det. Zimmermann] [NHMW-HYM #0002496] (General Coll. 9).**Remarks:** In Paris there is a male bearing the same labels and received together with the other specimens of the Vienna Museum from F.F. Kohl and labelled: [Museum Paris *Madagascar Kohl 1901*] [Sikora Madagasc.] [*C. bellula* Guér. V. *minor* Buyss. R. du Buysson det. 1910]. We consider the specimen housed in Vienna as the lectotype by inference of “holotype” (ICZN 1999: Article 74.6), designated by KIMSEY & BOHART (1991: 547). *Chrysis hova* var. *minor* DU BUYSSON, 1901 is a junior homonym of *Chrysis humboldti* var. *minor* MOCSÁRY, 1889 and *Chrysis dichroa* var. *minor* MOCSÁRY, 1889. The replacement name is *Chrysis* (*Dichrysis*) *agnata* ZIMMERMANN, 1956.**Current status:** *Chrysidea agnata* (ZIMMERMANN, 1956).Chrysis humboldti* var. *minuta* MOCSÁRY, 1889** (Fig. 21)*Chrysis* (*Olochrysis*) *Humboldti* var. *minuta* MOCSÁRY, 1889: 224.**Type locality:** Russia: “Sarepta (Mus. Vindob.)”.

Fig. 21: *Chrysis humboldti* var. *minuta* MOCSÁRY, 1889, lectotype [not syntype], ♂: (A) Head, mesosoma, first and second tergum, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, dorsal view; (E) metasoma, lateral view; (F) second and third tergum, posterior view.

Lectotype: ♂ [Sarepta Leder 1886] [*Humboldti* det. Kohl] (General Coll. 5).

Paralectotype: 1 ♂ [Sarepta Leder 1886] [*humboldti* var. *minuta* det. Mocsáry] (Zimmermann Coll. 19).

Remarks: We consider the specimen housed in the General Collection as the lectotype designated by KIMSEY & BOHART (1991: 547) by inference of “holotype” (ICZN 1999: Article 74.6). The taxon was considered as a valid subspecies by LINSSENMAIER (1968).

Current status: *Pseudochrysis humboldti minuta* (MOCSÁRY, 1889).

***Chrysis ignita* var. *sparsepunctata* ZIMMERMANN, 1944 (Fig. 22)**

Chrysis ignita var. *sparsepunctata* ZIMMERMANN, 1944: 85.

Type locality: Austria: “Umgebung des Ortes Luggau im Lesachtale, Kärnten, 1150–1250 m. Type in Coll. Zimmermann, Wien”.

Lectotype: ♀ [Maria Luggau im Lessachtale 1200 m Juni 1932 Käufel] [Type *Ch. ignita sparsepunctata* Z. det. Zimmermann] <red label> [Lectotype *Chrysis ignita* var. *sparsepunctata* Zimmermann, 1944 desig. O. Niehuis] <red label> [*Chrysis angustula* Schenck, 1856 ♀ sensu lectotypi det. '98 O. Niehuis] (Zimmermann Coll. 32).

Paralectotypes: 1 ♀ [Maria Luggau im Lessachtale 1200 m Juni 1932 Käufel] [Type *Ch. ignita sparsepunctata* Z. det. Zimmermann] <red label> [Paralectotype *Chrysis ignita* var. *sparsepunctata* Zimmermann, 1944 desig. O. Niehuis] <red label> [*Chrysis angustula* Schenck, 1856 ♀ sensu lectotypi det. '98 O. Niehuis] (Zimmermann Coll. 19); 1 ♂ [Maria Luggau im Lessachtale 1200 m Juni 1932 Käufel] [10] [Type *Ch.*

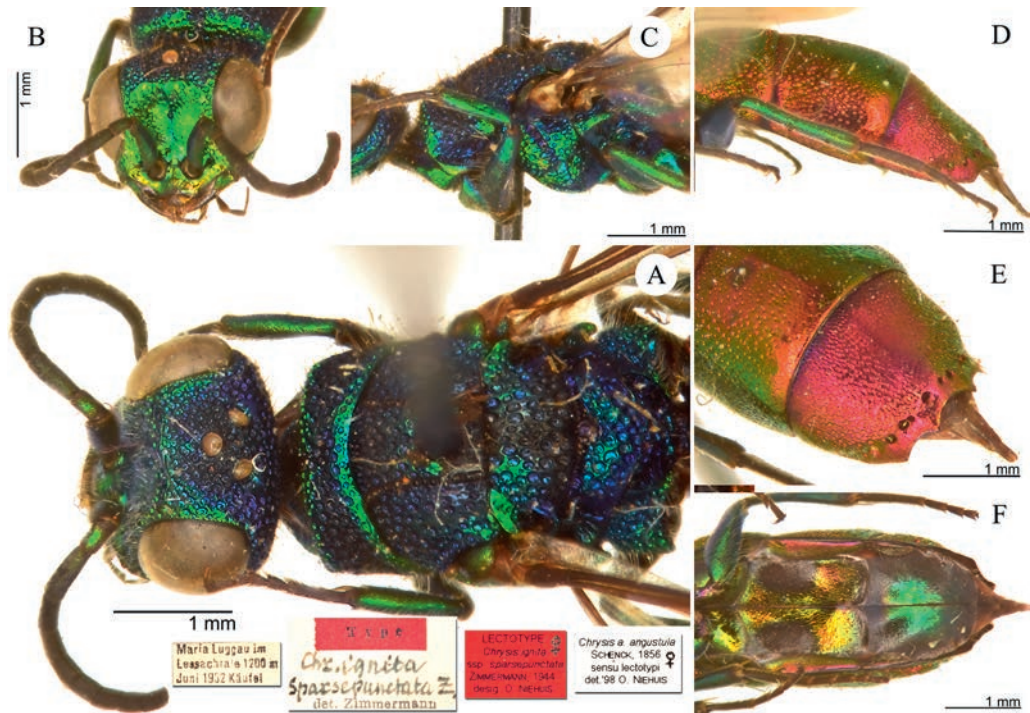


Fig. 22: *Chrysis ignita* var. *sparsepunctata* ZIMMERMANN, 1944, lectotype, ♀: (A) Head and mesosoma, dorsal view; (B) head, frontal view; (C) mesosoma, lateral view; (D) metasoma, lateral view; (E) third tergum, postero-lateral view; (F) metasoma, ventral view.

ignita sparsepunctata Z. det. Zimmermann] <red label> [Paralectotype *Chrysis ignita* var. *sparsepunctata* Zimmermann, 1944 desig. O. Niehuis] <red label> [*Chrysis angustula* Schenck, 1856 ♂ sensu lectotypi det. '98 O. Niehuis] (Zimmermann Coll. 19); 1 ♂ [Maria Luggau im Lessachtale 1200 m Juni 1932 Käufel] [31] [Type *Ch. ignita sparsepunctata* Z. det. Zimmermann] <red label> [Paralectotype *Chrysis ignita* var. *sparsepunctata* Zimmermann, 1944 desig. O. Niehuis] <red label> [*Chrysis angustula* Schenck, 1856 ♂ sensu lectotypi det. '98 O. Niehuis] (Zimmermann Coll. 19); 8 ♀♀, 22 ♂♂ [Maria Luggau im Lessachtale 1200 m Juni 1932 Käufel] (Zimmermann Coll. 19).

Remarks: NIEHUIS (2000: 191) designated the lectotype. *Chrysis sparsepunctata* is not listed in KIMSEY & BOHART (1991) and is a junior primary homonym of *Chrysis sparsepunctata* DU BUYSSON, 1895. ZIMMERMANN (1944) did not provide the number of specimens examined, thus we consider all the specimens collected by F. Käufel at the same locality (Maria Luggau in Lessachtale 1200 m) and with the same collecting dates (Juni 1932 and Juni 1933) as types. Some specimens bear an additional numbered label up to number 34. It is presumed that the type series included at least 34 specimens.

Current status: *Chrysis angustula* SCHENCK, 1856 (synonymised by NIEHUIS 2000: 191).

***Chrysis ignita* var. *viridefasciata* HOFFMANN, 1935**

Chrysis ignita var. *viridefasciata* HOFFMANN, 1935: 228.

Type locality: Austria: “Umgebung Wien, besonders bei Gerasdorf in Marchfelde, vereinzelt auch bei Mödling und Klosterneuburg”.

Paralectotypes: 1 ♂ [Austria inf. Umgeb. Moedling Ad. Hoffmann] [Type] <red label> [*Chrysis ignita viridefasciata* Hoffm.]; 1 ♂ [Austria inf. Klosterneuburg Ad. Hoffmann] [Type] <red label> (Zimmermann Coll. 32); 2 ♂♂, 1 ♀ [Coll. Hammer] [Austria inf. Gerasdorf Ad. Hoffmann] [*Chrysis ignita* var. *viridefasciata* Hoffm.] (Zimmermann Coll. 32); (Zimmermann Coll. 32); 1 ♀ [Austria inf. Gerasdorf Ad. Hoffmann] [Type] <red label> (Zimmermann Coll. 32); 1 ♀ [Austria–inf. Stammersdorf Ad. Hoffmann] [Type] <red label> (Zimmermann Coll. 32).

Remarks: ROSA (2009: 259) designated a female syntype in Genoa as the lectotype.

Current status: *Chrysis comta* FÖRSTER, 1853 (synonymised by LINSSENMAIER 1951: 106).

***Chrysis imbecilla* MOCSÁRY, 1889 (Fig. 23)**

Chrysis (Tetrachrysis) imbecilla MOCSÁRY, 1889: 344.

Type locality: Brazil: “Brasilia (Blumenau, Mus. Hung.)”.

Lectotype: ♀ [Blumenau Brasil 1885.I Hetschko.] [*imbecilla* Type det. Mocsáry] <handwritten in red> (General Coll. 15).

Remarks: The type of *Chrysis imbecilla* was not clear. MOCSÁRY (1889) described a male collected at “Brasilia (Blumenau, Mus. Hung.)”, originating from the collection preserved in Budapest. Bohart (in KIMSEY & BOHART 1991: 526) designated a female in Vienna as lectotype, without pinning any label under the specimen. However in Budapest, there is another female labelled as holotype by Bohart: [Brasilia] [738-73] [*imbecilla* Mocs. typ. det. Mocsáry] [red label] [Holotypus *Chrysis imbecilla* Mocs. ♀ RMB] [id nr. 135589 HNHM Hym.coll.]. We consider the lectotype designation for the specimen with detailed locality data housed in Vienna as valid, and the sexual identification by Mocsáry a printing error.

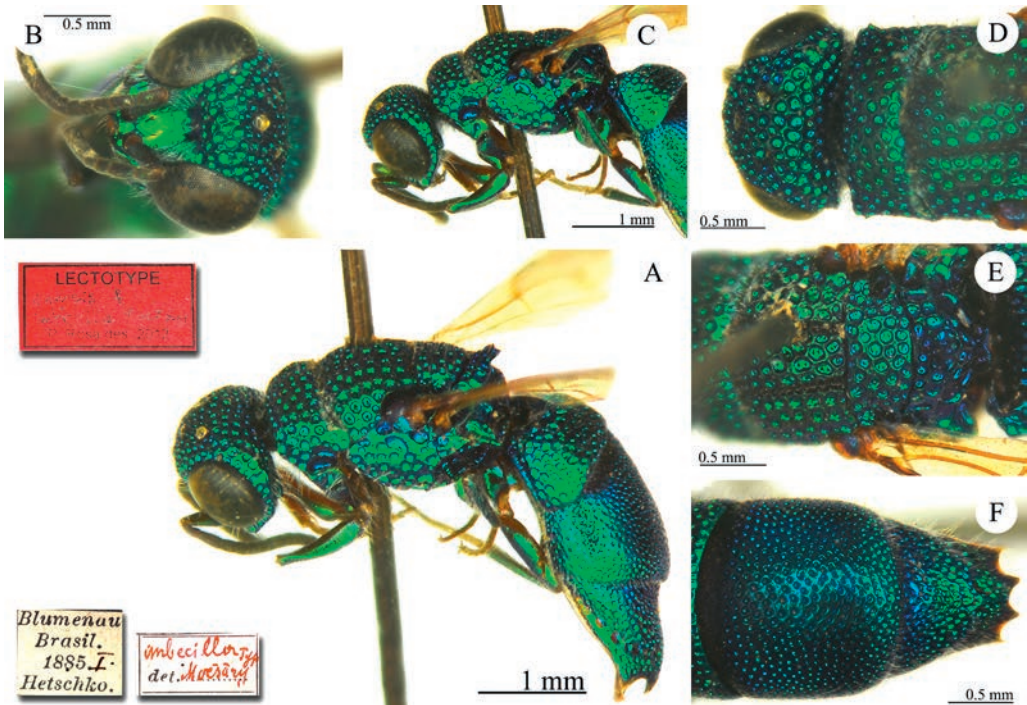


Fig. 23: *Chrysis imbecilla* MOCSÁRY, 1889, lectotype, ♀: (A) Habitus, lateral view; (B) head, frontal view; (C) head and mesosoma, lateral view; (D) head and mesosoma, dorsal view; (E) mesosoma, dorsal view; (F) second and third tergum, dorsal view.

Current status: *Pleurochrysis imbecilla* (MOCSÁRY, 1889) (transferred to the genus *Pleurochrysis* by KIMSEY 1985: 280).

Chrysis integrella DAHLBOM, 1854

Chrysis integrella DAHLBOM, 1854: 133.

Type locality: Finland, France, Germany, Italy, Poland, Sweden, Switzerland, Ukraine: “*Habitat* in locis argillosis ab Italia maxime meridionali usque in Fenniam meridionalem Junio – Julio passim. Tauriae: D. Parreis, Mus. Vienn. teste D. Kollár; Italiae: D. Spinola; Helvetiae: D. Kriechbaumer; Galliae: D. D. Dufour et Latreille; Saxoniae: D. Tischbein; Silesiae: D. Zeller; Brandenburgiae: D. Ratzeburg; Sveciae: Scania D. D. Fallén et Zetterstedt; ad Lund Scaniae in pariete argillaceo d. 15 – 18. Julii 1830 utrumque sexum in nido Odyneri parietum legi – Westrogothia D. D. Gyllenhal et Schönherr – Ostrogothia prope urbem Wadstena d. 11. Julii in sepimento ligneo mihi quoque obvia. Finlandiae ad Helsingfors: D. Nylander”.

Syntypes: 1 ♀ [45] <in red> [Dahlbom vidit] [*integrella* det. *Dahlb.*] <handwritten in red> (General Coll. 8); 1 ♀ [45] [Dahlbom vidit] [*integrella* det. *Dahlb.*] [*neglecta* det. *Kohl*] (General Coll. 8).

Current status: *Pseudochrysis neglecta* (SHUCKARD, 1837) (synonymised by MOCSÁRY 1889: 255).

Chrysis kaeufeli* ZIMMERMANN, 1944 (Fig. 24)Chrysis Käufeli* ZIMMERMANN, 1944: 85.

Type locality: Austria: “Alle Stücke der Chr. ignita ausnahmslos auf Holz von Zäunen und Telegraphenstangen in der unmittelbaren Umgebung des Ortes Luggau im Lessachtale (Kärnten) in einer Höhe von 1150–1250 m gefangen worden. Es liegen 43 ♂ und 10 ♀ vor. (Typen in Coll. Zimmermann, Wien) Ferner besitze ich ein ♀ von Mauthen in Gailtal (leg. Prof. A. Schuster, Wien) und ein selbstgefangenes Pärchen der neuen Art aus Öblarn im Ennstal (Steiermark), 776 m (VIII.1939). In der Sammlung F. Blühweiss (Wien) befinden sich 1 ♂ und 2 ♀♀ von Mauthen im Gailtal und 1 ♂ von Wildalpen im Salztal (Steiermark)”.

Lectotype (♀, hereby designated): [Maria Luggau im Lessachtale 1200 m Juni 1932 Käufel] [Type *Tetrachrysis Käufeli* St. Zim. det. Zimmermann] <red label> (Zimmermann Coll. 33).

Paralectotypes: 1 ♂ [Maria Luggau im Lessachtale 1200 m Juni 1932 Käufel] [36] [Type *Tetrachrysis Käufeli* St. Zim. det. Zimmermann] <red label> (Zimmermann Coll. 33); 15 ♂♂, 2 ♀♀ [Maria Luggau im Lessachtale 1200 m Juni 1932 Käufel] (Zimmermann Coll. 33); 1 ♂ [Maria Luggau im Lessachtale 1200 m Juni 1933 Käufel] [3] [Type *Tetrachrysis Käufeli* St. Zim. det. Zimmermann] <red label> (Zimmermann Coll. 33); 10 ♂♂, 2 ♀♀ [Maria Luggau im Lessachtale 1200 m Juni 1933 Käufel] (Zimmermann Coll. 33); 1 ♀ [Mauthen Gailtal Schuster] (Zimmermann Coll. 33); 1 ♂ [Steiermark Öblarn] [27] [*Käufeli*] <handwritten by Zimmermann> (Zimmermann Coll. 33); 1 ♂ [Wildalpen Styr. Brosch] [*Chrysis käufeli* ♂ Zimm.] <handwritten by Zimmermann> (Zimmermann Coll. 33).

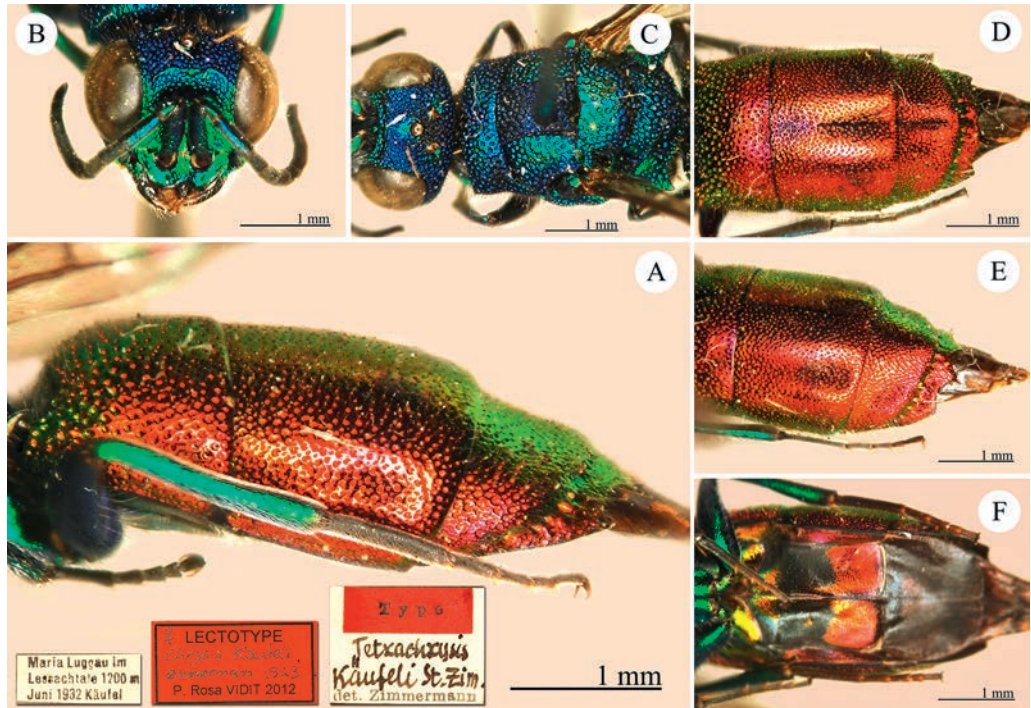


Fig. 24: *Chrysis kaeufeli* ZIMMERMANN, 1944, lectotype, ♀: (A) Metasoma, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, dorsal view; (E) metasoma, dorso-lateral view; (F) metasoma, ventral view.

Remarks: ZIMMERMANN (1944) described *Chrysis kaeufeli* based on 59 specimens. As in the case of *Chrysis ignita* var. *sparsepunctata*, some specimens bear a handwritten label with a number up to 37. At the moment, in the Zimmermann Collection there are 32 conspecific syntypes collected by Käufel in Maria Luggau, one female syntype from Mauthen, one male syntype from Öblarn, and one male syntype from Wildalpen. Zimmermann apparently never approved the synonymy of *Chrysis kaeufeli* with *Chrysis obtusidens* proposed by LINSSENMAIER (1951: 105); the latter name is not found in his collection. We here designate the lectotype of *Chrysis kaeufeli* to fix the synonymy proposed by the Swiss author.

Current status: *Chrysis obtusidens* DUFOUR & PERRIS, 1840 (synonymised by LINSSENMAIER 1951).

***Chrysis kohli* MOCSÁRY, 1889 (Fig. 25)**

Chrysis (Olochrysis) Kohli MOCSÁRY, 1889: 275.

Type locality: Greece: “Graecia (Athenæ, Mus. Vindob., Attica, Coll. Wüstneii!, Mus. Hung. et Mus. Atheniense!)”.

Lectotype (♀, hereby designated): [Frfd. Athen 1871] [*Kohlii* Type det. Mocsáry] <handwritten in red> (General Coll. 8).

Remarks: *Chrysis kohli* was described on different syntypes collected in Greece and preserved in Vienna, Budapest and Athens (collection unknown). Three specimens are conserved in Budapest, labelled as lectotype and paralectotypes by Bohart, and bearing

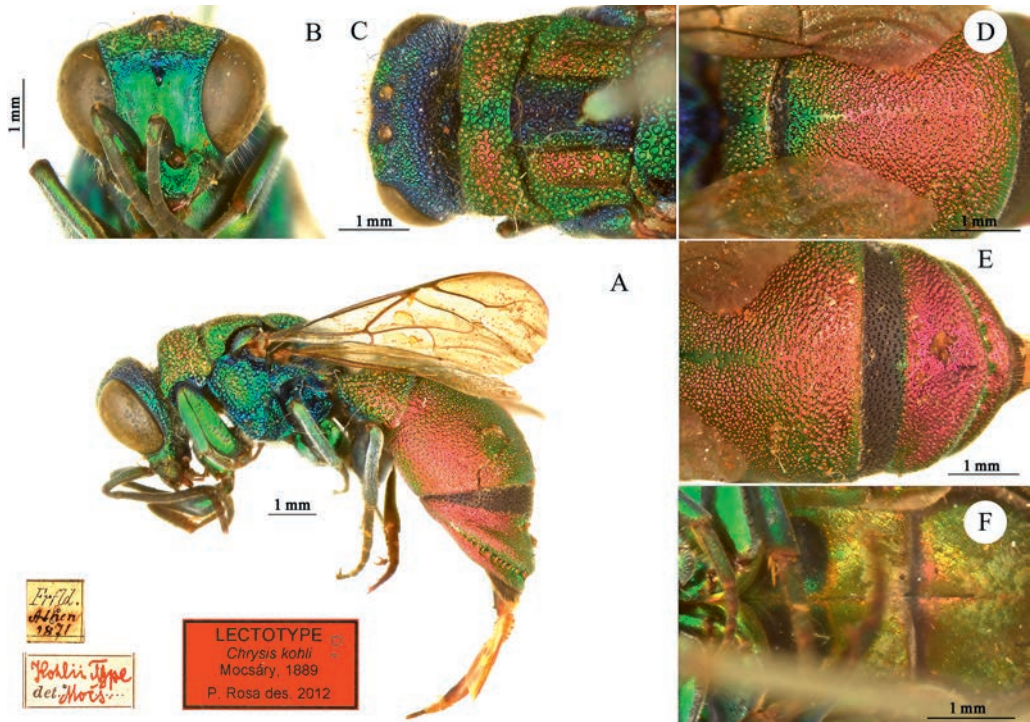


Fig. 25: *Chrysis kohli* MOCSÁRY, 1889, lectotype, ♀: (A) Habitus, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) second tergum, dorsal view; (E) third tergum, dorsal view; (F) second sternum, ventral view.

the labels: [*Graecia Krüper*] [*Kohli* (!) *Mocs. typ. det. Mocsáry*]. However, this lectotype designation was not published.

KIMSEY & BOHART (1991: 547) listed the “holotype” of *Chrysis kohli* in Paris, based on a specimen collected at Brussa [= Bursa] in Asia Minor by Mann in 1852. This Turkish specimen has no type status, since the locality Brussa (= Bursa, in Asia Minor) is not listed in the original description and no handwritten label by Mocsáry is pinned with the specimen, which therefore cannot be considered as the lectotype (ICZN 1999: Article 74.5). In KIMSEY & BOHART (1991: 428) *Chrysis (Olochrysis) kohli* is listed as a valid species in the genus *Chrysis* as well as a synonym of *Pseudochrysis marqueti* (DU BUYSSON, 1887). Since in the eastern Mediterranean countries a similar species, *Pseudochrysis schmiedeknechti* (TRAUTMANN, 1922), is distributed, we here designate the lectotype of *Chrysis kohli* to fix the synonymy with *Pseudochrysis marqueti* (DU BUYSSON) and maintain the stability of the names.

Current status: *Pseudochrysis marqueti* DU BUYSSON, 1887 (synonymised by TRAUTMANN 1927: 101).

***Chrysis krueperi* MOCSÁRY, 1889 (Fig. 26)**

Chrysis (Olochrysis) Krüperi MOCSÁRY, 1889: 216.

Type locality: Greece: “Græcia (mons Parnassus, Mus. Atheniense et Cæs. Vindob.)”.

Lectotype: ♀ [*Parnass. 26.4.65*] [Krüper 1869] [307.] [*Krüperi det. Mocsáry*] <handwritten in red> (General Coll. 6).

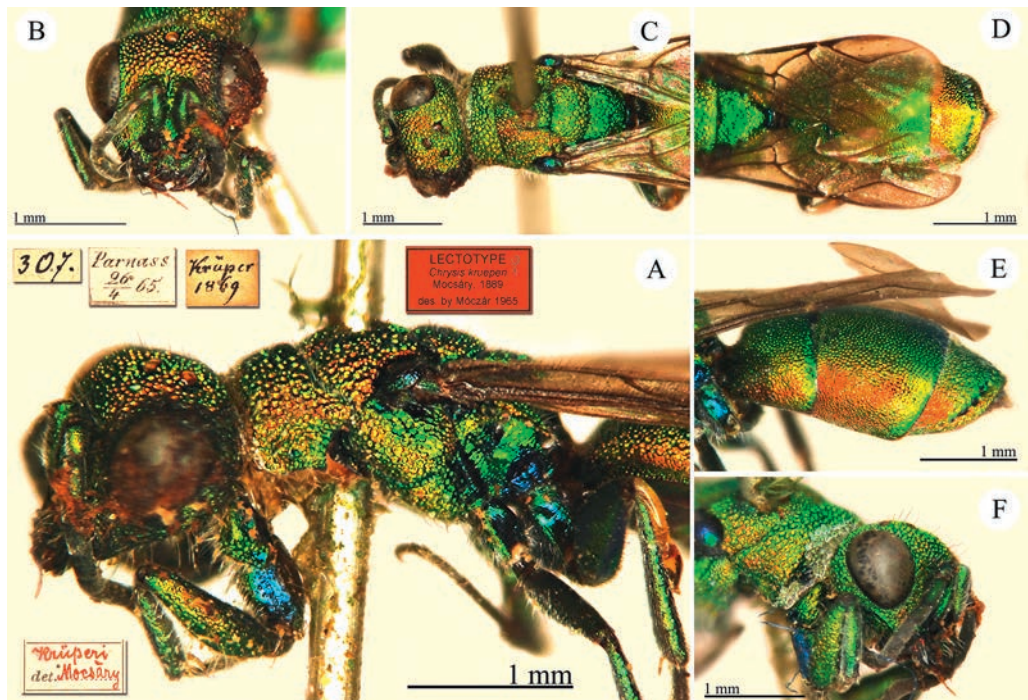


Fig. 26: *Chrysis krueperi* MOCSÁRY, 1889, lectotype, ♀: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, dorsal view; (E) metasoma, lateral view; (F) head, lateral view.

Remarks: The lectotype was designated by MÓCZÁR (1965: 165). KIMSEY & BOHART (1991: 429) included *Chrysis krueperi* in the *Chrysis millenaris* species-group. We follow LINSSENMAIER'S (1959) interpretation and consider *Chrysis krueperi* a member of the *Chrysura dichroa* species-group.

Current status: *Chrysura krueperi* (MOCSÁRY, 1889) comb.n.

Chrysis leucocheiloides DUCKE, 1903

Chrysis leucocheiloides DUCKE, 1903: 226.

Type locality: Brazil: “Im Hochwalde bei Pará und bei Itaituba am Tapajos, selten”.

Paralectotype: 1 ♀ [R. Tapajos Itaituba 8.9.1902 Ducke] <handwritten by Ducke> [*Chrysis leucocheiloides* ♀ Ducke Type] <handwritten by Ducke> (General Coll. 15).

Remarks: Bohart (in KIMSEY & BOHART 1991: 510) designated a female specimen in Paris as the lectotype; it bears the following labels: [Brasil Pará 25.9.1901 Ducke] [Museum Paris Brésil, Pará A. Ducke 1903] [*Chrysis* ♀ *leucocheiloides* (!) Ducke *Typ.* det. A. Ducke.] [Type] <printed in red>. One female paralectotype is deposited in Bern (OLBRECHT & HUBER 1993: 174) and another one in Budapest.

Current status: *Ipsiura leucocheiloides* (DUCKE, 1903) (transferred to *Ipsiura* by KIMSEY 1985: 275).

Chrysis longigena MOCSÁRY, 1889 (Fig. 27)

Chrysis (Tetrachrysis) longigena MOCSÁRY, 1889: 357.

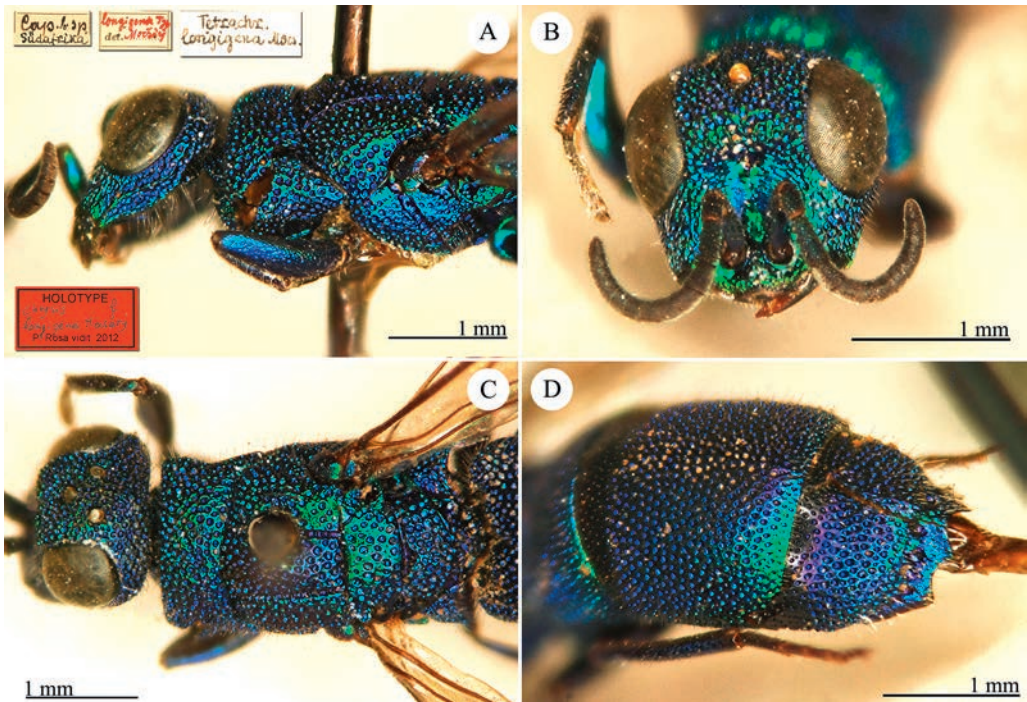


Fig. 27: *Chrysis longigena* MOCSÁRY, 1889, holotype, ♀: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) second and third tergum, dorso-lateral view.

Type locality: South Africa: “Promontorium Bonæ Spei (Mus. Cæs. Vindob.)”.

Holotype: ♀ [Cap.b.sp. *Südafrika*] [*longigena* type det. Mocsáry] <handwritten in red> [*Tetrachrysis longigena* Mocs.] <handwritten by Zimmermann> (Zimmermann Coll. 43).

Remarks: In the General Collection, there is another specimen with the following labels: [Caffr.] [Wthm.] [*Chrysis longigena* Mocs. R. du Buysson det. 1901], which is not part of the type series; this specimen was cited by DU BUYSSON (1901: 101).

Current status: *Chrysis longigena* MOCSÁRY, 1889.

***Chrysis lyncea* var. *papuana* MOCSÁRY, 1899**

Chrysis (*Hexachrysis*) *lyncea* var. *papuana* MOCSÁRY, 1899: 493.

Type locality: Papua New Guinea: “Nova-Guinea-Germanica, in variis locis a Ludovico Biró copiose collecta”.

Paralectotypes: 1 ♀ [N. Guinea Biró 97] [Stephansort Astrolabe B.]; 1 ♀ [Erima Astrolabe B.] [N. Guinea Biró 1899] [*lyncea* var. *papuana* det. Mocsáry]; 1 ♀ [N. Guinea Biró 96] [Friedrich-Wilh.-hafen] (all in Zimmermann Coll. 50A).

Remarks: Bohart (in BOHART & FRENCH 1986: 342) designated a male syntype in Budapest as the lectotype. Sixteen paralectotypes are also housed in Budapest.

Current status: *Chrysis lyncea papuana* MOCSÁRY, 1899.

***Chrysis mandibularis* DU BUYSSON, 1901 (Fig. 28)**

Chrysis (*quadridentate*) *mandibularis* DU BUYSSON, 1901: 101.

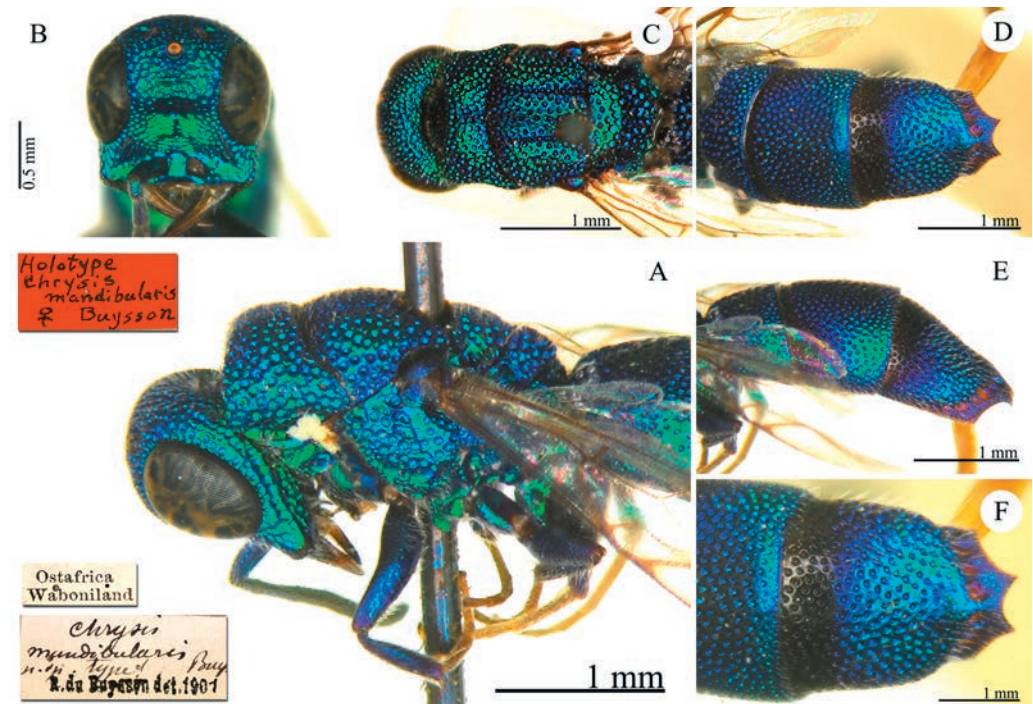


Fig. 28: *Chrysis mandibularis* DU BUYSSON, 1901, holotype, ♀: (A) head and mesosoma, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, dorso-lateral view; (E) metasoma, lateral view; (F) third tergum, dorsal view.

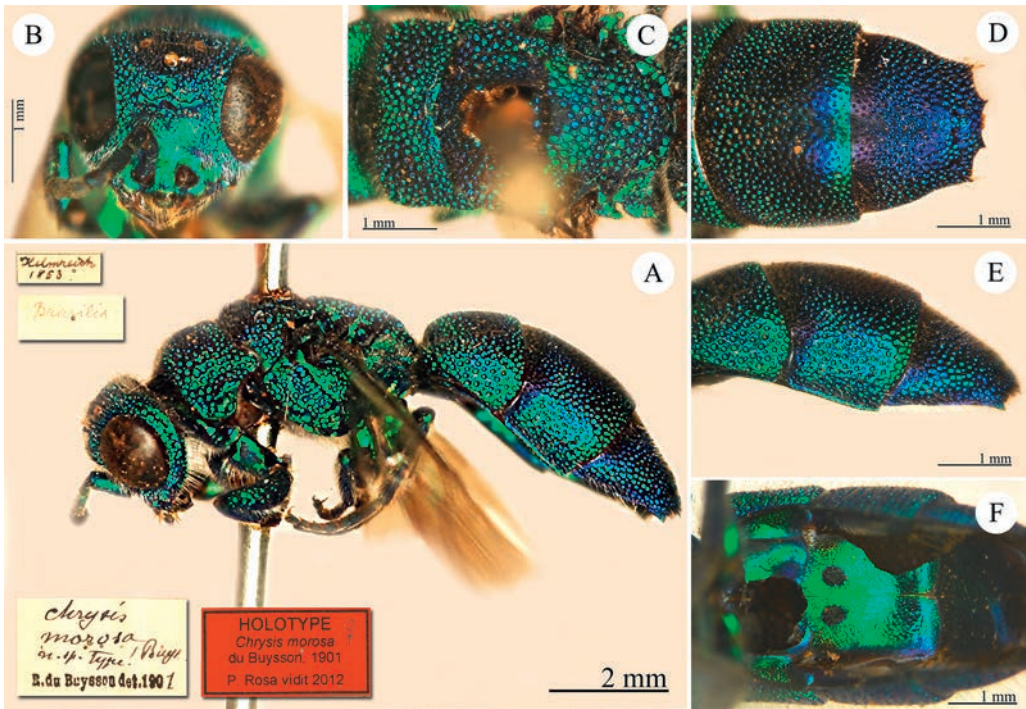


Fig. 29: *Chrysis morosa* DU BUYSSON, 1901, holotype, ♀: (A) Habitus, lateral view; (B) head, frontal view; (C) mesosoma, dorsal view; (D) third tergum, dorsal view; (E) metasoma, lateral view; (F) second sternum, ventral view.

Type locality: Kenya: “Ostafrika, Waboniland”.

Holotype: ♀ [Ostafrika Waboniland] [*Chrysis mandibularis* n. sp. type! Buys. R. du Buysson det. 1901] [*Holotype Chrysis mandibularis* ♀ Buysson] <red label handwritten by Bohart> (General Coll. 15).

Current status: *Chrysis mandibularis* DU BUYSSON, 1901.

***Chrysis morosa* DU BUYSSON, 1901** (Fig. 29)

Chrysis (quadridentate) *morosa*: DU BUYSSON, 1901: 102.

Type locality: Brazil: “Brésil, Helmreich 1853”.

Holotype: ♀ [Helmreich 1853] [*Brasilia*] [*Chrysis morosa* n.sp. Buys. Type! R. du Buysson det. 1901] (General Coll. 15).

Remarks: The type was partially damaged by dermestids. It lacks part of the right compound eye, entire left antenna, part of right antenna, tibia and tarsus of the hind right leg, and parts of the internal urites.

Current status: *Pleurochrysis morosa* (DU BUYSSON, 1901) (transferred to the genus *Pleurochrysis* by KIMSEY & BOHART 1991: 527).

***Chrysis novarae* MOCSÁRY, 1889** (Fig. 30)

Chrysis (*Tetrachrysis*) *Novarae* MOCSÁRY, 1889: 381.

Type locality: Australia: “Australia (Sidney, Mus. Cæs. Vindob.; in expeditione “Novaræ” collecta)”.

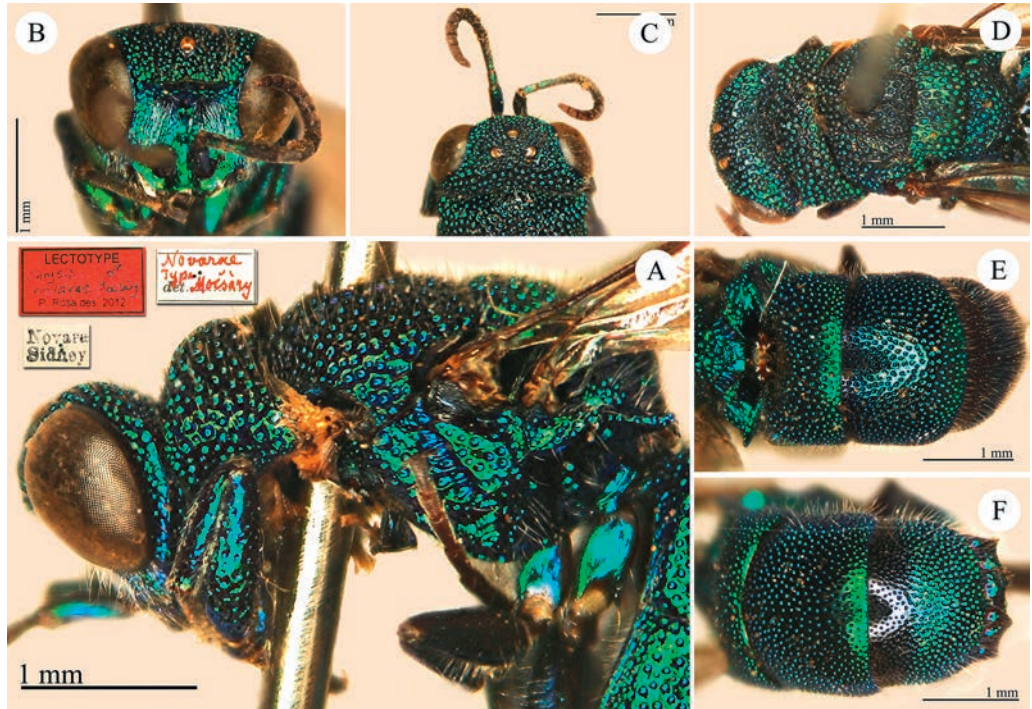


Fig. 30: *Chrysis novarae* MOCSÁRY, 1889, lectotype, ♂: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) head, dorsal view; (D) head and mesosoma, dorsal view; (E) metasoma, dorsal view; (F) third tergum, posterior view.

Lectotype: ♂ [Novara Sidney] [*Novarae Type det. Mocsary*] <handwritten in red> (General Coll. 15).

Paralectotype: 1 ♂ [*Sidney Australia*] [*Novarae Mocs. det. Mocsary*] <handwritten by Zimmermann> (Zimmermann Coll. 44).

Remarks: The lectotype designation happened by KIMSEY & BOHART (1991) by inference of the term “holotype”. *Chrysis novarae* was described based on an unknown number of male specimens. Since in the General Collection and in Zimmermann’s Collection there are two specimens, we consider the one in the General Collection examined by Bohart as the lectotype.

Current status: *Chrysis impostor* MOCSÁRY, 1887 (synonymised by KIMSEY & BOHART 1991: 421).

Chrysis obenbergeri BALTHASAR, 1953

Chrysis (Holochoyris) obenbergeri BALTHASAR, 1953: 198.

Type locality: Israel, West Bank: “Palestine: Jérusalem env., Wadi el Kelt, Khan Had-rur.”, “Holotypus: 1 ♀, Jérusalem 13.V.1943. Allotypus: 1 ♂, loc. class. 22.IV.1944. Paratypi: 8 ♂♂ ♀♀ loc. class. et Jéricho, 24.III.-5.VI”.

Paratypes: 1 ♀ [Jerusalem Palestina 5.VI.43 Houška lgt.] [Typus] <red label> [*Chrysis obenbergeri n.sp.* Dr.V. Balthasar det.] (Zimmermann Coll. 20A); 1 ♂ [Wadi el Kelt Palestina 7.IV.46 Houška lgt.] [*Chrysis obenbergeri* ♂ Balthasar Paratypus] <pink label> (Zimmermann Coll. 20A).

Current status: *Chrysura obenbergeri* (BALTHASAR, 1953) (transferred to *Chrysura* by KIMSEY & BOHART 1991: 490).

***Chrysis paraensis* DUCKE, 1903**

Chrysis paraensis: DUCKE, 1903: 227.

Type locality: Brazil: “Bei Pará an einer Stelle im Hochwalde nicht selten, aber immer nur ♂ beobachtet”.

Paralectotype: 1 ♂ [Brasil Pará 1.7.1902 Ducke] [*Chrysis paraensis* ♂ Ducke typ.] (General Coll. 16).

Remarks: Bohart (in KIMSEY & BOHART 1991: 516) designated a male specimen in São Paulo as the lectotype. One paralectotype is deposited in Bern (OLBRECHT & HUBER 1993: 174); two paralectotypes are deposited in Budapest.

Current status: *Neochrysis paraensis* (DUCKE, 1903) (transferred to *Neochrysis* by LINSENMAIER 1985: 436).

***Chrysis pauperata* MOCSÁRY, 1908**

Chrysis (Tetrachrysis) pauperata: MOCSÁRY, 1908: 519.

Type locality: South Africa: “Transvaal: Lichtenburg 20.XII.1905. (Coll. Brauns et Mus. Hung.)”.

Paralectotype: 1 ♂ [Lichtenburg Transvaal Dr. Brauns 20.12.05] [Cotype *C. pauperata* M.] [*C. pauperata* Mocs.] <handwritten by Brauns> [*C. pauperata* sec. Gen. Ins.] (General Coll. 15).

Remarks: Bohart (in BOHART & FRENCH 1986: 342) designated the lectotype in Budapest; this specimen was checked and bears the same labels as the paralectotype housed in Vienna. Another paralectotype is also deposited in Budapest.

Current status: *Chrysis campanai* DU BUYSSON, 1898 (synonymised by KIMSEY & BOHART 1991: 393).

***Chrysis postscutellaris* MOCSÁRY, 1902**

Chrysis (Tetrachrysis) postscutellaris MOCSÁRY, 1902b: 558.

Type locality: Zimbabwe, South Africa: “Mashonaland: Salisbury, april 1900 (Coll. Br. et M.H.); Capland: Algoa Bay 29/3–96. (Coll. Br.)”.

Paralectotype: 1 ♀ [Salisbury Mashonaland April 1900 G.A.K. Marshall] [*Chrysis postscutellaris* Mocs.] <handwritten by Brauns> [Cotype *Ch. postscutellaris* M. det. Mocsáry] [*C. postscutellaris* sec. Gen. Ins.] (General Coll. 15).

Remarks: Bohart (in KIMSEY & BOHART 1991: 450) designated a female syntype deposited in Pretoria as the lectotype. Further two female paralectotypes are deposited in Budapest.

Current status: *Chrysis postscutellaris* MOCSÁRY, 1902.

***Chrysis praestigiatrix* BALTHASAR, 1953**

Chrysis (Tetrachrysis) praestigiatrix BALTHASAR, 1953: 270.

Type locality: Israel, West Bank: “Palestine: Jérusalem env., Jéricho, Wadi el Kelt, V–XI, commune, surtout en été”, “Holotypus: 1 ♀, 16.VIII.1945, Jéricho. Allotypus: 1 ♂, 17.IX.1942, Jérusalem. Paratypi: 8 ♂♂ et 8 ♀♀, Jérusalem, Jéricho”.

Paratype: 1 ♀ [Jericho Palestina 28.VII.45 Houška lgt] [red square label] [*praestigiatrix* Balth. ♀ det. Balthasar] <handwritten by Balthasar> (Zimmermann Coll. 42A).

Current status: *Chrysis viridissima* KLUG, 1845 (synonymised by LINSENMAIER 1959: 126).

***Chrysis priesneri* ZIMMERMANN, 1959** (Figs. 31, 32)

Chrysis priesneri ZIMMERMANN, 1959: 25.

Type locality: Egypt: “Ägypten: Abu Rowash, Kafr Hakim, Fayoum, Wadi Digla, Wadi el Ghaval. Typen (♂ und ♀ von Abu Rowash in Coll. St. Zimmermann, Wien)”.

Lectotype (♂, hereby designated): [Abu Rawash 17.4.35 Grasses] [Type <red label> *Chrysis priesneri* Zim. det. Zimmermann] (Zimmermann Coll. 41A).

Paralectotypes: 1 ♀ [Abu Rawash 6.6.34 Halfa] [Type <red label> *Chrysis priesneri* Zim. det. Zimmermann] (Zimmermann Coll. 41A); 1 ♀ [W. el Ghaval 25.5.30] (Zimmermann Coll. 41A); 1 ♀ [Kafr Hakim 18.5.32] (Zimmermann Coll. 41A); 1 ♀ [Wadi Digla Egypt 20.4.30 Dr. H. Priesner] (Zimmermann Coll. 41A); 1 ♀ [Fayoum Egypt 51 Dr. H. Priesner] [*priesn.* ♀] (Zimmermann Coll. 41A).

Remarks: In KIMSEY & BOHART’s (1991) catalogue the holotype is supposed to be doubtfully in Vienna. Any syntype specimen cannot be considered the lectotype by inference of “holotype”. We here designate the lectotype based on the only male syntype, to fix the current interpretation of the species as a synonym of *Chrysis giraudi* DU BUYSSON, 1898.

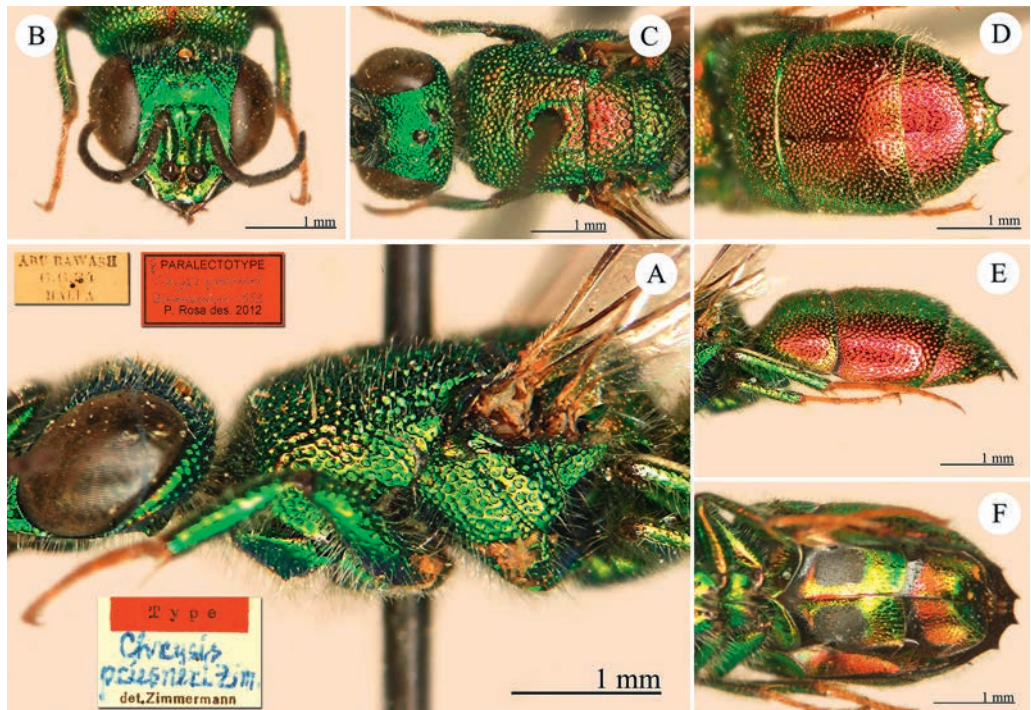


Fig. 31: *Chrysis priesneri* ZIMMERMANN, 1959, paralectotype, ♀: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, dorsal view; (E) metasoma, lateral view; (F) metasoma, ventral view.

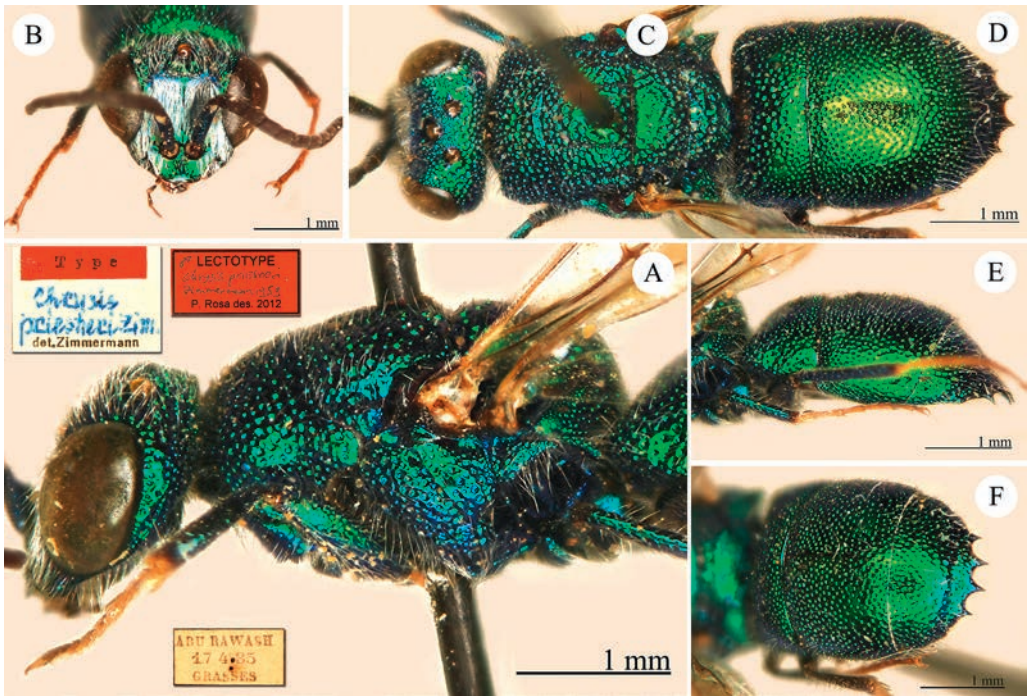


Fig. 32: *Chrysis priesneri* ZIMMERMANN, 1959, lectotype, ♂: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, dorsal view; (E) metasoma, lateral view; (F) metasoma, posterior view.

Current status: *Chrysis giraudi* DU BUYSSON, 1898 (synonymised by LINSSENMAIER 1968: 92).

***Chrysis procera* ZIMMERMANN, 1954 (Fig. 33)**

Chrysis (Holo-chrysis) procera ZIMMERMANN, 1954a: 264.

Type locality: Bulgaria, Italy, Hungary: “1 ♂ Varna, Bulgarien, leg. Dr. F. Käufel, VI.1935. – 1 ♀ Szödliget, Ungarn (nördlich von Budapest, östlich des Donauknies bei Vác), leg. Dr. L. Móczár, VI.1934. – 3 ♂♂ Lago di Caldonazzo [Cavazzo], Oberitalien (oberes Tagliamentotal), leg. C.v. Demelt, VI.1950 und 1952. – 1 ♂ Novi, Kroatien, leg. C.v. Demelt V.1953. Typen (Varna und Szödliget) in coll. St. Zimmermann”.

Lectotype (♂, hereby designated): [Varna Bulgarien Juni 1935 Käufel] [♂] [*laodamia*] <handwritten by Bogusch> [NHMW] (Zimmermann Coll. 22).

Paralectotype: 1 ♀ [Szödliget Kaszab] [♀] [*laodamia*] <handwritten by Bogusch> [NHMW] (Zimmermann Coll. 22); 1 ♂ [Lago di Cavazzo Italien leg: C. Demelt V.1950] [paratype] <yellow label> (Zimmermann Coll. 22).

Remarks: BOHART (in KIMSEY & BOHART 1991: 492) designated a male lectotype from Varna in Budapest, which was not found (ROSA et al. 2017). For this reason we hereby designate the female from Varna to fix the current interpretation of the species.

Current status: *Chrysura laodamia* (DU BUYSSON, 1887) (synonymised by ZIMMERMANN 1964: 95; transferred to *Chrysura* by KIMSEY & BOHART 1991: 492).

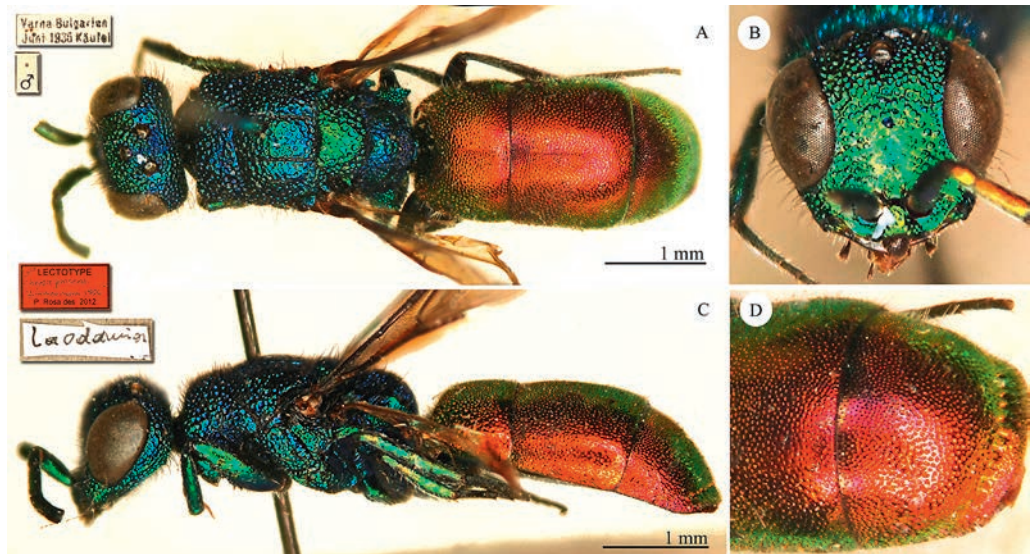


Fig. 33: *Chrysis procera* ZIMMERMANN, 1954, lectotype, ♂: (A) Habitus, dorsal view; (B) head, frontal view; (C) habitus, lateral view; (D) third tergum, dorso-lateral view.

***Chrysis propinqua* MOCSÁRY, 1889 (Fig. 34)**

Chrysis (Tetrachrysis) propinqua [sic!] MOCSÁRY, 1889: 343.

Type locality: Mexico and Brazil: “Mexico (Cordova, Coll. Saussurei!; Orizaba, Mus. Vindob.!) et Brasilia (Mus. Hung.; Blumenau, Mus. Vindob.!)”.

Lectotype: ♀ [Blumenau Brasil 1885. *I* Hetschenko.] [*propinqua* type det. Mocsáry] <handwritten in red> [*C. nisseri* sec. *Gen. Ins.*] [type] <red label handwritten by Bohart> (General Coll. 16).

Paralectotypes: 1 ♀ [Bilimek Mexico 1871] [*propinqua* det. Mocsáry] <handwritten in red> [*C. nisseri* sec. *Gen. Ins.*] (General Coll. 16); 1 ♀ [*juni*] [Bilimek Mexico 1871 *Oryzaba*] [*propinqua* det. Mocsáry] <handwritten in red> [*C. nisseri* sec. *Gen. Ins.*] (General Coll. 16); 1 ♀ [Bilimek Mexico 1871 *Oryzaba*] [*propinqua* det. Mocsáry] <handwritten in red> [*C. nisseri* sec. *Gen. Ins.*] (General Coll. 16); 1 ♀ [Brasilia] [*propinqua* type det. Mocsáry] [*Chrysis propinqua* Mocs] <handwritten by Mocsáry> (Zimmermann Coll. 45).

Remarks: The species was originally described as *Chrysis propinqua*, a case of lapsus calami by Mocsáry. The first emendation of the name *Chrysis propinqua* into *Chrysis propinqua* was published by DALLA TORRE (1892: 86). In BOHART & KIMSEY (1982) and KIMSEY & BOHART (1991: 639, index), it is listed with the name *Chrysis propinqua*, while in KIMSEY & BOHART (1991: 451) it is listed as *Chrysis propinqua*. In DU BUYS-SON (1904: 268) and BOHART & KIMSEY (1982: 93) *Chrysis propinqua* is synonymised with *Chrysis nisseri* DAHLBOM, 1845. Later it was revalidated by KIMSEY & BOHART (1991: 451).

The lectotype preserved in Vienna was designated by Bohart (in BOHART & KIMSEY 1982: 93). In Budapest there is a Brazilian specimen labelled as lectotype, which, however, keeps the status of a paralectotype. The paralectotypes preserved in Vienna belong to different species, and only the one labelled as “type” by Bohart (presumably the lectotype) is matching with the current interpretation of *Chrysis propinqua* MOCSÁRY, 1889. In Budapest there are two further paralectotypes from Brasilia and Mexico.

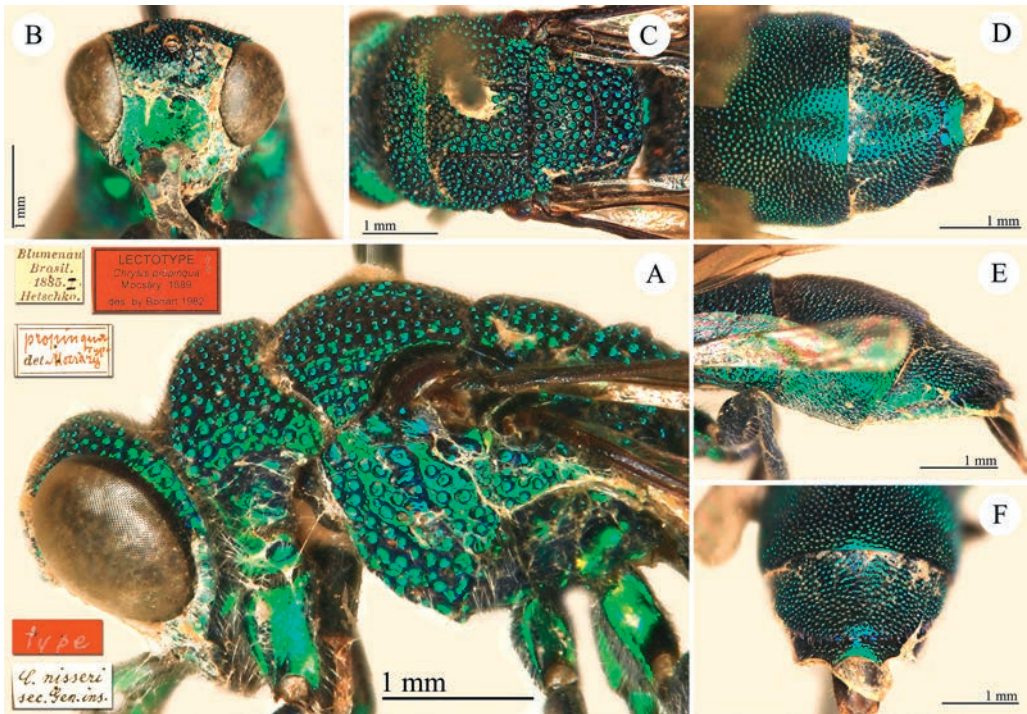


Fig. 34: *Chrysis propinqua* MOCSÁRY, 1889, lectotype, ♀: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) mesosoma, dorsal view; (D) third tergum, dorsal view; (E) metasoma, lateral view; (F) third tergum, posterior view.

Current status: *Chrysis propinqua* MOCSÁRY, 1889, emendation name for *Chrysis propinqua* by DALLA TORRE (1892).

***Chrysis pusilla* FABRICIUS, 1804** (Fig. 35)

Chrysis pusilla FABRICIUS, 1804: 176.

Type locality: Austria: “Austria Mus. Dom. de Megerle”.

Lectotype (♀, hereby designated): [Megerle] [*pusilla* det. Kohl] (General Coll. 2).

Paralectotypes: 1 ♀ [Megerle] [*pusilla* det. Kohl] (General Coll. 2); 1 ♀ [Megerle] [*Ell. pusillus* det. Trautmann] (General Coll. 2).

Remarks: After a visit to Vienna, FABRICIUS (1804) described *Chrysis pusilla* based on (some) specimens from “Austria Mus. Dom. de Megerle”. The number of specimens examined is not specified in the original description. DAHLBOM (1854: 31) examined at least one of these syntypes from Vienna: “*Hedychrum pusillum* Megerl. Mus. Vienn. Quod specimen pro Descriptione Fabriciana typicum amice communicavit Cel. Kollár.”. He also examined another specimen preserved in Kiel: “*Chrysis pusilla* Fabr. Piez. 176. 33. secundum Exemplar in Museo Kiel anno 1847 a me examinatum”. As in the case of *Chrysis austriaca* (see below), DAHLBOM (1854) clearly stated that the specimen from Vienna that he had examined is a true type. ZIMSEN (1964: 383) listed two specimens in the type material of Fabricius housed in Copenhagen, referring to the specimen(s)

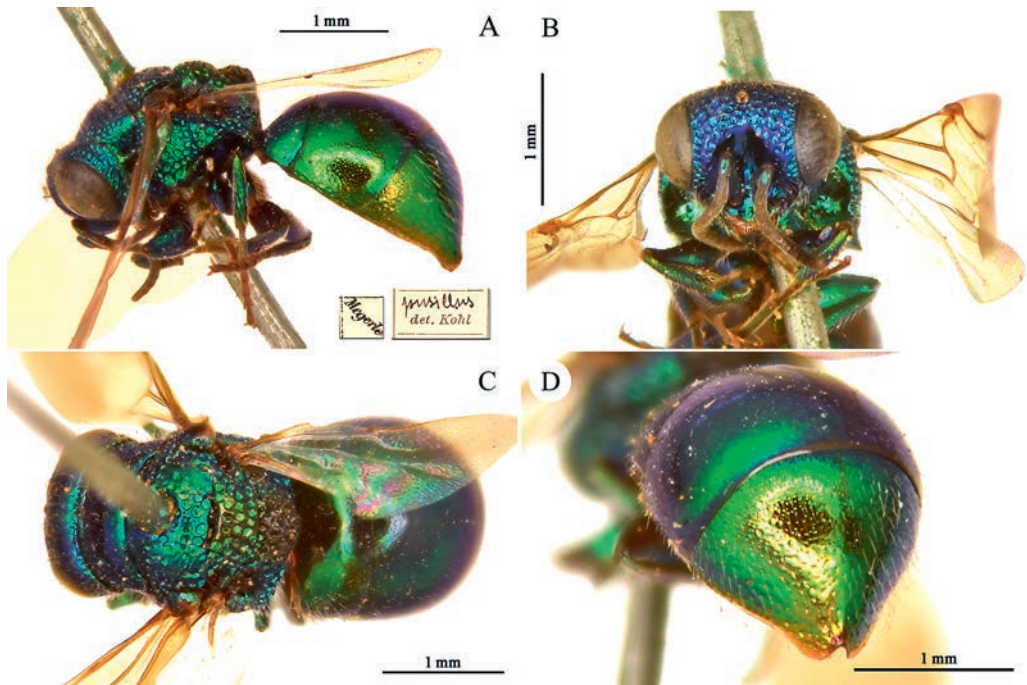


Fig. 35: *Chrysis pusilla* FABRICIUS, 1804, lectotype, ♀: (A) Habitus, lateral view; (B) head, frontal view; (C) habitus, dorsal view; (D) third tergum, postero-lateral view.

previously preserved in the Kiel collection and examined by Dahlbom in 1847 (DAHLBOM 1854). L.S. Kimsey, during the preparation of the World catalogue in 1987, labelled these two specimens as lectotype and paralectotype, but the designation was never published. Later, KIMSEY & BOHART (1991: 268) reported “holotype” housed in Copenhagen. This specimen is not the lectotype by inference of holotype. The specimen selected by Kimsey as lectotype in Copenhagen bears the following labels: [*pusilla*] <handwritten by Fabricius> [*Chr. 33*] <recent label> [Lectotype *Chrysis pusilla* ♂ Fabricius (desig L S Kimsey) '87] <red label>. The second specimen bears only the original label [*Chr. 33* ?]. Since Kimsey’s lectotype designation of *Chrysis pusilla* was not published and the specimens labelled “Megerle” are still found in the original collection in Vienna, we here designate the lectotype based on a female specimen matching the current interpretation of the species.

Current status: *Pseudomalus pusillus* (FABRICIUS, 1804) (transferred to *Pseudomalus* by KIMSEY & BOHART 1991: 268).

***Chrysis pyrocoelia* MOCSÁRY, 1889** (Fig. 36)

Chrysis (*Olochrysis*) *pyrocoelia* MOCSÁRY, 1889: 255.

Type locality: Caucasus, Syria, Turkey: “Caucasus (Coll. Rad.); Asia minor (Mus. Halense Saxonum!; Malatia in Mesopotamia, Mus. Hung.; Syria (Mus. Caes Vindob.)”.

Lectotype (♂, hereby designated): [Dr. F. Leuthner Ladikive [Latakia] 5.1885 N. Syrie N.] [*pyrocoelia* type det. Mocsáry] <handwritten in red> [*C. simplex* sec. Gen. Ins.] (General Coll. 9).

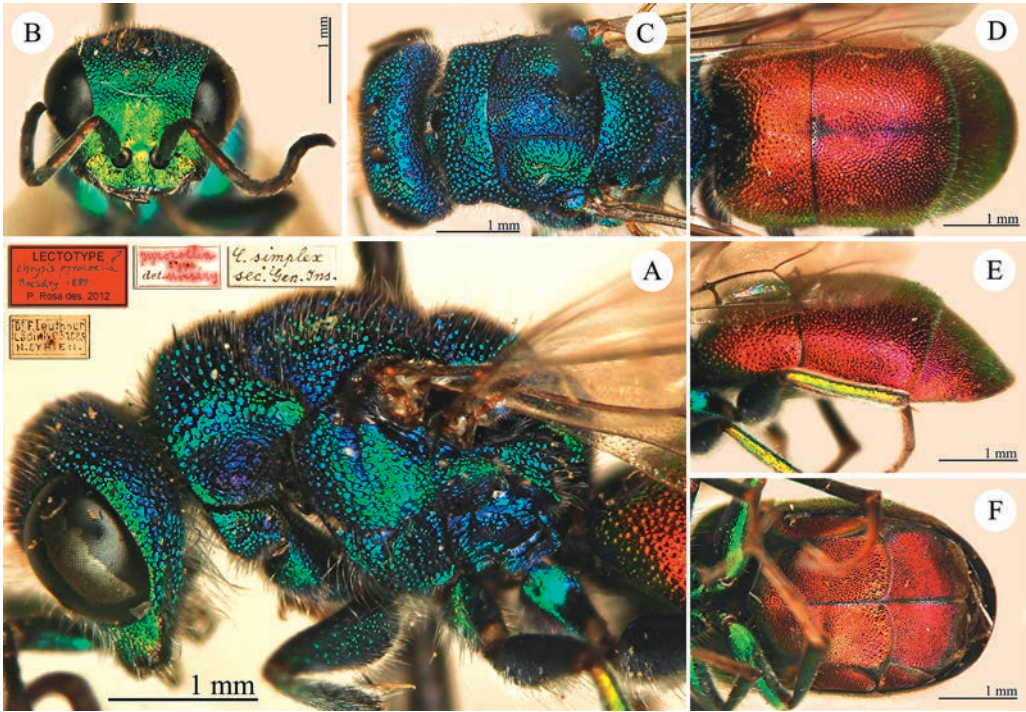


Fig. 36: *Chrysis pyrocoelia* MOCSÁRY, 1889, lectotype, ♂: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, dorsal view; (E) metasoma, lateral view; (F) metasoma, ventral view.

Remarks: DU BUYSSON (in ANDRÉ 1894: 315) examined one syntype of *Chrysis pyrocoelia* and synonymised it with *Chrysis simplex* DAHLBOM, 1854. BISCHOFF (1913: 41) and TRAUTMANN (1927: 114) followed du Buysson, yet LINSSENMAIER (1951: 106) and KIMSEY & BOHART (1991: 494) synonymised *Chrysis pyrocoelia* with *Chrysis pyrogaster* BRULLÉ, 1833. Since there is an ambiguity in the interpretation of this species, we here designate the lectotype of *Chrysis pyrocoelia* based on the Syrian specimen housed in Vienna to fix the synonymy with *Chrysis simplex* DAHLBOM, 1854, because the other syntypes were not found in the respective collections.

Current status: *Chrysura simplex* (DAHLBOM, 1854), (synonymised by DU BUYSSON (in ANDRÉ 1894: 315); transferred to *Chrysura* by KIMSEY & BOHART 1991: 494).

***Chrysis rhodia* MOCSÁRY, 1889** (Fig. 37)

Chrysis (Olochrysis) Rhodia MOCSÁRY, 1889: 258.

Type locality: Greece (Rhodes): “Insula Rhodus (Mus. Cæs. Vindob.)”.

Holotype: ♀ <blue label> [Erber Rhodus] [*rhodia* M. det. Mocsáry] <handwritten in red> (General Coll. 9).

Current status: *Chrysura rhodia* (MOCSÁRY, 1889) (transferred to *Chrysura* by KIMSEY & BOHART 1991: 495).

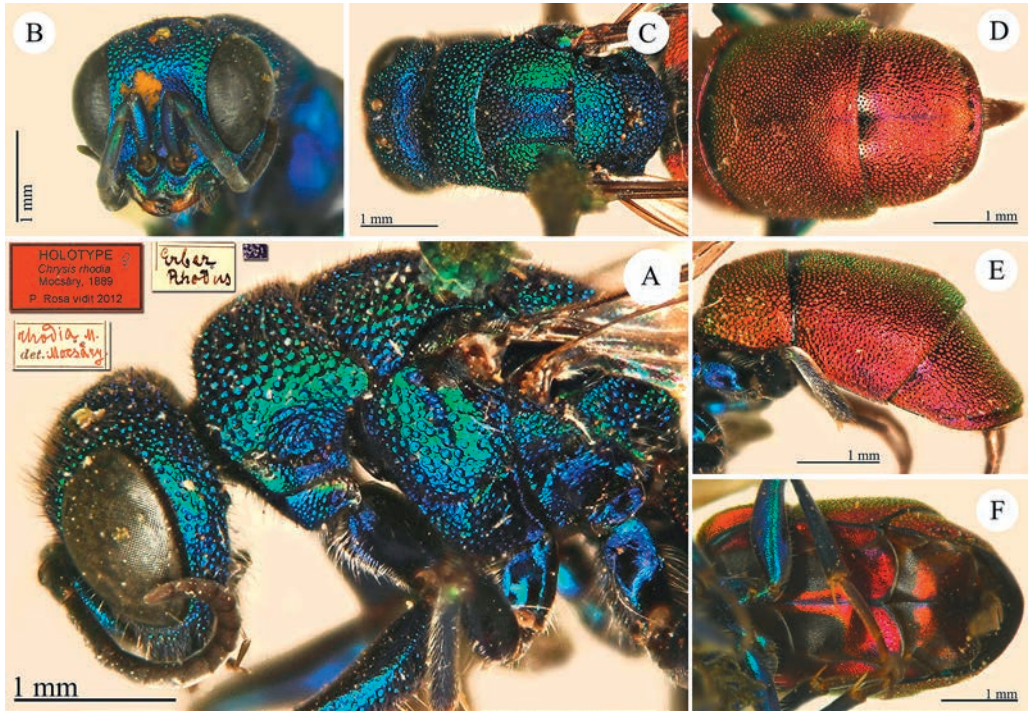


Fig. 37: *Chrysis rhodia* MOCSÁRY, 1889, holotype, ♀: (A) Head and mesosoma, lateral view; (B) head, lateral view; (C) head and mesosoma, dorsal view; (D) metasoma, dorsal view; (E) metasoma, lateral view; (F) metasoma, ventral view.

Chrysis salamensis DU BUYSSON, 1901 (Fig. 38)

Chrysis (quadridentatae) *salamensis* DU BUYSSON, 1901: 101.

Type locality: Tanzania: “Deutsch-Ostafrika: Dar es Salam, H. Mayer 1896”.

Holotype: ♀ [D.O. Afrika, Dar e Salam, H. Mayer, 96] [*Chrysis salamensis* Buyss. n. sp. Type! R. du Buysson det. 1901] [*Holotype Chrysis salamensis* ♀ Buysson] <red label handwritten by Bohart> (General Coll. 15).

Remarks: *Chrysis salamensis* DU BUYSSON belongs to the *Chrysis zululana* species group (MADL & ROSA 2012: 68).

Current status: *Chrysis salamensis* DU BUYSSON, 1901.

Chrysis saussurei CHEVRIER, 1862

Chrysis saussurei CHEVRIER, 1862: 36.

Type locality: Switzerland: “Nyon, Clémenty”.

Possible syntype: 1 ♀ [78] <red label> [Saussurei Chevrier Type 1883] [*Saussurei* Ch. det. Chevrier Type] <handwritten in red> [*C. gracillima* sec. Gen. Ins.] (General Coll. 9).

Remarks: *Chrysis saussurei* was described on a syntype series, but in Chevrier’s collection we found only a female labelled as type. The date “1883” indicates the year of arrival of the specimen in Vienna.

Current status: *Chrysis gracillima* FÖRSTER, 1853 (synonymised by BISCHOFF 1913: 43).

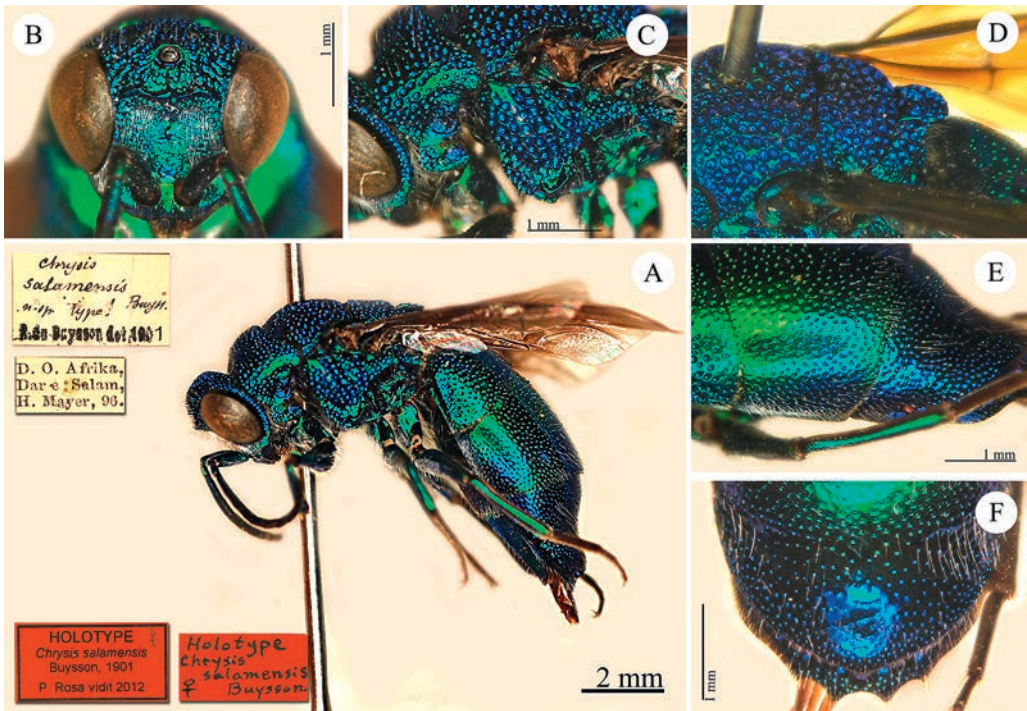


Fig. 38: *Chrysis salamensis* DU BUYSSON, 1901, holotype, ♀: (A) Habitus, lateral view; (B) head, frontal view; (C) mesopleuron, lateral view; (D) scutum and metanotum, dorso-lateral view; (E) second and third tergum, lateral view; (F) third tergum, posterior view.

Chrysis schlettereri MOCSÁRY, 1889 (Fig. 39)

Chrysis (*Tetrachrysis*) *schlettereri* MOCSÁRY, 1889: 494.

Type locality: Mexico: “Mexico (Tacubaya Mus. Cæs. Vindob.)”.

Holotype: ♀ [Aug.] [Bilimek Mexico 1871 *Takubaya*] [*Schlettereri* det. *Mocsáry Type*] [*Chrysis* (= *charigaster Bohart*) R.M. Bohart det.] (General Coll. 16).

Remarks: The type is badly damaged, without head and legs, with the exception of the right foreleg.

Current status: *Chrysis schlettereri* MOCSÁRY, 1889.

Chrysis schulthessi MOCSÁRY, 1889 (Fig. 40)

Chrysis (*Hexachrysis*) *Schulthessi* MOCSÁRY, 1889: 572.

Type locality: Mexico, U.S.A.: “Mexico (Cuernavaca, Mus. Vindob.; Cordova, Coll. Saussurei)”.

Lectotype: ♂ [Bilimek Mexico 1871 Cuernavaca] [*Schulthessi* det. *Mocsáry*] <handwritten in red> (General Coll. 18).

Remarks: BOHART (1962: 368) designated the specimen in Vienna as the lectotype. He did not pin any label with the specimen. However, in the collection, there is only

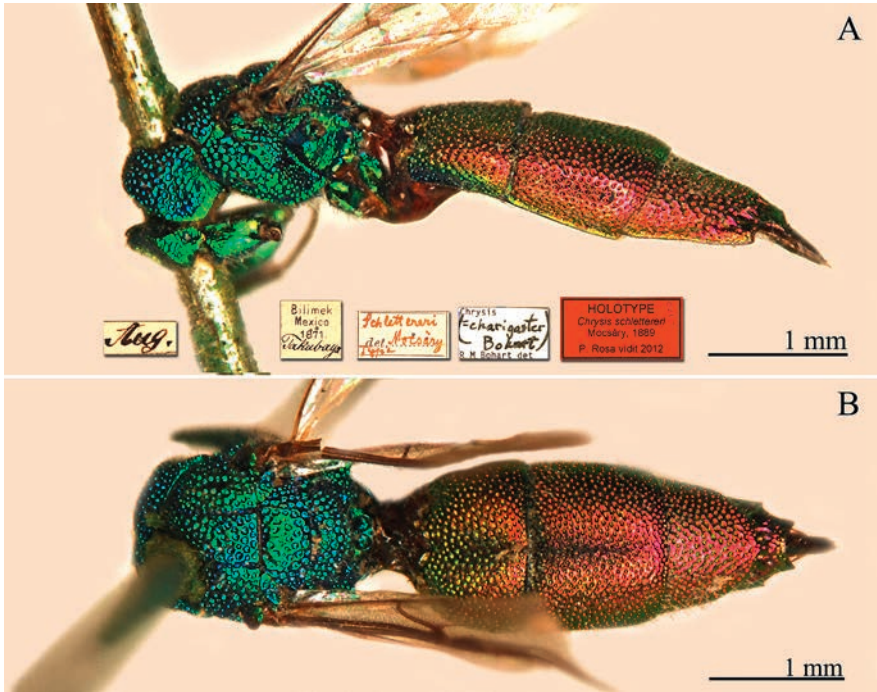


Fig. 39: *Chrysis schlettereri* MOCSÁRY, 1889, holotype, ♀: (A) Habitus, lateral view; (B) habitus, dorsal view.

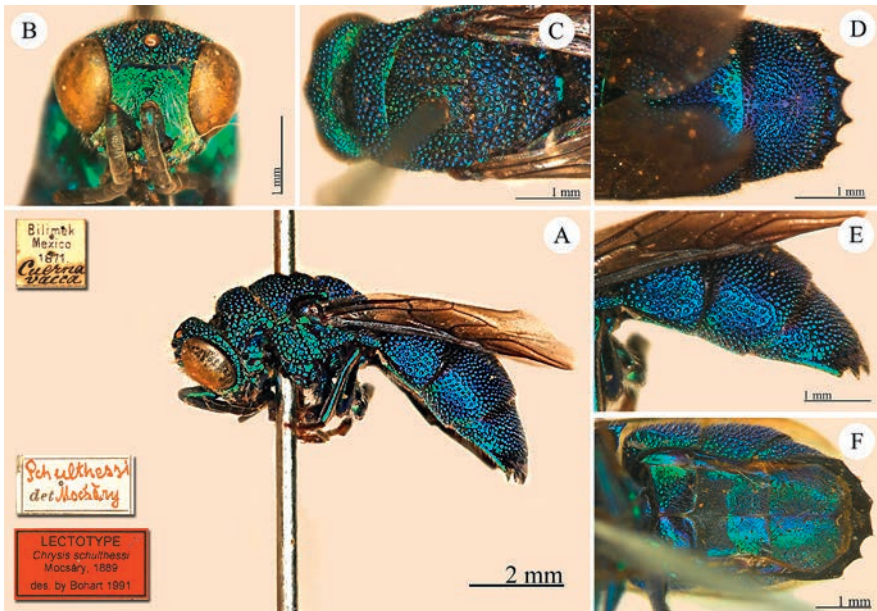


Fig. 40: *Chrysis schulthessi* MOCSÁRY, 1889, lectotype, ♂: (A) Habitus, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) third tergum, dorsal view; (E) metasoma, lateral view; (F) metasoma, ventral view.

one syntype, which we labelled as “Lectotype by Bohart”. Two female paralectotypes collected at Cordova are deposited in Geneva; one of them was labelled by Bohart as lectotype, but this was not published. KIMSEY & BOHART (1991) synonymised *Chrysis schulthessi* with *Chrysis intricata* BRULLÉ, 1846. However, this synonymy is doubtful; e. g., compare the shape of the black spots on the second metasoma sternum of *Chrysis intricata* in KIMSEY & BOHART (1991: 326, fig. 106m) and the shape of the black spots of *Chrysis schulthessi* type in Figure 40F. A revision of the synonyms of *Chrysis intricata* is needed, because apparently different species are found under this name.

Current status: *Chrysis intricata* BRULLÉ, 1846 (synonymised by BOHART 1962: 368).

***Chrysis seyrigi* ZIMMERMANN, 1961 (Fig. 41)**

Chrysis seyrigi ZIMMERMANN, 1961: 316.

Type locality: Madagascar: “Madagascar Nord: Ambilobe (1. Sc.); Madagascar Sud: Bekily (S.); Behara (S.). Type (Bekily) im Muséum National d’Histoire Naturelle, Paris”.

Paratypes: 1 ♀ [Madagascar Bekily Rég. Sud de l’île] [Muséum Paris IV.37 A. Seyrig] <light blue label> [*Chrysis seyrigi* Zimm. det. Zimmermann Type] <red label> (Zimmermann Coll. 49); 1 ♀ [Madagascar Bekily Rég. Sud de l’île] [Muséum Paris IV.39 A. Seyrig] <light blue label> (Zimmermann Coll. 49); 1 ♂ [♂] [Madagascar Behara] [Muséum Paris XI.38 A. Seyrig] <light blue label> (Zimmermann Coll. 49).

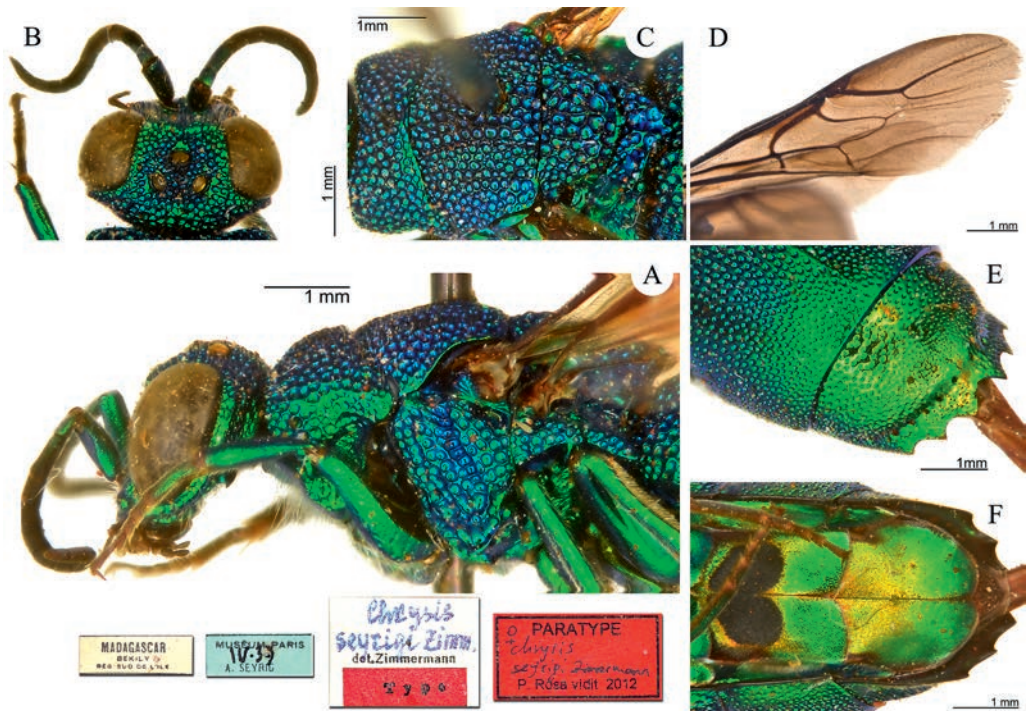


Fig. 41: *Chrysis seyrigi* ZIMMERMANN, 1961, paratype, ♀: (A) Head and mesosoma, lateral view; (B) head, dorsal view; (C) mesosoma, dorso-lateral view; (D) fore wing; (E) third tergum, postero-lateral view; (F) metasoma, ventral view.

Remarks: ZIMMERMANN (1961) described *Chrysis seyrigi* based on eight specimens from the Seyrig Collection (Paris) and Tervuren. The holotype and two paratypes are deposited at Paris. The female specimen from the Zimmermann Collection labelled [Coll. Mus. Congo Madagascar: Bekily IV.1942 A. Seyrig] has no type status. KIMSEY & BOHART (1991: 441) synonymised *Chrysis seyrigi* with *Chrysis mouattii* GUÉRIN-MÉNÉVILLE, 1842. However, *Chrysis seyrigi* is easily recognizable by the unique forewing venation, as shown by ZIMMERMANN (1961: fig. 6): discoidal cell complete, Rs with partial r-m cross vein and elongated cu. In contrast, *Chrysis mouattii*, whose type has been examined by the first author, shows an unmodified wing venation and other diagnostic characters as described by ZIMMERMANN (1961).

Current status: *Chrysis seyrigi* ZIMMERMANN, 1961, sp.rev.

***Chrysis sibylla* MOCSÁRY, 1889 (Fig. 42)**

Chrysis (Tetrachrysis) Sibylla MOCSÁRY, 1889: 359.

Type locality: South Africa: “Caffraria (Mus. Cæs. Vindob.)”.

Holotype: ♀ [Caffraria] [Wthm.] [*sibylla* type det. Mocsáry] <handwritten in red> [*C. sibylla* sec. Gen. Ins.] (General Coll. 15).

Current status: *Chrysis senegalensis* MOCSÁRY, 1887 (synonymised by KIMSEY & BOHART 1991: 462).

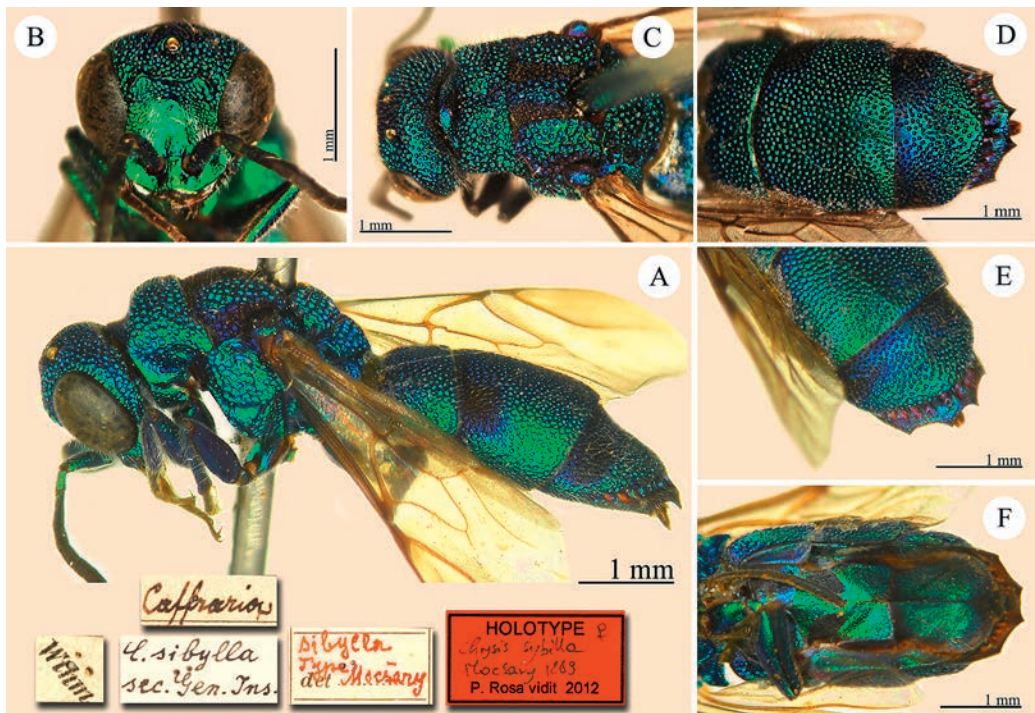


Fig. 42: *Chrysis sibylla* MOCSÁRY, 1889, holotype, ♀: (A) Habitus, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, dorsal view; (E) third tergum, posterolateral view; (F) metasoma, ventral view.

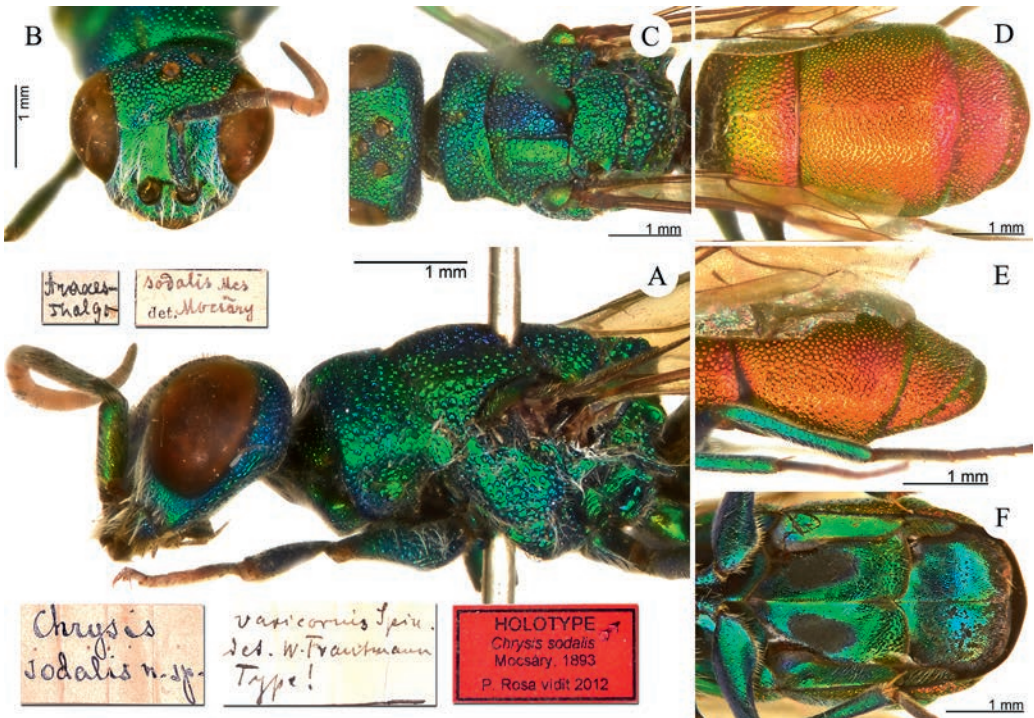
***Chrysis sodalis* MOCSÁRY, 1893** (Figs 43, 44B)*Chrysis (Holochoyris) sodalis* MOCSÁRY, 1893: 217.**Type locality:** country unclear: “Caucasus (Vallis fluvii Araxes, e Musæo Aulico Vin-dobonensi ab amico Kohl mihi determinationis causa commissa)”.**Holotype:** ♂ [*Araxes Ihalgo*] <handwritten by Mocsáry> [*Chrysis sodalis* n.sp.] <handwritten by Mocsáry> [*sodalis* Mcs. det. Mocsáry] [*varicornis* Spin. det. W. Trautmann Type!] (General Coll. 9).**Remarks.** *Chrysis sodalis* and *Chrysis separanda* MOCSÁRY (in RADOSZKOWSKI), 1889 were synonymised with *Chrysis varicornis* SPINOLA, 1838 by TRAUTMANN (1927: 109). Subsequent authors followed this interpretation, without checking the type material. The type of *Chrysis varicornis* and types of its synonyms were examined by the first author. *Chrysis sodalis*, as well as *Chrysis separanda* MOCSÁRY, 1889 sp.rev., are clearly separable from *Chrysis varicornis* by the modified shape of the male genitalia (Fig. 44), as already masterfully depicted by RADOSZKOWSKI (1889). *Chrysis sodalis* can be separated from *Chrysis separanda* by the differently shaped gonocoxae (comp. Figs 44B, 44C), and by the metasomal sculpture with sparser punctures and shiny interspaces (in *Chrysis separanda* with denser punctures, uneven on the anterior half).In this context, another species must be discussed: *Chrysis picticornis* MOCSÁRY, 1887 (repl. name for *Chrysis varicornis* RADOSZKOWSKI, 1877, nec SPINOLA, 1838). TRAUTMANN (1927: 188) synonymised this species with *Chrysis sulcata* (DAHLBOM, 1845),

Fig. 43: *Chrysis sodalis* MOCSÁRY, 1893, holotype, ♂: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) mesosoma, dorsal view; (D) metasoma, dorsal view; (E) metasoma, lateral view; (F) metasoma, ventral view.

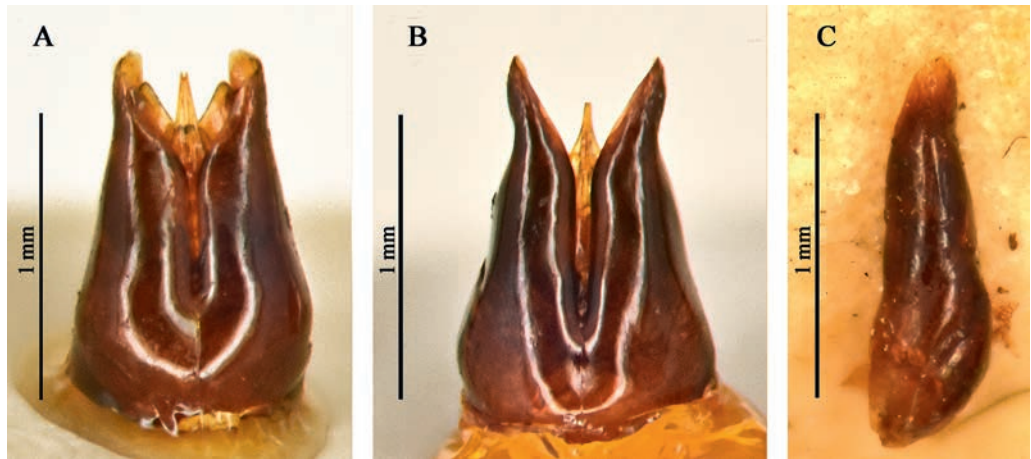


Fig. 44: Genital capsule, dorsal view: (A) *Chrysis varicornis* SPINOLA, 1838; (B) *Chrysis sodalis* MOCSÁRY, 1893; (C) *Chrysis separanda* MOCSÁRY, 1889.

based on the drawings of genitalia depicted by RADOSZKOWSKI (1889). However, the original description was based on a female collected in the Zarafshan Valley, whereas the specimen dissected and depicted was a male from Caucasus, which is not a type specimen. Therefore, the synonymy proposed by TRAUTMANN (1927) is in error and refers to non-type specimens which truly belong to *Chrysis sulcata*. Interestingly, the description and the females of *Chrysis picticornis* collected by Fedtschenko and identified by Radoszkowski match the description of *Chrysis persephone* SEMENOV & NIKOLSKAYA, 1954. For these reasons, we re-establish *Chrysis picticornis* sp.rev. Females of this species can be easily separated from females of *Chrysis varicornis* and *Chrysis sulcata* by the light brown medial flagellomeres. We also propose the new synonymy, *Chrysis persephone* SEMENOV & NIKOLSKAYA, 1954 syn.n. = *Chrysis picticornis* MOCSÁRY, 1887. The female of *Chrysis sodalis* is currently unknown, as well as the male of *Chrysis picticornis*, yet there is no morphological evidence to suppose that they represent the two sexes of the same species.

Current status: *Chrysura sodalis* (MOCSÁRY, 1893) sp.rev. (transferred to *Chrysura* by KIMSEY & BOHART 1991: 492).

***Chrysis stanleyana* SCHLETTERER, 1891 (Fig. 45)**

Chrysis stanleyana SCHLETTERER, 1891: 30.

Type locality: Democratic Republic of the Congo: “Equateur-Congo (Cap. Van Gèle), 1 Stück”.

Holotype: ♀ [Equateur – Congo Cap. Van Gele] [TYPE] [determination Schletterer] [*Chrysis stanleyana* n.sp. Schlett.] (Zimmermann Coll. 43).

Remarks: According to KIMSEY & BOHART (1991: 465), the type depository is doubtfully Tervuren. Diagnostic morphological characters of *Chrysis stanleyana* match those of *Chrysis senegalensis* MOCSÁRY, 1887. The main difference is the colouration of the mesoscutum, with a uniformly dark medial area and greenish lateral areas in *Chrysis*

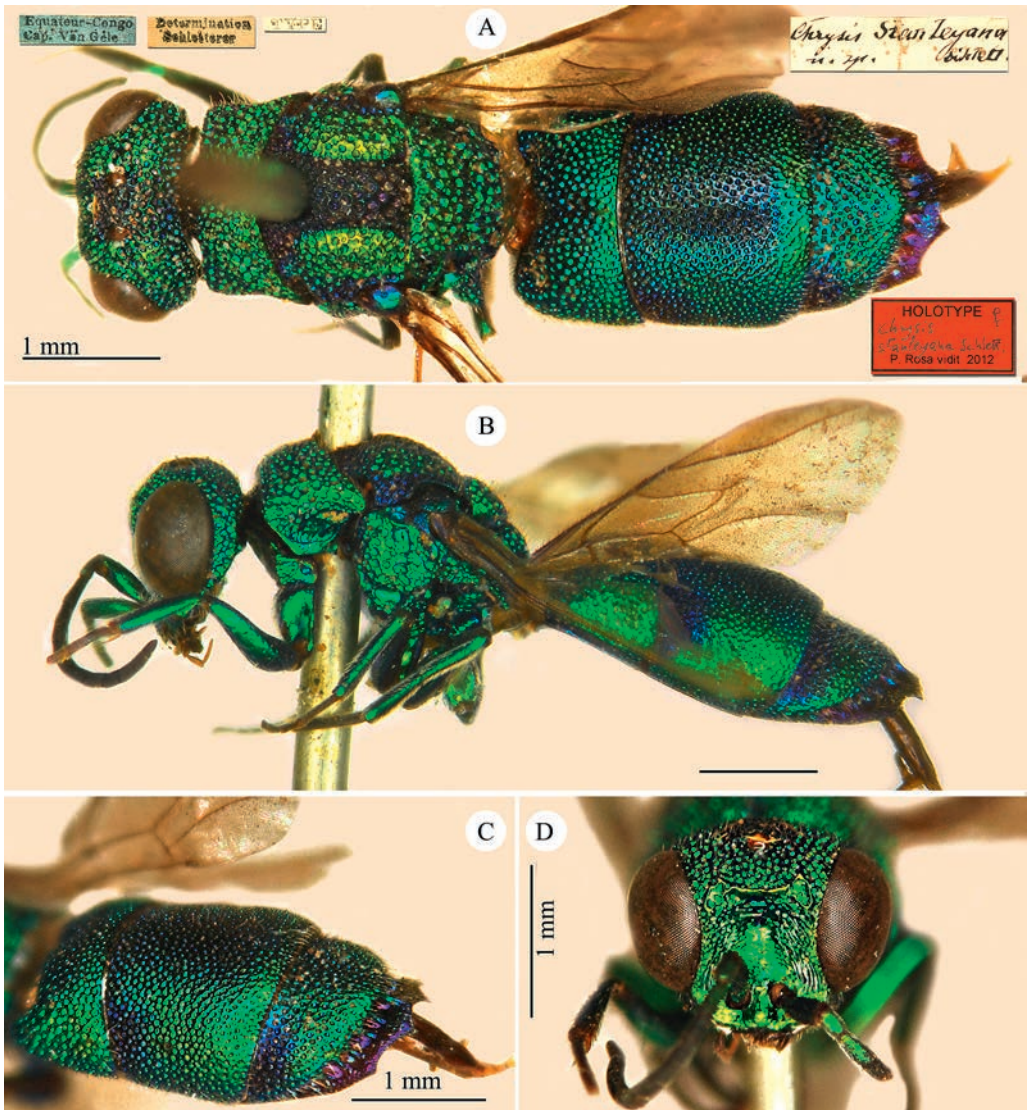


Fig. 45: *Chrysis stanleyana* SCHLETTERER, 1891, holotype, ♀: (A) Habitus, dorsal view; (B) habitus, lateral view; (C) metasoma, postero-lateral view; (D) head, frontal view.

stanleyana (compare with pictures of *Chrysis sibylla* MOCSÁRY, 1889, (Fig. 42, another synonym of *Chrysis senegalensis*).

Current status: *Chrysis senegalensis* MOCSÁRY, 1887, syn.n.

***Chrysis stenodyneri* KROMBEIN, 1958**

Chrysis stenodyneri KROMBEIN, 1958a: 150.

Type locality: U.S.A.: holotype ♀ from North Carolina (Kill Devil Hills, Dare Co. (Washington)); allotype and 9 ♂♂ and 7 ♀♀ paratypes from Florida (Kill Devil Hills,

Dare Co.); 10 ♂♂ and 12 ♀♀ from New York (Long Island); New Jersey (Gloucester Co.); Virginia (Barcroft, Arlington Co.; East Falls Church, Arlington Co.; Falls Church, Fairfax Co.; Dunn Loring, Fairfax Co.); Washington D.C. (Washington); Georgia (Tifton, Tift Co.); Florida (Jacksonville, Duval Co.; Gainesville, Alachua Co.; Orlando, Orange Co.); Indiana (Borden, Clark Co.); Missouri (St. Louis); Kansas (Baldwin, Douglas Co.; Onaga, Pottawatomie Co.).

Paratypes: 1 ♀ [Kill Devil Hills Dare Co. N.C. V-13-1957 KV] [year 1956 Nest 700 Cell 7] [Paratype 64202] <red label> [Paratype ♀ *Chrysis stenodyneri* Karl V. Krombein] <red label> (Zimmermann Coll. 44); 1 ♂ [Gainesville, Fla. 10-11-18 P.W.Fattig] [273] [Paratype 64202] <red label> [Paratype ♂ *Chrysis stenodyneri* Karl V. Krombein] <red label> (Zimmermann Coll. 44).

Current status: *Chrysis antennalis* MOCSÁRY, 1912 (synonymised by BOHART & KIMSEY 1982: 99).

***Chrysis stenops* MOCSÁRY, 1889**

Chrysis (Hexachrysis) stenops MOCSÁRY, 1889: 571.

Type locality: Mexico: “Mexico (Orizaba, Mus. Vindob.; Tampico, Coll. Saussurei)”.

Paralectotype: 1 ♀ [5 Mai] [Bilimek Mexico 1871 *Orizaba*] [*Chrysis stenops* Mocs. R. du Buysson det. 1901] (General Coll. 18).

Remarks: Bohart (in KIMSEY & BOHART, 1991: 511) designated the female specimen deposited in Geneva as the lectotype.

Current status: *Ipsiura pilifrons* (CAMERON, 1888) (synonymised by BOHART 1963: 144 and transferred to *Ipsiura* by KIMSEY 1985: 275).

***Chrysis subsinuata* var. *unifasciata* HOFFMANN, 1937**

Chrysis subsinuata var. *unifasciata* HOFFMANN, 1937: 491.

Type locality: Spain: “Valencia”.

Holotype: ♀ [Hispania Umg. Valencia Col. Hoffmann] [Type *Chr. subsinuata* var. *unifasciata* Hoffm.] <red label handwritten by Zimmermann> (Zimmermann Coll. 26).

Remarks: This colour variation is named *unifasciata* for the uniform green colour of the first metasomal tergum. In KIMSEY & BOHART (1991: 467) the type depository is reported as unknown.

Current status: *Chrysis subsinuata* MARQUET, 1879.

***Chrysis succincta* var. *pannonica* HOFFMANN, 1935**

Chrysis succincta var. *pannonica* HOFFMANN, 1935: 228.

Type locality: Austria: “Vereinzelt in der Umgebung Wiens, bei Hainburg häufiger”.

Lectotype (♀, hereby designated): [Austria inf. Umg. Hainburg Ad. Hoffmann] [Type *Chr. succincta* var. *pannonica* Hoffm. det. Hoffmann] <red label> (Zimmermann Coll. 36).

Paralectotype: 1 ♀ [Austria inf. Stammersdorf Ad. Hoffmann] [Type *Chr. succincta* var. *pannonica* Hoffm. det. Hoffmann] <red label> (Zimmermann Coll. 36); 1 ♀: [Austria inf. Stammersdorf Ad. Hoffmann] [*pannonica* Hoffmann] <handwritten by Hoffmann> (Zimmermann Coll. 36).

Remarks: LINSSENMAIER (1951: 106) placed *Chrysis succincta* var. *pannonica* in synonymy of *Chrysis mocquerysi* DU BUYSSON, 1887, but KIMSEY & BOHART (1991: 468) in the synonymic list of *Chrysis succincta* LINNAEUS, 1767. A taxonomic discussion of

these names was provided by ROSA (2009) and ROSA & XU (2015). In Zimmermann's collection, the female syntypes of *Chrysis succincta* var. *pannonica* are mixed together with males and females of *Chrysis frivaldszkyi* collected in the same sites around Vienna. We designate the lectotype of *Chrysis succincta* var. *pannonica* to fix the synonymy *Chrysis succincta* var. *pannonica* HOFFMANN, 1935 syn.n. = *Chrysis frivaldszkyi*. One additional paralectotype is housed in the Invrea Collection (Genoa).

Current status: *Chrysis frivaldszkyi* MOCSÁRY, 1882 syn.n.

***Chrysis terminata* DAHLBOM, 1854** (Fig. 46)

Chrysis terminata DAHLBOM, 1854: 261.

Type locality: Austria: "Habitat in Austria rarissime; specimen unicum e Museo Imp. Viennensi benevole transmisit Amicus D. Kollar".

Holotype: ♂ [39] <in red> [Dahlbom vidit 1850] [*terminata* det. Dahlb. type] <handwritten in red> [*ignita* L. v. *terminata* sec. Gen. Ins.] [Holotypus *Chrysis terminata* Dahlbom 1854 ♂] (General Coll. 12).

Remarks: *Chrysis terminata* is the first available name for *Chrysis ignita* form A (LINSENMAIER 1959, VAN DER SMISSEN 2010) given in literature (PAUKKUNEN et al. 2014). The type is a melanic specimen, with head and mesosoma dark blue; metasoma in lateral view and third tergum metallic green, first and second tergum in dorsal view dark violet to dull black.

Current status: *Chrysis terminata* DAHLBOM, 1854.

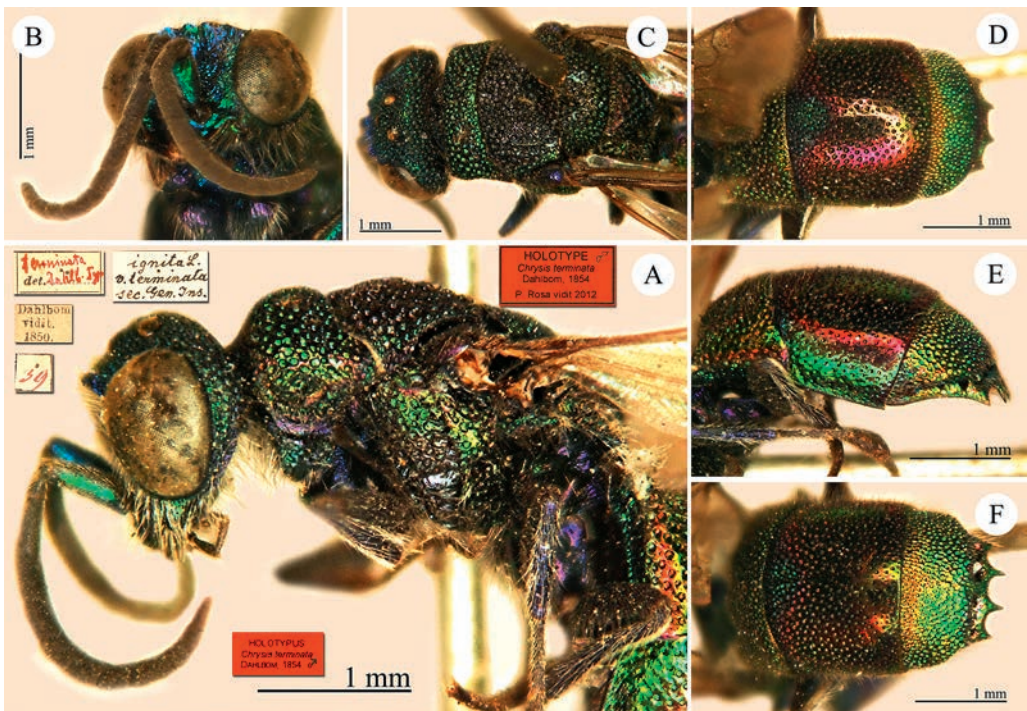


Fig. 46: *Chrysis terminata* DAHLBOM, 1854, holotype, ♂: (A) Head and mesosoma, lateral view; (B) head, fronto-lateral view; (C) head and mesosoma, dorsal view; (D) metasoma, dorsal view; (E) metasoma, lateral view; (F) third tergum, posterior view.

***Chrysis tingitana* BISCHOFF, 1935**

Chrysis tingitana BISCHOFF, 1935: 15.

Type locality: Morocco: “Asni, 9 ♀, 3 ♂; Goundafa, 1 ♀. [...] Ein ♀ und ♂ sind als Typus resp. Allotypus (Asni, in Coll. Nadig) bezeichnet, die übrigen Stücke als Paratypen (in coll. Bischoff et Nadig)”.

Paratype: 1 ♀ [Asni, Maroc 10.–14.VII.32 Ad. Nadig] [*Holochrysis tingitana* n.sp. Bisch. ♀ det. Ad. Nadig] [Type] <red label> (Zimmermann Coll. 26).

Current status: *Chrysis tingitana* BISCHOFF, 1935.

***Chrysis transvaalensis* MOCSÁRY, 1908**

Chrysis (Tetrachrysis) Transvaalensis MOCSÁRY, 1908: 520.

Type locality: South Africa: “Transvaal: Lichtenburg, 20.XII.1905; 1.I, 5.I.1906. A. Cl. Dom. Dre Brauns magno numero collecta. (Coll. Brauns et Mus. Hung.)”.

Paralectotypes: 1 ♀, 2 ♂♂ [*Lichtenburg Transvaal Dr. Brauns 1.1.06*] [*Cotype C. transvaalensis* M.] [*C. transvaalensis* Mocs.] <handwritten by Brauns> [*C. transvaalensis* sec. Gen. Ins.] (General Coll. 15).

Remarks: Bohart (in BOHART & FRENCH 1986: 343) designated a male syntype in Budapest as the lectotype. Another seven paralectotypes are deposited in Budapest.

Current status: *Chrysis dira* MOCSÁRY, 1883 (synonymised by KIMSEY & BOHART 1991: 404).

***Chrysis triacantha* MOCSÁRY, 1889**

Chrysis (Trichrysis) triacantha MOCSÁRY, 1889: 325.

Type locality: Indonesia: “Sumatra (Mus. Vindobonense)”.

Syntypes: 1 ♀ [*Plason Sumatra 877-2*] [*triacantha* det. Mocsáry Type] <handwritten in red> (General Coll. 10); 1 ♀ [Sumatra] [*triacantha* det. Mocsáry] <in red> (General Coll. 10); 1 ♀ [*Plason Java 1878 II*] [*triacantha* type det. Mocsáry] <handwritten in red> (General Coll. 10).

Remarks: MOCSÁRY (1889) described *Chrysis triacantha* without any information on the number of specimens examined. KIMSEY & BOHART (1991: 573) stated that the holotype is housed in Vienna. ROSA et al. (2016) listed syntypes and published the picture of one syntype specimen. We here consider another female collected at Java and labelled as type as a syntype according to the ICZN, Art. 72.4.1.1: “For a nominal species or subspecies established before 2000, any evidence, published or unpublished, may be taken into account to determine what specimens constitute the type series”. In this case, the label handwritten in red [*triacantha* type det. Mocsáry] is the evidence that Mocsáry examined the specimen and considered it a type. A further specimen labelled [Java Aurora 1887] [*triacantha* det. Mocsáry] is not considered a syntype because the identification label is not reporting “type” and it is not written in red.

Current status: *Trichrysis triacantha* (MOCSÁRY, 1889) (transferred to *Trichrysis* by BOHART 1988: 348).

***Chrysis valenciana* HOFFMANN, 1935 (Figs 47, 48)**

Chrysis valenciana HOFFMANN, 1935: 228.

Type locality: Spain: “Valencia (Spanien)”.

Lectotype (♂, hereby designated): [Torrente Valencia (Hispania) Giner Mari / 13.III.35] [Type] <red label> [*valenciana Hoffm.*] <handwritten by Hoffmann> (Zimmermann Coll. 32).

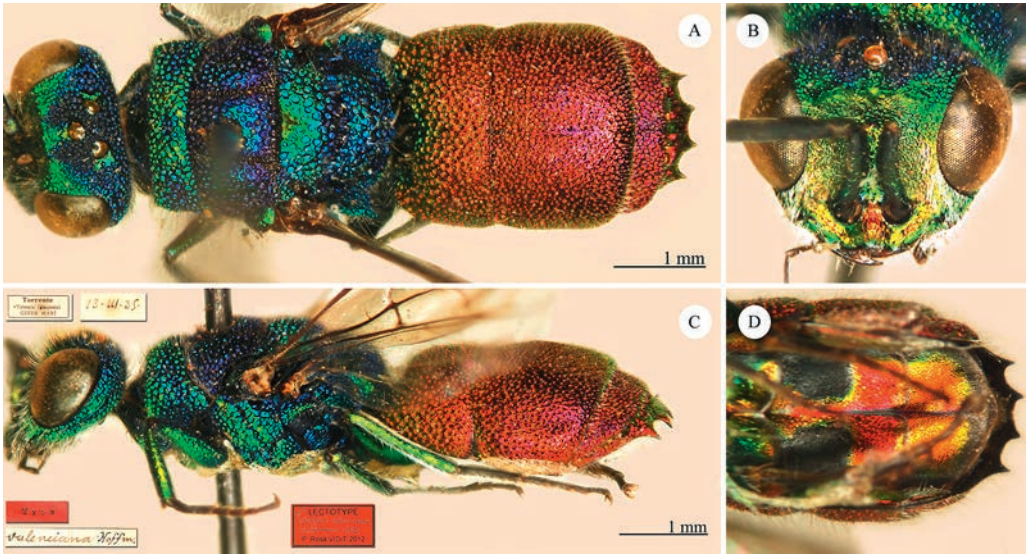


Fig. 47: *Chrysis valenciana* HOFFMANN, 1935, lectotype, ♂: (A) Habitus, dorsal view; (B) head, frontal view; (C) habitus, lateral view; (D) metasoma, ventral view.

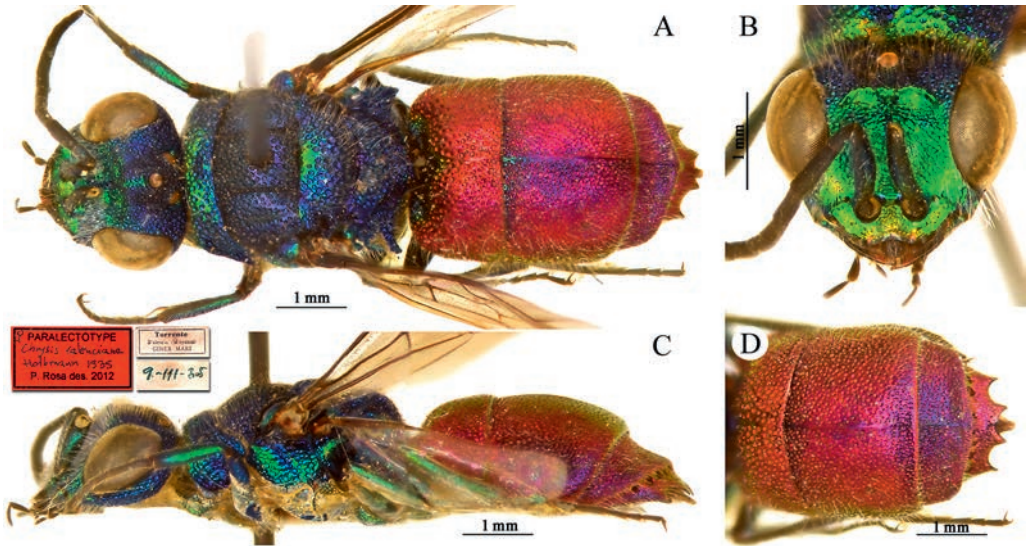


Fig. 48: *Chrysis valenciana* HOFFMANN, 1935, paralectotype, ♀: (A) Habitus, dorsal view; (B) head, frontal view; (C) habitus, lateral view; (D) metasoma, posterior view.

Paralectotype: 1 ♀ [Torrente Valencia (Hispania) Giner Mari / 9.III.35] (Zimmermann Coll. 32).

Remarks: HOFFMANN (1935) described *Chrysis valenciana* based on a type series (“10–11 mm”). In the Zimmermann Collection there are two specimens collected in 1935, and other four specimens collected after the description. LINSSENMAIER (1959: 153) treated *Chrysis valenciana* as a subspecies of *Chrysis rutiliventris* ABEILLE DE PERRIN, 1879.

KIMSEY & BOHART (1991: 458) synonymised *Chrysis valenciana* with *Chrysis rutiliventris*, without type examination. *Chrysis valenciana* actually belongs to the *Chrysis ignita* species group, *Chrysis ruddii* subgroup for the following characters: pronotum short, length less than one quarter of width; first flagellomere black or largely non-metallic; scapal basin with dense, appressed, white pubescence. It can be easily separated from the typical *Chrysis rutiliventris* by the following characters: different metasomal sculpture with large and coarse punctures; transverse frontal carina shorter and bilobed; third tergum of female with apical margin similarly shaped to *Chrysis ignita* (LINNAEUS, 1758), dorsally concave in lateral view (straight in *Chrysis rutiliventris*), with larger pits of the pit row, and more elongate post pit row space. For these morphological differences with *Chrysis rutiliventris* we here revalidate *Chrysis valenciana* as a valid species.

Current status: *Chrysis valenciana* HOFFMANN, 1935 sp.rev.

***Chrysis variana* DU BUYSSON, 1901 (Fig. 49)**

Chrysis (quadridentatae) *variana* DU BUYSSON, 1901: 103.

Type locality: Turkmenistan: “Transcaspienne: Imam-baba”.

Holotype: ♀ [Transcasp Imam-baba] [*Chrysis variana* Buyss. n. sp. type! R. du Buysson det. 1901] (General Coll. 14).

Current status: *Chrysis variana* DU BUYSSON, 1901.

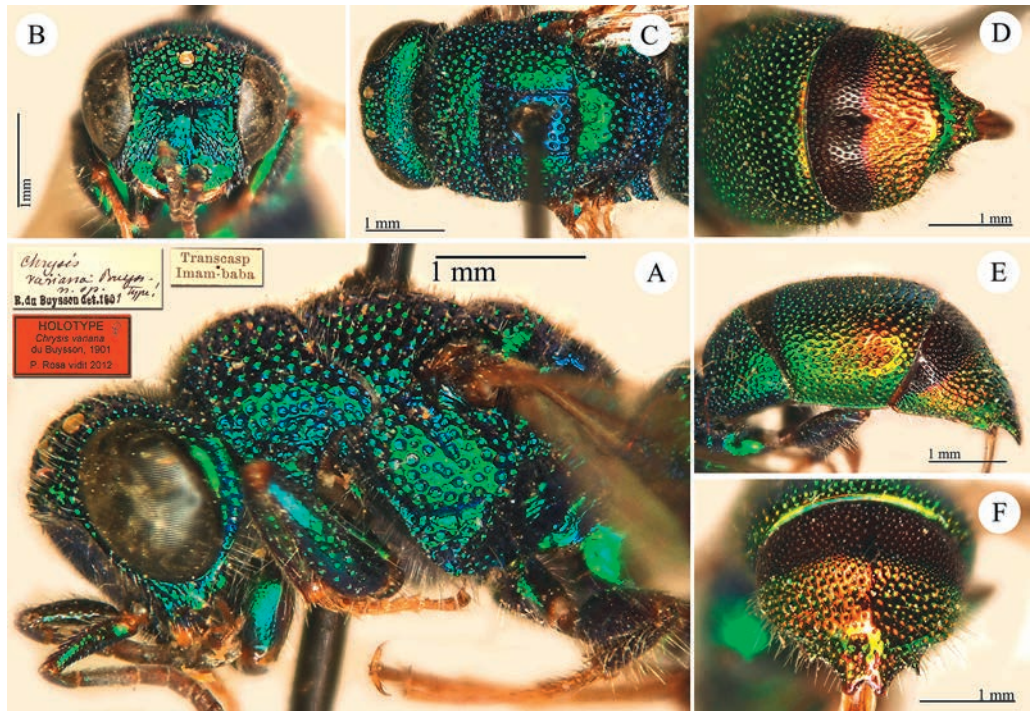


Fig. 49: *Chrysis variana* DU BUYSSON, 1901, holotype, ♀: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) third tergum, dorsal view; (E) metasoma, lateral view; (F) third tergum, posterior view.

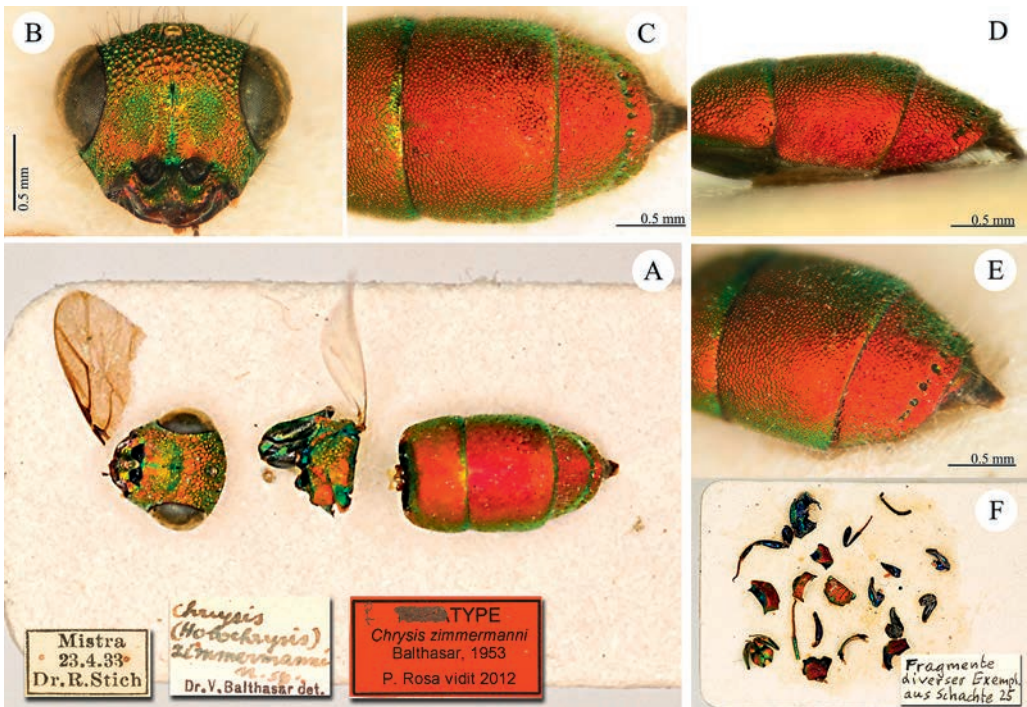
Chrysis zimmermanni* BALTHASAR, 1953 (Fig. 50)Chrysis (Holochoyris) zimmermanni* BALTHASAR, 1953: 212.**Type locality:** Greece: “Mistra, 23.IV.1933, Dr. R. Stich legit (Coll. Zimmermann)”.**Holotype:** ♀ [Mistra 23.4.33 Dr. R. Stich] [*Chrysis (Holochoyris) zimmermanni* n.sp. Dr.V. Balthasar det.] [Type] <red label> (Zimmermann Coll. 25).**Remarks:** The type is badly damaged. The type locality is in Greece and not in Palestine, as written by BALTHASAR (1953). For further remarks see above, *Chrysis krueperi*.**Current status:** *Chrysura krueperi* (MOCSÁRY, 1889) (synonymised by LINSSENMAIER 1968: 50).***Chrysis zuluana* MOCSÁRY, 1889 (Fig. 51)***Chrysis (Tetrachrysis) Zuluana* MOCSÁRY, 1889: 358.**Type locality:** South Africa: “Caffraria (Mus. Cæs. Vindob.)”.**Holotype:** ♂ [Caffraria] [Wthm.] [*zuluana* Type det. Mocsáry] <handwritten in red> (General Coll. 15).**Remarks:** The type is badly damaged: the right antenna is missing, the left one is partly glued on the first label; the legs are missing, with the exception of the right fore leg and of the hind legs; the metasoma is glued to the mesosoma; the right wing is lost, the left wing is glued to the metasoma.**Current status:** *Chrysis zuluana* MOCSÁRY, 1889.

Fig. 50: *Chrysis zimmermanni* BALTHASAR, 1953, holotype, ♀: (A) Habitus (damaged), dorsal view; (B) head, frontal view; (C) metasoma, dorsal view; (D) metasoma, lateral view; (E) metasoma, postero-lateral view; (F) other morphological parts glued together.

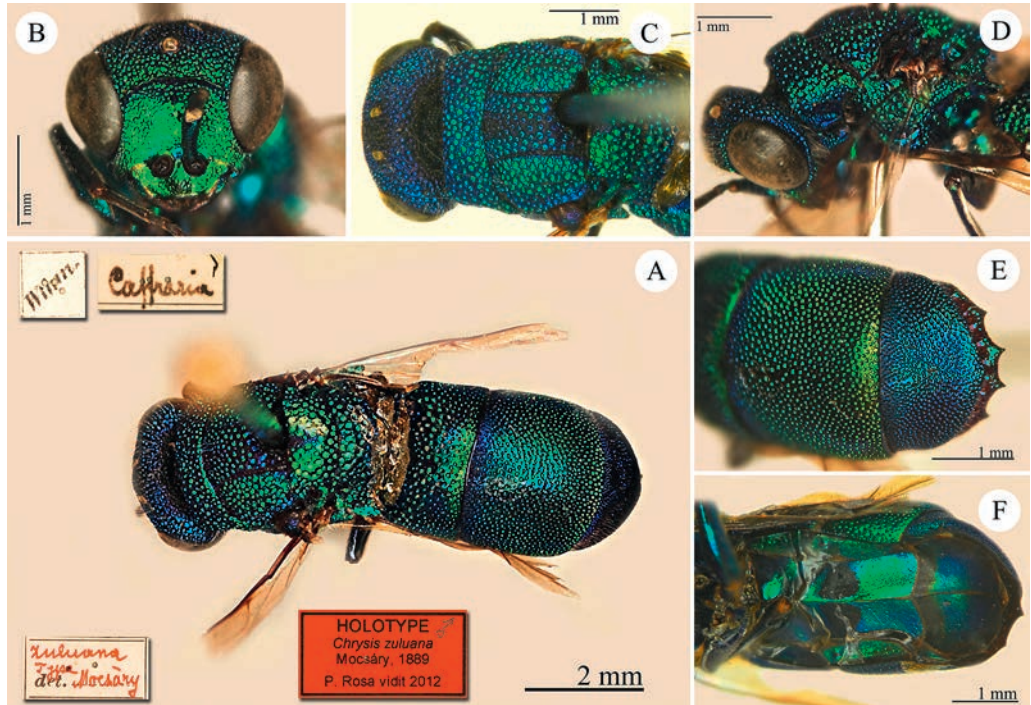


Fig. 51: *Chrysis zuluana* MOCSÁRY, 1889, holotype, ♂: (A) Habitus, dorsal view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) head and mesosoma, lateral view; (E) third tergum, posterior view; (F) metasoma, ventral view.

Chrysogona armata MOCSÁRY, 1889

Chrysogona armata MOCSÁRY, 1889: 187.

Type locality: Brazil: “Brasilia (Blumenau, Mus. Hung. et Vindob.!; Neufrieberg, Mus. Halense Saxonoum!)”.

Paralectotypes: 1 ♀ [Blumenau Brasil 1885./ Hetscko] [82] [*armata* type det. *Mocsáry*] <handwritten in red> [*S. saussurei* sec. Wytsm. Gen. I.] (General Coll. 6); 1 ♀ [Blumenau Brasil 1885./ Hetscko] [80] [*armata* det. *Mocsáry*] <handwritten in red> [*S. saussurei* sec. Wytsm. Gen. I.] (General Coll. 6).

Remarks: Bohart (in BOHART & FRENCH 1986: 341) designated a female syntype in Budapest as the lectotype. Another three paralectotypes bearing the same labels are deposited in Budapest.

Current status: *Caenochrysis armata* (MOCSÁRY, 1889) (transferred to *Caenochrysis* by BOHART & FRENCH 1986: 341).

Chysura kyrae KROMBEIN, 1963

Chysura kyrae KROMBEIN, 1963: 150.

Type locality: U.S.A.: holotype ♂ from Maryland (Plummer Island, March 26, 1960, leg. K.V. Krombein (Washington)); allotype, 16 ♂♂ and 21 ♀♀ paratypes from Maryland (Plummer Island); 1 ♀ from Virginia Loudoun Co.); 1 ♀ from Missouri (presumably from St. Louis); 4 ♀♀ from Indiana (Ripley Co.).

Paratypes: 1 ♀ [Plummer Is. MD IV-1960 KV Krombein] [Year 1959 Nest 191 Cell 6] [♀ Paratype *Chrysura kyrae* Karl V. Krombein] <red label> (Zimmermann Coll. 25); 1 ♂ [Plummer Is. MD 3-28-1960 KV Krombein] [Year 1959 Nest 191 Cell 10] [♂ Paratype *Chrysura kyrae* Karl V. Krombein] <red label> (Zimmermann Coll. 25).

Current status: *Chrysura kyrae* KROMBEIN, 1963.

***Cleptes mandsuricus* MÓCZÁR, 1968**

Cleptes (HolcoCleptes) mandsuricus MÓCZÁR, 1968: 171.

Type locality: China: “Mandschurei, Erzendjanzsy, 5.VI.37”.

Holotype: ♂ [Mandschurei Erzendjanzsy 5.VI.37] [♂] [Holotypus ♂ *Cleptes (Cleptes) mandsuricus* Móczár 1967] (Zimmermann Coll. 1).

Remarks: Pictures of the types are shown in ROSA et al. (2014). A key to the Chinese *Cleptes* is given by WEI et al. (2013).

Current status: *Cleptes mandsuricus* MÓCZÁR, 1968.

***Cleptes mutilloides* DUCKE, 1902 (Fig. 52)**

Cleptes mutilloides DUCKE, 1902a: 91.

Type locality: Brazil: “2 ♂ in alten, verwilderten, schattigen Cacaopflanzungen bei Pará gesammelt, 20. März 1900 und 28. Mai 1901.”.

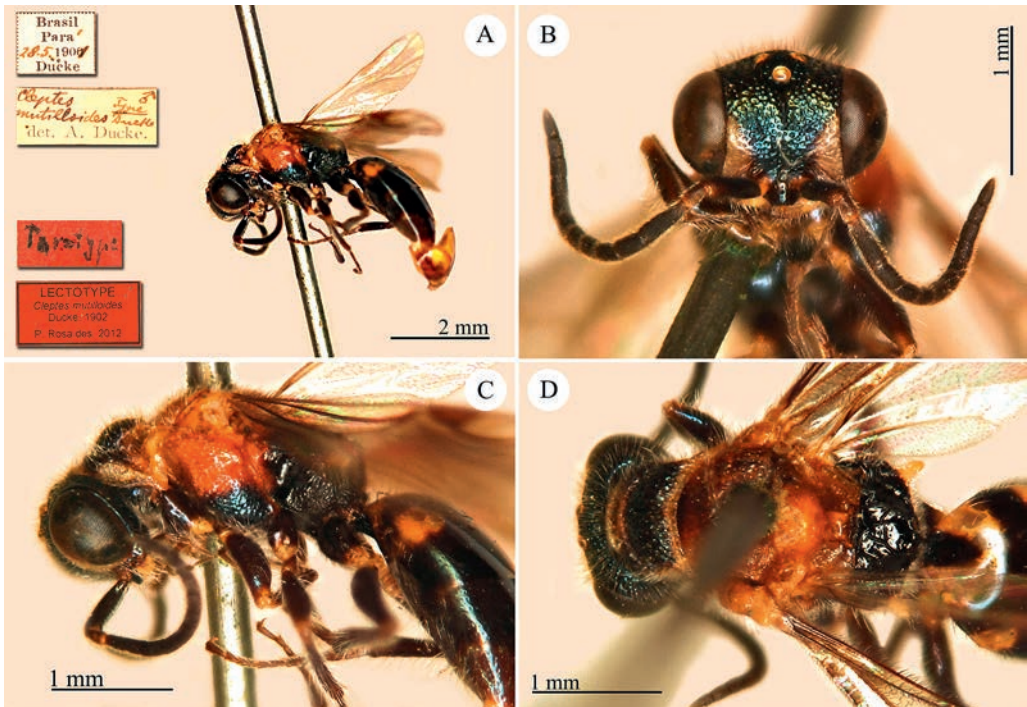


Fig. 52: *Cleptes mutilloides* DUCKE, 1902, lectotype, ♂: (A) Habitus, lateral view; (B) head, frontal view; (C) head, mesosoma, part of metasoma, lateral view; (D) head and mesosoma, dorsal view.

Lectotype (♂, hereby designated): [Brasil Pará 28.5.1901 Ducke] [*Cleptes mutilloides* Ducke Type det. A. Ducke.] [*paratype*] <red label> (General Coll. 19).

Remarks: DUCKE (1902a) described *Cleptes mutilloides* based on two male syntypes without giving any information on the depository. Currently, specimens labelled as types by Ducke are deposited in Budapest (MÓCZÁR 1996: 139), Paris (unpubl., seen by P. Rosa), Genoa (ROSA 2009: 265), and Vienna. KIMSEY (1981: 806) designated a specimen in Paris as the lectotype with the following labels: [Brasil Pará 18.3.1902 Ducke] [*Cleptes* ♂ *mutilloides* Ducke det. A. Ducke] [Museum Paris Bresil Para A. Ducke 1903] [Type] <printed in red> [*Lectotype Cleptes mutilloides* ♂ Ducke LS Kimsey det] <red label>. This specimen has no type status, because it was collected after the original description; therefore the lectotype designation is invalid (ICZN 1999: Article 74.2). The lectotype of *Cleptes mutilloides* is hereby designated to prevent further misidentifications. The specimen fits the original description.

In the General Collection there is a second specimen labelled [*Pará Ducke leg.*] <handwritten by Ducke>, [*Cleptes mutilloides* Ducke det. Ducke Type ♂] <handwritten by Ducke>, which has no type status.

Current status: *Cleptidea mutilloides* (DUCKE, 1902) (transferred to *Cleptidea* by MOCSÁRY 1904b: 569).

***Cleptes nitidula* var. *nigricans* DU BUYSSON, 1901 (Fig. 53)**

Cleptes nitidula var. *nigricans* DU BUYSSON, 1901: 97.

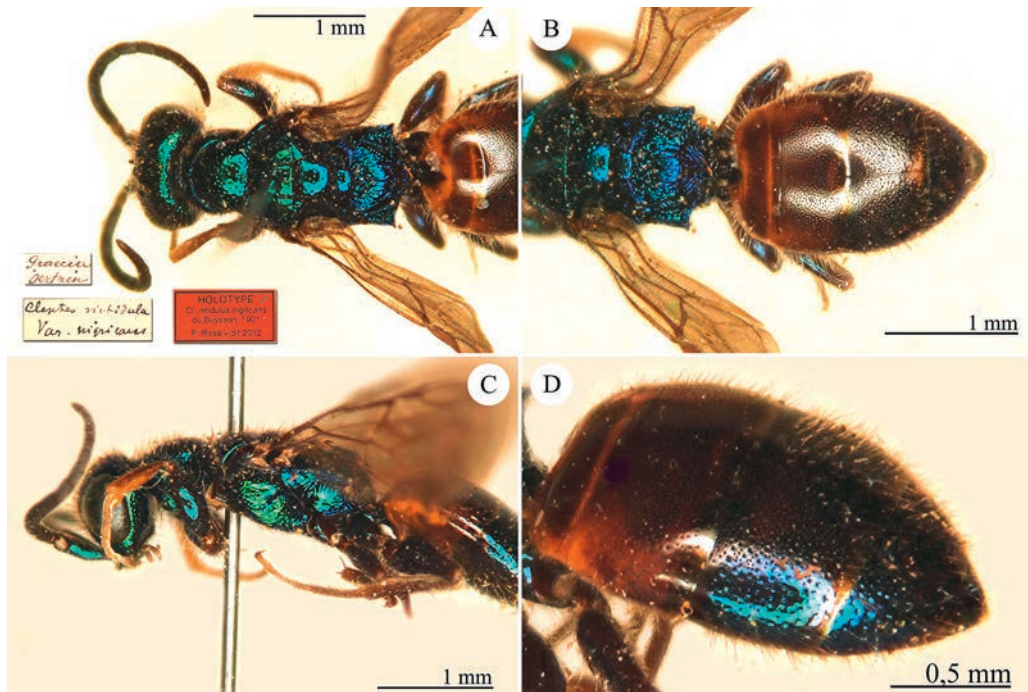


Fig. 53: *Cleptes nitidula* var. *nigricans* MOCSÁRY, 1889, holotype, ♂: (A) Head and mesosoma, dorsal view; (B) mesosoma and metasoma, dorsal view; (C) head, mesosoma and part of metasoma, lateral view; (D) metasoma, dorso-lateral view.

Type locality: Greece: “Graecia, Oertzen”.

Holotype: ♂ [*Graecia Oertzen*] [*Cleptes nitidula* var. *nigricans*] <handwritten by du Buysson> (Zimmermann Coll. 1).

Remarks: *Cleptes nitidula* var. *nigricans* is not listed in LINSENMAIER (1959), KIMSEY & BOHART (1991) and MÓCZÁR (1997), because this taxon was not cited in the Zoological Record (vol. 38 (1901): 187). The current status is under investigation.

Current status: *Cleptes nitidulus nigricans* DU BUYSSON, 1901.

***Cleptes sjostedti* HAMMER, 1950**

Cleptes Sjostedti HAMMER, 1950: 2.

Type locality: China: “China, Provinz Kiangsu, leg. Kolthoff, Oktober”.

Paratype: 1 ♀ [Provins Kiangsu] [China Koltboff] [=Kolthoff] [okt.] [Type] <red label> [Coll. Hammer] [*Cleptes sjostedti* ♀ *Type Hammer*] [*Neotypus Clep. sjostedti* Hammer desig. Móczár 1996] (Zimmermann Coll. 1).

Remarks: HAMMER (1950) described *Cleptes sjostedti* based on a female holotype (housed in Stockholm) and one female paratype. MÓCZÁR (1998a: 341) could not find the holotype in Stockholm and consequently designated the paratype housed in the Zimmermann Collection as the neotype, according to the Code (ICZN 1999: Article 75). The recent finding of the holotype at Stockholm (ROSA & VÅRDAL 2015) sets aside Móczár’s designation.

Current status: *Cleptes sjostedti* HAMMER, 1950.

***Cleptes xanthomelas* MOCSÁRY, 1889**

Cleptes xanthomelas MOCSÁRY, 1889: 36.

Type locality: Brazil: “Brasilia (Blumenau, Musæum Nationale Hungaricum et Musæum Cæsareum Vindobonense!)”.

Paralectotype: 1 ♀ [Blumenau Brasil 1885 I Hetschko.] [*Cleptes xanthomelas* det. Mocsáry] <handwritten in red> [Type] <red label> [Paralectotypus *Cleptid. xanthomelas* Mocsáry ♀ desig. Móczár 994] (General Coll. 19).

Remarks: KIMSEY (1981: 806) designated the female in Budapest as the lectotype.

Current status: *Cleptidea xanthomelas* (MOCSÁRY, 1889) (transferred to *Cleptidea* by MOCSÁRY 1904b: 569).

***Ellampus albipennis* MOCSÁRY, 1889**

Ellampus (Notozus) albipennis MOCSÁRY, 1889: 80.

Type locality: Russia: “Russia meridionalis (Sarepta, Mus. Vindob.!) et orientalis (As-trahan, Coll. Rad.! et Mus. Hung.)”.

Paralectotypes: 1 ♀ [*Becker Sarepta 1870*] [*albipennis* det Mocsáry] <handwritten in red> (General Coll. 1); 1 ♀ [*Becker Sarepta*] [*albipennis* det Mocsáry] <handwritten in red> (General Coll. 1).

Remarks: MÓCZÁR (1964a: 447) designated the lectotype, deposited in Budapest (ROSA et al. 2014; Fig. 3).

Current status: *Elampus albipennis* (MOCSÁRY, 1889) (transferred to *Elampus* by KIMSEY & BOHART 1991: 166).

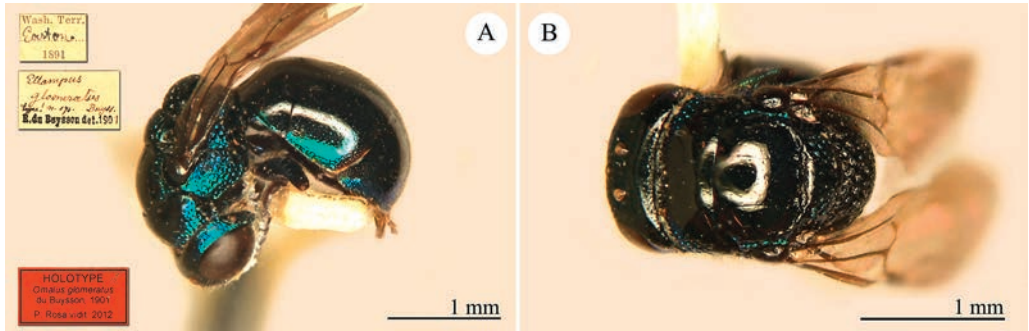


Fig. 54: *Ellampus glomeratus* DU BUYSSON, 1901, holotype, ♂: (A) Habitus, lateral view; (B) head and mesosoma, dorsal view.

***Ellampus glomeratus* DU BUYSSON, 1901** (Fig. 54)

Ellampus glomeratus DU BUYSSON, 1901: 98.

Type locality: U.S.A.: “Washington territory, Easton, 1891”.

Holotype: ♂ [Wash. Terr. Easton 1891] [*Ellampus glomeratus type! n.sp. Buys. R du Buysson det. 1901*] (General Coll. 2).

Current status: *Omalus glomeratus* (DU BUYSSON, 1901) (transferred to *Omalus* by BODENSTEIN 1951: 718).

***Ellampus horwathi* var. *mongolicus* DU BUYSSON, 1901** (Fig. 55)

Ellampus Horwathi var. *mongolicus* DU BUYSSON, 1901: 98.

Type locality: Mongolia: “N. Mongolei, Leder 1892”.

Lectotype: ♂ [N. Mongolei Leder 92] [*Ellampus Horwathi Mocs. var. mongolicus Buys. var. nov. R. du Buysson det. 1901* ♂] [*Lectotype v. mongolicus Buysson det. L. Móczár*] <red label> (General Coll. 1).

Paralectotypes: 1 ♂ [N. Mongolei Leder 92] [*Ellampus Horwathi Mocs. Var. mongolicus Buys. Var. nov. R. du Buysson det. 1901* ♂] [*Paralectotype v. mongolicus Buysson det. L. Móczár*] <red label> (General Coll. 1); 1 ♀ [N. Mongolei Leder 92] [*Ellampus Horwathi Mocs. Var. mongolicus Buys. var. nov. R. du Buysson det. 1901* ♀] [*Omalus horwathi Mocs. det. L. Móczár*] (General Coll. 1).

Remarks: MÓCZÁR (1967: 186) designated the lectotype. The type series included an unknown number of males and females. One paralectotype in Vienna belongs to *Philoctetes horwathi* (MOCSÁRY, 1889). Another paralectotype, belonging to *P. mongolicus* sensu lectotype, is housed in Paris and labelled: [N. Mongolei Leder 92] [Museum Paris Mongolei Kohl 1901].

Current status: *Philoctetes mongolicus* (DU BUYSSON, 1901) (elevated to species rank by TSUNEKI 1948: 116; transferred to *Philoctetes* by KIMSEY & BOHART 1991: 256).

***Ellampus kohli* MOCSÁRY, 1889** (Fig. 56)

Ellampus (Notozus) Kohli MOCSÁRY, 1889: 70.

Type locality: Austria: “Tyrolis (Amras, ab amico Fr. Fr. Kohl detectus. Mus. Cæs. Vindob.)”.

Holotype: ♀ [Amras Tirol 1883 Kohl], [*Kohlii det. Mocs.*] <handwritten in red> [*constrictus Först.*] <handwritten by Trautmann> [Z] [*N. scutellaris* sec. Gen. Ins.] (General Coll. 1).

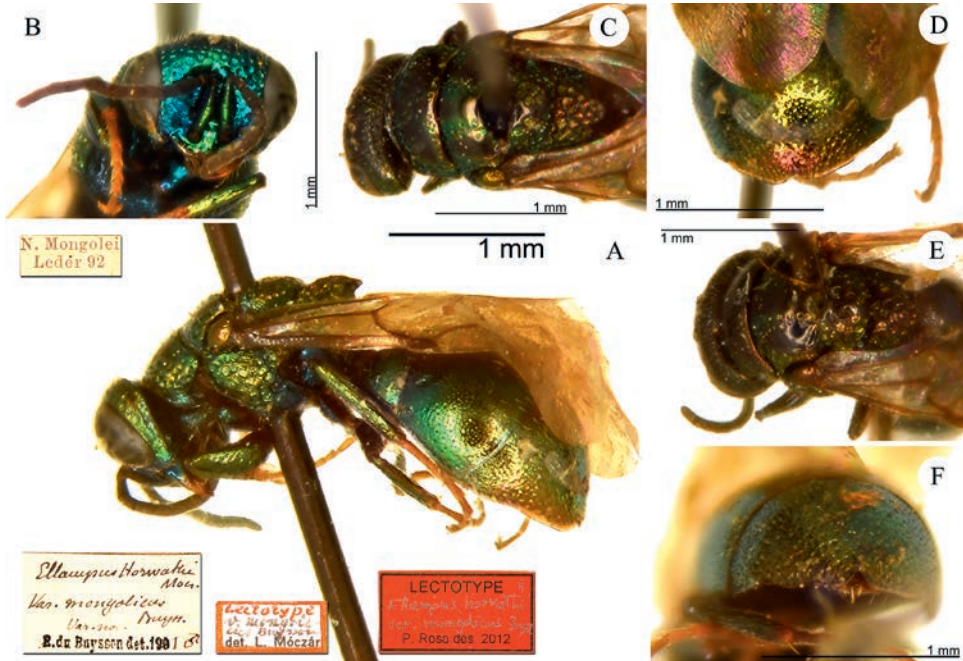


Fig. 55: *Ellampus horwathi* var. *mongolicus* DU BUYSSON, 1901, lectotype, ♀: (A) Habitus, lateral view; (B) head, frontal; (C) head and mesosoma, dorsal view; (D) third tergum, posterior view. Paralectotype, ♀: (E) head and mesosoma, dorsal view; (F) third tergum, posterior view.

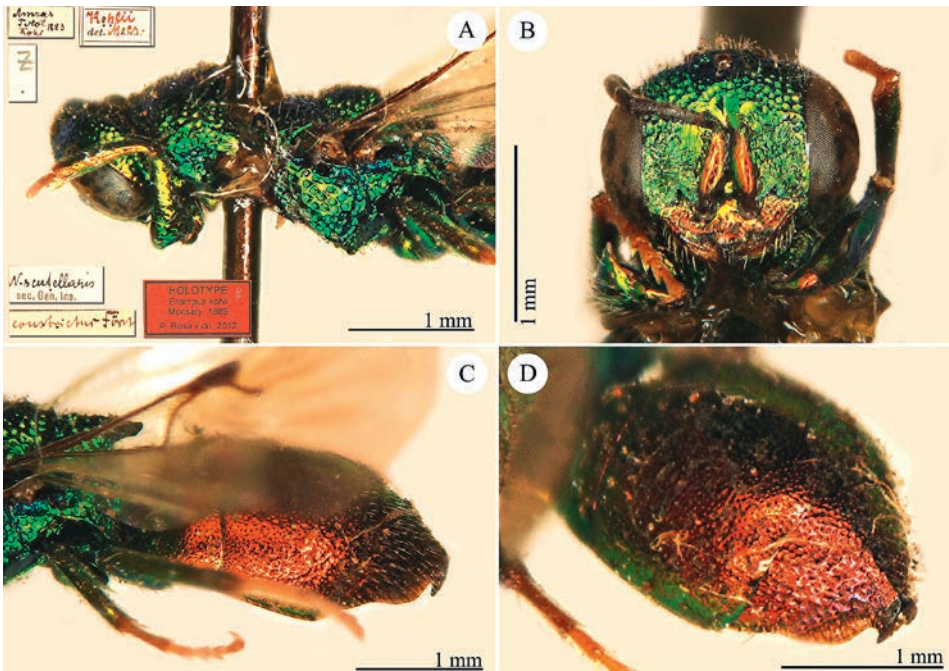


Fig. 56: *Ellampus kohli* MOCZÁRY, 1889, holotype, ♂: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) metasoma, lateral view; (D) metasoma, postero-lateral view.

Remarks: KIMSEY & BOHART (1991: 170) listed this type as *Ellampus kohli* [!] “Neotype male (desig. Móczár 1964b); Hungary: Budapest (Budapest)*”. MÓCZÁR (1964b) did never publish a neotype designation of *E. kohli* although in Budapest there is a specimen labelled as neotype by Móczár [id nr. 134886 HNHM Hym. coll.] (ROSA et al. 2017).

Current status: *Elampus panzeri* (FABRICIUS, 1804) (synonymised by ZIMMERMANN 1954).

***Ellampus sareptanus* MOCSÁRY, 1889 (Fig. 57)**

Ellampus (Ellampus) Sareptanus MOCSÁRY, 1889: 83.

Type locality: Russia: “Russia meridionalis (Sarepta, Mus. Cæs. Vindob.)”.

Holotype: ♀ [Becker Sarepta 1871] [*sareptanus* det. Mocsáry] <handwritten in red> (General Coll. 2).

Current status: *Philoctetes sareptanus* (MOCSÁRY, 1889) (transferred to *Philoctetes* by KIMSEY & BOHART 1991: 257).

***Gonochrysis mochii* ZIMMERMANN, 1938 (Fig. 58)**

Gonochrysis mochii ZIMMERMANN, 1938: 2.

Type locality: Egypt: “Borgash (kleine Ortschaft im Nildelta), Aegypten, 27.III.35. Typen in der Sammlung des Ministry of Agriculture in Kairo und in der Sammlung Dr. St. Zimmermann, Wien”.

Lectotype (♀, hereby designated): [Borgash 27.3.35] [Egypt Min. Agric. (Egypt) Coll. R. Mabrouk] [Type *Gonochrysis mochii* St. Zimm. det. Zimmermann] <red label> (Zimmermann Coll. 26).

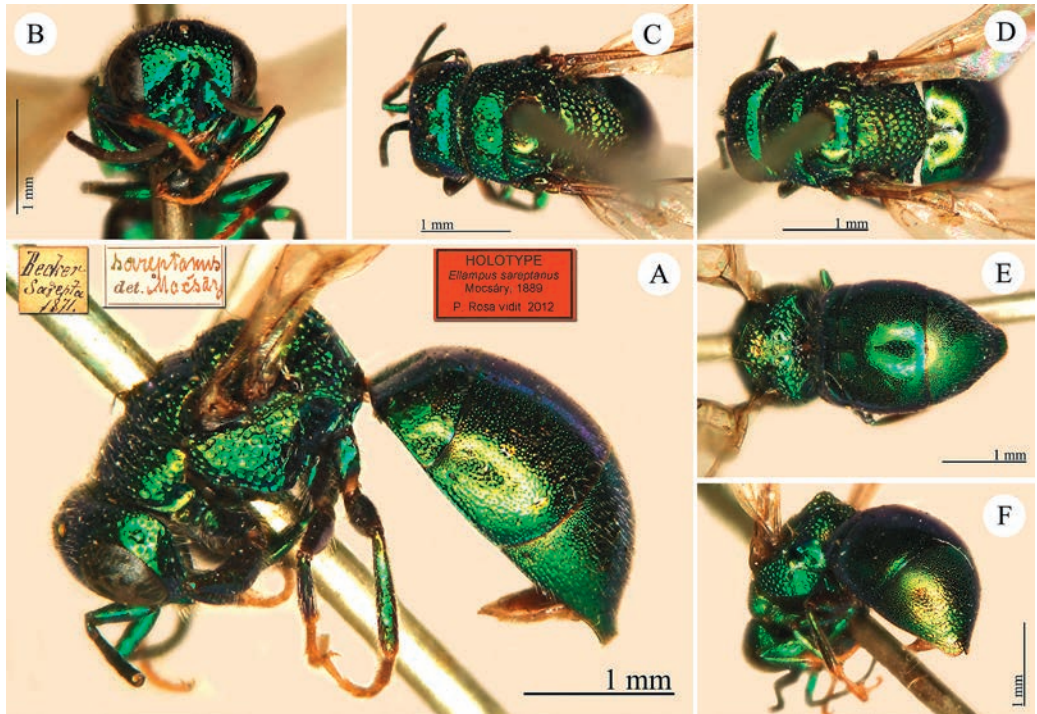


Fig. 57: *Ellampus sareptanus* MOCSÁRY, 1889, holotype, ♀: (A) Habitus, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) habitus, dorsal view; (E) metasoma, dorsal view; (F) habitus, postero-lateral view.

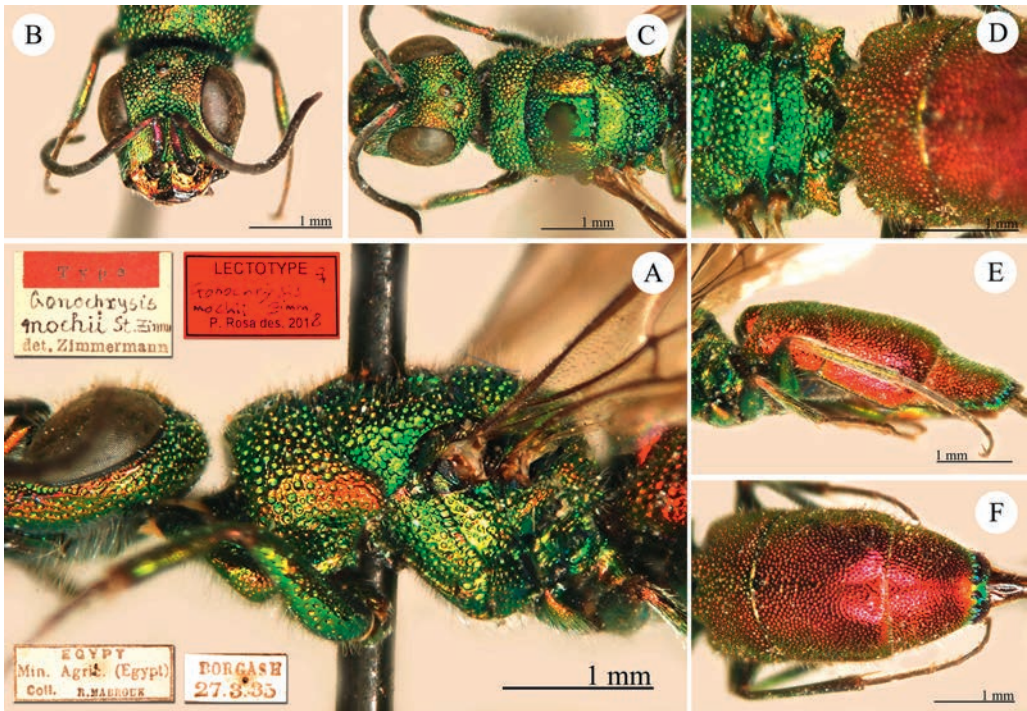


Fig. 58: *Gonochrysis mochii* ZIMMERMANN, 1938, lectotype, ♀: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metanotum, propodeum and first tergum, dorsal view; (E) metasoma, lateral view; (F) metasoma, dorsal view.

Remarks: We here designate the female matching the original description and housed in the collection of Zimmermann to fix the current interpretation of the species (LINSENMAIER 1959), because in recent years some incorrect identifications were published (e. g., VINOKUROV 2006, 2009, 2014) (ROSA et al. 2019). The paralectotype should be housed in the Cairo Museum (“Sammlung des Ministry of Agriculture in Kairo”).

Current status: *Chrysis mochii* (ZIMMERMANN, 1938) (transferred to *Chrysis* by BALTHASAR 1953: 218).

Hedychridium adventicium ZIMMERMANN, 1962 (Fig. 59)

Hedychridium adventicium ZIMMERMANN, 1962: 83.

Type locality: Austria: “Umgebung von Neusiedl am See (Burgenland)”.

Lectotype (♀, hereby designated): [*Neusiedlersee 13.9.51*] <handwritten by Schremmer> [*Hedychridium adventicium* Zimm. det. Zimmermann Type] <red label> (Zimmermann Coll. 11).

Remarks: ZIMMERMANN (1962) described *Hedychridium adventicium* based on two specimens, one of which was badly damaged. Now, only the entire specimen in the Zimmermann Collection remains. We designate it as the lectotype. Recently, ARENS (2014) placed *Hedychridium viridisulcatum* LINSSENMAIER, 1968, described from Greece, in synonymy with *Hedychridium adventicium*.

Current status: *Hedychridium adventicium* ZIMMERMANN, 1962.

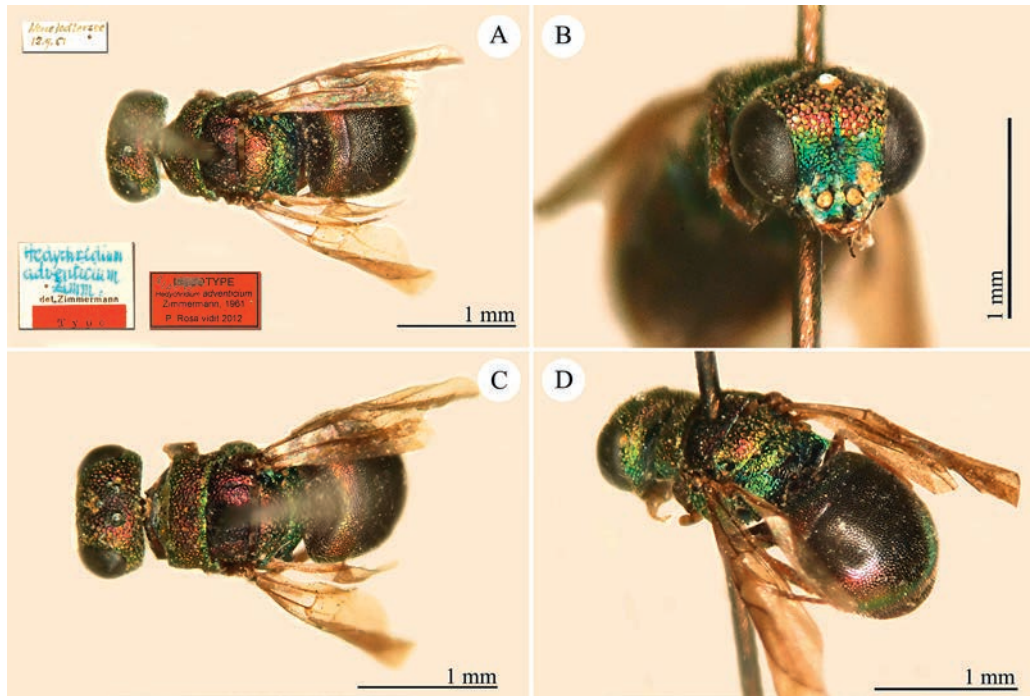


Fig. 59: *Hedychridium adventicium* ZIMMERMANN, 1962, lectotype, ♀: (A) Habitus, dorsal view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) habitus, postero-lateral view.

Hedychridium benoiti ZIMMERMANN, 1956

Hedychridium benoiti ZIMMERMANN, 1956: 143.

Type locality: Madagascar: “Madagascar Sud: Bekily; Behara. Type ♀ (Bekily) au Muséum National d’Histoire Naturelle de Paris. Paratypes (8 ♀) au Musée du Congo Belge, Tervuren”.

Paratypes: 1 ♀ [Coll. Mus. Congo Madagascar: Bekily IV.1942 A. Seyrig] [*Hedychridium benoiti* Zimm. Det. Zimmermann Type] <red label> (Zimmermann Coll. 13); 3 ♀♀ [Coll. Mus. Congo Madagascar: Bekily IV.1942 A. Seyrig] (Zimmermann Coll. 13).

Remarks: ZIMMERMANN (1956) described *Hedychridium benoiti* based on a type series including at least nine specimens. The holotype and one paratype are deposited in Paris, and three paratypes are deposited in Tervuren. The female holotype bears the labels: [Madagascar: Bekily IV-1942 A. Seyrig] <white label> [red label] [*Hedychridium benoiti* Zimm. det. Zimmermann Type!]; the female paratype in Paris is bearing the label: [Madagascar: Behara IV-1937 A. Seyrig] <white label>. A third specimen in Paris bears a similar label but without date or any identification by Zimmermann, whereas other 14 specimens from Behara and Bekily with light blue labels and collected between 1936 and 1941 are not considered as paratypes.

Current status: *Hedychridium benoiti* ZIMMERMANN, 1956.

Hedychridium houskai* BALTHASAR, 1953Hedychridium houskai* BALTHASAR, 1953: 140.

Type locality: Israel: “Palestine: Jérusalem env., VII-IX, assez fréquent. Jar. Houška leg.”, “Holotypus: 1 ♀, 31.VIII.1945, Allotypus: 1 ♂, 25.VIII.1945, Paratypi: 6 ♀♀ et 4 ♂♂, loc. class, VII-IX”.

Paratypes: 1 ♂ [Jerusalem Palestina 12.VIII.44 Houska lgt.] [Typus] <red label by Balthasar> (Zimmermann Coll. 13); 1 ♀ [Jerusalem Palestina 2.IX.45 Houska lgt.] [Typus] <red label by Balthasar> [*Hedychridium houskai* n.sp. Dr.V. Balthasar det.] (Zimmermann Coll. 13).

Current status: *Hedychridium houskai* BALTHASAR, 1953.

***Hedychridium luteum* ZIMMERMANN, 1940** (Figs 60, 61)*Hedychridium luteum* ZIMMERMANN, 1940: 32.

Type locality: Egypt: “Umgebung von Cairo (Wadi Hof, Ezbet-el-Nachl, Sakkara)”.

Lectotype (♀, hereby designated): [Coll. A. Mochi 10.VI.37 Ezbet el Nachl Egitto] [♀] [Type *Hedychridium luteum* St. Zim. det. Zimmermann] <red label> (Zimmermann Coll. 13).

Paralectotype: 1 ♂ [Coll. A. Mochi 3.VI.36 W. Hof Egitto] [♂] [Type *Hedychridium luteum* St. Zim. det. Zimmermann] <red label> (Zimmermann Coll. 13).

Remarks: ZIMMERMANN (1940) described *Hedychridium luteum* based on four specimens collected by Mochi in Egypt. Since Mochi’s collection in Turin is currently

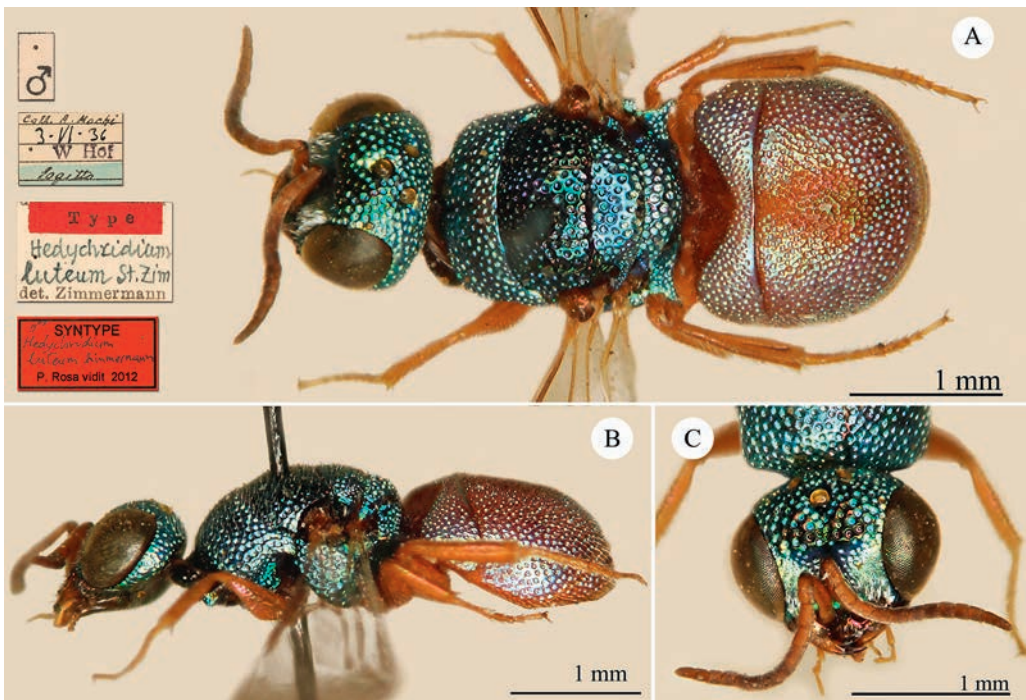


Fig. 60: *Hedychridium luteum* ZIMMERMANN, 1940, lectotype (not syntype), ♂: (A) Habitus, dorsal view; (B) habitus, lateral view; (C) head, frontal view.

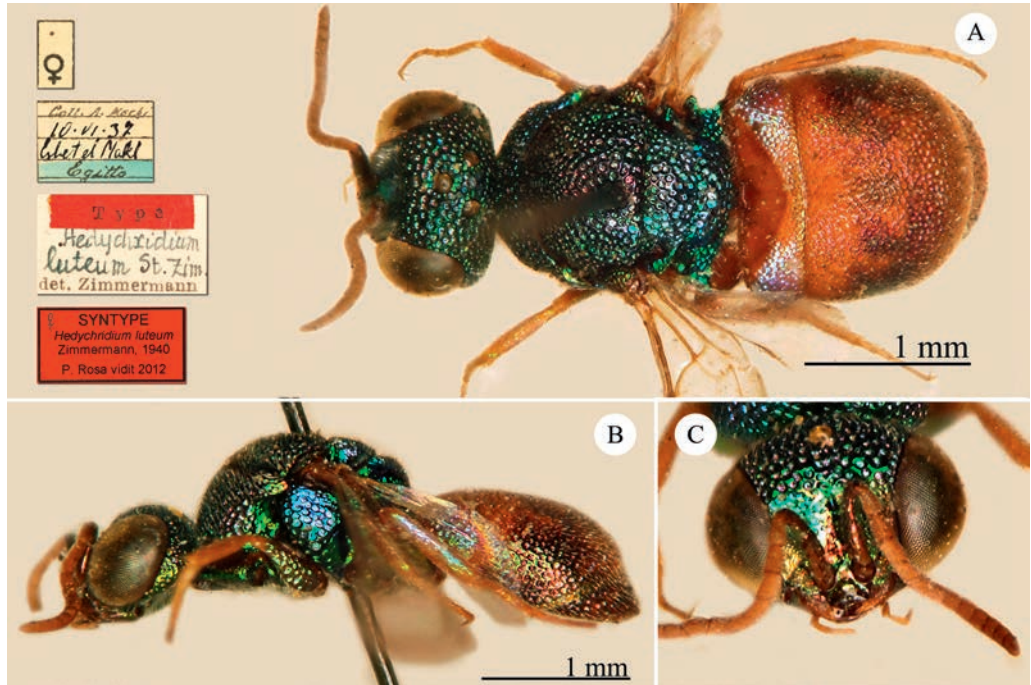


Fig. 61: *Hedychridium luteum* ZIMMERMANN, 1940, paralectotype (not syntype), ♀: (A) Habitus, dorsal view; (B) habitus, lateral view; (C) head, frontal view.

unavailable, we designate the female specimen housed in the collection of the author of the species (ICZN Recommendation) as the lectotype. A lectotype designation is necessary, because LINSSENMAIER (1959: 61) misinterpreted this species. *Hedychridium luteum* is closely related to *Hedychridium margaritaceum* SEMENOV & NIKOLSKAJA, 1954 from Central Asia (ROSA et al. 2017: fig. 280), but can be distinguished by a short pronotum, a different shape of propodeal angles, an enlarged mesosoma in lateral view, and the different punctuation on the face.

Current status: *Hedychridium luteum* ZIMMERMANN, 1940.

***Hedychridium mariae* ZIMMERMANN, 1977 (Fig. 62)**

Hedychridium mariae ZIMMERMANN, 1977: 71.

Type locality: Greece, Rhodes: “Die neue Art wurde von meiner Frau im September 1973 bei Faliraki auf Rhodos gefangen und soll nach ihr benannt sein. Das einzige Exemplar wurde an auf Sandboden liegenden Schilfstengeln erbeutet”.

Holotype: ♂ [Insel Rhodos 9.1973 leg. Zimmermann] [red label] [Type *Hedychridium mariae* Zimm. det. Zimmermann] <red label> (Zimmermann Coll. 12).

Remarks: *Hedychridium mariae* is not listed in LINSSENMAIER (1987, 1997a) and KIMSEY & BOHART (1991).

Current status: *Hedychridium mariae* ZIMMERMANN, 1977.

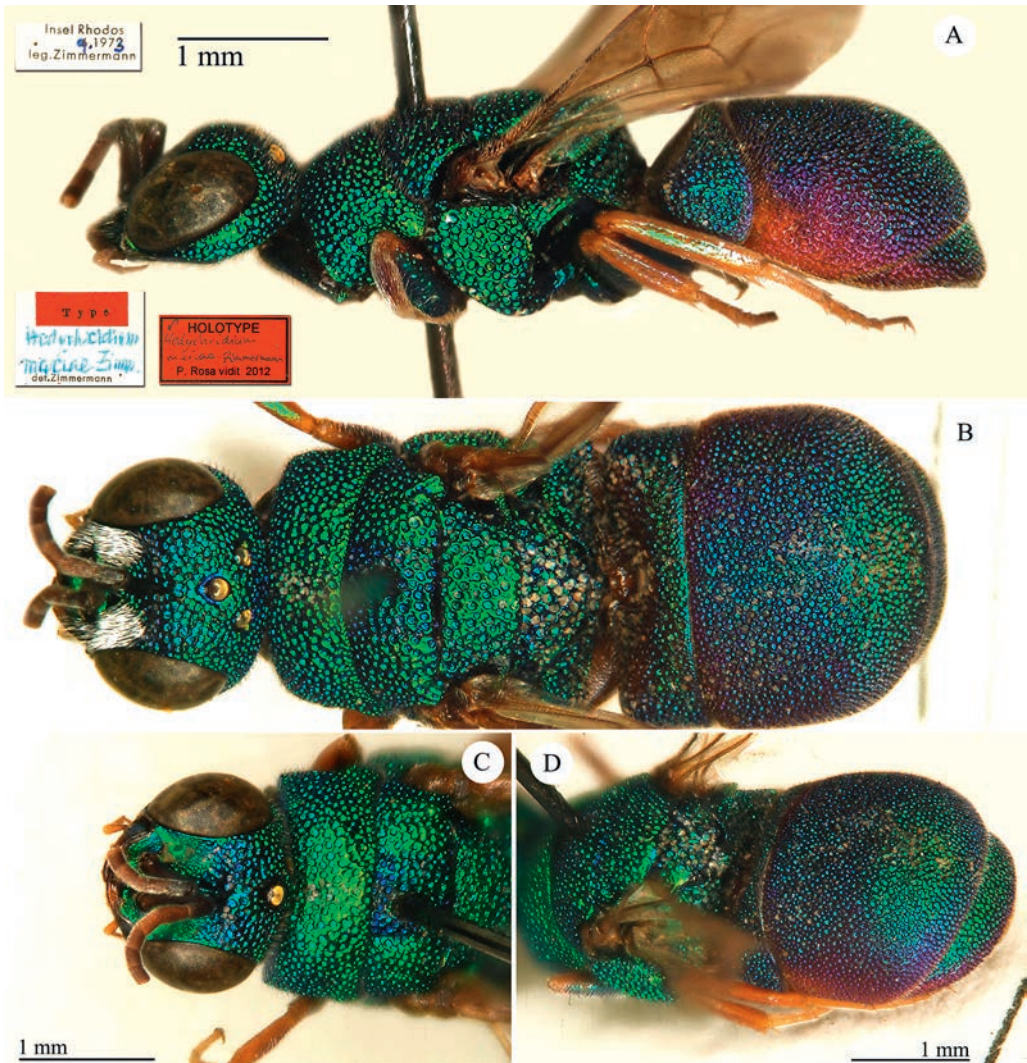


Fig. 62: *Hedychridium mariae* ZIMMERMANN, 1977, holotype, ♂: (A) Habitus, lateral view; (B) habitus, dorsal view; (C) head and mesosoma, frontal view; (D) mesosoma and metasoma, postero-lateral view.

Hedychridium zimmermanni BALTHASAR, 1953

Hedychridium zimmermanni BALTHASAR, 1953: 146.

Type locality: Israel, West Bank: “Palestine: Wadi el Kelt, Jéricho, Jérusalem, VI–X, assez fréquent sur la première localité, mais très rare aux environs de Jérusalem; Jar. Houška leg. Holotypus: 1 ♀, Wadi el Kelt, 2.VIII.1942, Allotypus: 1 ♂, loc. class., 2.8.1942, Paratypi: 8 ♀♀ et 2 ♂♂. VI–X, Wadi el Kelt et Jérusalem”.

Paratypes: 1 ♀ [Wadi el Kelt Jericho Palest. Houška lgt. 8.8.43] [*Hedychridium zimmermanni* n.sp. Dr.V. Balthasar det.] [Cotype] <red label> (Zimmermann Coll. 13); 1 ♀ [Wadi el Kelt Jericho Palest. Houška lgt.

22.VIII.43] [*Hedychridium zimmermanni* n.sp. Dr.V. Balthasar det.] [Cotype] <red label> (Zimmermann Coll. 13); 1 ♂ [Wadi el Kelt Jericho Palest. Houška lgt. 17.V.43] [*Hedychridium zimmermanni* n.sp. Dr.V. Balthasar det.] [Cotype] <red label> (Zimmermann Coll. 13).

Current status: *Hedychridium zimmermanni* BALTHASAR, 1953.

***Hedychrum chloroideum* DAHLBOM, 1854**

Hedychrum chloroideum DAHLBOM, 1854: 66 (given as var. a), 67 (given as var. b).

Type locality: Turkey, Greece, Austria, Silesia: “Habitat in Europa media et meridionali mensibus Majo – Julio passim; Turcia: D. Drewsen; Graecia: D. Loew; Austria: D. D. De Christophori, Kollâr et Megerle von Mühlfeld; Silesia: D. Zeller”.

Paralectotypes: 1 ♂ [D] [28] [Dahlbom 1850 vidit] [*chloroideum* det. Dhlb] <handwritten in red> [*curvatum* det. Kohl] (General Coll. 2); 1 ♂ [28 D] [Dahlbom 1850 vidit] [*chloroideum* det. Dhlb] <handwritten in red> [*curvatum* det. Kohl] (General Coll. 2); 1 ♂ [28] [Dahlbom 1850 vidit] [*chloroideum* det. Dhlb] <handwritten in red> [*curvatum* det. Kohl] (General Coll. 2).

Remarks: KIMSEY (1986b: 108) designated a female in Paris as the lectotype, but the specimen is not a syntype. ROSA & XU (2015: 54) designated the lectotype in the Spinola collection in Turin.

Current status: *Holopyga fervida* (FABRICIUS, 1781) (synonymised by TRAUTMANN 1922: 321; transferred to *Holopyga* by ABEILLE DE PERRIN 1879: 32).

***Hedychrum cupreum* DAHLBOM, 1845**

Hedychrum cupreum DAHLBOM, 1845: 3.

Type locality: Sweden: “Svecia, passim”.

Lectotype: ♀ [41] <handwritten in red> [*H. cupreum* Lund. Dahlb.] <handwritten by Dahlbom?> [Dahlbom vidit 1850] [Lectotype *Hedychrum* ♀ *cupreum* Dahlbom 1854 P. Rosa des. 2012] [Lectotype *Hedychrum cupreum* ♀ Dahlbom 1845 des. Paukkunen et al. 2014] (General Coll. 2).

Remarks: PAUKKUNEN et al. (2014) designated the lectotype.

Current status: *Hedychridium cupreum* (DAHLBOM, 1845) (transferred to *Hedychridium* by ABEILLE DE PERRIN 1879: 36).

***Hedychrum femoratum* DAHLBOM, 1854** (Fig. 63)

Hedychrum femoratum DAHLBOM, 1854: 90.

Type locality: Austria: “Habitat in Austria; specimen unicum ad Viennam ab Illustr. Megerle von Mühlfeld olim detectum, amice communicavit Cel. Kollâr”.

Holotype: ♀ [22] [Dahlbom vidit 1850] [*femoratum* det. Dahlbom] <handwritten in red> (General Coll. 4).

Current status: *Hedychridium femoratum* (DAHLBOM, 1854) (transferred to *Hedychridium* by ABEILLE DE PERRIN 1879: 36).

***Hedychrum mucronatum* ZIMMERMANN, 1956**

Hedychrum mucronatum ZIMMERMANN, 1956: 145.

Type locality: Madagascar: “Madagascar Est: Ivondro (4 exemplaires). Type au Muséum National d’Histoire Naturelle de Paris. Paratypes au Musée du Congo Belge, Tervuren”.

Paratypes: 1 ♀ [Coll. Mus. Congo Madagascar: Ivondro XII.1940 A. Seyrig] [*Hedychrum mucronatum* Zimm. Det. Zimmermann Type] <red label> (Zimmermann Coll. 10).

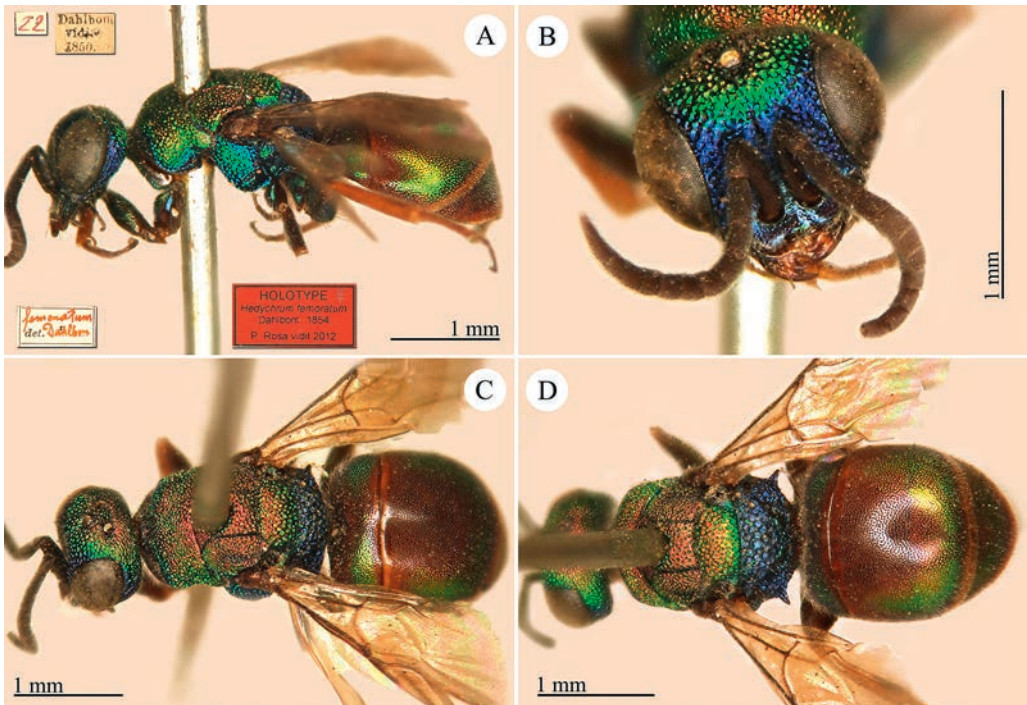


Fig. 63: *Hedychrum femoratum* DAHLBOM, 1854, holotype, ♀: (A) Habitus, lateral view; (B) head, frontal view; (C) habitus, dorso-lateral view; (D) habitus, dorsal view.

Remarks: ZIMMERMANN (1956) described *Hedychrum mucronatum* based on four specimens. The holotype is housed in Paris and bears the labels: [Madagascar: Ivondro XII-1940 A. Seyrig] <white label> [red label] [*Hedychrum mucronatum* Zimm. det. Zimmermann *Type!*]. Two paratypes are deposited in Tervuren. Further specimens from Andriba at Paris, and from Ivondro and Rogez in Vienna have no type status because they have been published later by ZIMMERMANN (1961: 304).

Current status: *Hedychrum mucronatum* ZIMMERMANN, 1956.

Hedychrum nigropilosum MOCSÁRY, 1889

Hedychrum nigropilosum: MOCSÁRY, 1889: 162.

Type locality: U.S.A.: “America septentrionalis (British Columbia. Mus. Vindob.!; Mariposa in California, Mus. Lugdunense Batavorum!”.

Paralectotype: 1 ♀ [Brit. Colomb. Yale 189] [*Hedychrum nigropilosum* Mocs. ? (♀ *inédite*)] <handwritten by du Buysson> [*Hedychrum parvum* ♀ Aaron L.D. French].

Remarks: French (in BOHART & KIMSEY 1982: 79) designated the specimen from Mariposa deposited at Leiden as the lectotype.

Current status: *Hedychrum nigropilosum* MOCSÁRY, 1889.

Hedychrum rutilans DAHLBOM, 1854

Hedychrum rutilans DAHLBOM, 1854: 76.

Type locality: England, Germany, France, and Spain: “Habitat in Anglia, Germania, Gallia, Hispania, passim”.

Syntypes: 1 ♀ [23] [D] [Dahlbom vidit 1850] [*rutilans* det. *Dhlb*] [*rutilans* det. *Kohl*] (General Coll. 5); 1 ♀ [23] [D] [Dahlbom vidit 1850] [*rutilans* det. *Dahlbom*] (General Coll. 5); 1 ♂ [23] [D] [Dahlbom vidit 1850] [*rutilans* det. *Kohl*] (General Coll. 5)

Remarks: DAHLBOM (1854) described *Hedychrum rutilans* based on a syntype series. MORGAN (1984: 10) designated the lectotype of *Hedychrum rutilans* in the Dahlbom Collection in Lund, an action that was refused by ROSA & XU (2015) according to ICZN 1999: Article 74.2. The lectotype should be designated in a future revision of this genus. Two further males in NHMW originating from the Megerle collection and labelled [Megerle] [*rutilans* det. *Kohl*], but without the label [Dahlbom vidit 1850] could possibly be syntypes, too.

Current status: *Hedychrum rutilans* DAHLBOM, 1854.

***Hedychrum virens* var. *causicum* MOCSÁRY, 1889**

Hedychrum virens var. *causicum* MOCSÁRY, 1889: 171.

Type locality: Azerbaijan, Goygol: “Transcaucasia (Helenendorf, Mus. Vindob.!)”.

Holotype: ♂ [Transkauk. Helenendorf 1886] [*virens*] <handwritten by Bogusch> [♂] [NHMW] (Zimmermann Coll. 9).

Remarks: The holotype is kept in the Zimmermann Collection together with a female bearing the same locality label [Transkauk. Helenendorf 1886] and [*virens* *Dhlb.* var. *caucasica*]. But this specimen has no type status, because this taxon was described based on the male sex only.

Current status: *Hedychrum causicum* MOCSÁRY, 1889 (raised to species by ROSA 2018a).

***Hedychrum zenobia* ROSA, 2019**

Hedychrum zenobia ROSA, 2019: 451.

Type locality: Syria, Iraq: “Holotype. ♂, Syria, Homs, Tadmor (Palmyra) env., 6.vi.2006, K. Deneš jun. leg. (Genoa). – *Paratypes*. [...] Iraq: 1 ♀, Sumel [= Simel], 6.viii., Mesopot. Exp. Nat. O. V. 1910, *Hedychrum* ex aff. *frivaldszkyi* Mocs. [det. S. Zimmermann] (Vienna)”.

Paratype: 1 ♀ [Sumel, 6.viii., Mesopot. Exp. Nat. O. V. 1910] [*Hedychrum* ex aff. *frivaldszkyi* Mocs.] <handwritten by Zimmermann> [Paratype *Hedychrum zenobia* descr. Rosa 2018] (Zimmermann coll. 9).

Current status: *Hedychrum zenobia* ROSA, 2019.

***Holopyga curvata* var. *violacea* HOFFMANN, 1935**

Holopyga curvata var. *violacea* HOFFMANN, 1935: 228.

Type locality: Austria: “Einige Exemplare in Jedlesee bei Wien und Hainburg von mir erbeutet”.

Syntype: 1 ♂ [Umgebung Wien Jedlesee Ad. Hoffmann] [Type *Hol. fervida* var. *violacea* H. det. Hoffmann] <red label> (Zimmermann Coll. 5).

Current status: *Holopyga fervida* (FABRICIUS, 1781) (synonymised by LINSSENMAIER 1951: 97).

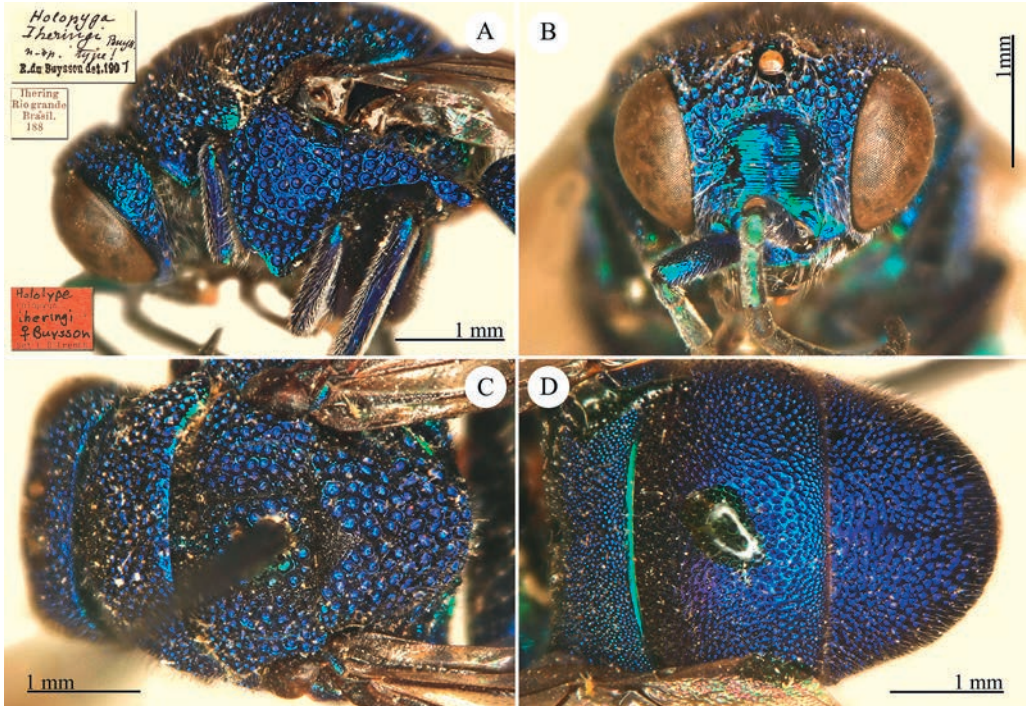
Holopyga iheringi* DU BUYSSON, 1901 (Fig. 64)Holopyga Iheringi* DU BUYSSON, 1901: 99.**Type locality:** Brazil “Brésil: Rio grande do Sul, Ihering”.**Holotype:** ♀ [Ihering Rio Grande Brasil 188] [*Holopyga Iheringi* Buyss. n. sp. type! R. du Buysson det. 1901] [*Holotype Holopyga iheringi* Buysson ♀ det L.D. French] <red label> (General Coll. 3).**Remarks:** DU BUYSSON (1901) described *Holopyga iheringi* based on an unknown number of specimens received by F.F. Kohl and housed in Vienna. KIMSEY & BOHART (1991: 232) reported the holotype in Paris, but none of the specimens housed in the General Collection in Paris (box 10) is a type. When there was a series of specimens sent by Kohl and belonging to the same species, du Buysson usually kept one for his collection (see also *Holopyga kohli*). Since there are no other specimens of *Holopyga iheringi* in Paris, we consider the specimen in Vienna as a unique one and the holotype.**Current status:** *Holopyga iheringi* DU BUYSSON, 1901.***Holopyga iucunda* MOCSÁRY, 1889***Holopyga (Hedychridium) iucunda* MOCSÁRY, 1889: 275.**Type locality:** Austria, Hungary: “Hungaria centralis, mense Junio in 9 exemplaribus conformibus inventa; Austria inferior (Coll. Handlirschi!)”.**Paralectotypes:** 1 ♀ [27.9.84 Handl.] [*Austria inf. Bisamberg*] [*iucunda* det. Mocsáry] <handwritten in red> [*ardens* det. Kohl] (General Coll. 3); 1 ♀ [25.8.85 Handl.] [*Austria inf. Türkenschanz*] [*iucunda* det.

Fig. 64: *Holopyga iheringi* DU BUYSSON, 1901, holotype, ♀: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) mesosoma, dorsal view; (D) metasoma, dorsal view.

Mocsáry] <handwritten in red> [*ardens* det. Kohl] (General Coll. 3); 2 ♀♀ [27.8.85 Handl.] [*Austria inf. Türkenschanz*] [*jucunda* det. Mocsáry] <handwritten in red> [*ardens* det. Kohl] (General Coll. 3); 1 ♀ [1.9.85 Handl.] [*Austria inf. Türkenschanz*] [*jucunda* det. Mocsáry] <handwritten in red> [*ardens* det. Kohl] (General Coll. 3); 1 ♀ [2.9.85 Handl.] [*Austria inf. Türkenschanz*] [*jucunda* det. Mocsáry] <handwritten in red> [*ardens* det. Kohl] (General Coll. 3); 1 ♀ [11.9.85 Handl.] [*Austria inf. Türkenschanz*] [*jucunda* det. Mocsáry] <handwritten in red> [*ardens* det. Kohl] (General Coll. 3); 1 ♀ [10.8.87 Handl.] [*Austria inf. Türkenschanz*] [*jucunda* det. Mocsáry] <handwritten in red> [*ardens* det. Kohl] (General Coll. 3).

Remarks: MÓCZÁR (1964a: 446) designated a Hungarian female syntype in Budapest as the lectotype. Eight Hungarian paralectotypes are still housed in Budapest. All the most important authors after MOCSÁRY (1889) and before MINGO (1994) used the subsequent spelling *Hedychridium jucundum*, which is still in current use: DU BUYSSON (in ANDRÉ) (1892: 198), BISCHOFF (1913: 14), TRAUTMANN (1927: 68), BALTHASAR (1954: 115), ZIMMERMANN (1954a: 4), LINSSENMAIER (1959: 49), MÓCZÁR (1964b: 446), KIMSEY & BOHART (1991: 197), STRUMIA (1995: 3), STRUMIA & GAYUBO (2013: 476), ROSA (2006: 170), TYRNER (2007: 47). Therefore we propose the maintenance of the incorrect current spelling *Hedychridium jucundum* according to the Code (ICZN 1999: Article 33.3.1) (ROSA et al. 2017).

Current status: *Hedychridium jucundum* (MOCSÁRY, 1889) (transferred to *Hedychridium* by DU BUYSSON (in ANDRÉ) 1892: 198).

***Holopyga kohli* DU BUYSSON, 1901 (Fig. 65)**

Holopyga Kohli DU BUYSSON, 1901: 100.

Type locality: Brazil: “Brésil, Winthem”.

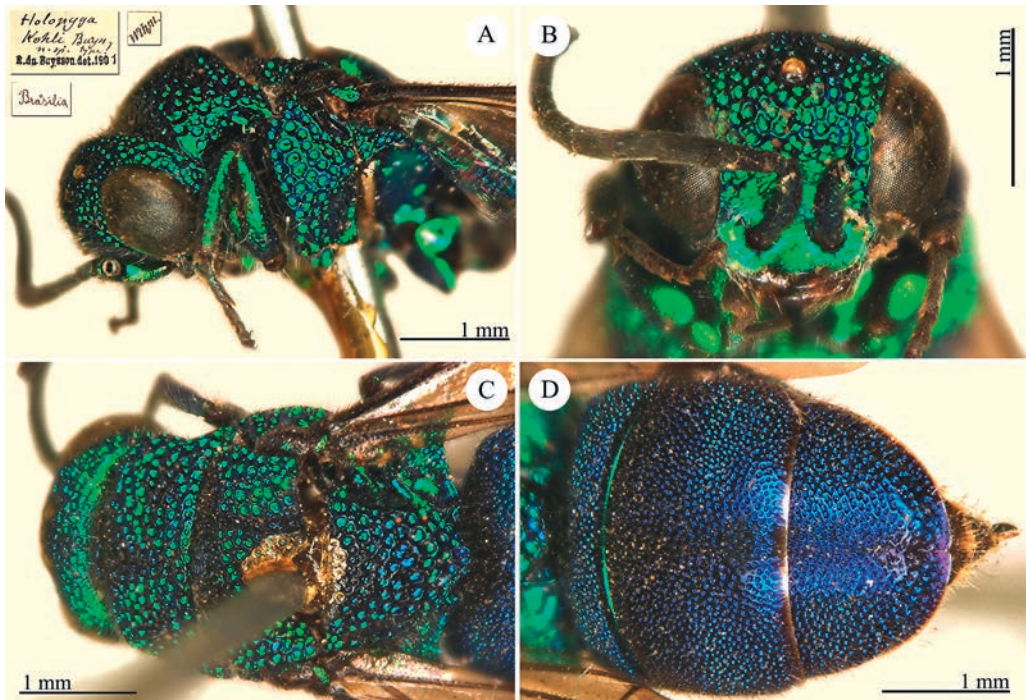


Fig. 65: *Holopyga kohli* DU BUYSSON, 1901, paralectotype, ♀: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) mesosoma, dorsal view; (D) metasoma, posterior view.

Paralectotype: ♀ [Wthm.] [Brasilía] [*Holopyga Kohli* Buys. n. sp. type! R. du Buysson det. 1901] (General Coll. 3).

Remarks: DU BUYSSON (1901) described *Holopyga kohli* based on an unknown number of specimens received by F.F. Kohl and housed in Vienna, but he kept one female for his collection (now included in the General Collection in Paris, box 10). FRENCH (1985: 623) designated the latter specimen as the lectotype by inference of “holotype” (ICZN 1999: Article 74.6).

Current status: *Exallopogon guatemalensis* (CAMERON, 1888) (synonymised and transferred to *Exallopogon* by FRENCH 1985: 623).

Holopyga novarae MOCSÁRY, 1889

Holopyga Novarae MOCSÁRY, 1889: 124.

Type locality: Chile: “Chile (e Novaræ expeditione. Mus. Vindob.!)”.

Holotype: ♂ [562] [Novara Chili] [*Novarae type* det. Mocs] <handwritten in red> [*Holotype Holopyga novarae* ♂ Mocsáry det. L (D) French] <red label> (General Coll. 3).

Current status: *Exallopogon difficilis* (SPINOLA, 1851) (synonymised and transferred to *Exallopogon* by FRENCH 1985: 622).

Holopyga ovata var. *ignicollis* EVERSMAANN, 1858 = *Holopyga ovata* var. h DAHLBOM, 1854 = *Holopyga ignicollis* DAHLBOM, 1854 auct. (Figs 66, 67)

Holopyga ovata var. h: DAHLBOM, 1854: 53.

Holopyga ovata var. *ignicollis*: EVERSMAANN, 1858: 549.

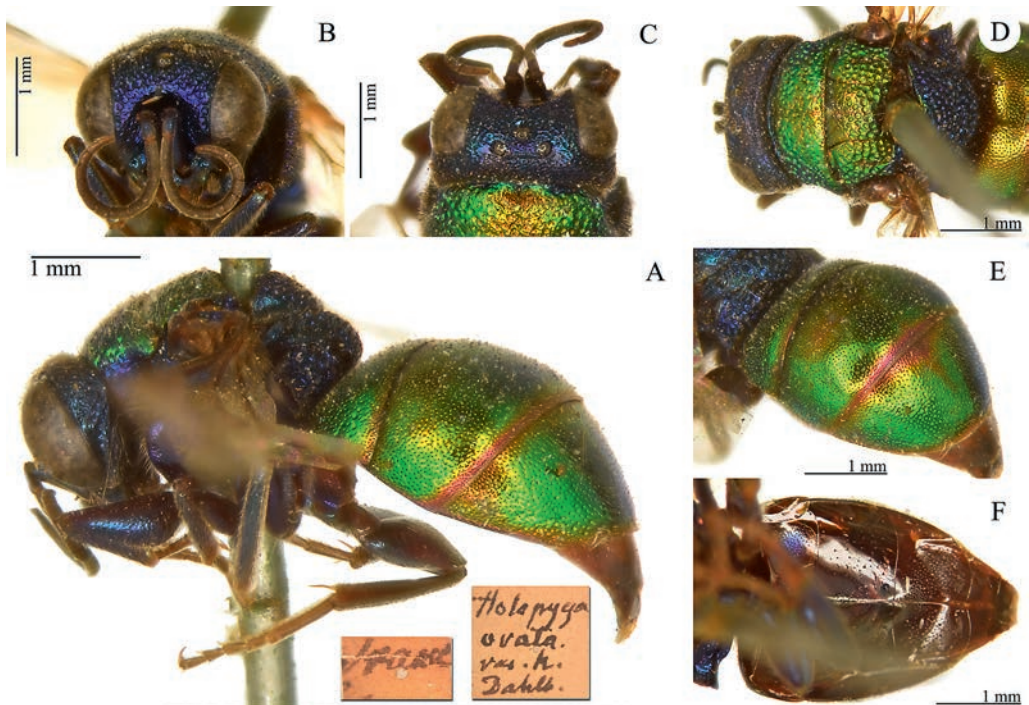


Fig. 66: *Holopyga ovata* var. *ignicollis* EVERSMAANN, 1858, lectotype, ♀: (A) Habitus, lateral view; (B) head, frontal view; (C) head, dorsal view; (D) head and mesosoma, dorsal view; (E) metasoma, dorso-lateral view; (F) metasoma, ventral view.

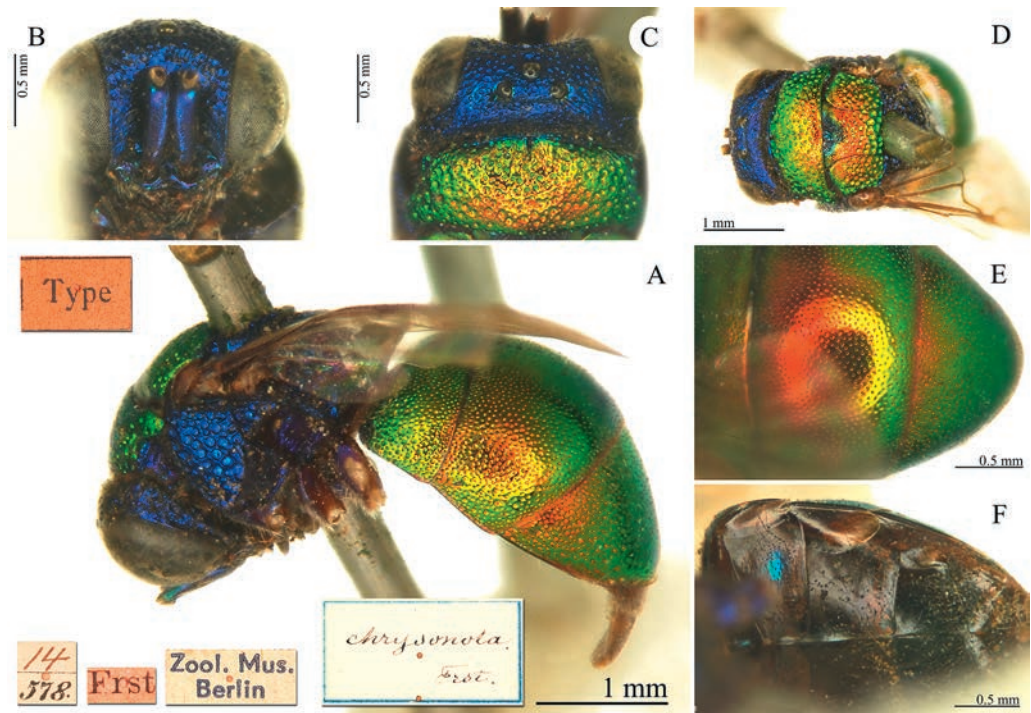


Fig. 67: *Hedychrum chrysonotum* FÖRSTER, 1853, holotype, ♀: (A) Habitus, lateral view; (B) head, frontal view; (C) head, dorsal view; (D) head and mesosoma, dorsal view; (E) metasoma, dorsal view; (F) metasoma, ventral view.

Type locality: Russia: “campis Orenburgensibus et in promontor Uralensib.” (from EVERSMAAN 1858), Austria and Greece, Rhodes: “Insula Rhodo: D. Loew; Austria: D. Megerle von Mühlfeld” (from DAHLBOM 1854).

Paralectotypes, ♂: [Megerle] [Dahlbom vidit 1850] [*chrysonot.* det. Kohl] [*H. glorios.* v. *chrys.* sec. Wytsm. Gen. I.] [*Holopyga chrysonota* sensu Linsenmaier det. P. Rosa 2010] (General Coll. 3); 1 ♀ [Megerle] [*chrysonot.* det. Kohl] [*H. glorios.* v. *chrys.* sec. Wytsm. Gen. I.] [= *Holopyga ignicollis* sensu Linsenmaier] (General Coll. 3); 1 ♀ [23] [*ovata* var. det. Dahlb.] [*chrysonot.* det. Kohl] [*H. glorios.* v. *chrys.* sec. Wytsm. Gen. I.] [= *Holopyga ignicollis* sensu Linsenmaier] (General Coll. 3).

Remarks: DAHLBOM (1854) described *Holopyga ovata* based on nine different varieties, from var. a to var. i. After a short description of the variety h, Dahlbom mentioned three names that he found on the labels of the investigated specimens: “*Hedychrum obtusicolle* MEGERLE”, “*Elampus ignicollis* KLUG”, and “*Elampus cyanocephalus* KLUG”. None of these manuscript names is valid. EVERSMAAN (1858: 549) was the first author who treated “var. *ignicollis* Klug” as a valid variety, and in his description he clearly referred to “*Holop. ovata* var. h. Dlbm.”, thus made the name available as a species group name (ICZN 1999: Article 45.6). EVERSMAAN (1858) examined some syntypes from Russia, one of which is still preserved in his collection, now incorporated into Radoszkowski’s collection in Kraków (ROSA et al. 2015), yet still recognizable by Eversmann’s handwritten labels (Fig. 66). This specimen is hereby designated as the lectotype. It is a female and bears the following labels: [unreadable] and [*Holopyga ovata* var. h Dahlb.].

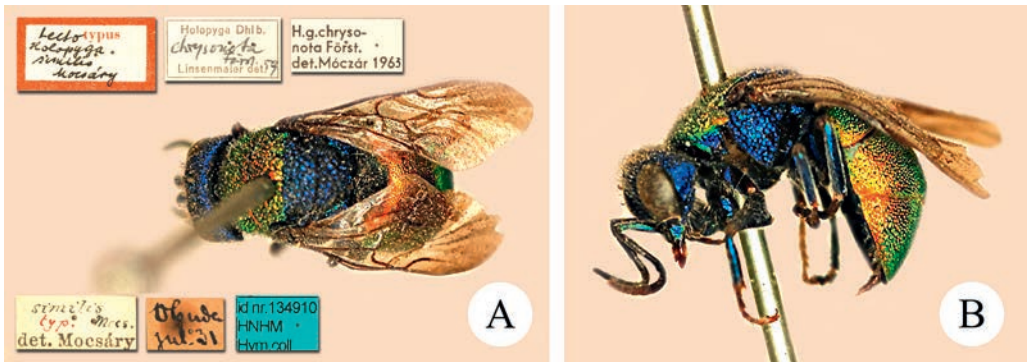


Fig. 68: *Holopyga similis* MOCSÁRY, 1889, lectotype, ♀: (A) Habitus, dorsal view; (B) habitus, lateral view.

This specimen is matching LINSSENMAIER's (1959) interpretation of *Holopyga ignicollis* (Fig. 66). The syntype series of *Holopyga ovata* var. h examined by DAHLBOM (1854) in Berlin, Vienna, and Loew's collection include specimens of both *Holopyga ignicollis* sensu LINSSENMAIER (1959) and *Holopyga chrysonota* LINSSENMAIER (1959), therefore a lectotype designation is needed.

Traditionally, authors associated the name *Holopyga ignicollis* with Dahlbom's name, but this is not correct. The name *Holopyga ignicollis* "Dahlbom" was differently treated by authors over time: MOCSÁRY (1889: 129) synonymised *Holopyga ignicollis* with *Holopyga chrysonota* (FÖRSTER, 1853), followed by DALLA TORRE (1892: 23) and KIMSEY & BOHART (1991: 230). DU BUYSSON (in ANDRÉ 1891: 178) identified several *Holopyga* species with metallic red mesosoma as varieties of *Holopyga gloriosa* including *Holopyga gloriosa* var. *ignicollis*. BISCHOFF (1913: 12) and TRAUTMANN (1927: 50) placed *Holopyga ignicollis* in synonymy with *Holopyga gloriosa*, and LINSSENMAIER (1951: 96, 97) considered *Holopyga ignicollis* as a synonym of "*gloriosa* od. [oder = or] *chrysonota*". Finally, LINSSENMAIER (1959), without any type examination, separated *Holopyga ignicollis* from *Holopyga chrysonota* and other similar species, providing keys and descriptions. LINSSENMAIER's (1959) interpretation was followed by all the modern European authors until today.

The type of *Holopyga chrysonota* (FÖRSTER, 1853) was found and examined in Berlin by the first author (P.R.) (Fig. 67). This is a female specimen matching the description of *Holopyga ignicollis* sensu LINSSENMAIER (1959). As a consequence of our research and lectotype designation, *Holopyga ignicollis* EVERSMAANN, 1858 is a synonym of *Holopyga chrysonota* (FÖRSTER, 1853), as previously stated by MOCSÁRY (1889). The first available name for *Holopyga chrysonota* sensu LINSSENMAIER (1959) is *Holopyga similis* MOCSÁRY, 1889, whose type was examined in Budapest (Fig. 68).

Current status: *Holopyga chrysonota* (FÖRSTER, 1853) (synonymised by MOCSÁRY 1889).

***Holopyga pulchella* MOCSÁRY, 1893 (Fig. 69)**

Holopyga (Hedychridium) pulchella MOCSÁRY, 1893: 214.

Type locality: "Caucasus (Vallis fluvii Araxes, e Musæo Aulico Vindobonensi per amicum Fr. Kohl mecum benevole communicata)".

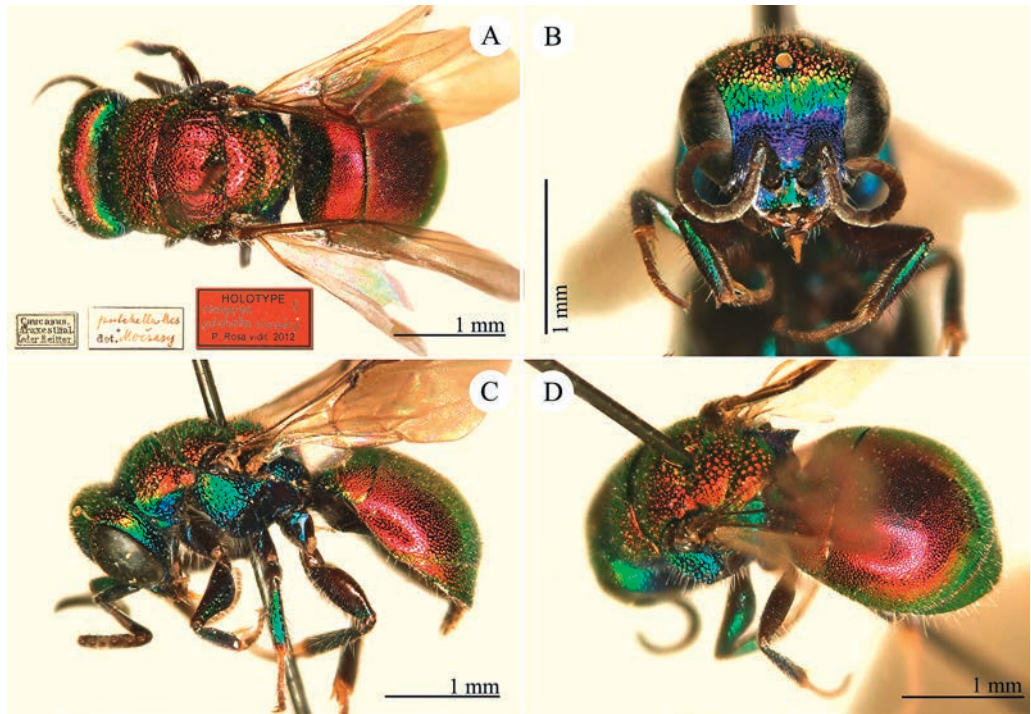


Fig. 69: *Holopyga pulchella* MOCSÁRY, 1893, holotype, ♀: (A) Habitus, dorsal view; (B) head, frontal view; (C) habitus, lateral view; (D) habitus, postero-lateral view.

Holotype: ♀ [Caucasus Araxesthal Leder Reitter] [*pulchella* Mcs det. Mocsary] (Zimmermann Coll. 12).

Remarks: *Hedychridium pulchellum* (MOCSÁRY, 1893) is a new synonym of *Hedychridium jakowlewi* SEMENOV, 1892, whose type, described from Turkmenistan, was examined in St. Petersburg (ROSA et al. 2017: fig. 234).

Current status: *Hedychridium jakowlewi* SEMENOV, 1892, syn.n. (transferred to *Hedychridium* by DU BUYSSON (in ANDRÉ) 1896: 746).

Holopyga scutellare ZIMMERMANN, 1956

Holopyga scutellare ZIMMERMANN, 1956: 142.

Type locality: Madagascar: “Madagascar Sud: Bekily; Behara; Esira. Type (Bekily) au Muséum National d’Histoire Naturelle de Paris. 30 Paratypes au Muséum de Paris et au Musée du Congo Belge à Tervuren”.

Paratypes: 1 ♂ [Coll. Mus. Congo Madagascar: *Bekily IV.1941* A. Seyrig] [*Holopyga* ♂ *scutellare* Zim. det. Zimmermann Type] <red label> (Zimmermann Coll. 7); 1 ♀ [Coll. Mus. Congo Madagascar: *Bekily IV.1942* A. Seyrig] [*Holopyga* ♀ *scutellare* Zim. det. Zimmermann Type] <red label> (Zimmermann Coll. 7); 2 ♂♂, 2 ♀♀ [Coll. Mus. Congo Madagascar: *Bekily IV.1941* A. Seyrig] (Zimmermann Coll. 7).

Remarks: ZIMMERMANN (1956) described *Holopyga scutellare* based on 31 specimens: the holotype and nine paratypes are deposited in Paris; 15 paratypes are deposited in Tervuren.

Current status: *Holopyga scutellaris* ZIMMERMANN, 1956.

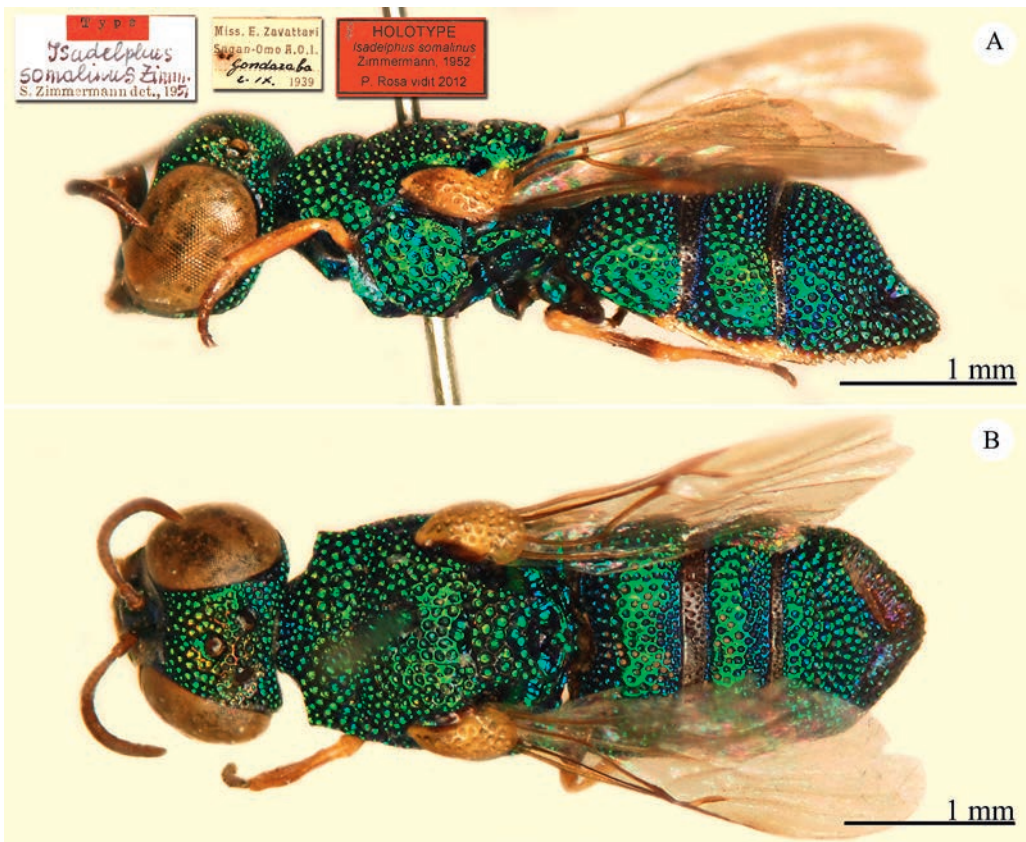
Isadelphus somalinus* ZIMMERMANN, 1952 (Fig. 70)Isadelphus somalinus* ZIMMERMANN, 1952: 362.**Type locality:** Ethiopia: “Aethiopien, Gondaraba (Miss. Sagan-Omo, A. (2.9.39)”.**Holotype:** ♀ [Miss. E. Zavattari Sagan-Omo A.O.I. Gondaraba 2.IX.1939] [Type *Isadelphus somalinus* Zimm.S. Zimmermann det. 1951] <red label> (Zimmermann Coll. 18).**Current status:** *Isadelphia somalina* (ZIMMERMANN, 1952).***Mesitiopterus floridensis* KROMBEIN, 1960***Mesitiopterus floridensis* KROMBEIN, 1960: 28.**Type locality:** U.S.A.: holotype ♂ from Florida (Gainesville, Alachua Co., September 2, 1958, leg. K.W. Cooper); allotype, 59 ♂♂ and 22 ♀♀ paratypes from Florida, same locality, August 31 – October 25, 1958, all leg. K.W. Cooper).**Paratypes:** 1 ♀ [Gainesville Fla. Sep 5 1958 K.W. Cooper] [Paratype *Mesitiopterus floridensis* ♀ Krombein] <light blue label> (Zimmermann Coll. 1); 1 ♂ [Gainesville Fla. Sep 6 1958 K.W. Cooper] [Paratype *Mesitiopterus floridensis* ♂ Krombein] <light blue label> (Zimmermann Coll. 1).**Current status:** *Amisega floridensis* (KROMBEIN, 1960) (transferred to *Amisega* by KIMSEY 1987a: 59).

Fig. 70: *Isadelphia somalina* (ZIMMERMANN, 1954), holotype, ♀: (A) Habitus, lateral view; (B) habitus, dorsal view.

***Neochrysis neolateralis* BOHART, 1963**

Neochrysis neolateralis BOHART, 1963: 143.

Type locality: U.S.A.: holotype ♂ from Illinois (West Frankfort, Franklin Co. July 5, 1963, leg. R.M. Bohart (Davis)); 10 ♂♂ and 17 ♀♀ paratypes from Kansas (Atchison Co.; Stockdale, Riley Co.; Bourbon Co.); Arkansas (Puatt, Marion Co.); Illinois (Crabtree Orchard Lake, Williamson Co.); D.C. (Washington); Virginia (Falls Church); Georgia (Atlanta; College Park); Texas (“Texas”; Bronwood, Brown Co.; Austin, Travis Co.; Somerset, Atascosa Co.; Llano Co.; Nueces River, Uvalde Co.). Mexico (Sinaloa: Mazatlán, Elota; Nayarit: Navarrete; Jalisco: Plan de Barrancas, Morelos: Temisco; Puebla: Petlalcingo). El Salvador (Quezaltepeque).

Paratype: 1 ♀ [College Park, Ga. 8-30-41 P.W. Fattig] [Paratype *Neochrysis* ♀ *neolateralis* R.M. Bohart] (Zimmermann Coll. 50).

Current status: *Ipsiura neolateralis* (BOHART, 1963) (transferred to *Ipsiura* by KIMSEY 1985: 275).

***Notozus madecassus* ZIMMERMANN, 1961**

Notozus madecassus ZIMMERMANN, 1961: 298.

Type locality: Madagascar: “Madagascar: Behara. Type im Muséum National d’Histoire Naturelle, Paris”.

Paratypes: 1 ♂ [Madagascar *Behara*] [Museum Paris XI.38 A. Seyrig] <light blue label> [*Notozus madecassus* Zimm. Det. Zimmermann Type] <red label> (Zimmermann Coll. 2); 1 ♂ [Madagascar *Behara*] [Museum Paris XI.38 A. Seyrig] <light blue label> [line drawing] (Zimmermann Coll. 2); 1 ♂ [Madagascar *Behara*] [Museum Paris XI.38 A. Seyrig] <light blue label> (Zimmermann Coll. 2).

Remarks: ZIMMERMANN (1961) described *Notozus madecassus* based on an unknown number of male specimens, but more than one, because the body length given in the description varies from 4.0 to 5.0 mm. The holotype and six paratypes are housed in Paris and bear the labels: [Madagascar *Behara*] [Muséum Paris XI.38 A. Seyrig] <light blue label>; only one, considered as the holotype, bears the labels [Type] <red label> and [*Notozus madecassus* Zimm. det. Zimmermann].

Current status: *Elampus madecassus* (ZIMMERMANN, 1961) (transferred to *Elampus* by KIMSEY & BOHART 1991: 168).

***Odontochrydium xui* ROSA, 2018**

Odontochrydium xui ROSA, 2018b: 451.

Type locality: India: “Tamil Nadu, Western Ghats, Nilgiri Hills, Moyat Camp, without collecting date”.

Holotype: ♀ [Nilgiri Hills Moyat Camp S. India] [*Odontochrydium*] [Holotype *Odontochrydium xui* descr. Rosa 2018] (Zimmermann Coll. 14).

Current status: *Odontochrydium xui* ROSA, 2018.

***Parnopes westcotti atlanticus* KROMBEIN, 1958**

Parnopes westcotti ssp. *atlanticus* KROMBEIN, 1958a: 164.

Type locality: U.S.A.: holotype ♂ from North Carolina (Kill Devil Hills, Dare Co., June 26, 1954, leg. K.V. Krombein (Washington)); allotype, 16 ♂♂ and 70 ♀♀ paratypes from North Carolina (Kill Devil Hills, Dare Co.; Wrightsville Beach, New Hanover Co.; Southport, Brunswick Co.); Virginia (Virginia Beach and Cape Henry, Princess Anne Co.); Maryland (Chesapeake Beach and Plum Point, Calvert Co.).

Paratypes: 1 ♀ [Kill Devil Hills Dare Co. N.C. VI-8-1954 KV Krombein] [Paratype 64203] <red label> [Paratype *Parnopes wescottii atlanticus* Karl V. Krombein] <red label> (Zimmermann Coll. 18); 1 ♂ [Kill Devil Hills Dare Co. N.C. VIII-4-1956 KV Krombein] [Paratype 64203] <red label> [Paratype *Parnopes wescottii atlanticus* Karl V. Krombein] <red label> (Zimmermann Coll. 18).

Current status: *Parnopes fulvicornis atlanticus* KROMBEIN, 1958 (transferred by TELFORD 1964).

***Spintharina invreai* ZIMMERMANN, 1952 (Fig. 71)**

Spintharina invreai ZIMMERMANN, 1952: 360.

Type locality: Ethiopia: “Aethiopien, Gondaraba (Miss. Sagan-Omo, A.O.I., 27.5. und 30.8.39)”.

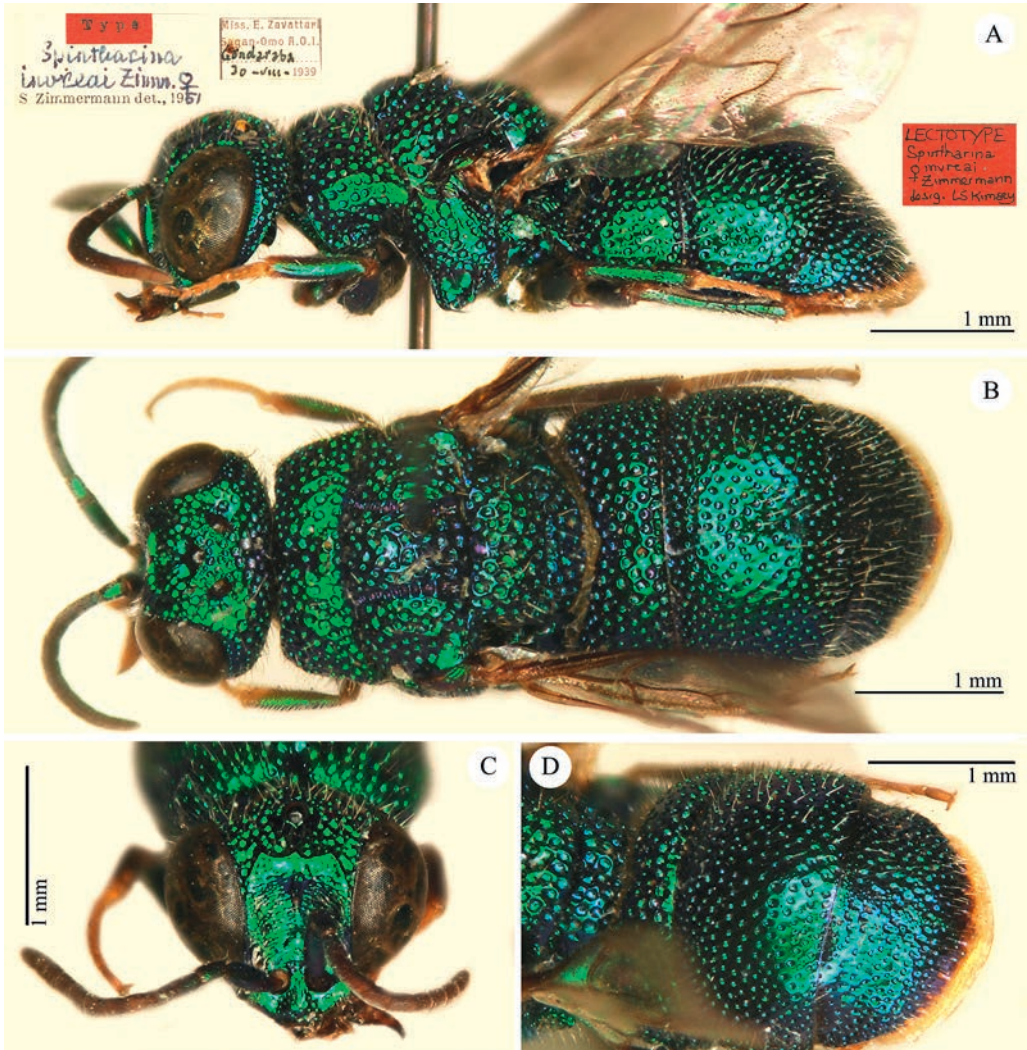


Fig. 71: *Spintharina invreai* ZIMMERMANN, 1954, lectotype, ♀: (A) Habitus, lateral view; (B) habitus, dorsal view; (C) head, frontal view; (D) metasoma, postero-lateral view.

Lectotype: ♀ [Miss. E. Zavattari Sagan-Omo A.O.I. Gondaraba 30.VIII.1939] [Type *Spintharina invreai* Zimm. ♀ S. Zimmermann det. 1951] <red label> [Lectotype *Spintharina invreai* ♀ Zimmermann desig. LS Kimsey] <red label> (Zimmermann Coll. 14).

Paralectotype: 1 ♂ [Miss. E. Zavattari Sagan-Omo A.O.I. Gondaraba 30.VIII.1939] [Type *Spintharina invreai* Zimm. ♂ S. Zimmermann det. 1951] <red label> [Paralectotype *Spintharina invreai* ♂ Zimmermann desig. LS Kimsey] <red label> (Zimmermann Coll. 14).

Remarks: The lectotype was designated by KIMSEY (1986b: 109). Three further paralectotypes are deposited in the Invrea collection at Genoa (ROSA 2009).

Current status: *Spintharina invreai* ZIMMERMANN, 1952.

***Spintharis corniger* ZIMMERMANN, 1950 (Fig. 72)**

Spintharis corniger ZIMMERMANN, 1950: 316.

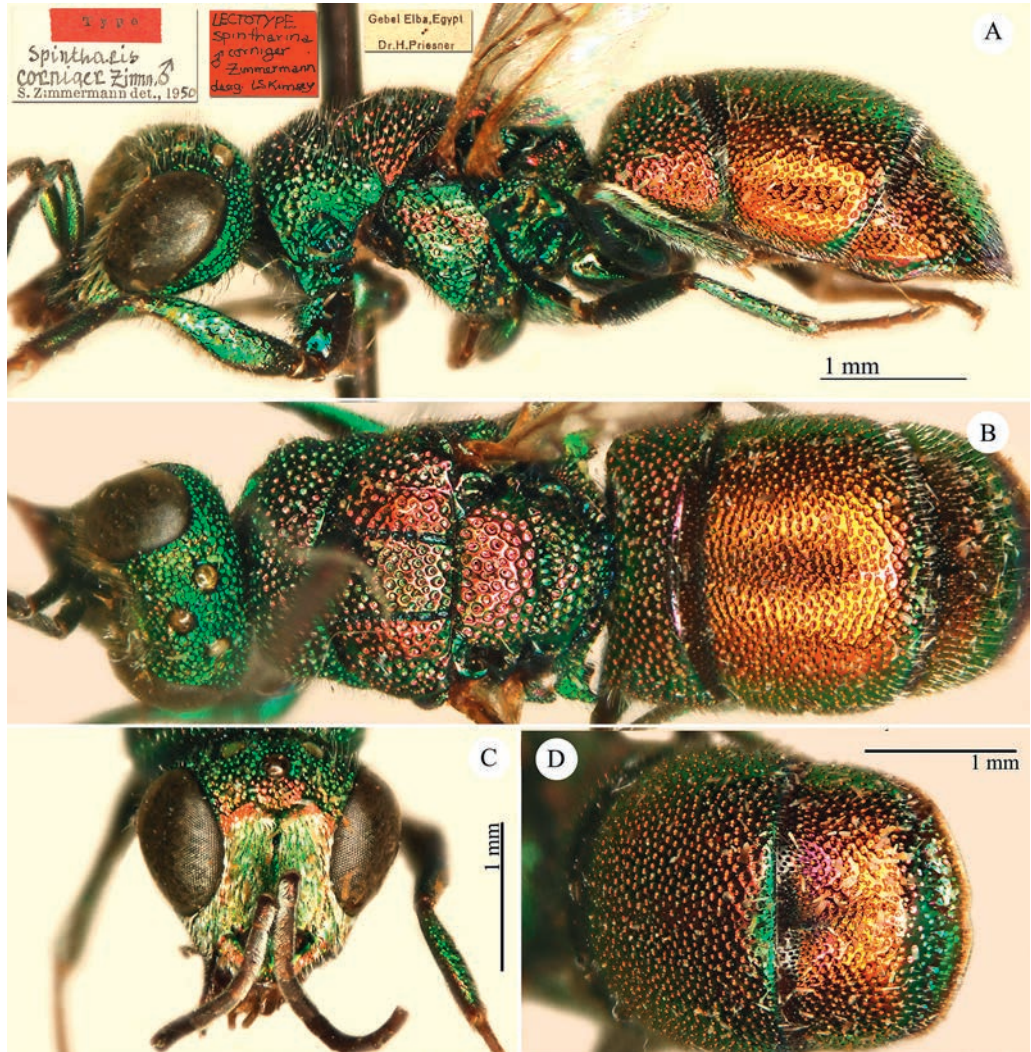


Fig. 72: *Spintharis corniger* ZIMMERMANN, 1950, lectotype, ♂: (A) Habitus, lateral view; (B) habitus, dorsal view; (C) head, frontal view; (D) metasoma, posterior view.

Type locality: Egypt: “1 ♂, 1 ♀. Fundort: Gebel Elba, Ägypten, leg. Prof. Dr. H. Priesner, Typen in Coll. Zimmermann, Wien”.

Lectotype: ♂ [Gebel Elba, Egypt leg. Dr. H. Priesner] [Type *Spintharis corniger* Zimm. ♂ S. Zimmermann det., 1950] <red label> [Lectotype *Spintharina corniger* ♂ Zimmermann desig. LS Kimsey] <red label> (Zimmermann Coll. 14).

Paralectotype: 1 ♀ [Gebel Elba, Egypt leg. Dr. H. Priesner] [Type *Spintharis corniger* Zimm. ♀ S. Zimmermann det., 1950] <red label> [Paralectotype *Spintharina corniger* ♀ Zimmermann desig. LS Kimsey] <red label> (Zimmermann Coll. 14).

Remarks: The lectotype was designated by KIMSEY (1986b: 109). A third specimen with the same label [Gebel Elba, Egypt leg. Dr. H. Priesner] was neither labelled as a type nor cited by Zimmermann, therefore it is not included in the type series.

Current status: *Spintharina corniger* (ZIMMERMANN, 1950) (transferred to the genus *Spintharina* by KIMSEY & BOHART 1991: 556).

***Spintharis deaurata* MOCSÁRY, 1889 (Fig. 73)**

Spintharis deaurata MOCSÁRY, 1889: 179.

Type locality: Unknown: “Patria: ignota, sed verosimiliter Africa meridionalis (Mus. Cæs. Vindob.)”.

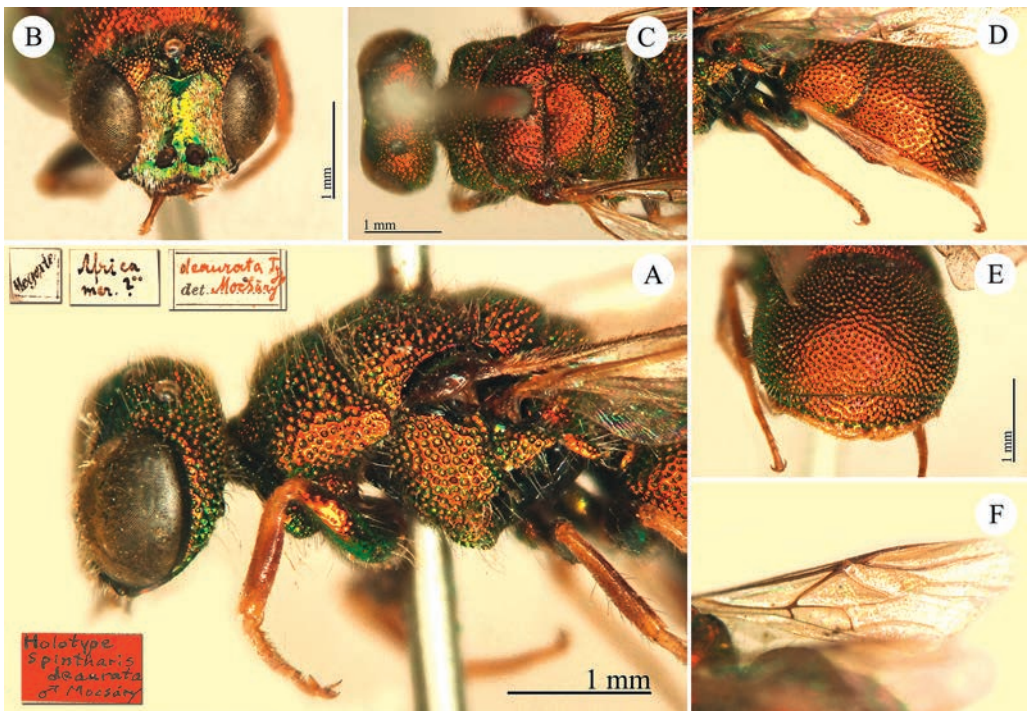


Fig. 73: *Spintharis deaurata* MOCSÁRY, 1889, holotype, ♂: (A) Head and mesosoma, lateral view; (B) head, frontal view; (C) mesosoma, dorsal view; (D) metasoma, lateral view; (E) third tergite, posterior view; (F) wing.

Holotype: ♂ [Megerle] [*Africa mer. ?*] [*deaurata* Type det. Mocsáry] <handwritten in red> [Holotype *Spintharis deaurata* ♂ Mocsáry] <handwritten by Bohart> (General Coll. 5).

Current status: *Spintharosoma chrysonota* (DAHLBOM, 1854) (synonymised by MADL & ROSA 2012: 120).

***Spintharis houskai* BALTHASAR, 1953**

Spintharis (Acanthospintharis) houskai BALTHASAR, 1953: 155.

Type locality: Israel: “Jérusalem env., VII–IX, assez fréquente. Jar Houška leg. Holotypus: 1 ♀, 20.IX.1942, Allotypus 1 ♂, 16.IX.1942, Paratypi: 11 ♀♀ et 4 ♂♂, loc. class., VII–IX”.

Paratype: 1 ♀ [Jerusalem Palestina 14.VII.42 Houška lgt.] [Typus] <red label by Balthasar> [*Spintharis (Acanthospintharis) n.sp. houskai* Dr.V. Balthasar det.] (Zimmermann Coll. 14).

Current status: *Spintharina houskai* (BALTHASAR, 1953) (transferred to *Spintharina* by BOHART 1987: 94).

***Spintharis jugurthina* ZIMMERMANN, 1950 (Fig. 74)**

Spintharis jugurthina ZIMMERMANN, 1950: 314.

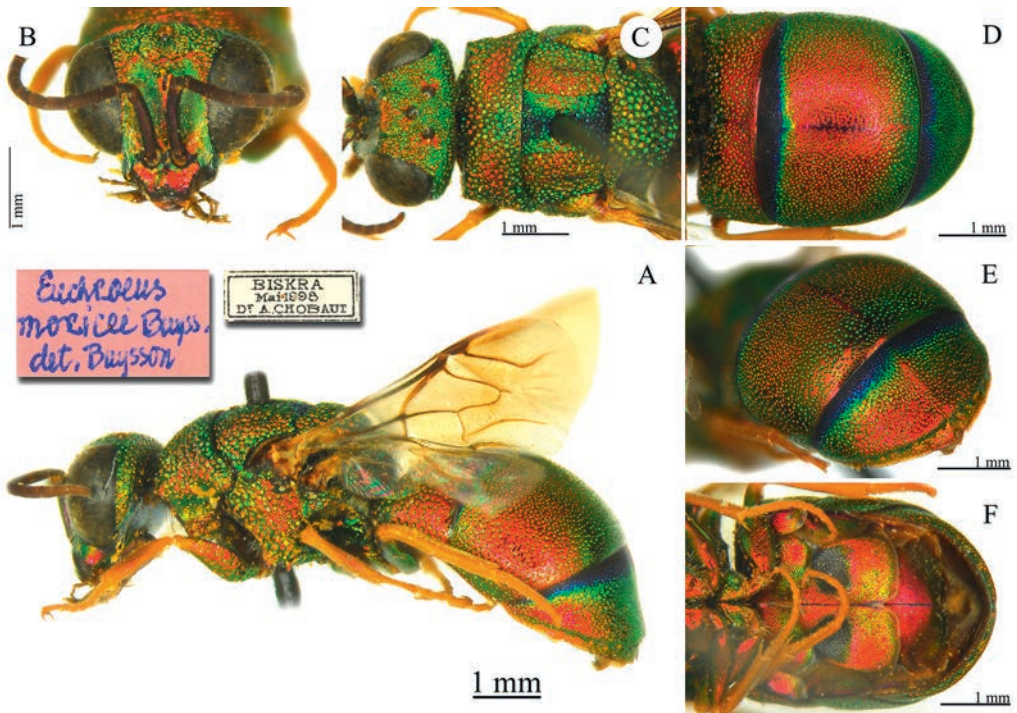


Fig. 74: *Spintharis jugurthina* ZIMMERMANN, 1950, holotype, ♀: (A) Habitus, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, dorsal view; (E) metasoma, postero-lateral view; (F) metasoma, ventral view.

Type locality: Algeria: “Biskra, Algerien, leg. L. Vareilles, V.1898 (ex Coll. K. Hammer, Wien). Type in Coll. Zimmermann, Wien”.

Holotype: ♀ [Biskra Mai 1898 Dr.A. Chobaut] [*Euchroeus moricei* Buyss. det. Buysson] <handwritten by Zimmermann> (Zimmermann Coll. 17).

Remarks: The collector given in the original publication, Vareilles instead of Chobaut, is a printing error. In KIMSEY & BOHART (1991: 295), this species was treated as *Brugmoia moricei* (DU BUYSSON, 1896). The name *Euchroeus* was conserved (ICZN 1998, Opinion 1906), thus the correct combination is *Euchroeus moricei* DU BUYSSON.

Current status: *Euchroeus moricei* DU BUYSSON (in ANDRÉ), 1896 (synonymised and transferred to *Euchroeus* by LINSSENMAIER 1959: 71).

***Tetrachrydium zavattarii* ZIMMERMANN, 1952 (Fig. 75)**

Tetrachrydium zavattarii ZIMMERMANN, 1952: 358.

Type locality: Ethiopia: “Aethiopien, Gondaraba, Miss. Sagan-Omo, A.O.I., 17.5.1939”.

Holotype: ♀ [Miss. E. Zavattari Sagan-Omo A.O.I. Gondaraba 27.V.1939] [Type <red label> *Hedychridium zavattarii* Zimm.S. Zimmermann det. 1951] (Zimmermann Coll. 13).

Remarks: The collecting day, 17th of May 1939, is a printing error.

Current status: *Hedychridium zavattarii* (ZIMMERMANN, 1952) (transferred to *Hedychridium* by LINSSENMAIER 1959: 64).

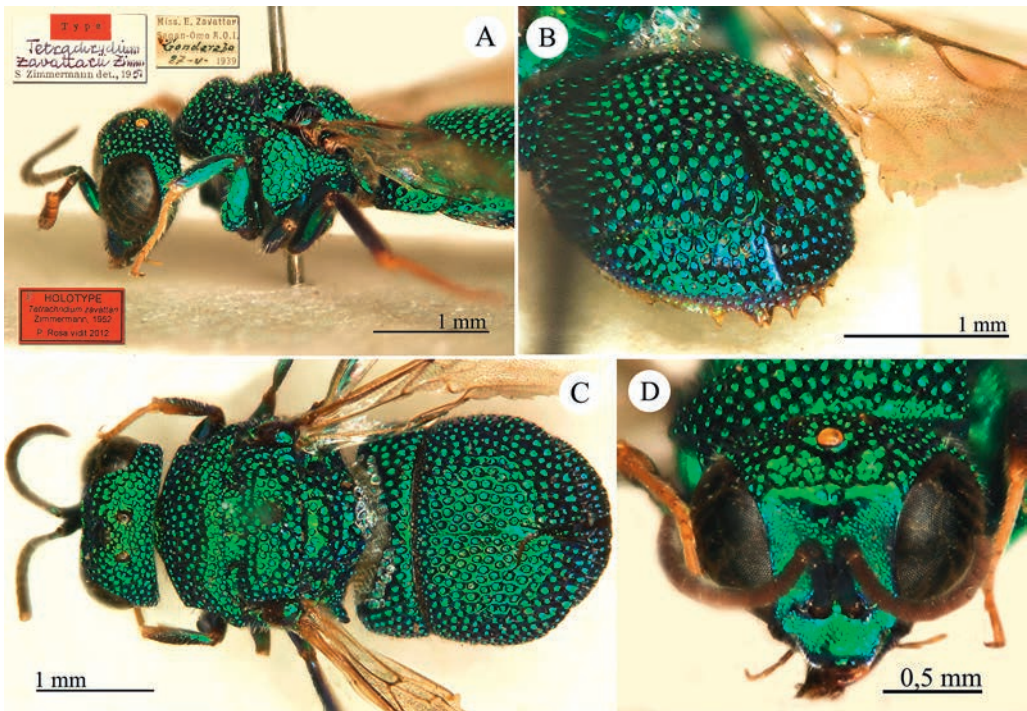


Fig. 75: *Tetrachrydium zavattarii* ZIMMERMANN, 1952, holotype, ♀: (A) Head and mesosoma, lateral view; (B) metasoma, postero-lateral view; (C) habitus, dorsal view; (D) head, frontal view.

Neotype designations

Chrysis austriaca FABRICIUS, 1804 (Fig. 76)

Chrysis austriaca FABRICIUS, 1804: 173.

Type locality: Austria: “Habitat in Austria Dom. de Megerle”.

Neotype (♀, **present designation**): [10.7.71] [Kolazy] [Trkschz. (= Türkenschanze in the 18th District of Vienna)] [*austriaca* det. F. Kohl.] [Neotype ♀ *Chrysis austriaca* Fabricius 1804 P. Rosa des. 2012] (General Coll. 6).

Remarks: We here designate the neotype of *Chrysis austriaca*, since the specimen lately considered a type and deposited in Copenhagen (ZIMSEN 1964, KIMSEY & BOHART 1991) is not a Fabrician type and belongs to a species different from the current interpretation, *Chrysis radians* HARRIS, 1776. The neotype by present designation matches the descriptions and figures of *Chrysis austriaca* provided by LINSSENMAIER (1959, 1997b), MORGAN (1984), KUNZ (1994), MINGO (1994), ROSA (2006), PAUKKUNEN et al. (2015), and WIŚNIEWSKI (2015). The neotype designation is urgently needed to prevent future misunderstandings.

Chrysis austriaca is the type species of *Chrysura* DAHLBOM, 1845, the second largest genus in the family Chrysididae. *Chrysis austriaca* was described by FABRICIUS (1804) during his visit to Vienna based on materials collected in Austria by Megerle [*Austria Mus. Dom. de Megerle*]. The original description was not detailed and adaptable to

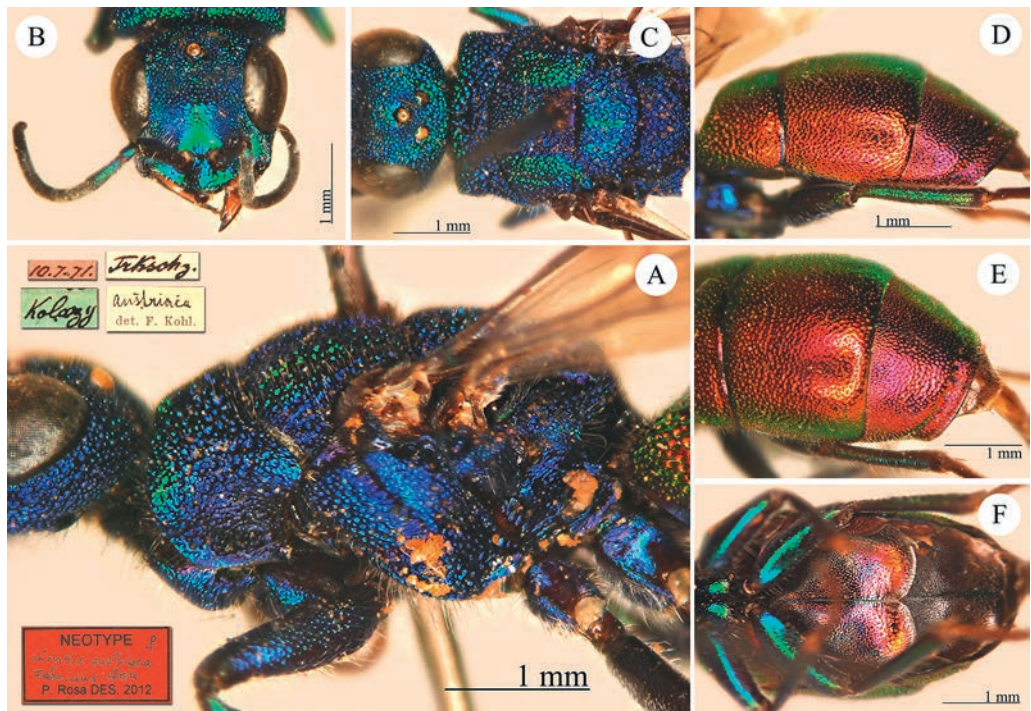


Fig. 76: *Chrysis austriaca* FABRICIUS, 1804, neotype, ♀: (A) Mesosoma, lateral view; (B) head, frontal view; (C) head and mesosoma, dorsal view; (D) metasoma, lateral view; (E) metasoma, dorso-lateral view; (F) metasoma, ventral view.

several species within the genus *Chrysura*: “*C. nitida*, thorace coeruleo, abdomine aureo, ano quadridentato. Habitat in Austria Dom. de Megerle. Statura et magnitudo omnino *C. ignitae* at anus omnino inermis forte mera varietas”. The original Fabrician description could be misleading because it apparently describes the species with four teeth (“ano quadridentato”); nevertheless, the following sentence (“anus omnino inermis”) clearly describes the main feature of *Chrysis austriaca*. This species closely resembles *Chrysis ignita* for its size and general habitus (“Statura et magnitudo omnino *C. ignitae*”), so that Fabricius thought it could be a simple variation of the latter (“forte mera varietas”).

DAHLBOM (1845) described the genus *Chrysura* on ten heterogeneous species, including *Chrysis austriaca*, which share a golden-red abdomen and toothless posterior margin of the third metasomal tergum. DAHLBOM (1854) was also the first author to provide a detailed description of *Chrysis austriaca* based on at least three specimens, which, however, clearly belong to different species, according to his descriptions of mandibles, metasomal sculpture, and sternal colouration. DAHLBOM (1854) examined the type specimen from Vienna (“secundum exemplar typicum, quod e Collectione Megerlei Mus. Vienn. Amice communicavit D. Kollär”); one male and one female from Fabricius’ collection in the Museum Kiel (“secund. specimen, quod in Collectione Fabriciana Mus. Kiel aestate 1847 examinavi”). The latter female is still housed in Fabricius’ collection in Copenhagen. ZIMSEN (1964) and KIMSEY & BOHART (1991) considered this female as the holotype of *Chrysis austriaca*. However, when P. Rosa examined this specimen, it turned out to be a female of *Chrysura radians* (HARRIS, 1776); it bears the labels: [*austriaca*] <handwritten by Fabricius> and [*Chr. 15*] <added later>. Pictures are available on the Copenhagen Museum web-site.

BODENSTEIN (1939: 125) designated *Chrysis austriaca* as the type species of *Chrysura* DAHLBOM, 1845, without type examination or any analysis of this case. As already pointed out by Valkeila (VIKBERG 1986) and PAUKKUNEN et al. (2014), the interpretation given by Bodenstein was incorrect. In fact, *Chrysura austriaca* sensu DAHLBOM, 1845 was *Chrysis neglecta* SHUCKARD, 1837 [currently *Pseudochrysis neglecta*]. This misidentification was already recognized by DAHLBOM himself (1854: 134), and by other authors (e. g., MOCSÁRY 1889: 255, DALLA TORRE 1892: 80, BALTHASAR 1954: 143).

Based on the information provided by FABRICIUS (1804) (Austria, Domus de Megerle, Vienna) and DAHLBOM (1854) (“exemplar typicum”) on the type depository, we consider the specimen housed in Vienna as the holotype of *Chrysis austriaca* and the specimen housed in Copenhagen as a chrysidid later identified as *Chrysis austriaca* by Fabricius and only recently considered as the “holotype”. Unfortunately, the type of *Chrysis austriaca* in Vienna is lost and the neotype must be designated. Before proceeding with the designation, we also looked for the type specimen in Lund, to verify that the type did not remain in Dahlbom’s collection. No specimens of *Chrysis austriaca* labelled Austria or Megerle are currently housed in Dahlbom’s collection.

Current status: *Chrysura austriaca* (FABRICIUS, 1804) (transferred to *Chrysura* by BODENSTEIN 1939: 125).

***Chrysis radians* HARRIS, 1776 (Fig. 77)**

Chrysis radians HARRIS, 1776: 69.

Type locality: England.

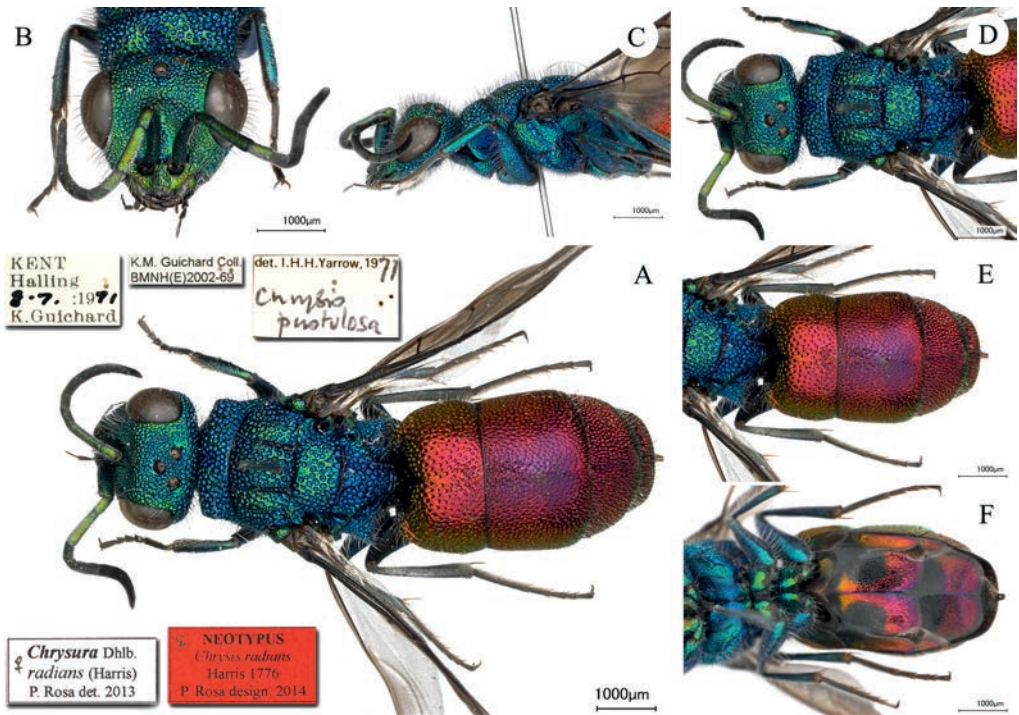


Fig. 77: *Chrysurus radians* HARRIS, 1776, neotype, ♀: (A) Habitus, dorsal view; (B) head, frontal view; (C) head and mesosoma, lateral view; (D) head and mesosoma, dorsal view; (E) metasoma, dorsal view; (F) metasoma, ventral view.

Neotype (♀, present designation): [Kent Halling 8.7:1971 K. Guichard] [K.M. Guichard Coll. BMNH (E) 2002-69] [det. I.H.H. Yarrow, 1971 *Chrysurus pustulosa*] [♀ *Chrysurus Dhlb. radians* (Harris) P. Rosa det. 2013] [♀ Neotypus *Chrysurus radians* Harris 1776 P. Rosa design. 2014] (Natural History Museum in London).

Remarks: MORGAN (1984: 8) proposed the synonymy of *Chrysurus pustulosa* ABEILLE DE PERRIN, 1878 with *Chrysurus radians* HARRIS, 1776 based on Harris' illustration, without taking into consideration that the name *Chrysurus pustulosa* was currently in use since 1878 and the name *Chrysurus radians* was no longer used after HARRIS' publication (1776). Since the type of *Chrysurus radians* is lost and its current interpretation is based only on HARRIS' (1776) illustration, we here designate the neotype of *Chrysurus radians* HARRIS, 1776 (Fig. 77) based on an English specimen housed at the Natural History Museum in London. The neotype matches the descriptions and figures of the species given by LINSSENMAIER (1959 sub *Chrysurus pustulosa*; 1997b), MORGAN (1984), KUNZ (1994), MINGO (1994), ROSA (2006), PAUKKUNEN et al. (2015), and WIŚNIEWSKI (2015). The designation of the lectotype was announced in PAUKKUNEN et al. (2014).

Chrysurus socia DAHLBOM, 1854 (Figs 78–80)

Chrysurus socia: DAHLBOM, 1854: 145.

Type locality: Italy: "Habitat in Sicilia, D. Grohmann; Mus. Vienn."

Neotype (♂, hereby designated): [*Mte Venere ca 800m bei Taormina Sicilia 12.4.1957* K. Kusdas] (General coll. 9).

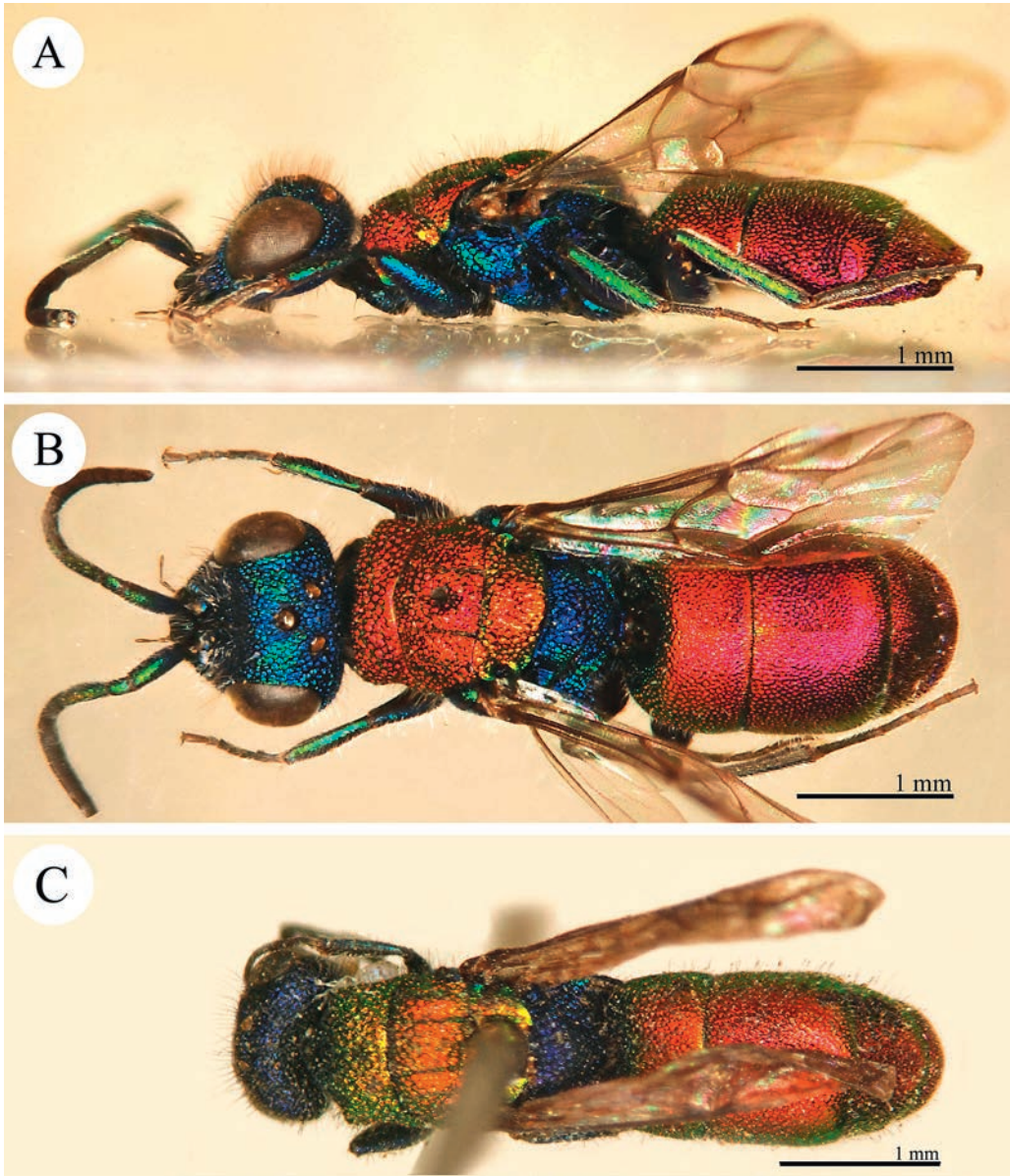


Fig. 78: *Chrysis socia* DAHLBOM, 1854, neotype, ♂: (A) Habitus, lateral view; (B) Habitus, dorsal view. *Chrysis filiformis* MOCSÁRY, 1889, lectotype, ♀: (C) habitus, dorsal view.

Description of neotype (male): Body length: 5.5 mm.

Colour: Head: face metallic blue with greenish reflections on clypeus, vertex, scapus, pedicel, first and second flagellomere; rest of flagellum blackish without metallic reflections. Mesosoma: pronotum, mesoscutum and scutellum flame red; the rest blue with greenish reflections on anterior part of mesopleuron, lateral part of metanotum

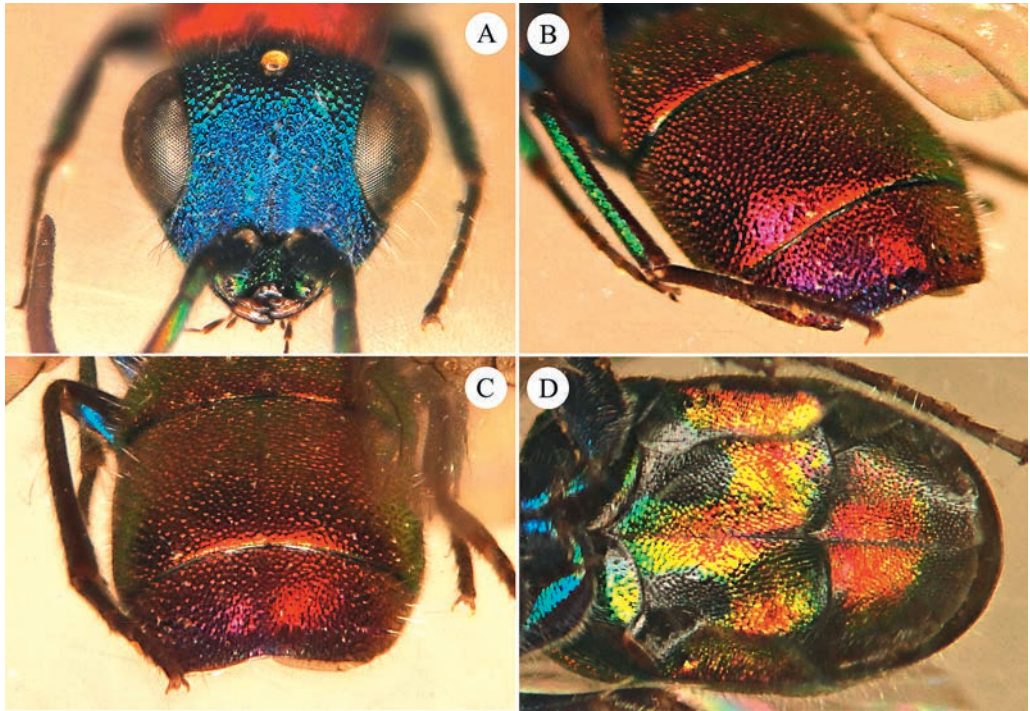


Fig. 79: *Chrysis socia* DAHLBOM, 1854, neotype, ♂: (A) Head, frontal view; (B) metasoma, postero-lateral view; (C) metasoma, posterior view; (D) metasoma, ventral view.

and propodeum; tegula emerald green; femur blue and tibia greenish; tarsi dark brown. Metasoma: anteriorly bluish to black in the petiolar region, the rest flame red; sterna and lateroterga red to golden red, with two small black spots on the second sternum (Fig. 78).

Structures: Head: Scapal basin barely outlined, densely and finely punctured except along the transversal median line towards the clypeus, where the puncturation is characterized by micropunctures; frons and vertex with larger and uniform dense punctures; transverse frontal carina missing; malar space in lateral view subrectangular, longer than high (length vs. width > 1); genal carina complete from the compound eye to the mandible; subantennal space 1.4 midocellar diameter; mandible brown paler in the middle, with subapical tooth. Relative lengths of pedicel / first flagellar segment / second flagellar segment / third flagellar segment / fourth flagellar segment: 1.0 / 2.0 / 1.0 / 1.0 / 0.7. Compound eye as long as the minimum distance between the eyes. Long vestiture, hairs about 2.0 midocellar diameter long.

Mesosoma: Pronotum with large antero-median depression; puncturation on pronotum and mesonotum consisting of irregular and large punctures, with micropunctures on interspaces; scutellum with large unpunctured interspaces, somewhat scrobiculate towards posterior margin; propodeum enlarged and very short compared with the same structure of *Chrysura dichroa*; blunt propodeal angles distinctly divergent, pointing laterally; mesopleuron with deeply incised scrobal and episternal sulcus. Erect hairs on

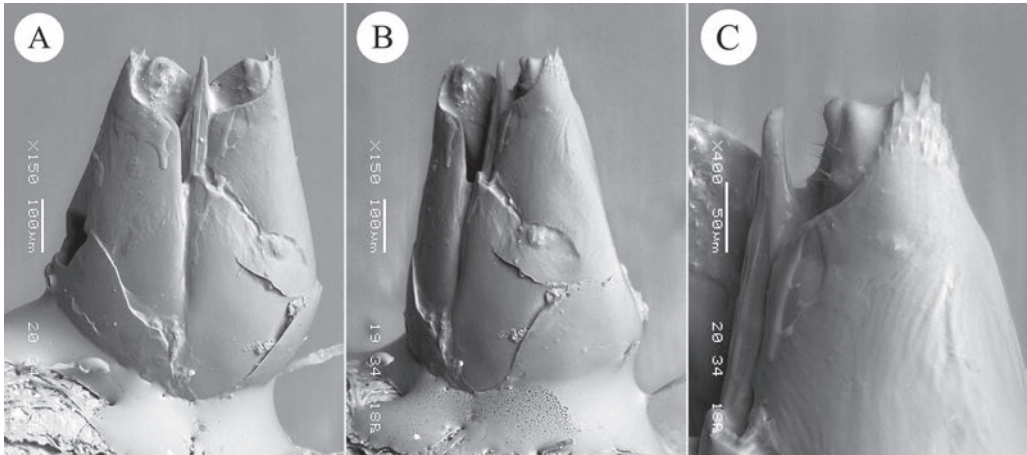


Fig. 80: *Chrysis socia* DAHLBOM, 1854, neotype, ♂: (A–C) Genital capsule.

mesosoma long (about 2.0 midocellar diameter) and brownish; whitish hairs on legs short (up to 1 midocellar diameter).

Metasoma: Puncturation overall dense, on the second tergum the diameter of the punctures decreases slightly towards the posterior margin; apical margin of third metasomal tergum subtruncate; black spots on the second sternum small and oval; hairs short (1.0 midocellar diameter).

Genital capsula: In dorsal view, gonocoxa with long gonostyle and almost straight upper internal margin.

Descriptive notes on female: Same dimensions as the male; head with a large greenish spot including frons and ocellar area on vertex; tegula blue; anal margin of the third metasomal tergum oval; the other main characteristics as in the male.

Diagnosis: *Chrysura socia* is one of the smallest species within the *Chrysura dichroa* group. It resembles the smallest specimens of *Chrysura dichroa* (DAHLBOM, 1854) and *Chrysura mistrasensis* (LINSENMAIER, 1968) in colouration, general habitus, and width of scapal basin. However it can be easily separated from *Chrysura dichroa* by the enlarged and narrow shape of the propodeum (in *Chrysura dichroa* the propodeum is subsquare; see ROSA 2003: fig. 6); propodeal angles distinctly divergent, pointing outwards, and not subparallel; small black spots on the second sternum (Fig. 77D) and distinct shape of the genital capsule (compare genital capsule of *Chrysura dichroa* in ARENS 2001: fig. 8A). It can be separated from *Chrysura mistrasensis* by: colour the same as *Chrysura dichroa*; divergent propodeal angles and different genital capsule (ARENS 2001: fig. 5A). *Chrysura socia* also resembles *Chrysura filiformis* (MOCSÁRY, 1889) in the very small body size. However, *Chrysura socia* is easily recognisable by the very short pronotum (in *Chrysura filiformis* it is about twice as long as wide) and by the general habitus. This species is robust and similar to *Chrysura dichroa*, whereas *Chrysura filiformis* (whose name refers to its peculiar habitus; Fig. 76C), is elongated and subcylindrical.

Remarks: MOCSÁRY (1889: 270) already observed that the holotype of *Chrysis socia* was lost: “Specimen typicum in Musæo Cæsareo Vindobonensis iam non existit illudque

propterea non vidi". Several authors, e.g., LINSSENMAIER (1959, 1968) and MÓCZÁR (1967), considered *Chrysura socia* a subspecies of *Chrysura dichroa*. KIMSEY & BOHART (1991: 488) synonymised *Chrysura socia* with *Chrysura dichroa* (DAHLBOM, 1854).

Distribution: *Chrysura dichroa socia* was reported from many localities; however, this name was generally attributed to small specimens of *Chrysura dichroa* or other similar species in this species group. The only specimens of *Chrysura socia* currently known for certainty are those from Sicily and southern Italy. Records from other countries should be checked.

Current status: *Chrysura socia* (DAHLBOM, 1854) (transferred to *Chrysura* by KIMSEY & BOHART 1991: 488).

***Holopyga gloriosa* var. *caucasica* MOCSÁRY, 1889 (Fig. 81)**

Holopyga (Holopyga) gloriosa var. *caucasica* MOCSÁRY, 1889: 131.

Type locality: Azerbaijan, Goygol: "Transcaucasia (Helenendorf, Mus. Vindob.!)".

Neotype (♀, hereby designated): [Transkaukasian Jelisawetpol] [*gloriosa caucasica* Mocs det. Zimmermann] (Zimmermann Coll. 5A).

Description of neotype (female): Body length 6.4 mm.

Colour: Head, propleuron, mesopleuron, metapleuron, propodeum, and legs blue; pronotum, scutum, metanotum, and metasoma dorsally metallic red; ventrally blue with sterna

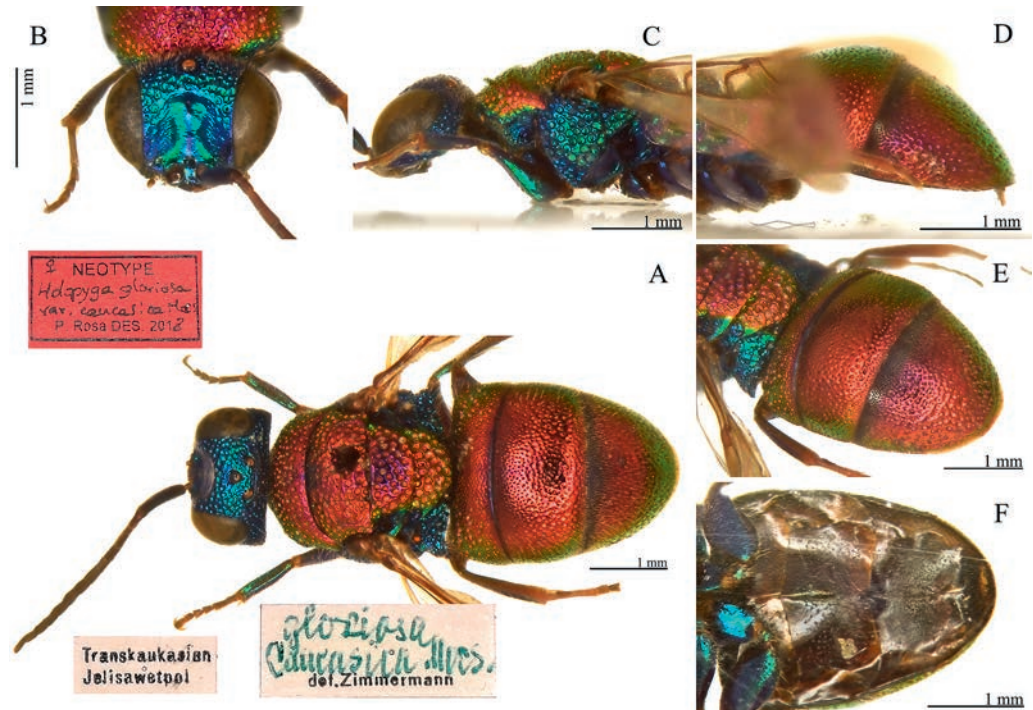


Fig. 81: *Holopyga gloriosa* var. *caucasica* MOCSÁRY, 1889, neotype, ♀: (A) Habitus, dorsal view; (B) head, frontal view; (C) head and mesosoma, lateral view; (D) metasoma, lateral view; (E) metasoma, postero-lateral view; (F) metasoma, ventral view.

brownish-black. Mandibles brown. Scape green to blue, pedicel and flagellum black. Wings smoky, darkened on margins. Tegulae non-metallic brown.

Structures: Head: Frons with medium and deep punctures (0.6 midocellus diameter), subconfluent; across the scapal basin with polished interstices and small dots; punctures on vertex and ocellar triangle deep and smaller; midocellus anteriorly and hind ocelli laterally sunken; face deeply hollowed; scapal basin transversally striated. Subantennal space about 0.3 midocellus diameter. Ocellar triangle isosceles, with ocellar line connecting hind ocelli. OOL = 1.8 MOD; POL = 2.0 MOD; MS = 0.5 MOD; Relative lengths of pedicel / first flagellar segment / second flagellar segment / third flagellar segment / fourth flagellar segment = 1.0 / 2.4 / 1.5 / 1.1.

Mesosoma: Pronotum with uneven punctures, scattered on posterior margin, with sparse tiny punctures on interstices. Mesoscutum with large, coarse and deep punctures, increasing in diameter towards base, with shining interstices only on the anterior part. Scutellum with large, subcontiguous punctures, with a few, shallow tiny punctures on interstices. Notauli deep and complete; parapsidal lines incomplete. Mesopleuron with large, deep and subcontiguous punctures. Metanotum with large (about 1.0 midocellar diameter), foveate, irregular punctures. Propodeal teeth short, triangular, pointing slightly outwards. Forefemur ecarinate.

Metasoma: Metasomal terga with even and minute punctures, equally spaced medially on the first tergum and anteriorly on the second tergum; posterior half of the second tergum and third tergum with uneven punctures, larger, deeper and more spaced in comparison with punctures on the first half of the first tergum. Apical margin of third tergum continuous and bearing a narrow hyaline rim. Second sternum with scattered minute punctures.

Remarks: MOCSÁRY (1889) described *Holopyga gloriosa* var. *caucasica* based on an unknown number of specimens originating from the Vienna Museum, without indication of sex. In the Zimmermann Collection there is a female collected at Jelisawetpol (currently Ganja, Azerbaijan), which could be the true type examined by Mocsáry, yet there is no evidence that this is the same specimen. In fact, the type locality Helenendorf (currently Goygol) is located only a few kilometers from Ganja. Since there are neither specimens identified as *Holopyga gloriosa* var. *caucasica* by Mocsáry nor specimens from the type locality in the Natural History Museum Vienna, we here designate the specimen from Jelisawetpol as the neotype and raise *Holopyga gloriosa caucasica* to species rank: The name *Chrysis gloriosa* FABRICIUS, 1793 (later considered as *Holopyga gloriosa*) has been suppressed by the Commission on ICZN (ICZN 1998, Opinion 1906). LINSENMAIER (1959: 34) treated *caucasica* as a subspecies of *Holopyga inflammata*, whereas KIMSEY & BOHART (1991: 229) placed this taxon in synonymy with *Holopyga amoenula* DAHLBOM, 1845, a synonymy clearly in error. *Holopyga caucasica* stat.n. is easily recognizable among the other Eurasian species with similar red mesosomal colouration by the uneven, coarse punctures on both mesosoma and metasoma, and the sparse punctures on the second sternum. The uneven metasomal puncturation is somewhat similar to that of *Holopyga cypruscula* LINSENMAIER, 1959, even if with smaller punctures overall. From the latter it can be easily separated by the male body colouration, which is entirely green in *Holopyga cypruscula* and red on pronotum, mesonotum and metanotum in *Holopyga caucasica*.

Missing types

Chrysis anomala MOCSÁRY, 1893

Chrysis (Tetrachrysis) anomala MOCSÁRY, 1893: 231.

Type locality: Algeria: “Algeria (Bistra (!) die 24 Maii 1891 ab amico A. Handlirsch inventa et e Musæo Aulico Vindobonensi mecum benevole communicata)”.

Current status: *Chrysis anoma* BOHART (in KIMSEY & BOHART), 1991, replaced name for *Chrysis anomala* MOCSÁRY, 1893, nec BLOCH, 1799 (KIMSEY & BOHART 1991: 384).

Chrysis inaequalis var. *caucasica* MOCSÁRY, 1889

Chrysis (Tetrachrysis) inaequalis var. *Caucasica* MOCSÁRY, 1889: 484.

Type locality: Azerbaijan, Goygol: “Transcaucasia (Helenendorf, Mus. Caes. Vindob.)”.

Remarks: MÓCZÁR (1965: 175) already stated that he could not find the type in Vienna. The presumed type was found in Berlin by the first author.

Current status: *Chrysis poetica* SEMENOV, 1954 (discussed in ROSA 2018a).

Chrysis mediocris DAHLBOM, 1854

Chrysis mediocris DAHLBOM, 1854: 162.

Type locality: Austria: “Habitat in Austria rarissime; ad Vienn. a D. Megerle de Mühlfeld olim detecta, teste D. Kollàr, qui specimen e Museo Viennensi amice communicavit”.

Remarks: DAHLBOM (1854) described *Chrysis mediocris* based on a single specimen that is presumed to be lost. The name *Chrysis mediocris* is unavailable because DAHLBOM (1845: 14) described an African *Chrysis* with the same name. *Chrysis subsinuata* MARQUET, 1879 is the first available name for this species.

Current status: *Chrysis subsinuata* MARQUET, 1879.

Chrysis rogenhoferi MOCSÁRY, 1889

Chrysis (Spinolia) Rogenhoferi MOCSÁRY, 1889: 604.

Type locality: Greece: “Graecia (Attica, Mus. Caes. Vindob.)”.

Remarks: In the General Collection there is one specimen labelled: [*Graecia*] <handwritten by Mocsáry> [*Spin. rogenhoferi* Mocs. det. Trautmann] [*Holotypus Chrysis (Spin.) Rogenhoferi Mocsáry*] <handwritten by Móczár> [No type det. P. Rosa 2010]. MÓCZÁR (1964a: 447) examined the specimen and considered it as holotype. However, this specimen does not match the original description. According to MOCSÁRY (1889: 605) *Chrysis rogenhoferi* should be closely related to *Spinolia dournovi* (RADOSZKOWSKI): “Species quad colorem cum *Chryside Dournovi* Rad. multum habet similitudinis”, with “vertice, pro- et mesonoto, scutello, postscutello, tegulis et abdominis segmentis dorsalibus cupreo-auratis, mesopleuris supra viridi-maculati”. The specimen pinned with the labels is a *Spinolia lamprosoma* (FÖRSTER, 1853) and therefore cannot be considered as the holotype of *Chrysis rogenhoferi*. The holotype is housed in Budapest, where there is a specimen labelled: [Attica Krüper] [*Spinolia Rogenhoferi* det. Mocsáry] [*Holotypus ♀ Chrysis rogenhoferi Mocsáry LS Kimsey det*] [id nr. 135073] (ROSA et al. 2017).

Current status: *Spinolia rogenhoferi* (MOCSÁRY, 1889) (transferred to *Spinolia* by DU BUYSSON (in ANDRÉ 1892: 248)).

***Chrysis tenera* MOCSÁRY, 1893**

Chrysis (Tetrachrysis) tenera MOCSÁRY, 1893: 229.

Type locality: Algeria: “Biskra, die 24. Maii 1891 ab amico A. Handlirsch detecta et e Musæso Aulico Vindoboensi mihi determinationis causa inmissa”.

Current status: *Chrysis valesiana tenera* MOCSÁRY, 1893 (downgraded by LINSENMAIER 1968: 82).

***Cleptes ignitus* var. *scutellaris* MOCSÁRY, 1889**

Cleptes ignitus var. *scutellaris* MOCSÁRY, 1889: 53.

Type locality: Austria and Hungary: “Hungaria septentrionalis-occidentalis (Mus. Hung.); Austria ad Vindobonam (Coll. Schulthess-Rechbergi! et Mus. Vindob.!)

Remarks: MÓCZÁR (1962: 121) designated the lectotype in Budapest. According to the original description, there should be a paralectotype in Vienna, which does not exist there anymore.

Current status: *Cleptes scutellaris* MOCSÁRY, 1889 (raised to species by MÓCZÁR 1951: 261).

***Ellampus soror* MOCSÁRY, 1889**

Ellampus (Notozus) soror MOCSÁRY, 1889: 68.

Type locality: Italy: “Tergestinum (Triest) Austriae, ad littora Maris Adriatici (Mus. Vindob.!)

Remarks: MÓCZÁR (1964b: 442) searched for the holotype without success in Vienna and therefore designated the neotype in Budapest. In Vienna there are five specimens labelled by Mocsáry [handwritten in red] as “*soror* det. Mocsáry”, but none was collected at Triest, the type locality.

Current status: *Elampus constrictus* (FÖRSTER, 1853) (synonymised by PAUKKUNEN et al. 2014: 13 and transferred to *Elampus* by KIMSEY & BOHART 1991).

***Ellampus violaceus* var. *virens* MOCSÁRY, 1889**

Ellampus (Ellampus) violaceus var. *virens* MOCSÁRY, 1889: 107.

Type locality: Germany and Caucasus: “Germania (Thuringia, coll. Schmiedeknechti!); Caucasus (Mus. Vindob.)”.

Remarks: MOCSÁRY (1889) described *Ellampus violaceus* var. *virens* based on some specimens from the Schmiedeknecht Collection and Vienna. MÓCZÁR (1964a: 435) designated one specimen in Zurich as the lectotype.

Current status: *Pseudomalus violaceus* (SCOPOLI, 1763) (synonymised by LINSENMAIER 1951: 96; transferred to *Pseudomalus* by KIMSEY & BOHART 1991: 270).

Types erroneously cited as housed in the Museum

***Chrysis aenescens* MOCSÁRY, 1889**

Chrysis (Hexachrysis) aenescens MOCSÁRY, 1889: 577.

Type locality: French Guyana: “Cayenne (Coll. Saussurei)”.

Remarks: According to KIMSEY & BOHART (1991: 425) the holotype of *Chrysis aenescens* is conserved in Vienna. Mocsáry based the description on a female collected at Cayenne that he received from de Saussure; it is still deposited in Geneva and was checked by the first author.

Current status: *Chrysis intricata* BRULLÉ, 1846 (synonymised by BOHART 1962: 368).

Type specimens of unavailable names according to ICZN

***Chrysis cerastes* ab. *eucerastes* MADER, 1940**

Chrysis cerastes ab. *eucerastes*: MADER, 1940: 96.

Type locality: Croatia: “Einige Männchen vor der Insel Krk (Nordadria, Jugoslavien)”.

Holotype: ♂ [Insel Krk Cro., Mader] [*cerastes* ab. *Eucerastes* Mad. Det. H. Mader] (Zimmermann Coll. 34).

Remarks: Three identical specimens labelled [Insel Krk Cro., Mader] are found in Zimmermann’s collection. However, only the specimen bearing the handwritten identification label is considered as the holotype. The name *Chrysis cerastes* ab. *eucerastes* is unavailable (ICZN 1999: Article 45.6.2).

Current status: *Chrysis cerastes* ABEILLE DE PERRIN, 1877.

***Omalus auratus* ab. *contraria* MADER, 1940**

Omalus auratus ab. *contraria* MADER, 1940: 105.

Type locality: Croatia: “Ich besitze Stücke von der Insel Krk und von Dalmatien (Kotlenice, Mossor) [= Mosor]”.

Syntype: sex unknown [Insel Krk Cro., Mader] [TYPUS *O. contraria* m.] <red label> [*Omalus auratus contraria*] (Zimmermann Coll. 24).

Remarks: MADER (1940) described *Omalus auratus* ab. *contraria* based on a type series, without further information on the number of specimens examined. Only one specimen is housed in the Zimmermann Collection. Being described as an aberration, the name *contraria* is unavailable (ICZN 1999: Article 45.6.2). The specimen in Vienna belongs to *Pseudomalus auratus* (LINNAEUS, 1758).

Current status: *Pseudomalus auratus* (LINNAEUS, 1758) (synonymised by LINSSENMAIER 1951: 96).

***Stilbum calens* ab. *schischmai* MADER, 1933**

Stilbum calens ab. *Schischmai* MADER, 1933: 126.

Type locality: Croatia: “Insel Krk, Dalmatien”.

Syntype: 1 ♂ [Coll. Steinmann] [Insel Krk. Cro., Mader] [*ssp. calens a. schischmai* Md.] (Zimmermann Coll. 15).

Remarks: In the Linsenmaier Collection (Luzern) there is another syntype. MADER (1933) did not list the number of examined specimens. Being described as an aberration, the name *schischmai* is unavailable (ICZN 1999: Article 45.6.2).

Current status: *Stilbum calens* (FABRICIUS, 1781).

***Stilbum calens* ab. *subsiculum* MADER, 1933**

Stilbum calens ab. *subsiculum* MADER, 1933: 126.

Type locality: Croatia: “Insel Krk, Dalmatien”.

Syntype: 1 ♂ [Coll. Steinmann] [Insel Krk. Cro., Mader] [*parcepunct. a. subsiculum* Md.] (Zimmermann Coll. 15).

Remarks: Being described as an aberration, the name *subsiculum* is unavailable (ICZN 1999: Article 45.6.2).

Current status: *Stilbum calens* (FABRICIUS, 1781).

Specimens labelled as “Type” but without type status

***Acrotoma braunsii* MOCSÁRY, 1902**

Acrotoma Braunsii MOCSÁRY, 1902b: 538.

Type locality: South Africa: “Willowmore 15/11-99 Coll. Br.”.

Remarks: One specimen in the General Collection is labelled as “Cotype”. It has no type status because it was collected at Willowmore on the 10th of November 1909, after the description of the species.

Current status: *Hedychridium braunsii* (MOCSÁRY, 1902) (transferred to *Hedychridium* by KIMSEY & BOHART 1991: 189).

***Allocoelia capensis* var. *minor* MOCSÁRY, 1908**

Allocoelia capensis var. *minor* MOCSÁRY, 1908: 526.

Type locality: South Africa: “Willowmore, 20.XI.1906 (Coll. Brauns et Mus. Hung.)”.

Remarks: In the General Collection there are two specimens labelled as: (1) [Willowmore Capland Dr. Brauns 12.09] [*Cotype A. capensis* Sm. Var. *minor* Mocs. det. Mocsary] <handwritten by Mocsáry> [*All. capensis* v. *minor* Mocs.] <handwritten by Mocsáry>; (2) [Capland Willowmor 5.12.1903 Dr. Brauns] [*Allocoelia capensis* Smith] [*Cotype A. capensis* Sm. det. Mocsáry]. The first specimen was collected after the description, whereas the second belongs neither to Smith’s type series of *A. capensis* nor to the type series *A. capensis* var. *minor*.

Current status: *Allocoelia minor* MOCSÁRY, 1908 (raised to species by KIMSEY 1986a: 89).

***Amisega mocsaryi* DUCKE, 1902**

Amisega Mocsaryi DUCKE, 1902c: 142.

Type locality: Brazil: “Von dieser Art sammelte ich bisher vier Exemplare bei Pará, die sich im Igapó (Sumpfwalde) an sonnigen Stellen auf dem Blattwerke umhertrieben; ein ♂ am 22., ein Pärchen am 29. August, ein ♀ am 5. September 1901”.

Remarks: In the General Collection there is one female labelled: [Itaituba VIII.1902] [*Amisega Mocsáryi* Ducke det. Ducke Type] [*Paratype*] <red label>. This specimen has no type status because the collection date disagrees with the original description.

Current status: *Amisega mocsaryi* DUCKE, 1902.

***Chrysidea dido* ZIMMERMANN, 1956**

Chrysidea dido ZIMMERMANN, 1956: 149.

Type locality: Madagascar: “Madagascar Sud: Bekily. Types (♂ et ♀) au Muséum National d’Histoire Naturelle de Paris; paratype (♀) au Musée du Congo Belge, Tervuren”.

Remarks: ZIMMERMANN (1956) described *Chrysidea dido* based on three type specimens: one male and one female deposited in Paris, and another female deposited at Tervuren. KIMSEY (1986b: 105) designated the female in Paris as the lectotype. In Zimmermann’s collection there is one specimen labelled as type: [Coll. Mus. Congo Madagascar: Bekily I.1942 A. Seyrig] [*Chrysidea dido* Zimm. det. Zimmermann Type] <red label>, which has no type status.

Current status: *Chrysidea dido* ZIMMERMANN, 1956.

***Chrysidea phoebe* ZIMMERMANN, 1956**

Chrysidea phoebe ZIMMERMANN, 1956: 151.

Type locality: Madagascar: “Madagascar Sud: Bekily”.

Remarks: The holotype by monotypy is deposited in Paris. In the Zimmermann Collection there is one specimen from Behara labelled as a type, but the locality Behara is not listed as type locality and the specimen has no type status.

Current status: *Chrysidea phoebe* ZIMMERMANN, 1956.

***Chrysidea pumiloides* ZIMMERMANN, 1956**

Chrysidea pumiloides: ZIMMERMANN, 1956: 148.

Type locality: Madagascar: “Madagascar Sud: Bekily. Type: Muséum National d’Histoire Naturelle de Paris; paratype au Musée du Congo Belge, Tervuren”.

Remarks: ZIMMERMANN (1956) described *Chrysidea pumiloides* based on two specimens deposited in Paris and Tervuren. In the Zimmermann Collection there is a specimen collected at Antananarivo by Sikora and labelled as type, but this locality is not mentioned in the original description, although it was published in a following article (ZIMMERMANN 1961: 306). This specimen is not conspecific with the type.

Current status: *Chrysidea pumiloides* ZIMMERMANN, 1956.

***Chrysidea rhodopis* ZIMMERMANN, 1961**

Chrysidea rhodopis ZIMMERMANN, 1961: 307.

Type locality: Madagascar: “Madagascar Centre: Tananarive – Tsimbazaza (M.P.). Madagascar Sud: Bekily (S.). Type (Bekily) im Muséum National d’Histoire Naturelle, Paris”.

Remarks: ZIMMERMANN (1961) described *Chrysidea rhodopis* based on a type series of at least two females originated from the Seyrig Collection (Paris) and the General Collection of the Paris Museum. The holotype and one paratype are in the Paris Museum. Three female specimens labelled as type and housed in the Zimmermann Collection have no type status because they originated from the collection of the Institut Scientifique de Madagascar: 2 ♀♀ [*Tananarive Tsimbazaza*] [11.8.50 R. Benoist] [Institute Scientifique Madagascar] [*Chrysidea rhodopis* Zimm. det. Zimmermann Type] <red label> (Zimmermann Coll. 20); 1 ♀ [*Tananarive Tsimbazaza*] [18.9.50 R. Benoist] [Institute Scientifique Madagascar] (Zimmermann Coll. 20). The still undescribed male specimen (MADL 2008: 83) bears a type label of *Chrysidea pyrene* ZIMMERMANN, a species never described.

Current status: *Chrysidea rhodopis* ZIMMERMANN, 1961.

***Chrysis anthea* ZIMMERMANN, 1963**

Chrysis (Holo-chrysis) anthea ZIMMERMANN, 1963: 413.

Type locality: Egypt: “Khor Musa Pascha S.v. Wadi Halfa, 27.I.[1962] und 10.II.1962”.

Remarks: In the Zimmermann Collection there is another specimen labelled as paratype by Zimmermann, with the following label: [Egypt Min. Agric. (Egypt) Coll. Farg]. It has no type status because the complete type series, correctly labelled, is preserved in the General Collection.

Current status: *Chrysis anthea* ZIMMERMANN, 1963.

***Chrysis bombycida* MOCSÁRY, 1902**

Chrysis (Pentachrysis) bombycida MOCSÁRY, 1902a: 344.

Type locality: South Africa: “Africa meridionalis (Bothaville, Orange Fr. St. 20/2–99), ab eximio hymenopterologo Dre. H. Brauns detecta mihique in tribus exemplaribus benevole donata (Mus. Hung. et Coll. Braunsii)”.

Remarks: MOCSÁRY (1902a) described *Chrysis bombycida* based on three specimens donated by Brauns. Type depositories were Budapest and Braun’s collection. Bohart (in KIMSEY & BOHART 1991: 531) designated the lectotype in Budapest, where also a paralectotype is deposited.

In Vienna there are two specimens (General Coll. 16 and Zimmermann Coll. 46) bearing the same collecting labels as the lectotype: [Bothaville Orange Fr. St. Dr. Brauns 20.2.99] [*Parasiten von Caenobas. amoena* Feld.] [*Pentachrysis bombycida* Mocs. det. Kohl]. However, both of them were likely not included in the original description by MOCSÁRY (1902a).

Current status: *Praestochrysis bombycida* (MOCSÁRY, 1902) (transferred to *Praestochrysis* by BOHART & FRENCH 1986: 150).

***Chrysis braunsiana* MOCSÁRY, 1902**

Chrysis (Tetrachrysis) Braunsiana MOCSÁRY, 1902b: 562.

Type locality: South Africa: “Algoa Bay 10/3-92 (Coll. Br.)”.

Remarks: In the General Collection there is one male labelled as “Cotype”. It has no type status because it was collected at Willowmore in January 1910, after the description of the species.

Current status: *Chrysis braunsiana* MOCSÁRY, 1902.

***Chrysis candens* DAHLBOM, 1854**

Chrysis candens DAHLBOM, 1854: 140, nec GERMAR, 1817.

Type locality: unknown.

Remarks: The collection keeps one male labelled [*Phryne* Ab. det. Mocsáry] [*candens* type det. Dahlbom ♂] <handwritten in red> [46] [Dahlbom vidit 1850]. DAHLBOM (1854: 140) described this specimen as the male of *Chrysis candens* GERMAR, 1817. As already stated by MOCSÁRY (1889: 228), Dahlbom confused the male of *Chrysis phryne* ABEILLE DE PERRIN, 1878 with the male of *Chrysis candens* GERMAR (currently *Chrysura candens*). The type of *Chrysis candens* GERMAR is deposited in Berlin.

Current status: *Chrysis phryne* ABEILLE DE PERRIN, 1878 (synonymised by MOCSÁRY 1889: 228).

***Chrysis confluens* MOCSÁRY, 1890**

Chrysis confluens MOCSÁRY, 1890: 56, nec DAHLBOM, 1845.

Type locality: South Africa: “Promontorium bonae spei”.

Remarks: In the General Collection there is a female labelled as “Cotype”. It has no type status because it was collected on the 15th of April 1906, after the description of the species. The holotype of *Chrysis confluens* is deposited at Budapest (KIMSEY & BOHART 1991: 473). *Chrysis confluens* is the junior homonym of *Chrysis confluens* DAHLBOM, 1845. *Chrysis ugandana* MOCSÁRY, 1914 is the first available name for this species.

Current status: *Chrysis ugandana* MOCSÁRY, 1914.

***Chrysis convexifrons* MOCSÁRY, 1902**

Chrysis (Trichrysis) convexifrons MOCSÁRY, 1902b: 546.

Type locality: South Africa: “Algoa Bay 25/10-97 (Coll. Br.)”.

Remarks: In the General Collection there is one female labelled as “Cotype”. It has no type status because it was collected at Lichtenburg on the 25th of December 1905, after the description of the species. Syntypes are deposited at Transvaal Museum in Pretoria (KIMSEY & BOHART 1991: 572).

Current status: *Trichrysis heliophila* (MOCSÁRY, 1899) (synonymised and transferred to *Trichrysis* by KIMSEY & BOHART 1991: 572).

***Chrysis cyanops* MOCSÁRY, 1904**

Chrysis (Tetrachrysis) cyanops MOCSÁRY, 1904a: 410.

Type locality: South Africa: “Willowmore, 20.IV, 7.V. et 25.IX.1903 (Mus. Hung. et Coll. Br.)”.

Remarks: In the General Collection there is one male labelled as “Cotype”. It has no type status because it was collected on the 15th of April 1903, a collecting date not listed by Mocsáry in the original description. Bohart (in KIMSEY & BOHART 1991: 444) selected a female syntype deposited at Pretoria Museum as the lectotype.

Current status: *Chrysis numerata* MOCSÁRY, 1902 (synonymised by EDNEY 1954: 547).

***Chrysis falsifica* DU BUYSSON, 1891**

Chrysis falsifica DU BUYSSON, 1891: 38.

Remarks: *Chrysis prasina* CRESSON, 1865, described on a specimen collected in Colorado and housed at the Museum in Philadelphia, is a junior homonym of *Chrysis prasina* KLUG, 1845. DU BUYSSON (1891) replaced the name *Chrysis prasina* CRESSON with *Chrysis falsifica* (BOHART & KIMSEY 1982: 115). The female specimen in the Zimmermann Collection labelled [Guanaxuato] [*Chrysis falsifica* Buyss.] [Determ. 1889 du Buysson] has no type status. The lectotype designation of *Chrysis falsifica* (KIMSEY & BOHART 1991: 423), based on a specimen deposited in Paris, is invalid for the same reason.

Current status: *Chrysis lauta* CRESSON, 1865 (synonymised by BOHART 1964: 224).

***Chrysis frivaldszkyi* MOCSÁRY, 1882**

Chrysis Frivaldszkyi MOCSÁRY, 1882: 52.

Type locality: Hungary: “In Hungaria centrali ad Budapestinum aestate rara est.”

Remarks: MÓCZÁR (1965) designated a male syntype deposited in Budapest as the lectotype. In the General Collection there is one male labelled: [Frfld. Spal] [*Frivaldszkyi* det. Mocsáry] <handwritten in red>. It has no type status because it was collected by Frivaldszky, whereas the collectors given in the original description are Mocsáry and Pével.

Current status: *Chrysis frivaldszkyi* MOCSÁRY, 1882.

***Chrysis gazella* MOCSÁRY, 1904**

Chrysis (Tetrachrysis) Gazella MOCSÁRY 1904a: 407.

Type locality: South Africa: “Willowmore, 1.V. et 10.V.1903 (Mus. Hung. et Coll. Br.)”.

Remarks: In the General Collection there is one female labelled as “Cotype”. It has no type status because it was collected at Willowmore on the 10th of December 1906, after the description of the species.

Current status: *Chrysis longigena* MOCSÁRY, 1889 (synonymised by KIMSEY & BOHART 1991: 433).

***Chrysis longicollis* MOCSÁRY, 1902**

Chrysis (Tetrachrysis) longicollis MOCSÁRY, 1902b: 566.

Type locality: South Africa: “Sunday River 22/12 et 17/12-92 (Coll. Br. et M.H.)”.

Remarks: In the General Collection there are three specimens, one male and two females, labelled as “Cotype”. They have no type status, because they were collected at Willowmore on the 10th, the 22nd and the 25th of November 1906, after the description and in a different locality.

Current status: *Chrysis longicollis* MOCSÁRY, 1902.

***Chrysis macrogantha* MOCSÁRY, 1902**

Chrysis (Tetrachrysis) macrogantha MOCSÁRY, 1902b: 553.

Type locality: South Africa: “Algoa Bay 19/11-95 (Coll. Br.)”.

Remarks: In the General Collection there is one male labelled as “Cotype”. It has no type status, because it was collected at Willowmore on the 10th of January 1907, after the description of the species and in a different locality.

Current status: *Chrysis macrogantha* MOCSÁRY, 1902.

***Chrysis mucronifera* MOCSÁRY, 1887**

Chrysis mucronifera MOCSÁRY, 1887: 15.

Remarks: In the General Collection there is one female labelled: [Wthm.] [*mucronifera* Type det. Mocsáry] <handwritten in red>. MOCSÁRY (1889: 331) examined this specimen, but *Chrysis mucronifera* is an unnecessary replacement name for *Chrysis mucronata* DAHLBOM, 1854 (nec BRULLÉ, 1846), whose holotype is housed in Spinola’s collection in Turin.

Current status: *Chrysis mucronata* DAHLBOM, 1854.

***Chrysis partita* MOCSÁRY, 1899**

Chrysis (Hexachrysis) partita MOCSÁRY, 1899: 492.

Type locality: Australia, New Guinea: “Australia (Melbourne) et Nova-Guinea-Germanica (Friedrich-Wilhelmshafen, Erima et Stephansort, 9 specimina a Ludovico Biró collecta)”.

Remarks: In the Zimmermann Collection there is one specimen labelled as type: [N. Guinea Biró 1899] [Erima Astrolabe B. / X.28.99] [*partita* type Mocs det. Mocsáry] <partly handwritten in red> (Zimmermann Coll. 50). This specimen has no type status because it was collected after the description of the species, on the 28th October 1899.

Current status: *Chrysis cristovallensis* MONTROUZIER, 1864 (synonymised by KIMSEY & BOHART 1991: 400).

***Chrysis separanda* MOCSÁRY, 1889**

Chrysis separanda MOCSÁRY (in RADOSZKOWSKI), 1889: 14.

Type locality: “Syrá”.

Remarks: In the General Collection there is one specimen labelled as: [Erb. Rhod.] [*separanda* M. det. Mocsáry] <handwritten in red>, which has no type status, because it was collected on Rhodes.

Current status: *Chrysura separanda* (MOCSÁRY, 1889) (transferred to *Chrysura* by KIMSEY & BOHART 1991: 497).

***Chrysogona alfkeni* DUCKE, 1902**

Chrysogona alfkeni DUCKE, 1902b: 97.

Type locality: Brazil: “Ein ♀ an einer Holzwand in Jambú-assú, 113 km östlich von Pará an der Eisenbahnlinie nach Bragança gelegen, 26. September 1901.”.

Remarks: DUCKE (1902b) described *C. alfkeni* based on a single female, which is the holotype by monotypy. In the General Collection there is one female labelled “Cotype”, collected at Itaituba in July 1902. The collection date disagrees with the date given in the publication.

Current status: *Pleurochrysis alfkeni* (DUCKE, 1902) (transferred to *Pleurochrysis* by KIMSEY & BOHART 1991: 524).

***Chrysogona africana* MOCSÁRY, 1902**

Chrysogona africana MOCSÁRY, 1902b: 541.

Type locality: South Africa: “Bothaville 1/4-99 (coll. Br.)”.

Remarks: In the General Collection there is one specimen labelled as “Cotype”. It has no type status, because it was collected at Lichtenburg on the 15th of December 1905, after the description of the species and in a different locality.

Current status: *Chrysidea pumila* (KLUG, 1845) (synonymised by KIMSEY & BOHART 1991: 314; transferred to *Chrysidea* by BISCHOFF 1913: 35).

***Cleptes moczari* LINSENMAIER, 1968**

Cleptes moczari LINSENMAIER, 1968: 4.

Type locality: Greece: “Alt-Korinth. ♀ Type, ♂ Allotype, leg. Schmidt V.63 in Coll. m. – Paratypen Museum Budapest, Coll. Schmidt und Coll. m. – Auch bei Tripolis.”

Remarks: In the Zimmermann Collection there is one specimen labelled as “Neotypus” by Móczár. The designation was never published.

Current status: *Cleptes moczari* LINSENMAIER, 1968.

***Cleptes mutilloides* DUCKE, 1902**

Cleptes mutilloides DUCKE, 1902a: 91.

Type locality: Brazil: “2 ♂ in alten, verwilderten, schattigen Cacaopflanzungen bei Pará gesammelt, 20. März 1900 und 28. Mai 1901”.

Remarks: In the General Collection there is a male specimen which has no type status: see above under *Cleptes mutilloides* DUCKE in the annotated catalogue.

Current status: *Cleptidea mutilloides* (DUCKE, 1902) (transferred to *Cleptidea* by KIMSEY 1981: 806).

***Hedychridium seyrigi* ZIMMERMANN, 1956**

Hedychridium Seyrigi ZIMMERMANN, 1956: 144.

Type locality: Madagascar: “Madagascar Centre: Ankaratra. Type au Muséum National d’Histoire Naturelle, Paris; paratype au Musée du Congo Belge de Tervuren”.

Remarks: ZIMMERMANN (1956) described *Hedychridium seyrigi* based on two specimens: the type deposited in Paris and the paratype deposited in Tervuren. In the Zimmermann Collection there is a male labelled as a type, which has no type status, because it was not mentioned in the original description. It bears the following labels: [Coll. Mus. Congo Madagascar: Ankaratra II.1941 A. Seyrig] [*Hedychridium seyrigi* Zimm. det. Zimmermann Type] <red label> (Zimmermann Coll. 13).

Current status: *Hedychridium seyrigi* ZIMMERMANN, 1956.

***Hedychrum ankaratrae* ZIMMERMANN, 1961**

Hedychrum ankaratrae ZIMMERMANN, 1961: 304.

Type locality: Madagascar: “Madagascar Centre: Ankaratra, 1800 m (S.). Type im Muséum National d’Histoire Naturelle, Paris”.

Remarks: ZIMMERMANN (1961) described *Hedychrum ankaratrae* based on a single female deposited in Paris. In the Zimmermann Collection there is one female labelled: [Coll. Mus. Congo Madagascar: Ankaratra XII.1944 A. Seyrig] [*Hedychrum ankaratrae* Z. Det. Zimmermann Type] <red label>, which has no type status, because it was not listed by Zimmermann and received from Tervuren.

Current status: *Hedychrum ankaratrae* ZIMMERMANN, 1961.

***Holophris kalliopsis* ZIMMERMANN, 1961**

Holophris kalliopsis ZIMMERMANN, 1961: 300.

Type locality: “Madagascar Est: Ivondro (S.). Type im Muséum National d’Histoire Naturelle, Paris”.

Remarks: ZIMMERMANN (1961) described *Holophris kalliopsis* based on a single female (holotype by monotypy) deposited in Paris. In the Zimmermann Collection there is one female specimen labelled as: [Ivondro Madagascar] [*Holophris kalliopsis* Zimm. Det. Zimmermann Type] <red label>, which has no type status.

Current status: *Holophris kalliopsis* ZIMMERMANN, 1961.

***Notozus constrictus* FÖRSTER, 1853**

Notozus constrictus FÖRSTER, 1853: 336.

Type locality: Germany: “Aachen”.

Remarks: In the General Collection there is one specimen labelled: [Förster 1885 Type] [14-328] <original label from the Förster collection> [*El. Panzeri* F. det. Mocsáry] [62] <handwritten by Mocsáry> [*N. scutellaris* sec. Gen. Ins.] [Type *Notozus constrictus* Förster] <red label, handwritten by Trautmann> [kein Type *N. panzeri* F. det. Móczár]. TRAUTMANN (1927) and LINSENMAIER (1959) based their interpretation of *Elampus constrictus* on this specimen. MÓCZÁR (1964b: 442) pointed out that this specimen has no type status, because it was collected 32 years after the description. However, the year 1885 is not the collecting year of the specimen, but the year in which the specimen arrived in Vienna Museum. Thus this specimen may actually be a syntype of *Notozus constrictus*. This specimen belongs to *Elampus panzeri* (FABRICIUS) sensu Mocsáry and Móczár (= *constrictus* sensu TRAUTMANN (1927) and LINSENMAIER (1959)).

Current status: *Elampus constrictus* (FÖRSTER, 1853) (transferred to *Elampus* by KIMSEY & BOHART 1991: 170).

***Pseudepyris paradoxa* DUCKE, 1902**

Pseudepyris paradoxa DUCKE, 1902d: 205.

Type locality: Brazil: “Ich sammelte von dieser Art bei Pará, an einer feuchten Waldstelle auf Melastomaceengebüsch umherfliegend, 1 ♂ am 6. und 2 ♂ am 8. März 1902.”

Remarks: In the General Collection there is one male labelled [*Pará III.1903*] [*Pseudepyris paradoxa* Ducke det. Ducke Type]. It has no type status, because it was collected after the description.

Current status: *Adelphe paradoxa* (DUCKE, 1902) (transferred to *Adelphe* by KIMSEY & BOHART 1991: 86).

***Spintharis bispinosa* MOCSÁRY, 1902**

Spintharis bispinosa: MOCSÁRY, 1902b: 539.

Type locality: South Africa: “Willowmore 1/1-901 (Coll. Br.)”.

Remarks: In the General Collection there are two specimens, one male and one female labelled “Cotype”, and collected at Willowmore in January 1910. They have no type status because they were collected after the original description.

Current status: *Spintharina bispinosa* (MOCSÁRY, 1902) (transferred to *Spintharina* by BOHART 1987: 94).

In addition, the following specimens originating from the Chevrier Collection were labelled as types, but none of the following species was described by Chevrier:

(1) *Chrysis distinguenda*: two female specimens labelled: [82] <in red> [*distinguenda* Chevrier Type 1883] [*Chevrieri* det. Kohl] [*C. comparata* sec. Gen. Ins.].

(2) *Chrysis dives*: one female labelled [77] <red label> [*Chr. dives* Chevr. Chevrier type] [*Nyon 1885* Chevrier] [*calimorpha* det. Kohl] [*pulchella* v. *calimorpha* sec. Gen. Ins.].

(3) *Chrysis hybrida*: one female labelled [81] <red label> [*Nyon* Chevrier] [*hybrida* Chev. type] [*hybrida* type det. Chevrier] <in red>.

(4) *Hedychrum rutilans*: one male labelled [87] <red label> [Chevrier type Kohl 1883 *rutilans*] [*rutilans* det. Chevrier] <in red>.

(5) *Hedychridium ardens*: one specimen labelled [88] <red label> [*H. ardens* Chevrier Type *Nyon*].

(6) *Hedychridium roseum* var. *chloropyga*: one female labelled [98] <red label> [*Nyon* Chevrier type] [*roseum* det. Chevrier].

Nomina in collection

The following specimens were labelled as types in NHMW, but they were never described, and can be considered as nomina in collection:

(1) *Chrysidea pyrene* Zimmermann: [*Madagascar Antsirabé – Muséum Paris XI.36 A. Seyrig* / *pyrene* Zimmermann S Zimmermann det Typus].

(2) *Chrysis germari patruelis* Zimmermann: [Umg. Varna Bulgarien Juni 1934 Käufel].

(3) *Chrysis pyronota* Förster, one specimen of *Chrysura dichroa* labelled [Först.] <red label> [Förster 1885 type] [14/720] [61] [*Chrysis pyronota*] [*dichroa* det. Kohl] [*Hol. dichroa* Dhlb. det. Trautmann].

(4) *Holopyga fervida* var. *nigra* Hammer: [Gr. Enzersdf N.Ö.] [♂] [TYPE] <red> [*Holopyga fervida* F. v. *nigra* m. det. Hammer]. It is a melanic specimen.

(5) *Holopyga fervida* var. *viridis* Hammer: [Austria inf. Donauauen F. Blüweiss / 10.VII.31] [♀] [TYPE] <red> [*Holopyga fervida* F. ♀ v. *viridis* m. det. Hammer]. It is a very rare colour variation of the female, which is entirely emerald green as the male.

(6) *Omalus ponticus* Zimmermann: [Sozopol, Bulgarien Käufel, Juni 1936] [Type *Omalus ponticus* Zimm.].

Acknowledgements

We are very grateful to: Stéphane Hanot (Tervuren) and Agnièle Touret-Alby (Paris) for checking Zimmermann's types in the respective museums; Roy Danielsson and Karin Johnson (Lund), Frank Koch (Berlin), Lukasz Przybyłowicz (Kraków), Hege Vårdal (Stockholm), Lars Bjørn Vilhelmsen (Copenhagen), and Zoltán Vas (Budapest), for their precious help in the examination of the type material; David Notton (London) for the loan of some specimens of *C. radians* for neotype designation; Roberto Poggi (Genoa) for access to Gribodo's and Invrea's collections; Marco Bernasconi (Luzern) for access to Linsenmaier's collection; Oliver Niehuis (Friburg, Germany) for his comment on nomenclature; Michele Zilioli (Milano, Italy) for the SEM pictures of *Chrysura socia* genital capsula. A final thank to Ian Cross and Margaret Cheetham (Dorchester, Dorset, UK) for the English proofreading of the manuscript, to Werner Arens (Germany) and Juho Paukkunen (Finland) for reviewing the manuscript.

The study was supported (referred to as projects number AT-TAF-2439, HU-TAF-4013, FR-TAF-5995) by the H2020 SYNTHESYS PLUS Project (Grant Agreement Number 823827), which is financed by the European Commission.

References

- ABEILLE DE PERRIN E., 1877: Diagnoses d'espèces nouvelles et remarques sur des espèces rares. – Feuille des Jeunes Naturalistes 7: 65–68.
- ABEILLE DE PERRIN E., 1878: Diagnoses de Chrysidés nouvelles. – Published by the author, Marseille, 6 pp.
- ABEILLE DE PERRIN E., 1879: Synopsis critique et synonymique des Chrysidés de France. – Annales de la Société Linnéenne de Lyon 26: 1–108.
- ARENS W., 2001: Revision der Arten der *Chrysis dichroa*-Gruppe auf der Peloponnes mit Beschreibung dreier neuer Arten (Hymenoptera; Chrysididae). – Linzer Biologische Beiträge 33 (2): 1157–1193.
- ARENS W., 2014: Die Goldwespen der Peloponnes (Hymenoptera: Chrysididae) 1. Teil: Die Gattungen *Cleptes*, *Omalus*, *Holopyga*, *Hedychrum*, *Hedychridium* und *Euchroeus*; mit Beschreibung einer neuen *Cleptes*-Art. – Linzer Biologische Beiträge 46 (1): 553–621.
- BALTHASAR V., 1953 (1951): Monographie des Chrysidés de Palestine et des pays limitrophes. – Acta entomologica Musei nationalis Pragae 27 (Supplement 2): 1–317.
- BALTHASAR V., 1954: Zlatěnky—Chrysididae (Řád: Blanokřídli—Hymenoptera). – Fauna ČSR, 3: 272 pp.
- BISCHOFF H., 1913: Hymenoptera. Fam. Chrysididae. – In: WYTSMAN, P. (ed.): Genera Insectorum 151, Bruxelles, 86 pp.
- BISCHOFF H., 1935: Beitrag zur Kenntniss der Hymenopterenfauna von Marokko und Westalgerien. Zweiter Teil: Scoliidae, Tiphiidae, Mutillidae, Psammocharidae, Chrysididae. – Jahresbericht der Naturforschenden Gesellschaft Graubündens 73: 3–21.
- BLOCH von L.H.F., 1799: In: BECKER W.G. & DARNSTEDT J.A. (eds): Der Plauische Grund bei Dresden mit Hinsicht auf Naturgeschichte und schöne Gartenkunst. – Part 2, Section III, typis Stiebnerianis, Nürnberg, 120 pp.

- BODENSTEIN W.G., 1939: The genotypes of the Chrysididae (Hymenoptera: Tubulifera). – Transactions of the American Entomological Society 65: 123–33.
- BODENSTEIN W.G., 1951: Superfamily Chryridoidea. – In: MUESEBECK C.F.W. et al.: Hymenoptera of America north of Mexico, synoptic catalogue. – U.S. Gov. Printing Office, Washington D.C., 1420 pp.
- BOHART R.M., 1962: A review of the hexadentate species of *Chrysis* of America North of Mexico (Hymenoptera, Chrysididae). – Acta Hymenopterologica 1 (4): 361–375.
- BOHART R.M., 1963: The genus *Neochrysis* in America North of Mexico (Hymenoptera: Chrysididae). – Bulletin of the Brooklyn Entomological Society 58 (5): 139–144.
- BOHART R.M., 1964: New species of *Chrysis* in the *lauta*, *propria* and *venusta* groups from North America. – Proceedings of the Biological Society of Washington 77 (2): 223–236.
- BOHART R.M., 1987: A key to the species of *Spintharina* with description of new species and indication of species group (Hymenoptera: Chrysididae). – Psyche 94 (1–2): 93–101.
- BOHART R.M., 1988: A key to *Trichrysis* and new species from Sri Lanka and Africa (Hymenoptera: Chrysididae). – The Pan-Pacific Entomologist 63 (4): 347–351.
- BOHART R.M. & FRENCH L.D., 1986: Designation of chrysidid lectotypes in the Mocsáry Collection at the Hungarian National Museum, Budapest (Hymenoptera: Chrysididae). – The Pan-Pacific Entomologist 62 (4): 340–343.
- BOHART R.M. & KIMSEY L.S., 1982: A synopsis of the Chrysididae in America North of Mexico. – Memoirs of the American Entomological Institute, vol. 33, 266 pp.
- BRULLÉ G.A., 1833: Expédition scientifique de Morée. Section des sciences physiques. Tome III. Zoologie et Botanique. 1^{re} partie. Zoologie. Deuxième section. Des animaux articulés. – FG Levrault, Paris, 400 pp.
- BRULLÉ G.A., 1846: Des Hyménoptères. Lepeletier de Saint-Fargeau A: “Histoire Naturelle des Insectes” – Tome Quatrième. Libraire Encyclopédique de Roret, Paris, 680 pp. [Chrysididae: 1–55, pl. 37].
- BUYSSON R. DU, 1887: Descriptions de Chrysidides nouvelles. – Revue d’Entomologie 6 (8): 167–201.
- BUYSSON R. DU, 1891: Contribution aux Chrysidides du globe. – Revue d’Entomologie 10 (2): 29–47.
- BUYSSON R. DU, 1891–1896: Les Chrysidides. – In: ANDRÉ E. (ed.): Species des Hyménoptères d’Europe & d’Algérie. Tome Sixième. – Vve Dubosclard, Paris, 1–XII + 13–758 + 64 unnumbered pages + 32 pls. 1891) 1–88, (1892) 89–208, (1893) 209–272, (1894) 273–400, (1895) 401–624, (1896) 625–756+1–22, (1891–1896) 64 unnumbered pages + 32 pls.
- BUYSSON R. DU, 1896: Première Contribution a la Connaissance des Chrysidides de l’Inde. – Journal of the Bombay Natural History Society 10 (3): 462–181.
- BUYSSON R. DU, 1898: Étude des Chrysidides du Muséum de Paris. – Annales de la Société Entomologique de France 66 (4): 518–580.
- BUYSSON R. DU, 1900: Contribution aux Chrysidides du Globe. (4^o série). – Revue d’Entomologie 19 (8–9): 125–160, pl. 1, 2.
- BUYSSON R. DU, 1901: Sur quelques Chrysidides du Musée de Vienne. – Annalen des Naturhistorischen Museums in Wien 16 (1): 97–104.
- BUYSSON R. DU, 1904: Contribution aux Chrysidides du Globe. 5^e Série. – Revue d’Entomologie 23 (9): 253–275.
- CAMERON P., 1888: Insecta, Hymenoptera (Family Tenthredinidae – Chrysididae). – Biologia Centrali-Americana, 1883–1900, Vol. I, Taylor and Francis, London, 1487 pp.

- CHEVRIER F., 1862: Description des Chrysidides du bassin du Léman. – Ramboz et Schuchardt, 134 pp.
- CRESSON E.T., 1865: Catalogue of Hymenoptera in the collection of the Entomological Society of Philadelphia, from Colorado Territory. – Proceedings of the Entomological Society of Philadelphia 4 (2): 242–313, (3) 426–488.
- DAHLBOM A.G., 1829: Monographia Chrysididarum Sueciae. – Lundini Gothor, 19 pp.
- DAHLBOM A.G., 1831: Exercitationes Hymenopterologicae. Monographia Chrysididum Sveciae (Familia Hymenopterorum Octava Latreille). Pars III (partim). – Londini Gothorum, Pars III: 33–48 [Chrysididae 33–36].
- DAHLBOM A.G., 1845: Dispositio methodica specierum Hymenopterorum, secundum Familias Insectorum naturales. Particula secunda. – Dissert. Lund, Berling, 20 pp.
- DAHLBOM A.G., 1854: Hymenoptera europaea praecipue borealia, formis typicis nonnullis specierum generumve exoticorum propter nexum systematicum associatis, per familias genera, species et varietates disposita atque descripta. 2. *Chrysis* in sensu Linnaeano. – Friedrich Nicolai, Berlin, V–XXIII + 412 pp., 12 pls.
- DALLA TORRE K.W. VON, 1892: Catalogus Hymenopterorum hucusque descriptorum systematicus et synonymicus. Chrysididae (Tubulifera). – Tip. G. Engelmann, Lipsiae, vol. 6, VIII +118 pp.
- DUCKE A., 1902a: Eine neue südamerikanische *Cleptes*-Art. – Zeitschrift für Hymenopterologie und Dipterologie 2 (2): 91–93.
- DUCKE A., 1902b: Neue südamerikanische Chrysididen. (Hym.). – Zeitschrift für Hymenopterologie und Dipterologie 2 (2): 97–101.
- DUCKE A., 1902c: Ein wenig bekanntes Chrysididengenus *Amisega* CAM. – Zeitschrift für Hymenopterologie und Dipterologie 2 (3): 141–144.
- DUCKE A., 1902d: Neue Goldwespen von Pará (Hym.). – Zeitschrift für Hymenopterologie und Dipterologie 2 (4): 204–206.
- DUCKE A., 1903: Neue südamerikanische Chrysididen. (Hym.). – Zeitschrift für Systematische Hymenopterologie und Dipterologie 3 (3): 129–136, (4): 226–231.
- DUFOUR L. & PERRIS E., 1840: Mémoire sur les Insectes Hyménoptères qui nichent dans l'intérieur des tiges sèches de la Ronce. – Annales de la Société Entomologique de France 9: 5–53.
- EDNEY E.B., 1954: The Holonychinae (Family Chrysididae) of South Africa. Part IV. *Tetrachrysis* LICHT. – Occasional Papers of the National Museums of Southern Rhodesia 19: 543–623.
- EVERSMANN E., 1858 (1857): Fauna Hymenopterologica Volgo-Uralensis. Continuatio. Familia Chrysidarum. – Bulletin de la Société Imperiale des Naturalistes de Moscou, 30: 544–567. <https://doi.org/10.5962/bhl.title.67704>
- FABRICIUS J.C., 1775: Systema entomologiae, sistens Insectorum classes, ordines, genera, species, adiectis synonymis, locis, descriptionibus, observationibus. – Korti, Flensburgi et Lipsiae, 832 pp. <http://dx.doi.org/10.5962/bhl.title.36510>
- FABRICIUS J.C., 1781: Species insectorum, exhibentes eorum differentias specificas, synonyma auctorum, loca natalia, metamorphosisin adiectis observationibus, descriptionibus. Tomo I. – CE Bohni, Hamburgi et Kiloni, VIII + 522 pp. <http://dx.doi.org/10.5962/bhl.title.11658>
- FABRICIUS J.C., 1793: Entomologia systematica emendata et aucta secundum classes, ordines, genera, species adiectis synonymis, locis, observationibus, descriptionibus. Tomo II. – C.G. Proft, Hafniae [= Copenhagen], VIII + 519 pp. <https://doi.org/10.5962/bhl.title.36532>
- FABRICIUS J.C., 1804: Systema Piezatorum secundum ordines, genera, species, adiectis synonymis, locis, observationibus, descriptionibus. – Apud Carolum Reichard, Brunsvigae, III–XIV, 439 + 30 pp. <http://dx.doi.org/10.5962/bhl.title.12548>

- FISCHER M., 1980: Dr. med. Stephan Zimmermann †. – Annalen des Naturhistorischen Museums in Wien, Serie B, 85: 271–274.
- FÖRSTER A., 1853: Eine Centurie neuer Hymenopteren. Beschreibungen neuer Arten aus der Familie der Chrysididen. – Verhandlungen des naturhistorischen Vereins der preussischen Rheinlande und Westfalens 10: 266–362.
- FRENCH L.D., 1985: *Exallopyga*, a new genus of Neotropical Elampinae (Hymenoptera: Chrysididae). – Journal of the Kansas Entomological Society 58 (4): 620–625.
- GERMAR E.F., 1817: Reise nach Dalmatien und in das Gebiet von Ragusa. – F.A. Brockhaus, Leipzig und Altenburg, 323 pp.
- GERSTAECKER A., 1869: Zwei neue von Hrn. Prof. Zeller in Ober-Kärnten gesammelte *Chrysis*-Arten. – Entomologische Zeitung 30: 185–187.
- GUÉRIN-MENÉVILLE F.E., 1842: Description de quelques Chrysidides nouvelles. – Revue Zoologique 5 (5): 144–150.
- HAMMER K., 1950: Über einige von Kjell Kolthoff und anderen in China gesammelten Hymenoptera. Chrysididae, Cleptidae, Mutillidae. – Arkiv för Zoologi 42A: 1–12.
- HARRIS M., 1776 (1776–1780): An exposition of English Insects. – White and Robinson, London, 166 pp.
- HOFFMANN A., 1935: Neue Chrysididen. – Entomologischer Anzeiger 15 (35–36): 228.
- HOFFMANN A., 1937: Neue Chrysididen. – Entomologische Rundschau 54 (39): 491.
- INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE (ICZN), 1998: Opinion 1906, 1998: *Euchroeus* LATREILLE, 1809 (Insecta, Hymenoptera): conserved; *Chrysis purpurata* FABRICIUS, 1787 (currently *Euchroeus purpuratus*): specific name conserved; and *Chrysis gloriosa* FABRICIUS, 1793: specific name suppressed. – Bulletin of Zoological Nomenclature, London 55 (3): 194–196.
- INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE (ICZN), 1999: International Code of Zoological Nomenclature. – Fourth Edition, ITZN, London, XXX + 306 pp.
- KIMSEY L.S., 1981: The Cleptinae of the Western Hemisphere (Chrysididae: Hymenoptera). – Proceedings of the Biological Society of Washington 94 (3): 801–818.
- KIMSEY L.S., 1985: Distinction of the “*Neochrysis*” genera and description of new species (Chrysididae, Hymenoptera). – Psyche 92 (2–3): 269–286.
- KIMSEY L.S., 1986a: A re-evaluation of the systematic position of *Allocoelia* MOCSÁRY (Chrysididae, Hymenoptera) and a revision of the component species. – Systematic Entomology 11 (1): 83–91.
- KIMSEY L.S., 1986b: Designation of chrysidid lectotypes. – The Pan-Pacific Entomologist 62 (2): 105–110.
- KIMSEY L.S., 1987a: New genera and species of Neotropical Amiseginae (Hymenoptera, Chrysididae). – Psyche 94 (1–2): 57–76.
- KIMSEY L.S. & BOHART R.M., 1991 (1990): The Chrysidid Wasps of the World. – Oxford University Press, New York, IX + 652 pp.
- KLUG F., 1845: Symbolae physicae, seu icones et descriptiones insectorum, quae ex itinere per Africam borealem et Asian occidentalem – Reimer, Berlin, vol. V.
- KROMBEIN K., 1958a: Biology and taxonomy of the cuckoo-wasps of coastal North Carolina (Hymenoptera, Chrysididae). – Transactions of the American Entomological Society 84: 141–168, pl. IX–X.
- KROMBEIN K., 1958b: Additions during 1956 and 1957 to the wasp fauna of Lost River State Park, West Virginia, with biological notes and descriptions of new species (Hymenoptera, Aculeata). – Proceedings of the Entomological Society of Washington 60 (2): 49–64.

- KROMBEIN K., 1960: Additions to the Amiseginae and Adelphinae (Hymenoptera, Chrysididae). – Transactions of the American Entomological Society 86: 27–39.
- KROMBEIN K., 1963: A new *Chrysura* from Plummers Island, Maryland (Hymenoptera, Chrysididae). – Entomological News 24: 149–52.
- KUNZ P.X., 1994: Die Goldwespen (Chrysididae) Baden-Württembergs. Taxonomie, Bestimmung, Verbreitung, Kartierung und Ökologie. – Beihefte zu den Veröffentlichungen für Naturschutz und Landschaftspflege in Baden-Württemberg 77: 1–188.
- KUSDAS K., 1974: Beitrag zur Kenntnis der Insektenfauna von Korsika. – Zeitschrift der Arbeitsgemeinschaft österreichischer Entomologen 24 (4): 153–166.
- LEPELETIER A.L.M., 1806: Mémoire sur quelques espèces nouvelles d'insectes de la section des Hyménoptères appelés les Portetuyaux, et sur les caractères de cette famille et des genres qui la composent. – Annales du Muséum National d'Histoire Naturelle 7: 115–129.
- LINNAEUS C., 1758: Systema Naturae per Regna tria Naturae, secundum Classes, Ordines, Genera, Species, cum characteribus, differentiis, synonymis, locis. Editio Decima, Refurmata, Tomus I. – Laurenti Salvii, Holmiae, 824 pp.
- LINNAEUS C., 1767: Systema Naturae per Regna Tria Naturae, secundum Classes, Ordines, Genera, Species, cum characteribus, differentiis, synonymis, locis. Editio Duodecima, Refurmata, Tomus I, pars II. – Holmiae, 775 pp. [pp. 553–1327] <http://dx.doi.org/10.5962/bhl.title.68927>
- LINSENMAIER W., 1951: Die europäischen Chrysididen (Hymenoptera). Versuch einer natürlichen Ordnung mit Diagnosen. – Mitteilungen der Schweizerischen Entomologischen Gesellschaft 24 (1): 1–110.
- LINSENMAIER W., 1959: Revision der Familie Chrysididae (Hymenoptera) mit besonderer Berücksichtigung der europäischen Spezies. – Mitteilungen der Schweizerischen Entomologischen Gesellschaft 32 (1): 1–232.
- LINSENMAIER W., 1968: Revision der Familie Chrysididae (Hymenoptera). Zweiter Nachtrag. – Mitteilungen der Schweizerischen Entomologischen Gesellschaft 41 (1–4): 1–144.
- LINSENMAIER W., 1985: Revision des Genus *Neochrysis* LINSENMAIER, 1959 (Hymenoptera, Chrysididae). – Entomofauna 6 (26): 425–487.
- LINSENMAIER W., 1987: Revision der Familie Chrysididae (Hymenoptera). 4. Teil. – Mitteilungen der Schweizerischen Entomologischen Gesellschaft 60 (1–2): 133–158.
- LINSENMAIER W., 1997a: Altes und Neues von den Chrysididen (Hymenoptera Chrysididae). – Entomofauna 18 (19): 245–300.
- LINSENMAIER W. 1997b: Die Goldwespen der Schweiz. – Veröffentlichungen aus dem Natur-Museum Luzern 9, 140 pp.
- LINSENMAIER W., 1999: Die Goldwespen Nordafrikas (Hymenoptera, Chrysididae). – Entomofauna, Supplement 10, 210 pp.
- MACEK J., STRAKA J., BOGUSCH P., DVOŘÁK L., BEZDĚČKA P. & TYRNER P., 2010: Blanokřídli České republiky I – žahadloví. – Atlas, Academia, Praha, 524 pp.
- MADER L., 1933: Etwas über Hymenopteren. – Entomologischer Anzeiger 13: 125–126.
- MADER A., 1936: Beitrag zur Kenntnis der Hymenopteren. I. – Entomologische Zeitschrift 50 (24): 275–277; (25): 288–290.
- MADER A., 1940 (1939): Beitrag zur Kenntnis der Hymenopteren. III. – Entomologisches Nachrichtenblatt 13 (3–4): 93–110.
- MADL M., 2008: New records of the family Chrysididae (Hymenoptera) from Madagascar. – Entomofauna 29 (5): 81–92.

- MADL M. & ROSA P., 2012: A Catalogue of the Chrysididae (Hymenoptera: Chryridoidea) of the Ethiopian Region excluding Malagasy Subregion. – Linzer Biologische Beiträge 44 (1): 5–169.
- MARQUET M., 1879: Aperçu des Insectes Hyménoptères qui habitent le Midi de la France. – Bulletin de la Société d'histoire naturelle de Toulouse 13: 129–190.
- MINGO E., 1994: Hymenoptera Chrysididae. Fauna Iberica. – Museo Nacional de Ciencias Naturales Consejo Superior de Investigaciones Científicas, Madrid, vol. 6, 256 pp.
- MITA T. & ROSA P., 2019: Redescription of *Chrysidea pumiloides* ZIMMERMANN, 1956, and description of three new species of *Chrysidea* from Madagascar (Hymenoptera: Chrysididae). – European Journal of Taxonomy 564: 1–20. DOI: <https://doi.org/10.5852/ejt.2019.564>
- MOCSÁRY A., 1882: Chrysididae faunae Hungaricae. – Hungarian Academy of Science, Budapest, vol. 3, 94 pp.
- MOCSÁRY A., 1883: Hymenoptera nova Europaea et exotica. – Természettudományok Köréből 13 (11): 1–72.
- MOCSÁRY A., 1887: Studia Synonymica. – Természetrzaji Füzetek 11(1): 12–20.
- MOCSÁRY A., 1889: Monographia Chrysididarum Orbis Terrarum Universi. – Academiae Scientiarum Hungaricae, Budapest, 643 pp.
- MOCSÁRY A., 1890: Additamentum primum ad monographia Chrysididarum Orbis Terrarum Universi. – Természetrzaji Füzetek 13 (2–3): 45–66.
- MOCSÁRY A., 1893: Additamentum secundum ad monographiam Chrysididarum Orbis Terrarum Universi. – Természetrzaji Füzetek 15 (4): 213–40.
- MOCSÁRY A., 1899: Species Chrysididarum novae in collectione Musaei Nationalis Hungarici. Természetrzaji Füzetek 22: 483–494.
- MOCSÁRY A., 1902a: Species aliquot Chrysididarum novae. – Természetrzaji Füzetek 25: 334–349.
- MOCSÁRY A., 1902b: Chrysididae in Africa Meridionali a Dre. H. Brauns collectae et ab Alexandro Mocsáry recensitae. – Természetrzaji Füzetek 25: 536–572.
- MOCSÁRY A., 1904a: Chrysididae in Africa Meridionali a Dre. H. Brauns collectae. (Publicatio secunda). – Annales Musei Nationalis Hungarici 2: 403–413.
- MOCSÁRY A., 1904b: Observatio de *Clepte aurora* SMITH. – Annales historico-naturales Musei nationalis hungarici 2: 567–569.
- MOCSÁRY A., 1908: Chrysididae in Africa Meridionali a dre. H. Brauns collectae. (Publicatio tertia). – Annales historico-naturales Musei nationalis Hungarici 6: 505–526.
- MOCSÁRY A., 1912: Species Chrysididarum novae. III. – Annales historico-naturales Musei nationalis Hungarici 10: 549–592.
- MOCSÁRY A., 1914: Chrysididae plerumque exoticae novae. – Annales historico-naturales Musei nationalis Hungarici 12: 1–74.
- MÓCZÁR L., 1951 (1949): Les Cleptidae du Musée Hongrois d'Histoire Naturelle. – Annales historico-naturales Musei nationalis Hungarici 1: 260–283.
- MÓCZÁR L., 1962: Bemerkungen über einige *Cleptes*-Arten (Hymenoptera: Cleptidae). – Acta Zoologica Academiae Scientiarum Hungaricae 8: 115–125.
- MÓCZÁR L., 1964a: Ergebnisse der Revision der Goldwespenfauna des Karpatenbeckens (Hymenoptera: Chrysididae). – Acta Zoologica Academiae Scientiarum Hungaricae 10 (3–4): 433–450.

- MÓCZÁR L., 1964b: Über die *Notozus*-Arten Ungarns (Hymenoptera, Chrysididae). – *Annales historico-naturales Musei nationalis Hungarici* 56: 439–447.
- MÓCZÁR L., 1965: Weitere Ergebnisse der Revision der Goldwespenfauna des Karpatenbeckens (Hymenoptera: Chrysididae). – *Acta Zoologica Academiae Scientiarum Hungaricae* 11 (1–2): 168–180.
- MÓCZÁR L., 1967: Ergebnisse der zoologischen Forschungen von Dr. Z. Kaszab in der Mongolei. 100. Chrysididae (Hymenoptera). – *Acta Zoologica Academiae Scientiarum Hungaricae* 13 (1–2): 183–190.
- MÓCZÁR L., 1968: Drei neue *Cleptes*-Arten (Hymenoptera). – *Acta Zoologica Academiae Scientiarum Hungaricae* 14 (1–2): 167–173.
- MÓCZÁR L., 1996: New data on the subfamily Cleptinae (Hymenoptera: Chrysididae). – *Acta Zoologica Academiae Scientiarum Hungaricae* 42 (2): 133–144.
- MÓCZÁR L., 1997: Revision of the *Cleptes nitidulus* group of the world (Hymenoptera, Chrysididae, Cleptinae). – *Entomofauna* 18 (3): 25–44.
- MÓCZÁR L., 1998a (1997): Revision of the *Cleptes (Holocleptes)* species of the world (Hymenoptera, Chrysididae). – *Acta Zoologica Academiae Scientiarum Hungaricae* 43 (4): 323–343.
- MÓCZÁR L., 1998b: Revision of the Cleptinae of the World. Genus *Cleptes* subgenera and species groups. (Hymenoptera, Chrysididae). – *Entomofauna* 19 (31): 501–516.
- MÓCZÁR L., 2001: World revision of the *Cleptes semiauratus* group (Hymenoptera, Chrysididae, Cleptinae). – *Linzer biologische Beiträge* 33 (1): 905–931.
- MORGAN D., 1984: Cuckoo-Wasps. (Hymenoptera, Chrysididae). – *Handbooks for the Identification of British Insects* 6 (5): 1–37.
- NIEHUIS O., 2000: The European species of the *Chrysis ignita* group: Revision of the *Chrysis angustula* aggregate (Hymenoptera, Chrysididae). – *Mitteilungen aus dem Museum für Naturkunde in Berlin, Deutsche Entomologische Zeitschrift* 47 (2): 181–201.
- NURSE C.G., 1902: New species of Indian Chrysididae. – *The Entomologist* 35: 304–308.
- NURSE C.G., 1903: New species of Indian Chrysididae. – *The Entomologist* 36: 10–12.
- OBRECHT E. & HUBER C., 1993: Ducke type specimens and other Brazilian insect types in the E. A Goeldi collection in the Natural History Museum Bern (Switzerland). An annotated catalogue. – *Jahrbuch des Naturhistorischen Museums Bern* 11: 163–184.
- PAGLIANO G. & STRUMIA F., 2000: Imenotteri Chrysididae, Mutillidae e Myrmosidae della Corsica. – *Environnement et identité en Méditerranée, Université Pascal Paoli (Corse) 2000*: 209–212.
- PAUKKUNEN J., BERG A., SOON V., ØDEGAARD F. & ROSA P., 2015: An illustrated key to the cuckoo wasps (Hymenoptera, Chrysididae) of the Nordic and Baltic countries, with description of a new species. – *ZooKeys* 548: 1–116. DOI: <https://dx.doi.org/10.3897/zookeys.548.6164>
- PAUKKUNEN J., ROSA P., SOON V., JOHANSSON N. & ØDEGAARD F., 2014: Faunistic review of the cuckoo wasps of Fennoscandia, Denmark and the Baltic countries (Hymenoptera: Chrysididae). – *Zootaxa* 3864: 1–67. DOI: <http://dx.doi.org/10.11646/zootaxa.3864.1.1>
- PAULI T., CASTILLO-CAJAS R.F., ROSA P., KUKOWKA S., BERG A., VAN DEN BERGHE E., FORNOFF F., HOPFENMÜLLER S., NIEHUIS M., PETERS R.S., STAAB M., STRUMIA F., TISCHENDORF S., SCHMITT F. & NIEHUIS O., 2018: Phylogenetic analysis of cuckoo wasps (Chrysididae) reveals the partially artificial nature of the current classification at the genus level in this family of Hymenoptera. – *Systematic Entomology* 44 (2): 322–335. DOI: <https://doi.org/10.1111/syen.12323>
- PERROUD B.P. & MONTROUZIER X., 1864: Essai sur la faune entomologique de Kanala (Nouvelle-Calédonie) et description de quelques espèces nouvelles ou peu connues. – *Annales de la Société Linnéenne de Lyon* 11: 46–257.

- RADOSZKOWSKI, O., 1877: Chrysidiformes, Mutillidae et Sphegidae. – In: Putieshestvie v Turkestan A.P. Fedtshenko [Voyage au Turkestan d'Alexis Fedtschenko], Series 1: 2 (5), pp. 1–87, 8 pls. [in Russian and Latin]
- RADOSZKOWSKI O., 1889 (1888): Révision des armures copulatrices des mâles de la tribu des Chrysidés. – Horae Societatis Entomologicae Rossicae 23 (1–2): 3–40.
- ROHWER S.A., 1921: Description of a cuckoo wasps from the Hawaiian Islands. – Proceedings of the Hawaiian Entomological Society 5: 67–69.
- ROSA P., 2006: I Crisidi della Valle d'Aosta. – Monografie del Museo Regionale di Scienze Naturali di Saint-Pierre, 362 pp., 48 pl.
- ROSA P., 2009: Catalogo dei tipi dei Crisidi (Hymenoptera, Chrysididae) del Museo Civico di Storia Naturale “G. Doria” di Genova. – Annali del Museo Civico di Storia Naturale “G. Doria” 100: 209–272.
- ROSA P., 2018a: New records of cuckoo-wasps (Hymenoptera, Chrysididae) from Russia, with taxonomic notes. – Far Eastern Entomologist 360: 1–14.
- ROSA P., 2018b: Review of *Odontochrydium* BRAUNS (Hymenoptera, Chrysididae) with description of two species from the Palaearctic and Oriental regions. – Zootaxa 4450 (4): 445–457. DOI: <https://doi.org/10.11646/zootaxa.4450.4.3>
- ROSA P., 2019: Two new species of *Hedychrum* LATREILLE from Middle East and Pakistan (Hymenoptera, Chrysididae). – Zoology in the Middle East 65 (1): 1–12. doi: 10.1080/09397140.2019.1
- ROSA P., LELEJ A.S., BELOKOBYLSKIJ S.A., VINOKUROV N.B. & ZAYTSEVA L.A., 2019: Illustrated and annotated check-list of the Russian cuckoo wasps (Hymenoptera, Chrysididae). – Entomofauna, supplement 23: 1–360.
- ROSA P. & SOON V., 2012: Hymenoptera: Chrysididae. – Fauna Europaea version 2.5. <http://www.faunaeur.org> [accessed 1 Dec. 2014]
- ROSA P. & VÅRDAL H., 2015: An annotated catalogue of the types of Chrysididae (Hymenoptera) at the Swedish Museum of Natural History, Stockholm, with brief historical notes. – ZooKeys 495: 79–132. doi: 10.3897/zookeys.495.9356
- ROSA P., VAS Z., XU Z-f., 2017: The Palaearctic types of Chrysididae (Insecta, Hymenoptera) deposited in Hungarian Natural History Museum, Budapest. – Zootaxa 4252 (1): 1–130. doi: 10.11646/zootaxa.4252.1.1
- ROSA P., WEI N-s., FENG J. & XU Z-f., 2016: Revision of the genus *Trichrysis* LICHTENSTEIN, 1876 from China, with description of three new species (Hymenoptera, Chrysididae). – Deutsche Entomologische Zeitschrift 63 (1): 109–136. doi: 10.3897/dez.63.7347
- ROSA P., WEI N-s. & XU Z-f. 2014: An annotated checklist of the chrysidid wasps (Hymenoptera, Chrysididae) from China. – ZooKeys 455: 1–128. doi: 10.3897/zookeys.455.6557
- ROSA P., WIŚNIEWSKI B. & XU Z-f., 2015: Annotated type catalogue of the Chrysididae (Insecta, Hymenoptera) deposited in the collection of Radoszkowski in the Polish Academy of Sciences, Kraków. – ZooKeys 486: 1–100. doi: 10.3897/zookeys.486.8753
- ROSA P. XU Z-f., 2015: Annotated type catalogue of the Chrysididae (Insecta, Hymenoptera) deposited in the collection of Maximilian Spinola (1780–1857), Turin. – ZooKeys 471: 1–96. doi: 10.3897/zookeys.471.6558
- ROSA P. & ZETTEL H., 2011: Chrysididae. In: WIESBAUER H., ZETTEL H., FISCHER M.A. & MAIER R. (eds): Der Bisamberg und die Alten Schanzen Vielfalt am Rande der Großstadt Wien, pp. 195–200.
- ROSSI P., 1790: Fauna etrusca sistens Insecta quae in provinciis Florentina et Pisana praesertim collegit. Tomus secundus. – Thomae Masi et Sociorum, Liburni, 348 pp., 10 pl.

- SCHENCK A.C.F., 1856: Beschreibung der in Nassau aufgefundenen Goldwespen (Chrysididae) nebst einer Einleitung über Familie im Allgemeinen und einer kurzen Beschreibung der übrigen deutschen Arten. – Jahrbücher des Vereins für Naturkunde im Herzogthum Nassau, Wiesbaden 11: 13–89.
- SCHLETTERER A., 1891: Hymenoptera in expeditione sub auspicio regii imperii belgici perfecta in regione Africae ad Congo flumen inferius collecta. Annales de la Société entomologique de Belgique 35: 1–36.
- SCOPOLI J.A., 1763: Entomologia Carniolica exhibens Insecta Carnioliae indigena et distributa in ordines, genera, species, varietates. Methodo Linnaeana. – Typis Ioannis Thomae Trattner, Vindobonae, 420 pp.
- SEMENOV A., 1892: Chrysididarum species novae. Mélanges biologiques. – Bulletin de l'Académie Impériale des Sciences de St. Pétersbourg 13: 241–265.
- SEMENOV A. & NIKOLSKAYA M.N., 1954: Classification of the tribe Hedychrini MOCS. (Hymenoptera, Chrysididae) and description of new species. – Trudy Zoologicheskogo Instituta Akademii Nauk SSSR 15: 138–145. [in Russian]
- SHUCKARD W.E., 1837: Description of the genera and species of the British Chrysididae. – The Entomologist's Magazine 4: 156–177.
- SMISSEN J. van der, 2010: Schlüssel zur Determination der Goldwespen der engeren *ignita*-Gruppe (Hymenoptera, Aculeata: Chrysididae). Mit detaillierten Beschreibungen und 502 Original-Abbildungen. – Verhandlungen des Vereins für Naturwissenschaftliche Heimatforschung zu Hamburg e. V. 43: 4–184.
- SPINOLA M., 1838: Comptes rendus des Hyménoptères recueillis par M. Fischer pendant son voyage en Égypte, et communiqués par M. le Docteur Walzl à Maximilien Spinola. – Annales de la Société Entomologique de France 7: 437–546.
- SPINOLA M., 1851: Insectos. Orden 7. Himenopteros. Crisiditas. XI. – In: GAY C. (ed.): Historia física y política de Chile. – Zoología, Maulde, Renon, Paris: 404–413.
- STRUMIA F., 1995: Hymenoptera Chrysididae. – In: MINELLI A., RUFFO S., LA POSTA S. (eds): Checklist delle specie della fauna italiana. – Calderini, Bologna 99: 1–10.
- STRUMIA F. & GAYUBO S.F., 2013: To the knowledge of cuckoo wasps (Hymenoptera: Chrysididae) of the Balearic Archipelago, Spain. – Zootaxa 3694 (5), 471–485. doi: <http://dx.doi.org/10.11646/zootaxa.3694.5.5>
- TELFORD A.D., 1964: The Nearctic *Parnopes* with an analysis of the male genitalia in the genus (Hymenoptera: Chrysididae). – University of California Publications in Entomology 36: 1–42.
- TRAUTMANN W., 1922: Untersuchungen an einigen Goldwespenformen. – Berliner entomologische Zeitschrift 1922 (3): 321–322.
- TRAUTMANN W., 1927: Die Goldwespen Europas. – Ed. Uschman, Weimar, 194 pp.
- TSUNEKI K., 1948: Chrysididae from Shansi, North China (Hymenoptera). – Mushi 18 (19): 115–131.
- TYRNER P., 2007: Chrysididae: Chrysididae (zlatěnkovití). – In: BOGUSCH P., STRAKA J. & KMENT P. (eds): Annotated checklist of the Aculeata (Hymenoptera) of the Czech Republic and Slovakia. Komentovaný seznam žahadlových blanokřídých (Hymenoptera: Aculeata) České republiky a Slovenska. – Acta Entomologica Musei Nationalis Pragae, Supplementum 11, 300 pp. [41–63].
- VIKBERG V., 1986: Notes on some taxa of Hymenoptera Apocrita Aculeata. – Notulae Entomologicae 66: 61–64.
- VINOKUROV N.B., 2006: [Daily activity and seasonal dynamics of flight in cuckoo wasps (Hymenoptera, Chrysididae) in Central Ciscaucasia]. – In: [Problems of Ecology of Mountain Territories: Collection of scientific papers]. – Association of scientific editions KMK, Moscow: 19–21. [In Russian with English abstract]

- VINOKUROV N.B., 2009: [Cuckoo wasps (Hymenoptera, Chrysididae) in steppe biocenoses of the Middle Kama region (North Caucasus)]. – In: [Steppes of Northern Eurasia: Materials V International Symposium Orenburg] 1: 206–208. [In Russian]
- VINOKUROV N.B., 2014: [To the knowledge of the chrysidid fauna (Hymenoptera, Chrysididae) of Western Caucasus (within the Republic of Adygea)]. – In: [Materials of the V All-Russian conference with international participation, dedicated to the 25th anniversary of the scientific school A.K.Tembotov RAN and the 20th anniversary of the Institute of Ecology of Mountain Territories A.K.Tembotov KBSC RAN]. – Nalchik: 92–93. [In Russian]
- WEI N.S., ROSA P., XU Z-f., 2013: Revision of the Chinese *Cleptes* (Hymenoptera, Chrysididae) with description of new species. – ZooKeys 362: 55–96. doi: 10.3897/zookeys.362.6175.
- WIŚNIEWSKI B., 2015: Cuckoo-wasps (Hymenoptera: Chrysididae) of Poland. Diversity, identification, distribution. Ojców National Park, Poligrafia Inspektoratu Towarzystwa Salezjańskiego, Kraków, 563 pp.
- ZIMMERMANN S., 1938 [1937]: Eine neue Goldwespe aus dem östlichen Mittelmeergebiet (*Gonochrysis mochii* nov.). – Bulletin de la Société Entomologique Royale d'Égypte 21: 2–4.
- ZIMMERMANN S., 1940: Zwei neue Goldwespen aus Ägypten. – Bulletin de la Société Fouad 1^{er} d'Entomologie 24: 31–33.
- ZIMMERMANN S., 1944 (1942): *Chrysis käufeli*, eine neue Goldwespe aus den Ostalpen. – Annalen des Naturhistorischen Museums in Wien 53: 82–88.
- ZIMMERMANN S., 1950: Zwei neue Arten der Gattung *Spintharis* DAHLB. (Hymenopt., Chrysididae) aus Nordafrika. – Annalen des Naturhistorischen Museums in Wien 57: 314–323.
- ZIMMERMANN S., 1952: Missione biologica Sagan-Omo diretta dal Prof. Zavattari. Drei neue Goldwespen (Hymenoptera – Chrysididae). – Annali del Museo Civico di Storia Naturale “G. Doria” 65 (4): 358–363.
- ZIMMERMANN S., 1954a: *Chrysis procera* nov. spec. eine neue Goldwespe aus der Verwandtschaft der *Chrysis* (*Holochrysis*) *simplex* DAHLB. – Zeitschrift der Wiener Entomologischen Gesellschaft 39: 264–267.
- ZIMMERMANN S., 1954b: Hymenoptera-Tubulifera: Cleptidae, Chrysididae. – Catalogus Faunae Austriae, Teil XVI, 16 pp.
- ZIMMERMANN S., 1956: Contribution a l'étude des Chrysidides de Madagascar (Hymenoptera). – Memoires de l'Institut Scientifique de Madagascar, Serie E 7: 141–165.
- ZIMMERMANN S., 1959: Die Artengruppen der *Chrysis pallidicornis* SPIN. und der *Chrysis xanthocera* KLUG (Hymenoptera, Chrysididae). – Deutsche Entomologische Zeitschrift 6 (1–3): 8–33.
- ZIMMERMANN S., 1961: Zweiter Beitrag zur Kenntnis der Chrysididen Madagascars (Hymenoptera). – Memoires de l'Institut Scientifique de Madagascar, Serie E 12: 297–321.
- ZIMMERMANN S., 1962 (1961): Neue Goldwespenfunde in Österreich (Hymenoptera, Chrysididae). III. – Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen 13 (3): 83–84.
- ZIMMERMANN S., 1963: Ergebnisse der Zoologischen Nubien-Expedition 1962. Teil VI. Hymenoptera: Chrysididae. – Annalen des Naturhistorischen Museums in Wien 66: 413–417.
- ZIMMERMANN S., 1964 (1963): *Chrysis laodamia* BUYSSON und ihre Synonyme. – Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen 15 (3): 95–96.
- ZIMMERMANN S., 1977: Ein neues *Hedychridium* aus Rhodos (Hymenoptera, Chrysididae). – Zeitschrift der Arbeitsgemeinschaft Österreichischer Entomologen 29 (1–2): 71.
- ZIMSEN E., 1964: The type material of I.C. Fabricius. – Munksgaard, Copenhagen, 656 pp.