



The Palaearctic types of Chrysididae (Insecta, Hymenoptera) deposited in the Linsenmaier collection. Part 3. Elampini: genus *Hedychrum* Latreille

PAOLO ROSA^{1,2*}, RENÉ HEIM^{2,3} & MARCO VALERIO BERNASCONI^{2,4}

¹Université de Mons, Laboratoire de Zoologie, Place du parc 20, 7000 Mons, Belgium.

✉ paolo.rosa@umons.ac.be; <https://orcid.org/0000-0003-2919-5297>

²Natur-Museum Luzern, Kasernenplatz 6, CH-6003 Luzern, Switzerland.

✉ rene.heim@bluewin.ch; <https://orcid.org/0000-0002-6011-5200>

⁴Marco.Bernasconi@lu.ch; <https://orcid.org/0000-0003-0993-8049>

*Corresponding author. ✉ paolo.rosa@umons.ac.be

Abstract

An illustrated catalogue of the Palaearctic types of species and subspecies described by Walter Linsenmaier in the genus *Hedychrum* Latreille, 1802 is given. Linsenmaier described 14 taxa of *Hedychrum*; almost all primary types are deposited in the collection, at the Natur Museum (Luzern, Switzerland), with the exception of two holotypes which are deposited at the Natural History Museum (London), and Naturalis (Leiden). *Hedychrum mithras* Semenov-Tian-Shanskij, 1967 **spec. resurr.** is revalidated from the previous synonymy with *Hedychrum luculentum bytinskii* Linsenmaier, 1959. A list of the species described and pictures of the holotypes and allotypes deposited in the collection are given.

Key words: Chrysidinae, Elampini, subgenera, catalogue, cuckoo wasps

Introduction

The present article is the fourth contribution dedicated to the Chrysididae collection of Walter Linsenmaier (1917–2000), currently housed at the Natur-Museum in Luzern (Switzerland, NMLU) (Rosa *et al.* 2015, 2020, 2022). This is the third catalogue on the Palaearctic types deposited in his collection and it focuses on taxa described by Linsenmaier (1959, 1968, 1969, 1987, 1994, 1999) in the genus *Hedychrum* Latreille, 1802. The first part of this series dealt with types described in the subfamily Cleptinae, genus *Cleptes* Latreille, 1802 (Rosa *et al.* 2020), and the second on types described in the subfamily Chrysidinae, genus *Hedychridium* Abeille de Perrin, 1878 (Rosa *et al.* 2022).

Linsenmaier (1959, 1968, 1987, 1994, 1997a, 1999) described 16 new subgenera (including *Adscitis*, not mentioned in Rosa *et al.* 2015), and more than 700 new species and subspecies, 14 of which belong to the genus *Hedychrum*. He revised and keyed *Hedychrum* species from Europe (Linsenmaier 1959), Arabian Peninsula (Linsenmaier 1994), and northern Africa (Linsenmaier 1999).

Materials and methods

The Linsenmaier collection includes about 56,750 specimens (Rosa *et al.* 2015), 3234 of which are *Hedychrum*: 194 from Subsaharan Africa, 168 from Palaearctic part of Africa, 14 from the Nearctics, 18 from the Neotropics, 16 from the Oriental region, the remaining from Eurasia, from Portugal to Japan.

We here report all available data for primary and secondary types deposited in his collection. Species are listed alphabetically and the following data are given: type locality; category of the type; number and sex of specimens; complete label data, a single slash indicates the information handwritten on the reverse side of the label and labels are separated from each other by double slash.

Linsenmaier often added a colour label (grey or light blue) between the specimens and the locality labels (Rosa *et al.* 2015). These labels bear a generic locality only (e.g. Helvetia, Mongolia, etc.) and were added by Linsenmaier for a decorative effect only. They do not provide any relevant information and therefore they are excluded from the list of labels as in the previous catalogues (Rosa *et al.* 2020, 2022).

We follow Linsenmaier's (1968, 1987, 1997a, 1999) concept for the definition of the geographic area of Palestine, intended as the area currently composed by the modern State of Israel, the West Bank and the Gaza Strip. In this sense, "Palestine" is considered as the geographical region in western Asia without any reference to the current State of Palestine.

The definitions of holotype, neotype, lectotype, etc. are used according to the International Code for Zoological Nomenclature (ICZN 1999), fourth edition.

The following abbreviations are used: cat. (catalogue), descr. (description), design. (designation), diagn. (diagnosis), distr. (distribution), fig. (figure), pag. (page), *s. str.* (*sensu strictu*), tax. (taxonomic discussion). Translations from the German text are given in square parentheses [].

Photographs of the types were taken with a Nikon D3400 and D700 connected to the stereomicroscope Tegal SCZ and stacked with the software Combine ZP. The white calibration of the photocamera was applied to reduce the blue effect of fluorescent light of the microscope.

Species and subspecies of *Hedychrum* described by Linsenmaier

Linsenmaier (1959, 1968, 1969, 1987, 1994, 1999) described 14 species and subspecies of *Hedychrum*. In his collection there are primary and/or secondary types of twelve taxa, excluding the holotypes of *Hedychrum gerstaeckeri formosaiense*, and *Hedychrum parvicavitale* Linsenmaier, 1994, which are deposited in the collections of the Natural History Museum, London, UK (NHMUK) and Naturalis, Leiden, The Netherlands (RMNH) and reported in parentheses in the list:

Hedychrum aureicolle niemelai Linsenmaier, 1959: 38
Hedychrum aureicolle rhodicyprium Linsenmaier, 1987: 137
Hedychrum beershebense Linsenmaier, 1969: 372
Hedychrum bleusei israelium Linsenmaier, 1959: 36
Hedychrum gerstaeckeri formosaiense Linsenmaier, 1959: 41 (RMNH)
Hedychrum gracilipes Linsenmaier, 1999: 50
Hedychrum intermedium subparvulum Linsenmaier, 1968: 19
Hedychrum latitudum Linsenmaier, 1959: 39
Hedychrum luculentum bytinskii Linsenmaier, 1959: 38
Hedychrum micans europaeum Linsenmaier, 1959: 39
Hedychrum parvicavitale Linsenmaier, 1994: 157 (NHMUK)
Hedychrum rufipes lepidum Linsenmaier, 1959: 42
Hedychrum scutellare Linsenmaier, 1969: 373
Hedychrum testaceum Linsenmaier, 1968: 20

Other Palaearctic types of *Hedychrum* housed in the Linsenmaier collection

Hedychrum linsenmaieri Rosa, 2019: 157 (holotype and 1 paratype)
Hedychrum zarudnyi Semenov-Tian-Shanskij in Semenov-Tian-Shanskij & Nikol'skaya, 1954:108 (2 paratypes)

Taxonomic part

Genus *Hedychrum* Latreille, 1802

Hedychrum Latreille, 1802: 317. Type species: *Chrysis lucidula* Fabricius, 1775 (= *Sphex nobilis* Scopoli, 1763), by monotypy.

Hedychrum Latreille, 1802 is the second largest genus in the tribe Elampini, after *Hedychridium* Abeille de Perrin, 1878. It includes about 150 species known worldwide, the majority of which occur in the Palaearctic region and Afrotropical region (Kimsey & Bohart 1991). The European fauna consists of 17 species only and several subspecies, some of which probably would deserve species rank (Rosa & Soon 2012; Mitroiu *et al.* 2015); overall, about 60 species are known from the Palaearctic region.

The genus *Hedychrum* includes robust species with a body length ranging from 4 to 10 mm. Diagnostic morphological features for the identification of the genus are the following: the apically bifid tarsal claws; the enlarged hindfemur sexually dimorphic, with anterior surface reticulate, non-metallic brown with dense pubescence in males, glabrous and shiny metallic in females; the third tergum subapically swollen and with a lateral tooth; fore wing medial vein straight or slightly curved medially; the presence of an apicomедial tubercle on the third sternum in some females; the presence of a meso- and a metatibial groove. Some Palaearctic species show chromatic sexual dimorphism, with thorax bicoloured in the female and uniformly green or blue in the male.

The genus was never subdivided into species groups by Linsenmaier (1959; 1968, 1987, 1999), even though he considered *Wollmannia* Mocsáry, 1909 as a subgenus with *Hedychrum* (*Wollmannia*) *concinna* Mocsáry, 1909 as the only species included, characterised by the bidentate apical margin of the third metasomal tergum (Linsenmaier 1968). Recently, Rosa (2019) established the *H. cirtanum* species group, characterised by species with metascutellum posteriorly slightly projecting over the propodeum, including a species from Pakistan named *Hedychrum linsenmaieri* Rosa, 2019. The mucronate metascutellum is considered a rare derived feature in the tribe Elampini (Kimsey & Bohart 1991) and only a few *Hedychrum* species worldwide have the metascutellum slightly projecting posteriorly over the propodeum, e.g. the Malagasy *H. mucronatum* Zimmermann, 1956.

Catalogue of *Hedychrum* types described by Linsenmaier and deposited in his collection

Subgenus *Hedychrum* s. str.

Hedychrum aureicolle niemelai Linsenmaier, 1959

(Fig. 1)

Hedychrum aureicolle ssp. *niemelai* Linsenmaier, 1959: 38 (decr.), 186 (cat.), 197 (figs. 62–64); 1969: 350 (tax.); 1997b: 33 (key), 61 (tax.), 62 (distr., biol., fig. 32). Rosa *et al.* 2014: 88 (plate 14, type).

Type locality. Switzerland: “Mir vorliegend aus Portugal, Spanien, Korsika, Frankreich, Italien und Sizilien, Schweiz, Deutschland, Holland, England, Fennoskandien, Polen, Österreich, Ungarn, Jugoslawien, Mandschurei. ♀ Type (Schweiz, Wallis) Coll. m., ♂ Allotype (Wallis) Coll. Verhoeff”.

Holotype, ♀ and other two male specimens glued on the same plastic-board: Wallis B 550m 12.VI.46 Linsenmaier // ♀ Type *Hedychrum* Latr. *aureicolle* Mocs. *niemelai* Lins. Linsenmaier det. 1959 (ex type-collection) // NML_ENT GBIF_Chr00006458.

Remarks. The allotype is currently deposited at RMNH, together with the rest of the Verhoeff collection. It bears the following labels: Wallis Sierre 5.7.51 Linsenmaier // Allotype ♂ *Hedychrum* Latr. *aureicollis* [!] M. ssp. *niemelai* Lins. Linsenmaier det. 57 // Museum Leiden ex coll. Verhoeff // Allotype.

During the digitalization of the Linsenmaier collection, Rosa *et al.* (2015) considered the other specimens listed by Linsenmaier (1959) as possible paratypes according to the Art. 72.4.1.1 of the Code: “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 fact, Linsenmaier labelled a specimen from Wallis as paratype and it was impossible to evaluate how many specimens could have been labelled as paratypes in other collections, as

observed for many other species (Rosa *et al.* 2015). The specimens from the localities listed by Linsenmaier in the original description and identified in 1959 bear the following labels “*Hedychrum* Ltr. *aureicolle* ssp *niemelai* Lins. Linsenmaier det. 59” and “Paratype P. Rosa vidit 2010 GBIF Chrysididae”. They are listed here: AUSTRIA: 1♂: Wien Mader // NML_ENT GBIF_Chr00006169; 4♂: N. Österreich Hainburg 5.37 I. Blühweiss Linsenmaier // NML_ENT GBIF_Chr00006170; 4♂ and 4♀: Oberweiden a.d. March leg. Mader Linsenmaier // NML_ENT GBIF_Chr00006171; 1♀: Wien, Donau-Auen J. Schischma // NML_ENT GBIF_Chr00006172. HUNGARY: 1♂: Umg. Budapest 11.–23.VI.25 Dr. Enslin // NML_ENT GBIF_Chr00006178; 1♂: Ungarn Nemet Bogsan Coll. Dr. Enslin Linsenmaier // NML_ENT GBIF_Chr00006179. BOSNIA AND HERZEGOVINA 1 ♀: Herzegov. Nevesinje // NML_ENT GBIF_Chr00006277. CHINA: 1♀: Mandschurei Charbin 20.7.53 Coll. Linsenmaier // NML_ENT GBIF_Chr00006293. CROATIA: 1♂: Istria Ica-Umgebung. 6.29 Mader Linsenmaier // NML_ENT GBIF_Chr00006272. FRANCE: 1♂: France – Vaucluse Carpentras 15.–23.V.1953 PMFVerhoeff // NML_ENT GBIF_Chr00006190; 1♂: France Forêt de Carnelle 7.23 Coll. Linsenmaier // NML_ENT GBIF_Chr00006192; 1♀: France Etrechy 13.8.22 Coll. Linsenmaier // NML_ENT GBIF_Chr00006193; 1♀: France La Bernerie Loire infer. 7.1900 Coll. Linsenmaier // NML_ENT GBIF_Chr00006194; 1♀: France Fontainebleau 15.9.1900 Coll. Linsenmaier // NML_ENT GBIF_Chr00006195; 1♂: France Epinay Villetaneuse 18.7.20 Coll. Linsenmaier // NML_ENT GBIF_Chr00006196; 1♂: Museum Paris Fouesnant (Finistère) Alain Hémon 1927 // Foues. 28.7.22 // NML_ENT GBIF_Chr00006197; 1♂: Cotes-du-Nord Lamballe J. Surcouf // NML_ENT GBIF_Chr00006198; 1♂ and 5♀: France Vaucl. Carpentras 15.VII.57 Linsenmaier // NML_ENT GBIF_Chr00006200–NML_ENT GBIF_Chr00006202. ♂ GERMANY: 2♂: Kaiserstuhl Achk. Baden 15.–28.8.1954 Gremminger // Grötzingen Baden 3.8.1954 Gremminger // NML_ENT GBIF_Chr00006154; 2♂ and 2♀: Kaiserstuhl Achk. Baden 15.–28.8.1954 Gremminger // NML_ENT GBIF_Chr00006155 and NML_ENT GBIF_Chr00006157; 1♂: Berghausen Baden 8.9.54 Gremminger // NML_ENT GBIF_Chr00006156; 2♀: Berghausen Baden 27.7.55 Gremminger // Berghausen Baden 11.6.55 Gremminger //NML_ENT GBIF_Chr00006158; 2♀: Grötzingen Baden 12.7.54 Gremminger // NML_ENT GBIF_Chr00006159. ITALY: 1♂: Sicilia // 486 [Coll. Frey-Gessner] //NML_ENT GBIF_Chr00006268; 14.VI.[18]77 Sicilia // Motta 13.VI.[18]77 //NML_ENT GBIF_Chr00006269; 1♀: 15.VI.[18]77 Sicilia // 575 [Coll. Frey-Gessner] // Frey-G. det // NML_ENT GBIF_Chr00006270; 1♀: Sicilia Taormina 20.5.22 (Schulth.) // NML_ENT GBIF_Chr00006271. PORTUGAL: 2♂ and 2♀: Portugal Douro Resende 16.–19.VII.1953 PMF Verhoeff // NML_ENT GBIF_Chr00006253–NML_ENT GBIF_Chr00006256; 2♀: Evora (Port.) 4.7.1953 leg. Andrade // NML_ENT GBIF_Chr00006257–NML_ENT GBIF_Chr00006258. SLOVENIA: 1♂ and 1♀: Strugnano Istr. Juni 31 Madera // NML_ENT GBIF_Chr00006273–NML_ENT GBIF_Chr00006274; 2♂ and 2♀: Istrien Pirano 6.28 Madera Linsenmaier // NML_ENT GBIF_Chr00006275. SPAIN: 1♂: Prov. Soria 1200m 29.6.47 Villar del Ala leg. Dr. Marten Linsenmaier // schienen Grüppchen undeutlich // NML_ENT GBIF_Chr00006211; 1♂ and 2♀: Spanien 7.49 Prov. Zamora Ribadelago Dr. Marten Linsenmaier // NML_ENT GBIF_Chr00006212–NML_ENT GBIF_Chr00006214; 5♂: Spanien 7.49 Prov. Zamora Ribadelago 1000m Dr. Marten Linsenmaier // NML_ENT GBIF_Chr00006215; 1♂ and 1♀: Spanien Castellon Sierra Montnegrelo 1000m 7.44 leg. Dr. W. Marten Coll. Linsenmaier // NML_ENT GBIF_Chr00006216; ♀: Spanien 1100m 7.48 Prov. Soria Valdeavellano d. Tera leg. Dr. Marten Coll. Linsenmaier // NML_ENT GBIF_Chr00006217; 1♂ and 1♀: Playa de Aro Costa Brava H. Pochon 1.–15.6.58 (Sp.) // NML_ENT GBIF_Chr00006218; 1♂ and 2♀: Spanien Teruel 6.53 Albarracin leg. Marten // NML_ENT GBIF_Chr00006219–NML_ENT GBIF_Chr00006220; 1♂: Soria 7.7.57 Carbonera Linsenmaier // NML_ENT GBIF_Chr00006221; 1♂ and 5♀: Spanien Toledo Aranjuez 4.VII.57 leg. Linsenmaier // NML_ENT GBIF_Chr00006222–NML_ENT GBIF_Chr00006223. SWEDEN: 1♂: Klm. Ljungby Vassmolarn 5.–8.8.1927 D. Gaunitz // NML_ENT GBIF_Chr00006183; 1♂: Sm. S. Vi. by Nära Nylinge 13.7.1926 D. Gaunitz // NML_ENT GBIF_Chr00006184; 1♂: Sm. S. Vi. Nylinge 19.7.29 *H. nobile* n° 307 //NML_ENT GBIF_Chr00006185; 1♀: Klm. Ljungby Vassmolarn 8.7.1927 D. Gaunitz //NML_ENT GBIF_Chr00006186; 1♀: Öl. [locality unreadable] //NML_ENT GBIF_Chr00006187; 1♀: Öl. Fargerladen 13.7.1938 Coll. D. Gaunitz //NML_ENT GBIF_Chr00006188; 1♀: Fennia Ta: Vanaja 30.VII.52 Valkeila // NML_ENT GBIF_Chr00006189. SWITZERLAND: 1♂: Wallis C 900 m 5.VII.51 Linsenmaier (ex synoptic-collection) // NML_ENT GBIF_Chr00006125 // ♂ Paratype *Hedychrum* Ltr. *aureicolle* ssp *niemelai* Lins. Linsenmaier det. 59; 2♂ and 3♀: Wallis B 550 m 26.VIII.48 Linsenmaier (ex synoptic-collection) // NML_ENT GBIF_Chr00006126; 1♀: Wallis 7.22 A. Susillon // NML_ENT GBIF_Chr00006128; 1♀: Murtensee Motier 3.7.50 leg. Pochon Linsenmaier // NML_ENT GBIF_Chr00006129; 2♂ and 1♀: Wallis B 550m 22.VI.45 Linsenmaier // NML_ENT GBIF_Chr00006130; 3♀: Wallis B 550m 12.VI.46 Linsenmaier // NML_ENT GBIF_Chr00006131; 1♂ and 1♀: Wallis B 550 m 4.7.46 Linsenmaier // NML_ENT GBIF_Chr00006132; 2♀:

Wallis A 1100m 5.7.46 Linsenmaier // NML_ENT GBIF_Ch00006133; 3♂ and 2♀: Wallis B 550m 22.VI.47 Linsenmaier // NML_ENT GBIF_Ch00006134; 1♂ and 1♀: Wallis B 550m 29.V.48 Pochon Linsenmaier // NML_ENT GBIF_Ch00006135; 1♀: Wallis B 550m 11.6.48 Linsenmaier // NML_ENT GBIF_Ch00006136 // Höcker nicht geteilt; 3♀: Wallis B 550m 16.6.48 Linsenmaier // NML_ENT GBIF_Ch00006137; 3♂ and 2♀: Wallis B 550m 26.VIII.48 Linsenmaier NML_ENT GBIF_Ch00006138–NML_ENT GBIF_Ch00006140 // Pronotum formen; 1♂ and 3♀: Wallis C 900m 14.VI.48 Linsenmaier // NML_ENT GBIF_Ch00006141; 4♀: Wallis C 900m 18.VI.49 Linsenmaier // NML_ENT GBIF_Ch00006142; 1♂: Wallis C 900m VII.53 Linsenmaier // NML_ENT GBIF_Ch00006143; 4♀: Wallis B 550m 16.VI.50 Linsenmaier // NML_ENT GBIF_Ch00006144; 1♀: Wallis B 1300m VII.54 Linsenmaier // NML_ENT GBIF_Ch00006145; 2♂: Wallis B 1300m 10.6.56 Linsenmaier // NML_ENT GBIF_Ch00006146–NML_ENT GBIF_Ch00006147; 1♂: Wallis A-B 650m VII.1958 Linsenmaier // NML_ENT GBIF_Ch00006148; 2♂ and 2♀: Wallis C 900m 4.VII.51 Linsenmaier // NML_ENT GBIF_Ch00006149; 1♀: Wallis C 900m 30.V.53 Linsenmaier // NML_ENT GBIF_Ch00006150.

Note. In the last years some authors used the incorrect spelling *niemelaei* instead of the correct name *niemelai* (e.g. Saure 1998). The incorrect subsequent spelling is also commonly found online. According to the Code of Zoological Nomenclature Art. 32.5.2.1 in the case of a diacritic mark in a species name, the mark concerned is deleted, except in the case of a name published before 1985 and based upon a German word; in this specific case, the umlaut sign is deleted from the vowel and the letter “e” is inserted after that vowel. As written in the original description, P. Niemelä was Finnish and not German, therefore the correct spelling of the species name is *H. niemelai*.

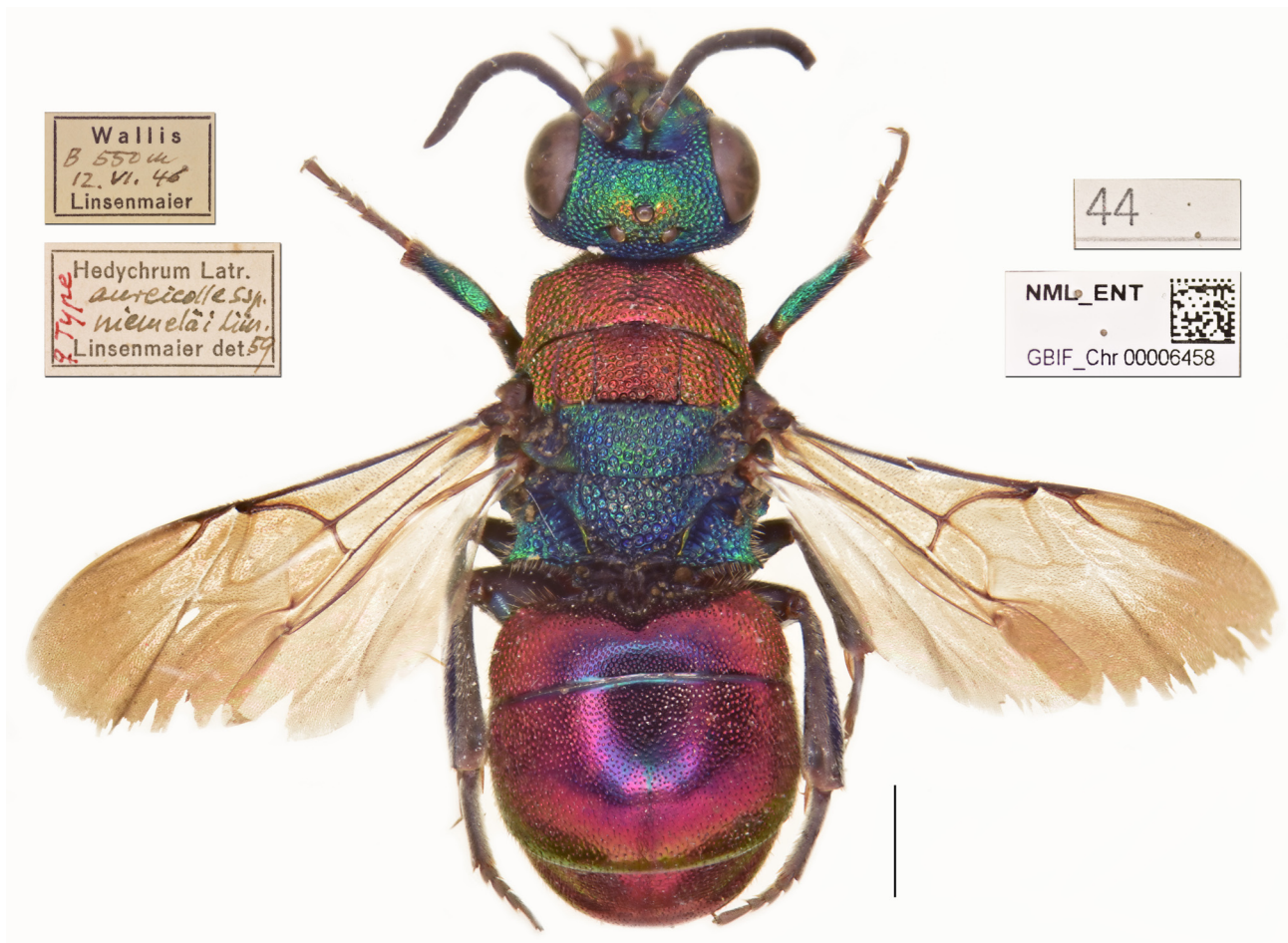


FIGURE 1. *Hedychridium aureicolle niemelai* Linsenmaier, 1959, holotype, female, dorsal view. Scale bar 1 mm.

***Hedychrum aureicolle rhodocyprium* Linsenmaier, 1987**

(Fig. 2A–2F, 3A–3F)

Hedychrum aureicolle ssp. *rhodocyprium* Linsenmaier, 1987: 137 (decr.).

Type locality. Greece: Rhodes Is., Cypern: “Rhodos, Cypern, ♀ Type Limassol, ♂ Allotype und Paratypen Coll. m. ”.

Holotype, ♀: Cypern 16.V.55 Limassol Leg. Mavromoustakis Coll. Linsenmaier // ♀ Type *Hedychrum* Ltr. *aureicolle rhodocyprium* Lins. Linsenmaier 1977 // 413 // NML_ENT GBIF_Chr00006123 (ex type-collection).

Allotype, ♂: Cypern 24.X.44 Cherkes leg. Mavromoustakis Coll. Linsenmaier // ♂ Allotype *Hedychrum* Ltr. *aureicolle rhodocyprium* Lins. Linsenmaier 1977 // NML_ENT GBIF00006124 (ex type-collection).

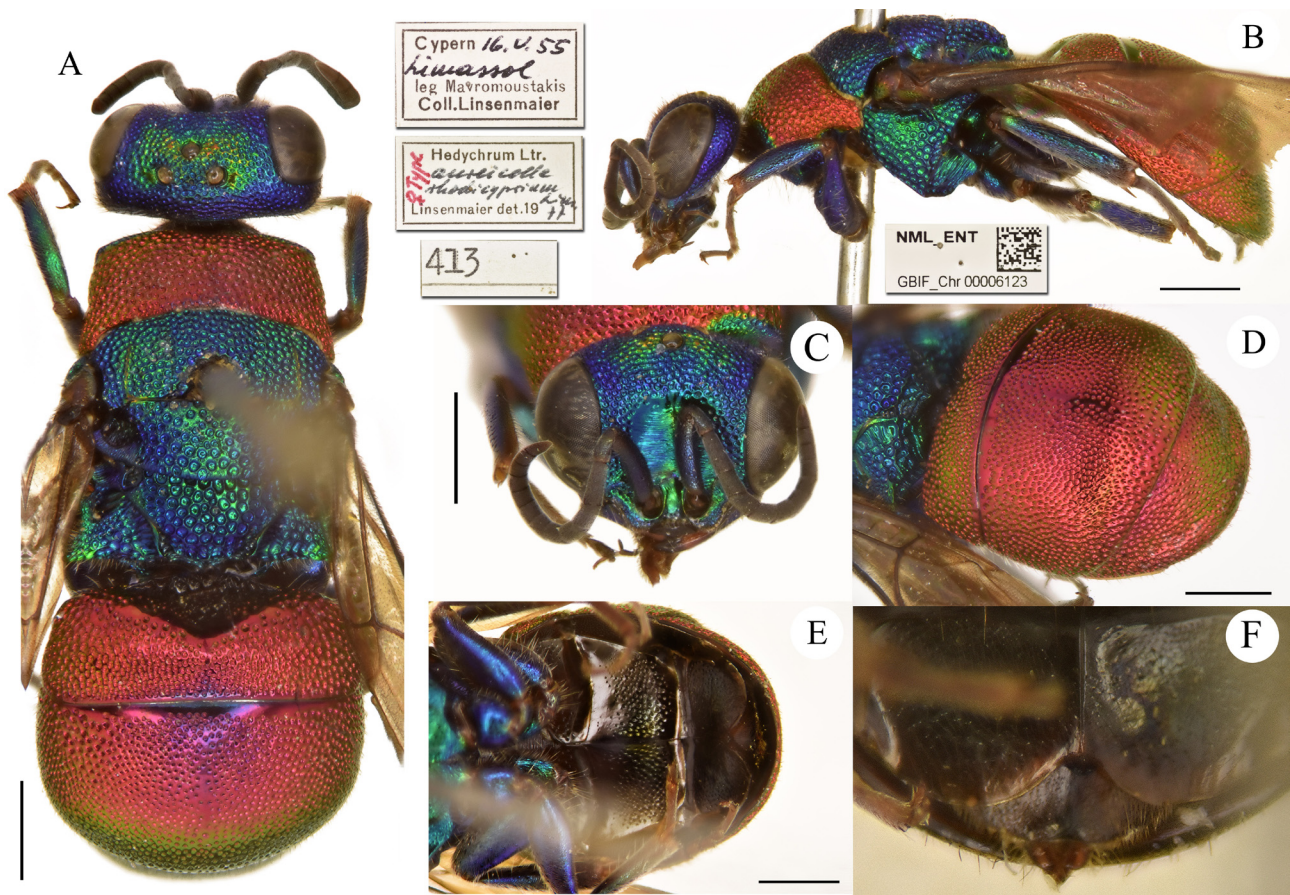


FIGURE 2. *Hedychrum aureicolle rhodocyprium* Linsenmaier, 1987, holotype, female. A) Habitus, dorsal view. B) Habitus, lateral view. C) Head, frontal view. D) Metasoma, postero-lateral view. E) Metasoma, ventral view. F) Third sternum, ventral view. Scale bars 1 mm.

Paratypes, 1♂ and 1♀: Cypern Cherkes 21.10.44 Mavromoust. Linsenmaier // Paratypen *Hedychrum* Ltr. *aureicolle rhodocyprium* Lins. Linsenmaier 1974 // NML_ENT GBIF_Chr00006098–NML_ENT GBIF_Chr00006099 (ex synoptic-collection); 2♂ and 2♀: Rodi, Egeo Mai [= May] 1939 Dr. R. Meyer // Paratypen *Hedychrum* Ltr. *aureicolle rhodocyprium* Lins. Linsenmaier 1974 // NML_ENT GBIF_Chr00006100–NML_ENT GBIF_Chr00006103; 1♂: Cypern Fassouri 30.9.41 Mavromoust. Linsenmaier // ♂ Paratype *Hedychrum* Ltr. *aureicolle rhodocyprium* Lins. Linsenmaier 1974 // NML_ENT GBIF_Chr00006104; 1♂: Cypern Eudhimon River 9.5.51 Mavromoustakis // ♂ Paratype *Hedychrum* Ltr. *aureicolle rhodocyprium* Lins. Linsenmaier 1974 // NML_ENT GBIF_Chr00006105; 7♂: Cypern Cherkes 19.10.44 Mavromoust. // Paratype *Hedychrum* Ltr. *aureicolle rhodocyprium* Lins. Linsenmaier 1974 (and 1979) // NML_ENT GBIF_Chr00006106–NML_ENT GBIF_Chr00006112; 1♂: Cypern Cherkes 26.6.44 Mavromoust. // Paratype *Hedychrum* Ltr. *aureicolle rhodocyprium* Lins. Linsenmaier 1974 // NML_ENT GBIF_Chr00006113; 1♀: Cypern Cherkes 23.10.44 Mavromoust. // ♀ Paratype *Hedychrum* Ltr. *aureicolle rhodocyprium* Lins. Linsenmaier 1974 // NML_ENT GBIF_Chr00006114; 1♀:

Cyprn Cherkes 31.10.44 Mavromoust. // ♀ Paratype *Hedychrum* Ltr. *aureicolle rhodocyprium* Lins. Linsenmaier 1979 // NML_ENT GBIF_Chr00006115; 1♀: Cyprn Episkopi 5.38 Mavromoust. Linsenmaier // ♀ Paratype *Hedychrum* Ltr. *aureicolle rhodocyprium* Lins. Linsenmaier 1974 // NML_ENT GBIF_Chr00006116; 4♀: Cyprn 16.V.55 Limassol leg. Mavromoustakis Coll. Linsenmaier // Paratype *Hedychrum* Ltr. *aureicolle rhodocyprium* Lins. Linsenmaier 1974 // Cyprn // NML_ENT GBIF_Chr00006117—NML_ENT GBIF_Chr00006120.

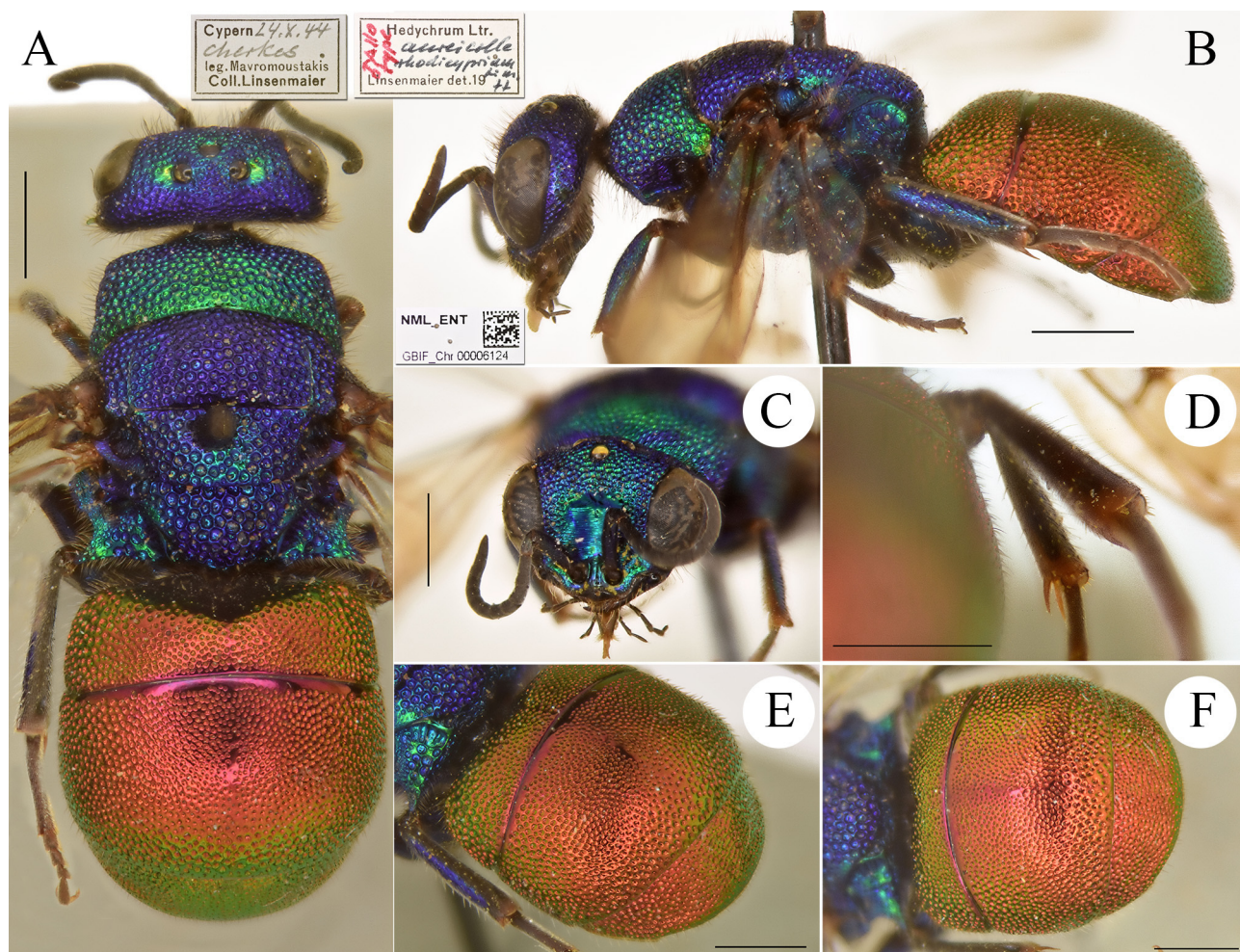


FIGURE 3. *Hedychrum aureicolle rhodocyprium* Linsenmaier, 1987, allotype, male. A) Habitus, dorsal view. B) Habitus, lateral view. C) Head, frontal view. D) Meso- and metaleg. E) Metasoma, postero-lateral view. F) Metasoma, posterior view. Scale bars 1 mm.

Hedychrum beershebensense Linsenmaier, 1969

(Fig. 4A–4D)

Hedychrum beershebensense Linsenmaier, 1969 (1969: 350 cat.; 372 descr.).

Type locality. Palestine: “Beersheba 7.VI.65 leg. Schlaefle, ♀ Type in coll. m. ”.

Holotype, ♀: Israel Beersheba 7.6.65 leg. W. Schlaefle // ♀ Type *Hedychrum* Ltr. *Beershebensis* [!] Lins. Linsenmaier det. 1969 // 310 // NML_ENT GBIF_Chr00007747 (ex type-collection).

Remarks. The species was erroneously listed as *Hedychrum beershebensense* by Linsenmaier (1969: 350), the same name handwritten on the label pinned with the type specimen in collection.

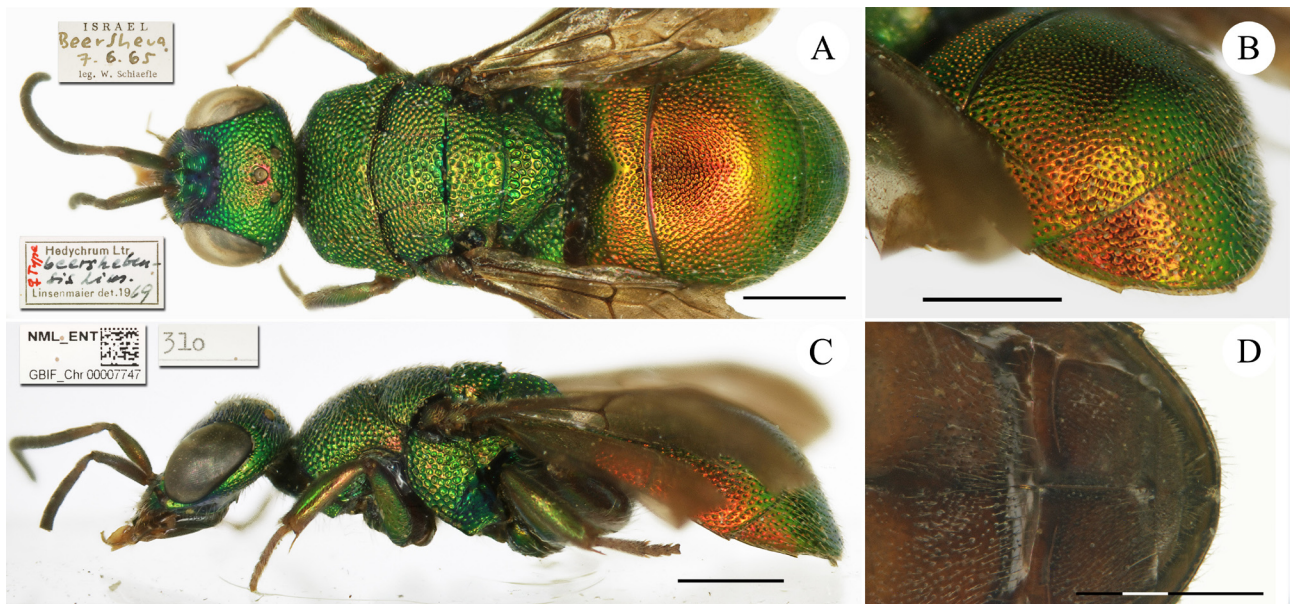


FIGURE 4. *Hedychrum beershebenense* Linsenmaier1969, holotype, female. A) Habitus, dorsal view. B) Metasoma, postero-lateral view. C) Habitus, lateral view. D) Third sternum, ventral view. Scale bars 1 mm.

Hedychrum bleusei israelium Linsenmaier, 1959

(Fig. 5A–5G)

Hedychrum bleusei israelium Linsenmaier, 1959: 35 (key), 36 (descr.), 187 (cat.); 1969: 350 (cat.).

Type locality. Palestine: “Palästina, ♀ Type Coll. m. (Revivim, V., leg. Bytinski-Salz)”.

Holotype, ♀: Palestine Revivim 21.V. leg. Bytinski-Salz // ♀ Type *Hedychrum* Latr. *bleusei* B. ssp. *israelium* Lins. Linsenmaier det. 59 // 42 // NML_ENT GBIF00007769 (ex type-collection).

Hedychrum gracilipes Linsenmaier, 1999

(Fig. 6A–6E)

Hedychrum gracilipes Linsenmaier, 1999: 45 (key), 50 (descr.).

Type locality. Morocco: “Marokko, Midelt 12.VI.1990, ♂ Type (Holotypus) leg. u. Coll. m.”.

Holotype, ♂: Maroc, Midelt, 12.6.90, leg. Linsenmaier // ♂ Type *Hedychrum* Ltr. *gracilipes* Linsenmaier det. 1998 // 498 // NML_ENT GBIF_Chr00007802 (ex type-collection).

Hedychrum intermedium subparvulum Linsenmaier, 1968

(Fig. 7A–7E, 8A–8E)

Hedychrum intermedium subparvulum Linsenmaier, 1968: 19 (descr.).

Type locality. Greece: “Griechenland (Peloponnes), ♀ Type, ♂ Allotype von Pyrgos, Paratypen in Coll. m.”.

Holotype, ♀: Graecia, Pelop. Pyrgos 13.VI.61 leg. Linsenmaier // Type ♀ *Hedychrum* Latr. *intermedium subparvulum* Lins. Linsenmaier det. 1969 // 209 // NML_ENT GBIF_Chr00007564 (ex type-collection).

Allotype, ♂ and **Paratype,** 1♂: Graecia, Pelop. Pyrgos 12.VI.61 leg. Linsenmaier // ♂ Allotype links *Hedychrum* Latr. *intermedium subparvulum* Lins. Linsenmaier det. 1968 // NML_ENT GBIF00007565 (ex type-collection).

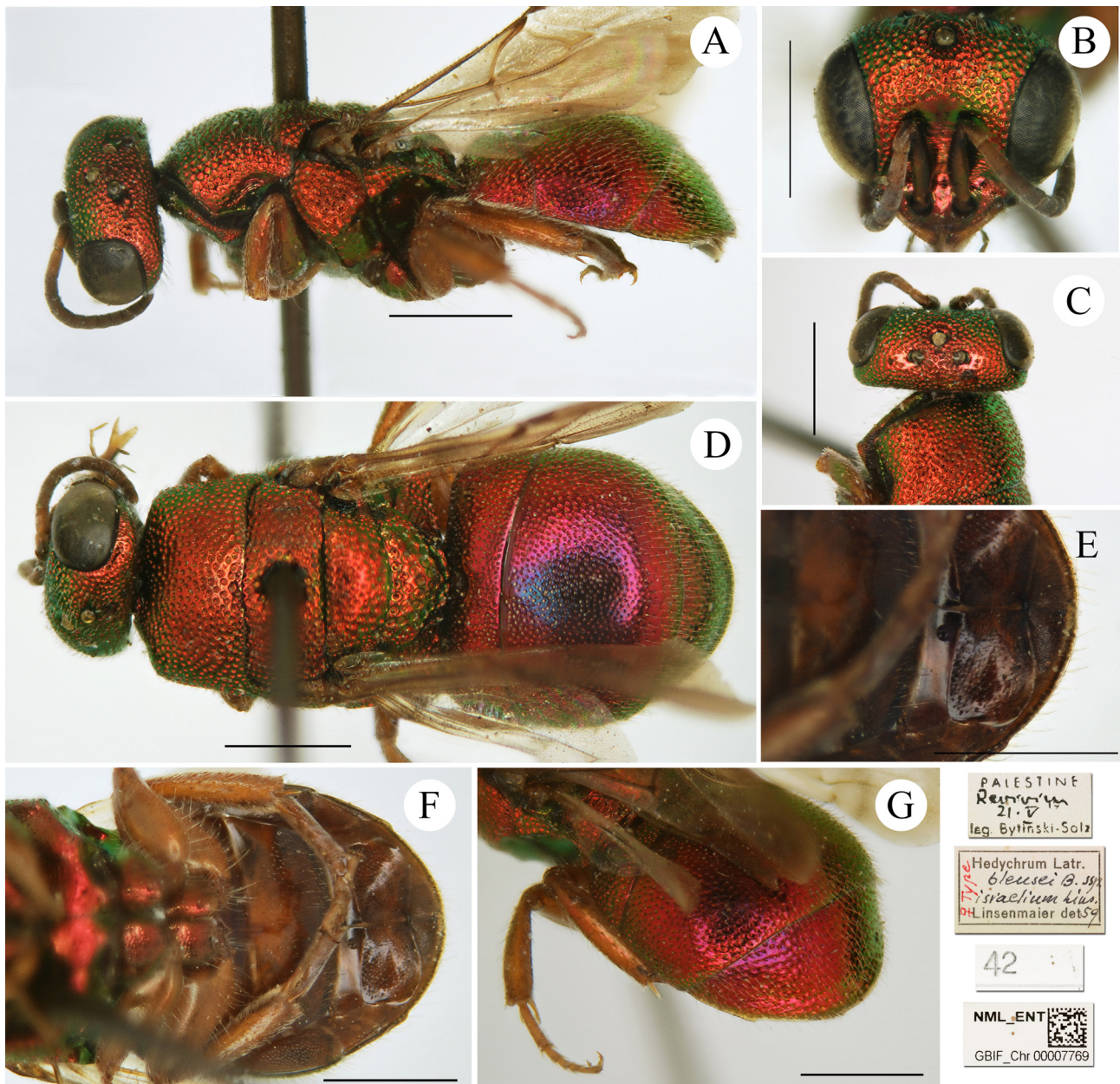


FIGURE 5. *Hedychrum bleusei israelium* Linsenmaier, 1959, holotype, female. A) Habitus, lateral view. B) Head, frontal view. C) Head, dorsal view. D) Habitus, dorsal view. E) Third sternum, ventral view. F) Metasoma, ventral view. G) Metasoma, postero-lateral view. Scale bars 1 mm.

Paratypes, 3♂: Graecia, Pelop. Pyrgos 17.VI.61 leg. Linsenmaier // Paratypen ♂ *Hedychrum* Latr. *intermedium subparvulum* Lins. Linsenmaier det. 1969 // NML_ENT GBIF_Chr00007549; (ex synoptic collection); 3♀: Graecia, Pelop. Pyrgos 17.VI.61 leg. Linsenmaier // Paratype ♀ *Hedychrum* Latr. *intermedium subparvulum* Lins. Linsenmaier det. 1969 // NML_ENT GBIF_Chr00007550; 1♂: Graecia, Saloniki, 31.V.61 leg. Linsenmaier // Paratype ♂ *Hedychrum* Latr. *intermedium subparvulum* Lins. Linsenmaier det. 1969 // NML_ENT GBIF_Chr00007552; 1♂: Graecia Pelop. Olympia 10.6.61, leg. Linsenmaier // Paratype ♂ *Hedychrum* Latr. *intermedium subparvulum* Lins. Linsenmaier det. 1969 // NML_ENT GBIF_Chr00007555; 1♀: Graecia Olympia 11.6.63, leg. Schlaefle Coll. Linsenmaier // Paratype ♀ *Hedychrum* Latr. *intermedium subparvulum* Lins. Linsenmaier det. 1969 // NML_ENT GBIF_Chr00007553; 4♀: Grecia // Graecia, Pelop. Pyrgos 12.VI.61 leg. Linsenmaier // Paratypen ♀ *Hedychrum* Latr. *intermedium subparvulum* Lins. Linsenmaier det. 1969 // NML_ENT GBIF_Chr00007554.

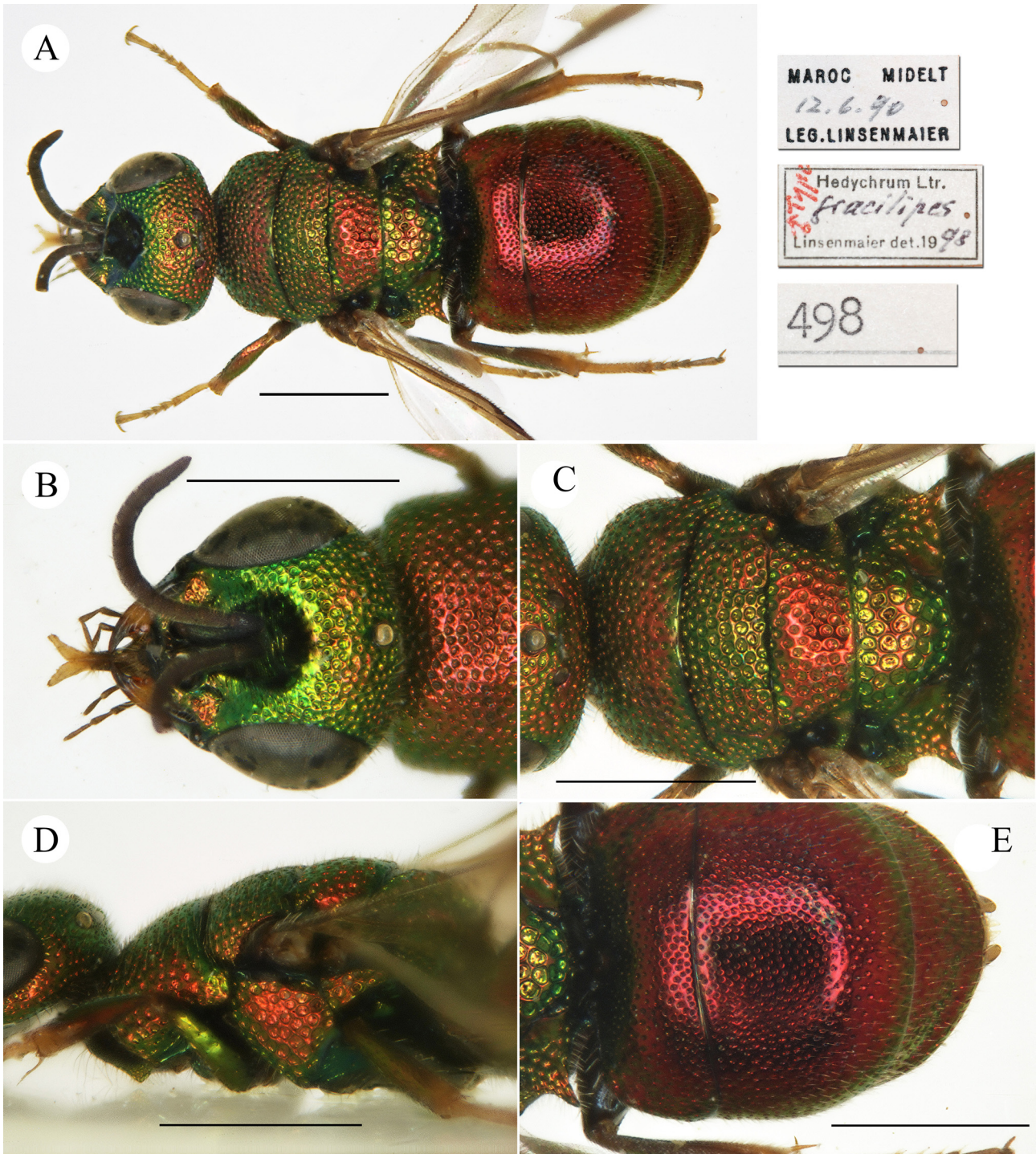


FIGURE 6. *Hedychrum gracilipes* Linsenmaier, 1999, holotype, male. A) Habitus, dorsal view. B) Head, frontal view. C) Mesosoma, dorsal view. D) Mesosoma, lateral view. E) Metasoma, dorsal view. Scale bars 1 mm.



FIGURE 7. *Hedychrum intermedium subparvulum* Linsenmaier, 1968, holotype, female. A) Habitus, dorsal view. B) Head, frontal view. C) Metasoma, postero-lateral view. D) Habitus, lateral view. E) Third sternum, ventral view. Scale bars 1 mm.

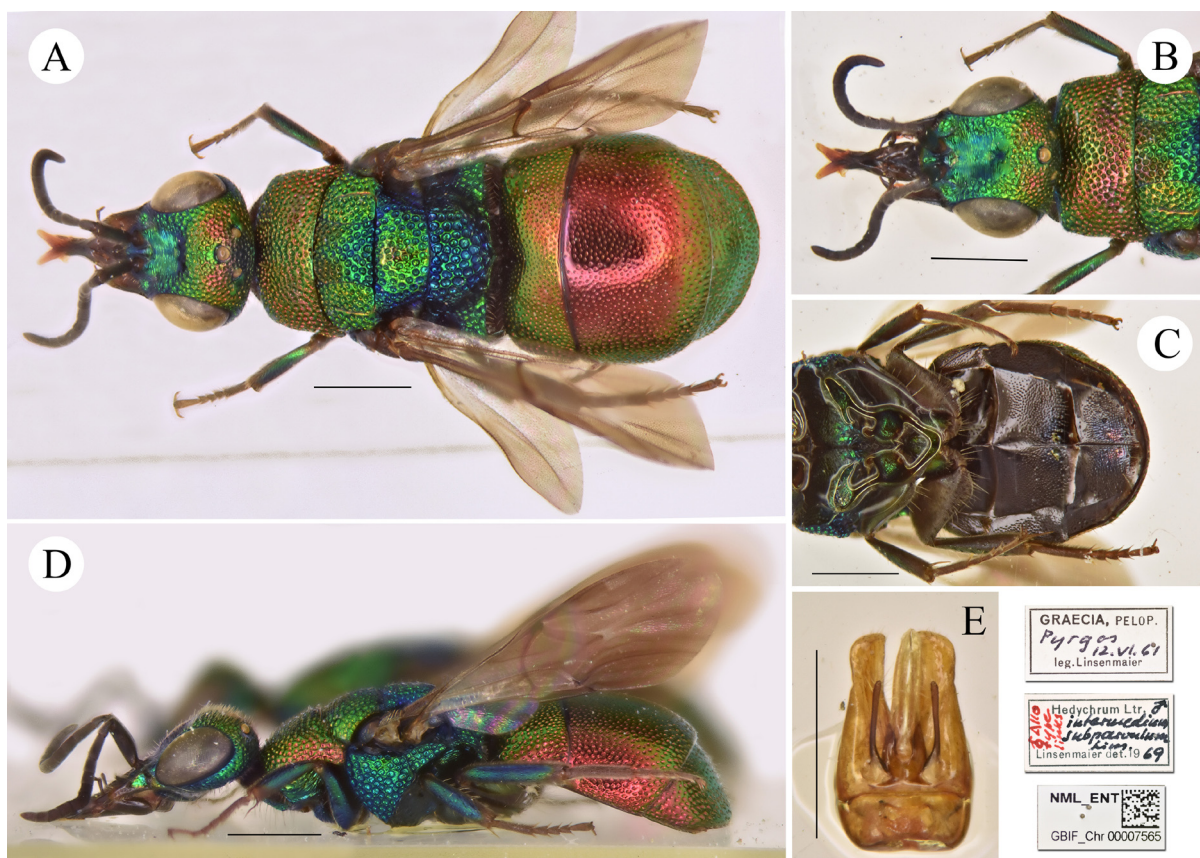


FIGURE 8. *Hedychrum intermedium subparvulum* Linsenmaier, 1968, allotype, male. A) Habitus, dorsal view. B) Head, frontal view. C) Metasoma, ventral view. D) Habitus, lateral view. E) Genital capsule. Scale bars 1 mm.

***Hedychrum latitudum* Linsenmaier, 1959**

(Fig. 9A–9F)

Hedychrum latitudum Linsenmaier, 1959: 36 (key), 39 (descr.), 186 (cat.) 197 (figs. 75, 76).

Type locality. China: “Mandschurei, ♂ Type Coll. m. (Charbin, VII. 1953)”.

Holotype, ♂: Mandschurei Charbin 20.VII.53 Coll. Linsenmaier // Type ♂ *Hedychrum* Latr. *Latitudum* Lins. Linsenmaier det. 59 // 46 // NML_ENT GBIF_Chr00006636 (ex-type collection).

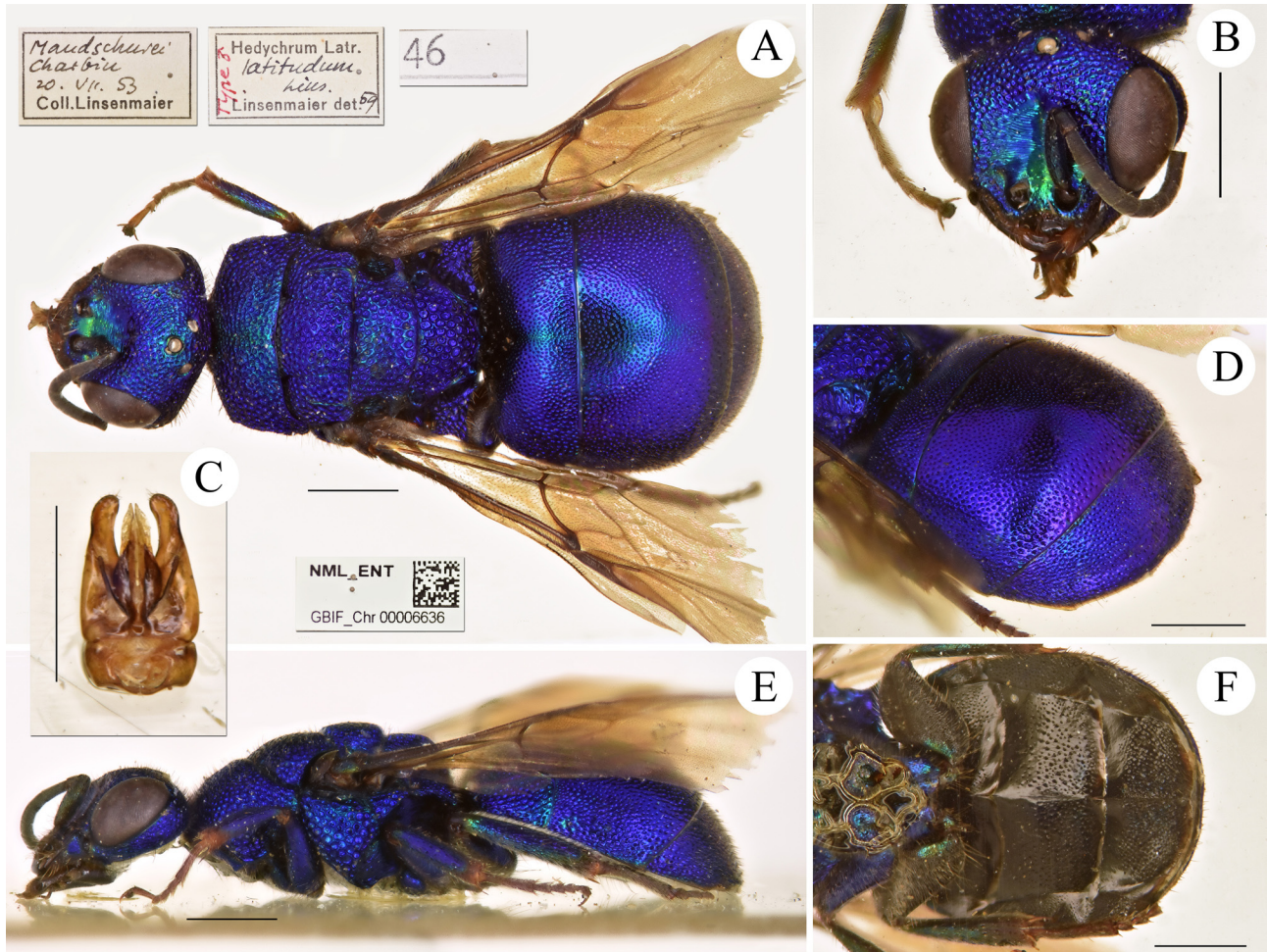


FIGURE 9. *Hedychrum latitudum* Linsenmaier, 1959, holotype, male. A) Habitus, dorsal view. B) Head, frontal view. C) Genital capsule. D) Metasoma, postero-lateral view. E) Habitus, lateral view. F) Metasoma, ventral view. Scale bars 1 mm.

***Hedychrum luculentum bytinskii* Linsenmaier, 1959**

(Fig. 10A–10E, 11A–11G)

Hedychrum luculentum bytinskii Linsenmaier, 1959: 38 (descr.), 186 (cat.); 1969: 350 (cat.).

Type locality. Palestine, Turkey: “Klein-Asien, Palästina. ♀ Type und ♂ Allotype (Klein-Asien, Uludag, 1500m, VIII.1951, leg. Bytinski-Salz) Coll. m. ♂, ♀ Paratypen Coll. Verhoeff”.

Holotype, ♀: Uludag Turkey 12.8.1951 leg. Bytinski-Salz 1500m // Type ♀ *Hedychrum* Latr. *luculentum* Först. ssp. *bytinskii* Lins. Linsenmaier det. 59 // 43 // NML_ENT GBIF_Chr00006586 (ex type-collection).

Allotype, ♂: Uludag 1500m Turkey 12.8.1951 leg. Bytinski-Salz // Allotype *Hedychrum* Latr. ♂ *luculentum* ssp. *bytinskii* Lins. Linsenmaier det. 59 // NML_ENT GBIF_Chr00006587 (ex type-collection).

Remarks. At RMNH one male paratype bearing the following labels is preserved: Dan Palestine 11.VI.1946 leg Bytinski-Salz // Paratype *Hedychrum* Latr. *nobile* Sc. ssp. *bytinskii* Lins. Linsenmaier det. 57 // *Hedychrum* Ltr. ♂ *luculentum bytinskii* Lins. Linsenmaier det. 1963 // Museum Leiden ex coll. Verhoeff.

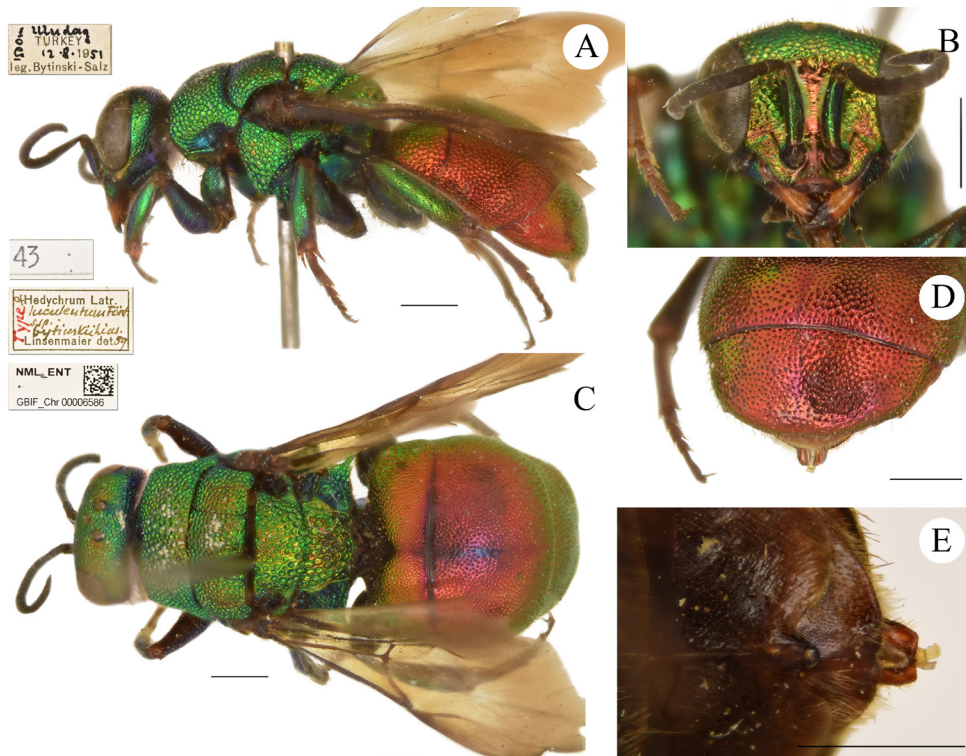


FIGURE 10. *Hedychrum luculentum bytinskii* Linsenmaier, 1959, holotype, female. A) Habitus, lateral view. B) Head, frontal view. C) Habitus, dorsal view. D) Metasoma, posterior view. E) Third sternum, ventral view. Scale bars 1 mm.

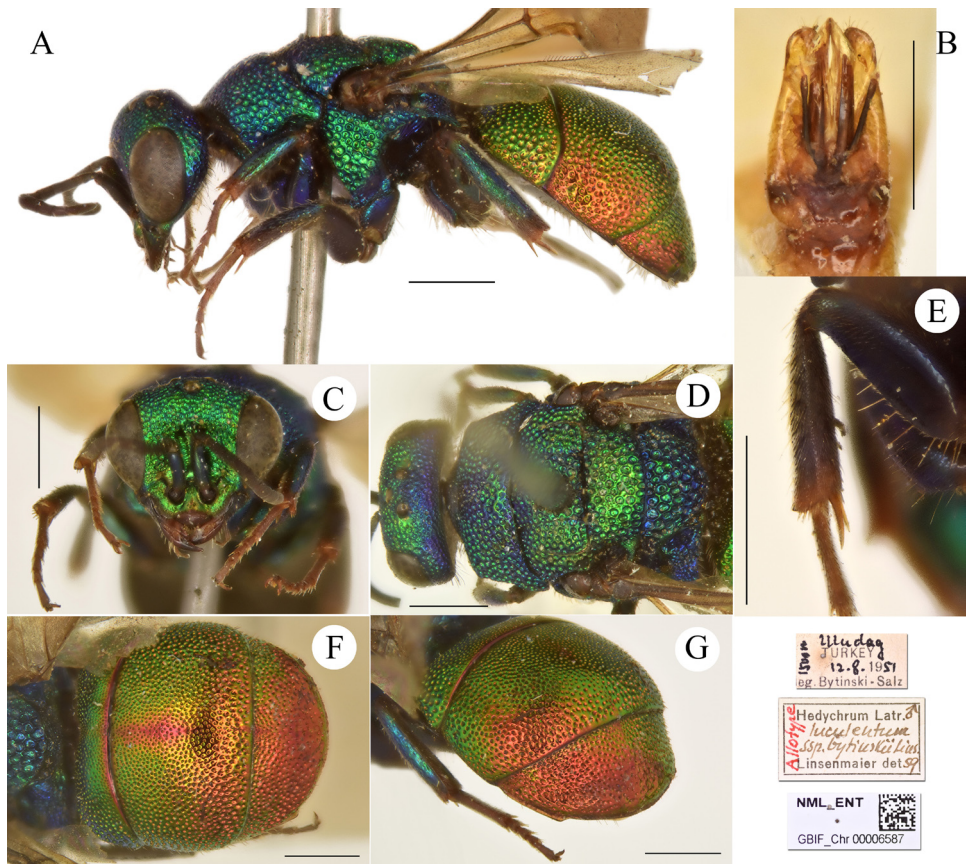


FIGURE 11. *Hedychrum luculentum bytinskii* Linsenmaier, 1959, allotype, male. A) Habitus, lateral view. B) Genital capsule. C) Head, frontal view. D) Head and mesosoma, dorsal view. E) Mesoleg. F) Metasoma, dorsal view. G) Metasoma, postero-lateral view. Scale bars 1 mm.

Rosa *et al.* (2017: 90) erroneously synonymised *Hedychrum mithras* Semenov-Tian-Shanskij, 1967 with *H. luculentum bytinskii* Linsenmaier, 1959. In fact, based on the subsequent examination of the type of *H. luculentum bytinskii* we observed that its male has a short and shallow pit on the mesotibia, opposite to the long and deep pit found in *H. mithras*, which is more similar to *H. longicolle* Abeille de Perrin, 1877. *Hedychrum mithras* has to be resurrected from the previous synonymy.

***Hedychrum micans europaeum* Linsenmaier, 1959**

(Fig. 12A–12E, 13A–13G)

Hedychrum micans europaeum Linsenmaier, 1959: 39 (descr.), 186 (cat.); 1987: 137 (tax., distr.); 1997a: 252 (distr.).

Type locality. Portugal, Spain: “Portugal, Spanien. ♀ Type und ♂ Allotype (Portugal, VI.–VII. leg. Andrade) Coll. m., Paratypen Coll. Verhoeff und Coll. m. ”.

Holotype, ♀: L.: Arieiro 23.VI.47 N.F. de Andrade // Portugal // Type ♀ *Hedychrum* Latr. *micans* Luc. ssp. *europaeum* Lins. Linsenmaier det. 59 // 45 // NML_ENT GBIF_Chr00006481 (ex type-collection).

Allotype, ♂: (Port. N) 14.7.45 Porto NF d’Andrade. 954 // Allotype ♂ *Hedychrum* Latr. *micans* Luc. *europaeum* Lins. Linsenmaier det. 59 // NML_ENT GBIF_Chr00006482 (ex type-collection).



FIGURE 12. *Hedychrum micans europaeum* Linsenmaier, 1959, holotype, female. A) Habitus, lateral view. B) Head, frontal view. C) Metasoma, postero-lateral view. D) Habitus, dorsal view. E) Third sternum, ventral view. Scale bars 1 mm.

Paratypes, 1♀: Portugal Douro Resende 16.–19.VII.1953 PMF Verhoeff // Paratype *Hedychrum* Latr. *micans* Luc. *europaeum* Lins. Linsenmaier det. 59 // NML_ENT GBIF_Chr00006525; 1♀: Rezende (Port. N) 12.7.1954 leg. Nfd'Andrade // Paratype *Hedychrum* Latr. *micans* Luc. *europaeum* Lins. Linsenmaier det. 59 // NML_ENT GBIF_Chr00006527; 1♀: Rezende (Port. N) 13.7.1954 leg. Nfd'Andrade // Paratype *Hedychrum* Latr. *micans* Luc. *europaeum* Lins. Linsenmaier det. 59 // NML_ENT GBIF_Chr00006528; 1♀: Rezende (Port. N) 17.7.1953 leg. Nfd'Andrade // Paratype *Hedychrum* Latr. *micans* Luc. *europaeum* Lins. Linsenmaier det. 59 // NML_ENT GBIF_Chr00006526.

Remarks. The type locality of *Hedychrum micans europaeum* is not strictly in Europe. “Pico de Arieiro” is in fact located on the island of Madeira, which is located further south from Casablanca in Morocco. This type should be revised, because it is particularly coloured as the northern African females of *H. micans* Lucas, as stated by the Linsenmaier himself in the original description: “Ein ♀ (Type) hat Scut bis fast zu den Rändern golf-rot wie *Pron* und *Mes* (ähnlich *chalybaeum*) bei den anderen ♀♀ ist das Scut zum grössten Teil grün bis gold-grün”. Other possible paratypes are two Spanish females identified by Linsenmaier in 1959 and bearing the labels: (i) Catalunya Balenyà 4.VII.34 Vilarrubia leg. 9062; (ii) Catalunya Balenyà 18.VI.35 Vilarrubia leg. 11941.

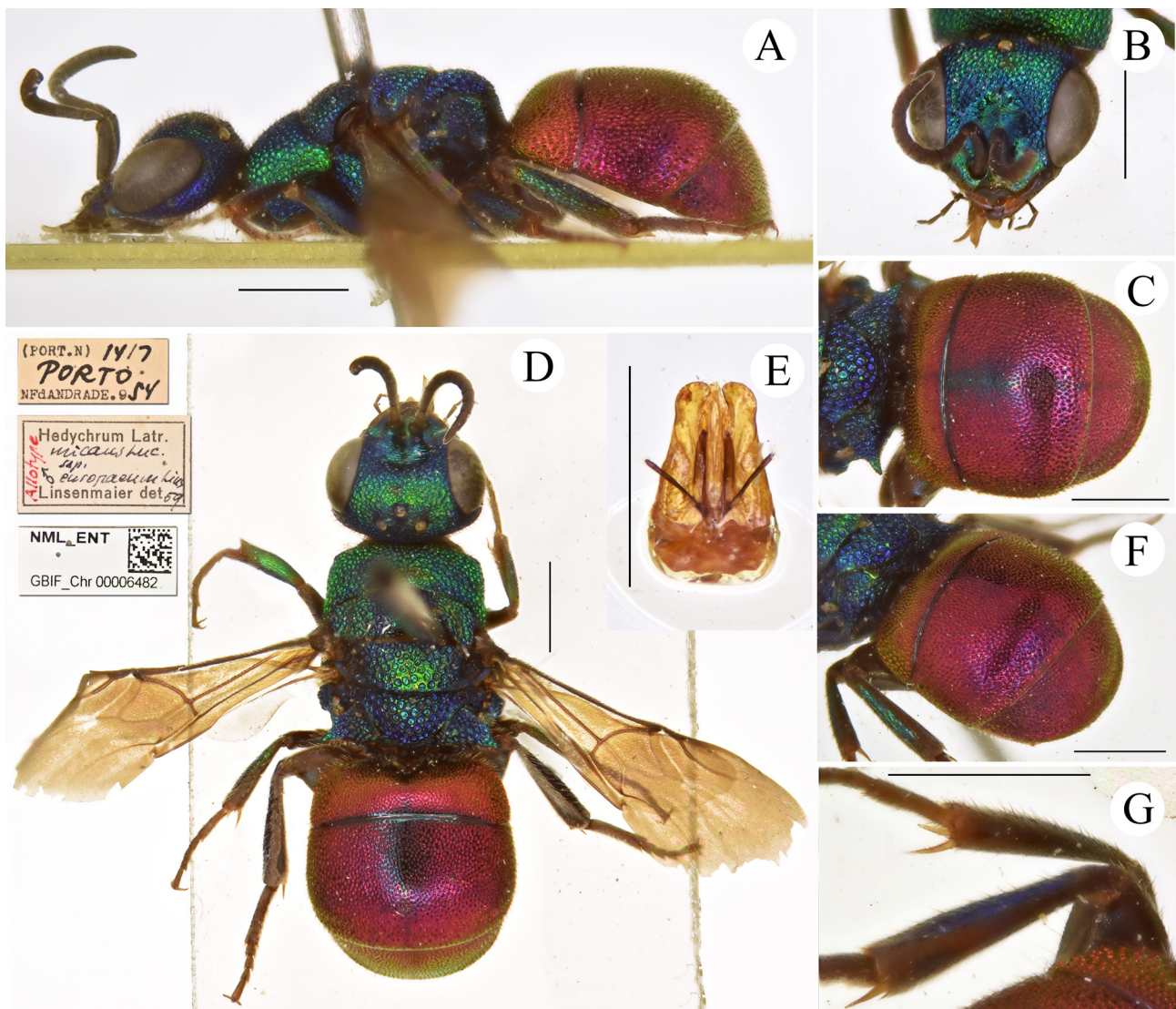


FIGURE 13. *Hedychrum micans europaeum* Linsenmaier, 1959, allotype, male. A) Habitus, lateral view. B) Head, frontal view. C) Mesosoma, dorsal view. D) Habitus, dorsal view. E) Genital capsule. F) Metasoma, postero-lateral view. G) Meso- and metaleg. G) Scale bars 1 mm.

At RMNH five specimens labelled as paratypes are deposited. Three males bear the following labels: (i) Portugal (N.) a. Pouca de Aguiar 15–VII–1953 PMF Verhoeff // Paratype *Hedychrum* Latr. *micans* Luc. ssp. *europaeum* Lins. Linsenmaier det. 59 // Museum Leiden ex coll. Verhoeff; (ii) Portugal – Douro Resende 16–19–VII–1953

PMFVerhoeff // Paratype *Hedychrum* Latr. *micans* Luc. ssp. *europaeum* Lins. Linsenmaier det. 59 // Museum Leiden ex coll. Verhoeff; (iii) Rezende (Port.N) 17/7/1953 Leg NFd'Andrade // Paratype *Hedychrum* Latr. *micans* Luc. ssp. *europaeum* Lins. Linsenmaier det. 59 // Museum Leiden ex coll. Verhoeff; and two females bearing the following labels, (i): (Port.N) 14/7 PORTO NFdAndrade. 954 // Paratype *Hedychrum* Latr. *micans* Luc. ssp. *europaeum* Lins. Linsenmaier det. 57 // Museum Leiden ex coll. Verhoeff; (ii): Rezende (Port.N) 15/7/1953 Leg NFd'Andrade // Paratype *Hedychrum* Latr. *micans* Luc. ssp. *europaeum* Lins. Linsenmaier det. 59 // Museum Leiden ex coll. Verhoeff.

***Hedychrum parvicavitale* Linsenmaier, 1994**
(Fig. 14A–14C)

Hedychrum parvicavitale Linsenmaier, 1994: 152 (figs. 15–17), 157 (descr., cat.).

Type locality. Saudi Arabia: “Holotype: ♀, Saudi Arabia: Wadi Majarish, 13.II.1983, Guichard, BMNH. Paratypes: 1 ♀, same data as holotype, WLC”.

Paratype, ♀: S. Arabia W Majarish 13.2.83 KMG // ♀ Paratype *Hedychrum* Ltr. *parvicavitale* Linsenmaier det. 1989 // NML_ENT GBIF_Chr00007818 (ex synoptic-collection).

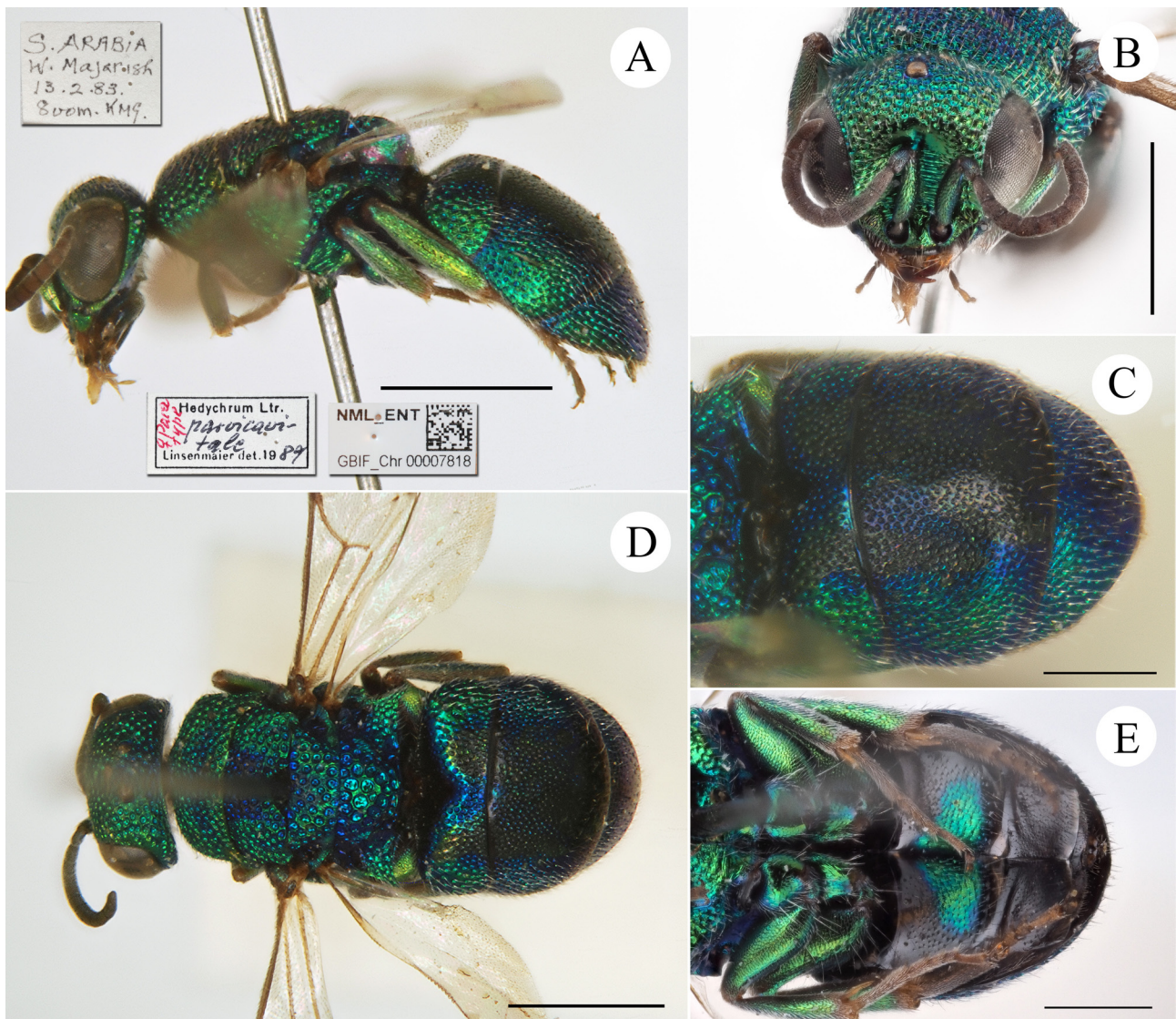


FIGURE 14. *Hedychrum parvicavitale* Linsenmaier, 1994, paratype, female. A) Habitus, lateral view. B) Head, frontal view. C) Mesosoma, dorsal view. D) Habitus, dorsal view. E) Scale bars A–B, D: 1 mm, C, E : 0.5 mm.

Hedychrum rufipes lepidum Linsenmaier, 1959

(Fig. 15A–15G, 16A–16E)

Hedychrum rufipes lepidum Linsenmaier, 1959: 42 (descr.), 187 (cat.), 198 (fig. 89); 1969: 350 (cat.).

Type locality. Palestine: “Palästina. ♂ Type (Naharia V.1951, leg. Verhoeff) Coll. m., ♀ Allotype Coll. Verhoeff”.

Holotype, ♂: Israel Naharia 6.–8.V.1951 PMF Verhoeff // ♂ Type *Hedychrum* Latr. *rufipes* Bss. ssp. *lepidum* Lins. det. Linsenmaier 58 // 47 // NML_ENT GBIF_Chr00007731 (ex type-collection).

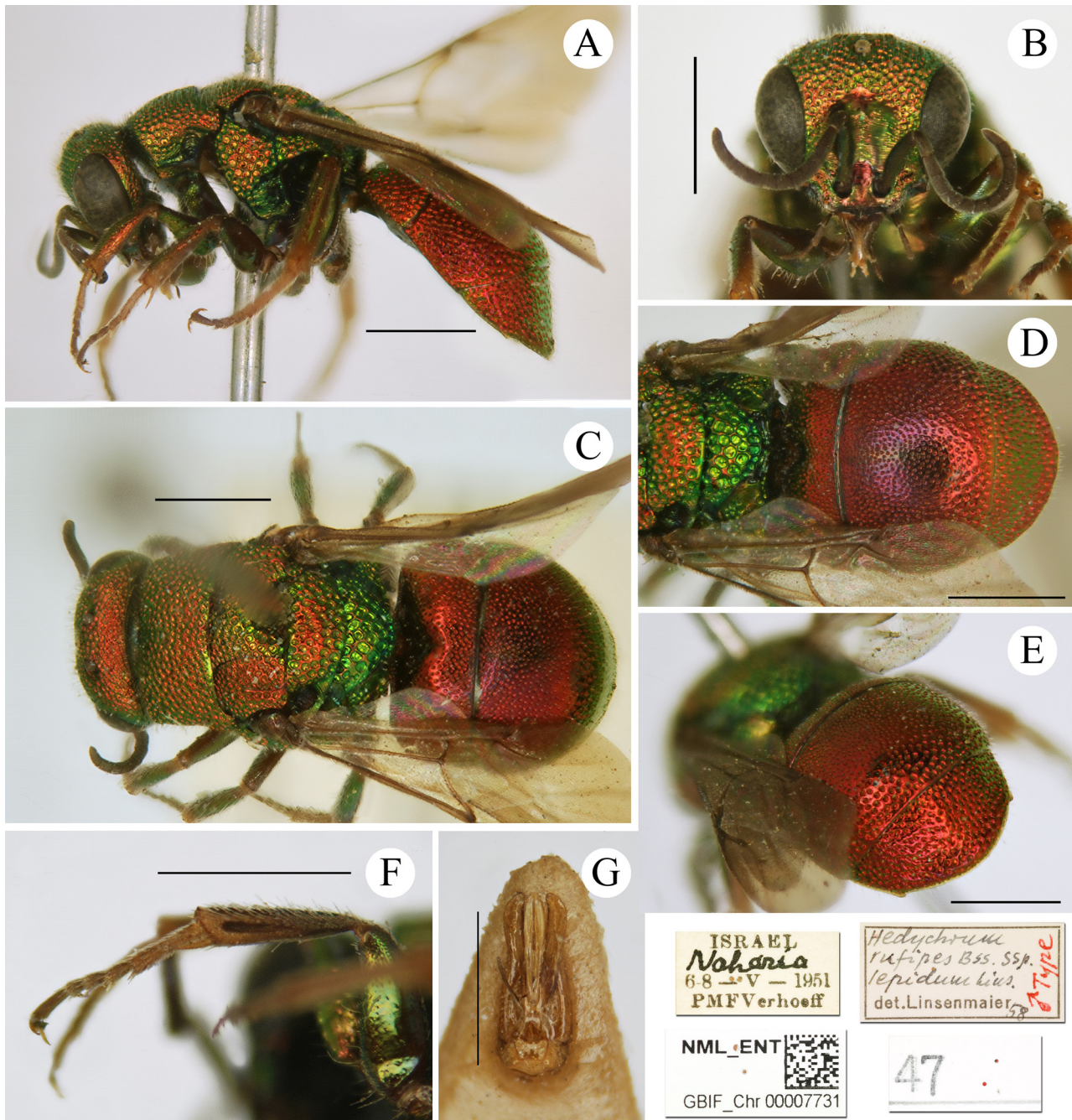


FIGURE 15. *Hedychrum rufipes lepidum* Linsenmaier, 1959, holotype, male. A) Habitus, lateral view. B) Head, frontal view. C) Habitus, dorsal view. D) Metasoma, dorsal view. E) Metasoma, postero-lateral view. F) Mesoleg. G) Genital capsule. Scale bars 1 mm.

Remarks. Linsenmaier, in 1963, selected one female as allotype and placed it in the type-collection. This specimen bears the following labels: Israel Abu Kabir 16.6.1961 leg. Bytinski-Salz // ♀ Allotype *Hedychrum rufipes* Buys. *lepidum* Lins. det. Linsenmaier 1963 (Fig. 16). This specimen cannot be considered as a type since

it does not belong to the type series and was collected after the original description. The true allotype is housed in the RMNH collection and bears the following labels: Jerusalem Palestine 16.6.1940 Bytinski-Salz // Allotype ♀ *Hedychrum* Latr. *Rufipes* B. ssp. *lepidum* Lins. Linsenmaier det. 57 // Museum Leiden ex coll. Verhoeff.

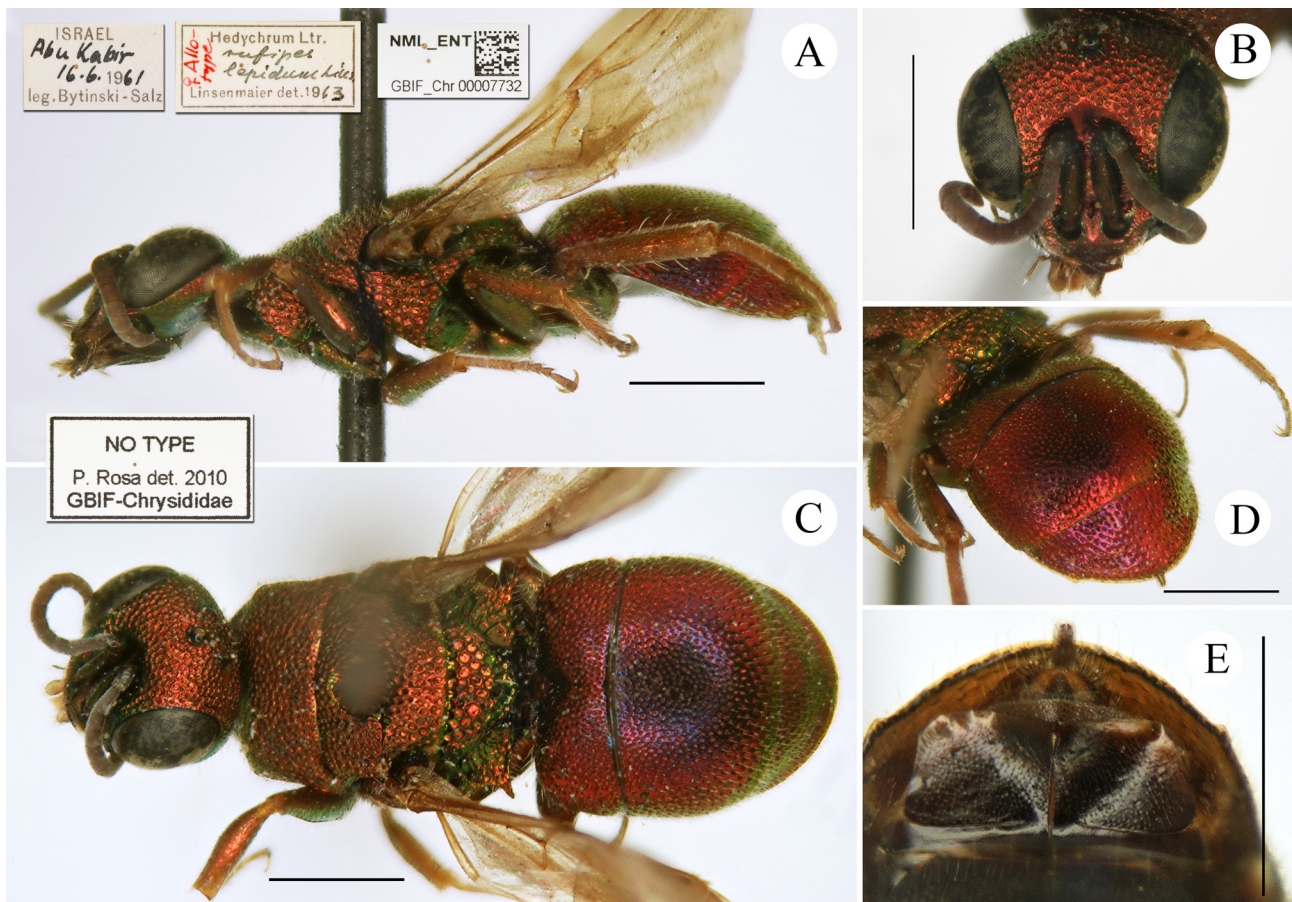


FIGURE 16. *Hedychrum rufipes lepidum* Linsenmaier, 1959, female. A) Habitus, lateral view. B) Head, frontal view. C) Habitus, dorsal view. D) Metasoma, postero-lateral view. E) Third sternum, ventral view. Scale bars 1 mm.

Hedychrum scutellare Linsenmaier, 1969

(Fig. 17A–17F)

Hedychrum scutellare Linsenmaier, 1969: 350 (cat.), 373 (descr.), *nec* Tournier, 1878.

Type locality. Palestine: “Jericho 28.II.42 leg. Bytinski-Salz, ♀ Type in coll. m.”.

Holotype, ♀: Jericho Palestine 28.II.1942 Bytinski-Salz // ♀ Type *Hedychrum* Ltr. *scutellare* Lins. Linsenmaier det. 1969 // 311 // NML_ENT GBIF00007811 (ex type-collection).

Remarks. Linsenmaier (1969: 373) described *Hedychrum scutellare* Linsenmaier, 1969 as a new species from Palestine. This name is a junior primary homonym of *Hedychrum scutellare* Tournier, 1878 (currently *Hedychridium scutellare*). This homonymy has been overlooked before because all the most important authors erroneously considered *H. scutellare* Tournier as it had been described in the genus *Hedychridium* (Rosa *et al.* 2015). Currently, the two species are no longer congeneric and, as far as we know, after 1899 *H. scutellare* Tournier was no longer included in the *Hedychrum* genus. The name *H. scutellare* Linsenmaier was cited as a valid name only by Schmidt (1977: 102), Kimsey & Bohart (1991: 220), and Strumia & Yildirim (2009: 83). According to the Article 23.9.5 (“when an author discovers that a species-group name in use is a junior primary homonym [Art. 53.3] of another species-group name also in use, but the names apply to taxa not considered congeneric after 1899, the author must not automatically replace the junior homonym; the case should be referred to the Commission for a ruling under the plenary power and meanwhile prevailing usage of both names is to be maintained [Art. 82]”) the name *H. scutellare* Linsenmaier, 1969 remains valid and the case will be referred to the Commission on ICZN.

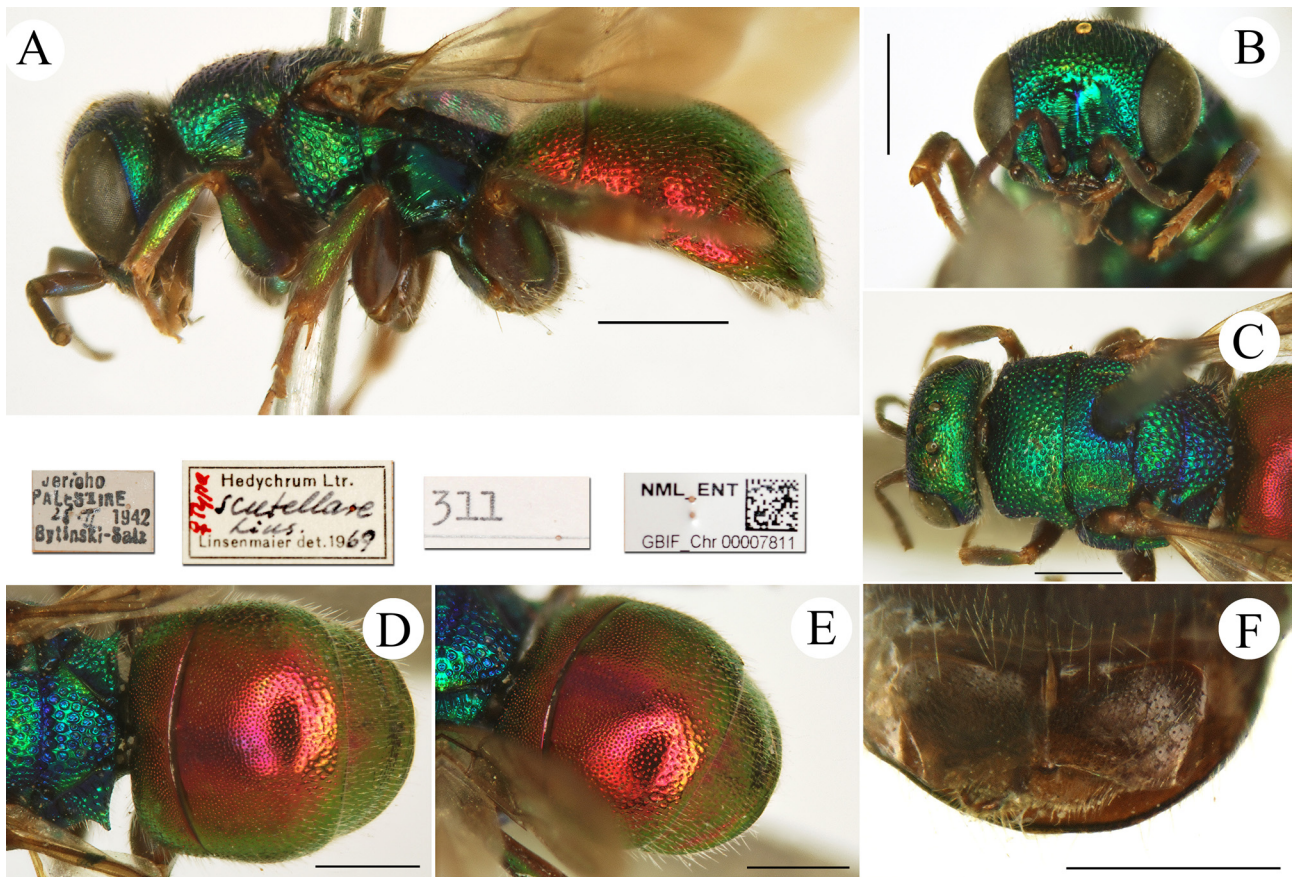


FIGURE 17. *Hedychrum scutellare* Linsenmaier, 1969, holotype, female. A) Habitus, lateral view. B) Head, frontal view. C) Mesosoma, dorsal view. D) Metasoma, dorsal view. E) Metasoma, postero-lateral view. F) Third sternum, ventral view. Scale bars 1 mm.

Hedychrum testaceum Linsenmaier, 1968

(Fig. 18A–18F)

Hedychrum testaceum Linsenmaier, 1968: 20 (descr.); 1969: 351 (cat.); 1999: 44 (key), 48 (tax.), 51 (fig. 78).

Type locality. Algeria, Egypt, Palestine, Saudi Arabia: “Algerien, Palästina, Ägypten, Arabien. ♀ Type Palästina, Beersheba, leg. Bytinski-Salz, V.66, ♂ Allotype Saudi-Arabien, El Riyadh, leg. Diehl, VIII.59, ♀ Paratype Süd-Palästina, in Coll. m., ♀ Paratype Algerien, Tadjemout, im Brit. Mus. ”.

Holotype, ♀: Israel 14 km S Beersheba 22.V.1966, leg. Bytinski-Salz // ♀ Type *Hedychrum* Ltr. *testaceum* Lins. Linsenmaier det. 1966 // 210 // NML_ENT GBIF_Chr00007783 (ex type-collection).

Allotype, ♂: Saudi Arabien El Riyadh 6.VIII.59, leg. Dr. Diehl Coll. Linsenmaier // ♂ Allotype *Hedychrum* Ltr. *testaceum* Lins. Linsenmaier det. 1966 // ♂ *Hedychrum* Ltr. *alfierii* Tr. Linsenmaier det. 1989 // NML_ENT GBIF00007784 (ex type-collection).

Paratype, 1♀: Khan Yunus, 30.VII.1917 // S Palestine E.E. Austen, 1918–41 // ♀ Paratype *Hedychrum* Ltr. *testaceum* Lins. Linsenmaier det. 1965 // NML_ENT GBIF00007780 (ex synoptic-collection).

Remarks. In Kimsey & Bohart (1991) the type depository is Tel Aviv, probably referring to paratypes housed in the Bytinski-Salz collection.

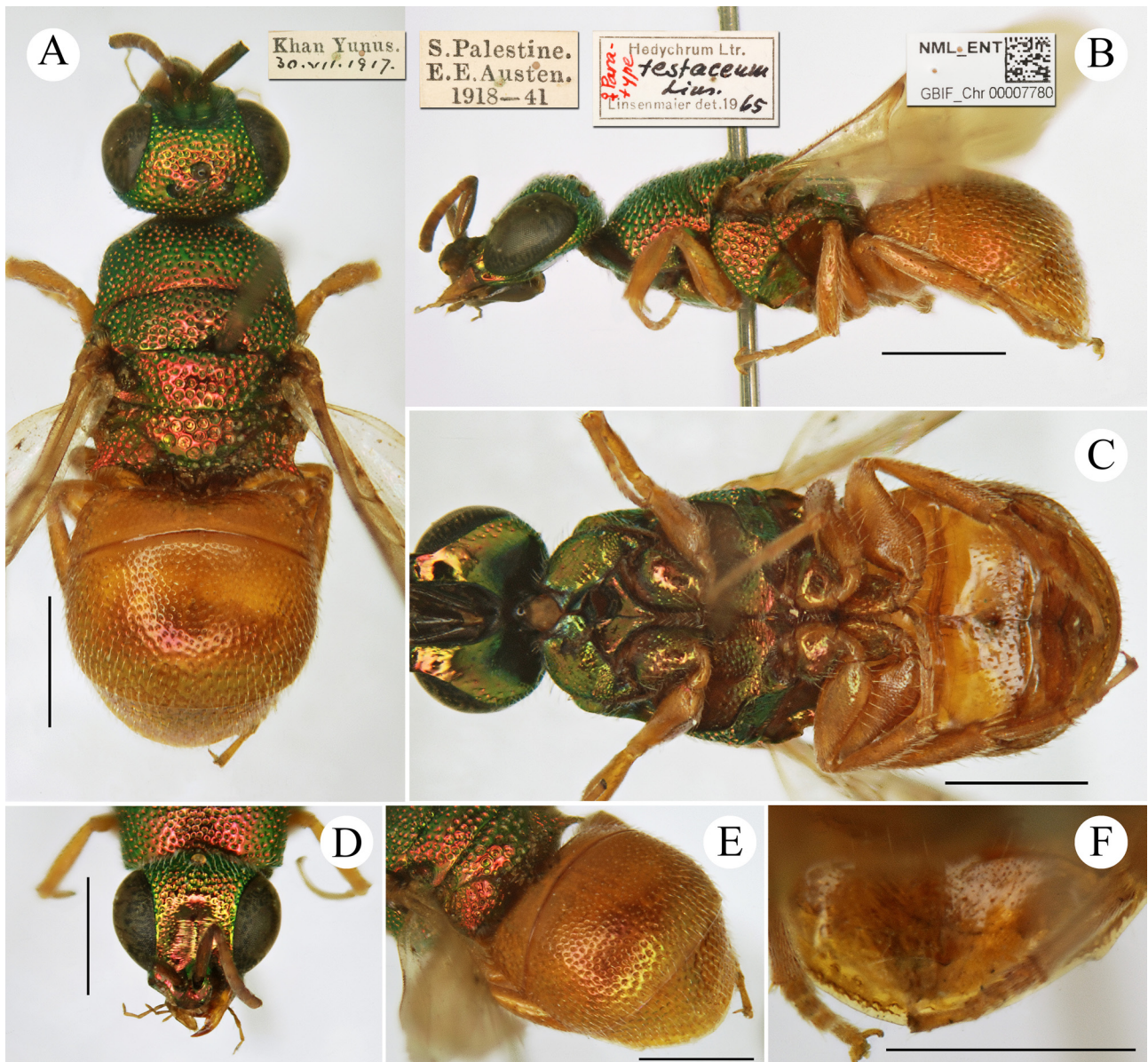


FIGURE 18. *Hedychrum testaceum* Linsenmaier, 1968, paratype, female. A) Habitus, dorsal view. B) Habitus, lateral view. C) Habitus, ventral view. D) Head, frontal view. E) Metasoma, postero-lateral view. F) Third sternum, ventral view. Scale bars 1 mm.

Unnecessary replacement names given by Linsenmaier

Hedychrum buyssoni Linsenmaier, 1959: 37 Replacement name for *H. lucidulum* var. *antigai* du Buysson, 1896.

Remarks. *Hedychrum lucidulum* *antigai* du Buysson, 1896 is a valid name and the name proposed by Linsenmaier (1959) is therefore unnecessary.

Discussion

Linsenmaier's interpretation of the species in the genus *Hedychrum* was consistent with that of previous and contemporary authors. He also correctly supposed that *Hedychrum cirtanum* var. *minusculum* du Buysson, 1898a could belong to the genus *Hedychridium* Abeille de Perrin, 1878 (Linsenmaier 1999) as it was later confirmed by Rosa (2019).

The main difference with other authors was the interpretation of the names *Hedychrum intermedium* (Dahlbom, 1845) (originally described as *Holopyga intermedia*) and *Hedychrum rutilans* Dahlbom, 1854, for one of the most common Palaearctic species. Linsenmaier (1951) initially used the name *Hedychrum rutilans*, but later (Linsenmaier 1959: 39) he synonymised *H. rutilans* with *H. intermedium*. The explanation was given only forty years after (Linsenmaier 1997a). In fact, Morgan (1984) examined Dahlbom's collection in Lund and discovered that the type of *Holopyga intermedia* Dahlbom, 1845 (designated as the lectotype) was truly a member of the genus *Holopyga*, without any comment on its specific attribution. Consequently, he revalidated the name *Hedychrum rutilans* in place of *Hedychrum intermedium*. Kimsey & Bohart (1991), in the catalogue of the World cuckoo wasps, erroneously reported: "Holotype male; France (Paris)". This statement added confusion and Linsenmaier (1997a), based on a previous article on the Chrysididae deposited at the Paris Museum written by du Buysson (1898b) reported: "In Kimsey & Bohart (1990) unter *Holopyga* Dahlbom, nach einer ♂ Type in Paris. Dahlbom aber hat 1845 in *Tabula Exam. Synoptica*, Ziffer 4, sein *intermedium* zusammen mit *lucidulum* (= *H. nobile* Scopoli, 1763) eindeutig als *Hedychrum* identifiziert (mit nur einem Seitenzahn der Fusskrallen), woran auch eine offenbar irrtümliche Typen-Etikettierung nichts ändern würde. Dass der Autor aber sein neues Genus *Holopyga* von *Hedychrum* trennte, und trotzdem davor unter Ziffer 2B ein *Holopyga* als *Hedychrum intermedium* benannte, ist unwahrscheinlich.—Buysson (1897, *Et. Chrys. Mus. Paris*) führt in seinem Inventar der Chrysididen des Museums Paris keine solche Type auf, wohl aber ein *Hedychrum rutilans* Dahlbom, 1854 aus Südfrankreich, leg. Dufour 1834, was mit den Typen-Daten von *H. intermedium* übereinstimmt." [In Kimsey & Bohart (1990) under *Holopyga* Dahlbom, based on a ♂ type in Paris. Note that in 1845 Dahlbom clearly identified his *intermedium* together with *lucidulum* (= *H. nobile* Scopoli, 1763) as *Hedychrum* (with only one lateral tooth of the tarsal claws) (see *Tabula Exam. Synoptica*, number 4), and even an apparently erroneous type label would not change this. It is unlikely that the author would separate his new genus *Holopyga* from *Hedychrum* yet would despite this name a *Holopyga* as *Hedychrum intermedium* under number 2B—Indeed, du Buysson (1898b [1897], *Et. Chrys. Mus. Paris*) does not list any such types in his inventory of the Chrysidids in the Museum in Paris. He does, however, list a *Hedychrum rutilans* Dahlbom, 1854 from the south of France, leg. Dufour 1834, which would correspond to the type data for *H. intermedium*.]

For this reason, Linsenmaier (1997a, 1997b, 1999) continued to use the name *H. intermedium* and because of this misunderstanding on the real type depository and identity, the name *H. intermedium* remained in use till recently (Rosa *et al.* 2019).

The type of *Holopyga intermedia* Dahlbom was newly examined in Lund by one of us (P.R., see Rosa & Xu 2015) and it is truly a member of the genus *Holopyga*, so far identifiable as *Holopyga fervida* (Fabricius, 1781). This is in agreement with the description of the tarsal claws (bidentate) (see Rosa & Pavesi 2020) and the peculiar punctuation of the pronotum as described by Dahlbom (1845). The correct species name is therefore *Hedychrum rutilans* Dahlbom, 1854, whose lectotype was also designated by Morgan (1984) in Dahlbom's collection (Lund). The lectotype of *H. rutilans* has been considered invalid by Rosa & Xu (2015), because the selected specimen collected by Zeller was not listed in the original description, therefore it was not a syntype; conversely, all the syntypes listed by Dahlbom (1854) are still housed in the depositories originally provided by the author.

According to Linsenmaier (1959, 1968), Semenov-Tian-Shanskij (1967) and other authors (e.g. Rosa *et al.* 2014, 2019), *Hedychrum rutilans* has several subspecies distributed from the Iberian Peninsula and northern Africa (subspecies *H. rutilans viridiauratum* Mocsáry, 1889) to Siberia and China (subspecies *H. rutilans ermak* Semenov-Tian-Shanskij, 1967). These subspecies likely represent different species and the new challenge will be finding valid characters for their separation, hopefully based on molecular analysis and integrative taxonomy.

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