

## RESEARCH PAPER

# A new species of *Hedychridium* (Hymenoptera: Chrysididae) from the Canary Islands, with a new synonymy, species checklist, and notes on local colour forms

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Accepted:  
10<sup>th</sup> February 2026

Published online:  
11<sup>th</sup> May 2026

**Abstract.** *Hedychridium tibicena* Rosa sp. nov. from Gran Canaria (Canary Islands) is described in the *monochroum* group. A new synonymy, *Hedychridium tenerifense* Linsenmaier, 1968, syn. nov. = *Hedychridium canariense* García Mercet, 1915, is established. A key to the six Canarian species of the genus *Hedychridium* Abeille de Perrin, 1878 is given. The first checklist of the Canarian chrysidid species is presented, together with the observations on the dark colouration of several endemic species of the islands.

**Key words.** Hymenoptera, Chrysididae, Elampini, cuckoo wasps, dark colouration, new species, new synonymy, Macaronesia

**Zoobank:** <http://zoobank.org/urn:lsid:zoobank.org:pub:BD262507-B9C1-4A8B-B39D-B7818A6D8D49>

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## Introduction

The Canary Islands host a fascinating insect fauna, shaped by the islands' isolation, volcanic origin, climatic gradients, and habitat diversity. The archipelago is known for its high biodiversity and endemism across many taxa. In fact, of the approximately 7,300 insect species recorded from the Canary Islands, 44% are considered endemic (ROMANOWSKI et al. 2024). Within the family Chrysididae, this proportion seems even higher (92.5%), with 25 of the 27 known taxa (25 species and two subspecies) likely being endemic to the archipelago.

The first record of Chrysididae from the Canary Islands dates back to Webb & Berthelot in BRULLÉ (1839) who reported a variety of *Chrysis ignita* (Linnaeus, 1758) referable to *Chrysis magnidens* Pérez, 1895 (“*Jolie variété ayant sur le milieu de l’abdomen une tache violette plus ou moins étendue*”). PÉREZ (1895) later described this taxon as *Chrysis magnidens*, which is probably the most widespread species throughout the Macaronesian archipelago, including Madeira. Twenty years later, GARCÍA MERCET (1915) described the second species from the islands, *Hedychridium canariense* García Mercet, 1915. However, the main contribution to the knowledge of the chrysidid fauna of the Canary Islands was made by LINSENMAIER

(1959, 1968, 1987, 1993, 1997), who described 23 of the 25 presumably endemic taxa currently known for the islands. Linsenmaier authored the main contribution to the chrysidids of the islands, published in 1993.

During a research trip to Gran Canaria conducted by the second author, an undescribed species of the genus *Hedychridium* Abeille de Perrin, 1878, belonging to the *monochroum* group, was collected during fieldwork focused on the native bees of the Canary Islands. The type locality is situated in the southernmost part of the island, in Maspalomas. The type specimen was caught flying low over the bare sandy ground in Dunas de Maspalomas Nature Reserve.

The goal of the present paper is to describe this new species of *Hedychridium*, provide a key to the species of *Hedychridium* of the archipelago, and present an up-to-date checklist of the chrysidid species known from the Canary Islands. Any contribution to a better understanding of the chrysidid fauna of the archipelago is considered valuable, since LINSENMAIER (1959, 1968, 1987, 1993, 1997) limited his work to descriptions of new species without providing a comprehensive faunal list or identification keys, while MINGO (1994), in her taxonomic revision of the Iberian chrysidid fauna, did not include the taxa known from the Canary Islands.



## Material and methods

Distributional records in this article are based on LINSSENMAIER's (1959, 1968, 1987, 1993) publications and the related material deposited in his collection at the Natur-Museum in Luzern, Switzerland (NMLU), with additional material collected by Francesco La Roche after 1993 hosted in the same collection. Other type specimens were examined at the Museo de Ciencias Naturales in Madrid, Spain (MNCN), and at the Museum für Naturkunde in Berlin, Germany (ZMHB). When listing locality data, we used double slashes (//) to separate two labels.

Images of the new species were taken with a Keyence VHX-970F with a VHX-7020 photo camera and a VH-Z20R/Z20T objective. Additional images were taken with two Nikon D700 photo cameras connected to a Togonal SCZ stereomicroscope and stacked with the software Combine ZP.

Geographic coordinates are given in decimal degrees using the WGS84 datum.

Abbreviations used in the taxonomic part and the descriptions are as follows:

descr.	description;
F1, F2, F3, etc.	flagellomeres 1, 2, 3, etc., respectively;
MOD	median ocellus diameter (measured in frontal view);
MS	malar space (the shortest distance between the base of mandible and the lowest margin of compound eye);
OOL	oculo-ocellar line (the shortest distance between the posterior ocellus and compound eye);
P	pedicel;
PD	puncture diameter;
POL	posterior ocellar line (the shortest distance between the posterior ocelli);
S	metasomal sternum;
T	metasomal tergum.

## Results

### Family Chrysididae Latreille, 1802

### Subfamily Chrysidinae Latreille, 1802

### Tribe Elampini Dahlbom, 1854

### Genus *Hedychridium* Abeille de Perrin, 1878

#### *Hedychridium tibicena* Rosa, sp. nov.

(Figs 1A–F, 2A–D)

**Material examined.** HOLOTYPE: ♀, SPAIN: CANARY ISLANDS: Gran Canaria, Dunas de Maspalomas, 27.7460, -15.5822, 14.iv.2025, leg. P. Bogusch / Holotype ♀ *Hedychridium tibicena* n.sp. P. Rosa descr. 2026 (NMLU).

**Diagnosis.** *Hedychridium tibicena* sp. nov. (Figs 1, 2) belongs to the *monochroum* group. Species of this group share the following characters: small size; frons large and bulging; scapal basin short, cross-ridged, with large lateral punctures; flagellum long and slender, with elongate F1; medial vein straight; and the fourth hind tarsomere slightly shorter than the third. SEMENOV-TIAN-SHANSKIJ (1954) established the genus *Cyrteuchridium* SEMENOV-TIAN-SHANSKIJ, 1954 to include species like *H. monochroum* (type

species: *Cyrteuchridium pusio* SEMENOV-TIAN-SHANSKIJ & NIKOL'SKAYA, 1954, synonym of *H. monochroum* du Buysson, 1888 according to ROSA et al. 2017). This genus was later synonymised with *Hedychridium* Abeille de Perrin, 1878 by LINSSENMAIER (1968) and its members considered as belonging to the *monochroum* group. This group is represented in North Africa by two species, *H. monochroum* du Buysson, 1888 and *H. carmelitanum* García Mercet, 1915, and in the Canary Islands *Hedychridium canariense* García Mercet, 1915, from Tenerife, while *H. tibicena* sp. nov. is known from Gran Canaria only (Fig. 3).

*Hedychridium tibicena* sp. nov. differs from *H. canariense* in the following combination of characters: body colour blue to black (Figs 1, 2) (*vs.* entirely shining red in *H. canariense*, Fig. 4); mesoscutal punctation shallow and sparse (Figs 1C, D) (*vs.* shallow but dense, in *H. canariense* and its synonym *H. tenerifense*, Fig. 5D); metanotal punctation with deep, large and subcontiguous punctures (Fig. 1D) (*vs.* small, shallow and sparse punctures with shining interspaces, Fig. 5D); posterior propodeal angles large and digitate (Fig. 2B) (*vs.* narrow and spiniform, Fig. 5D). *Hedychridium tibicena* sp. nov. differs from the Mediterranean and North African *H. monochroum* in its shallower and sparser body punctation (Figs 1C, D) and in the posterior propodeal projections (Fig. 2B) (*vs.* body punctation deep, dense and subcontiguous, with triangular posterior propodeal projections, Fig. 1F).

The new species differs from the Mediterranean and North African *H. carmelitanum* in the shape of the head, which is *monochroum*-like and extremely widened in frontal view; extended microridged scapal basin (*vs.* shallowly microridged in *H. carmelitanum*); shallow and widely spaced body punctation (*vs.* dense and deeper); and blue to black body colouration, including all legs (*vs.* blue to bronze on forebody with non-metallic metasoma and yellow non-metallic legs).

**Description.** *Female* (holotype). Body length 3.1 mm, wing length 1.8 mm (Fig. 1A).

*Head* transverse (Fig. 1B) (length / width = 2.0; measured from anterior ocellus to anterior clypeal margin / maximum eye width). Frons without frontal carina. Sculpture on frons and between eye and scapal basin with relatively deep, medium-sized punctures (0.3–0.4 × MOD), dense to subcontiguous on frons; punctures distinctly smaller (0.1–0.2 × MOD), more spaced and shallower on vertex, ocellar area, and posterior margin of vertex toward occiput. Area posterolateral to posterior ocelli distinctly deepened and largely impunctate, less than 1 × MOD in width; no connecting sulcus between posterior ocelli. Face in frontal view largely wrinkled medially, without appressed silvery setae on sides. Clypeus mostly polished, with only scattered punctures. Subantennal space 1.0 × MOD. OOL 2.0 × MOD; POL 2.0 × MOD; MS 0.8 × MOD. Relative lengths of P : F1 : F2 : F3 = 1.0 : 1.5 : 0.9 : 0.8.

*Mesosoma.* Medial pronotal furrow weak and shallow, forming anterior depression (Fig. 1C) reaching three quarters of pronotal length. Pronotum with shallow, dense punctures anteriorly, becoming smaller, shallower, and sparser posteriorly. Mesonotum with small, shallow

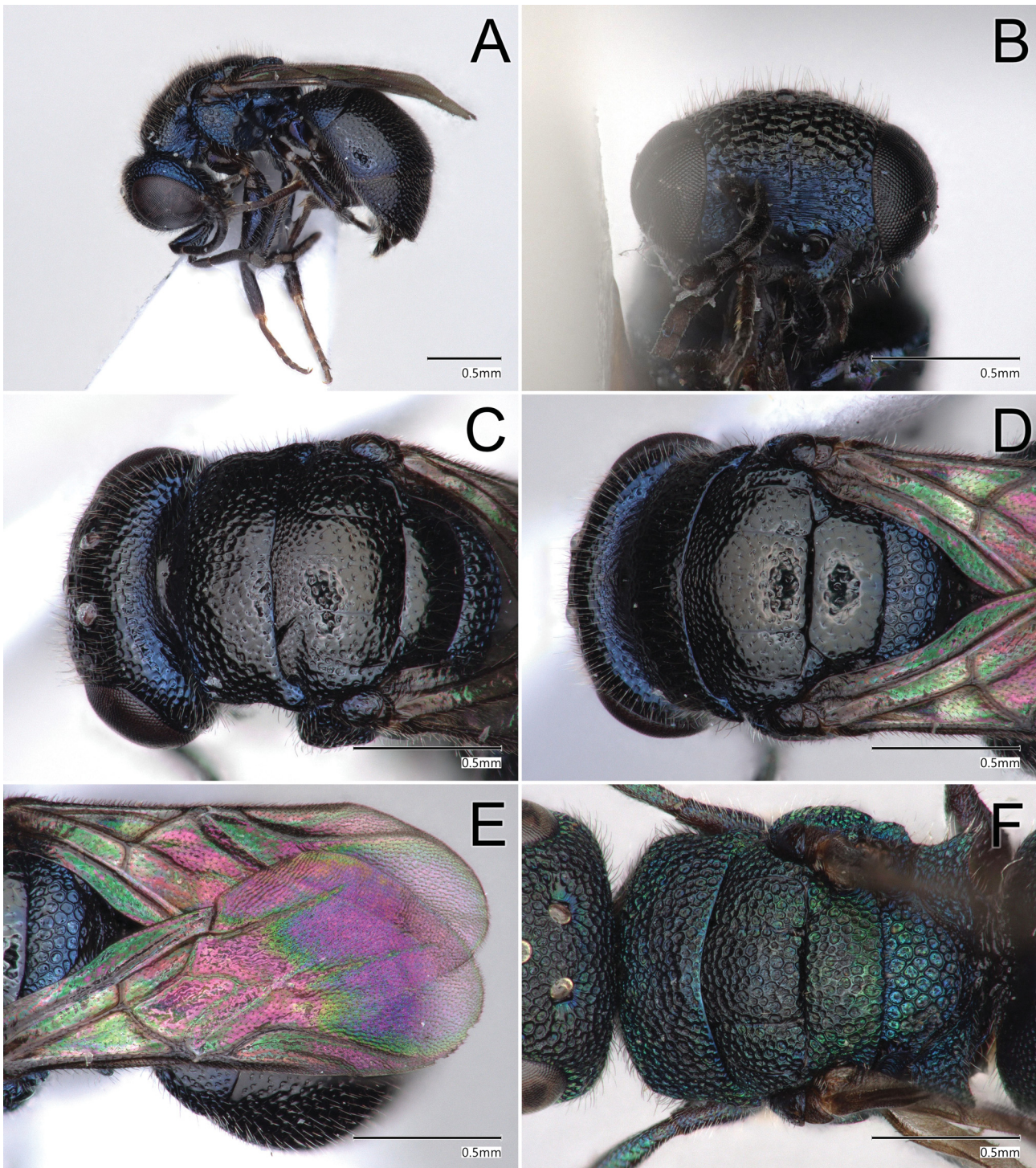


Fig. 1. *Hedychridium tibicena* Rosa, sp. nov., holotype, female. A – habitus, lateral view; B – head, frontal view; C – mesosoma, dorsal view; D – mesosoma, dorsal view; E – wings; F – *Hedychridium monochroum* du Buysson, 1888 from Italy, mesosoma, dorsal view.

punctures separated by 1–3 PD, with polished interspaces; each puncture bearing whitish seta. Punctures slightly larger, denser, and deeper on lateral areas of mesoscutum. Notauli formed by thin, weak line, wider basally. Parapsidal signum deep and fully developed. Mesoscutellum with shallow, weakly defined punctures, each bearing greyish seta; interspaces largely polished. Metanotum with contrasting punctures, large, deep, and subcontiguous. Posterior propodeal projections large, digitate, and

curved outward (Fig. 2B). Mesopleuron without sulci, with large, deep, and dense punctures, larger than those on mesoscutum, separated medially (Fig. 2A).

*Metasoma* with even, shallow punctures separated by 1–3 PD, with polished interspaces on second tergum; third tergum with denser and deeper punctures; apical margin with sharp, dark brown marginal rim (Fig. 2C). First sternum with weak median bluish hint; second sternum with scattered punctures; lateroterga densely and deeply

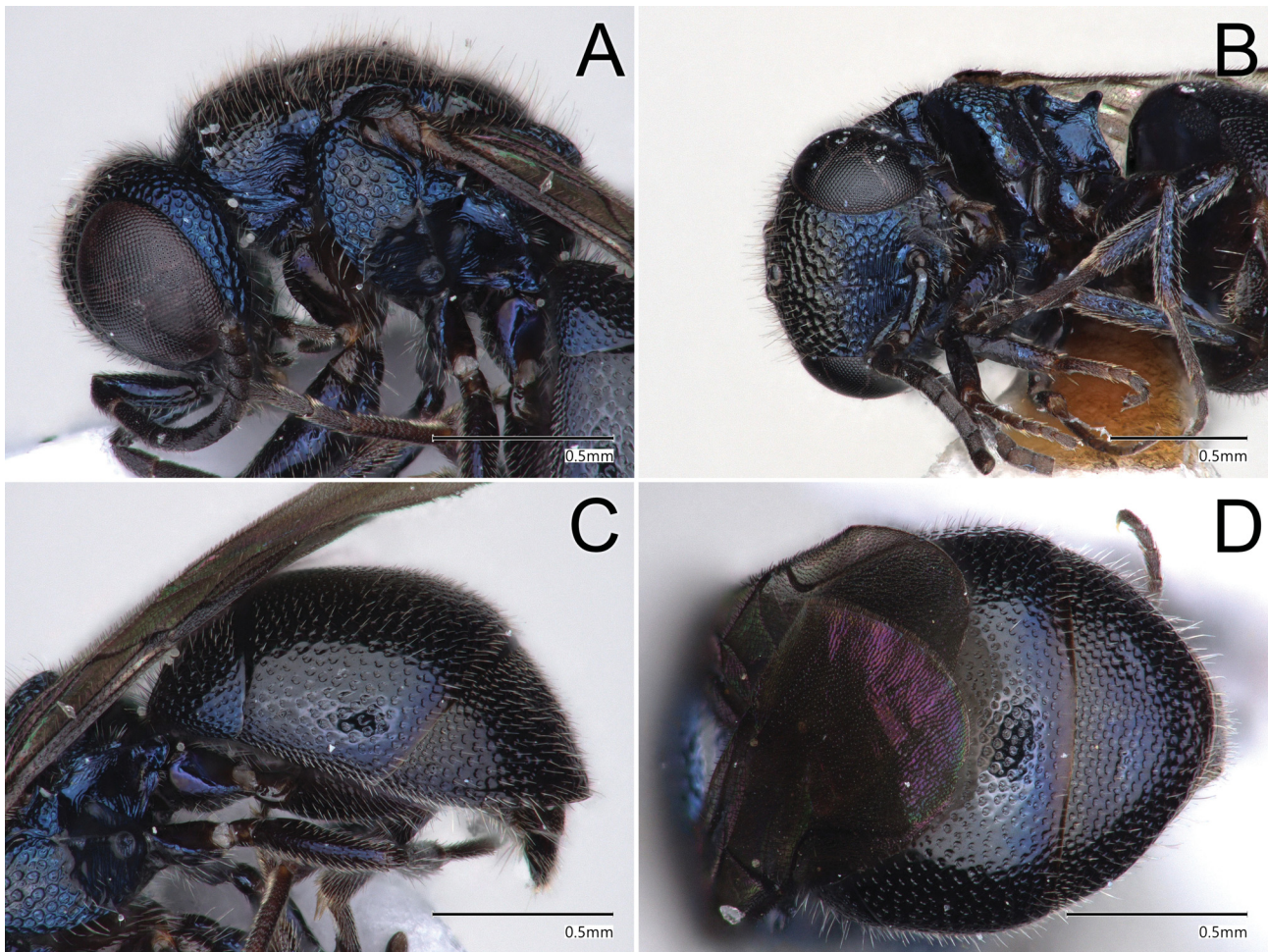


Fig. 2. *Hedychridium tibicena* Rosa, sp. nov., holotype, female. A – head and mesosoma, lateral view; B – head and mesosoma, ventral view; C – metasoma, lateral view; D – metasoma, dorsal view.

punctate; third sternum black with scattered punctures.

**Colouration.** Body dark blue, including legs; black without metallic reflections on frons, vertex, pronotum, mesonotum, and dorsolateral surfaces of second and third terga. Antennae black, with scape metallic blue and pedicel weakly bluish; tegula partly metallic green; tarsi brownish; wings darkened with iridescent reflections, veins brownish.

**Vestiture.** Head and mesosoma dorsally and ventrally with long (1.0–1.5× MOD), erect greyish setae; metasoma posteriorly with long, erect whitish to greyish setae (1.5× MOD).

**Male.** Unknown.

**Etymology.** The species name *tibicena* is derived from the pre-Hispanic mythology of Gran Canaria. The inhabitants, the Guanches, named tibicena mythological creatures, imagined as genies or demons living in the mountain caves, with red eyes and bodies of great wild dogs, covered in long black fur. Noun in apposition.

**Ecology.** A single specimen was collected flying low over the ground in semidesert habitat, Dunas de Maspalomas Nature Reserve in the south of Gran Canaria (Figs 3A, B). The specimen was collected on bare sand habitat flying near the shrub of *Schizogyne glaberrima* (Asteraceae).

**Distribution.** Canary Islands (Gran Canaria).

### *Hedychridium canariense* García Mercet, 1915

(Figs 4A–B, 5A–D)

*Hedychridium canariense* García Mercet, 1915: 160. Holotype: ♀, Canary Islands: Tenerife, Bajamar (MNCM, examined on photographs).

*Hedychridium tenerifense* Linsenmaier, 1968: 32. Holotype: ♀ [not ♂], Canary Islands: Tenerife, Los Christianos (NMLU, examined). **New junior subjective synonym.**

**Type material examined.** *Hedychridium canariense* García Mercet, 1915. Holotype: ♀, SPAIN, CANARY ISLANDS: Tenerife. Bajamar. 19.V.1907 // *Hedychridium canariense* ♀ Mercet // Sintipo MNCN Tipos N° 11941 // MNCN\_Ent 1810 (MNCN, Fig. 4).

**Additional material examined.** CANARY ISLANDS: TENERIFE: 2 ♀♀, Teneriffa Plaja de las Americas 12.IV.1977. W. Perraudin // *Hedychridium* Ab. ♀ *tenerifense* Lins. Det. Linsenmaier 91 // ex synoptic-collection // NML\_ENT GBIF\_Ch\_00009810-9811 (NMLU, Fig. 5); 1 ♀, Canary Is. Tenerife Los Christianos S.L. 14.VII.1966 // *Hedychridium* Ab. ♀ *tenerifense* Lins. Det. Linsenmaier 1973 // NML\_ENT GBIF\_Ch\_00009812 (NMLU); 1 ♂, Canary Is. Tenerife Los Christianos S.L. 19.VII.1966 // *Hedychridium* Ab. ♂ *tenerifense* Lins. Det. Linsenmaier 1973 (NMLU) // NML\_ENT GBIF\_Ch\_00009812 (NMLU).

**Remarks.** LINSENMAIER (1968) described *Hedychridium tenerifense* based on a female collected from Tenerife. However, he apparently never examined specimens he believed to be *Hedychridium canariense* García Mercet, as he later stated “*mir unbekannt*” [= unknown to me] (LINSENMAIER 1987). LINSENMAIER (1987) followed GARCÍA MERCET (1915), who considered *Hedychridium canariense*

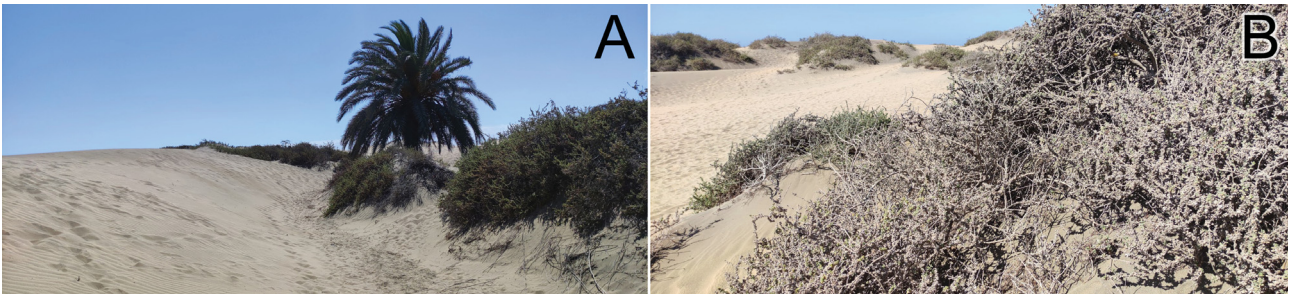


Fig. 3. Type locality of *Hedychridium tibicena* sp. nov. in Dunas de Maspalomas Nature Reserve. A – panoramic view; B – detail of the dune. Photos by: Carlos Ruiz Carreira.

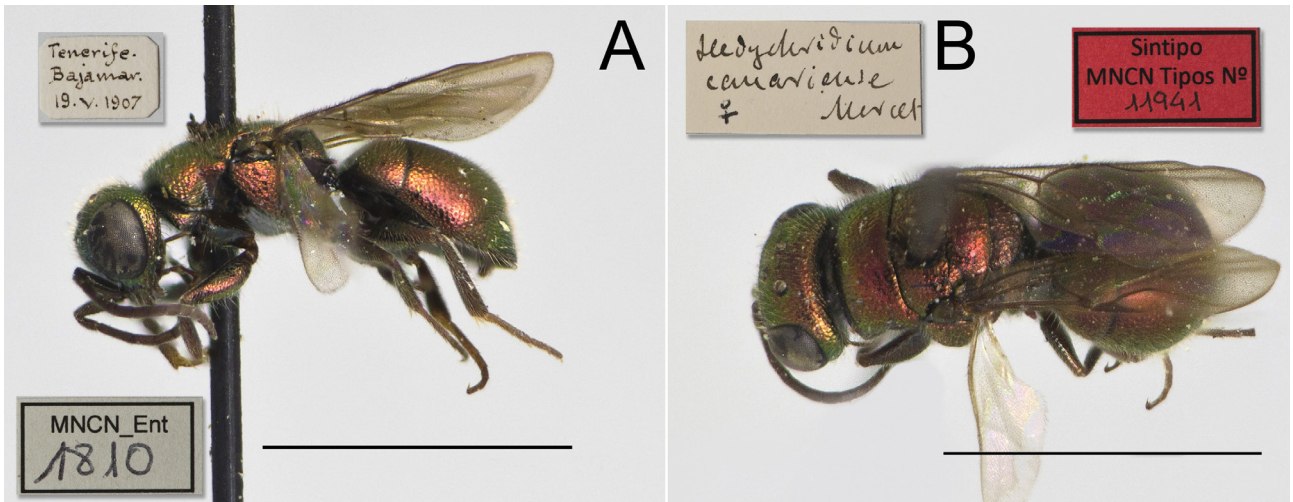


Fig. 4. *Hedychridium canariense* García Mercet, 1915, holotype, female. A – habitus, lateral view; B – habitus, dorsal view.

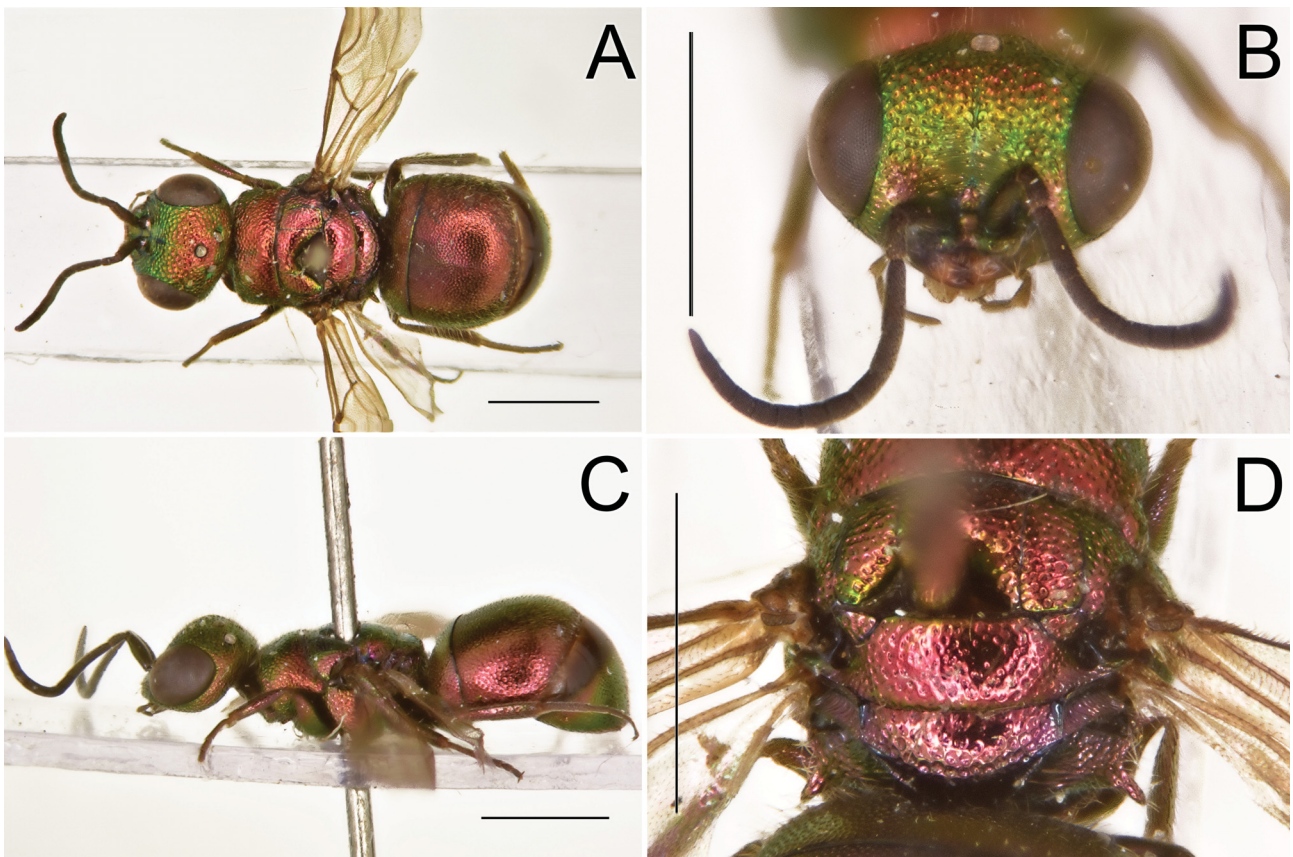


Fig. 5. *Hedychridium tenerifense* Linsenmaier, 1968, holotype, female. A – habitus, dorsal view; B – head, frontal view; C – habitus, lateral view; D – mesosoma, posterior view.

as follows: “Será este *Hedychridium*, probablemente, una especie intermedia entre *H. integrum* y *H. minutum*. [= This *Hedychridium* is probably an intermediate species between *H. integrum* and *H. minutum*],” and LINSSENMAIER (1987) consequently placed it in the *ardens* group, reporting “*Zwischen integrum F. und ardens Coq. stehend* [standing between *integrum* F. and *ardens* Coq.]”

LINSSENMAIER (1987) was apparently misled by García Mercet’s description of the metathorax as “*metathorace cum pectore nigro aeneis* [= metathorax with black-bronze venter]”. In contrast, Linsenmaier’s specimens are entirely red and lacking the greenish to light blue, almost black metanotum described by García Mercet as “*metatórax verdoso-azulado casi negro* [= metathorax greenish-blue, almost black]”. However, the type does not show this colour character clearly, likely because of lighting effects. The original description, however, explicitly states “*cavidad facial plana, indistinta, punteado-estriada transversalmente* [= scapal basin flat, indistinct, transversely punctate-striate]”, which matches specimens of the *monochroum* group. By contrast, the shape of the posterior propodeal projection is diagnostic: “*ángulos postico laterals del metatórax muy estrechos, cilindricos, alargados, de punta ligeramente roma* [= posterolateral angles of the metathorax very narrow, cylindrical, elongated, with a slightly blunt tip]”. After analysis of the original description, the type deposited at MNCN (thanks to the kindness of the curator, Mercedes Paris), and specimens in the Linsenmaier collection, we propose here that *Hedychridium tenerifense* Linsenmaier, 1968 is a new junior subjective synonym of *Hedychridium canariense* García Mercet, 1915.

#### Key to the Canarian *Hedychridium* Abeille de Perrin, 1878

- 1 Face distinctly enlarged, its width twice its height (Fig. 5B); scapal basin short, cross-ridged, with large lateral punctures. .... 2
- Face triangular (Fig. 6B), scapal basin punctate, not cross-ridged medially. .... 3
- 2 Body colour blue to black; mesoscutal punctation sparse; metanotal punctation with deep, large, and contiguous punctures without interspaces (Fig. 1D); posterior propodeal projections large and digitate (Fig. 2B). ....  
..... *H. tibicena* Rosa **sp. nov.**
- Body entirely shining red; mesoscutal punctation dense; metanotal punctation with small, shallow, and sparse punctures with shining interspaces (Fig. 5D); posterior propodeal projections narrow and spiniform (Fig. 5D). .... *H. canariense* García Mercet, 1915
- 3 Scapal basin largely impunctate medially; body colour contrasting (Fig. 7), dorsally dark pink to violet, whereas face, pronotum, and mesonotum laterally, propodeum, tegulae, legs, and metasoma on first and third tergum green. .... 4
- Scapal basin densely punctate or finely and weakly striate among punctures medially; body colour uniform, shining or darkened dorsally. .... 5
- 4 Second sternum with two anteromedian small green spots; F1 slightly longer than F2; scapal basin flat,

upper part straight; known from Gran Canaria. ....

- ..... *H. viridicupreum* Linsenmaier, 1993
- Second sternum largely metallic green; F1 distinctly longer than F2; scapal basin with a median depression and two large, weak lateral depressions, similar to concavities (together giving the appearance of three hollows, hence the Latin name *tricavatum*); known from Tenerife (type not examined, characters from LINSSENMAIER 1993). .... *H. tricavatum* Linsenmaier, 1993
  - 5 Posterior propodeal projections large, curved downwards (Fig. 6E); tarsi pale yellowish; scapal basin narrower, with upper margin gently curved; scapal basin punctation sparser and shiny medially; mesosomal punctation sparse, with small, shallow punctures and polished interspaces; body pubescence long. ....  
..... *H. canarianum* Linsenmaier, 1987
  - Posterior propodeal projections small, pointing outwards; tarsi brown; scapal basin wider, with upper margin strongly curved; scapal basin finely punctate with transversal wrinkles medially; mesosomal punctation smaller and denser, weakly rugose on pronotum and scutellum; body pubescence short (type not examined, characters from LINSSENMAIER 1993). ....  
..... *H. extraneum* Linsenmaier, 1993

#### Discussion

**Cuckoo wasp fauna of the Canary Islands.** A checklist of Chrysididae from the Canary Islands has so far been lacking, as LINSSENMAIER (1959, 1968, 1987, 1993, 1997) restricted his contributions to the descriptions of new species and did not provide a comprehensive faunal synthesis. Here we present the first checklist (Tab. 1), based on data published in the literature and on material examined in Linsenmaier’s collection (Natur-Museum, Luzern, Switzerland). The proportion of endemic taxa appears to be exceptionally high (92.5%), with 25 of the 27 currently known species-group taxa (25 species and two subspecies) likely endemic to the Canary Islands. A possible explanation for the level of endemism, documented with an average proportion of 44% of endemism in insects (ROMANOWSKI et al. 2024), is that the Canary Islands differ markedly from each other in age, altitude, area, and climate (e.g., water availability and humidity gradients), and the adaptive radiation and speciation have produced many endemic species, often restricted to a single island or habitat type (JUAN et al. 2000). Considering the distribution of the species in the different islands of the archipelago (Tab. 1), the close spatial distance between Fuerteventura and Lanzarote is reflected in their shared endemic species: Lanzarote share five of the seven chrysidid Canarian endemic species with Fuerteventura. Based on the available data, Tenerife appears to be the richest island, with 11 chrysidid species, including nine endemics to the Canary Islands, six endemics restricted to Tenerife itself, and five shared with other islands. Gran Canaria and Fuerteventura follow, each with nine species (Tab. 1).

The most widespread species is *Chrysis magnidens* Pérez, 1895 (synonym: *C. viridimaculata* Bischoff, 1910; type examined at ZMHB) which is also the most widespread

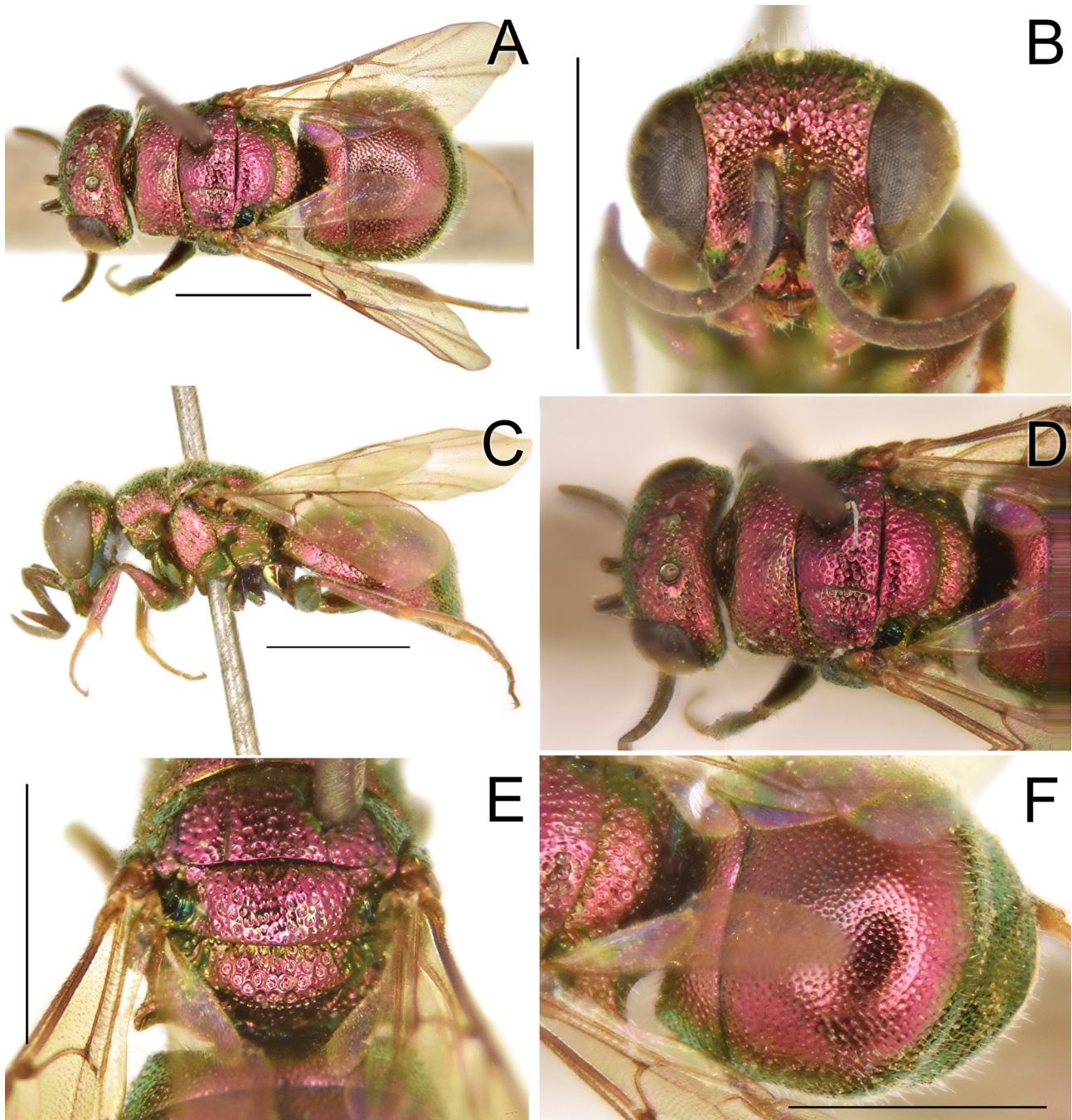


Fig. 6. *Hedychridium canarianum* Linsenmaier, 1968 (replacement name for *H. canariense* Linsenmaier, 1959, nec García Mercet, 1915), paratype, female. A – habitus, dorsal view; B – head, frontal view; C – habitus, lateral view; D – mesosoma, dorsal view; E – mesosoma, posterior view; F – metasoma, dorso-lateral view.

in the Macaronesian Islands, being found in Tenerife, El Hierro, Gran Canaria, Fuerteventura, and Madeira. Two other species, *Philoctetes caudatus caudatus* Abeille de Perrin, 1878 and *Pseudomalus auratus* (Linnaeus, 1758), are also found at least in Northern Africa.

DOMINGO-QUERO et al. (2003) reported *Chrysis* cf. *succincta* (Linnaeus, 1767) from La Palma, which could refer to *Chrysis canaria canaria* Linsenmaier, 1959 or *C. canaria amaurotica* Linsenmaier, 1993, both belonging to the *succincta* group, or to an undescribed taxon. Therefore, *C. succincta* is not included in the present checklist (Tab. 1).

No information is available on host-parasite-relationships involving chrysidids from the Canary Islands. The

supposed parasitism of “*Chrysis atracomitata*” (sic, *nomen nudum*, likely *C. umbrofascialis* Linsenmaier, 1993) for *Quartinia canariensis* Blüthgen, 1958, as reported by GUSENLEITNER (1990), was considered doubtful by MAUSS & MÜLLER (2016), who reviewed the report, including its inconsistencies and nomenclatural inaccuracies.

**Melanism**, the increased deposition of dark pigments (usually melanin) in the cuticle, results in darker or completely black individuals and is well documented in many insect groups (TRUE 2003) including Chrysididae (ROSA & ZILIOLI 2025). Melanism in Chrysididae is particularly intriguing because the typical colouration is structural rather than pigment-based (KROISS et al. 2009). Melanic

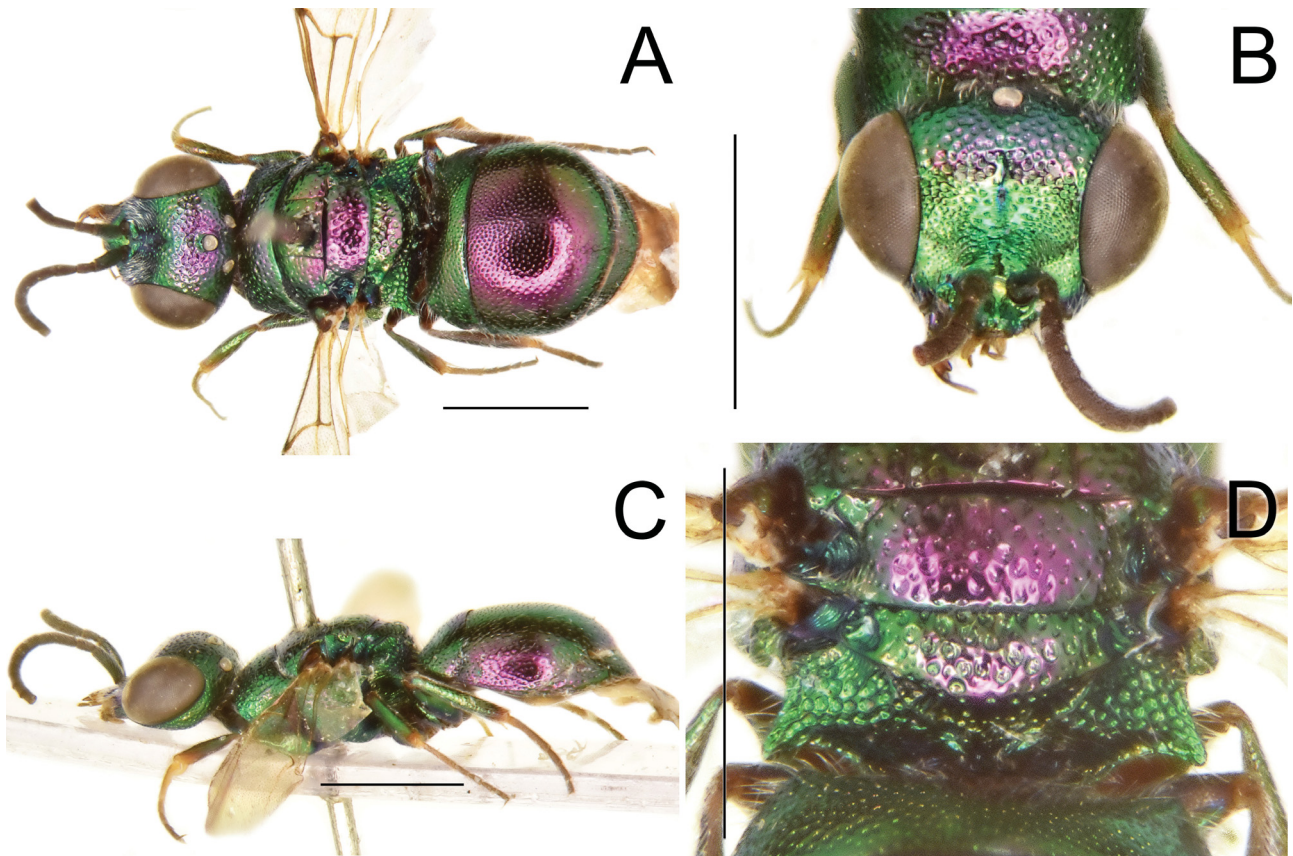


Fig. 7. *Hedychridium viridicupreum* Linsenmaier, 1993, holotype, female. A – habitus, dorsal view; B – head, frontal view; C – habitus, lateral view; D – mesosoma, posterior view.

specimens have historically led to the description of new species and varieties such as *Chrysis kuthyi* Mocsáry, 1889 [currently *Pseudochrysis neglecta* (Shuckard, 1837)], *Chrysis wuestneii* Mocsáry, 1889 [currently *C. subsinuata* Marquet, 1879], *Chrysis ignita lugubris* du Buysson, 1895 [including several melanic individuals of different taxa of the *ignita* group], *Holopyga hortobagyensis* Móczár, 1983 [currently *H. generosa* (Förster, 1853)], and others.

According to ROSA & ZILIOLO (2025), these melanic aberrations may result from disruption of cuticular nanostructures or deposition of melanin between cuticle layers altering or obscuring these structures. In such cases, iridescence may be reduced or completely lost, making the insect appear black or dull. However, many observed melanic specimens retain weak iridescence. Other possible causes include changes in cuticle thickness, developmental abnormalities such as improper cuticle formation during pupation, and temperature effects, where cooler conditions may increase melanin production and potentially affect metallic reflections.

A previously unrecognized pattern may exist between the colour of cuckoo wasps, such as those in the Canary Islands, and the environment. Many species from the Canary Islands are entirely or largely black, such as *Chrysis atrocomitata* Linsenmaier, 1993; *C. canaria amaurotica* Linsenmaier, 1993; *C. globuliscutella* Linsenmaier, 1993; *C. magnifacialis* Linsenmaier, 1993; *C. umbofacialis* Linsenmaier, 1993; *Hedychridium tibicena* Rosa sp. nov., *Philoctetes caudatus ortegai* Linsenmaier, 1993; and *P.*

*tenerifensis* Linsenmaier, 1959. Other species are at least dorsally darkened, as in the case of *Chrysis magnidens* Pérez, 1895.

The prevalence of dark to entirely black species among several Canarian Chrysididae may reflect convergent evolution, in which separate lineages, species from different tribes within the Canarian Chrysididae, have independently evolved similar colour patterns in response to comparable environmental pressures. This would represent a form of convergent adaptation typical of insular faunas and may indicate adaptive responses to shared ecological constraints.

Thermoregulation has been proposed as a potential selective driver of dark colouration in the Canary Islands. BOT et al. (2025) suggested that dark to black colour patterns may enhance heat absorption under cooler or fluctuating thermal conditions. In the Canary Islands, the widespread presence of dark volcanic substrates, as well as humid evergreen forests with reduced solar radiation, may favour darker phenotypes in endemic species. A comparable thermoregulatory explanation was invoked by HADRAVA et al. (2025) to account for the occurrence of darker forms in northern European species of the dipteran genus *Temnostoma*.

In addition to thermoregulatory advantages, dark coloration may also provide a cryptic benefit, allowing these species to blend into the surrounding environment. The Canary Islands are of volcanic origin, and extensive areas are covered by basaltic lava flows, volcanic ash, and tephra, resulting in predominantly dark substrates (CARRACEDO &

Table 1. Checklist of Chrysididae of the Canary Islands, organised by island.

	Endemic	Tenerife	La Palma	La Gomera	El Hierro	Gran Canaria	Lanzarote	Fuerteventura	N Africa
<i>Chrysis adipata</i> Linsenmaier, 1997	X		X						
<i>Chrysis anomala baezi</i> Linsenmaier, 1993	X							X	
<i>Chrysis atrocomitata</i> Linsenmaier, 1993	X			X		X			
<i>Chrysis vulcanica</i> Rosa, 2015 in ROSA et al. (2015)	X						X	X	
<i>Chrysis canaria canaria</i> Linsenmaier, 1959	X	X							
<i>Chrysis canaria amaurotica</i> Linsenmaier, 1993	X					X			
<i>Chrysis chrysoviolacea</i> Linsenmaier, 1968	X						X	X	
<i>Chrysis comitata</i> Linsenmaier, 1968	X	X							
<i>Chrysis globuliscutella</i> Linsenmaier, 1993	X					X			
<i>Chrysis hohmanni</i> Linsenmaier, 1993	X						X	X	
<i>Chrysis larochei</i> Linsenmaier, 1993	X						X		
<i>Chrysis magnidens</i> Pérez, 1895	X	X			X	X		X	
<i>Chrysis magnifacialis</i> Linsenmaier, 1993	X					X			
<i>Chrysis pseudoignita</i> Linsenmaier, 1987	X	X	X						
<i>Chrysis rubrocoerulea</i> Linsenmaier, 1968	X						X	X	
<i>Chrysis umbofacialis</i> Linsenmaier, 1993	X	X					X		
<i>Chrysura fernandezi</i> (Linsenmaier, 1993)	X						X	X	
<i>Hedychridium tibicena</i> Rosa, sp. nov.	X					X			
<i>Hedychridium canarianum</i> Linsenmaier, 1987	X	X				X			
<i>Hedychridium canariense</i> García Mercet, 1915	X	X							
<i>Hedychridium extraneum</i> Linsenmaier, 1993	X							X	
<i>Hedychridium tricavatium</i> Linsenmaier, 1993	X	X							
<i>Hedychridium viridicupreum</i> Linsenmaier, 1993	X					X			
<i>Philoctetes caudatus caudatus</i> Abeille de Perrin, 1878		X						X	X
<i>Philoctetes caudatus ortegae</i> (Linsenmaier, 1997)	X					X			
<i>Philoctetes tenerifensis</i> (Linsenmaier, 1959)	X	X							
<i>Pseudomalus auratus</i> (Linnaeus, 1758)						X			X

TROLL 2016). Against such backgrounds, dark coloured cuckoo wasps may experience reduced detectability by predators or hosts, further reinforcing selection for melanistic or darkened phenotypes.

Targeted research in the field focused on Chrysididae, which so far have been sampled only occasionally, and on their habitat and ecology may help clarify the underlying causes of the black or dark coloration observed in some Canarian species.

### Acknowledgements

The required permit to conduct the field studies on the Canary Islands was granted by the Canary Island Government (Reference Number Expte. 8-2023/0203125054). The authors thank Carlos Ruiz Carreira (Universidad de La Laguna, Tenerife) for the pictures of the type locality

of *Hedychridium tibicena* sp. nov. Special thanks are due to Petr Kment (National Museum of the Czech Republic, Prague) for his editorial work on the manuscript. The authors thank Oliver Niehuis (Freiburg, Germany) and Marek Halada (České Budějovice, Czech Republic) for reviewing the original manuscript.

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