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Gelechiidae of the Canary Islands (Spain). Part 2. Dichomeridinae, Anomologinae (= Apatetrinae auct.), Thiotrichinae (Lepidoptera: Gelechiidae)

Per Falck & Ole Karsholt

Abstract

The Gelechiidae subfamilies Dichomeridinae, Anomologinae and Thiotrichinae in the Canary Islands are revised. We recognize seven species of Dichomeridinae, five species of Anomologinae and two species of Thiotrichinae. Four species are described as new: *Dichomeris vivesi* Falck & Karsholt, sp. nov., *Helcystogramma brachmiaella* Falck & Karsholt, sp. nov., *Pseudosophronia confluella* Falck & Karsholt, sp. nov., and *Chrysoesthia diurnella* Falck & Karsholt, sp. nov. A lectotype of *Nothris castellana* Schmidt, 1941, now *Dichomeris castellana* (Schmidt, 1941), is designated. *Dichomeris castellana* (Schmidt, 1941), *Sitotroga psacasta* Meyrick, 1908, and *Polyhymno dumonti* (Hartig, 1936) are recorded as new to the Canary Islands. We also present several records of species new to single Canary Islands. *Dichomeris cisti* (Staudinger, 1859) is removed from the list of Lepidoptera in the Canary Islands. The paper is illustrated with photographs of adults and genitalia of the new species as well as of other species when relevant. Analyses of DNA barcodes show that the identifications and distinctiveness of each species as well-supported and genetically isolated.
Keywords: Lepidoptera, Gelechiidae, Dichomeridinae, Anomologinae, Thiotrichinae, new species, new records, subspecies, endemic, DNA barcodes, Canary Islands, Spain.

Gelechiidae de las Islas Canarias (España). Parte 2. Dichomeridinae, Anomologinae (= Apatetrinae auct.), Thiotrichinae (Lepidoptera: Gelechiidae)

Resumen

Se revisan las subfamilias Dichomeridinae, Anomaloginae y Thiotrichinae de la familia Gelechiidae en las Islas Canarias. Se reconocen siete especies de Dichomeridinae, cinco especies de Anomologinae y dos especies de Thiotrichinae. Se describen cuatro especies nuevas: *Dichomeris vivesi* Falck & Karsholt, sp. nov., *Helcystogramma brachmiaella* Falck & Karsholt, sp. nov., *Pseudosophronia confluella* Falck & Karsholt, sp. nov., y *Chrysoesthia diurnella* Falck & Karsholt, sp. nov. Se designa un lectotipo de *Nothris castellana* Schmidt, 1941, ahora *Dichomeris castellana* (Schmidt, 1941). *Dichomeris castellana* (Schmidt, 1941), *Sitotroga psacasta* Meyrick, 1908 y *Polyhymno dumonti* (Hartig, 1936) se registran como nuevas para las Islas Canarias. También presentamos varios registros de especies nuevas en una sola isla de las Canarias. *Dichomeris cisti* (Staudinger, 1859) se elimina de la lista de Lepidoptera de las Islas Canarias. El artículo se ilustra con fotografías de adultos y genitalia de las nuevas especies, así como de otras especies cuando es pertinente. Los análisis de códigos de barras de ADN muestran que las identificaciones y la distinción de cada especie están bien fundamentadas y son genéticamente aisladas.
Palabras clave: Lepidoptera, Gelechiidae, Dichomeridinae, Anomologinae, Thiotrichinae, nuevas especies, nuevos registros, subespecies, endémicas, códigos de barras de ADN, Islas Canarias, España.

Introduction

This is the second part of a planned series of papers on the Gelechiidae of the Canary Islands. It follows Karsholt et al. (2013) for the higher systematics and the European checklist of Gelechiidae (Huemer & Karsholt, 2020) for the sequence of genera and species. We here deal with the subfamilies Dichomeridinae, Anomologinae and Thiotrichinae, which in these islands are represented by seven, five and two species respectively.

Dichomeridinae is a large subfamily, dominated by the species-rich genera *Dichomeris* Hübner, [1818] and *Helcystogramma* Zeller, 1877 and including a few additional small genera. The Anomologinae (formerly known as Apatetrinae, see below) falls into two almost equal-sized tribes: Anomologini and Pexicopiini, each with about 25 genera. The Thiotrichinae, which is mainly distributed in Asia, includes about 300 species in seven genera (Lee & Li, 2024, p. 8).

When revising the small South African genus *Anomologa* Meyrick, 1926 (Bidzilya et al. 2025) it became evident that it belongs to the subfamily currently known as Apatetrinae. *Anomologa* is the type of genus of the Anomologinae Meyrick, 1926, and that subfamily has priority over Apatetrinae Le Marchand, 1947, which becomes a junior synonym. The subfamily currently known as Anomologinae auct., is replaced by its oldest junior synonym Aristoteliinae Le Marchand, 1947. We plan to deal with the latter subfamily in part 3 of this series of papers dealing with the Gelechiidae of the Canary Islands (Spain).

Material and methods

For methods of collecting, preparing of genitalia slides and photographing see Falck & Karsholt (2025).

Details of all examined specimens are listed for newly described species. For other species only specimens used for DNA barcoding or for genitalia dissections are listed, as well as specimens representing new island records.

We examined the morphology of all species and the DNA barcodes from new and cryptic species. DNA samples were prepared as described by Falck & Karsholt (2023, p. 271). Details of successfully sequenced voucher specimens are publicly available through the dataset DS-DICHOCA at https://www.boldsystems.org. and at https://doi.org/10.5883/DS-DICHOCA.

Plant names are according to World Flora Online (2024).

Abbreviations used

AW	Collection of Andreas Werno, Nunkirchen, Germany
JS	Collection of Josef Jaroš, České Budějovice, Czechia
PF	Collection of Per Falck, Neksø, Denmark
MNCN	Collection of Antonio Vives, Museo Nacional de Ciencias Naturales, Madrid, Spain
MZH	Finnish Museum of Natural History, Helsinki, Finland
RMNH	Naturalis Biodiversity Center, Leiden, The Netherlands
SMNK	Staatliches Museum für Naturkunde Karlsruhe, Germany
WS	Collection of Willibald Schmitz, Bergisch Gladbach, Germany
ZMUC	Zoological Museum, Natural History Museum of Denmark, Copenhagen, Denmark

Checklist

Only synonyms used in literature on Gelechiidae of the Canary Islands are included. For additional synonyms see Vives Moreno (2014).

GELECHIIDAE
DICHOMERIDINAE

Dichomeris acuminatus (Staudinger, 1876)
lotella (Constant, 1893)
Dichomeris castellana (Schmidt, 1941)

***Dichomeris vivesi* Falck & Karsholt, sp. nov.**
Helcystogramma convolvuli (Walsingham, 1908)
***Helcystogramma brachmiaella* Falck & Karsholt, sp. nov.**
Helcystogramma lamprostoma (Zeller, 1847)
***Pseudosophronia confluella* Falck & Karsholt, sp. nov.**

ANOMOLOGINAE

Anomologini

Chrysoesthia boseae (Walsingham, 1908)
***Chrysoesthia diurnella* Falck & Karsholt, sp. nov.**

Pexicopiini

Platyedra subcinerea (Haworth, 1828)
vilella (Zeller, 1847)
Sitotroga psacasta Meyrick, 1908
Sitotroga cerealella (Olivier, 1789)

THIOTRICHINAE

Polyhymno dumonti (Hartig, 1936)
Palumbina guerinii (Stainton, 1857)

Results

Dichomeris Hübner, [1818]
Dichomeris Hübner, [1818]. *Zuträge Samml. exot. Schmett., 1,* 25

With about 650 species (Hobern et al. 2024) the genus *Dichomeris* is, in its current concept, the most species-rich genus within the Gelechiidae. It is moreover morphologically very diverse, and numerous genera were formerly erected to include different more or less striking species. Hobern et al. (2024) lists 83 synonyms of the genus *Dichomeris.* Most adults have segment 2 of the labial palp with a scale tuft. The genitalia are rather complex compared to most other gelechiid genera. The genus is distributed over large parts of the world. Larvae feed on herbs, bushes and trees of a number of different plant families.

Remarks: *Dichomeris cisti* (Staudinger, 1859) is listed by Vives Moreno (2014, p. 164) without exact data. It is unclear if the record is based on misidentified material or is due to a printing error. *D. cisti* should be removed from the list of Lepidoptera in the Canary Islands until its presence there is confirmed.

Dichomeris acuminatus (Staudinger, 1876)
Mesophleps (?) *acuminatus* Staudinger, 1876, in Kalchberg, *Stettin. ent. Ztg., 37,* 148
Ypsolophus lotellus Constant, 1893. *Annls Soc. ent. Fr., 62,* 398, pl. 11, fig. 7

Diagnosis: A characteristic medium-sized species (wingspan 12-14 mm) having orange-brown forewings with two blackish discal spots, sometimes with plical spots present. Labial palps have segment 2 with a large, porrect, greyish scale tuft.

Biology: The larva feeds from a slight web between the leaves of several species of Fabaceae. It has not been recorded from the Canary Islands.

Distribution in the Canary Islands, Spain: First record by Klimesch (1984, p. 166) from Gran Canaria. **New island records**: Fuerteventura, Lajares, 1 ♀, 15-18-XII-1996, leg. K. Larsen (ZMUC); Costa Calma, 45 m, 7 ♂, 11-XI-1-XII-2022, leg. P. Falck (PF); Lanzarote, Mojón Blanco, Orzola, 20 m, 1 ♂, 1 ♀, 21-X-10-XI-2019, leg. P. Falck (PF); Tenerife, Los Cristianos, 1 ♂, 10-20-III-1980, leg. J. B. Wolschrijn (ZMUC).

General distribution: Widely distributed in subtropical and tropical parts of the world. In Europe in the Mediterranean countries' northwards to southern England; Canary Islands and Madeira.

Dichomeris castellana (Schmidt, 1941) (Figures 1a, 1b, 1c, 2, 13, 13a, 14, 14a, 20)
Nothris castellana Schmidt, 1941. *Boln R. Soc. esp. Hist. nat., 38,* 37, pl. 2, fig. 4

Material examined: SPAIN, Fuerteventura, Corralejo, 1 ♂, 14-20-XII-1996, leg. K. Larsen; Lajares, 5 ♂, 1 ♀, 15-18-XII-1996, leg. K. Larsen; La Oliva, 200 m, 2 ♂, 1 ♀, 18-XII-1996, leg. K. Larsen; Vega de Río Palmas, 230 m, 4 ♂, 19-XII-1996, 1 ♂ 24-II-2019, leg. K. Larsen (all ZMUC); Lajares, 50 m, 8 ♂, 7-27-XI-2017, leg. P. Falck, DNA sample Lepid Phyl 1431PF/CILEP1430-24 (PF); Betancuria, 400 m, 13 ♂, 1 ♀, 7-27-XI-2017, leg. P. Falck, genitalia slide 4098PF (PF); Las Parcelas, 70 m, 1 ♂, 7-27-XI-2017, leg. P. Falck (PF); Caldereta, 120 m, 1 ♂, 7-27-XI-2017, leg. P. Falck (PF). Lanzarote, Urb. Famara, 55 m, 4 ♂, 1 ♀, 2-8-XI-2018, leg. C. Hviid & B. Skule (ZMUC); 2 km SW Urb. Famara, Las Laderas, 41 ♂, 3 ♀, 75 m, 2-8-XI-2018, leg. C. Hviid & B. Skule (ZMUC); Caleta de Famara, 10 m, 5 ♂, 21-X-10-XI-2019, leg. P. Falck (PF); Mojón Blanco, Orzola, 20 m, 9 ♂, 1 ♀, 21-X-10-XI-2019, leg. P. Falck, genitalia slides 4099PF, 4100PF (PF); El Golfo, 95 m, 3 ♂, 21-X-10-XI-2019, leg. P. Falck (PF); Mala, 18 m, 4 ♂, 21-X-10-XI-2019, leg. P. Falck (PF); El Boesquecillo, 610 m, 2 ♂, 21-X-10-XI-2019, leg. P. Falck, DNA sample Lepid Phyl 1432PF/CILEP1431-24 (PF). MOROCCO, 25 km S Essaouira, Sidi Kaouki, 100 m, 1 ♂, 28-III-2005, leg. O. Karsholt (ZMUC); Agadir, Sidi Toual Beach, 1 ♂, 28-I-2017, leg. C. Hviid & K. Larsen, genitalia slide 5452Karsholt (ZMUC).

Diagnosis: *D. castellana* is very variable. It is a medium-sized species (wingspan 13-15 mm) having grey forewings mottled with black, which varies from a few scales to having dark veins. Costal third of the forewing to near apex sometimes dark grey. Terminal dots can be very distinct. Labial palps have segment 2 with greyish scale tuft. It resembles in particular *Dichomeris helianthemi* (Walsingham, 1903) and it is probably not possible to distinguish the species without dissection of the genitalia or by barcoding.

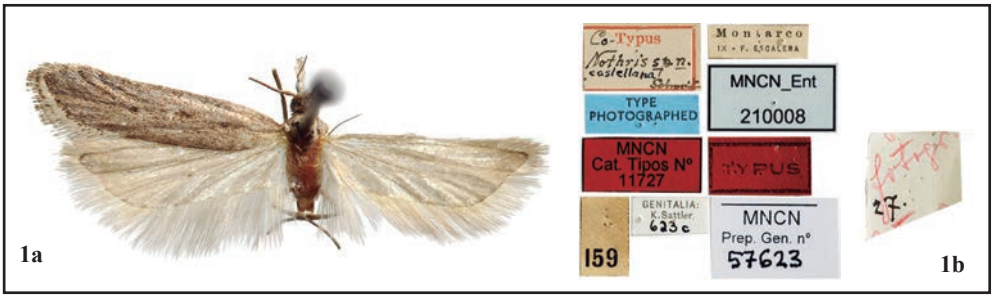
DNA barcodes: We obtained a full-length DNA barcode (658 bp) from one specimen and DNA barcode fragments of 632 bp from one specimen. The barcodes fall within Barcode Index Number (BIN) BOLD: AAV6610. The maximum intraspecific p-distance is 2.00% (n=6). The nearest neighbour is *Dichomeris helianthemi* (Walsingham, 1903) with a 4.97% divergence.

Biology: Early stages and hostplant are unknown. Adults from the Canary Islands have been collected at light from late October to late February, at altitudes from 10 m to 610 m.

Distribution in the Canary Islands, Spain: **New to the Canary Islands**.

General distribution: Canary Islands (Lanzarote, Fuerteventura), Spain (mainland); Morocco (new record).

Figure 1a. Lectotype of *Nothris castellana* Schmidt, 1941 (MNCN). **1b.** Labels of the Lectotype.



Remarks: *Nothris castellana* was described from an unstated number of specimens (at least two) collected by F. Escalera in September in Montarco in the province of Madrid, Spain. The specimens were placed in the collections of the Natural History Museums of Budapest (Hungary) and Madrid (Spain) (Schmidt, 1941, pp. 37-38). Due to the kindness of Javier Gastón Gastón, Emili Requena and Dr. Amparo Blay (MNCN) (Madrid, Spain). we could examine a photograph of the male genitalia of a syntype kept in MNCN. The genitalia slide is already labelled as lectotype by Klaus Sattler, but it has not yet been published. In order to stabilize nomenclature

this male specimen is here designated as the lectotype of *Nothris castellana*. It has number 57623 and is labelled "Nothris castellana Schmidt, Montarco, IX, F. Escalera" and has genitalia slide number 623c K. Sattler (Figures 14, 14a). The species has not been recorded before from outside mainland Spain.

***Dichomeris vivesi* Falck & Karsholt, sp. nov.** (Figures 3, 4, 5, 15, 15a, 21)
https://zoobank.org/2EDED3EB-DD15-4C9C-81A1-6AF0FFA27C47

Holotype ♀: SPAIN, Gran Canaria, Ayacata, 1400 m, 4-23-III-2019, leg. P. Falck (MNCN)

Paratypes: SPAIN, Gran Canaria, St. Bartolomé, leg. Pinker, abdomen missing (SMNK); Ayacata, 1400 m, 1 ♂, 4-23-III-2019, leg. P. Falck, genitalia slide 4109PF (PF); Pie de la Cuesta, 500 m, 1 ♀, 4-23-III-2019, leg. P. Falck, genitalia slide 4113PF, DNA sample Lepid Phyl 0855PF/CILEP854-21, same data but, 1 ♂, 24-X-13-XI-2020, leg. P. Falck, DNA sample Lepid Phyl 0856PF/CILEP855-21 (PF).

Diagnosis: *Dichomeris vivesi* sp. nov. is characterized by having a plical spot, two dark grey discal spots and sometimes a longitudinal, median streak. It resembles *Dichomeris juniperella* (Linnaeus, 1761), which has the discal spots more distinct and always without a median streak. In the male genitalia of *D. vivesi* sp. nov. the pointed, sub-triangular sacculus, the symmetrical juxta and the stout phallus are characteristic. They mostly resemble *D. castellana* (Schmidt, 1941), which has a shorter rounded sacculus and a longer, narrower sclerite in the phallus. In the female genitalia the shape of colliculum is characteristic.

Description Adult (Figures 3-5): Wingspan 15.5-18.5 mm. Labial palp slender, strongly upturned; segment 2 brownish, mottled with white-tipped scales, dorsally whitish, ventrally with large tuft; segment 3 brownish, laterally white. Antenna brownish grey. Head, neck and thorax brownish grey. Forewing brownish grey, mottled with darker grey scales; costa black basally; one dark grey, rather indistinct plical spot at 1/5 and two small, indistinct discal spots at 1/3 and 3/5; at costa near apex and along termen 7-8 black, distinct spots; postmedian fascia light grey, very diffuse, sometimes absent; fringe brownish grey. Hindwing grey; fringe grey.

Variation: There is some variation in the wing pattern. One or both discal spots may be diffuse or totally absent, sometimes there is a dark brownish grey, longitudinal streak from near the base to the end of the cell.

Male genitalia (Figures 15, 15a): Uncus rounded, setose. Gnathos heavily sclerotized, falcate, slightly angulated basally. Tegumen elongate. Valva simple, broadening distally, apex rounded. Sacculus sub-triangular, pointed, slightly setose. Vinculum relatively long and thin, bilobed apically. Juxta V-shaped, almost symmetrical, basally fused with vinculum, apically serrate. Phallus stout, relatively large, ventrally curved, apically spatulate; one long sclerite.

Female genitalia (Figure 21): Papillae anales pointed apically, covered with few long setae. Posterior apophysis slender, 2.5 times longer than anterior apophysis; anterior apophysis apically thickened. Antrum very broad, membranous. Ductus bursae broad. Colliculum heavily sclerotized, triangular with a sclerite and a less sclerotized elongate plate reaching corpus bursae; exit to ductus seminalis triangular, heavily sclerotized. Corpus bursae oval, membranous. Bulla seminalis rounded, membranous.

DNA barcodes: We obtained a full-length DNA barcode (658 bp) from one specimen and DNA barcode fragments of 632 bp from one specimen. The barcodes fall within Barcode Index Number (BIN) BOLD: ADI2574. The maximum intraspecific p-distance is 0.17% (n=4). The nearest neighbour is *Dichomeris juniperella* (Linnaeus, 1761) with a 6.57% divergence.

Biology: Early stages and hostplant are unknown. Adults have been collected at light in March and September, at altitudes from 800 m to 1400 m.

Distribution: Endemic to the Canary Islands, Spain and only known from the mountain areas on the island of Gran Canaria.

Etymology: The species is named after the editor of SHILAP Dr. Antonio Vives, who has been very helpful editing our manuscripts and providing permissions to collect Lepidoptera in the Canary Islands, Spain.

Helcystogramma Zeller, 1877
Helcystogramma Zeller, 1877. *Horae Soc. ent. ross., 13,* 369

A large genus with about 150 species distributed over large parts of the world. Known hostplants include Asteraceae, Convolvulaceae, Malvaceae, Poaceae and Rutaceae. Differences from the closely related genus

Brachmia Hübner, 1825 were discussed by Berggren et al. (2023, pp. 38-40).

Helcystogramma convolvuli (Walsingham, 1908)
Trichotaphe convolvuli Walsingham, 1908. *Proc. zool. Soc. Lond., 1907,* 944, pl. 51, fig. 16

Diagnosis: A characteristic medium-sized species (wingspan 11.5-14 mm) having blackish brown forewings, with black discal spots encircled orange and a yellowish sub-apical costal spot. Head and labial palps yellowish brown.

Biology: The characteristic larva feeds in rolled leaves of sweet potato *Ipomoea batatas* (L.) (Lam.) and other Convolvulaceae, sclerotizing the leaves (Malumphy, 2012, p. 149). Walsingham (1908, p. 944) found larvae in January "extremely abundant" in Santa Cruz, Tenerife on *Ipomoea quinquefolia*, a synonym of *Distimake quinquefolius* (L.) A. R. Simones & Staples, and probably an error for *Ipomoea cairica* (L.) Sweet, on which plant the larva is common in Tenerife, or *Ipomoea batatas* (Lepiforum 2008-2024).

Distribution in the Canary Islands, Spain: First record by Rebel (1892, pp. 175, 283) from Gran Canaria as "*Ceratophora sp.*". Subsequently from Tenerife (Walsingham, 1908, p. 944), La Gomera and La Palma **(**Klimesch, 1984, p. 166). **New islands record**. Fuerteventura, La Pared, Playa de la Pared, 1 ♀, 20-IX-2011, leg. A. Werno (AW); Lanzarote: Urb. Famara, 55 m, 1 ♀, 2-8-XI-2018, leg. C. Hviid & B. Skule (ZMUC).

General distribution: Widely distributed in tropical and subtropical countries world-wide. In Europe only established in the Canary Islands (Spain) and Madeira Portugal) but has occasionally been intercepted in consignments of sweet potato imported into Great Britain (Malumphy, 2012, p. 149-150; Lepiforum, 2008-2024).

***Helcystogramma brachmiaella* Falck & Karsholt, sp. nov.** (Figures 6, 7, 16, 16a, 22)
https://zoobank.org/04993F92-E1EE-41FF-981F-36346C22955C

Holotype ♂: SPAIN, La Gomera, La Calera, e. l. 5-IV-1972, *Schizogyne sericea*, leg. J. Klimesch (ZMUC).

Paratypes: SPAIN, Gran Canaria, Maspalomas, 1 ♀, 9-18-X-1967, leg. Pinker (SMNK); Puerto Rico, 100 m, 6 ♂, 26-III-8-IV-1994, leg. F. Vilhelmsen (ZMUC); Puerto Rico, 25 m, 1 ♂, 11-24-VI-2018, leg. P. Falck, same data but, 6 ♂, 1 ♀, 17-30-IX-2018, leg. P. Falck, genitalia slides 4128PF, 4131PF, DNA samples Lepid Phyl 1715PF/CILEP1714-24, 1716PF/CILEP1715-24 (PF); El Sao, 110 m, 1 ♀, 11-24-VI-2018, leg. P. Falck, same data but, 1 ♂, 17-30-IX-2018, leg. P. Falck (PF). Tenerife, El Médano, Roja, 25 m, 2 ♂, 13-IV-1998, leg. K. Larsen (ZMUC), same data but, 11 ♂, 4 ♀, 1-20-III-2017, leg. P. Falck, genitalia slide 4129PF, DNA sample Lepid Phyl 1663PF/CILEP1662-24 (PF), same data but, 1 ♀, 18-XI-8-XII-2018, leg. P. Falck (PF, MNCN); El Médano env., Montaña Roja, 25 m, 3 ♂, 27-28-IV-2003, leg. J. Jaroš (JS, ZMUC); San Isidro env., Montaña de los Riscos, 150 m, 2 ♂, 2 ♀, 2-8-V-2003, leg. J. Jaroš (JS, ZMUC); Los Cristianos, 1 ♂, 10-15-I-2000, leg. J. B. Wolschrijn (ZMUC), same data but, 5 ♂, 1 ♀, 29-XII-2003, leg. O. Karsholt (ZMUC); SW Barranco by Chayofa, 1 ♂, 30-IV-2009, leg. A. Werno (AW); Tamaimo, 640 m, 1 ♂, 7-11-I-2008, leg. K. Larsen (ZMUC); Los Gigantes, 100 m, 2 ♂, 8-11-I-2008, leg. K. Larsen (ZMUC); Los Gigantes, 100 m, 1 ♂, 1-20-III-2017, leg. P. Falck, genitalia slide 4132PF (PF); Playa Paraiso, 25 m, 1 ♂, 1-20-III-2017, leg. P. Falck (PF). La Gomera, La Calera, 1 ♀, e. l. 5-IV-1972, Schizogyne sericea, leg. J. Klimesch (ZMUC); Hermigua, 1 ♀, 14-IV-1998, leg. K. Larsen (ZMUC); La Caleta, 75 m, 2 ♂, 28-VIII-13-IX-2024, leg. P. Falck (PF); Tamargada, 380 m, 1 ♂, 28-VIII-13-IX-2024, leg. P. Falck (PF). La Palma, Los Llanos de Aridane, Barranco de las Angustias, 2 ♂, 29-30-V-2016, leg. A. Werno (AW); Los Cancajos, 15 m, 1 ♂, 17-23-I-2019, leg. P. Falck (PF); El Jesús, 650 m, 3 ♂, 1 ♀, 9-30-III-2023, leg. P. Falck, genitalia slides 4102PF, 4106PF, DNA samples Lepid Phyl 1661PF/CILEP1660-24, 1664PF/CILEP1663-24 (PF). El Hierro, Sabinosa, 100 m, 2 ♂, 1 ♀, 22-VII-3-VIII-2022, leg. P. Falck, genitalia slide 4104PF (PF); Frontera, 280 m, 1 ♂, 22-VII-3-VIII-2022, leg. P. Falck, genitalia slide 4101PF, DNA sample Lepid Phyl 1662PF/CILEP1661-24 (PF); Jinama, 1250 m, 1 ♂, 22-VII-3-VIII-2022, leg. P. Falck, genitalia slide 4130PF (PF).

Diagnosis: *Helcystogramma brachmiaella* sp. nov. is characterized by its relatively small size and the grey forewings often with three orange spots and by having clearly raised scales proximally on each segment of the antenna. In the male genitalia the trapezoid saccus with a rounded invagination posteriorly and the heavily sclerotized apical half of the phallus are characteristic. In the female genitalia the shape of

segment VIII, with the middle half of the posterior margin rounded and the triangular antrum without heavily sclerotized lobes are characteristic. It resembles *Brachmia infuscatella* Rebel, 1940, which is endemic to the Azores, but that species is without orange spots and a post-median fascia in the forewing, and its genitalia are very different, making it misplaced in the genus *Brachmia*.

Description adult (Figures 6-7): Wingspan 7-9.5 mm. Labial palp slender, upturned; dark grey, yellowish ventrally and mottled with yellowish scales dorsally, segment 2 longer than segment 3. Antenna dark grey, each segment proximally with distinctly raised scales. Head, neck and thorax grey. Forewing grey, blackish basally, beneath outer discal spot and sub-apically between outer fascia and termen; stigmata black, relatively distinct; three diffuse, orange spots, one at costa near the base, one between discal spots and one just above the outer discal spot; post-median fascia yellowish white, indistinct; fringe dark grey. Hindwing grey; fringe grey. Variation: The orange spots can be very diffuse or completely absent.

Male genitalia (Figures 16, 16a): Uncus rather long, slightly widening towards rounded apex. Gnathos long and straight, apex bifid, heavily sclerotized. Tegumen elongate, laterally with rounded projection. Valva simple, slightly broadening distally, apex rounded. Saccus trapezoid, anteriorly rounded, posteriorly with rounded invagination. Phallus basally rounded, apical half relatively narrow, pointed towards apex, laterally heavily sclerotized. Vesica with numerous spinules.

Female genitalia (Figure 22): Papillae anales relatively short, apically flattened. Posterior apophysis longer than papillae anales and three times longer than anterior apophysis. Segment VIII narrow, laterally a small round hole, posterior margin rounded, anterior margin slightly concave. Antrum triangular, weakly sclerotized. Ductus bursae short, membranous, weakly spinose. Corpus bursae membranous round, spinose around exit of tube to accessory sack and posteriorly to ductus bursae. Accessory sack rounded.

DNA barcodes: We obtained full length DNA barcodes (658 bp) from four specimens and DNA barcode fragments of 629 bp and 584 bp from two specimens. *H. brachmiaella* is divided into three well-separated sub-groups comprised by specimens from Tenerife and Gran Canaria (3 specimens), El Hierro (1 specimen) and La Palma (2 specimens) respectively. While within group variation is very low, the three sub-groups are very divergent with uncorrected p distance between Tenerife + Gran Canaria and El Hierro being 4.64%, the distance between Tenerife + Gran Canaria and La Palma being 2.66% and the distance between El Hierro and La Palma being 2.72%. The barcodes fall within three Barcode Index Numbers (BIN) BOLD: AGD8570 (Tenerife and Gran Canaria), BOLD: AGD8573 (El Hierro) and BOLD: AGD8572 (La Palma). The maximum intraspecific p-distance is very high 6.56%. The nearest neighbour is an unnamed Gelechiidae species from Honduras with a 5.31% divergence. The nearest neighbour in the genus is *Helcystogramma albinervis* (Gerasimov, 1929) with a 6.19% divergence.

Biology: The larva is blackish brown with wide white stripes. It mines the fresh leaves of *Schizogyne sericea* (L. f.) DC., the frass is expelled through a circular hole, and pupation often takes place within the mine (Klimesch, 1984, p. 168). Most of the adult specimens were attracted to light and a few disturbed from the hostplant.

Distribution: Known only from the islands of Gran Canaria, Tenerife, La Gomera, La Palma and El Hierro. Probably endemic to the Canary Islands, Spain.

Etymology: The species name refers to the fact that it was hitherto known as *Brachmia* sp.

Remarks: First recorded by Klimesch (1984, p. 167-168) as *Brachmia* sp. from Gran Canaria, Tenerife and La Gomera.

Helcystogramma lamprostoma (Zeller, 1847)
Gelechia lamprostoma Zeller, 1847. *Isis, Leipzig, 1847,* 851

Diagnosis: A characteristic medium-sized species (wingspan 10-12 mm) having forewings black with reddish brown dorsum and two oblique, white fasciae in apical half.

Biology: In the Canary Islands the larva feeds on *Convolvulus althaeoides* (L.), mining the leaves. When proceeding to new leaves it makes spinning between the leaves (Klimesch, 1984, p. 165, 182, fig. 75).

Distribution in the Canary Islands, Spain: First record by Rebel (1906, p. 38) from Tenerife. Also, on Gran Canaria and La Gomera (Klimesch, 1984, p. 165). **New island record**. Fuerteventura, Betancuria, 400 m, 7-27-XI-2017, leg. P. Falck (PF).

General distribution: Spain (with Canary Islands), most Mediterranean countries and larger islands,

Turkey, Middle East, India, Myanmar, Indonesia, throughout Africa from Morocco to South Africa, Cape Verde.

Pseudosophronia Corley, 2001
Pseudosophronia Corley, 2001. *Entomologist's Gaz., 52,* 214

A small genus with only two species, distributed in South Europe, North Africa and Israel. Their biology is imperfectly known.

***Pseudosophronia confluella* Falck & Karsholt, sp. nov.** (Figures 8, 17, 17a, 23)
https://zoobank.org/D564E4A3-2EEB-47FB-975A-A11CC8E04DC4

Holotype ♂: SPAIN, Fuerteventura, Lajares, 130 m, 30-V-13-VI-2023, leg. P. Falck, genitalia slide 4143PF (ZMUC).

Paratypes: SPAIN, Fuerteventura, Barranco Esquinzo, 1 ♂, 15-III-15-V-2008, leg. R. Pass (ZMUC); Lajares, 130 m, 1 ♀, 1-27-XI-2017, leg. P. Falck, genitalia slide 4142PF, same data but, 3 ♂, 27-II-18-III-2018, leg. P. Falck, genitalia slide 4117PF, same data but, 15 ♂, 5 ♀, 30-V-13-VI-2023, leg. P. Falck, genitalia slide 4116PF, DNA samples Lepid Phyl 1712PF/CILEP1711-24, 1713PF/CILEP1712-24, 1714PF/CILEP1713-24 (PF, MNCN); Las Parcelas, 70 m, 1 ♂, 2 ♀, 27-II-18-III-2018, leg. P. Falck (PF); Corralejo, 10 m, 2 ♂, 27-II-18-III-2018, leg. P. Falck, same data but, 1 ♀, 11-XI-2-XII-2022, leg. P. Falck, genitalia slide 4103PF (PF); Vega de Río Palmas, 230 m, 1 ♂, 30-V-12-VI-2023, leg. P. Falck, genitalia slide 4108PF (PF); Caldereta, 120 m, 1 ♂, 7-27-XI-2017, leg. P. Falck (PF); Caleta de Fuste, 20 m, 1 ♂, 6-26-I-2020, leg. P. Falck (PF); Betancuria, 400 m, 1 ♂, 27-II-18-III-2018, leg. P. Falck (PF, MNCN); Barranco tras del Lomo, 100 m, 1 ♂, 25-26-II-2019, leg. K. Larsen (ZMUC). MOROCCO, 15 km W Tiznit, Aglou Plage, 10 m, 3 ♀, 18-III-2005, leg. O. Karsholt, genitalia slide 5454 Karsholt; 8 km S Sidi Ifni, 50 m, 1 ♂, 2 ♂, 20-III-2005, leg. O. Karsholt, genitalia slide 5453 Karsholt; 10 km N Agadir, 400 m, 1 ♂, 1 ♀, 24-IV-2013, leg. J. Tabell; Guelmim-Oued Noun, Sidi Ifni, 0-100 m, 11 ♂, 3 ♀, 5-7-III-2017, leg. C. Hviid, O. Karsholt, K. Larsen & D. Nilsson, genitalia in vial (all ZMUC).

Diagnosis: *Pseudosophronia confluella* sp. nov. is characterized by the long white streak along the costa merging with the costal strigula. It is most similar to *Pseudosophronia cosmella* (Constant, 1885), which has the costal streak and the costal strigula separated and darker grey hindwings. *P. exustellus* (Zeller, 1847) is also similar, but can be recognized by the additional white streak(s) below the white costal streak in the apical half of the wing. In the male genitalia the long pointed uncus, the spatulate projections of the vinculum and the relatively broad basal half of the phallus are characteristic. They resemble *P. cosmella* and *P. exustella*, which both have a shorter uncus, longer and pointed projections of the vinculum and a narrower phallus. In the female genitalia the long ductus bursae and the round corpus bursae are characteristic. However, it is quite similar to *P. cosmella*.

Description adult (Figure 8): Wingspan 7.5-11 mm. Labial palp slender, strongly upturned; segment 2 white, ventrally with large tuft; segment 3 white, basally dark ringed, apex dark grey, ventrally a blackish, narrow, longitudinal streak. Antenna whitish, distinctively ringed dark grey. Head white. Neck whitish. Thorax light brown. Tegula light brown, basally white. Forewing dark brown; costa black basally; along costa from the base to 4/5 a broad, white streak, apically merging with a white costal strigula; below the cell from near the base to tornus a diffuse reddish-brown streak; terminal fascia distinct, black, bordered medially with white especially near costa and tornus; fringe whitish with dark-tipped scales and a black spot apically. Hindwing whitish grey, apically slightly brownish; fringe grey, apically darker grey.

Variation: There is minor variation in the wing pattern. The costal strigula does not always reach the costa.

Male genitalia (Figures 17, 17a): Uncus pointed, laterally and apically heavily sclerotized. Socius small, elongate, setose. Gnathos basally subrectangular, postero-laterally with narrow, curved projections, heavily sclerotized. Tegumen elongate, anterior margin inwardly curved. Valva simple, broadening distally, apex rounded. Vinculum large, V-shaped with spatulate projection. Saccus sub-triangular. Phallus as long as valva, curved basally and in the middle, very narrow in apical half.

Female genitalia (Figure 23): Papillae anales relatively long, pointed apically. Posterior apophysis long, slender, twice as long as anterior apophysis. Segment VIII with posterior margin convex, rounded; anterior

margin medially V-shaped. Antrum cup-shaped, membranous covered with micro-spines. Ductus bursae slender, membranous. Corpus bursae membranous round.

DNA barcodes: We obtained full length DNA barcodes (658 bp) from two specimens and DNA barcode fragments of 638 bp from one specimen. The barcodes fall within Barcode Index Number (BIN) BOLD: AGK4509. The maximum intraspecific p-distance is 0.32% (n=3). The nearest neighbour is *Pseudosophronia cosmella* (Constant, 1885) with a 6.09% divergence.

Biology: Early stages and hostplant are unknown. Adults have been collected at light in January-March, June and September, at altitudes from 10 m to 130 m, in Morocco until April and up to 400 m.

Distribution: Known only from the islands of Fuerteventura, Spain and from the West coast of Morocco.

Etymology: The species is named after the confluent white longitudinal costal streak and the costal strigula.

Chrysoesthia Hübner, [1825]
Chrysoesthia Hübner, [1825]. *Verz. bekannter Schmett.,* 422

The genus includes about 25 mostly small, often colourful species, distributed in the Palaearctic, Nearctic and Afrotropical regions. Their larvae are leaf-miners of Amaranthaceae and Caryophyllaceae.

Chrysoesthia boseae (Walsingham, 1908)
Chrysopora boseae Walsingham, 1908. *Proc. zool. Soc. Lond., 1907,* 931, pl. 51, fig. 7

Material examined: SPAIN, Gran Canaria, Los Tilos de Moya, 500 m, 8 ♂, 5 ♀, 11-24-VI-2018, leg. P. Falck, DNA sample Lepid Phyl 1666PF/CILEP1665-24 (PF). Tenerife, Puerto de la Cruz, 200 m, 9 ♂, 8 ♀, larvae 18-XI-8-XII-2018, leg. P. Falck, genitalia slides 4119PF, 4137PF, DNA samples Lepid Phyl 1459PF/CILEP1458-24, 1460PF/CILEP1458-24 (PF). La Gomera, Hermigua, 250 m, 1 ♀, 9-29-III2024, leg. P. Falck, genitalia slide 4140PF, DNA sample Lepid Phyl 1667PF/CILEP1666-24 (PF). La Palma, Las Pajaros, 350 m, 7 ♂, 9-30-III-2023, leg. P. Falck, genitalia slides 4118PF, 4139PF, 4141PF, DNA samples Lepid Phyl 1457PF/CILEP1456-24, 1458PF/CILEP1457-24 (PF).

Diagnosis: A relatively small species (wingspan 7.5-9 mm) having blackish forewings, with an inner orange fascia, orange dots at dorsum and at the end of the cell and two yellowish dots on costa and one at tornus.

DNA barcodes: We obtained full length DNA barcodes (658 bp) from two specimens and DNA barcode fragments of 549 bp, 560 bp, 563 bp and 595 bp from four specimens. The barcodes fall within Barcode Index Numbers (BIN) BOLD: ADL6012 (Gran Canaria and Tenerife), BOLD: AGE7629 (La Gomera) and BOLD: AFS2681 (La Palma). The maximum intraspecific p-distance is 2.25% (n=8). The nearest neighbour is *Chrysoesthia verrucosa* Tokár, 1999 with a 7.66% divergence.

Biology: The larva mines the leaves of *Bosea yervamora* L. (Amaranthaceae) making blotch-mines. Adults are easily disturbed from bushes of the host-plant during the daytime.

Distribution in the Canary Islands, Spain: Described by Walsingham (1908, p. 931) from Tenerife as "*Chrysophora bosae* sp. n.". Subsequently recorded from La Gomera (Klimesch, 1984, p. 148) and El Hierro (Rebel, 1935, p. 17). **New island records**. Gran Canaria and La Palma, see under material examined.

General distribution: Endemic to the Canary Islands.

***Chrysoesthia diurnella* Falck & Karsholt, sp. nov.** (Figures 9, 10, 18, 18a, 24, 24a)
https://zoobank.org/2228A2D5-394A-449A-B857-21482C74719D

Holotype ♀: SPAIN, Lanzarote, Mojón Blanco, Orzola, 10 m, 21-X-10-XI-2019, genitalia slide 4138PF, leg. P. Falck (ZMUC).

Paratypes: SPAIN, Fuerteventura, Corralejo, 10 m, 29 ♂, 6 ♀, 6-26-I-2020, leg. P. Falck, genitalia slide 4110PF, 4112PF, 4133PF, 4135PF, DNA sample Lepid Phyl 1663PF/CILEP1662-24 (PF). Lanzarote, Mojón Blanco, Orzola, 10 m, 24 ♂, 26 ♀, 21-X-10-XI-2019, leg. P. Falck, genitalia slide 4111PF, 4114PF, 4115PF, 4134PF, 4136PF, DNA samples Lepid Phyl 0331PF/CILEP330-19, 0332PF/CILEP331-19, 0333PF/CILEP332-19, same data but 1 larva on *Atriplex halimus* L., 5-25-XI-2024, leg. P. Falck (PF, MNCN). MOROCCO, Guelmim-Oued Noun, 8 km S Sidi Ifni, 50 m, 1 ♂, 20-III-2005, leg. O. Karsholt; Guelmim-

Oued Noun, Sidi Ifni, sea level, 1 ♂, 5-7-III-2017, leg. C. Hviid, O. Karsholt, K. Larsen & D. Nilsson; 5 km SSW, Mirleft, N29.53821 W10.05780, 20 m, 3 ♂, 28-IV-2013, leg. J. Tabell, genitalia slide 4134ZMPF (all ZMUC).

Diagnosis: *Chrysoesthia diurnella* sp. nov. resembles *C. gaditella* (Staudinger, 1859), *C. aletris* (Walsingham, 1919), *C. halymella* (Amsel, 1935) and *C. atriplicella* (Amsel, 1939) and it is not possible to separate it from these without dissection of the genitalia or barcoding. In the male genitalia of *C. diurnella* sp. nov. the relatively fewer number of both the smaller and larger cornuti and the apical part of the phallus covered with one larger and few very small teeth are characteristic. In the female genitalia the relatively long anterior apophysis is characteristic.

Description. Male (Figures 9, 10): Wingspan 6.2-7.5 mm. Labial palp cream white, slender and slightly upturned. Antenna cream white distinctively ringed dark grey. Head cream white. Neck, thorax and tegula yellowish white. Forewing cream-white mottled with dark grey; at ¼ a dark grey costal spot, at ½ and ¾ two relatively broad, diffuse, dark grey fasciae; three yellowish brown spots, one beyond the inner costal dark spot, one dorso-laterally at the inner fascia and one at the end of the cell; apically from tornus to apex dark grey; fringe whitish with dark-tipped scales. Hindwing light grey; fringe grey. Female: As in male, but with less dark grey mottling and a more distinct wing pattern.

Male genitalia (Figures 18, 18a): Uncus rounded, setose. Gnathos weakly sclerotized, round, covered with small spines. Tegumen elongate. Valva sub-triangular. Sacculus trapezoidal, laterally with a row of comb-like denticles. Phallus straight, as long as the valva, apical third covered with about 15 very small and three larger teeth, basally a group of 7-12 small cornuti, towards apex a row of 5-6 larger cornuti.

Female genitalia (Figures 24, 24a): Papillae anales elliptical, heavily sclerotized with numerous bristles. Posterior apophysis very short, slightly longer than anterior apophysis. Segment VIII very short and wide, with protruding anterior margin. Ostium circular, hardly visible. Ductus bursae membranous. Corpus bursae elongate, membranous.

DNA barcodes: We obtained a full-length DNA barcode (658 bp) from one specimen and DNA barcode fragments of 623bp, 632 bp, 634 bp from three specimens. The barcodes fall within Barcode Index Number (BIN) BOLD: AEC2486. The maximum intraspecific p-distance is 1.62% (n=4). The nearest neighbour is an unnamed Gelechiidae species from Egypt with a 3.58% divergence. The minimum divergence from *Chrysoesthia gaditella* (Staudinger, 1859) is 7.28%.

Biology: The larva mines the leaves of *Atriplex halimus* L. (Amaranthaceae). Adults fly actively around bushes of the hostplant during the daytime.

Distribution: Known only from the islands of Fuerteventura and Lanzarote, Spain and Morocco.

Etymology: The species is named after its day flying habit.

Remarks: *Chrysoesthia diurnella* sp. n. belongs to a complex of closely related species: *C. gaditella* (Staudinger, 1859), *C. aletris* (Walsingham, 1919), *C. halymella* (Amsel, 1935) and *C. atriplicella* (Amsel, 1939) (Huemer & Karsholt 2020, p. 124; Lepiforum 2008-2024). We consider at least *C. atriplicella* to be a synonym of *C. gaditella*, but a formal synonymization is beyond the scope of this paper. For comparison the genitalia of both sexes of *C. gaditella* are figured (Figures 19, 19a, 25).

Platyedra Meyrick, 1895
Platyedra Meyrick, 1895. *Handbk Br. Lepid.,* 605

The single species is widely distributed, probably due to introduction from mainland Europe. The larva feeds in seed-heads of different Malvaceae.

Platyedra subcinerea (Haworth, 1828)
Recurvaria subcinerea Haworth, 1828. *Lepid. Br., 4,* 548
Gelechia vilella Zeller, 1847. *Isis von Oken, 1847,* 845

Diagnosis: A relatively large species (wingspan 17-19 mm) having brownish forewings, with a blackish, indistinct discal spot surrounded by a whitish ring and a characteristic black dot on dorsum near the base.

Biology: The larva lives in seeds and flowers of *Malva sylvestris* L. and occasionally *Alcea rosea* L. (Gregersen & Karsholt, 2022). In the Canary Islands there is only one record of *Malva sylvestris* from Fuerteventura (Canary Islands Biodiversity Database, 2024). Probably *P. subcinerea* lives in other *Malva* species present on the islands.

Distribution in the Canary Islands, Spain: First record from Tenerife by (Walsingham, 1908, pp. 941-942) as "*Platyedra vilella* Z." Subsequently from Gran Canaria and La Gomera (Klimesch, 1984, p. 165) and La Palma (Báez & Martín, 2001, p. 238). **New island records**. Fuerteventura, Lajares, 2 ♂, 15-18-XII-1996, leg. K. Larsen (ZMUC); Lanzarote: La Casita de Femes, 2 ♂, 1-II-1994, leg. J. P. Baungaard (ZMUC).

General distribution: See under the description of the genus.

Sitotroga Heinemann, 1870
Sitotroga Heinemann, 1870. *Schmett. Dtl. Schweiz* (2) *2* (1), 287

A small, but widely distributed genus with eight species (Hobern et al. 2024). The larva of *S. cerealella* is a pest on stored grain (Poaceae).

Sitotroga psacasta Meyrick, 1908 (Figure 11)
Paltodora psacasta Meyrick, 1908. *Proc. zool. Soc. Lond. 1908,* 723

Material examined: SPAIN, Gran Canaria, Maspalomas, 1 ♀, 2-IV-1994, leg. P. Grotenfelt (MZH); Puerto Rico, 100 m, 3 ♂, 26-III-8-IV-1994, leg. F. Vilhelmsen; Bco. De Arguineguin, 21-VII-1-VIII, 1995, leg. K. Larsen; Maspalomas, Presa de Chamoriscán, 300 m, 1 ♂, 27-VII-1-VIII-1995, leg. K. Larsen; 1.3 km N Mogan, 430 m, 4 ♂, 3-8-XI-2014, leg. B. Skule; 4 km NNE Mogan, Lugar del Pie de La Questa, 570 m, 2 ♂, 4-XI-2014, leg. B. Skule; 3.5 km NE Mogan, Barranco Mogan, 430 m, 2 ♂, 3-8-XI-2014, leg. B. Skule; El Doctoral, 350 m, 9 ♂, 4 ♀, 9-12-V-2018, leg. K. Larsen (all ZMUC); Pie de la Cuesta, 500 m, 2 ♂, 2 ♀, 11-24-VI-2018, leg. P. Falck (PF); Puerto Rico, 50 m, 2 ♂, 17-30-IX-2018, leg. P. Falck (PF); Teror, 550 m, 2 ♂, 24-X-13-XI-2020, leg. P. Falck (PF); Los Tilos de Moya, 500 m, 1 ♂, 11-24-VI-2018, leg. P. Falck (PF); Barranquillo de Andrés, 700 m, 1 ♂, 11-24-VI-2018, leg. P. Falck (PF). Tenerife, Las Montanas de Anaga, El Bailadero, 700 m, 1 ♂, 21-22-IV-1998, leg. K. Larsen (ZMUC); Casas Los Menores, 300 m, 11-I-1998, leg. K. Larsen (ZMUC); El Cabuquero, 200 m, 13-IV-1998, leg. K. Larsen (ZMUC); Armeníme, 50 m, 13 ♂, 2 ♀, 25-XI-2-XII-2012, leg. P. Falck, same data but, 1 ♂, 3-9-III-2013, leg. P. Falck (PF); Tamaimo, 550 m, 2 ♂, 2 ♀, 8-22-XI-2016, leg. P. Falck (PF); Los Gigantes, 100 m, 5 ♂, 4 ♀, 8-22-XI-2016, leg. P. Falck (PF); Los Roques, 160 m, 1 ♂, 18-XI-8-XII-2018, leg. P. Falck (PF). La Gomera, Hermigua, El Convento, 650 m, 1 ♂, 30-III-5-IV-2008, leg. W. Losert (WS); Hermigua, 1 ♂, 18-25-IV-2014, leg. W. Losert (WS); Hermigua, 170 m, 1 ♂, 1-8-I-2023, leg. P. Falck, DNA sample Lepid Phyl 1717PF/CILEP1716-24 (PF). La Palma, El Paso, Casa Tabares, 400 m, 1 ♂, 22-III-2008, leg. H. van der Wolf (RMNH).

Diagnosis: A medium sized species (wingspan 11-15 mm) having yellowish forewings, with a dark brown wing-pattern forming almost two outwardly oblique fasciae. Outer discal and plical spots distinct.

DNA barcodes: We obtained a full length DNA barcode (658 bp) from one specimen. The barcode falls within Barcode Index Number (BIN) BOLD: ADF3395. The nearest neighbour is a *Sitotroga* sp. from Australia with a 2.50% divergence.

Biology: Early stages and hostplant are unknown.

Distribution in the Canary Islands, Spain: **New to the Canary Islands**.

General distribution: Canary Islands, South Europe, South Africa.

Sitotroga cerealella (Olivier, 1789)
Alucita cerealella Olivier, 1789. *Encycl. Méth. Hist. nat., 4*(1), 121

Diagnosis: A medium sized species (wingspan 13-14 mm) having pointed brown forewings, with a black outer discal spot and black plical spots sometimes forming a diffuse plical streak.

Biology: The larva is a known pest on stored cereals and legumes such as barley, rye, oats, maize, wheat, rice, millet, buckwheat and bamboo (Gregersen & Karsholt, 2022, p. 191).

Distribution in the Canary Islands, Spain: First recorded from Tenerife by Rebel & Rogenhofer (1894, p. 89). Subsequently from Gran Canaria (Chrétien, 1908, p. 362) and La Palma (Klimesch, 1984, p. 164). **New island record**. La Gomera, Guarimiar area, 1 ♂, 1-III-2001, leg. A. Werno (AW).

General distribution: Almost cosmopolitan.

Polyhymno Chambers, 1874
Polyhymno Chambers, 1874. *Can. Ent., 6,* 246

A genus of 45 species, half of which occur in the Afrotropical region, with the remainder distributed in the Nearctic, Neotropical, Oriental and South-western Palaearctic regions. Known hostplants belong to the Fabaceae (Lee & Li, 2024, p. 77).

Polyhymno dumonti (Hartig, 1936) (Figure 12)
Stigmatoptera dumonti Hartig, 1936. *Z. öst. EntVer., 21,* 45, pl. 2, fig. 11, pl. 3, figs 11a-d.

Material examined: SPAIN, Fuerteventura, Barranco Esquinozo, 1 ♂, 3-I-25-II-2008, leg. R. Pass, genitalia slide 4132ZMPF (ZMUC), Corralejo, 10 m, 1 ♀, 7-27-XI-2017, leg. P. Falck (PF).

Diagnosis: A medium sized species (wingspan 11 mm) having light brown forewings, with three shining white longitudinal lines, the middle splitting towards apex and two white sub-apical spots.

Biology: Early stages and hostplant are unknown. Both specimens were attracted to light.

Distribution in the Canary Islands, Spain: **New to the Canary Islands**.

General distribution: Canary Islands; from Sudan across North Africa to Tunisia; Israel.

Palumbina Rondani, 1876
Palumbina Rondani, 1876. *Boll. Soc. ent. ital., 8,* 22

The 27 known species of this genus are mainly distributed in the Oriental region, with a few occurring in Australia. Only *P. guerinii* occurs in Europe and Africa. Known larvae are leaf miners on Anacardiaceae, Fagaceae and Hamamelidaceae (Lee & Li, 2024, pp 12, 55).

Palumbina guerinii (Stainton, [1857])
Stathmopoda guerinii Stainton, [1857]. *Entomologist's Annu., 1858,* 152, pl., fig. 5

Diagnosis: A very characteristic, medium sized, narrow-winged species (wingspan 9-13 mm) having greyish brown forewings, with two cream-white outwardly oblique fasciae and two short and one longer longitudinal streak.

Biology: The larva is a leaf-miner on *Pistacia* species. It has not been found in the Canary Islands.

Distribution in the Canary Islands, Spain: First record from Tenerife by Klimesch (1984, p. 160). Subsequently from Gran Canaria (Báez & Martín, 2001, p. 238).

General distribution: Throughout the Mediterranean countries from Turkey to Morocco and the Canary Islands; Kenya.

Discussion

With only 7 species of Dichomeridinae, 5 species of Anomologinae and 2 species of Thiotrichinae, the three subfamilies of Gelechiidae dealt with in this paper show a low diversity in the Canary Islands. Only three species from these subfamilies are endemic to the islands, *Dichomeris vivesi* sp. nov., *Helcystogramma brachmiaella* sp. nov. and *Chrysoesthia boseae* (Walsingham, 1908) and none of them has radiated there into species-groups. With the description of four new species and three additional species for the fauna of the Canary Islands, the present paper still represents a remarkable addition to the Lepidoptera from these islands.

The most recent checklist of Canary Island Lepidoptera (Vives Moreno, 2014) lists 5 species of Dichomeridinae, 4 species of Anomologinae (as Apatetrinae) and 1 species of Thiotrichinae. Among the five listed Dichomeridinae one species, *Helcystogramma mercedella* (Walsingham, 1908) was dealt with by us as *Aproaerema mercedella* Walsingham, 1908 in the subfamily Anacampsinae (Falck & Karsholt, 2025), and another species, *Dichomeris cisti* (Staudinger, 1859), as referred to earlier in this paper is removed from the list of Lepidoptera in the Canary Islands. Moreover, *Epidola stigma* Staudinger, 1859, which is listed by Vives Moreno (2014) in Apatetrinae, is removed to the Aristoteliinae and will be dealt with in the next part of

this series (Falck & Karsholt, in press). This leaves 7 species correctly recorded from the Canary Islands in 2014, and the present contribution thus represents an increase of 100 % for these three subfamilies, which is comparable with what we found for the Anacampsinae (Falck & Karsholt, 2025).

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Conflict of Interest

The authors declare that there is no known financial interest or personal relationship that could have influenced the work presented in this article.

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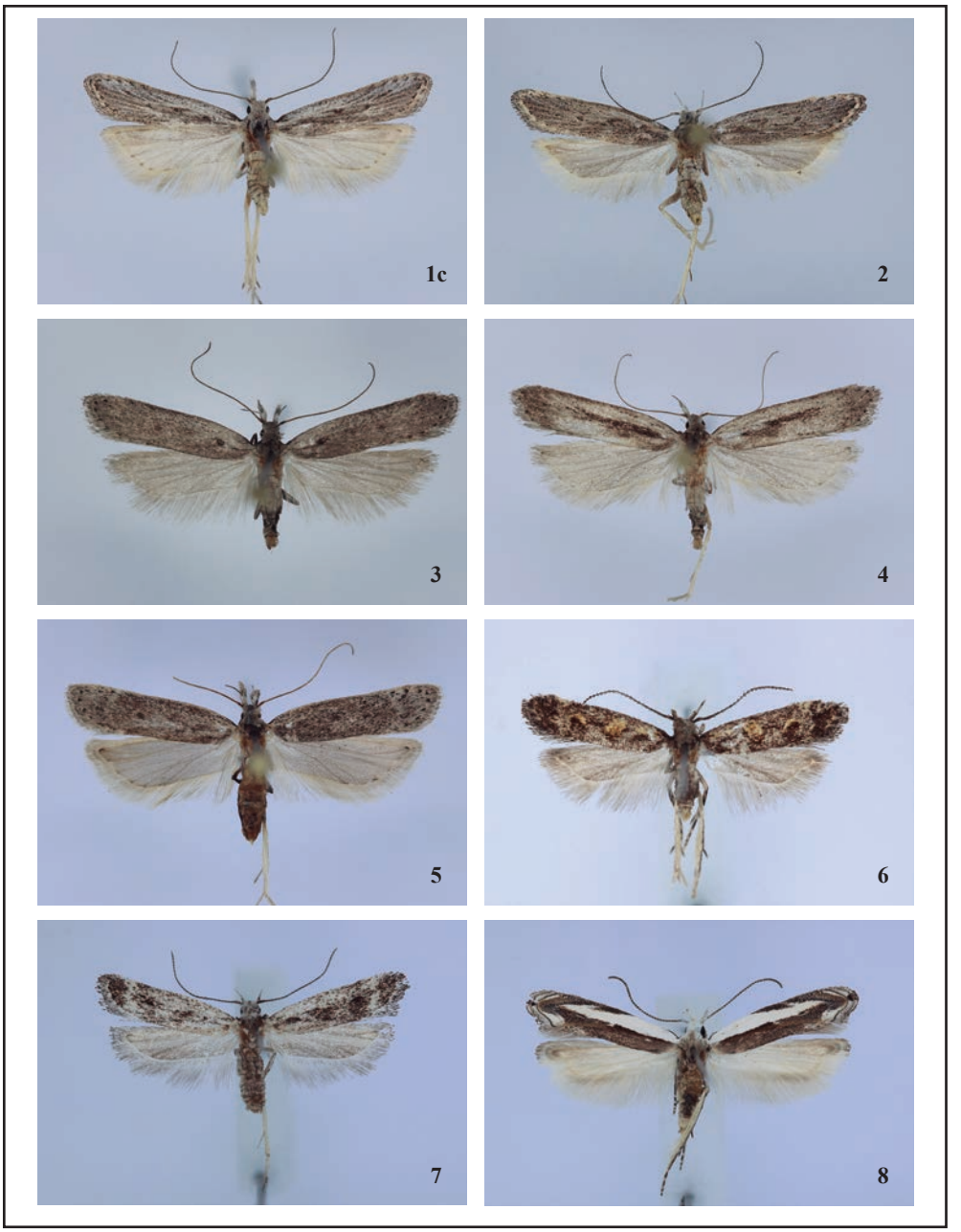
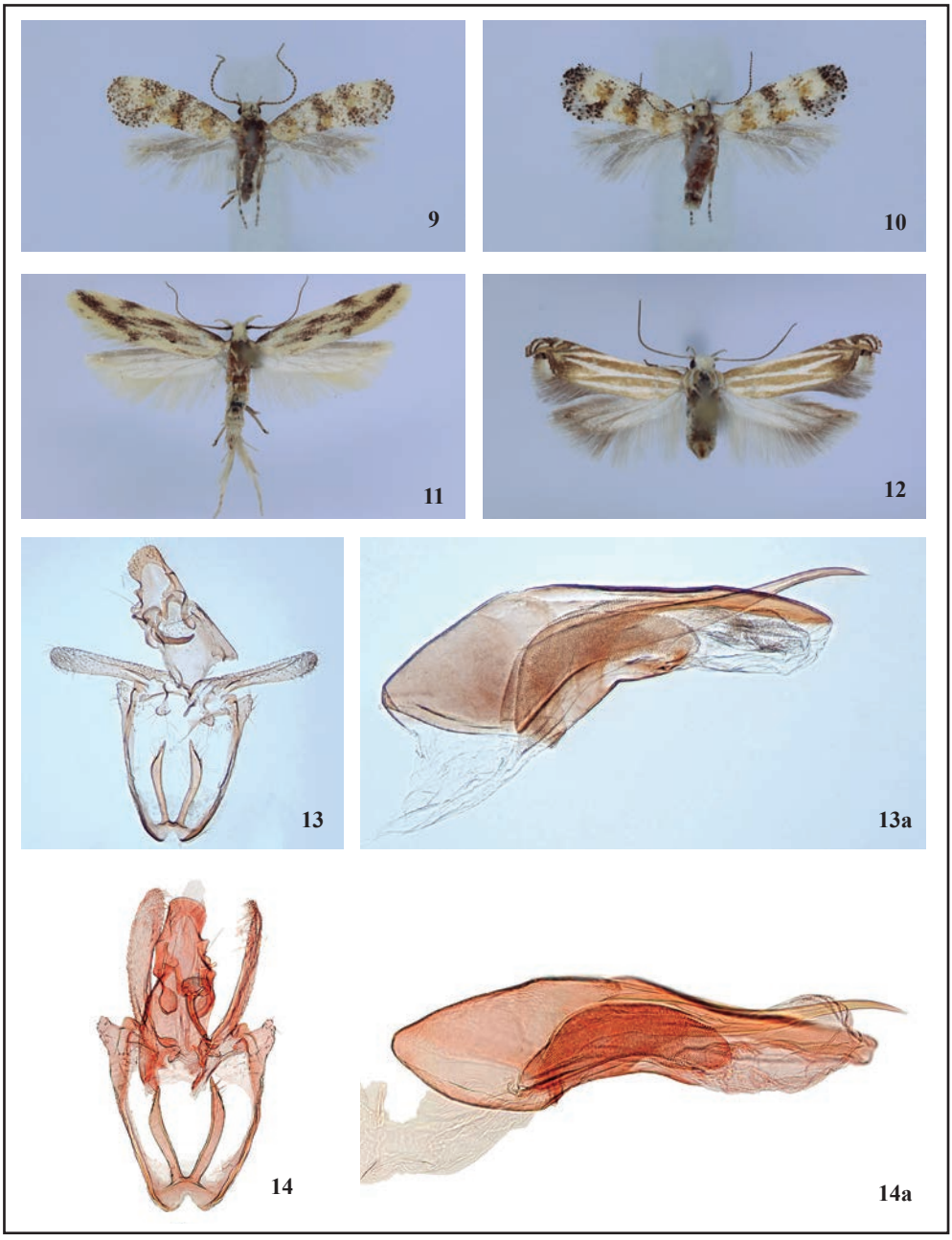
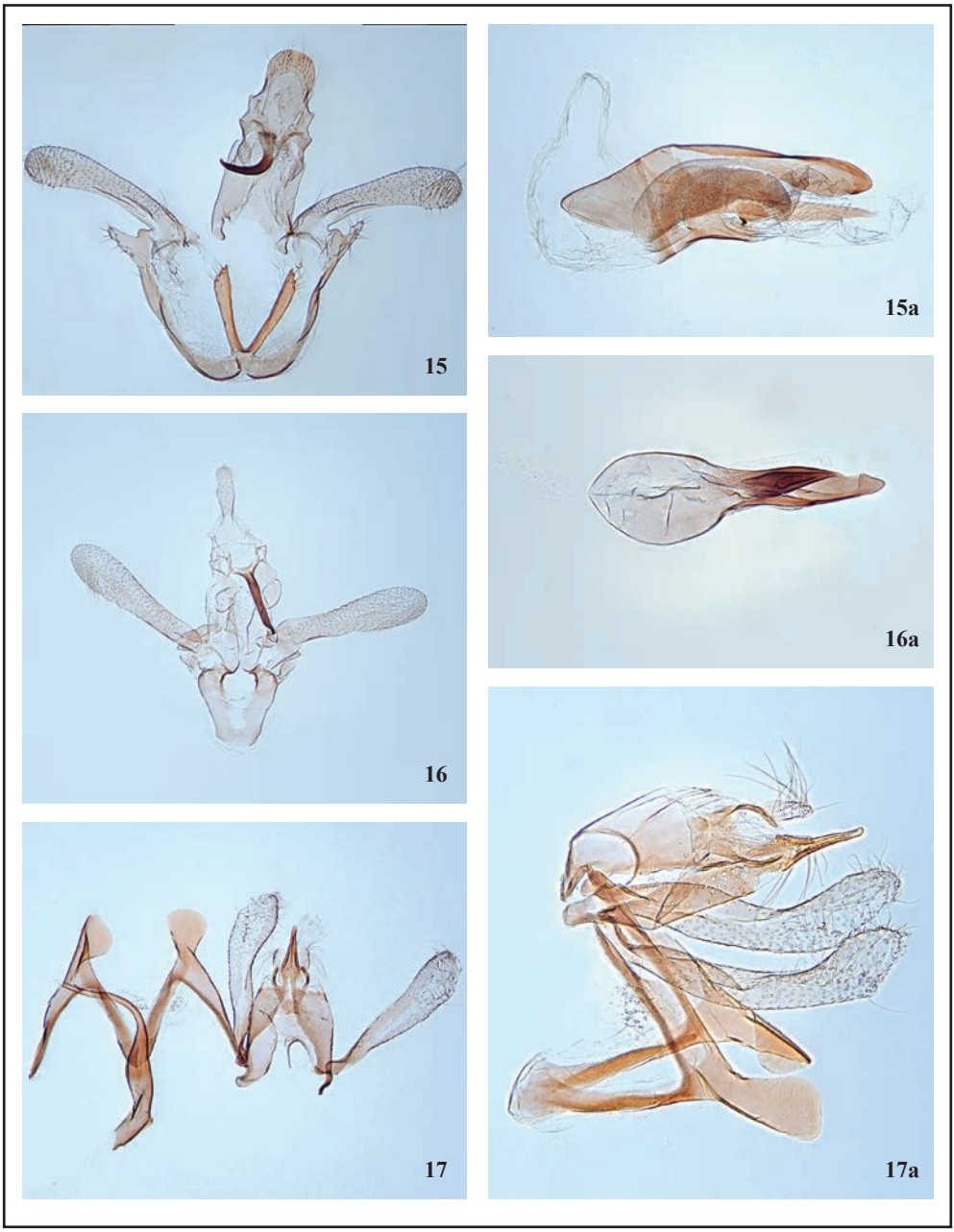
Figures 1c-8. 1c. *Dichomeris castellana* (Schmidt, 1941), ♂, Lanzarote, 15 mm. **2.** *Dichomeris castellana* (Schmidt, 1941), ♀, Lanzarote, 14 mm. **3.** *Dichomeris vivesi* Falck & Karsholt, sp. nov., ♂, Gran Canaria, 18.5 mm. **4.** *Dichomeris vivesi* Falck & Karsholt, sp. nov., ♂, Gran Canaria, 16 mm. **5.** *Dichomeris vivesi* Falck & Karsholt, sp. nov., ♀, Gran Canaria, 17.5 mm. **6.** *Helcystogramma brachmiaella* Falck & Karsholt, sp. nov., ♂, Gran Canaria, 7.5 mm. **7.** *Helcystogramma brachmiaella* Falck & Karsholt, sp. nov., ♀, El Hierro, 9 mm. **8.** *Pseudosophronia confluella* Falck & Karsholt, sp. nov., ♂, Fuerteventura, 10 mm.



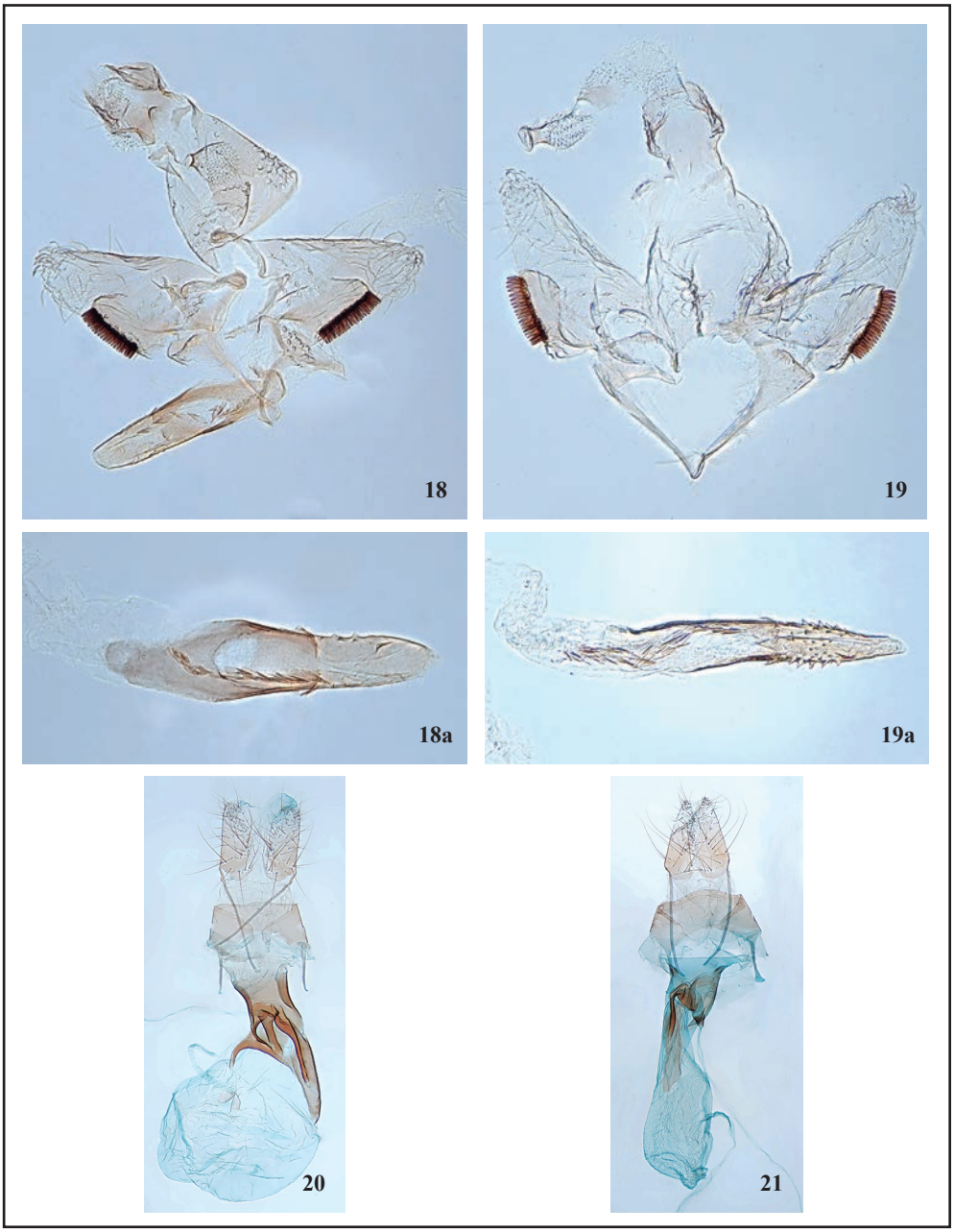
Figures 9-14a. 9. *Chrysoesthia diurnella* Falck & Karsholt, sp. nov., ♂, Lanzarote, 6.5 mm. **10.** *Chrysoesthia diurnella* Falck & Karsholt, sp. nov., ♀, Lanzarote, 6.5 mm. **11.** *Sitotroga psacasta* (Meyrick, 1908), ♀, La Gomera, 14.5 mm. **12.** *Polyhymno dumonti* (Hartig, 1936), ♀, Fuerteventura, 12 mm. **13.** *Dichomeris castellana* (Schmidt, 1941), ♂, Lanzarote, GP4098PF. **13a.** *Dichomeris castellana* (Schmidt, 1941), ♂, phallus, Lanzarote, GP4099PF. **14.** *Dichomeris castellana* (Schmidt, 1941), lectotype, ♂, Montarco, Spain, GP623c K. Sattler (57523) **14a.** *Dichomeris castellana* (Schmidt, 1941), lectotype, ♂, phallus, Montarco, Spain, GP623c (57623)



Figures 15-17a. 15. *Dichomeris vivesi* Falck & Karsholt, sp. nov., ♂, Gran Canaria, GP4109PF. **15a.** *Dichomeris vivesi* Falck & Karsholt, sp. nov., ♂, phallus, Gran Canaria, GP4109PF. **16.** *Helcystogramma brachmiaella* Falck & Karsholt, sp. nov., ♂, Tenerife, GP4132PF. **16a.** *Helcystogramma brachmiaella* Falck & Karsholt, sp. nov., ♂, phallus, Tenerife, GP4129PF. **17.** *Pseudosophronia confluella* Falck & Karsholt, sp. nov., ♂, Fuerteventura, GP4108PF. **17a.** *Pseudosophronia confluella* Falck & Karsholt, sp. nov., ♂, lateral view, Fuerteventura, GP4117PF.



Figures 18-21. 18. *Chrysoesthia diurnella* Falck & Karsholt, sp. nov., ♂, Fuerteventura, GP4112PF. **18a.** *Chrysoesthia diurnella* Falck & Karsholt, sp. nov., ♂, phallus, Lanzarote, GP4111PF. **19.** *Chrysoesthia gaditella* (Staudinger, 1859), ♂, Cadiz, Spain, GP4133PFZM. **19a.** *Chrysoesthia gaditella* (Staudinger, 1859), ♂, phallus, Cadiz, Spain, GP4133PFZM. **20.** *Dichomeris castellana* (Schmidt, 1941), ♀, Lanzarote, GP4100PF. **21.** *Dichomeris vivesi* Falck & Karsholt, sp. nov., ♀, Gran Canaria, GP4113PF.



Figueres 22-25. 22. *Helcystogramma brachmiaella* Falck & Karsholt, sp. nov., ♀, Tenerife, GP4107PF. **23.** *Pseudosophronia confluella* Falck & Karsholt, sp. nov., ♂, Fuerteventura, GP4142PF. **24.** *Chrysoesthia diurnella* Falck & Karsholt, sp. nov., ♀, Lanzarote, GP4115PF. **24a.** *Chrysoesthia diurnella* Falck & Karsholt, sp. nov., ♀, details of the apophyses, Lanzarote, GP4114PF. **25.** *Chrysoesthia gaditella* (Staudinger, 1859), ♀, Cadiz, Spain, GP4135PFZM.