

# The Symmocinae and Holcopogoninae in the Canary Islands and Madeira, with descriptions of 13 new species (Lepidoptera: Autostichidae)

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## Abstract

We recognize 20 species of Symmocinae, concluding that all belong in the genus *Chersogenes* Walsingham, 1908 with the synonyms *Epanastasis* Walsingham, 1908, syn. rev., *Ambloma* Walsingham, 1908, syn. nov. and *Thanatovena* Gozmány, 1957. Thirteen species are described as new: *Chersogenes variabilis* Falck & Karsholt, sp. nov. (Spain: Gran Canaria), *Chersogenes pseudocanariensis* Falck & Karsholt, sp. nov. (Spain: Gran Canaria), *Chersogenes subextricata* Falck & Karsholt, sp. nov. (Spain: Tenerife), *Chersogenes gomerae* Falck & Karsholt, sp. nov. (Spain: La Gomera), *Chersogenes nigra* Falck & Karsholt, sp. nov. (Spain: Gran Canaria), *Chersogenes hermiguae* Falck & Karsholt, sp. nov. (Spain: La Gomera), *Chersogenes mercedella* Falck & Karsholt, sp. nov. (Spain: Tenerife), *Chersogenes duabusalis* Falck & Karsholt, sp. nov. (Spain: Fuerteventura and Lanzarote), *Chersogenes aguiari* Falck & Karsholt, sp. nov. (Portugal: Selvagens Islands), *Chersogenes coxi* Falck & Karsholt, sp. nov. (Spain: Fuerteventura), *Chersogenes lanzarotae* Falck & Karsholt, sp. nov. (Spain: Lanzarote), *Chersogenes fuerteventurae* Falck & Karsholt, sp. nov. (Spain: Fuerteventura), *Chersogenes indistincta* Falck & Karsholt, sp. nov. (Spain: Fuerteventura and Lanzarote). *Chersogenes extricata* (Gozmány, 1964), sp. rev., comb. nov. is removed from synonymy of *Chersogenes (Epanastasis) canariensis* (Rebel, 1906) and reinstated as a distinct species. *Chersogenes excellens* (Gozmány, 1977), syn. nov., comb. nov. is synonymized with *Chersogenes klimeschi* (Gozmány, 1975), comb. nov. *Symmoca canariensis* Rebel, 1906 and *Epanastasis eupracta* Gozmány, 1988 are newly combined as *Chersogenes canariensis* (Rebel, 1906), comb. nov. and *Chersogenes eupracta* (Gozmány, 1988), comb. nov. The following North African species are formally transferred from *Epanastasis*: *Chersogenes arenbergerorum* (Gozmány, 1988), comb. nov., *Chersogenes enigmatica* (Gozmány, 1964), comb. n., *Chersogenes eremicola* (Gozmány, 1988), comb. nov., *Chersogenes erroris* (Gozmány, 1962), comb. nov., *Chersogenes friedeli* (Gozmány, 1988), comb. nov., *Chersogenes tunesica* (Gozmány, 1988), comb. nov., and *Chersogenes vetustella* (Zerny, 1935), comb. nov. Two species of Holcopogoninae, *Turatia iranica* Gozmány, 2000 and *Hesperesta hartigi* (Turati, 1934) are recorded as new to the Canary Islands. Two of the new species, *C. duabusalis*, sp. nov. and *C. aguiari*, sp. nov. have brachypterous males. Photographs of the adults of all species are shown. Photographs of the genitalia of the new species are provided. All of the new species are barcoded. Analyses of DNA barcodes show that the identifications and distinctiveness of each species as well-supported and genetically isolated.

**Keywords:** Lepidoptera, Autostichidae, new species, new records, brachyptery, DNA barcodes, Canary Islands, Spain, Madeira, Selvagens Islands, Portugal.

Los Symmocinae y Holcopogoninae en las Islas Canarias y Madeira, con descripción de 13 especies nuevas  
(Lepidoptera: Autostichidae)

## Resumen

Reconocemos 20 especies de Symmocinae, concluyendo que todas pertenecen al género *Chersogenes* Wal-

singham, 1908 con las sinonímias de *Epanastasis* Walsingham, 1908, syn. rev., *Ambloma* Walsingham, 1908, syn. nov. y *Thanatovena* Gozmány, 1957. Trece especies se describen como nuevas: *Chersogenes variabilis* Falck & Karsholt, sp. nov. (España: Gran Canaria), *Chersogenes pseudocanariensis* Falck & Karsholt, sp. nov. (España: Gran Canaria), *Chersogenes subextricata* Falck & Karsholt, sp. nov. (España: Tenerife), *Chersogenes gomeræ* Falck & Karsholt, sp. nov. (España: La Gomera), *Chersogenes nigra* Falck & Karsholt, sp. nov. (España: Gran Canaria), *Chersogenes hermiguae* Falck & Karsholt, sp. nov. (España: La Gomera), *Chersogenes mercedella* Falck & Karsholt, sp. nov. (España: Tenerife), *Chersogenes duabusalis* Falck & Karsholt, sp. nov. (España: Fuerteventura y Lanzarote), *Chersogenes aguiari* Falck & Karsholt, sp. nov. (Portugal: Islas Salvajes), *Chersogenes coxi* Falck & Karsholt, sp. nov. (España: Fuerteventura), *Chersogenes lanzarotæ* Falck & Karsholt, sp. nov. (España: Lanzarote), *Chersogenes fuerteventuræ* Falck & Karsholt, sp. nov. (España: Fuerteventura), *Chersogenes indistincta* Falck & Karsholt, sp. nov. (España: Fuerteventura y Lanzarote). *Chersogenes extricata* (Gozmány, 1964), sp. rev., comb. nov. se retira de la sinonimia de *Chersogenes (Epanastasis) canariensis* (Rebel, 1906) y se reintegra como especie distinta. *Chersogenes excellens* (Gozmány, 1977), syn. nov., comb. nov., es sinonimizada con *Chersogenes klimeschi* (Gozmány, 1975), comb. nov., *Symmoca canariensis* Rebel, 1906 y *Epanastasis eupracta* Gozmány, 1988, se combinan de nuevo como *Chersogenes canariensis* (Rebel, 1906), comb. nov. y *Chersogenes eupracta* (Gozmány, 1988), comb. nov. Las siguientes especies norteafricanas se transfieren formalmente de *Epanastasis*: *Chersogenes arenbergerorum* (Gozmány, 1988), comb. nov., *Chersogenes enigmatica* (Gozmány, 1964), comb. n., *Chersogenes eremicola* (Gozmány, 1988), comb. nov., *Chersogenes erroris* (Gozmány, 1962), comb. nov., *Chersogenes friedeli* (Gozmány, 1988), comb. nov., *Chersogenes tunesica* (Gozmány, 1988), comb. nov., y *Chersogenes vetustella* (Zerny, 1935), comb. nov. Dos especies de Holcopogoninae, *Turatia iranica* Gozmány, 2000 y *Hesperesta hartigi* (Turati, 1934) se registran como nuevas para las Islas Canarias. Dos de las nuevas especies, *C. duabusalis*, sp. nov. y *C. aguiari*, sp. nov., tienen machos braquípteros. Se muestran fotografías de los adultos de todas las especies. Se proporcionan fotografías de la genitalia de las nuevas especies. Todas las nuevas especies tienen el código de barras. Los análisis de los códigos de barras del ADN muestran que las identificaciones y los caracteres distintivos de cada especie están bien fundamentados y aislados genéticamente.

**Palabras clave:** Lepidoptera, Autostichidae, nuevas especies, nuevos registros, braquipteria, ADN código de barras, Islas Canarias, España, Madeira, Islas Salvajes, Portugal.

## Introduction

The Autostichidae, as currently understood, is a medium-sized family of gelechioid moths with about 800 described species. It includes six or seven subfamilies (Heikkilä et al. 2014, p. 585; Wang & Li, 2020, pp. 323-324), three of which (Oegoconiinae, Symmocinae and Holcopogoninae) occur in the West Palaearctic region, including the Canary Islands and Madeira. In a previous paper (Falck et al. 2021) we dealt with the Oecogoniinae, and here we treat the Symmocinae and Holcopogoninae of these islands.

The Symmocinae are distributed mainly in dryer areas of the western Palaearctic. In his revision Gozmány (2008) recognized 230 species, and relatively few additional species are known from the Afrotropical and Oriental regions. Holcopogoninae are a smaller subfamily with less than 40 species distributed in Eurasia and Africa.

Although the Autostichidae, and especially the two first mentioned subfamilies, are diverse in the Canary Islands they have received surprisingly little attention in the lepidopterological literature. Rebel (1896, 1906) described two species of Symmocinae, and Walsingham (1908) two further species, and then very little happened until Gozmány (1964, 1975, 1988) described four additional symmocine species. Klimesch (1985) reviewed the then known species, and they were again revised by Gozmány (2008) in the “Microlepidoptera Palaearctica” series.

In the present paper we revise the taxonomy at both genus and species level of the Symmocinae of the Canary Islands and Madeira, reducing the number of genera from three to one, and raising the number of species from seven (Vives Moreno, 2014, pp. 109-110) to 20, by describing 13 new species.

The Holcopogoninae of the Canary Islands have received even less attention. Only one species was previously recorded from the islands. We add here the records of two additional species.

## Material and methods

Most of the specimens were attracted to an 8-watt super actinic light, and some were caught during the day. Genitalia were dissected following Robinson (1976). Adults were photographed with a Canon EOS 700D camera equipped with a Canon EF 100 mm objective. The genitalia slides were photographed using a Soptop CX40T Trinocular microscope in conjunction with a Toup Tek P10500A-E3 / E3ISPM05000KPA-E3 / 5.0MP USB3 camera.

DNA samples were prepared from dried legs according to the accepted standards and processed at the Canadian Centre for DNA Barcoding (CCDB, Biodiversity Institute of Ontario, University of Guelph) to obtain the 658 base-pair long barcode fragment of the mitochondrial COI gene (cytochrome c oxidase I). Intra- and interspecific distances of DNA barcode fragments were calculated using analytic tools of BOLD with the Kimura 2-parameter model of nucleotide substitution. Genetic clusters are presented with their barcode index number (BIN; cf. Ratnasingham & Hebert, 2013). Details of successfully sequenced voucher specimens are publicly available through the dataset DS-EPAMCA at [www.boldsystems.org](http://www.boldsystems.org) and at [dx.doi.org/10.5883/DS-EPAMCA](https://dx.doi.org/10.5883/DS-EPAMCA).

We examined the morphology of all species and the DNA barcodes from new and cryptic species.

The terminology used for description of the genitalia mostly follows Gozmány (2008) supplemented with advice from Lauri Kaila (in litt.). The use of phallus (instead of aedeagus) follows Kristensen (2003, p. 103) who argued that only very few Lepidoptera (males) have an aedeagus.

The present paper is mainly based on specimens collected by the first author. We also include material (including type specimens) kept in the collections listed below.

## Abbreviations used

AFA Collection of António M. Franquinho Aguiar, Funchal, Madeira, Portugal

JJ Collection of Jari Junniainen, Vantaa, Finland

PF Collection of Per Falck, Neksø, Denmark

MMF Museu Municipal do Funchal, Madeira, Portugal

MNCN Collection of Antonio Vives, Museo Nacional de Ciencias Naturales, Madrid, Spain

NHMUK Natural History Museum, London, United Kingdom

TL Type locality

ZMUC Zoological Museum, Natural History Museum of Denmark, Copenhagen, Denmark

## Checklist

### AUTOSTICHIDAE

#### SYMMOCINAE

***Chersogenes variabilis* Falck & Karsholt, sp. nov.**

*Chersogenes sophroniellus* (Rebel, 1894), **comb. rev.**

***Chersogenes pseudocanariensis* Falck & Karsholt, sp. nov.**

*Chersogenes canariensis* (Rebel, 1906), **comb. nov.**

***Chersogenes subextricata* Falck & Karsholt, sp. nov.**

*Chersogenes extricata* (Gozmány, 1964), **sp. rev., comb. nov.**

***Chersogenes gomerae* Falck & Karsholt, sp. nov.**

***Chersogenes nigra* Falck & Karsholt, sp. nov.**

*Chersogenes eupracta* (Gozmány, 1988), **comb. nov.**

***Chersogenes hermiguae* Falck & Karsholt, sp. nov.**

***Chersogenes mercedella* Falck & Karsholt, sp. nov.**

***Chersogenes duabusalis* Falck & Karsholt, sp. nov.**

***Chersogenes aguiari* Falck & Karsholt, sp. nov.**

*Chersogenes klimeschi* (Gozmány, 1975), **comb. nov.**  
 = *Chersogenes excellens* (Gozmány, 1977), **syn. n., comb. nov.**  
*Chersogenes brachyptera* (Walsingham, 1908)  
*Chersogenes coxi* Falck & Karsholt, **sp. nov.**  
*Chersogenes lanzarotae* Falck & Karsholt, **sp. nov.**  
*Chersogenes victimella* Walsingham, 1908  
*Chersogenes fuerteventurae* Falck & Karsholt, **sp. nov.**  
*Chersogenes indistincta* Falck & Karsholt, **sp. nov.**

#### HOLCOPOGONINAE

*Turatia iranica* Gozmány, 2000  
*Hesperesta hartigi* (Turati, 1934)  
*Oecia oecophila* (Staudinger, 1876)

#### Results

*Chersogenes* Walsingham, 1908. *Proc. zool. Soc. Lond.*, 1907, 947  
 Type species *Chersogenes victimella* Walsingham, 1908, 947, pl. 51, fig. 17.  
 = *Epanastasis* Walsingham, 1908. *Proc. zool. Soc. Lond.*, 1907, 948, **syn. rev.**  
 Type species *Holcopogon sophroniellus* Rebel, 1894, 89  
 = *Ambloma* Walsingham, 1908. *Proc. zool. Soc. Lond.*, 1907, 946, **syn. nov.**  
 Type species *Ambloma brachyptera* Walsingham 1908, 947, pl. 51, fig. 18.  
 = *Thanatovena* Gozmány, 1957. *Annls hist.-nat. Mus. natn. hung.*, n. s., 8, 343, fig. 2E 8I.  
 Type species *Symmoca aegrella* Walsingham, 1908, 949, pl. 52, fig. 2.

The three first mentioned genera were described as monotypic from three species occurring in the Canary Islands. Meyrick (1925, p. 202) synonymized *Epanastasis* with *Chersogenes*, but they were again treated as separate genera by Gozmány (1964, p. 118, 2008, p. 188, 259, 261). As explained below we consider all symmocine species occurring in the Canary Islands as belonging to one genus. *Epanastasis* and *Chersogenes* were described in the same paper (Walsingham, 1908), and by treating the former as a synonym of the latter Meyrick (op. cit.) made a “first reviser’s action” (ICZN, 1999, article 24.2) by which *Chersogenes* has priority over *Epanastasis* when these two genera are treated as synonyms.

*Thanatovena* is another monotypic genus from the Canary Islands. It was synonymized with *Epanastasis* by Gozmány (1963, p. 453).

The classification of the Symmocinae is largely based on the research by the late Lázló A. Gozmány (e. g. 1957, 2008). He used wing venation as the most important character: “These [newly erected] genera are also well definable on the basis of their venation, whilst the genitalic structure justifies the general view that we are dealing with closely related aggregations” (Gozmány, 1957, p. 325). We are of the opinion that the Symmocinae (and Oecogoninae - see Falck et al. 2021, p. 276), with their many small or monotypic genera, are over-split. Focusing here on the species occurring in the Canary Islands all species of Symmocinae there have similar genitalia, indicating a close relationship, and variable wing venation, which is a result of a more or less pronounced brachyptery. There is no correlation between wing venation and genitalia characters in these species. This is also true for another character used by Gozmány in his classification of these taxa: the form of the labial palps. This is a characteristic feature of many gelechioid moths, and in former days the shape of the labial palps was considered an important character in their systematics. Today the classification of the Gelechioidea is mainly based on structures of the genitalia and on molecular data, and it has been shown that species with different shapes of the labial palps may still be closely related (e. g., Li & Sattler, 2012, p. 8; Huemer & Karsholt, 2018, p. 17).

As well as the species occurring in the Canary Islands and listed above, Gozmány (2008, pp. 188-195) placed the following North African species in the genus *Epanastasis*. By synonymizing *Epanastasis* with *Chersogenes* these species are here formally transferred to the latter genus: *Chersogenes tunesica* (Gozmány, 1988), **comb. nov.**, *Chersogenes eremicola* (Gozmány, 1988), **comb. nov.**, *Chersogenes enigmatica* (Gozmány, 1964), **comb. nov.**, *Chersogenes vetustella* (Zerny, 1935), **comb. nov.**, *Chersogenes friedeli* (Gozmány, 1988), **comb. nov.**, *Chersogenes erroris* (Gozmány, 1962), **comb. nov.**, and *Chersogenes arenbergerorum* (Gozmány, 1988), **comb. nov.**

***Chersogenes variabilis* Falck & Karsholt, sp. nov.** (Figures 1-6, 56, 56a, 76)

Holotype ♂: SPAIN, Carreteria, 455 m, 8-20-VIII-2020, leg. P. Falck, DNA sample Lepid Phyl 0683PF/CILEP682-20 (ZMUC).

Paratypes: SPAIN, Gran Canaria, Pie de la Cuesta, 500 m, 15 ♂♂, 4 ♀♀, 17-30-IX-2018, leg. P. Falck, genitalia slide 2829PF, DNA samples Lepid Phyl 0043PF/CILEP43-19, 0139PF/CILEP138-19, 0140PF/CILEP139-19, 0142PF/CILEP141-19, same data but, 11 ♂♂, 21-VIII-4-IX-2020, leg. P. Falck (PF); 8 km N Pie de la Cuesta, 895 m, 4 ♂♂, 1 ♀, 17-30-IX-2018, leg. P. Falck, genitalia slide 2816PF, DNA samples Lepid Phyl 0040PF/CILEP40-19, 0137PF/CILEP136-19 (PF); Ayacata, 1400 m, 3 ♂♂, 17-30-IX-2018, leg. P. Falck, genitalia slides 2817PF, 2848PF, DNA samples Lepid Phyl 0041PF/CILEP41-19, 0138PF/CILEP137-19; same data but, 3 ♂♂, 1 ♀, 21-VIII-4-IX-2020, leg. P. Falck, DNA sample Lepid Phyl 0678PF/CILEP677-20 (PF); Carreteria, 455 m, 32 ♂♂, 20 ♀♀, 8-20-VIII-2020, leg. P. Falck, genitalia slide 3692PF, DNA samples Lepid Phyl 0676PF/CILEP676-20, 0681PF/CILEP680-20, 0682PF/CILEP681-20, 0683PF/CILEP682-20, 0686PF/CILEP685-20 (PF); Fontanales, 1100 m, 38 ♂♂, 8 ♀♀, 8-20-VIII-2020, leg. P. Falck, genitalia slide 3381PF, 3694PF, DNA samples Lepid Phyl 0677PF/CILEP676-20, 0679PF/CILEP678-20, 0680PF/CILEP679-20, 0687PF/CILEP686-20, 0688PF/CILEP687-20 (PF); Barranco Moya, 80 m, 2 ♂♂, 2 ♀♀, 8-20-VIII-2020, leg. P. Falck, DNA samples Lepid Phyl 0684PF/CILEP683-20, 0685PF/CILEP684-20 (PF); Barranco de Azuaje, 270 m, 4 ♂♂, 1 ♀, 8-20-VIII-2020, leg. P. Falck, genitalia slide 3693PF (PF); Fataga, 500 m, 1 ♂, 21-VIII-4-IX-2020, leg. P. Falck (PF); Barranco Guayadeque, 700 m, 2 ♂♂, 21-VIII-4-IX-2020 (PF, MNCN).

Description: Male. Wingspan 12.5-14 mm. Labial palp upturned, segment 2 dark grey-brown mottled with white scales, especially dorsally, segment 3 almost as long as segment 2, dark grey mottled with white scales. Antenna nearly as long as the length of the forewing, black with indistinct grey rings. Head and neck grey mottled white. Thorax and tegula dark greyish brown. Forewing whitish, basally dark greyish brown, towards apex mottled with ochreous, black and brown; at 1/3 an oblique, broad dark brown fascia, mottled with ochreous in the middle; at 2/3 an indistinct brownish black spot; termen mottled with black; fringe grey. Hindwing brown with grey fringe. Abdomen greyish brown.

Female: Wingspan 14-16.5 mm. Differs from male by the slightly shorter antenna and the broader forewing.

Variation: *C. variabilis* exhibits considerable variation. In both sexes the ground colour varies from almost pure off-white to dark grey and the wing pattern may be absent.

Male genitalia (Figures 56, 56a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, slightly upturned in distal half, apex rounded; sacculus slightly longer than 1/2 the length of valva, apically straight pointed; appendix a little shorter than valva, slightly bent, apex pointed; juxta hourglass-shaped, anteriorly rectangular, posteriorly forked; saccus triangular; phallus slender, almost straight, slightly bent anteriorly; two cornuti groups each with 12-16 rather short spines.

Female genitalia (Figure 76): Papilla analis long, distally rounded, posterior apophysis slender, 2.5 times longer than papilla analis; anterior apophysis slightly shorter than posterior apophysis; tergum VIII sub-rectangular, sternum VIII with median fissure widening anteriorly; lamella antevaginalis sub-

rectangular, posterior margin laterally rounded with a broad medial U-shaped invagination; antrum V-shaped; colliculum short, quite narrow and sclerotised; ductus bursae membranous, slightly broader than colliculum; corpus bursae membranous, oval, signum with about 15 small spines.

DNA barcodes (Figure 87): We obtained full length DNA barcode (658 bp) from eighteen specimens and DNA barcode fragments of 581 bp, 605 bp and 612 bp from three specimens. The barcodes fall within Barcode Index Numbers (BIN) BOLD: ADT9918 (nineteen specimens) and ADT9915 (two specimens). The maximum intraspecific p-distance is high 2.36%. The minimum p-distance to the nearest neighbour *C. canariensis* is 5.35%.

Diagnosis: *C. variabilis* resembles other members of the genus, especially *C. extricata*. It is distinguished by the robust appearance and the rounded apex of the forewing. In the male genitalia the short straight sacculus and two cornuti groups are characteristic. In the female genitalia the rounded posterior margin of the lamella antevaginalis, the short colliculum and the narrow ductus bursae are characteristic.

Biology: Early stages unknown. Most specimens were collected at light, but some were disturbed from varied vegetation during the daytime, from the beginning of August until the end of September, at altitudes from 80 to 1400 m.

Distribution: Widely distributed on the island of Gran Canaria, Spain, except coastal areas.

Etymology: The species is named after the variable adults.

Remarks: Interestingly it seems that the different populations are highly local. Specimens near the city of Moya all belong to the grey form with a distinct wing pattern, while further south near the city of Fontanales the specimens are with a white or light grey ground colour, and with indistinct or totally without a wing pattern, at the southernmost location, Pie de la Cuesta the specimens are dark grey with an indistinct wing pattern. The molecular analyses show high intraspecific divergence, but without any correlation between the different populations of *C. variabilis*.

*Chersogenes sophroniellus* (Rebel, 1894) (Figures 7-8, 57, 57a, 77), **comb. rev.**

*Holcopogon sophroniellus* Rebel, 1894, in Rebel & Rogenhofer. *Annln naturh. Mus. Wien*, 9, 89

Type locality: SPAIN, Tenerife.

Material examined: SPAIN, Gran Canaria, Teror, 500 m, 3 ♂♂, 28-III-1-IV-2012, leg. J. Junnilainen, genitalia slide 201517JL, 201519JL, 3393PF (JJ), same data but 14 ♂♂, 2 ♀♀, 1-13-IV-2022, leg. P. Falck, genitalia slide 3695PF, 3698PF, 3729PF, 3731PF, DNA samples Lepid Phyl 1062PF/CILEP1061-22, 1063PF/CILEP1062-22, 1064PF/CILEP1063-22 (PF); Valleseco, 1 ♂, 1-IV-2012, leg. J. Junnilainen (JJ).

Description: Male. Wingspan 10.5-13 mm. Labial palp upturned, segment 2 creamy white dorsally and medially, ventrally with a dark brown scale tuft, extending beyond the base of segment 3, segment 3 half the length of segment 2, creamy white, laterally mottled with black scales. Antenna black with indistinct grey rings. Head and neck yellowish brown; thorax and tegula yellowish brown, mottled with brown scales. Forewing yellowish brown, with a distinct broad dark brown costal line reaching apex; dorsal 1/3 light brown mottled with a few black scales; at 1/3 one or two diffuse brownish black spots, at 2/3 two distinct black discal spots; termen with distinct black spots; fringe grey. Hindwing grey with grey fringe. Abdomen yellowish brown. Female. Wingspan 12 mm. Differs from the male by the uniformly yellowish-brown colour of the head, neck, thorax, tegula and forewing.

Variation: The spots may be more or less distinct, sometimes forming two indistinct oblique fasciae.

Male genitalia (Figures 57, 57a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 5 times longer than broad, slightly upturned in distal half, apex rounded; sacculus about 2/3 length of valva, apically sickle-shaped; appendix a little shorter than valva, slightly bent, apex pointed; juxta hourglass-shaped, anteriorly rectangular, posteriorly forked; saccus triangular; phallus almost straight, slightly tapering posteriorly; one cornuti group with 13-15 spines of various length, the longest more than 1/3 half the length of phallus.

Female genitalia (Figure 77): Papilla analis long, distally pointed, posterior apophysis slender, twice as long as papilla analis; anterior apophysis slightly longer than half the length of posterior apophysis; tergum VIII sub-rectangular, sternum VIII with median fissure widening anteriorly; lamella antevaginalis sub-rectangular, broad, posterior margin laterally slightly concave with a broad medial V-shaped invagination; antrum cup shaped; colliculum quite narrow and sclerotized; ductus bursae membranous, about twice as broad as colliculum and slightly narrowing anteriorly; corpus bursae membranous oval, signum with about 15 small spines.

DNA barcodes (Figure 87): We obtained full length DNA barcodes (658 bp) from three specimens. The barcodes fall within Barcode Index Number (BIN) BOLD: ADF2619. The maximum intraspecific p-distance is 0.31%. The barcodes of *C. sophroniellus*, *C. pseudocanariensis* and *C. canariensis* cluster together in the neighbour-joining tree, and the minimum p-distance between them is 3.04% (*C. sophroniellus* vs. *C. pseudocanariensis*), 4.13% (*C. sophroniellus* vs. *C. canariensis*) and 4.89% (*C. pseudocanariensis* vs. *C. canariensis*). The nearest neighbour to them is *C. variabilis* with a 5.35% divergence.

Diagnosis: The yellowish-brown colour, the distinct dark brown costal line (in male) and the long segment 2 of the labial palp separates *C. sophroniellus* from similar species such as *C. canariensis* and *C. pseudocanariensis*. In the male genitalia the sickle-shaped apex of the sacculus and only one cornuti group with very long cornuti are characteristic. It differs from *C. canariensis* by the sickle-shaped apex of the sacculus, and by having only one group of very long cornuti. It differs from *C. pseudocanariensis* in the slightly broader valva and in having fewer cornuti. In the female genitalia the shape of the posterior margin lamella antevaginalis is characteristic. It differs from *C. canariensis* in the concave postero-lateral margin of ostium and the less pronounced invagination. It closely resembles *C. pseudocanariensis* and there is no reliable difference in the female genitalia between the two species. Adults of *C. sophroniellus* are very characteristic and are easily separated from other members of the genus.

Biology: Early stages unknown. Most of the examined specimens were caught during evening sunshine, and a few were collected at light during late March and April at altitudes ranging from about 500-1000 m.

Distribution: Known only from the holotype from the island of Tenerife and a few specimens from the surroundings of Teror and one specimen from Valleseco in the northern part of Gran Canaria.

Remarks: *Epanastasis sophroniellus* was described by Rebel (1894) on the basis of a single male collected by John Henry Leech in April 1885 on the island of Tenerife, deposited in the Walsingham collection (NHMUK). In a later publication Rebel (1896, p. 128, pl. III) provides a more detailed description based on a series of specimens from nearby Teror at the northern part of Gran Canaria collected the 10th of May 1895 by the Danish lepidopterologist Wilhelm von Hedemann.

The spelling "*sophroniella*" is an unnecessary gender-agreement variant of the original *sophroniellus* in the literature.

The genitalia of the male holotype collected by Hedemann near Teror are figured by Gozmány (2008, p. 411, fig. 160 (a), p. 412, fig. 161 (a)). Klimesch (1985) misinterpreted this taxon as *C. canariensis*, q. v.

***Chersogenes pseudocanariensis* Falck & Karsholt, sp. nov.** (Figures 9-10, 58, 58a, 78)

Holotype ♀: SPAIN, Gran Canaria, Fataga, 1000 m, 22-III-1979, leg. P. Stadel Nielsen (ZMUC).

Paratypes: SPAIN, Gran Canaria, Barranco de Mogan, Paso de Ojeda, 600-850 m, 6 ♀♀, 14-I-2016, leg. J. Junnilainen; Barranco de Fataga, 450-750 m, 2 ♀♀, leg. J. Junnilainen; Ayacata, 1400 m, 3 ♀♀, 4-23-III-2019, leg. P. Falck, DNA sample Lepid Phyl 0153PF/CILEP152-19, same data but, 1 ♀, 9-22-VI-2021, leg. P. Falck (PF); Pie de la Cuesta, 500 m, 3 ♀♀, 4-23-III-2019, leg. P. Falck, genitalia slide 3654PF, DNA samples Lepid Phyl 0151PF/CILEP150-19, 0152PF/CILEP151-19, same data but, 1 ♂, 10 ♀♀, 1-13-IV-2022, leg. P. Falck (PF); Barranco de Guayadeque, 800 m, 8 ♂♂, 9 ♀♀, 1-13-IV-2022,

leg. P. Falck, genitalia slides 3655PF, 3656PF, 3707PF, DNA samples Lepid Phyl 1059PF/CILEP1058-22, 1060PF/CILEP1059-22, 1061PF/CILEP1059-22 (PF, MNCN).

Description: Male. Wingspan 14-15 mm. Labial palp upturned, segment 2 grey mottled with light brown and white scales, especially dorsally, dorsally with a small grey scale tuft, segment 3 as long as segment 2, grey mottled with white scales. Antenna black with indistinct grey rings. Head, neck, thorax and tegula grey, mottled with light brown and white scales. Forewing grey, with a broad dark grey costal line reaching a pointed apex; middle 1/3 whitish with 4 longitudinal black streaks; dorsal 1/3 grey mottled with a few black scales; at 1/3 one blackish spot, at 2/3 two distinct black discal spots; termen mottled with black; fringe grey. Hindwing grey with grey fringe. Abdomen greyish. Female. Wingspan 14-16 mm. Differs from male in the colour of the forewing and the wing pattern. Forewing uniformly grey mottled with black; at 1/3 an irregular, slightly oblique, blackish fascia; at 2/3 two indistinct, blackish, rather large discal spots.

Variation. The male is quite constant, but the black streaks may be indistinct or nearly absent. In the female the fascia and spots may be more or less distinct, the fascia does not always reach the costa, and the discal spots may be confluent.

Male genitalia (Figures 58, 58a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, slightly upturned in distal half, apex rounded; sacculus about 2/3 length of valva, apically sickle-shaped; appendix a little shorter than valva, slightly bent, apex pointed; juxta hourglass-shaped, anteriorly rectangular, posteriorly forked; saccus triangular; phallus almost straight, slightly tapering posteriorly; one cornuti group with 20-22 spines of various length, the longest more than one third the length of the phallus.

Female genitalia (Figure 78): Papilla analis long, distally pointed, posterior apophysis slender, twice as long as papilla analis; anterior apophysis slightly longer than half the length of the posterior apophysis; tergum VIII sub-rectangular, sternum VIII with median fissure widening anteriorly; lamella antevaginalis sub-rectangular, broad, posterior margin laterally slightly concave with a broad medial U-shaped invagination; antrum-cup shaped; colliculum quite narrow and sclerotised; ductus bursae membranous, about 2.5 times broader than colliculum and narrowing anteriorly; corpus bursae membranous, oval, signum with about 15 small spines.

DNA barcodes (Figure 87): We obtained full length DNA barcodes (658 bp) from six specimens. The barcodes fall within Barcode Index Number (BIN) BOLD: ADF2781. The maximum intraspecific p-distance is 1.38%. The results are presented in the DNA barcodes section of *C. sophroniellus*.

Diagnosis: *C. pseudocanariensis* is similar to *C. canariensis*, q.v.

Biology: Early stages unknown. Most of the specimens were attracted to light, but most of the males were found nectaring on flowers of *Todaroa montana* Webb ex Christ on a rainy and humid day. The adults of *C. pseudocanariensis* were collected from January to late June at altitudes from 450 m to 1400 m.

Distribution: Known only from mountain regions in the southern half of the island of Gran Canaria, Spain.

Etymology: The species name is derived from combining the Greek word *ps* (pseudo = false) and *canariensis*, referring to its similarity to *C. canariensis*.

*Chersogenes canariensis* (Rebel, 1906). **comb. nov.** (Figures 11-16, 59, 59a, 79)

*Symmoca canariensis* Rebel, 1906. *Annln naturh. Mus. Wien*, 21, 39

Type locality: SPAIN, Tenerife, Güfmar.

= *Symmoca aegrella* Walsingham, 1908. *Proc. zool. Soc. Lond.*, 1907, 949, pl. 52, fig. 2

Type locality: SPAIN, Tenerife, La Laguna.

Material examined: SPAIN, Gran Canaria, Los Tilos de Moya, 600 m, 19-VII-1984, leg. P. Olsen, B. Skule & P. Stadel Nielsen, genitalia slide 5985 Gozmány (ZMUC); Bahía Feliz, 2 ♂♂, 6-7-V-2018, leg. K. Larsen (ZMUC); Juan Grande, 1 ♂, 8-V-2018, leg. K. Larsen (ZMUC); El Doctoral, 350 m, 2 ♂♂, 9-12-V-2018, leg. K. Larsen (ZMUC); Pie de la Cuesta, 500 m, 13 ♂♂, 20 ♀♀, 11-26-VI-2018, leg.

P. Falck, genitalia slides 2746PF, 2748PF, 2749PF, 2754PF, 2755PF, 2833PF, DNA sample Lepid Phyl 0028PF/CILEP28-19, same data but, 14 ♂♂, 12 ♀♀, 4-23-III-2019, leg. P. Falck, genitalia slide 3702PF, DNA samples Lepid Phyl 0146PF/CILEP0145-19, 0147PF/CILEP-19 (PF); Los Tilos de Moya, 55 m, 1 ♂, 1 ♀, 11-26-VI-2018, leg. P. Falck, genitalia slides 2747PF, 2756PF, DNA samples Lepid Phyl 0148PF/CILEP147-19, 0149PF/CILEP148-19, same data but, 2 ♂♂, 17-30-IX-2019, leg. P. Falck, genitalia slide 2820PF, DNA sample Lepid Phyl 0150PF/CILEP149-19, same data but, 1 ♂, 8-20-VIII-2020 leg. P. Falck, genitalia slide 3392PF (PF); Puerto Rico, 50 m, 2 ♂♂, 11-24-VI-2018, leg. P. Falck (PF); Barranquillo Andrés, 700 m, 1 ♂, 11-24-VI-2018, P. Falck (PF); Playa del Cura, 30 m, 2 ♂♂, 4-23-III-2019, leg. P. Falck (PF); El Sao, 110 m, 1 ♂, 4-23-III-2019, leg. P. Falck, DNA sample Lepid Phyl 0145PF/CILEP144-19, same data but, 1 ♀, 1-13-IV-2022, leg. P. Falck (PF); Barranco de Azuaje, 270 m, 3 ♂♂, 1 ♀, 8-20-VIII-2020, leg. P. Falck, genitalia slides 3497PF, 3498PF (PF); Carretería, 455 m, 4 ♂♂, 8-20-VIII-2020, leg. P. Falck, genitalia slide 3393PF (PF); Ayacata, 1400 m, 1 ♂, 9-22-VI-2021, leg. P. Falck, DNA sample Lepid Phyl 0872PF/CILEP871-21 (PF); Barranco de Guayedde, 800 m, 2 ♀♀, 9-22-VI-2021, leg. P. Falck, genitalia slide 3719PF (PF); El Hierro, Errese, 750 m, 18 ♂♂, 14 ♀♀, 22-VII-3-VIII-2022, leg. P. Falck, genitalia slide 3750PF, DNA samples Lepid Phyl 1065PF/CILEP1064-22, 1066PF/CILEP1065-22, 1067PF/CILEP1066-22 (PF); Jinama, 1250 m, 3 ♂♂, 8 ♀♀, 22-VII-3-VIII-2022, leg. P. Falck (PF); Cruz de Las Reyes, 1360 m, 4 ♂♂, 1 ♀, 22-VII-3-VIII-2022, leg. P. Falck (PF); Frontera, 280 m, 2 ♂♂, 22-VII-3-VIII-2022, leg. P. Falck (PF). Tenerife, Guimar, 2 ♂♂, 15-28-III-1965, leg. J. Klimesch (ZMUC); Aguamansa, 1300 m, 3 ♂♂, 29-VII-2-VIII-1979, leg. P. Stadel Nielsen, genitalia slide 3799aPF (ZMUC); 5 ♂♂, 1 ♀, Vilaflor, Las Lajas, 1800 m, 24-IV-1998, leg. K. Larsen, genitalia slide 5422 Karsholt (ZMUC); Arona, 670 m, 13 ♂♂, 3 ♀♀, 1-20-III-2017, leg. P. Falck, genitalia slides 2532PF, 2534PF, 2750PF, 2751PF, 2753PF, 3659PF, 3712PF, DNA samples Lepid Phyl 0030PF/CILEP30-19, 0143PF/CILEP142-19, 0144PF/CILEP143-19 (PF), same data but, 2 ♂♂, 21-V-3-VI-2019, leg. P. Falck (PF); Los Gigantes, 150 m, 2 ♂♂, 5 ♀♀, 1-20-III-2017, leg. P. Falck, genitalia slides 2529PF, 2531PF, 2534PF, 2752PF, 2534PF (PF); Playa Paraiso, 50 m, 2 ♂♂, 1-20-III-2017, leg. P. Falck, DNA sample Lepid Phyl 0029PF/CILEP29-19 (PF); Ifonche, 1040 m, 1 ♂, 21-V-3-VI-2019, leg. P. Falck (PF); Las Mercedes, 750 m, 5 ♂♂, 9 ♀♀, 21-V-3-VI-2019, leg. P. Falck, genitalia slide 3390PF, same data but 1 ♀, 13-26-VIII-2019, leg. P. Falck, same data but, 6 ♀♀, 1-13-VI-2022, leg. P. Falck, genitalia slide 3657PF (PF); 8 km N Vilaflor, 1700 m, 3 ♂♂, 1 ♀, 21-V-3-VI-2019, leg. P. Falck, genitalia slide 3700PF (PF); Aguamansa, 1050 m, 7 ♂♂, 13-26-VIII-2019, leg. P. Falck, genitalia slide 3391PF, DNA samples Lepid Phyl 0323PF/CILEP322-19, 0324PF/CILEP323-19, 0325PF/CILEP324-19, same data but, 1 ♂, 1-13-VI-2022, leg. P. Falck (PF); Güümar, 500 m, 1 ♂, 21-V-3-VI-2019, leg. P. Falck, same data but, 7 ♂♂, 1 ♀, 1-13-VI-2022, leg. P. Falck (PF); Las Manchas, 1050 m, 2 ♀♀, 21-V-3-VI-2019, leg. P. Falck, genitalia slide 3658PF; El Caletón, 150 m, 1 ♀, 1-13-VI-2022, leg. P. Falck (PF).

Description: Male. Wingspan 12-17 mm. Labial palp upturned, segment 2 grey mottled with light brown and white scales, especially dorsally, dorsally with a greyish brown scale tuft, segment 3 almost as long as segment 2, whitish mottled with dark grey scales, indistinctly ringed near apex. Antenna black with indistinct grey rings. Head and thorax whitish mottled grey; neck and tegula greyish brown. Forewing grey, with a broad dark grey costal line reaching apex; median 1/3 light grey mottled with ochreous scales; dorsal 1/3 grey, darker brownish grey towards termen; one or two black discal spots; termen mottled with black; fringe grey. Hindwing grey with grey fringe. Abdomen greyish.

Female. Wingspan 11-16 mm. Differs from male by the colour of the forewing and the wing pattern. Forewing uniformly grey mottled with black; at 1/3 an irregular, slightly oblique, dark grey fascia; at 2/3 two indistinct, dark grey, rather large discal spots.

Variation: *C. canariensis* exhibits considerable variation. The ground colour varies from whitish grey or dark grey to yellowish brown or ochreous in both sexes. In both sexes the wing pattern may be absent.

Male genitalia (Figures 59, 59a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, slightly upturned in distal half, apex

rounded; sacculus slightly longer than half the length of valva, apically rather broad with a small hook-shaped apex; appendix distinctly shorter than valva, slightly bent, apex pointed; juxta hourglass-shaped, anteriorly sub-rectangular, posteriorly forked; saccus triangular, apex rounded; phallus bent anteriorly, slightly tapering posteriorly, slightly shorter than valva; two cornuti groups, one with 5-8 spines of medium length, the second with 12-16 spines also of medium length.

Female genitalia (Figures 79): Papilla analis long, distally pointed, posterior apophysis slender, twice as long as papilla analis; anterior apophysis slightly longer than half the length of posterior apophysis; tergum VIII sub-rectangular, sternum VIII with median fissure widening anteriorly; lamella antevaginalis sub-rectangular, broad, posterior margin laterally straight with a broad medial V-shaped invagination; antrum cup shaped; colliculum quite narrow and sclerotised; ductus bursae membranous, about 3 times broader than colliculum and narrowing anteriorly; corpus bursae membranous oval, signum with about 15 small spines.

DNA barcodes (Figure 87): We obtained full length DNA barcode (658 bp) from eleven specimens and DNA barcode fragments of 519 bp, 605 bp, 629 bp, 630 bp, 634 bp, 647 bp and 648 bp from seven specimens. The barcodes fall within Barcode Index Numbers (BIN) BOLD: ADT8333 (thirteen specimens from northern Gran Canaria, El Hierro and Tenerife), ADI4064 (four specimens from southern Gran Canaria) and AEN3712 (one specimen from central Gran Canaria), the minimum p-distance between the BINs is 1.92% (ADI4064 vs. AEN3712), 2.08% (ADI4064 vs. ADT8333) and 2.22% (ADT8333 vs. AEN3712). The maximum intraspecific p-distance is very high 3.10%. The results are presented in the DNA barcodes section of *C. sophroniellus*.

Diagnosis: *C. canariensis* resembles *C. sophroniellus* (q.v.) and especially *C. pseudocanariensis*, and it is not possible to distinguish specimens from the southern part of Gran Canaria without dissection of the genitalia. In the male genitalia the short hook-shaped apex of the sacculus and two cornuti groups are characteristic. In the female genitalia the laterally straight posterior margin of lamella antevaginalis and the bulbous ductus bursae are characteristic.

Biology: Early stages unknown. Most specimens were collected at light, but some were disturbed from varied vegetation during daytime, from March to September, at altitudes from sea level to 1800 m.

Distribution: Only known from the Canary Islands: Gran Canaria, El Hierro, La Palma (Baez, 2010, p. 303) and Tenerife, Spain.

Remarks: In his paper "Fünfter Beitrag zur Lepidopterenfauna der Kanaren" Rebel (1906) described *Symmoca canariensis* from one male specimen collected at Güímar, Tenerife by W. White. It was examined by Walsingham (1908, pp. 949-950) and compared with the type specimen of *C. sophroniellus*. He concluded that adults of these two highly variable species only were separable by the difference in labial palps. In later literature e. g. Klimesch (1985, p. 136) and Gozmány (2008, p. 190) *C. canariensis* was misinterpreted as *C. sophroniellus*.

*Symmoca aegrella* was described from two specimens collected in June 1907 at La Laguna, Tenerife, it was compared with *canariensis* by Walsingham (1908, pp. 949-950). Later *C. aegrella* was synonymised with that species by Gozmány (1963, p. 453). The male genitalia of the lectotype are figured by Gozmány (2008, p. 411, figure (b)).

It appears that the males of *C. canariensis* occur in two geographical forms in Gran Canaria, in the northern part they are similar to specimens from El Hierro and Tenerife, in the southern part they are similar to males of *C. pseudocanariensis*. The molecular analyses show high intraspecific divergence in COI, and there seems to be some correlation between the different populations from Gran Canaria in the DNA and in the adult appearance. Although the divergence between two of the populations is above the 2% threshold suggested as a putative guideline for species delimitation by Hebert et al. (2003), we hesitate to describe them as new species, because we were unable to find any constant difference in the genitalia.

***Chersogenes subextricata* Falck & Karsholt, sp. n.** (Figures 17-18, 60, 60a)

Holotype ♂: SPAIN, Tenerife, Puerto de la Cruz, 200 m, 18-XI-8-XII-2018, leg. P. Falck, genitalia slide 2864PF, DNA sample Lepid Phyl 0155PF/CILEP154-19 (MNCN).

Paratypes: SPAIN, Near Chirche, 100 m, 1 ♂, 8-22-XI-2016, leg. P. Falck, genitalia slide 2535PF, DNA sample Lepid Phyl 0044PF/CILEP44-19; 3 km NW Los Roques, 160 m, 1 ♂, 18-XI-8-XII-2018, leg. P. Falck, genitalia slide 2865PF, DNA sample Lepid Phyl 0154PF/CILEP153-19 (PF).

Description: Male. Wingspan 14-15.5 mm. Labial palp upturned, segment 2 white mottled with black and brown scales, especially ventrally and laterally, ventrally a small brownish scale tuft, segment 3 almost as long as segment 2, whitish mottled with dark grey scales. Antenna almost as long as forewing, black. Head and neck grey mottled with white; thorax and tegula greyish brown with a few white scales. Forewing greyish white, mottled with ochreous, brown and black scales, fringe grey. Hindwing grey with grey fringe. Abdomen greyish.

Female: Unknown.

Variation: One of the specimens has the forewing grey with a broad dark grey costal line reaching the apex; median 1/3 light grey mottled with ochreous scales; dorsal 1/3 grey, darker brownish grey towards termen; one black discal spot. *C. subextricata* is probably a variable species.

Male genitalia (Figures 60, 60a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, slightly upturned in distal half, apex rounded; sacculus about 2/3 length of valva, apically sickle-shaped; appendix shorter than valva, slightly bent, apex pointed; juxta semi-oval, posteriorly forked; saccus triangular; phallus almost straight, slightly tapering posteriorly; one cornuti group with 20-25 relatively short spines.

DNA barcodes (Figure 87): We obtained full length DNA barcodes (658 bp) from three specimens. The barcodes fall within Barcode Index Number (BIN) BOLD: ADU9684. The maximum intraspecific p-distance is 1.44%. The barcodes of *C. subextricata*, *C. extricata* and *C. gomeræ* cluster together in the neighbour-joining tree and the minimum p-distances between them are 4.51% (*C. subextricata* vs. *C. extricata*), 4.81% (*C. subextricata* vs. *C. gomeræ*) and 5.86% (*C. extricata* vs. *C. gomeræ*). The nearest neighbour to them is *C. variabilis*, with a 5.50% divergence.

Diagnosis: In the male genitalia the sickle-shaped sacculus, the short appendix and only one group of cornuti are characteristic. For separation from similar species see under *C. extricata*.

Biology: Early stages unknown. The specimens were attracted to light from the beginning of November until the beginning of December, at altitudes between 100 m and 200 m.

Distribution: Only known from the island of Tenerife, Spain.

Etymology: The species is named *C. subextricata* because of its similarity to *C. extricata*.

*Chersogenes extricata* (Gozmány, 1964), **sp. rev., comb. nov.** (Figures 19-22, 61, 61a, 80)

*Epanastasis extricata* Gozmány, 1964. *Acta zool. hung.*, 10, 120-121

Type locality: SPAIN, Gran Canaria, Las Palmas.

Material examined: SPAIN, Gran Canaria, 4 km N Mogan, Lugar del Pie de la Questa, 570 m, 2 ♂♂, 4-XI-2014, leg. B. Skule (ZMUC); 3.5 km NNE Mogan, Barranco Mogan, 430 m, 2 ♂♂, 5-XI-2014, leg. B. Skule (ZMUC); Pie de la Cuesta, 500 m, 1 ♂, 17-30-IX-2018, leg. P. Falck, DNA sample Lepid Phyl 0141PF/CILEP140-19; same data but, 10 ♂♂, 24-X-13-XI-2020, leg. P. Falck, DNA sample Lepid Phyl 0811PF/CILEP810-21 (PF); Ayacata, 1400 m, 1 ♂, 17-30-IX-2018, leg. P. Falck, genitalia slide 2819PF, DNA sample Lepid Phyl 0043PF/CILEP43-19, same data but, 4 ♂♂, 1 ♀, 24-X-13-XI-2020, leg. P. Falck, genitalia slide 3730PF, DNA sample Lepid Phyl 0812PF/CILEP811-21 (PF); Barranco Guayadeque, 800 m, 23 ♂♂, 24-X-13-XI-2020, leg. P. Falck, genitalia slides 3697PF, 3706PF, DNA sample Lepid Phyl 0813PF/CILEP812-21 (PF).

Description: Male. Wingspan 14-16.5 mm. Labial palp upturned, segment 2 white, laterally and ventrally mottled with dark brown and black scales, segment 3 almost as long as segment 2, whitish mottled with brown and black. Antenna almost as long as forewing, black with indistinct grey rings. Head and neck greyish white mottled with brown; thorax and tegula ochreous mottled with brown especially towards neck. Forewing grey mottled with brown and black; from the base to near apex a whitish mottled with ochreous median streak, at 1/3 and before 2/3 bordered by two black dots; along termen and apex 6-8 black dots; fringe grey. Hindwing grey with grey fringe. Abdomen greyish brown.

Female: Wingspan 13 mm. Differs from the male in being brachypterous, the forewing being shorter and broader, the hindwing slenderer with a pointed apex. Forewing dark brownish.

Variation: *C. extricata* exhibits considerable variation. The ground colour varies from whitish grey or dark grey to yellowish brown or ochreous, the median streak is often indistinct or missing, the distal black spots are sometimes confluent, or the black spots may be totally absent.

Male genitalia (Figures 61, 61a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, slightly upturned in distal half, apex rounded; sacculus about 2/3 length of valva, apically sickle-shaped; appendix distinctly shorter than valva, slightly bent, apex pointed; juxta sub-rectangular, posteriorly forked; saccus triangular; phallus almost straight, slightly tapering posteriorly; two cornuti groups, anterior group with 14-15 short spines, posterior group with 8-9 short spines.

Female genitalia (Figure 80): Papilla analis long, distally pointed, posterior apophysis slender, twice as long as papilla analis; anterior apophysis slightly longer than half the length of posterior apophysis; tergum VIII sub-rectangular, sternum VIII with median fissure widening anteriorly; lamella antevaginalis sub-rectangular, broad, posterior margin laterally rounded with a broad medial U-shaped invagination; antrum V-shaped; colliculum narrow and sclerotised; ductus bursae membranous, slightly broader than colliculum and narrowing anteriorly; corpus bursae membranous, round, signum with about 25 small spines.

DNA barcodes (Figure 87): We obtained full length DNA barcodes (658 bp) from four specimens and DNA barcode fragments of 633 bp from one specimen. The barcodes fall within Barcode Index Number (BIN) BOLD: ADF2779. The maximum intraspecific p-distance is 1.61%. The results are presented in the DNA barcodes section of *C. subextricata*.

Diagnosis: The three species *C. extricata*, *C. subextricata* and *C. gomeræ* are closely related, and it is not possible to separate them without dissection of the genitalia or barcoding. The group is distinguished from the similar looking species *C. canariensis* and *C. pseudocanariensis* by the lack of a scale tuft ventrally on segment 2 of the labial palp. In the male genitalia of *C. extricata* the sickle-shaped sacculus, the short appendix and the two group of cornuti are characteristic. It is distinguished from *C. subextricata* in having two groups of cornuti, and from *C. gomeræ* in the more curved apex of the sacculus and a larger number of cornuti in both groups of cornuti.

Biology: Early stages unknown. The specimens were attracted to light during October and November, at altitudes from 430 m to 1400 m. The only known female was found running on the ground near the light.

Distribution: Known only from the mountain area in the central part of the island of Gran Canaria, Spain.

Remarks: The genitalia of the holotype are figured by Gozmány (2008, p. 412, fig. 161).

***Chersogenes gomeræ* Falck & Karsholt, sp. nov.** (Figures 23-26, 62, 62a.)

Holotype ♂: SPAIN, La Gomera, Arure, 820 m, 24-X-12-XI-2021, leg. P. Falck, genitalia slide 3705PF (ZMUC).

Paratypes: SPAIN, La Gomera, Arure, 820 m, 22 ♂♂, 24-X-12-XI-2021, leg. P. Falck, genitalia slide 3696PF, DNA samples Lepid Phyl 0985PF/CILEP984-22, 0986PF/CILEP985-22 (PF); Epina, 820 m, 10 ♂♂, 24-X-12-XI-2021, leg. P. Falck, genitalia slide 3653PF, DNA sample Lepid Phyl 0984PF/CILEP983-22; El Cedro, 570 m, 1 ♂, 24-X-12-XI-2021, leg. P. Falck (PF; MNCN).

Description: Male. Wingspan 14-17 mm. Labial palp upturned, segment 2 white, laterally and ventrally mottled with dark brown and black scales, segment 3 almost as long as segment 2, whitish mottled with brown and black. Antenna almost as long as forewing, black with indistinct grey rings. Head and neck greyish white mottled with brown; thorax and tegula ochreous mottled with brown especially towards neck. Forewing grey mottled with brown and black; from the base to near apex a whitish mottled with ochreous median streak, at 1/3 and before 2/3 bordered by two black dots; along

termen and apex 6-8 black dots; fringe grey. Hindwing grey with grey fringe. Abdomen greyish brown.

Variation: *C. gomerae* exhibits considerable variation. The ground colour varies from whitish grey or dark grey to yellowish brown or ochreous, the median streak is often indistinct or missing, the distal black spots are sometimes confluent, or the black spots may be totally absent.

Female: Unknown.

Male genitalia (Figures 62, 62a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, slightly upturned in distal half, apex rounded; sacculus shorter than 2/3 length of valva, apically sickle-shaped; appendix distinctly shorter than valva, slightly bent, apex pointed; juxta sub-rectangular, posteriorly forked; saccus triangular; phallus almost straight, slightly tapering posteriorly; two cornuti groups, anterior group with 21-23 short spines, posterior group with 10-11 short spines.

DNA barcodes (Figure 87): We obtained full length DNA barcodes (658 bp) from three specimens. The barcodes fall within Barcode Index Number (BIN) BOLD: AEP5785. The maximum intraspecific p-distance is 0.16%. The results are presented in the DNA barcodes section of *C. subextricata*.

Diagnosis: In the male genitalia the sickle-shaped sacculus, the short appendix and two groups of cornuti are characteristic. For separation from similar species see under *C. extricata*.

Biology: Early stages unknown. All specimens of the type series were attracted to light from late October until the beginning of November at altitudes from 570 m to 820 m.

Distribution: Only known from a few scattered localities in the mountain region of the island of La Gomera, Spain.

Etymology: The species is named after the Canary Island, La Gomera.

***Chersogenes nigra* Falck & Karsholt, sp. nov.** (Figures 27-28, 63, 63a, 81)

Holotype ♂: SPAIN, Gran Canaria, Pie de la Cuesta, 500 m, 21-VIII-4-IX-2020, leg. P. Falck, genitalia slide 3727PF, DNA sample Lepid Phyl 0743PF/CILEP742-20 (PF).

Paratype: SPAIN, Pie de la Cuesta, 500 m, 1 ♀, 21-VIII-4-IX-2020, leg. P. Falck, genitalia slide 3732PF, DNA sample Lepid Phyl 0700PF/CILEP699-20 (PF).

Description: Male. Wingspan 8.5 mm. Labial palp upturned, segment 2 blackish, posteriorly white and mottled white ventrally, segment 3 almost as long as segment 2, blackish. Antenna as long as the length of forewing, black with indistinct grey rings. Head and neck dark brown mottled light grey; thorax and tegula blackish brown. Forewing dark brown mottled with black scales; at 1/5 and 1/2 two broad, diffuse, lighter brown fasciae; fringe grey. Hindwing dark brown with grey fringe. Abdomen dark greyish brown.

Female: Wingspan 8.5 mm. Differs from male by the broader forewing and the more clearly marked fasciae.

Male genitalia (Figures 63, 63a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, clearly upturned and broadening in distal third, apex rounded; sacculus about 1/2 length of valva, apically straight and pointed; appendix clearly shorter than valva, almost straight, apex pointed; juxta anteriorly rectangular, posteriorly forked; saccus triangular; phallus narrow, bent before 1/2, slightly tapering posteriorly; without cornuti.

Female genitalia (Figure 81): Papilla analis short, distally rounded, posterior apophysis slender, about three times longer than papilla analis; anterior apophysis longer than half the length of posterior apophysis; tergum VIII narrow, sub-rectangular, sternum VIII sub-rectangular, corrugate anteriorly; lamella antevaginalis sub-rectangular, narrow, posterior margin slightly concave, laterally rounded; antrum narrowing anteriorly; colliculum weakly sclerotized, narrow and slightly tapering anteriorly; ductus bursae short, membranous; corpus bursae membranous, oval, without signum.

DNA barcodes (Figure 87): We obtained full length DNA barcodes (658 bp) from two specimens. The barcodes fall within Barcode Index Number (BIN) BOLD: AEG0351. The intraspecific p-distance is 0.00%. The minimum p-distance to nearest neighbour *C. canariensis* is 6.25%.

Diagnosis: *C. nigra* does not resemble other members of the genus, but the female is superficially similar to some species of *Scythris* Hübner, 1825, especially in the *S. petrella* species-group (Bengtsson, 1997, p. 138). The small size and dark colour are characteristic. In the male genitalia the short straight sacculus, the upturned apex of the valva and the lack of cornuti are characteristic. In the female genitalia the short papilla analis, the narrow segment VIII, the narrow concave lamella antevaginalis and the lack of signum are characteristic.

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

Distribution: Only known from the type locality, Pie de la Cuesta, Gran Canaria, Spain.

Etymology: The species is named after its dark colour.

*Chersogenes eupracta* (Gozmány, 1988), **comb. nov.** (Figures 29-32, 64, 64a, 82)

*Epanastasis eupracta* Gozmány, 1988. *Boll. Mus. reg. Sci. nat. Torino*, 6, 185-186

Type locality: SPAIN, Gran Canaria, Los Tilos de Moya.

Type material examined: Holotype ♂, "Canary Isl., Gr. Canaria, Los Tilos, Moya, 19-VII-1984, 600 m, leg. Olsen, Skule, Stadel" "HOLOTYPUS, *Epanastasis eupracta* Goz., gen. prep. No. 5982, det L. Gozmány" "ZMUC 00401387" (ZMUC). Paratype ♂, "Canary Isl., Gr. Canaria, Bco. Virgen, Moya, 20-VII-1984, 400 m, leg. Olsen, Skule, Stadel" "PARATYPUS, *Epanastasis eupracta* Goz., gen. prep. No. 5984, det L. Gozmány" (ZMUC).

Material examined: SPAIN, Gran Canaria; Inagua, Tasarte, 600 m, 1 ♂, 28-VII-1995, leg. K. Larsen, genitalia slide 5424 Karsholt (ZMUC); Los Tilos de Moya, 500 m, 2 ♂♂, 11-24-VI-2018, leg. P. Falck, same data but, 16 ♂♂, 15 ♀♀, 17-30-IX-2018, leg. P. Falck (PF); Pie de la Cuesta, 500 m, 5 ♂♂, 11-24-VI-2018, leg. P. Falck, genitalia slides 2824PF, 2827PF, DNA sample Lepid Phyl 0038PF/CILEP38-19, same data but, 7 ♂♂, 3 ♀♀, 17-30-IX-2018, leg. P. Falck (PF); El Sao, 110 m, 2 ♂♂, 11-24-VI-2018, leg. P. Falck, DNA sample Lepid Phyl 0039PF/CILEP39-19(PF); Ayacata, 1400 m, 11 ♂♂, 3 ♀♀, 17-30-IX-2018, leg. P. Falck, genitalia slide 2828PF, DNA sample Lepid Phyl 0037PF/CILEP37-19, same data but, 2 ♂♂, 21-VIII-4-IX-2020, leg. P. Falck, genitalia slide 3728PF, DNA samples Lepid Phyl 0689PF/CILEP688-20, 0690PF/CILEP689-20 (PF); Carretería, 455 m, 5 ♂♂, 8 ♀♀, 8-20-VIII-2020, leg. P. Falck, genitalia slide 3708PF (PF); Fontanales 1100 m, 6 ♂♂, 2 ♀♀, 8-20-VIII-2020, leg. P. Falck (PF); Barranco de Moya, 80 m, 1 ♀, 8-20-VIII-2020, leg. P. Falck (PF); Barranco de Azuaje, 270 m, 1 ♀, 8-20-VIII-2020, leg. P. Falck (PF); Tenerife; Las Manchas, 1050 m, 2 ♂♂, 3-16-VIII-2021, leg. P. Falck, genitalia slides 3522PF, 3714PF, DNA samples Lepid Phyl 0870PF/CILEP869-21, 0871PF/CILEP870-21 (PF).

Description: Male. Wingspan 10-14 mm. Labial palp upturned, segment 2 brown, dorsally yellowish brown, segment 3 almost as long as segment 2, yellowish, indistinctly brown ringed near apex. Antenna black with indistinct grey rings. Head and neck yellowish brown; thorax and tegula yellowish brown, the latter dark brown towards base. Forewing yellowish brown, sometimes mottled with dark brown scales; at 1/3 an indistinct, oblique, ochreous fascia, bordered particularly medially by black scales, at 2/3 an indistinct, rounded, ochreous marking; termen with black spots; fringe grey. Hindwing dark grey with grey fringe. Abdomen yellowish brown.

Female: Wingspan 12-15 mm. Differs from the male by a more prominent wing pattern.

Variation: *C. eupracta* is a highly variable species. The colour of the forewing varies from yellowish to brownish and grey, and the mottling may be absent or very prominent. The wing pattern is sometimes almost absent, giving a uniform appearance of the wing, and in other specimens the wing pattern is very pronounced and forming two distinct, dark brown fasciae, especially in the females.

Male genitalia (Figures 64, 64a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 8 times longer than broad, slightly upturned in distal half, apex rounded; sacculus about 2/3 length of valva, apical 1/3 slender, evenly rounded upwards at a 90 degree

angle, apically pointed; appendix as long as valva, slightly bent, apex pointed; transtilla with long, narrow projection, nearly as long as half the length of the posterior margin of valva; juxta hourglass-shaped, anteriorly semi-oval, posteriorly forked; saccus triangular, tapered anteriorly; phallus broad, longer than half the length of valva, almost straight, slightly tapering posteriorly; two cornuti groups, one with 14-16 spines of various length of which about 10 are very short, and the second one with 16-18 rather long spines.

Female genitalia (Figure 82): Papilla analis slender, distally pointed, posterior apophysis slender, 2.5 times longer than papilla analis; anterior apophysis slightly longer than half the length of posterior apophysis; tergum VIII sub-rectangular, sternum VIII with median fissure widening anteriorly; lamella antevaginalis rectangular, broad, posterior margin laterally slightly concave with a broad median V-shaped invagination; antrum sclerotised narrowing anteriorly; colliculum sclerotised and widening posteriorly, ductus bursae membranous and twisted anteriorly; ductus seminalis membranous, large and bulbous corpus bursae membranous oval, signum edged with about 20 small spines, centrally about 20 minute spines.

DNA barcodes (Figure 87): We obtained full length DNA barcode (658 bp) from seven specimens. The barcodes fall within Barcode Index Number (BIN) BOLD: ADT8332. The maximum intraspecific p-distance is 0.64%. The barcodes of *C. eupracta*, *C. hermiguae* and *C. mercedella* cluster together in the neighbour-joining tree and the minimum p-distances between them are 6.60% (*C. eupracta* vs. *C. hermiguae*), 7.30% (*C. eupracta* vs. *C. mercedella*) and 8.52% (*C. hermiguae* vs. *C. mercedella*). The nearest neighbour to them is *C. variabilis*, with a 6.27% divergence.

Diagnosis: The yellowish-brown colour of the forewing and the very contrasting dark grey hindwing separates *C. eupracta* from most species in the genus. It closely resembles *C. mercedella* and can be distinguished by the two ochreous spots before and beyond the middle. In the male genitalia the slender and bent apex of the sacculus, and the long, narrow transtilla projection are characteristic. It differs from *C. mercedella* by the evenly bent apex of the sacculus and the longer transtilla projection. In the female genitalia the twisted membranous part of ductus bursae and the large ductus seminalis are characteristic.

Biology: Early stages unknown. The specimens were collected from the beginning of June until the end of October mainly at light, but *C. eupracta* was also observed flying actively in the afternoon sunshine in great numbers, both in a mixed forest and in open mountain areas at altitudes from 110 m to 1400 m.

Distribution: Widely distributed on the island of Gran Canaria and from one locality in the western part of the island of Tenerife, Spain.

***Chersogenes hermiguae* Falck & Karsholt, sp. nov.** (Figures 33, 65, 65a)

Holotype ♂: SPAIN, La Gomera, Hermigua, 250 m, 9-12-VIII-2021, leg. P. Falck, genitalia slide 3675PF, DNA sample Lepid Phyl 0869PF/CILEP868-21 (MNCN).

Paratype: SPAIN, La Gomera, Hermigua, 250 m, 1 ♂, 9-12-VIII-2021, leg. P. Falck, genitalia slide 3718PF, DNA sample Lepid Phyl 0868PF/CILEP867-21 (PF).

Description: Male. Wingspan 9 mm. Labial palp upturned, segment 2 grey mottled with white scales, segment 3 grey, half the length of segment 2. Antenna black with indistinct grey rings. Vertex whitish; head with laterally, grey and white scale tufts; neck grey mottled with white scales, thorax and tegula greyish mottled with brown scales. Forewing grey, apically mottled with black scales; basally with blackish spot at costa; at 1/3 an indistinct, oblique, black fascia, in the middle part mottled with ochreous scales; at 2/3 an indistinct, oblique black fascia; in the discal area an ochre-coloured spot. fringe grey. Hindwing grey with grey fringe. Abdomen greyish brown.

Female: Unknown.

Male genitalia (Figures 65, 65a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 7 times longer than broad, slightly upturned in distal half, apex

rounded; sacculus about 2/3 length of valva, apical 1/3 slender, evenly rounded upwards at a 90 degree angle, apically pointed; appendix clearly longer than valva, slightly bent, apex pointed; transtilla with long, narrow projection, about 1/3 the length of the posterior margin of valva; juxta hourglass-shaped, anteriorly triangular, posterior part very small triangular; saccus triangular, tapered anteriorly; phallus broad, about half the length of valva, bent, slightly tapering posteriorly; two cornuti groups, one with 15-16 rather long spines, and a second one with 25-28 spines of various length.

DNA barcodes (Figure 87): We obtained full length DNA barcodes (658 bp) from two specimens. The barcodes fall within Barcode Index Number (BIN) BOLD: AEM6648. The intraspecific p-distance is 0.00%. The results are presented in the DNA barcodes section of *C. eupracta*.

Diagnosis: The small size and grey colour with two dark oblique fasciae of the forewing separates *C. hermiguae* from other species in the genus. In the male genitalia the long appendix, the long narrow projection of the transtilla and the 90° degree angle of the sacculus are very characteristic.

Biology: Early stages unknown. The specimens were attracted to light.

Distribution: Known only from the type locality in the northern part of the island of La Gomera, Spain.

Etymology: The species is named after its type locality, Hermigua.

***Chersogenes mercedella* Falck & Karsholt, sp. nov.** (Figures 34, 66, 66a.)

Holotype ♂: SPAIN, Tenerife, Las Mercedes, 750 m, 13-26-VIII-2019, leg. P. Falck, genitalia slide 3665PF (ZMUC).

Paratypes: SPAIN, Tenerife Las Mercedes, 750 m, 13 ♂♂, 13-26-VIII-2019, leg. P. Falck, genitalia slide 3674PF, 3709PF, DNA samples Lepid Phyl 0320PF/CILEP319-19, 0321PF/CILEP320-19, 0322PF/CILEP321-19 (PF, MNCN).

Description: Male. Wingspan 7-10.5 mm. Labial palp upturned, segment 2 dark brown, ventrally yellowish, segment 3 longer than the half the length of segment 2, yellowish, mottled with dark brown scales. Antenna black with indistinct grey rings. Head, neck, tegula and thorax yellowish brown. Forewing yellowish brown, mottled with light brown and dark brown scales; mottled with black scales at dorsum in distal half, in discal area and apically; fringe grey. Hindwing dark grey with grey fringe. Abdomen yellowish brown.

Female: Unknown.

Variation: The mottling with black scales of the forewing is sometimes almost absent, otherwise forming two indistinct, oblique, black fasciae.

Male genitalia (Figures 66, 66a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, slightly upturned in distal half, apex rounded; sacculus about 2/3 length of valva, abruptly turning upwards at a 90 degree angle, apically pointed; appendix slightly shorter than valva, slightly bent, apex pointed; transtilla with long, narrow projection, about 1/3 the length of the posterior margin of valva; juxta hourglass-shaped; saccus triangular, tapered anteriorly; phallus broad, longer than half the length of valva, bent; two cornuti groups, one with 4-6 rather strong spines, and a second one with 25-30, the basal 4-6 spines very short.

DNA barcodes (Figure 87): We obtained a full-length DNA barcode (658 bp) from one specimen and DNA barcode fragments of 635 and 627pb from two specimens. The barcodes fall within Barcode Index Number (BIN) BOLD: AEC2599. The maximum intraspecific p-distance is 0.96%. The results are presented in the DNA barcodes section of *C. eupracta*.

Diagnosis: The yellowish-brown colour of the forewing and the very contrasting dark grey hindwing separates *C. mercedella* from most of the species in the genus. It closely resembles *C. eupracta*, q. v.

Biology: Early stages unknown. The specimens were attracted to light.

Distribution: Known only from the type locality in the eastern part of the island of Tenerife, Spain.

Etymology: The species is named after its type locality, Las Mercedes.

***Chersogenes duabusalis* Falck & Karsholt, sp. nov.** (Figures 35-36, 67, 67a, 83)

Holotype ♂: SPAIN, Lanzarote, Las Casitas de Femés, 1 ♂, 4-II-1994, leg. J. P. Baungard (ZMUC).

Paratypes: SPAIN, Fuerteventura, Betancuria, 400 m, 49 ♂♂, 11 ♀♀, 27-II-19-III-2018, leg. P. Falck, genitalia slides 2835PF, 2854PF, 3715PF, 3720PF, DNA samples Lepid Phyl 0052PF/CILEP52-19, 0053PF/CILEP53-19; Corralejo, 10 m, 1 ♂, 7-27-XI-2017, leg. P. Falck, DNA samples Lepid Phyl 0054PF/CILEP54-19 (PF, MNCN).

Description: Male. Wingspan 7-8 mm. Brachypterous. Labial palp upturned, segment 2 dark brown, dorsally whitish, segment 3 half the length of segment 2, dark brown mottled with white medially. Antenna as long as forewing, dark brown with indistinct grey rings. Head, neck, thorax and tegula dark brown. Forewing very slender, pointed, costa slightly concave in apical half; ground colour dark brown mottled with ochreous and a few black scales; fringe grey. Hindwing rudimentary. Abdomen dark beige.

Female: Wingspan 7-8 mm. Differs from the male by the shorter antenna, the broader forewing and the distinctly concave apical half of costa.

Variation: Ground colour varies from beige, grey and to dark brown, often present is an indistinct, median, beige streak from base to about 2/3.

Male genitalia (Figures 67, 67a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, upturned in distal third, apex rounded; sacculus about 2/3 length of valva, apically evenly bent upwards; appendix distinctly shorter than valva, slightly bent, apex pointed; transtilla projection short; juxta sub-rectangular, slightly narrowing in the middle; saccus triangular; phallus bent; two cornuti groups almost confluent, anterior group with 4-6 robust spines, posterior group with 4-5 spines.

Female genitalia (Figure 83): Papilla analis long, distally pointed, posterior apophysis slender, twice as long as papilla analis; anterior apophysis half the length of posterior apophysis; tergum VIII sub-rectangular, narrow, sternum VIII with median fissure widening anteriorly; lamella antevaginalis sub-rectangular, posterior margin crown-shaped with median 1/3 slightly concave and laterally with deeper concavity; colliculum sclerotised and short; ductus bursae membranous, bulbous, twice as broad as colliculum, tapering anteriorly; corpus bursae membranous elongate, semi-oval; signum a sub-rectangular plate with irregular edges, covered by several micro-spines.

DNA barcodes (Figure 87): We obtained full length DNA barcodes (658 bp) from three specimens. The barcodes fall within Barcode Index Number (BIN) BOLD: ADV1498. The maximum intraspecific p-distance is 0.64%. The results are presented in the DNA barcodes section of *C. klimeschi*.

Diagnosis: The rudimentary hindwing separates *C. duabusalis* from most species in the genus. It resembles *C. aguiari* and is distinguished by the broader wings and larger size. In the male genitalia the small transtilla projection, the very short appendix and the bent phallus with few robust cornuti are characteristic. They differ from *C. aguiari* by the longer appendix, the shorter gnathos, the posteriorly broader phallus and by having two cornuti groups. In the female genitalia the crown-shaped lamella antevaginalis and the irregular signum plate are characteristic.

Biology: Early stages unknown. Most of the specimens were netted in open grass areas during daytime in full sunshine, and a few were attracted to light, all from February, March and November at altitudes ranging from sea level to 400 m.

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

Etymology: The species is named after the Latin words *duabus alis* (= two wings) referring to the adult appearance, as appearing to have only two wings.

***Chersogenes aguiari* Falck & Karsholt, sp. nov.** (Figures 37, 68, 68a,)

Holotype ♂: PORTUGAL, Selvagens Islands, Selvagem Grande, 30-IX-2007, leg. Dieter Pützner,

descent to Captain Kid's cave, in the shade, soil sifted near *Schizogyne sericea* (L.f.) DC. (Asteraceae), genitalia slide 5237♂ Karsholt (MMF).

Paratypes: 2 ♂♂, same data as holotype, genitalia slide 3801APF (AFA, ZMUC).

Description: Male. Wingspan 5 mm. Labial palp light grey-brown, slightly upcurved, segment 2 broadest in apical part; segment 3 almost three times shorter than segment 2, with pointed apex. Antenna slightly longer than forewing, ringed dark brown and whitish. Head and thorax [partly denuded] whitish grey-brown. Forewing very slender, pointed, whitish grey with some grey-brown tipped scales. Hindwing rudimentary. Abdomen rather stout, yellowish white.

Female: Unknown.

Male genitalia (Figures 68, 68a): Uncus long, slender rectangular, apex spatulate; gnathos slightly shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, slightly upturned in distal third, apex rounded; sacculus 2/3 length of valva, apically evenly bent upwards; appendix very short, straight, apex pointed; transtilla projection short; juxta anteriorly sub-rectangular, posteriorly with a sclerotized ring; saccus sub-triangular; phallus anteriorly bent, posteriorly straight; one cornuti group with 5-6 spines.

DNA barcodes: Barcoding failed twice.

Diagnosis: *C. aguiari* resembles *C. duabusalis* (q. v.). In the male genitalia the short appendix and the bent, rather slender phallus with one cornuti group are characteristic.

Biology: Early stages unknown. The three type specimens were sifted from soil near *Schizogyne sericea* (L.f.) DC. (Asteraceae) growing in shade.

Distribution: Only known from the type locality Selvagem Grande in the Selvagens Islands, Portugal.

Etymology: The species is dedicated to António M. Franquinho Aguiar, who placed the known specimens of this new species at our disposal and contributed so much to the knowledge of the entomofauna of the Madeira Islands.

Remarks: The Selvagens Islands, situated between the Canary Islands and Madeira, have a very low diversity of lepidopteran fauna. Aguiar & Karsholt (2006, p. 13) listed only 24 lepidopteran species from these islands. None of them are endemic to the islands but are either widespread or also occur on the Canary Islands. The geological history of the Selvagens Islands is most closely related with that of the Canary Islands (Geldmacher et al., 2001). *C. aguiari* is thus the first endemic Lepidoptera species for the Selvagens Islands, which has 59 endemic arthropod species (UNESCO, 2017).

The islands are of volcanic origin and were never connected to the continent. They are very old, about 29 million years, and very eroded and have probably not been submerged during the last 4-5 million years (Geldmacher et al. 2001), which is crucial for the terrestrial fauna. The largest of the islands, and type locality of *C. aguiari*, Selvagem Grande, has an area of only 245 ha and raises to a rather flat plateau with altitudes up to 163 m. It is dominated by low vegetation and strong winds, giving only limited shelter for winged insects like Lepidoptera.

*Chersogenes klimeschi* (Gozmány, 1975), **comb. nov.** (Figures 38-41, 69, 69a)

*Ambloma klimeschi* Gozmány, 1975. *Acta zool. hung.*, 21, 267-268, fig. 4

Type locality: SPAIN, La Gomera, La Caleras.

= *Epanastasis excellens* Gozmány, 1977. *Acta zool. hung.*, 23, 96-97, fig. 10, **syn. nov.**

Type locality: SPAIN, Gran Canaria, Las Palmas.

Material examined: SPAIN, La Gomera, Playa de Santiago, sea level, 3 ♂♂, 27-VII-1984, leg. P. Olsen, B. Skule & P. Stadel Nielsen, genitalia slides Gozmány 5986, 6039, 6040 (ZMUC); Valle Gran Rey, 150 m, 9 ♂♂, 24-X-12-XI-2021, leg. P. Falck, DNA sample Lepid Phyl 0981PF/CILEP980-22 (PF); Arure, 820 m, 4 ♂♂, 24-X-12-XI-2021, leg. P. Falck, genitalia slides 3660PF, 3663PF, DNA samples Lepid Phyl 0982PF/CILEP981-22, 0983PF/CILEP982-22 (PF); Hermigua, 250 m, 1 ♂, 24-X-12-XI-2021, leg. P. Falck, genitalia slide 3716PF (PF); Gran Canaria, 2 km S Mogan, El Barranquillo, Andres, 2 ♂♂, 24-VII-1995, leg. K. Larsen (ZMUC); 1.3 km N Mogan, 430 m, 4 ♂♂, 3-8-XI-2014,

leg. B. Skule (ZMUC); Bahía Feliz, 2 ♂♂, 6-7-V-2018, leg. K. Larsen (ZMUC); El Doctoral, 350 m, 6 ♂♂, 9-12-V-2018, leg. K. Larsen (ZMUC); Puerto Rico, 50 m, 15 ♂♂, 11-24-VI-2018, leg. P. Falck (PF); Pie de la Cuesta, 500 m, 19 ♂♂, 11-24-VI-2018, leg. P. Falck, same data but, 4 ♂♂, 17-30-IX-2018, leg. P. Falck, DNA sample Lepid Phyl 0049PF/CILEP49-19 (PF); 8 km NW Pie de la Cuesta, 895 m, 6 ♂♂, 17-30-IX-2018, leg. P. Falck, genitalia slide 3040PF, DNA sample Lepid Phyl 0048PF/CILEP48-19 (PF); Barranquillo Andrés 700 m, 5 ♂♂, 17-30-IX-2018, leg. P. Falck, DNA sample Lepid Phyl 0161PF/CILEP160-19 (PF); El Sao, 110 m, 2 ♂♂, 17-30-IX-2018, leg. P. Falck, genitalia slide 3662PF, same data but, 1 ♂, 21-VIII-4-IX-2020, leg. P. Falck, same data but, 1 ♂, 1-13-IV-2022, leg. P. Falck (PF); Playa del Cura, 30 m, 2 ♂♂, 4-23-III-2019, leg. P. Falck, genitalia slide 3717PF, DNA sample Lepid Phyl 0159PF/CILEP150-19 (PF); Puntilla de la Caleta, 10 m, 1 ♂, 4-23-III-2019, leg. P. Falck, genitalia slide 3033PF, DNA sample Lepid Phyl 0164PF/CILEP163-19 (PF); San Filipe, 25 m, 7 ♂♂, 24-X-13-XI-2020, leg. P. Falck, DNA sample Lepid Phyl 0980PF/CILEP979-22 (PF); Barranco de Guayadeque, 800 m, 1 ♂, 1-13-IV-2022, leg. P. Falck, genitalia slide 3690PF (PF); El Hierro, Tacorón, 170 m, 7 ♂♂, 22-VII-3-VIII-2022, leg. P. Falck, genitalia slide 3780PF, DNA samples Lepid Phyl 1068PF/CILEP1067-22, 1069PF/CILEP1068-22 (PF); Tenerife, Arona, 300 m, 1 ♂, 22-XII-1981, leg. W. O. De Prins (ZMUC); Arona, 670 m, 2 ♂♂, 1-20-III-2017, leg. P. Falck, DNA sample Lepid Phyl 0158PF/CILEP157-19, same data but, 1 ♂, 21-V-3-VI-2019, leg. P. Falck (PF); El Medano, 25 m, 1 ♂, 1-20-III-2017, leg. P. Falck, DNA sample Lepid Phyl 0160PF/CILEP159-19 (PF); Armenime, 50 m, 1 ♂, 3-9-III-2013, leg. P. Falck, genitalia slide 2520PF (PF).

Description: Male. Wingspan 8-12 mm. Labial palp upturned, segment 2 white with small dark grey scale tuft ventrally, segment 3 white mottled dark grey especially ventrally, slightly shorter than segment 2. Antenna as long as forewing, dark grey. Head greyish. Neck whitish. Thorax grey mottled with white. Tegula dark grey basally, greyish white distally. Forewing slender and pointed; ground colour grey heavily mottled with white and with scattered black scales; at 1/3 two small, sometimes confluent, indistinct ochreous spots, at 2/3 one small indistinct ochreous spot; fringe grey. Hindwing grey with grey fringe. Abdomen dark beige.

Female: Unknown.

Variation: It appears that there is some general geographic variation in the ground colour. It varies from whitish (Gran Canaria), greyish with beige (La Gomera and Tenerife) and to dark grey (El Hierro), the spots are sometimes very diffuse and often totally absent.

Male genitalia (Figures 69, 69a): Uncus long, slender rectangular, apex spatulate; gnathos longer than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, slightly upturned in distal third, apex rounded; sacculus about 2/3 length of valva, apically evenly bent upwards; appendix short, distinctly shorter than valva, slightly bent, apex pointed, transtilla projection short; juxta anteriorly sub-rectangular, posteriorly with a sclerotised ring; saccus triangular; phallus anteriorly slightly bent; three cornuti groups, one group with 3-5 spines, one group with 2-4 spines and one group with 6-7 spines, the spines are relatively short.

DNA barcodes (Figure 87): We obtained full length DNA barcodes (658 bp) from twelve specimens and DNA barcode fragments of 591 bp and 623 bp from two specimens. The barcodes fall within Barcode Index Numbers (BIN) BOLD: AEH2995 (one specimen from Gran Canaria), AEH2996 (one specimen from Gran Canaria), AEH2997 (three specimens from Gran Canaria), ADF2780 (one specimen from Gran Canaria), ADU2892 (two specimens from Tenerife), ADY9824 (one specimen from Tenerife and three specimens from La Gomera) and AEW3196 (two specimens from El Hierro). The maximum intraspecific p-distance is very high 5.20%. The barcodes of *C. klimeschi*, *C. duabusalis*, *C. coxi* and *C. lanzarotae* cluster together in the neighbour-joining tree and the minimum p-distances between them are 5.29% (*C. klimeschi* vs. *C. duabusalis*), 5.81% (*C. klimeschi* vs. *C. coxi*), 5.35% (*C. klimeschi* vs. *C. lanzarotae*), 6.17% (*C. duabusalis* vs. *C. lanzarotae*), 5.81% (*C. duabusalis* vs. *C. coxi*) and 3.93% (*C. coxi* vs. *C. lanzarotae*). The nearest neighbour to them is *C. variabilis*, with a 6.57% divergence.

Diagnosis: *C. klimeschi* resembles other members of the genus, especially pale specimens of *C. coxi*. It is distinguished by the smaller scale tuft ventrally on segment 2 of the labial palp. In the male genitalia the long gnathos, the short transtilla projection and three cornuti groups are characteristic.

Biology: Early stages unknown. The specimens were netted from low vegetation during the daytime in full sunshine or attracted to light from almost all months of the year at altitudes ranging from sea level to 895 m.

Distribution: Only known from the Canary Islands: Gran Canaria, La Gomera, El Hierro and Tenerife, Spain.

Remarks: Despite the high intraspecific divergence in COI and variation in adult appearance we were not able to find any morphological differences in the genitalia between the separate populations. We consider *C. excellens* as a synonym based on similar morphology both in the adult appearance and the genitalia. Gozmány (2008, p. 413) figures the male genitalia without the transtilla projection, whereas Klimesch (1985, p. 146) illustrated them (from the same genitalia slide) with the transtilla projection on the right side. If the transtilla projections are small they are easily hidden by the costal margin of the valva. During dissection of the genitalia it is important to place both the valva and the phallus in the correct position to recognise the diagnostic details such as the small transtilla projection, juxta and the number of cornuti groups. The best way to recognize the number of cornuti groups is to leave the phallus in situ.

*Chersogenes brachyptera* (Walsingham, 1908), **comb. nov.** (Figures 42, 70, 70a)

*Ambloma brachyptera* Walsingham, 1908. *Proc. zool. Soc. Lond.*, 1907, 946

Type locality: SPAIN, Tenerife, Güímar.

Material examined: SPAIN, Tenerife, El Medano, 1 ♂, 13-IV-1972, same data but, 2 ♂♂, II-1975, leg. J. Klimesch (ZMUC, PF), genitalia slide 3799PF; Los Abrigos, 50 m, 1 ♀, 19-I-1981, leg. P. Stadel Nielsen (ZMUC).

Description: Male. Brachypterous. Wingspan 8-9 mm. Labial palp upturned, segment 2 white with small dark grey scale tuft ventrally, segment 3 slightly shorter than segment 2, whitish dark grey especially ventrally. Antenna as long as forewing, dark grey. Head greyish. Neck whitish. Thorax grey mottled with white. Tegula dark grey basally, greyish white distally. Forewing very slender and pointed; ground colour grey, heavily mottled with white and with scattered black scales; at 1/3 a diffuse ochreous spot; fringe grey. Hindwing very slender, short and pointed, grey with grey fringe. Abdomen greyish.

Female: Unknown. Probably brachypterous.

Male genitalia (Figures 70, 70a): Uncus long, slender rectangular, apex spatulate; gnathos long, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, slightly upturned in distal third, apex rounded; sacculus about 2/3 length of valva, apically evenly bent upwards; appendix short, distinctly shorter than valva, slightly bent, apex pointed, transtilla projection short; juxta anteriorly sub-rectangular, posteriorly with a sclerotised ring; saccus triangular; phallus anteriorly slightly bent, slender; one cornuti group with 7-9 spines.

DNA barcodes: Due to the lack of fresh material we were not able to barcode any specimens.

Diagnosis: *C. brachyptera* resembles *C. coxi* and especially *C. klimeschi* in the colour and the wing pattern. It is distinguished by being brachypterous. In the male genitalia the long gnathos, the short transtilla projection, the relatively long and slender phallus with one cornuti group are characteristic. It differs from *C. klimeschi* in the shorter gnathos, the longer and slenderer phallus and in having only one cornuti group with longer spines.

Biology: Early stages unknown. Most of the specimens were netted from *Andropogon* sp. (Poaceae) (Klimesch, 1985, p. 139) and one specimen, the holotype, was found under leaves of *Lotus sessilifolius* DC. (Fabaceae) (Walsingham, 1908, p. 947).

Distribution: Known only from the southern coastal areas of the island of Tenerife, Spain.

***Chersogenes coxi* Falck & Karsholt, sp. nov.** (Figures 43-45, 71, 71a, 84)

Holotype ♂: SPAIN, Fuerteventura, Corralejo, 1 ♂, 3-8-III-1985, leg. A. Cox, genitalia slide 5140 Hendriksen, (ZMUC).

Paratypes: SPAIN, Fuerteventura, Corralejo, 1 ♀, 3-8-III-1985, leg. A. Cox, genitalia slide 3800APF (ZMUC); Corralejo, 10 m, 4 ♂♂, 7-27-XI-2017, leg. P. Falck, genitalia slide 2667PF, DNA sample Lepid Phyl 0045PF/CILEP45-19, same data but, 8 ♂♂, 27-II-19-III-2018, leg. P. Falck, genitalia slides 3664PF, 3670PF, 3673PF, DNA samples Lepid Phyl 0046PF/CILEP46-19, 0047PF/CILEP47-19, 0162PF/CILEP161-19, 0163PF/CILEP162-19 (PF); Betancuria, 400 m, 3 ♂♂, 27-II-19-III-2018, leg. P. Falck, genitalia slides 2852PF, 2853PF, DNA samples Lepid Phyl 0035PF/CILEP35-19, 0036PF/CILEP36-19, same data but, 2 ♂♂, 6-26-I-2020, leg. P. Falck, genitalia slide 3672PF (PF); Las Parcelas, 70 m, 1 ♂, 7-27-XI-2017, leg. P. Falck, genitalia slide 2841PF, DNA sample Lepid Phyl 0033PF/CILEP33-19 (PF, MNCN).

Description: Male. Wingspan 9.5-11 mm. Labial palp upturned, segment 2 white, ventrally and laterally dark grey and with dark grey scale tuft ventrally, segment 3 shorter than segment 2, whitish mottled with dark grey ventrally and laterally. Antenna almost as long as forewing, grey with indistinct whitish rings. Head and neck whitish. Thorax and tegula whitish with a few scattered black scales. Forewing slender and pointed; ground colour whitish, grey at costa and dorsum, in the middle part at 1/3 and 2/3 and in the apical area mottled with relatively few black scales; at 1/3 and 2/3 diffuse ochreous spots; fringe grey. Hindwing grey with grey fringe. Abdomen light grey.

Female: Wingspan 10 mm. Differs from the male by being brachypterous, the forewing being shorter and broader, the distinctly concave apical half of costa and the hindwing slenderer with pointed apex. Forewing ochreous; at 1/3 a broad, diffuse brownish fascia, apical half mottled with a few light to dark brown scales.

Variation: *C. coxi* exhibits considerable variation. The ground colour varies from white or grey to yellowish brown or ochreous. The scattered black scales may be almost absent.

Male genitalia (Figures 71, 71a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, slightly upturned in distal third, apex rounded; sacculus about 2/3 length of valva, apically evenly bent upwards; appendix short, distinctly shorter than valva, slightly bent, apex pointed; transtilla projection short; juxta anteriorly sub-rectangular, posteriorly with a sclerotised ring; saccus triangular; phallus anteriorly slightly bent, relatively short and broad, posteriorly abruptly tapering with drop-like apex; one cornuti group with 2-5 short spines.

Female genitalia (Figure 84): Papilla analis long, distally pointed, posterior apophysis slender, slightly more than twice the length of papilla analis; anterior apophysis half the length of posterior apophysis; tergum VIII sub-rectangular, sternum VIII with median fissure widening anteriorly; lamella antevaginalis sub-rectangular, narrow, posterior margin crown-shaped with median 1/3 slightly concave and laterally with slightly deeper concavity; antrum funnel-shaped; ductus bursae membranous, slightly bulbous; corpus bursae membranous elongate, semi-oval; without signum.

DNA barcodes (Figure 87): We obtained full length DNA barcodes (658 bp) from six specimens and DNA barcode fragments of 632 bp and 619 bp from two specimens. The barcodes fall within Barcode Index Numbers (BIN) BOLD: ADU1582 and ADT9919. The maximum intraspecific p-distance is very high, 3.86%. The results are presented in the DNA barcodes section of *C. klimeschi*.

Diagnosis: *C. coxi* resembles other members of the genus, especially *C. klimeschi* q.v. and *C. lanzarotae*. It is distinguished from the latter by the usual greater number of black scales. In the male genitalia the short transtilla projection, the short and broad phallus with the drop-like apex and one cornuti group are characteristic.

Biology: Early stages unknown. Most of the specimens were attracted to light and a few were disturbed from varied vegetation during the daytime during the months of October, November and February at altitudes ranging from sea level to 400 m.

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

**Etymology:** The species is dedicated to the late Dutch lepidopterist Anton Cox, who collected the first known specimens used for our study.

**Remarks:** Specimens from dune areas have a white or light grey ground colour while specimens from the rocky and mountain areas have a yellowish to ochreous ground colour. The molecular analyses show high intraspecific divergence and splitting into two well separated clusters, but without any clear correlation to the two populations of *C. coxi*, since the “dune population” is represented in both clusters. We did not find any differences in the genitalia between the populations.

***Chersogenes lanzarotae* Falck & Karsholt, sp. nov.** (Figures 46-47, 72, 72a)

**Holotype** ♂: SPAIN, Lanzarote, Mala, 18 m, 21-X-10-XI-2019, leg. P. Falck, DNA sample Lepid Phyl 0328PF/CILEP327-19 (ZMUC).

**Paratypes:** SPAIN, Lanzarote, Mala, 18 m, 3 ♂♂, 21-X-10-XI-2019, leg. P. Falck, genitalia slide 3668PF, DNA samples Lepid Phyl 0327PF/CILEP326-19, 0329PF/CILEP328-19; Orzola, Mojón Blanco, 20 m, 1 ♂, 21-X-10-XI-2019, leg. P. Falck, genitalia slide 3669PF, DNA samples Lepid Phyl 0330PF/CILEP329-19; Tabayesco, 280 m, 3 ♂♂, 1-13-II-2022, leg. P. Falck, genitalia slides 3666PF, 3671PF; Arrieta 100 m, 1 ♂, 1-13-II-2022, leg. P. Falck, genitalia slide 3667PF (PF; MNCN).

**Description:** Male. Wingspan 9-11 mm. Labial palp upturned, segment 2 white ventrally and laterally dark grey, ventrally with dark grey scale tuft, segment 3 shorter than segment 2, whitish mottled with dark grey ventrally and laterally. Antenna almost as long as forewing, grey with indistinct whitish rings. Head and neck brownish grey. Thorax brownish, ochreous towards abdomen. Tegula brownish, distally beige. Forewing slender and pointed; ground colour brownish grey, at the base and in middle half to near apex ochreous; a few scattered black scales in apical half; at 2/3 sometimes a small black dot near dorsum; fringe grey. Hindwing grey with grey fringe. Abdomen light brownish.

**Female:** Unknown.

**Variation:** The ground colour varies from grey to brown, the ochreous part is sometimes reduced to a narrow diffuse streak and the black scales are sometimes absent.

**Male genitalia** (Figures 72, 72a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, slightly upturned in distal third, apex rounded; sacculus 2/3 length of valva, apically evenly bent upwards; appendix short, distinctly shorter than valva, slightly bent, apex pointed; transtilla projection short; juxta anteriorly sub-rectangular, posteriorly with a sclerotised ring; saccus rounded; phallus anteriorly slightly bent, posteriorly straight, slightly tapering posteriorly, posterior edge near apex with a small projection; Two cornuti groups, anterior group with 2-4 strongly curved spines, posterior group with one small straight spine.

**DNA barcodes** (Figure 87): We obtained full length DNA barcodes (658 bp) from three specimens and DNA barcode fragments of 652 bp from one specimen. The barcodes fall within Barcode Index Numbers (BIN) BOLD: AEC6345, AEC2598 and AEC5794. The maximum intraspecific p-distance is 2.24%. The results are presented in the DNA barcodes section of *C. klimeschi*.

**Diagnosis:** *C. lanzarotae* is characterized by the slender and pointed forewing, the scale tuft ventrally on segment 2 of the labial palps and the very few scattered black scales. It resembles *C. coxi* q. v. In the male genitalia the strongly curved and one small straight cornuti are very characteristic.

**Biology:** Early stages unknown. The specimens were all attracted to light in the months of October, November and February at altitudes ranging from sea level to 280 m.

**Distribution:** Known only from the island of Lanzarote, Spain.

**Etymology:** The species is named after the island of Lanzarote.

**Remarks:** *C. lanzarotae* is, like several other members of the genus, highly variable and with high intraspecific divergence in the DNA barcodes.

*Chersogenes victimella* Walsingham, 1908 (Figures 48, 73, 73a)

*Chersogenes victimella* Walsingham, 1908. *Proc. zool. Soc. Lond.*, 1907, 947

Type locality: SPAIN, Tenerife, Santa Cruz.

Material examined: SPAIN, Tenerife, Güímar, 500 m, 4 ♂♂, 1-13-IV-2022, leg. P. Falck, genitalia slide 3745PF, DNA samples Lepid Phyl 1055PF/CILEP1054-22, 1056PF/CILEP1055-22 (PF).

Description: Male. Wingspan 12 mm. Labial palp straight and long, segment 2 with dark grey scale tuft ventrally, the whole segment covered by rough, long dark grey scales, white dorsally, segment 3 dark brown. Antenna almost as long as forewing, dark grey with indistinct whitish rings. Head, neck, thorax and tegula greyish brown mottled with white. Forewing slender and pointed, costa slightly concave in apical half; ground colour dark grey, from the base to about 2/3 a narrow yellowish white streak; at 1/3 a spot of black raised scales on each side of the streak, at 2/3 a smaller spot of black raised scales on each side of the streak; fringe grey. Hindwing dark brown with dark grey fringe. Abdomen brownish.

Female: Unknown.

Male genitalia (Figures 73, 73a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, slightly upturned in distal third, apex rounded; sacculus about 2/3 length of valva, apically sickle-shaped; appendix short, distinctly shorter than valva, slightly bent, apex pointed; transtilla projection short, rather stout; juxta anteriorly sub-rectangular, posteriorly large sub-rectangular; saccus small, triangular; phallus straight, slightly tapering posteriorly; two cornuti groups each with about 10 spines.

DNA barcodes (Figure 87): We obtained full length DNA barcodes (658 bp) from two specimens. The barcodes fall within Barcode Index Number (BIN) BOLD: AEV1724. The intraspecific p-distance is 0.00%. The minimum p-distance to nearest neighbour (*C. fuerteventurae*) is 8.1%.

Diagnosis: *C. victimella* is very characteristic because of the long and roughly scaled labial palp and the black dots with raised scales. It resembles no other species in the genus. In the male genitalia the relatively stout transtilla projection, the sickle-shaped apex of the sacculus and the straight phallus with two cornuti groups are characteristic.

Biology: Early stages unknown. The examined specimens were disturbed from a stone-wall during the daytime.

Distribution: Only known from two locations in the south-eastern part of Tenerife, Spain.

***Chersogenes fuerteventurae* Falck & Karsholt, sp. nov.** (Figures 49-50, 74, 74a, 85)

Holotype ♂: SPAIN, Fuerteventura, Betancuria, 27-II-19-III-2018, leg. P. Falck, genitalia slide 3713PF (ZMUC).

Paratypes: SPAIN, Fuerteventura, Betancuria, 36 ♂♂, 5 ♀♀, 27-II-19-III-2018, leg. P. Falck, genitalia slides, 2831PF, 2834PF, 2836PF, 2832PF, 2837PF, 3710PF, 3721PF, DNA samples Lepid Phyl 0025PF/CILEP25-19, 0026PF/CILEP26-19, 0027PF/CILEP27-19 (PF, MNCN).

Description: Male. Wingspan 7-8 mm. Labial palp upturned, segment 2 light brown, ventrally with a small brown scale tuft, segment 3 dark brown and slightly shorter than segment 2. Antenna almost as long as forewing, brown. Head, neck, thorax and tegula greyish brown. Forewing dark beige mottled with dark brown especially along termen and apex, costa blackish; at 1/3 and 2/3 two small indistinct dark brown spots, costal spots located more basally; fringe grey. Hindwing grey with grey fringe. Abdomen dark beige.

Female: Wingspan 10 mm. The forewing more heavily mottled with brown.

Variation: Only minor variation in the distinctiveness of the spots.

Male genitalia (Figures 74, 74a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin flatly U-shaped; valva simple, approximately 6 times longer than broad, upturned in distal third, apex rounded; sacculus about 2/3 length of valva, apically evenly bent upwards; appendix distinctly shorter than valva, slightly bent, apex pointed; juxta sub-rectangular, slightly narrower in the middle, in anterior half two small lateral lamella; saccus triangular; phallus slightly bent, broad; two cornuti

groups almost confluent, anterior group with 14-16 spines of various length, posterior group with 3-4 short spines.

Female genitalia (Figure 85): Papilla analis relatively short, distally rounded, posterior apophysis slender, twice as long as papilla analis; anterior apophysis slightly longer than half the length of posterior apophysis; tergum VIII sub-rectangular, narrow, sternum VIII with median fissure widening anteriorly; lamella antevaginalis sub-rectangular posterior margin with small, slightly V-shaped median invagination; antrum short, V-shaped; colliculum slightly sclerotised and bulbous; ductus bursae membranous, half the width of colliculum; corpus bursae membranous elongate, semi-oval; without signum.

DNA barcodes (Figure 87): We obtained full length DNA barcodes (658 bp) from three specimens. The barcodes fall within Barcode Index Number (BIN) BOLD: ADT9917. The intraspecific p-distance is 0.00%. The minimum p-distance to nearest neighbour (*C. victimella*) is 8.01%.

Diagnosis: *C. fuerteventurae* is characterized by the size and the dark beige colouration and the distinct wing pattern. In the male genitalia the shape of the juxta and the broad phallus with two almost confluent cornuti groups are characteristic. In the female genitalia the shape of the antrum and colliculum and the lack of a signum are characteristic.

Biology: Early stages unknown. The males were netted or disturbed from varied vegetation during daytime in full sunshine, the females were found nectaring on flowers of *Asteriscus sericeus* DC. (Asteraceae) from late February and March.

Distribution: Known only from the island of Fuerteventura, Spain.

Etymology: The species is named after the island of Fuerteventura where the type series was collected.

***Chersogenes indistincta* Falck & Karsholt, sp. nov.** (Figures 51-52, 75, 75a, 86)

Holotype ♂: SPAIN, Lanzarote, 2 km SW Urb. Famara, Las Laderas, 75 m, 2-8-XI-2018, leg. B. Skule & C. Hviid (ZMUC)

Paratypes: SPAIN, Fuerteventura, Jandia, Bco. Esquinzo, 1 ♀, 25-IX-19-10-2002, leg. Pass (ZMUC); Betancuria, 400 m, 11 ♂♂, 12 ♀♀, 7-27-XI-2017, leg. P. Falck, genitalia slides 2662PF, 2666PF, 3701PF, DNA samples Lepid Phyl 0031PF/CILEP31-19, 0032PF/CILEP32-19, same data but, 1 ♂, 27-II-19-III-2018, leg. P. Falck, genitalia slide 3699PF (PF); Caldereta, 120 m, 10 ♂♂, 2 ♀♀, 7-27-XI-2017, leg. P. Falck, genitalia slide 2668PF (PF); Corralejo, 10 m, 5 ♂♂, 2 ♀♀, 7-27-XI-2017, leg. P. Falck, genitalia slide 2669PF (PF); Lajares, 75 m, 4 ♂♂, 7-27-XI-2017, leg. P. Falck, genitalia slide 3726, DNA sample Lepid Phyl 0034PF/CILEP34-19PF; same data but, 1 ♂, 6-26-I-2020, leg. P. Falck (PF); Las Parcelas, 70 m, 6 ♂♂, 7-27-XI-2017, leg. P. Falck (PF); Lanzarote, 2 km SW Urb. Famara, Las Laderas, 75 m, 8 ♂♂, 1 ♀, 2-8-XI-2018, leg. B. Skule & C. Hviid (ZMUC); Pozo Negro, 1 ♂, 27-II-2019, leg. K. Larsen (ZMUC); Orzola, Mojón Blanco, 20 m, 21 ♂♂, 3 ♀♀, 21-X-10-XI-2019, leg. P. Falck, genitalia slide 3725PF (PF); Caleta de Famara, 20 m, 6 ♂♂, 21-X-10-XI-2019, leg. P. Falck (PF); El Golfo, 95 m, 2 ♂♂, 21-X-10-XI-2019, leg. P. Falck (PF); Mala, 18 m, 1 ♂, 21-X-10-XI-2019, leg. P. Falck (PF); El Bosquecillo, 610 m, 1 ♂, 21-X-10-XI-2019, leg. P. Falck (PF); Arrieta, 100 m, 1 ♂, 1-13-II-2022, leg. P. Falck (PF, MNCN).

Description: Male. Wingspan 12-16.5 mm. Labial palp upturned, segment 2 white, mottled with dark beige, ventrally a large dark beige scale tuft, segment 3 as long as segment 2, whitish mottled with beige and grey. Antenna as long as forewing, light brownish with indistinct grey rings. Head and neck beige mottled with dark grey. Thorax and tegula dark beige. Forewing beige mottled with dark grey and black, especially along costa and apex, cell more whitish; at 1/3 and 2/3 two small indistinct ochreous spots, bordered by scattered black scales. Hindwing grey with grey fringe. Abdomen beige.

Female. Similar to male, but with shorter antenna.

Variation: The ground colour varies from beige to grey heavily mottled with black, wing pattern more or less distinct or totally absent.

Male genitalia (Figures 75, 75a): Uncus long, slender rectangular, apex spatulate; gnathos shorter than uncus, straight, apically hook-shaped, apex pointed; tegumen sub-triangular, anterior margin

flatly U-shaped; valva simple, approximately 6 times longer than broad, slightly upturned in distal half, apex rounded; sacculus about 2/3 length of valva, apically evenly bent upwards; appendix distinctly shorter than valva, slightly bent, apex pointed; juxta sub-rectangular, posteriorly with two relatively large, lateral projections; saccus long, sub-triangular; phallus slightly bent, tapering posteriorly; two cornuti groups, the anterior group with 3-4 robust spines, the posterior group with 10-13 short spines.

Female genitalia (Figure 86): Papilla analis relatively short, distally rounded, posterior apophysis slender, twice as long as papilla analis; anterior apophysis slightly longer than half the length of posterior apophysis; tergum VIII sub-rectangular, sternum VIII with median fissure widening anteriorly; lamella antevaginalis sub-rectangular, narrow, posterior margin almost straight; antrum short, V-shaped; colliculum short and sclerotised; ductus bursae membranous, bulbous, twice as broad as colliculum, tapering anteriorly; corpus bursae membranous oval, signum heavily sclerotized, edged with 3-4 robust spines and 4-6 smaller spines

DNA barcodes (Figure 87): We obtained full length DNA barcodes (658 bp) from three specimens. The barcodes fall within Barcode Index Number (BIN) BOLD: ADT9916. The maximum intraspecific p-distance is 0.16%. The minimum p-distance to nearest neighbour (*C. klimeschi*) is 8.56%.

Diagnosis: *C. indistincta* resembles no other known species of the genus. It is characterized by the size, the beige colouration with indistinct wingpattern and the large scale-tuft on the labial palp. In the male genitalia the long saccus, the shape of juxta and the few cornuti in the anterior group are characteristic. In the female genitalia the narrow lamella antevaginalis and the heavily sclerotised signum with robust spines are characteristic.

Biology: Early stages unknown. The specimens were attracted to light in the months February, March, October and November at altitudes ranging from sea level to 610 m. One specimen was reared by chance from *Lotus lancerottensis* Webb & Berthel. (Fabaceae).

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

Etyymology: The species is named after the normally quite indistinct appearance of the adult.

## HOLCOPOGONINAE

*Turatia* Amsel, 1942

*Turatia* Amsel, 1942. *Veröff. dt. Kolon. u. Übersee-Mus. Bremen*, 3, 234

Type species: *Holcopogon morettii* Turati, 1926. *Atti ital. Soc. Sci. nat.*, 65, 70, fig. 38.

= *Ilionarsis* Gozmány, 1959. *Annl. hist.-nat. Mus. natn. hung.*, 51, 369

Type species: *Ilionarsis foeldvarii* Gozmány, 1959. *Annl. hist.-nat. Mus. natn. hung.*, 51, 369, figs 5A, 5B.

The genus *Turatia* includes 16 species distributed in dry areas of the Afrotropical region and in the Palaearctic region through North Africa to Turkey and Iran. The early stages and feeding substrate are unknown. Most species fly during the winter (Gozmány, 2000, p. 61).

*Turatia iranica* Gozmány, 2000 (Figure 53)

*Turatia iranica* Gozmány, 2000, *Microlep. Palaea*. (Vol. 10), 68-69

Type locality: IRAN, Balutschistan, Bender Tchahbabar.

Material examined: SPAIN, Fuerteventura, 1 ♂, 7-27-XI-2017, leg. P. Falck, genitalia slide 2663PF, DNA sample Lepid Phyl 0062PF/CILEP62-19 (PF). **New to the Canary Islands, Spain.**

DNA barcodes (Figure 87): We obtained a full-length DNA barcode (658 bp) from the specimen. The barcode falls within Barcode Index Number (BIN) BOLD: ADT3067. The minimum p-distance to nearest neighbour (*T. iranica* from the United Arab Emirates with Barcode Index number BOLD: ACK8187) is 3.85%.

Biology: Early stages unknown. The specimen was attracted to light.

Distribution: South Iran; Oman (Derra 2008, p. 584); Spain, Fuerteventura.

Remarks: The occurrence of *T. iranica* in the Canary Islands far away from its hitherto known distribution around the Persian Gulf is surprising. The identity of the disjunct populations was confirmed by their similar genitalia. However, further studies may reveal cryptic diversity, because specimens from Canary Islands and the Arab United Emirates differ by 3.85% in the DNA barcodes. The species probably also occurs through northern parts of the Sahara. The male and female genitalia are figured by Gozmány (2000, pp. 133, 151).

*Hesperesta* Gozmány, 1978

*Hesperesta* Gozmány, 1978. *Faun. Abh. Mus. Tierk. Dresden*, 7, 61

Type species: *Epidola hartigi* Turati, 1934. *Atti. Soc. ital. Sci. nat.*, 73, 199.

*Hesperesta* is a small genus with six species, which are distributed from South Spain (Vives Moreno, 1987, pp. 59-62; Derra, 2008, p. 582), North and South Africa and in Arabia. Their biology is unknown.

*Hesperesta hartigi* (Turati, 1934) (Figure 54)

*Hesperesta hartigi* (Turati, 1934). *Atti. Soc. ital. Sci. nat.*, 73, 199-200

Type locality: LIBYEN, Bengasi.

Material examined: SPAIN, Fuerteventura, 1 ♂, 7-27-XI-2017, leg. P. Falck, genitalia slide 3688PF, DNA sample Lepid Phyl 1057PF/CILEP1056-22 (PF). **New to the Canary Islands, Spain.**

DNA barcodes: Failed.

Biology: Early stages unknown. The specimen was attracted to light.

Distribution: North Africa from Libya to Morocco; Spain, Fuerteventura.

Remarks: The adult, the male and female genitalia are figured by Gozmány (2000, p. 123, 148).

*Oecia* Walsingham, 1897

*Oecia* Walsingham, 1897. *Proc. Zool. Soc. Lond.*, 1897, 111

Type species: *Oecia maculata* Walsingham, 1897. *Proc. Zool. Soc. Lond.*, 1897, 111.

= *Macroceras* Staudinger, 1876, in Kalchberg. *Stett. ent. Ztg.*, 37, 150, nomen preoccupied by *Macroceras* Semper, 1870 (Mollusca).

The single *Oecia* species is distributed in tropical and subtropical areas around the world. Its biology is discussed below.

*Oecia oecophila* (Staudinger, 1876) (Figure 55)

*Macroceras oecophila* (Staudinger, 1876). *Stettin. ent. Ztg.*, 37, 150

Type locality: ITALY, Sicily, Palermo.

= *Oecia maculata* Walsingham, 1897. *Proc. Zool. Soc. Lond.*, 1897, 111

Type locality: USA, Virgin Islands, St. Thomas.

= *Apatema husadeli* Rebel, 1910. *Annln naturh. Mus. Wien*, 24, 353, pl. 12, fig. 7

Type locality: SPAIN, Gran Canaria, Las Palmas.

Material examined: SPAIN, Fuerteventura, Corralejo, 10 m, 1 ♂, 7-27-XI-2017, leg. P. Falck (PF); Gran Canaria, Gran Canaria, 3.5 km NNE Mogan, Barranco Mogan, 430 m, 1 ♂, 5-XI-2014, leg. B. Skule (ZMUC); Carretería, 455 m, 10 ♂♂, 8-20-VIII-2020, leg. P. Falck, genitalia slide 3689PF, DNA sample Lepid Phyl 1058PF/CILEP1057-22 (PF); Los Tilos de Moya, 500 m, 1 ♀, 9-22-VI-2021, leg. P. Falck (PF); El Hierro, Sabinosa, 100 m, 1 ♀, 22-VII-3-VIII-2022, leg. P. Falck, genitalia slide 3783PF (PF); Lanzarote, Orzola, Mojón Blanco, 1 ♀, 21-X-10-XI-2019, leg. P. Falck (PF); La Palma, Barranco de las Nieves, 250 m, 13-16-VIII-2018, leg. K. Larsen (ZMUC); Tenerife, Puerto de la Cruz, 200 m, 1 ♀, 13-26-VIII-2019, leg. P. Falck. PORTUGAL, Madeira, Ponta do Sol, sea level, 1 ♂, 2-VII-1993, leg. O. Karsholt (ZMUC).

DNA barcodes (Figure 87): We obtained a full-length DNA barcode (658 bp) from one specimen. The barcode falls within Barcode Index Number (BIN) BOLD: ADY2185. The minimum p-distance to nearest neighbour (*Mompha unifasciella* (Chambers, 1876), Momphidae) is 7.56%.

**Biology:** The early stages have been described in detail by NASU et al. (2016). The larvae are reported to feed mainly on dead plant material, e. g. leaf litter, and fruits, but is also reported from dried faeces of rats, concealed in a tube-like nest made of the fragments of the faeces. Pupation took place in an oval cocoon of the fragments of faeces, and the pupa did not protrude from the cocoon at emergence (Nasu et al. 2016, p. 210). Larvae are also supposed to feed on human faeces (Gozmány, 1975, p. 264; 2000, p. 87).

**Distribution:** Widely distributed in tropical and subtropical parts the world. However, records from some areas are based on misidentified specimens of similar looking species of Tineidae or Oecophoridae (Gozmány, 2000, p. 88).

**Remarks:** This genus and species were placed by Hodges (1998, p. 141) in a monotypic subfamily Oeciinae of his newly erected family Schistonoeidae. However, this action has not received general acceptance, and Gozmány (2000, p. 85) transferred it to the Holcopogonidae. The latter is currently considered as a subfamily, Holcopogoninae of the Autostichidae (Heikkilä et al. 2014, p. 585, L. Kaila in litt.).

*Oecia oecophila* was first recorded from Madeira by Carvalho (1995, p. 579) without locality and date. We have only seen the specimens listed above from that island.

**Remarks:** The male and female genitalia are figured by Gozmány (2000, pp. 144, 157). *O. oecophila* was first recorded from the Canary Islands by Rebel (1910, p. 353-354) as *O. husadeli*, which was synonymized with *O. oecophila* by Gozmány (1975, p. 265). It is not mentioned from the Canary Islands by Vives Moreno (2014).

## Discussion

The molecular analyses support the taxonomic arrangement. All identified species are clearly genetically distinct from other species with uncorrected p-distance values between species ranging from 3.93% (between *C. coxi* and *C. lanzarotae*) to 12.08% (between *C. coxi* and *C. fuerteventurae*). The taxonomy of the Canarian symmocinae species is not entirely unproblematic, as several species exhibit high variability in the adult appearance and very high intraspecific values in COI, both between populations from separate islands of the Canary Islands (e. g. *C. canariensis* and *C. klimeschi*) but also between populations from the same island (e. g. *C. klimeschi*, *C. variabilis* and *C. lanzarotae*). A high intraspecific variation in COI between species from separate islands of the Canary Islands is commonly observed (Falck et al. 2021, p. 298; Falck et al. 2022, p. 108). It can be interpreted as a snapshot of the evolutionary process; however further studies may reveal cryptic species.

The Autostichidae occurring in the Canary Islands are largely restricted to two genera, *Apatema* Walsingham, 1900 with 18 species (see Falck et al. 2021) and *Chersogenes* with 19 species. In addition to these, only three species of Holcopogonidae are recorded from the islands. Moreover, we describe one species of *Chersogenes* from the Selvagens Islands, which belong to Portugal.

Based on our study of the morphology and DNA barcodes we conclude that all Symmocinae species found in the Canary Islands belong to a single genus, *Chersogenes*. Outside of the Canary and Selvagens Islands this genus is only known from North Africa, where seven species have been recorded under the genus synonym of *Epanastasis*. Our data do not allow us to conclude if *Chersogenes* species from North Africa or from the Canary Islands phylogenetically are most basal. It is, however, evident that the fauna of *Chersogenes* from the Canary and Selvagens Islands are much more diverse, compared with the species occurring in North Africa. They have probably been present for a very long time, having had time to evolve external differences in, e. g. labial palps, form and venation of the wings and brachyptery. This is also reflected in the DNA barcode, with large percentage distances between many of the species.

Hypotheses relating to brachyptery and its function in species of Lepidoptera are not uniform and each case should be looked at on its own merits (Sattler, 1991, p. 244). With the biology and larval host-plants being largely unknown it is not clear which factors benefit development of wing reduction in *Chersogenes*. Sattler, 1991, p. 248 comments that a number of Lepidoptera species with

brachypterous females or with wing reduction in both sexes inhabit grassland, which constitutes a permanent, continuous habitat.

In Lepidoptera wing reduction is rare, being known from less than 1% of the described species (Sattler & Wojtusiak, 2000, p. 435). It is usually confined to the female. In most cases species with brachyptery in both sexes are endemic to small oceanic islands or coastal localities. The crucial evolutionary factor that favours flightlessness in males is seen in the exposure of restricted habitats to continuous strong winds (Sattler, 1991, p. 251). Brachyptery in both sexes is exceedingly rare. According to Karsholt & Sattler (1998, p. 36) it is only known from 25 species, with a few additional species described subsequently (e. g. Sattler & Wojtusiak, 2000; Bidzilya, 2014; Bidzilya & Karsholt, 2018). Therefore, the description of *C. duabusalis* and *C. aguiari* represents a distinct addition to the number of known Lepidoptera with brachypterous males. All such species have brachypterous females.

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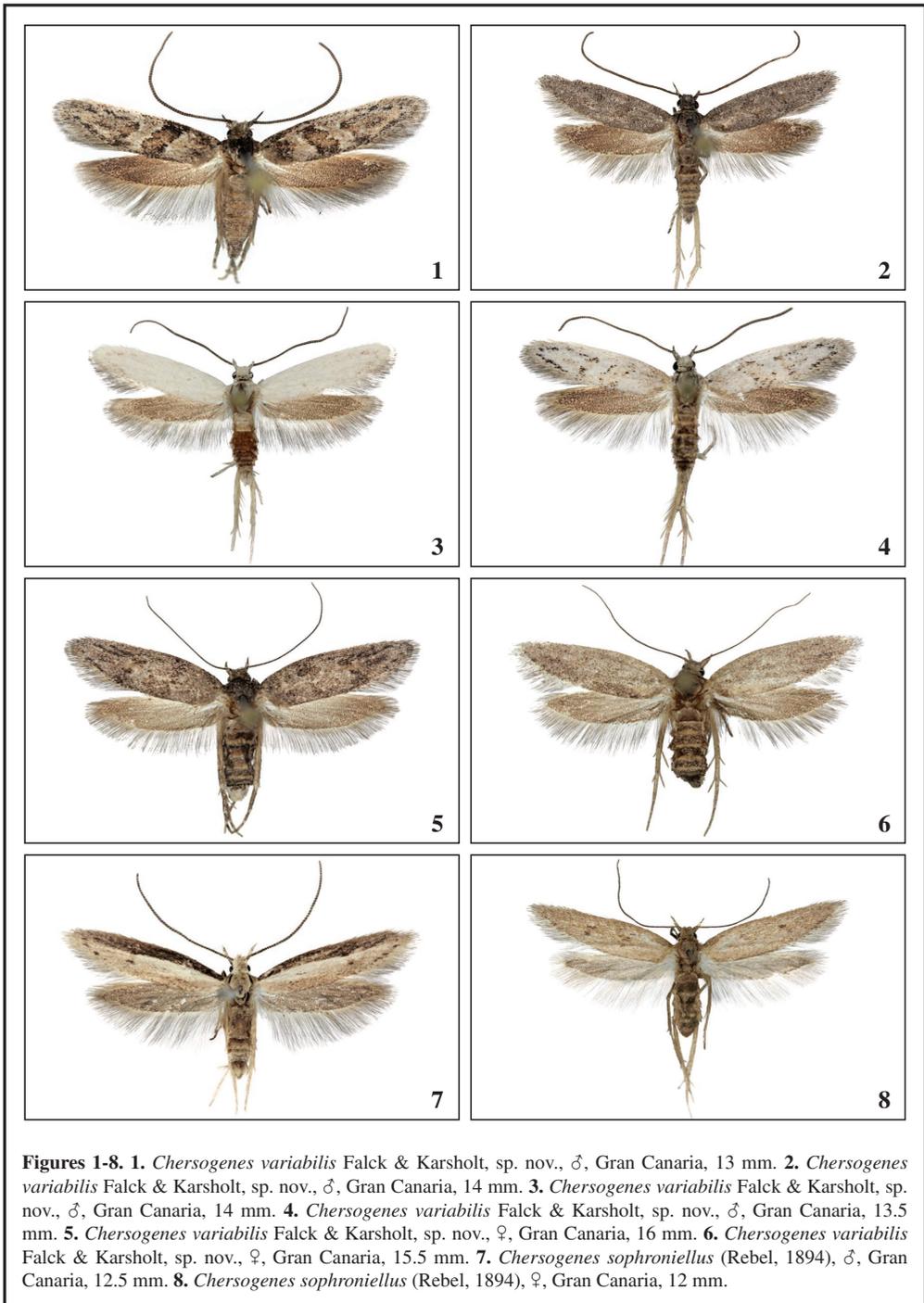
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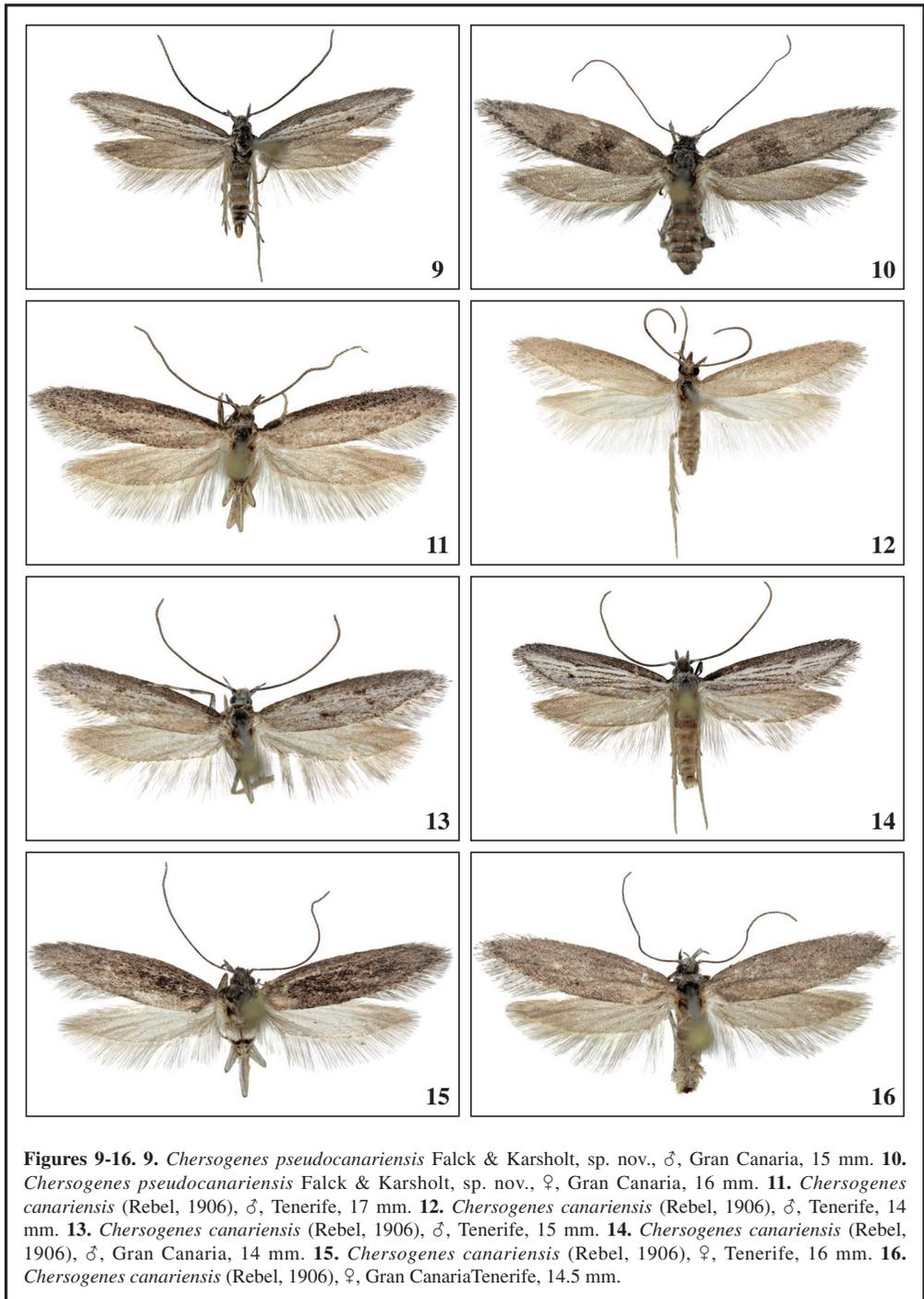
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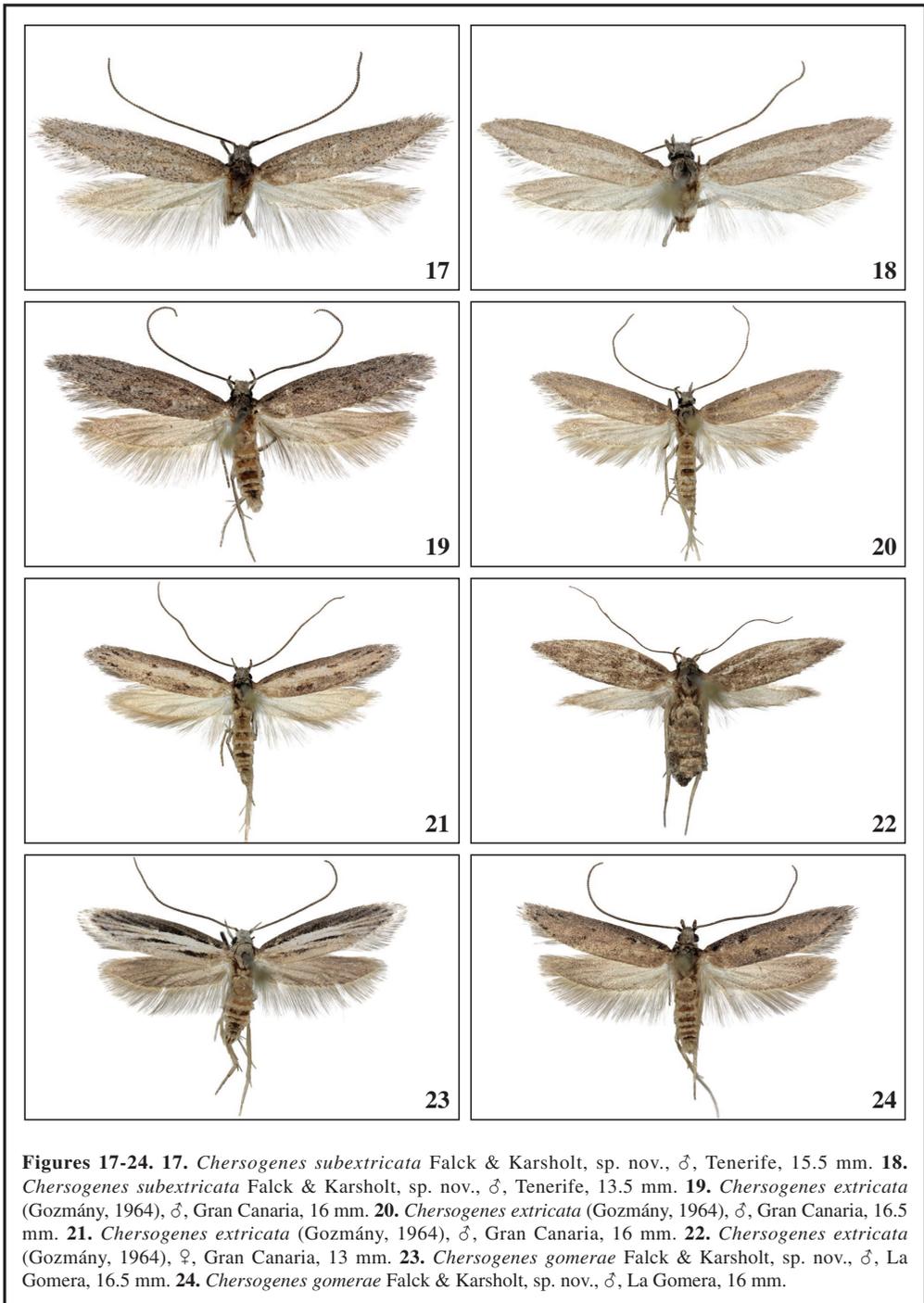
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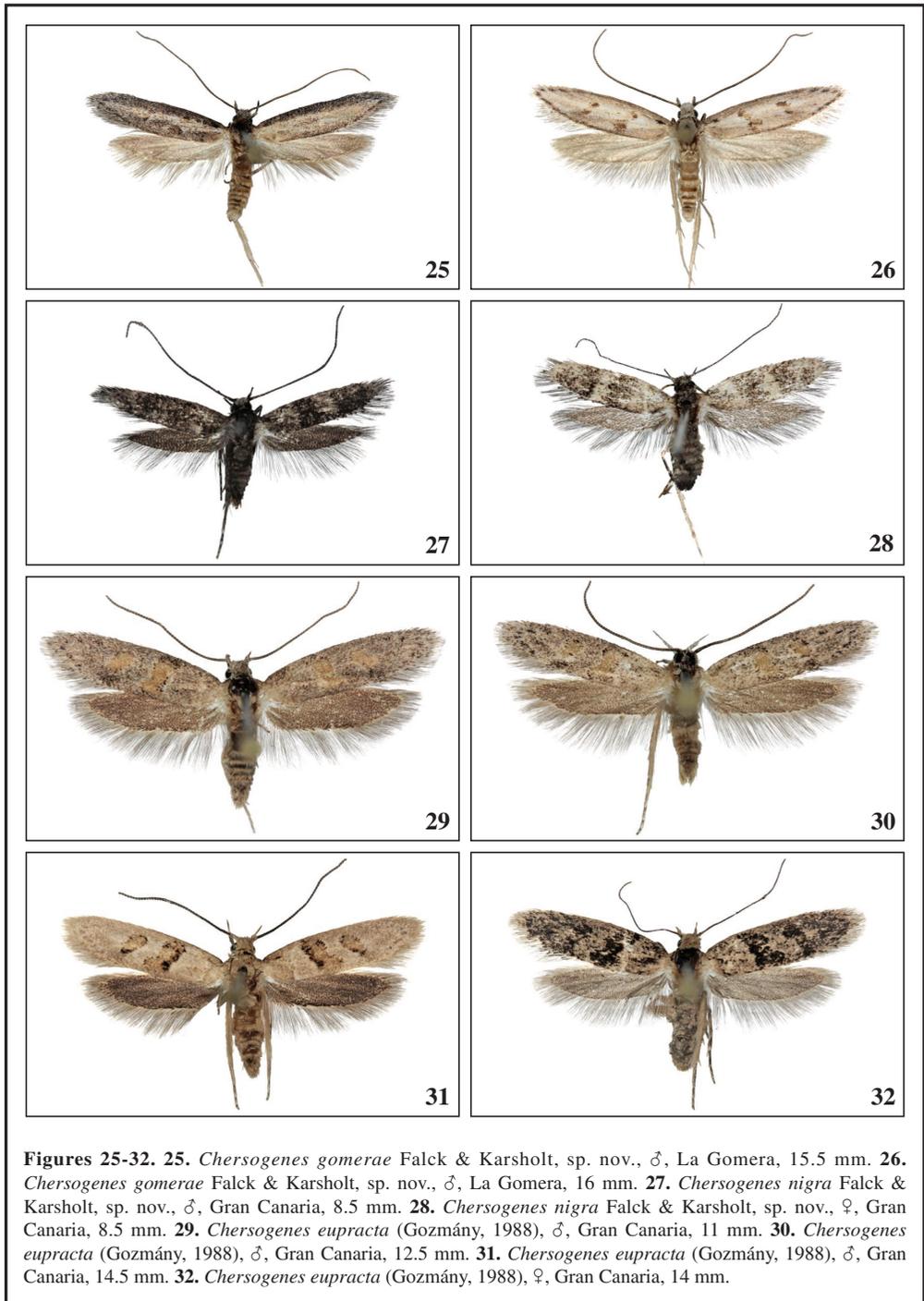
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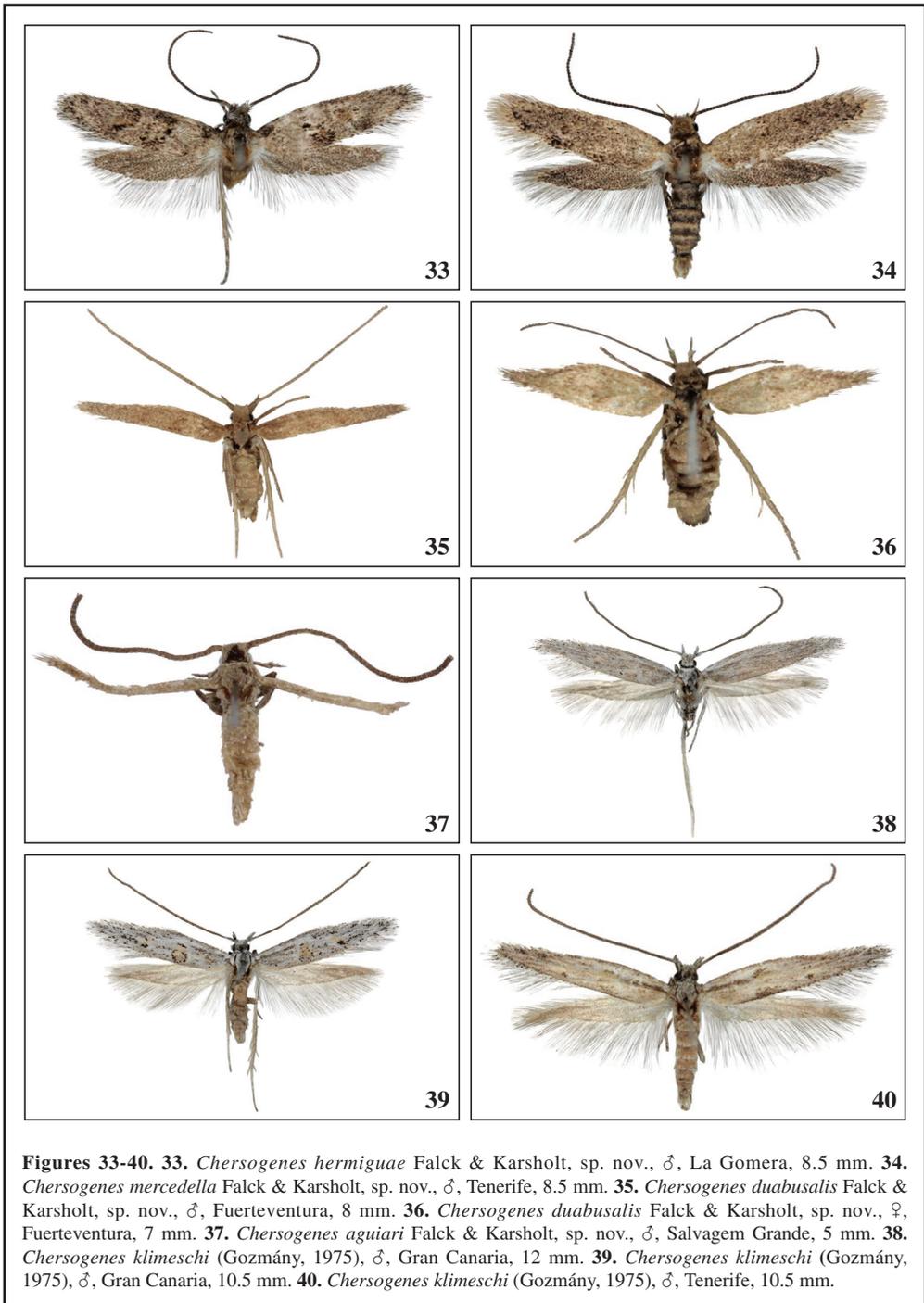


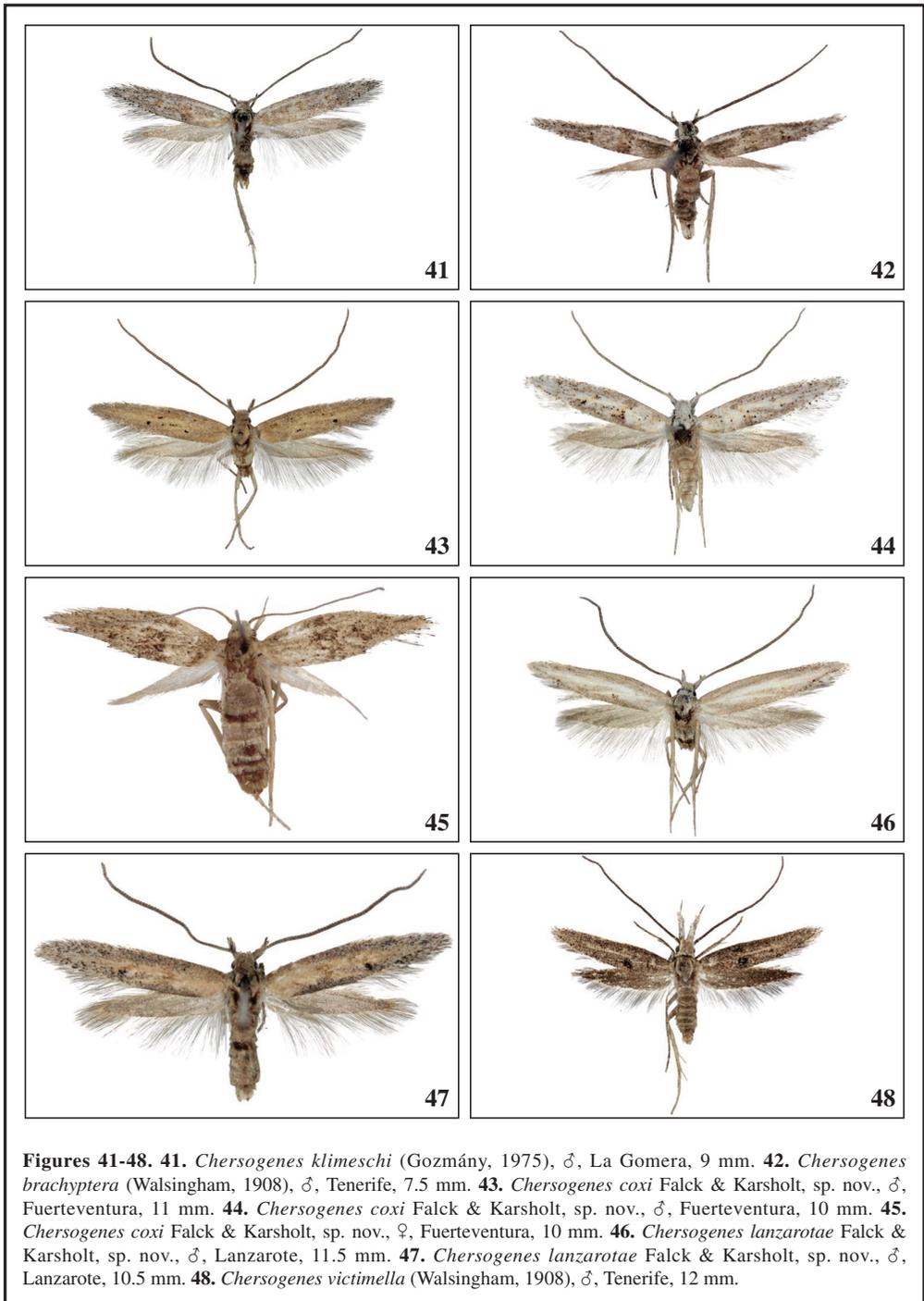


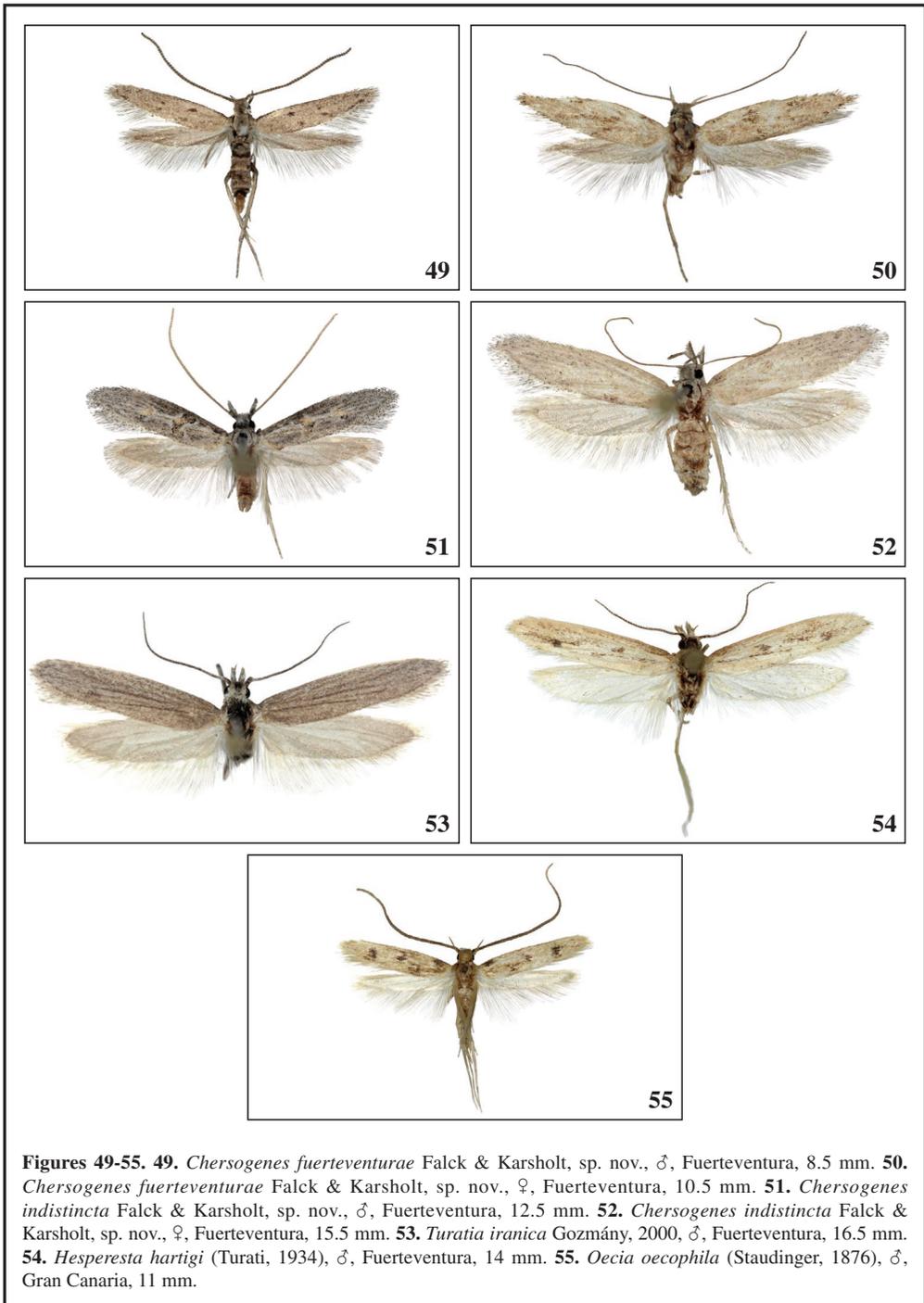


**Figures 17-24.** 17. *Chersogenes subextricata* Falck & Karsholt, sp. nov., ♂, Tenerife, 15.5 mm. 18. *Chersogenes subextricata* Falck & Karsholt, sp. nov., ♂, Tenerife, 13.5 mm. 19. *Chersogenes extricata* (Gozmány, 1964), ♂, Gran Canaria, 16 mm. 20. *Chersogenes extricata* (Gozmány, 1964), ♂, Gran Canaria, 16.5 mm. 21. *Chersogenes extricata* (Gozmány, 1964), ♂, Gran Canaria, 16 mm. 22. *Chersogenes extricata* (Gozmány, 1964), ♀, Gran Canaria, 13 mm. 23. *Chersogenes gomeræ* Falck & Karsholt, sp. nov., ♂, La Gomera, 16.5 mm. 24. *Chersogenes gomeræ* Falck & Karsholt, sp. nov., ♂, La Gomera, 16 mm.

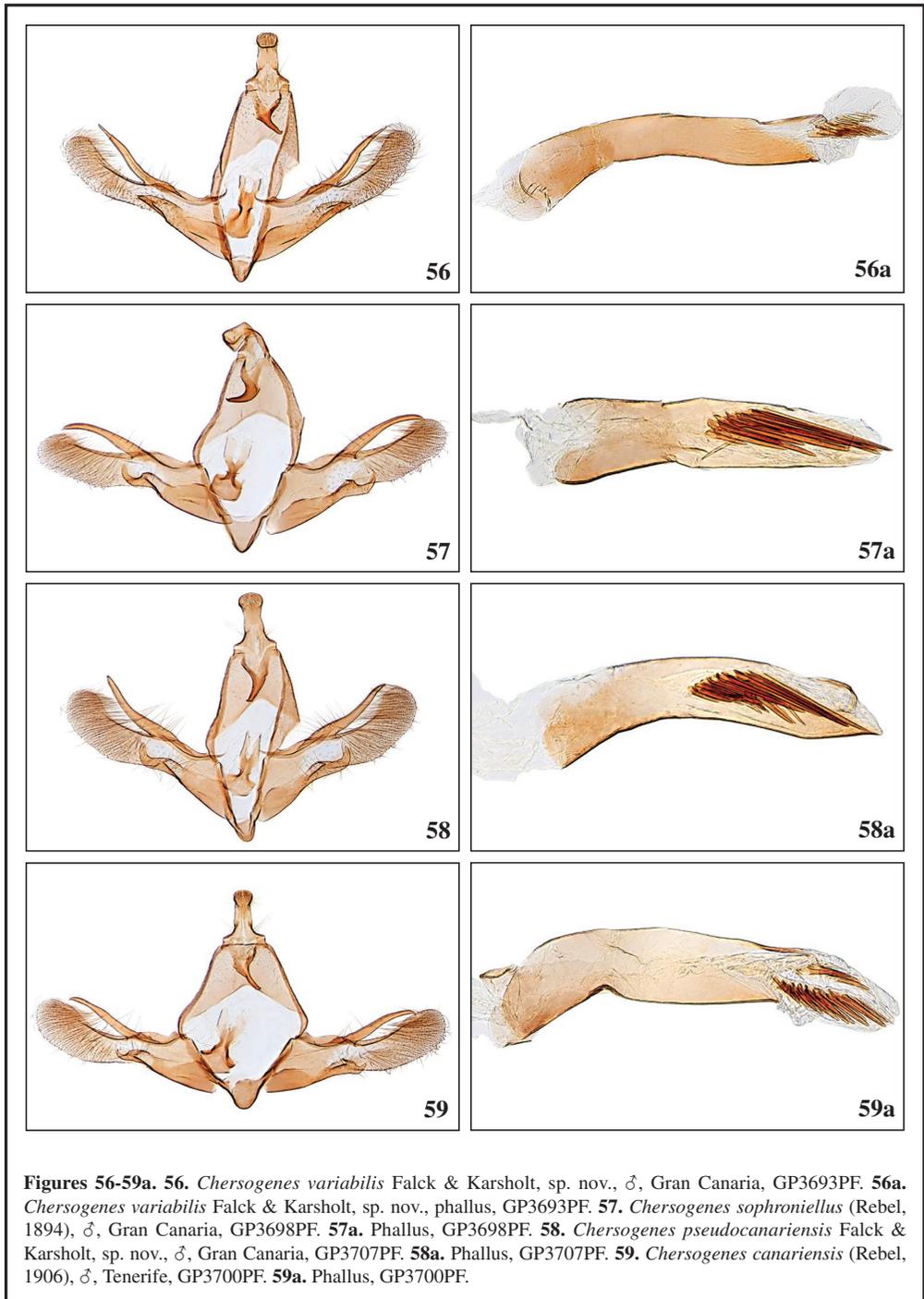


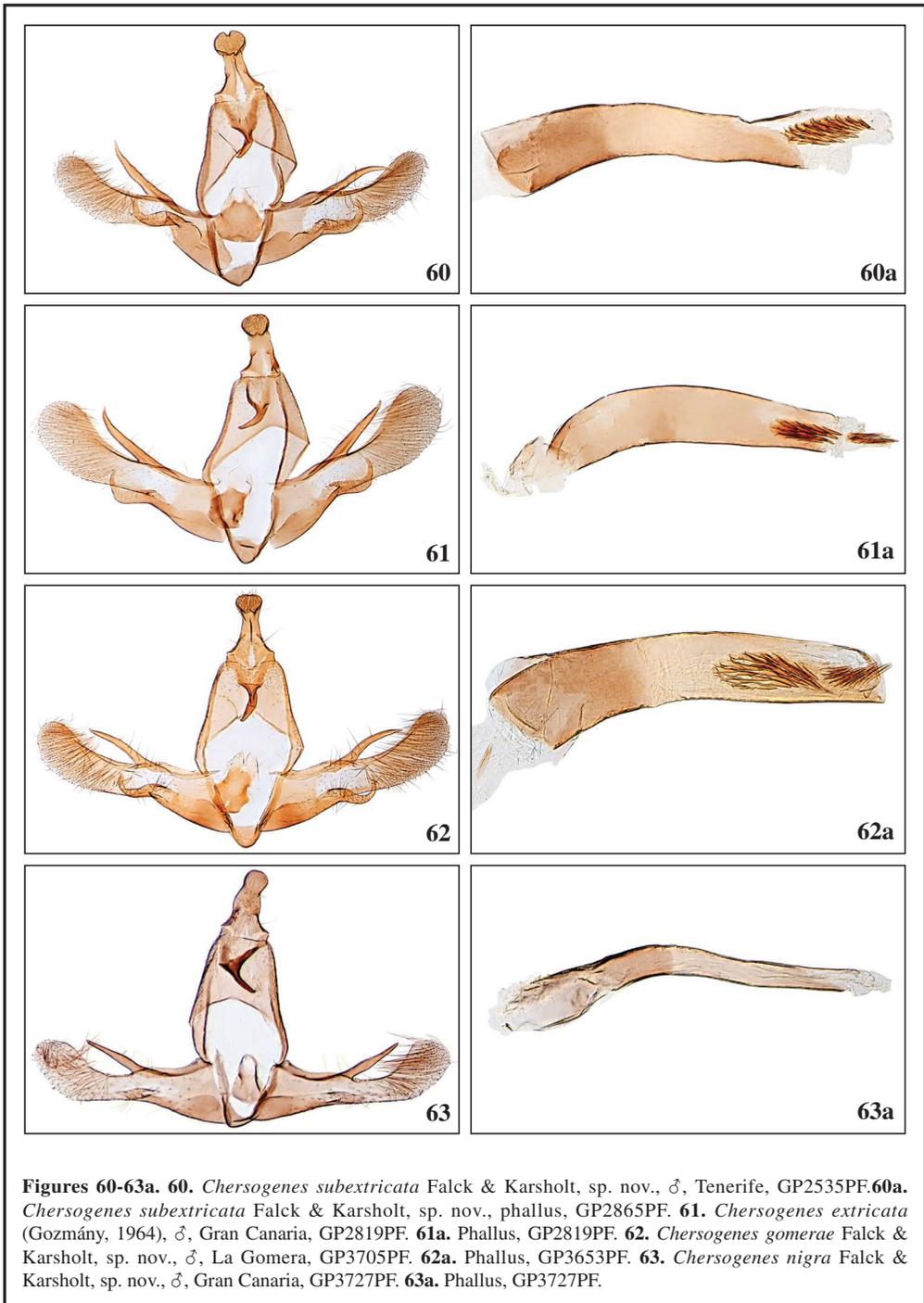


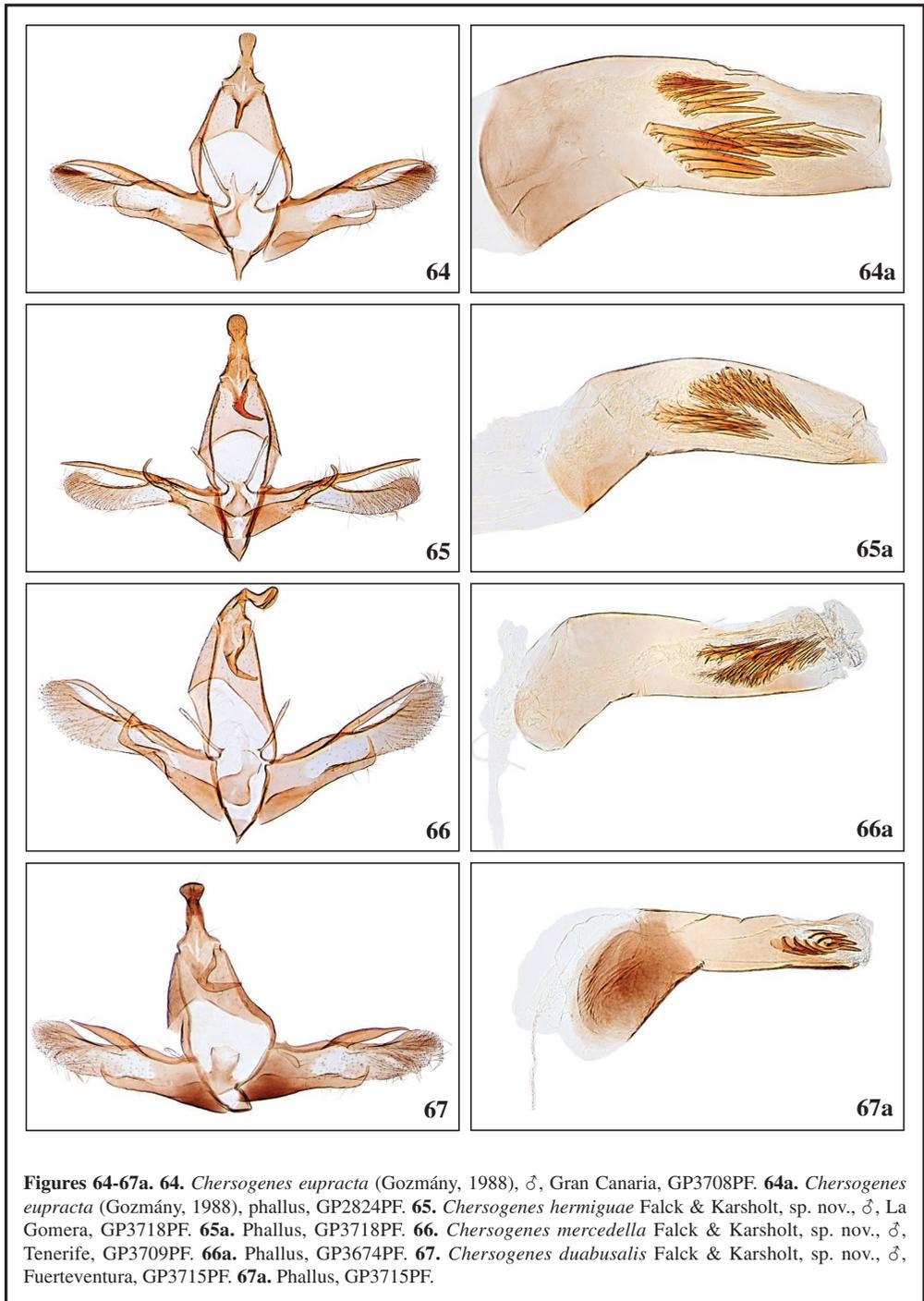


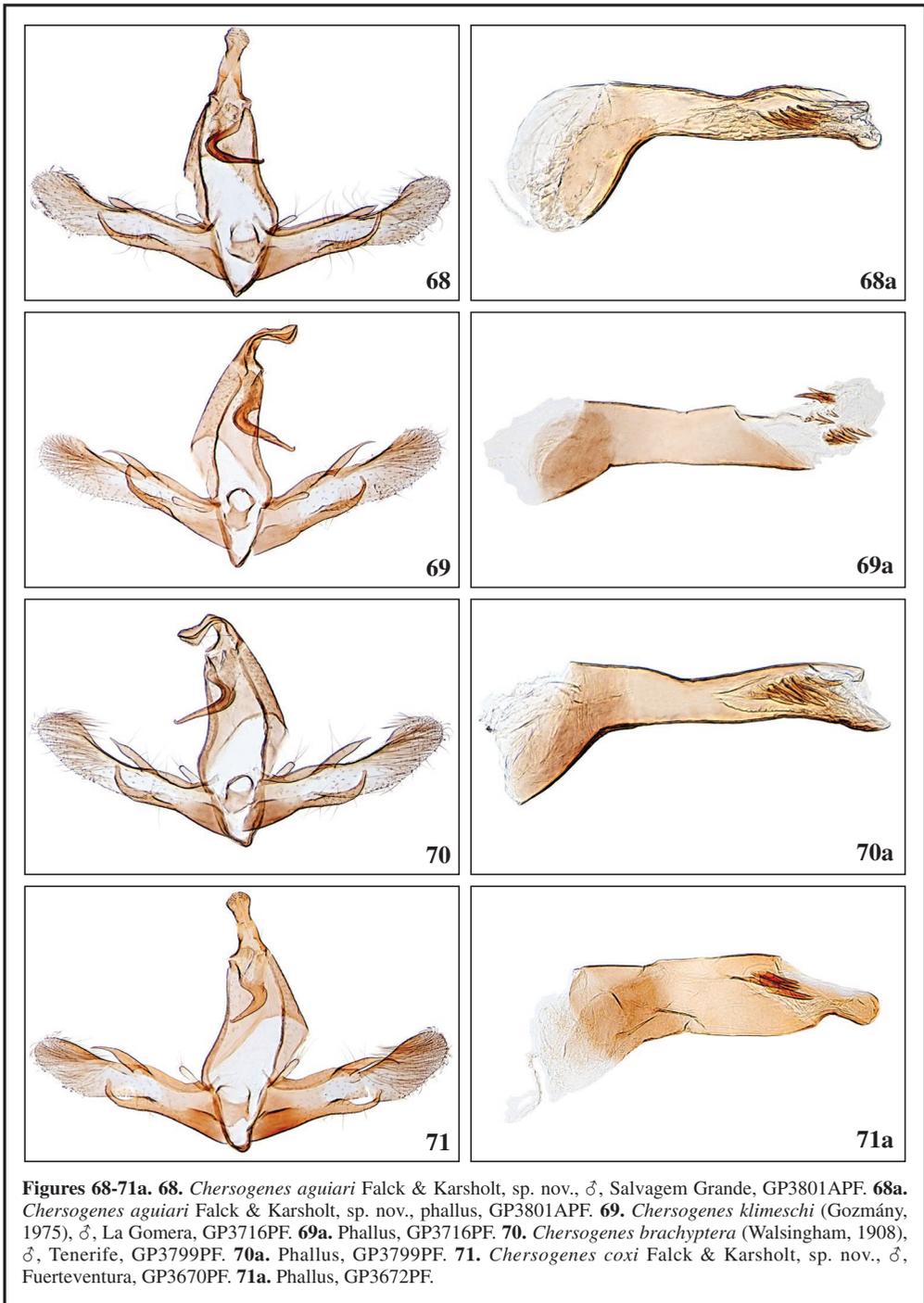


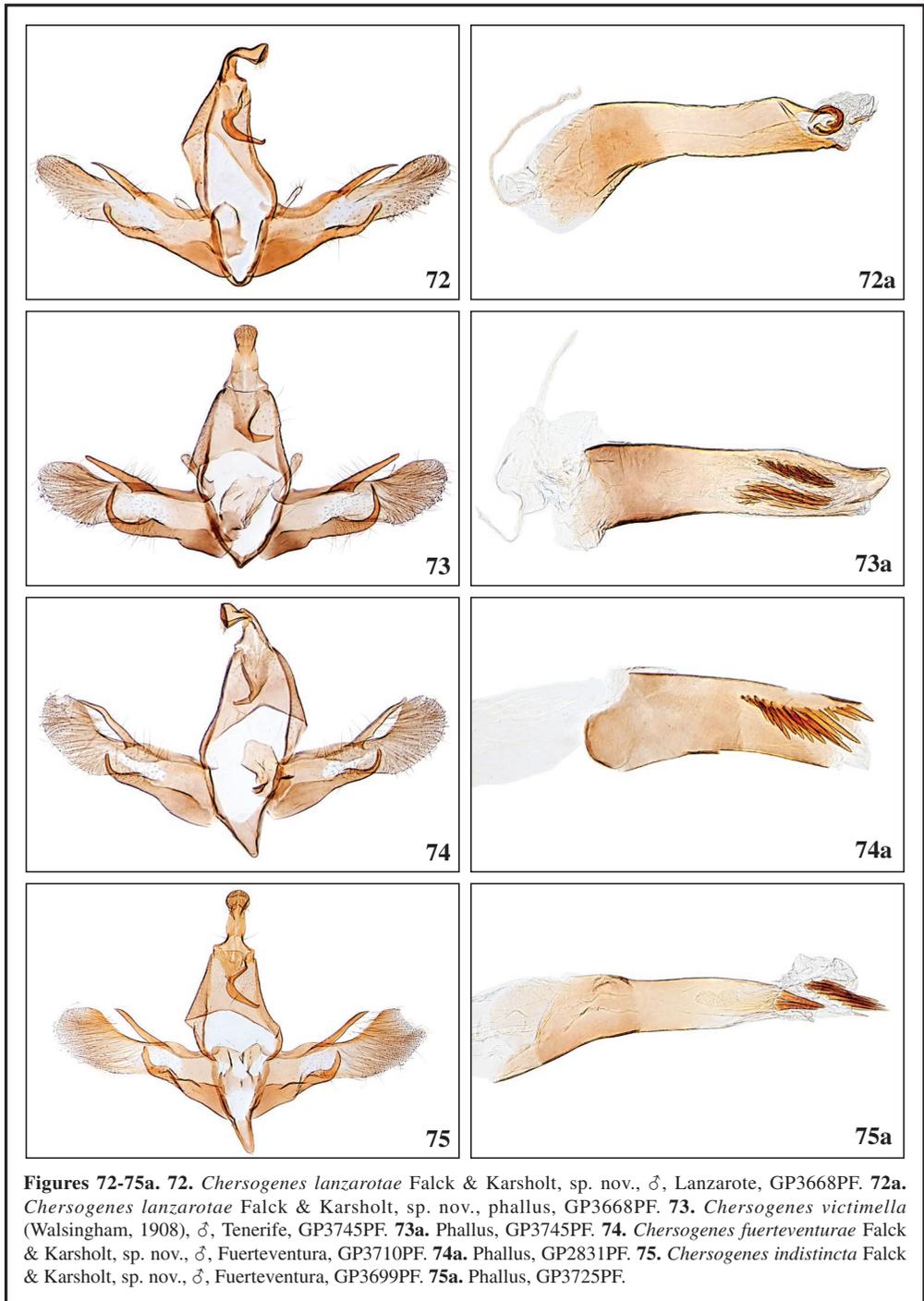
**Figures 49-55.** **49.** *Chersogenes fuerteventuræ* Falck & Karsholt, sp. nov., ♂, Fuerteventura, 8.5 mm. **50.** *Chersogenes fuerteventuræ* Falck & Karsholt, sp. nov., ♀, Fuerteventura, 10.5 mm. **51.** *Chersogenes indistincta* Falck & Karsholt, sp. nov., ♂, Fuerteventura, 12.5 mm. **52.** *Chersogenes indistincta* Falck & Karsholt, sp. nov., ♀, Fuerteventura, 15.5 mm. **53.** *Turatia iranica* Gozmány, 2000, ♂, Fuerteventura, 16.5 mm. **54.** *Hesperesta hartigi* (Turati, 1934), ♂, Fuerteventura, 14 mm. **55.** *Oecia oecophila* (Staudinger, 1876), ♂, Gran Canaria, 11 mm.

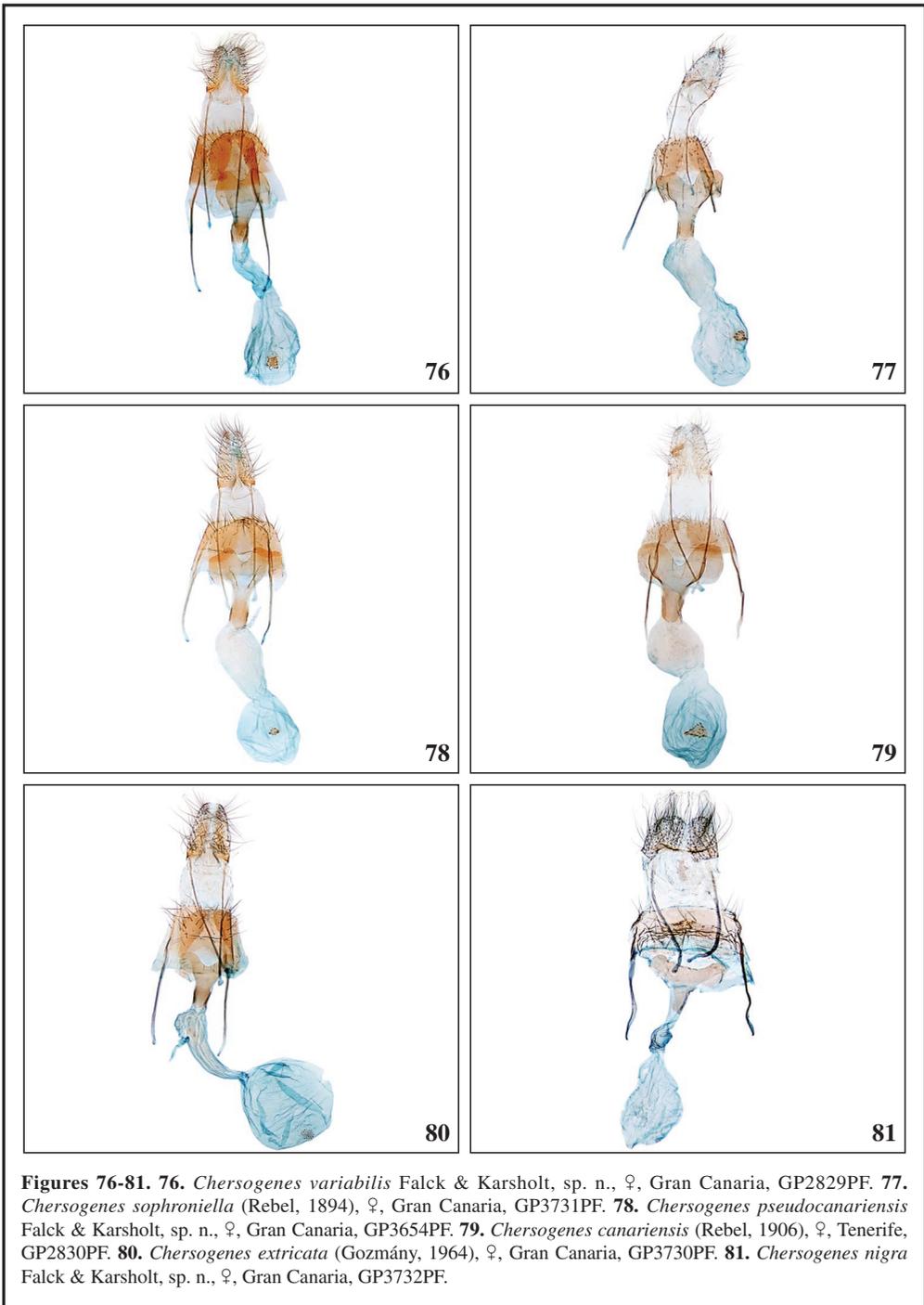


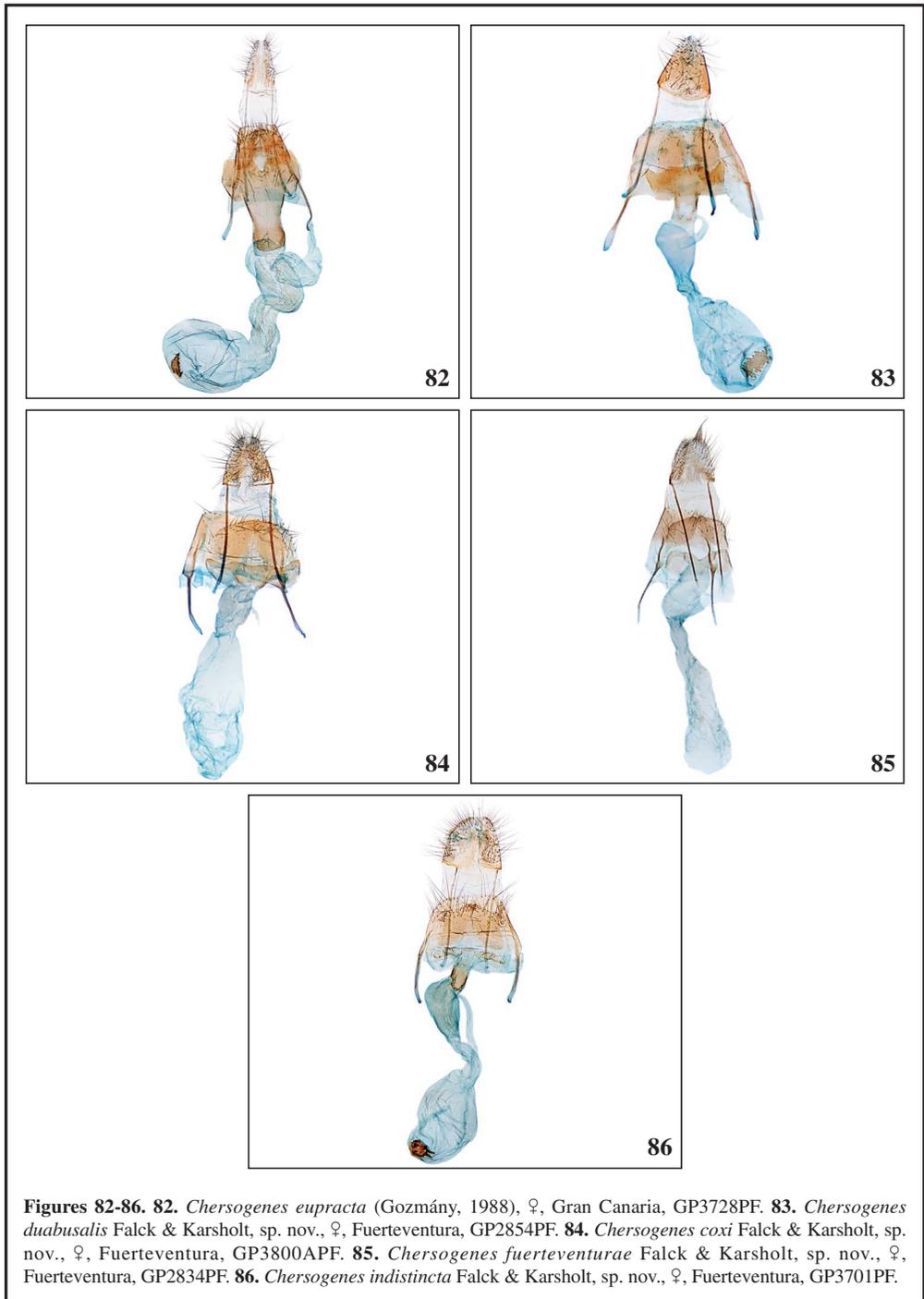


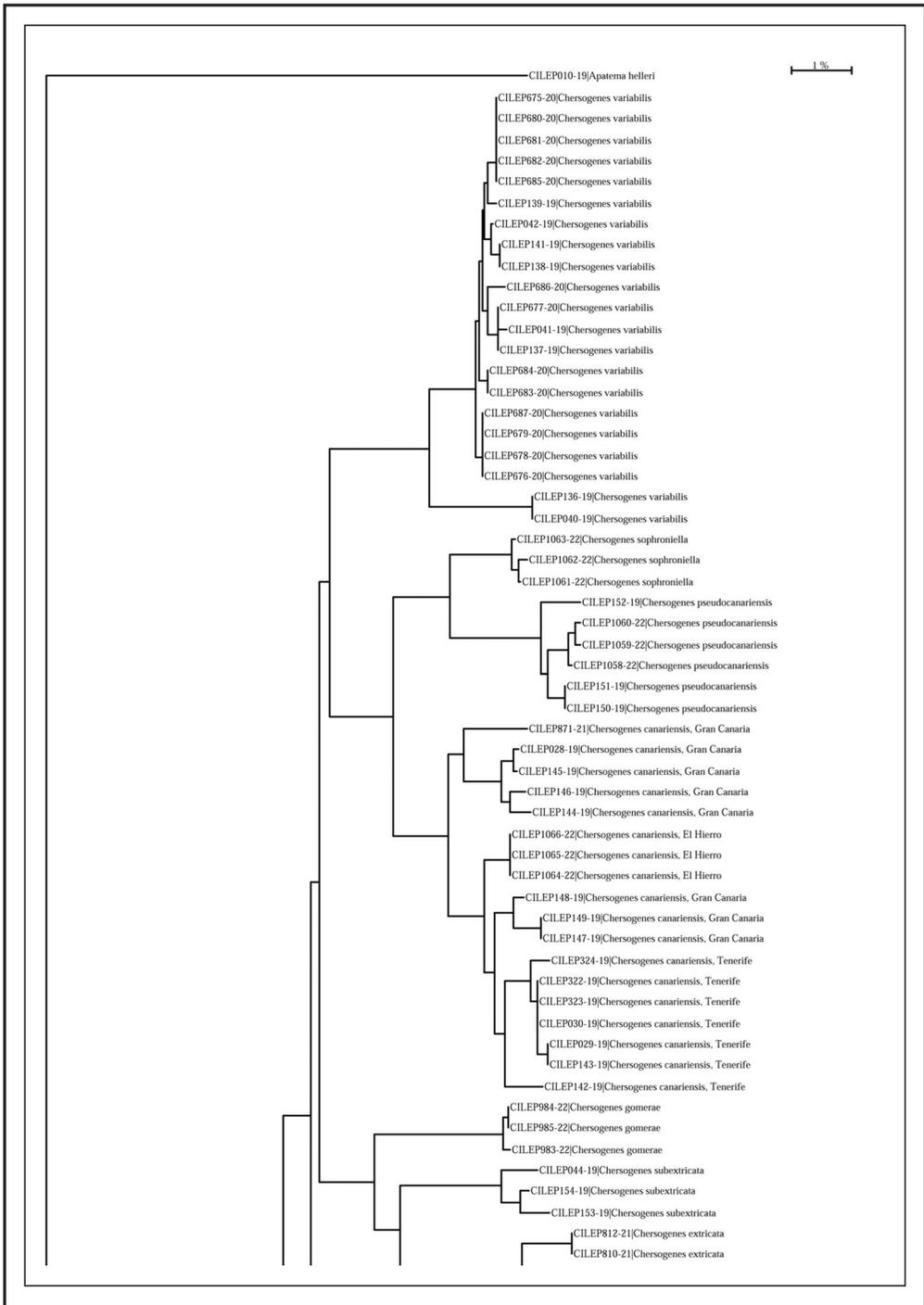


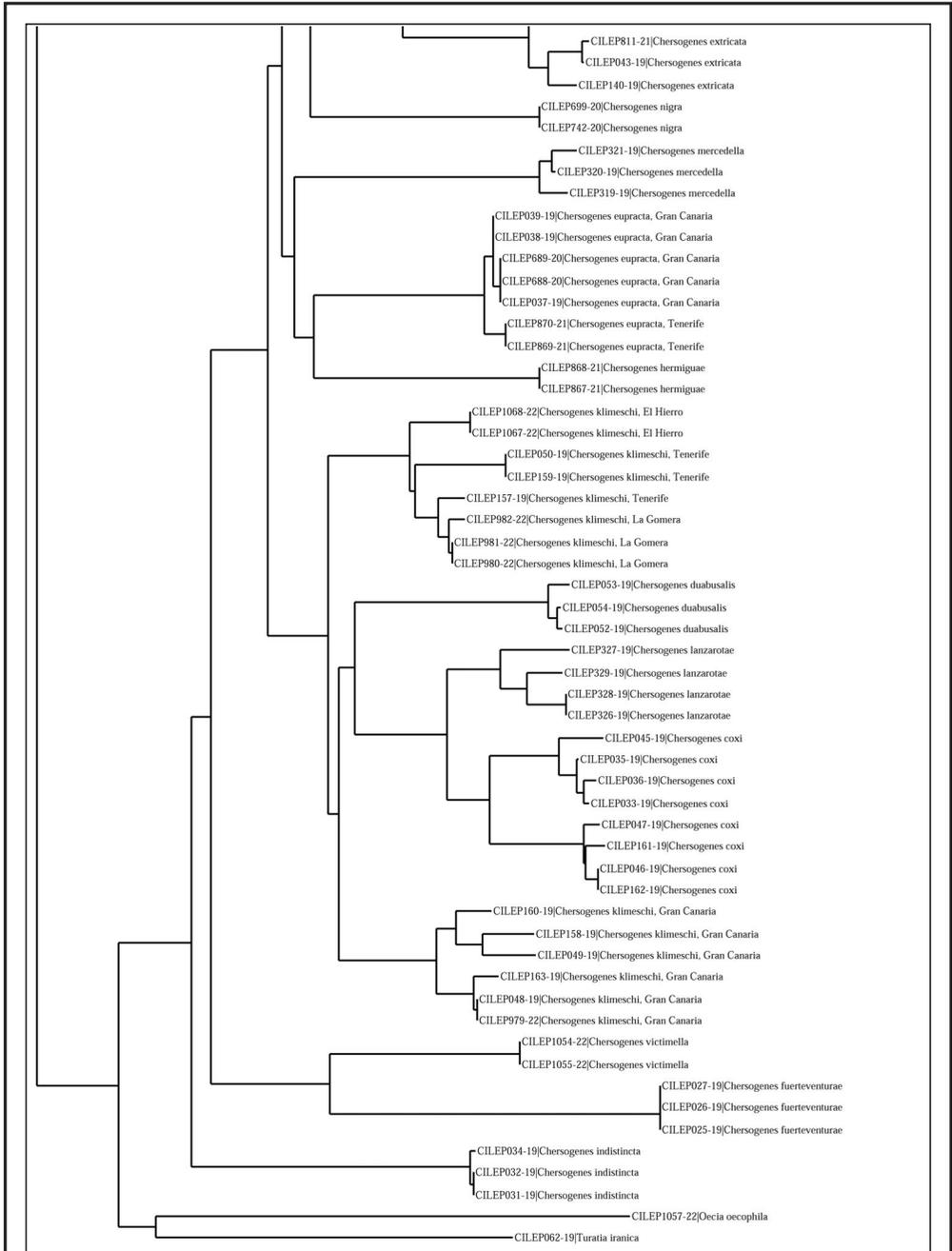












**Figure 87.** Neighbor-joining tree of DNA barcodes of eighteen species of *Chersogenes*, two species of Holcopogoninae and *Apatema helleri* (Rebel, 1910).