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# Two new Gelechiidae for the Iberian Peninsula (Lepidoptera: Gelechiidae)

O. Karsholt & A. Vives Moreno

**Summary**

Two new species of Gelechiidae, *Chrysoesthia hispanica* Karsholt & Vives, sp. n. from Spain and *Neofriseria hitadoella* Karsholt & Vives, sp. n. from Spain and Portugal are described. The adults and male and female genitalia are illustrated. The generic assignment of *C. hispanica* is discussed.
KEY WORD: Lepidoptera, Gelechiidae, new species, Iberian peninsula.

**Dos nuevos Gelechiidae para la Península Ibérica (Lepidoptera: Gelechiidae)**

**Resumen**

Se describen dos nuevas especies de Gelechiidae, *Chrysoesthia hispanica* Karsholt & Vives, sp. n. de España y *Neofriseria hitadoella* Karsholt & Vives, sp. n. de España y Portugal. Se ilustran los adultos y sus genitalias. Se discute la asignación genética de *C. hispanica*.
PALABRAS CLAVE: Lepidoptera, Gelechiidae, nuevas especies, Península Ibérica.

## Introduction

Members of the family Gelechiidae have for a long time been among the less well known Lepidoptera in Europe. This situation has changed over the last decades. There are still a number of undescribed species known to specialists, and even though it is preferable to describe these within revisionary framework, there is an increasing need to have such species named in order to be able to discuss them for taxonomic or conservation purposes. Below we describe two such species in order to make the names available for the new edition of the Lepidoptera catalogue of the Iberian Peninsula (VIVES MORENO, 2014).

## Abbreviations used

BMNH - The Natural History Museum (British Museum Natural History), London, Great Britain
CORLEY - coll. M. F. V. Corley, Oxfordshire, Great Britain
MNCN - coll. A. Vives, Museo, Nacional de Ciencias Naturales, Madrid, Spain
NUPP - coll. Kari & Timo Nupponen, Espoo, Finland
SMNK - Staatliches Museum für Naturkunde Karlsruhe, Karlsruhe, Germany
ŠUMPICH - coll. J. Šumpich, Ceská Belá, Czech Republic
ZMUC - Zoological Museum, Natural History Museum of Denmark, Copenhagen, Denmark
WOLF - coll. H. van der Wolf, Nuenen, Holland
gen. prep. - genital preparation

### *Chrysoesthia hispanica* Karsholt & Vives, sp. n.

Material examined: Holotype ♂, Spain, Almería, Cabo de Gata, 50 m, 22-VIII-1979, leg. A. Vives, gen. prep. 1992, deposited in coll. A. Vives, MNCN, Madrid. Paratypes: ALICANTE: 9 ♂, 2 ♀, Santa Pola, 50 m, 12-VI-2007, leg. J. Šumpich, gen. prep. 4005 (MNCN, ŠUMPICH). ALMERÍA**:** 1 ♂, gen. prep. 4003 and 1 ♀, gen. prep. 2000, Cabo de Gata, 50 m, 22-VIII-1979, leg. A. Vives (MNCN); 1 ♂, 1 ♀, 6 km SW Tabernas, Mini Hollywood, 400 m, 15-16-IX-1995, leg. H. van der (WOLF, ZMUC); 1 ♂, same data but, 13-IX-1997, leg. H. van der Wolf (WOLF); 1 ♂, 2 ♀♀, 5 km SW of Tabernas, Rambla de Tabernas, 200 m, 28-V-1998, leg. P. Skou (ZMUC); 1 ♂, 5 km SW of Tabernas, Rambla de Tabernas, 350 m, 18-25-IV-2001, leg. C. Hviid, P. Skou & B. Skule (ZMUC); 1 ♂, same data but, 2-IX-2001, leg. C. Hviid & B. Skule (ZMUC); 1 ♂, 2 ♀, 20 km N Almeria, 12.ix.2004, leg. K. Nupponen (NUPP); 1 ♂, 1 ♀, Tabernas, 420 m, 2-3-V-2008, leg. J. Šumpich, gen. prep. 4004 (MNCN, ŠUMPICH), 1 ♂, same data but 3-VIII-2010, leg. J. Šumpich (ŠUMPICH). MURCIA**:** 2 ♂♂, Alhama de Murcia, 22-23-V-1973, leg. M. & W. Glaser, genitalia slide OK 3855 (ZMUC); 1 ♂, 1 ♀, Sierra Espuña, Alhama de Murcia, 1-2-VI-1973, leg. M. & W. Glaser (SMNK); 2 ♀♀, same data but 13-VI-1974, leg. M. & W. Glaser (SMNK); 2 ♂♂, 2 ♀♀, Bolnuevo by Mazarrón, 10 m, 1-VI-1988, leg. P. Skou (ZMUC); 3 ♂♂, 1 ♀ same data but 24-IV-2001, leg. P. Skou (ZMUC); 1 ♂, 4 km SW Águilas, 12-14-IX-1995, leg. H. van der Wolf (WOLF); 1 ♂, same data but 20-22-IX-1995, leg. H. van der Wolf (WOLF); 1 ♂, Sierra de Espuña, C. F. de las Alquerías, 3-IX-1997, leg. H. van der Wolf (WOLF).

Description: Adult. Wingspan 10-15 mm. Labial palpus short and slender, brownish grey; tip of segment 2 and 3 cream-white. Proboscis rudimentary. Antenna grey-brown, weakly ringed with lighter grey. Head, thorax, tegula and forewing with grey-brown, lighter-based scales. Forewing with yellowish orange markings as follows: one streak along fold until 3/5, one streak above that from 2/5 to 4/5, and a single spot in apical area, followed by a slender white patch; cilia of forewing ground colour. Hindwing outer margin with right-angle bend before blunt tip; grey-brown; cilia grey with yellow-grey base. Male and female similar.

Male genitalia: Uncus large, rounded, apically flat; gnathos reduced; tegumen sub-triangular. Valve basally broad, cucullus apically rounded, reaching tip of uncus; sacculus shorter, rectangular, with row of 3-4 small, stout denticles; juxta absent; saccus of almost same length as tegumen, broad, posteriorly rounded. Phallus slightly longer than saccus, with pointed apex; cornuti absent.

Female genitalia: Papilla analis large, sub-oval, heavily sclerotised; apophyses posteriores and anteriores short and similar in length; segment VIII short and broad, with a narrow band protruding ventrally, embracing antrum / ostium; antrum membranous; colliculum absent; ductus bursae about twice as long as the pear-shaped corpus bursae; signum absent.

Biology: Host plant and early stages unknown. Moths have been collected at light from end of April to early June, and in September. The localities are dry and warm places at low elevation.

Variation: There is some variation in the intensity of dark scales on the forewing; in dark specimens the yellowish orange markings are reduced; in lighter specimens the white patch near apex may be larger. Older or worn specimens look more light brown than fresh ones.

Remarks: This species is externally similar to *Metanarsia modesta* Staudinger, 1871 (BIDZILYA, 2005), but the combination of rudimentary proboscis, short and slender labial palpi and brownish grey forewings with yellowish orange streaks and spots is unique for this new species.

The genus *Chrysoesthia* Hübner, [1825] is closely related to *Metanarsia* Staudinger, 1871, and it is questionable if it is possible to keep these genera apart on adult morphology. They are currently placed in the subfamily Apatetrinae, tribe Apatetrini (KARSHOLT *et al.*, 2013) According to BIDZILYA (2005) *Metanarsia* differs in the absence of a signum in corpus bursae, but the type species of *Chrysoesthia* is also without a signum in corpus bursa. *Chrysoesthia* species have short labial palps and the antennal scape without a row of stiff hairs ("pecten"). *C. hispanica* shares the these characters, and we therefore place it in the latter genus.

Whereas *Metanarsia* was reviewed by BIDZILYA (2005), *Chrysoesthia* - and related genera like

*Coloptilia* Fletcher, 1940 - are still in need of revision, as are the generic relationships of all genera of the Apatetrini.

Derivatio nominis: Named after the country of origin in Latin, Hispania (Spain).

Distribution: Only known from the provinces of Alicante, Almería and Murcia in south-east Spain.

### *Neofriseria hitadoella* Karsholt & Vives, sp. n.

Material examined: Holotype ♂, Spain, Huelva, Los Bermejales, Niebla, 15-V-2003, ex larvae in *Rumex acetosa* (gen. prep. 4007, coll. A. Vives, MNCN, Madrid). Paratypes: Spain: GRANADA: Puerto de Ragua, 1800 m, 3 ♀♀, 28-VII-2003, leg. P. Skou (ZMUC); HUELVA: Los Bermejales, Niebla, 1 ♂, 26-V-2002, ex l. *Rumex acetosa*, M. Huertas leg. (prep. gen. 3934); 1 ♂, 15-V-2003, ex l. *Rumex acetosa*, M. Huertas leg. (gen. prep. 4007); 1 ♂, 19-V-2003; ex l. *Rumex acetosa*, M. Huertas leg.; 1 ♂, 23-V-2003, ex l. in *Rumex acetosa,* M. Huertas leg. (gen. prep. 4019); 1 ♂, 26-V-2003, ex l. *Rumex acetosa*, M. Huertas leg.; 1 ♂, 26-V-2003, ex l. *Rumex acetosa*, M. Huertas leg.; 1 ♂ (gen. prep. 4018) and 1 ♀ (prep. gen. 4019), 27-V-2003; 1 ♀ 28-V-2003, ex l. *Rumex acetosa*, M. Huertas leg. (prep. gen. 4008); Rivera Escalada, Almonaster, 14-VI-2001, ex l. in *Rumex crispus*, M. Huertas leg. (prep. gen. 4017); all these material deposited in coll. A. Vives, MNCN. Los Bermejales, Niebla, 1 ♀, 29-V-2003, ex l. *Rumex acetosa*, M. Huertas leg. (BMNH). MÁLAGA: 12 km W Estepona, Casares, 350 m, 1 ♀, 26-27-VII-2003, leg. P. Skou, gen. prep. Hendriksen 4917 (ZMUC). ZARAGOZA: 5 km W Arguarón, 835 m, 1 ♂, 9-VIII-2007, leg. P. Skou & B. Skule (ZMUC). Portugal: TRÁS-OS-MONTES: 1 ♂, gen. prep. 2644 and 1 ♀, São Lourenço, R. Tua, 20-VII-2006, leg. Corley (CORLEY); 1 ♂ Amieiro, R. Tua, 23-VII-2006, leg. Corley (CORLEY); 1 ♂ Fiolhal, R. Tua, 26-VII-2006, leg. Corley (CORLEY).

Description: Adult. Wingspan 13 mm. Labial palp black mottled with whitish, especially on inner surface of segment 2; segment 3 with white apex. Head, thorax, tegula black, face lighter. Antenna black. Forewing black, mottled with yellowish and greyish scales; a black spot in fold, one above it and one at 3/5 in middle of wing followed with a few yellow scales; pre-apical costal and tornal spots yellow; cilia blackish grey with light grey tip. Hindwing dark grey, lighter towards base, with grey cilia.

Variation: The yellow, pre-apical costal and tornal spots tend to become fused into a fascia. Worn specimens look lighter than fresh ones.

Similar species: *N. hitadoella* is characterized by the yellow, pre-apical costal and tornal spots of the forewing, and by having the inner black spot in the middle of that wing just above the black spot in the fold. It is similar to *N. peliella* and *singula*, but differs in the yellow (not white) sub-apical fascia. *N. baungaardiella*, which also has pre-apical yellow costal and tornal spots, has more distinctly marked forewings.

Male genitalia: Uncus rather small, sub-rectangular; gnathos hook slender, bent; costa with medial triangular process; valva short and broad with long, bent harpe; sacculus shorter than valva, broad, pointed; saccus broadly horseshoe-shaped; phallus slender, curved, with long and pointed distal part.

Similar to *N. baungaardiella*, but in that species the medial process of costa ends in 2-3 (instead of one) points, and both valva and sacculus are longer and more slender, and the harpe is less bent. Differs from *N. peliella* and *N. singula* in the short and narrow costa and the slender phallus with long rod-like distal part.

Female genitalia: Apophyses posteriores about two times the length of segment VIII; apophyses anteriores about 1.5 times the length of segment VIII, thin, slightly curved laterally; ventral base of apophyses anteriores with foamy sculpturing; sternite VIII ventro-medially membranous; anterior margin of segment VIII with pair of prominent, irregular, sterigmatal processes embracing the membranous ostium bursae; entrance of ductus bursae with irregular sclerotization and short colliculum; ductus bursae long; signum rhomboid, with serrated margins and a transverse ridge.

Biology: The host-plants of the larva are *Rumex acetosa* L. and *R. crispus* L. (Polygonaceae). Moths were collected from middle of May to one third of August. It occurs from the lowlands up to 1800 m altitude.

Distribution: Only know from the provinces of Huelva and Málaga in southern Spain as well as in Trás-os-Montes and also in Beira Baixa (MARABUTO *et al*., 2013) in Portugal.

Remarks: HUEMER & KARSHOLT (1999) assigned the above mentioned specimen from Andalusia, Camino de Istán, 10-VII-1975 tentatively to *Neofriseria baungaardiella* from Greece, but excluded it from the type series of that species due to differences in the male genitalia. Now that additional material is available for study it is clear to us that specimens from Greece and Spain represent different species.

The genus *Neofriseria* Sattler, 1960 comprises nine species which all occur in the Palaeartic region (HUEMER & KARSHOLT, 1999), with four species present in the Iberian Peninsula: *N. peliella* (Treitschke, 1835), *N. singula* (Staudinger, 1876), *N. pseudoterrella* (Rebel, 1928) and the new species *N. hitadoella* Karsholt & Vives, sp. n. (*N. baugaardiella* sensu auct. nec Huemer & Karsholt, 1999). Additional undescribed species are known from Armenia, Turkey (O. Karsholt, unpublished) and Central Asia (A. Bidzilya, in litt.).

Derivatio nominis: Named in honour of Mrs. Mercedes Hitado for her friendship and help during our work on the Entomological Collections of the MNCN for many years.

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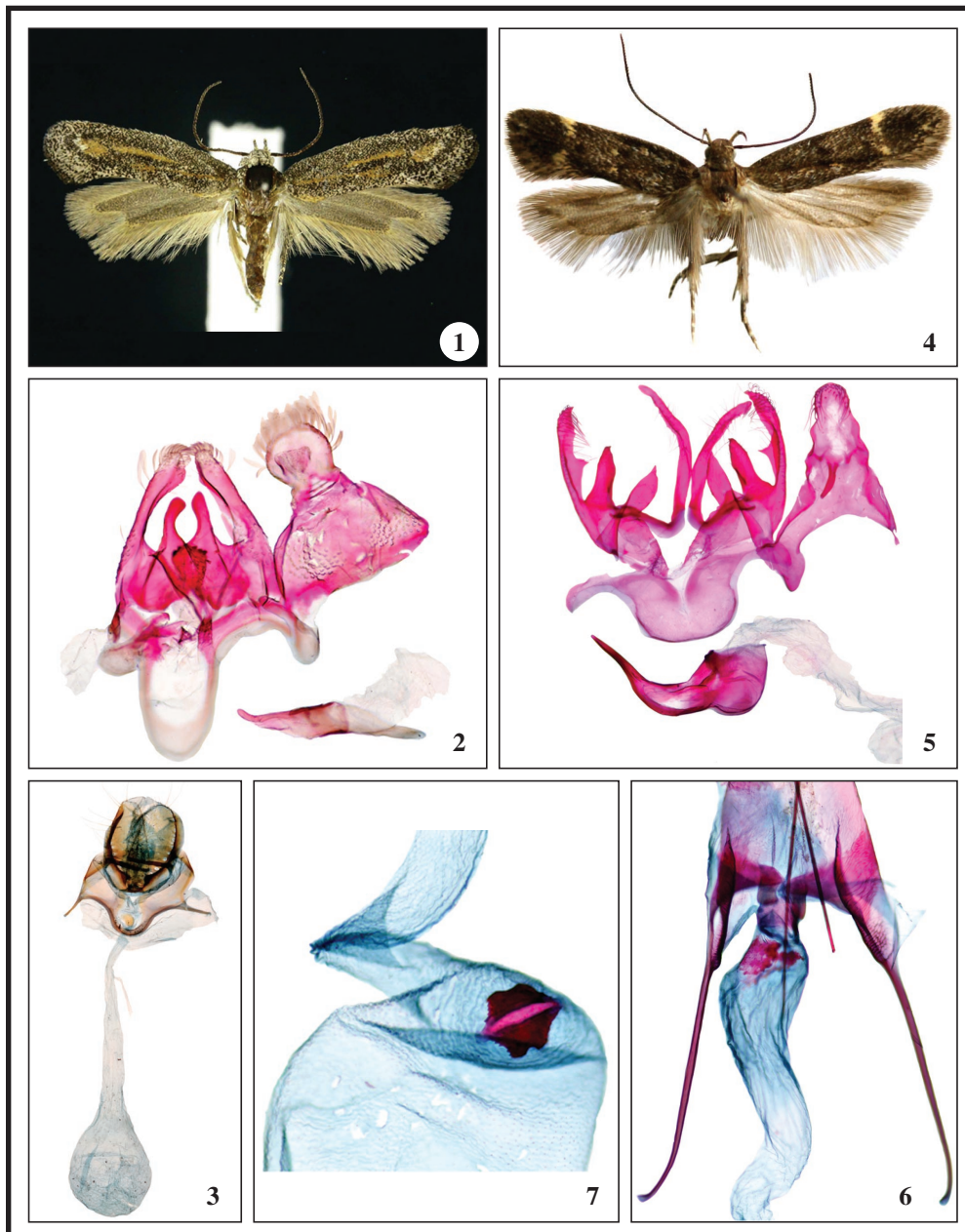


**Figs. 1-7.– 1-3.** *Chrysoesthia hispanica* Karsholt & Vives, sp. n. **1.** Adult male. Paratypus **2.** Male genitalia, Almería, Cabo de Gata, prep. gen. 1992. Holotypus. **3.** Female genitalia, Almería, Cabo de Gata, prep. gen. 2000. Paratypus. **4-7.** *Neofriseria hitadoella* Karsholt & Vives, sp. n. **4.** Adult male, Huelva, Los Bermejales, Niebla, Holotypus. **5.** Male genitalia, Huelva, Los Bermejales, Niebla, prep. gen. 4007. Holotypus. **6-7.** Female genitalia, Huelva, Los Bermejales, Niebla. Paratypus. **6.** Antrum prep. gen. 4008. **7.** Signum, prep. gen. 4008.