

The Geometrid moths of Europe, Updated

Axel Hausmann, Jörg Gelbrecht, Pasi Sihvonen, Peder Skou & Jaan Viidalepp
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Joint project of the

[Zoologische Staatssammlung München](#) (Dr. Axel Hausmann) and
[Apollo Books, Stenstrup](#) (Peder Skou)

This website aims to present an actual update to the Book series "[The Geometrid Moths of Europe](#)" (A Hausmann ed.) So far three volumes have been published, three are in preparation:

GME1 (Archiearinae to Geometrinae), Hausmann 2001: 42 species

GME2 (Sterrhinae), Hausmann 2004: 196 species

GME3 (Larentiinae I), Viidalepp & Hausmann (in prep. 2010): approx. 265 species

GME4 (Larentiinae II, Perizomini & Eupitheciini), Mironov 2003: 151 species

GME5 (Ennominae I), Skou & Sihvonen (in prep. 2011): approx. 140 species

GME6 (Ennominae II), Müller (in prep. 2012): approx. 170 species

Total: 964 species

In this website the species lists of Vols 1,2, and 4 are updated:

GME1 (Archiearinae to Geometrinae), Hausmann 2001: 4 new species (actual total: 46)

GME2 (Sterrhinae), Hausmann 2004: 2 new species (actual total: 198)

GME4 (Larentiinae II, Perizomini & Eupitheciini), Mironov 2003: 0 new species

Actual species total for the Fauna of Europe: 970 species

This website, in addition aims to comment taxonomy as it was presented in the recent book on European geometrids ([Leraut 2009](#))

[pdf of version 1 \(August 1, 2009\)](#)

Archiearinae

Leucobrephos middendorffii (Ménétriés, 1858)



([highres photo](#), [labels](#): Amur; photo: I. Kostjuk, University Kiev)

male genitalia-aedeagus, female genitalia

Recorded in the Polar Urals (#pers. comm.), new for the fauna of Europe. Locus typicus in eastern Siberia.

Desmobathrinae

Myinodes constantina (Hausmann, 1994)



([highres photo](#): Holotype, Algeria, Lambèse)

male genitalia-aedeagus, female genitalia

Recorded in central Spain (Exposito pers. comm.), new for the fauna of Europe. Locus typicus in eastern Algeria.

Geometrinae

Thalerini

Kuchleria insigniata Hausmann, 1995
= *Kuchleria garciapitai* Exposito 2006 (synonym)

K. garciapitai was described as separate species from central Spain (Exposito 2006), quoting slight differences in male genitalia (saccus). Molecular data (COI barcoding) show these minor differences to fall under the variation of *K. insigniata*.

Kuchleria menadiara (Tierry-Mieg, 1893)

([highres photo](#): Algeria)

male genitalia-aedeagus, female genitalia

Recorded in Sicily (Parenzan ##).

Hemitheini

Chlorissa pretiosaria (Staudinger, 1877)



([highres photo](#): Transcaucasia, Achalzich, leg. M. Korb)

male genitalia-aedeagus, female genitalia

Recorded in Astrachan desert, southern European Russia (Anikin pers. comm.), new for the fauna of Europe. Locus typicus in southern Caucasus.

Sterrhinae

Sterrhini

Idaea textaria (Lederer, 1861)



([highres photo](#): *Idaea textaria*, Greece, Samos, leg. D. Fritsch)

male genitalia-aedeagus, female genitalia

Recorded on Samos island (Fritsch & Skou pers. comm.), new for the fauna of Europe. Locus typicus in Turkey.

Idaea davidi Gaston & Redondo, 2005



([highres photo](#): *Idaea davidi*, S Spain, Sierra Nevada, leg. J. Klimesch)

male genitalia-aedeagus, female genitalia

I. davidi was described as sister species of *I. humiliata* from southern Spain (Gaston & Redondo 2005). The justification of the species right for these Sierra Nevada populations merits further attention and analysis.

Downloadable actualised checklists (for collection labels)

[Vol. 1](#)

Vol. 2

Vol. 4

Some comments to

Patrice Leraut (2009): Moths of Europe, Vol. 2: Geometrid Moths. - N.A.P. Editions, 808 pp.

Preface

Recently the publication of the 'revision' of the genus *Sciadia* (Leraut 2008) surprised the scientific

community by the interesting discovery that this genus splits into several species, such as by the fact that the study was not based on type studies, neither on sufficient material (strongly biased towards France) and furthermore draws wrong nomenclatorial conclusions. As a consequence the paper caused additional work to rectify the taxonomy of the group ([Huemer & Hausmann 2009](#)). Such kind of scientific replication/rectification is not the way one likes to do, and it could have been avoided through contact and correspondence. The new book on European geometrids (Leraut 2009), extends the same methodology to the whole family Geometridae at a European scale. The following explanations may be helpful as immediate information to the whole community and will soon be published in a journal in order to receive validity through a nomenclatorial act.

General remarks to Leraut (2009)

- the book has its strengths in its conception as richly illustrated identification guide in small pocket format, but nevertheless covering most European taxa of geometrids. Preparing such a book costs a lot of time, which has to be acknowledged.
- see preface for some scientific shortcomings, e.g. insufficiently studied type specimens and collections (just basing on material from MNHN/Paris and a few French collections) such as poor contact to the international scientific community of geometridologists, as e.g. organized in the [Forum Herbulot](#) and its periodical meetings.
- in the book, often localities are not indicated for the illustrated specimens, which makes their interpretation difficult.
- the description of infrasubspecific forms is not conform with the Code (ICZN) of zoological nomenclature. All the presented 'names' are unavailable and need to be ignored in nomenclature.
- many species are stated as being 'closely related' but without close relationship in the phylogenetic sense. A few examples, standing for many more: *Idaea metohiensis* - *Scopula marginepunctata*; *Idaea luteolaria*, *Idaea aureolaria*, *Idaea flaveolaria* - *Cleta filicearia*; *Scopula virgulata* - *Idaea sylvestraria*; *Scopula minorata* - *Idaea palaestinensis*. The intention of the author was to present species with 'similar' habitus, and the misleading term may be due to translation.
- many of the proposed taxonomical and nomenclatorial changes are proposed without justification or explanation, basing on personal opinion ('is in my view a separate species', 'does not appear to me an authentic species') and without presenting a clear statement of differential or common traits. In some cases just the formal change is done without any comment at all, e.g. *Scopula punctabilineatella* (Lucas, 1937), *bona* sp., stat. rev. (p. 776). Hopefully all this lacking information will be published elsewhere in the near future. The book does not have a synopsis with all taxonomical changes, therefore all these changes are addressed and briefly discussed here on this website. Furthermore there are many apparent taxonomical and methodological errors, partly corrected here, partly requiring further study.

Detailed, annotated presentation of conflictary taxonomy, 'conflicts' referring to different taxonomy in [Geometrid Moths of Europe](#) (GME), [Fauna of Europe database](#) (FoE), and 'online list of valid and nomenclaturally available names of the Geometridae of the World' [Scoble & Hausmann](#) (2007):

GME1

- * *Leucobrephe middendorffii* (p. 34, pl 1 fig 13 and index): incorrect subsequent spelling. Correct: *middendorffii*.
- * *Boudinotiana*: genus erected by Leraut (2002) for *notha*, *puella* and *touranginii*. Genus can be accepted, cf. revision of Leraut (2002).
- * *Inurois aceraria*: Transfer to *Inurois* not justified with facts, subjectively presented ("it is clear") without indication of characters or synapomorphies. In contrast to Leraut's opinion, the shape of uncus and the much shorter terminal process of valva distinguish *A. aceraria* from *Inurois*. The cornutus is present also in many *Alsophila* species, thus the arrow on fig. 21b does NOT indicate a differential feature. Study of the fine revision in Inoue (1943) would have given a correct view on the things and on *aceraria* as a congener of *Alsophila*. Herewith transferred back to *Alsophila* (*A. aceraria* comb. nov.)
- * *Pseudoterpna lesuraria* f. *stiparia*: upgraded from infrasubspecific form to subspecies rank and called "ssp. *stiparia* Rungs, 1950" which is not in conformity with the Code (ICZN) concerning authorship. No justification, diagnosis or geographical background given, thus not acceptable.
- * *Comibaena levequei* Leraut, 2009: The presented 'differential features' (of 4 just males from the same locality) in habitus and genitalia from *C. pseudoneriaria* appear weak and require confirmation by

morphology of other material and DNA barcoding. Preliminarily to be accepted.

- * *Thetidia sardinica*: Suspected to be subspecies of *T. smaragdaria* without examining material (not figured) and ignoring differential analysis in GME1. To be maintained at species rank.
- * *Hemistola siciliana*: Suspected to be subspecies of *H. chrysoprasaria* without justifying or presenting arguments for this view. To be maintained at species rank.
- * *Eucrostes indigenata lanjeronica*: downgraded to synonymy, justified only by the statement that such habitus forms "are found elsewhere as isolated individuals". Though this is no reason to draw into question a subspecific taxon, that change may be preliminarily accepted until detailed examination about gene-flow is available.
- * *Bustilloxia saturata iberica*: downgraded to synonymy, justified only by the statement that such habitus forms are found also in Morocco. Reputely, *iberica* is founded only on characters of wing pattern, but Hausmann (2004) presents also differences in male pectination and female genitalia, ignored by Leraut (2009). To be raised again to subspecies rank (stat. n.).
- * *Kuchleria insignata*: Downgraded to "synonym or subspecies" of *K. menadiara* despite citation of differential characters but without bringing arguments for synonymy ("to me does not appear an authentic species"). To be raised to species rank again (stat. n.).
- * *Hemithea aestivaria alboundulata*: Raised from synonymy to subspecies rank, vaguely stating some differences in male genitalia, but without describing these differences and without examining the possibility of clinal distribution of characters. Still awaiting a thorough analysis and well-done differential analysis, downgraded again to synonymy.
- * *Chlorissa viridata / cloraria*: Fig. 32: The differential feature of valva costa is almost inexistent on the left valva, but dramatically overdrawn on the right side. The indicated structure on the aedeagus of *C. viridata* is not a significant differential feature.
- * *Chlorissa obliterated*: Downgraded to subsp. of *Chlorissa viridata*, though mentioning differential features in habitus and genitalia. To be raised again to species rank (stat. n.).
- * *Phaiogramma etruscaria* (p. 59 bottom): incorrect subsequent spelling. Correct: *etruscaria*.
- * *Microloxia herbaria virideciliata*: Downgraded to synonymy. Genetically there are strong arguments to keep *virideciliata* as separate taxon 1.5 % genetical distance (COI, pairwise distance, K2) from populations of nominate subspecies in Italy. Differences in habitus (near to constant) slight differences and male and female genitalia are outlined in Hausmann (2004). Therefore better to be raised again to subspecies rank (stat. n.).
- * *Microloxia herbaria*: Reputedly distributed in Morocco, but Moroccan populations belong to sister species *M. ruficornis*.
- * *Pseudoterpna coronillaria* f. *viridescens*: pl. 4 fig. 2: rather looking as a form of *P. pruinata*. Possibly a product of hybridisation.
- * *Microloxia simonyi assetata*: pl. 8 fig 10 probably a misidentification and belonging to *M. schmitzi*, requiring dissection.

GME2

- * Genus *Lythria*: New evidence (Ounap et al. 2008) from a well done revision revealing this genus to be a sterrhine genus, not a larentiine.
- * *Cleta ramosaria*: Distribution in France (correctly) drawn into doubt in the text, but occurrence in south-eastern France marked on the map.
- * *Idaea agrestaria* (p. 736): incorrect subsequent spelling. Correct: *agraria* (on map and in index correct).
- * *Idaea agrestaria* (sic!) (de Joannis, 1891): Upgraded from synonymy of *Idaea litigiosaria* to species rank vaguely stating differences in male genitalia, but without describing these differences and without examining the possibility of clinal distribution of characters. ("genitalia are different"). Still awaiting a thorough analysis and well-done differential analysis, downgraded again to synonymy. Furthermore on the map the distribution of *Idaea litigiosaria* includes the whole territory from Morocco to Tunisia.
- * *Idaea lusohispanica*: On the map erroneously reported for North Africa from Morocco to Algeria.
- * *Idaea subrecta* was not described as a subspecies of *Idaea seriata* (recte *sericeata*).
- * *Idaea subrecta*: Upgraded from synonymy of *Idaea sericeata calvaria* to species rank vaguely stating differences in genitalia, but without describing these differences ("genitalia are different"). Downgraded again to the above mentioned synonymy basing on the analysis presented in Hausmann

(2004). Furthermore, inconsistently, on the map *sericeata* is reported for North Africa / Morocco.

* *Idaea completa*: The differential diagnosis between *Idaea completa* and *Idaea affinitata* on p. 741 is erroneous, because basing on the misidentified specimen on pl. 134 fig 7.

* *Idaea affinitata*: pl. 134 fig 7 misidentified and belonging to *I. intermedia*.

* *Idaea filicata*: For Corsica both the occurrences of subsp. *levequei* Leraut, 2005 and nominate subspecies are reported with the remark that subsp. *levequei* "could be a separate species". Own research on such individual forms with forewing tip pointed and postmedial line clearly visible not revealing any constant difference in genitalia and neither genetically different (COI barcode fragment, n=25) from the other forms. Therefore to be downgraded to synonymy.

* *Idaea urcitana*: pl. 135 fig 12 probably a misidentification and possibly belonging to *I. alyssumata*, requiring dissection. In the text the differential diagnosis ("*I. urcitana* smaller and paler") definitely insufficient to separate the species.

* The 'vernacular' name "Libyan Wave" (pl. 135 fig. 18) for *Idaea mimosaria* (Guenée, 1858) is misleading, because that species is definitely not distributed in Libya, but in the Lebanon and nearby countries.

* *Idaea belemiata*: *Acidalia couloniata* Balestre, 1907 is synonym of *Idaea laevigata*, not of *I. belemiata* (cf. Hausmann 2004 after examination of types).

* *Idaea hollia* (Homberg, 1909): Downgraded from species rank to subsp. of *Idaea inquinata* without presenting facts (e.g. figures of the examined material), basing on the erroneous opinion to have examined "the type" and completely ignoring the recently published comprehensive revision of the species group (Hausmann 2005) with lectotype designation. Taxonomic change not acceptable.

* *Idaea humiliata*: When recognising *Idaea davidi* as separate species, the occurrence of *Idaea humiliata* in southern Spain is not correct.

* *Idaea davidi*: pl. 138 fig 3: dissection needed, misidentification not excluded.

* *Idaea joannisiata* f. *ibericata*: Without explicitly proposing a taxonomical change suggesting it to be downgraded from subspecies of *joannisiata* to synonymy. To be maintained at subspecies rank (cf. Hausmann 2004).

* *Idaea cervantaria* syn.n. *okbaria*: Downgraded from species rank to subsp. of *Idaea cervantaria* with statement to have "examined the type", referring, however, to a paralectotype of MNHN, Paris. Examination (brushing of male abdomen and control of the particular shape of valva costa) of the lectotype in coll Herbulot/ZSM confirming the proposed synonymy.

* *Idaea cervantaria*: pl. 141 fig 14: very untypical, without dissection misidentification not excluded.

* *Idaea distinctaria*: pl. 142, fig. 18: misidentification not excluded in specimens from southern France without dissection.

* *Scopula incanata pastoraria* (Joannis, 1891): Upgraded from synonymy of *Scopula marginepunctata* to subspecies rank and subordinated under *S. incanata*. The type has been "examined" but it remains unclear whether it was dissected. The figure of the "type" (which kind of type?) shows a specimen which is more reminiscent of *S. marginepunctata* than of *S. incanata*. The taxon remains unclear until the genitalia of the name bearing type specimen will be controlled. Until then it should be kept in synonymy of *S. marginepunctata*.

* *Scopula punctabilineatella* (Lucas, 1937): Upgraded from subspecies rank of *Scopula guancharia* to species rank without any comment. In fact this is a possible view, considering the different length of cerata, but the situation is not that easy when considering also the populations of *S. guancharia* from eastern Canarian islands and the fact that in the genus *Scopula* the length of cerata underlies a complicated pattern of variation and polymorphisms. Requiring a detailed integrated revision including molecular and morphological data.

* *Glossotrophia confinaria*, *G. alba*, *G. mentzeri*, *G. rufomixtaria*, *G. sacraria*, *G. asellaria*: All species of the former genus *Glossotrophia* transferred by Sihvonen (2005) to genus *Scopula*. Such taxonomic position confirmed by own molecular research (Hausmann unpublished data; Hausmann & Hebert 2009).

* *Rhodostrophia terrestraria dispar*: Downgraded from species rank to subspecies of *R. terrestraria*. Preliminarily acceptable, but type studies and detailed discussion should follow.

* *Rhodostrophia cuprinaria*: (p. 786 and pl. 153 fig 15): Possibly misidentified. The species-group around *R. cuprinaria* and *R. peripheres* needs thorough analysis and revision, which is in progress (R. Trusch, Karlsruhe).

* *Timandra comae*: pl. 154, fig. 6: possibly a misidentification and referring to *Timandra griseata*.

* *Cyclophora ruficiliaria*: pl. 156, fig. 1: possibly a misidentification and referring to *C. suppunctaria*, dissection needed.

* *Casilda consecraria*: pl. 158, fig. 2: misidentified: the black cell dots, the black collar and the terminal position of the white fascia do not allow to identify this specimen as *C. consecraria*. Correct identification probably *Scopula gastonaria* (dark form).

GME3

remarks under construction

GME4

remarks under construction

GME5

remarks under construction

GME6

remarks under construction