



*A Photographic Guide to*

# Macro-moths of the Algarve



BERT VAN DER AUWERMEULEN



A ROCHA

*Front cover:* Aspitates ochrearia; Moth trap (left); Xylocampa areola (middle); Cyclophora pupillaria (right)  
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A photographic guide to Macro-moths of the Algarve

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## Contents

Introduction .....	4
Cossidae .....	6
Sesiidae .....	6
Heterogynidae .....	7
Limacodidae .....	7
Zygaenidae .....	7
Drepanidae .....	8
Lasiocampidae .....	8
Saturniidae .....	9
Sphingidae .....	9
Geometridae .....	10
Notodontidae .....	17
Erebidae .....	18
Nolidae .....	21
Euteliidae .....	22
Noctuidae .....	22
INDEX .....	31



## Introduction

This photographic guide aims to illustrate 501 macro-moth species currently occurring in the Algarve, Portugal (*Corley, unpublished*), in order to make moth identification more accessible. This work intends to function as a basis for further studies, thereby contributing to greater knowledge of Portuguese Lepidoptera.

## Moth Photographs

This first edition features 520 photographs of 492 macro-moth species belonging to the **Cossidae, Sesiidae, Heterogynidae, Limacodidae, Zygaenidae, Drepanidae, Lasiocampidae, Saturniidae, Sphingidae, Geometridae, Notodontidae, Erebidae, Euteliidae, Nolidae and Noctuidae** families. The taxonomical order of this guide follows the online Fauna Europaea.

The majority of species are pictured at rest on a natural background. An additional photograph sometimes illustrates a major variation in colour or pattern within a species, or the difference between sexes. When no satisfactory images of this kind were available, individuals were photographed on an artificial background or taken from collection specimens.

## How to use this guide?

This guide is not intended as a complete guide to the identification of moth species. The photographs are not to scale, and details regarding size, distinct features, ecology or distribution is missing. However, it aims to include this information in the future. The following websites offer additional information about Lepidoptera.

- [www.lepidoptera.pl](http://www.lepidoptera.pl) (European Lepidoptera)
- [www.ukmoths.org.uk](http://www.ukmoths.org.uk) (British moths)
- [www.leps.it](http://www.leps.it) (Macro-Lepidoptera of Europe and North Africa)
- [www.lepiforum.de](http://www.lepiforum.de) (European Lepidoptera forum)
- [www.lepinet.fr](http://www.lepinet.fr) (Lepidoptera of France)
- <http://pathpiva.wifeo.com> (Lepidoptera of Southern France and Corsica)
- [www.lusoborbuletas.org](http://www.lusoborbuletas.org) (Macro-Lepidoptera of Portugal, last update 2008)
- [www.faunaeur.org](http://www.faunaeur.org) (Taxonomic list of European fauna)

Many genera (e.g. Idaea, Eupithecia, Eilema, Caradrina...) cannot be identified to species level without the use of specialised literature. To date there is no comprehensive guide to the macro moths of Portugal or the Iberian Peninsula; however, the following books offer a good (if expensive) alternative:

- Leraut, P.: **Moths of Europe** (Volume 1, 2, 3 – more volumes to be published)
- **Geometrid moths of Europe** (Several authors, Volume 1,2, 4 – more volumes to be published)
- Redondo, V.M. et al.: **Geometridae Ibericae**
- Lastuvka Z. & A. Lastuvka: **Sesiidae of Europe**
- **Noctuidae Europaea** (Several authors, 12 volumes)
- Naumann C.M. et al.: **Western Palearctic Zygaenidae**

Field guides to macro-moths which have a considerable overlap with the Portuguese fauna include:

- Robineau, R. et al.: **Guide des papillons nocturnes de France**
- Manley, C.: **British moths and butterflies**

## Observing moths

It takes relatively little effort to detect a good number of moths in your own backyard. The easiest way to do so is by searching for day-active moths during daylight hours, or by using a torch in the evening and catching flying individuals with a net. These and other techniques are fully described on [www.butterfly-conservation.org](http://www.butterfly-conservation.org) (see: discover more about moths), or in the literature referred to earlier.

Using a light trap is by far the most efficient technique to observe a large number of moths at once. The trap can be lit throughout the night and then moths can be identified in the early morning. The trapping success depends on the weather, the location, the trap type, the influence of the moon and artificial light sources, etc... In the Algarve, trapping can take place all year round, with the highest number of moths caught in the spring and autumn months.

If you are interested to making a moth trap, [www.atropos.info](http://www.atropos.info) (garden moths) offers a good outline plan to build your own Skinner trap. To illuminate it, you need a 125W mercury vapour light bulb and the accompanying light ballast. Both can be bought in a local electric store or purchased online.

By entering your moth records on websites such as [www.biodiversity4all.org](http://www.biodiversity4all.org) we can gain better insight into the flight patterns, habitat preferences and range of moths in the Algarve. This website is linked to Observado which records worldwide nature observations.

## Acknowledgements

This work has been coordinated by A Rocha Portugal and it would not have been produced without the enthusiasm of Paula Banza, and the hard work of many volunteers who assisted in the A Rocha study centre. I'm very thankful for the kind contributions from all photographers listed in the Photo credits. Photographers are credited using their initials underneath each photograph.

Grateful thanks to Martin Corley for his valuable data and for checking over the images for any identification errors. I am also indebted to Esther Pawley for editing the text, this has been very much appreciated.

It is my hope that this guide can be as complete as possible, therefore I urge anyone who is willing to offer additional information or photographs to please contact A Rocha Portugal. ([borboletas.noturnas@arocha.org](mailto:borboletas.noturnas@arocha.org))

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## Cossidae



Cossus cossus ©PP



Dyspessa ulula ©VJ



Zeuzera pyrina ©PP

## Sesiidae



Tinthia tineiformis ©AR



Paranthrene tabaniformis ©EM



Synanthedon stomoxiformis ©MM



Synanthedon codeti ©DM



Synanthedon theryi ©DM



Synanthedon myopaeformis ©MG



Bembecia ichneumoniformis ©VJ



Bembecia iberica ©NM



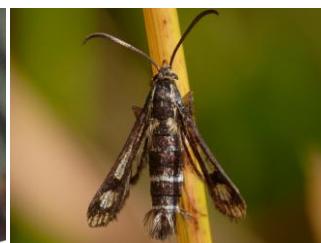
Bembecia sirphiformis ©DM



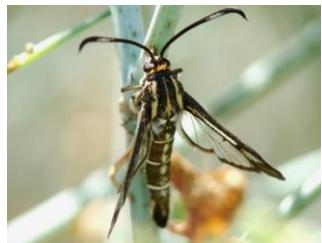
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Chamaesphecia mysiniformis ©DM

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*Chamaesphecia maurusia* ©FP*Chamaesphecia aerifrons* ©VI**Heterogynidae***Heterogynis penella* ©EM*Hoyosia codeti* ©DM**Limacodidae****Zygaenidae***Zygaena sarpdon* ©MG*Zygaena hilaris* ©Pa*Zygaena fausta* ©EM*Zygaena occitanica* ©WW*Zygaena rhadamanthus* ©EM*Zygaena lavandulae* ©Pa*Zygaena trifolii* ©PP*Aglaope infausta* ©MG

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## Drepanidae



*Watsonalla uncinula* ©Pa



*Cilix hispanica* ©MG



*Cilix algirica* ©AR



*Thyatira batis* ©WW



*Tethea ocularis* ©MG

## Lasiocampidae



*Malacosoma neustria* ©WW



*Lasiocampa trifolii* ©MG



*Macrothylacia digramma* ©PP



*Trichiura ilicis* ©EM



*Streblote panda* ♀ ©MoR



*Streblote panda* ♂ ©WS



*Psilogaster loti* ♂ ©YML



*Psilogaster loti* ♀ ©VJ



*Phyllodesma kermesifolia* ©YML



*Phyllodesma suberifolia* ©PP



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*Saturnia pyri* ©PP

## Sphingidae



*Marumba quercus* ©PP



*Mimas tiliae* ©PP



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*Laothoe populi* ©EM



*Agrius convolvuli* ©DW



*Acherontia atropos* ©AR



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*Abraxas pantaria* ©PP



*Aspitates ochrearia* ©AR



*Dyscia penulataria* ©AR



*Dyscia distinctaria* ©VJ



*Aleucis distinctata* ©EM



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*Chemerina caliginearia* ©Pa



*Nychiodes andalusiaria* ©EM



*Menophra abruptaria* ©FR



*Menophra japygiaria* ©PP



*Menophra nycthemeraria* ©PP



*Afiberina tenietaria* ©AR



*Calamodes occitanaria* ©VJ



*Peribatodes rhomboidaria* ©PP

Not Yet Available

*Peribatodes umbraria*



*Peribatodes ilicaria* ©EM

Not Yet Available

*Selidosema pyrenaearia*



*Selidosema taeniolaria* ©DM



*Hypomecis punctinalis* ©AR



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*Adactylotis gesticularia* ©FR



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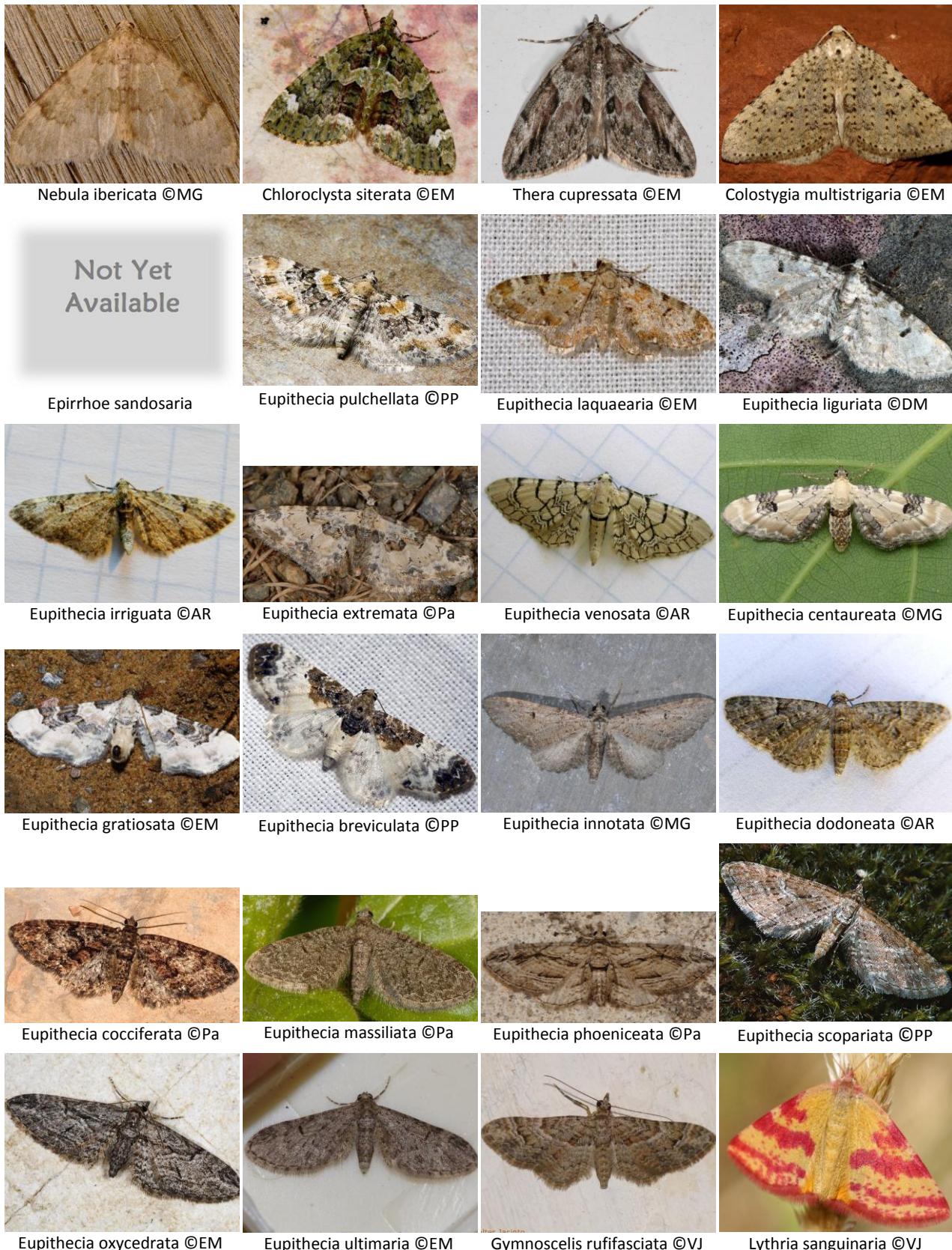
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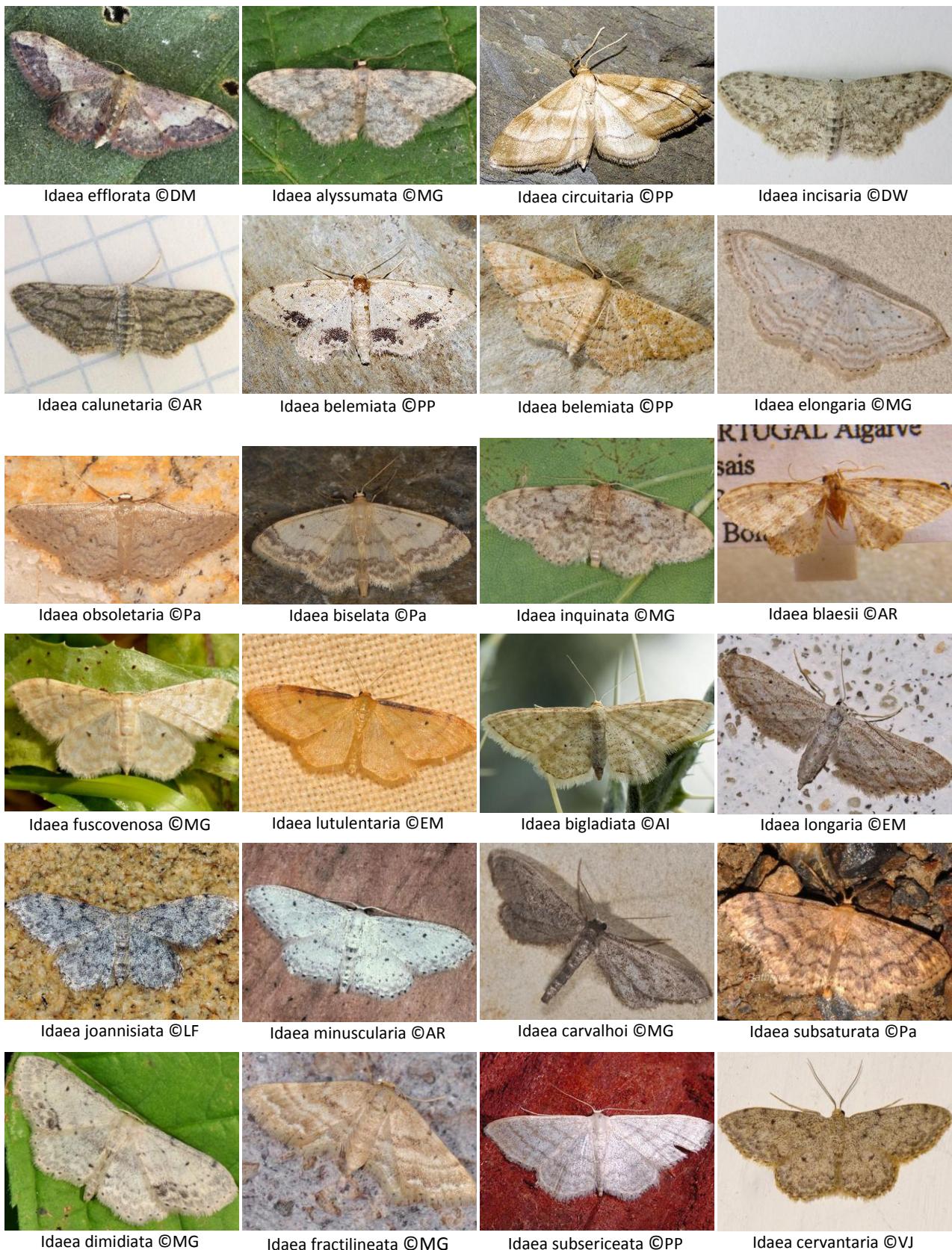
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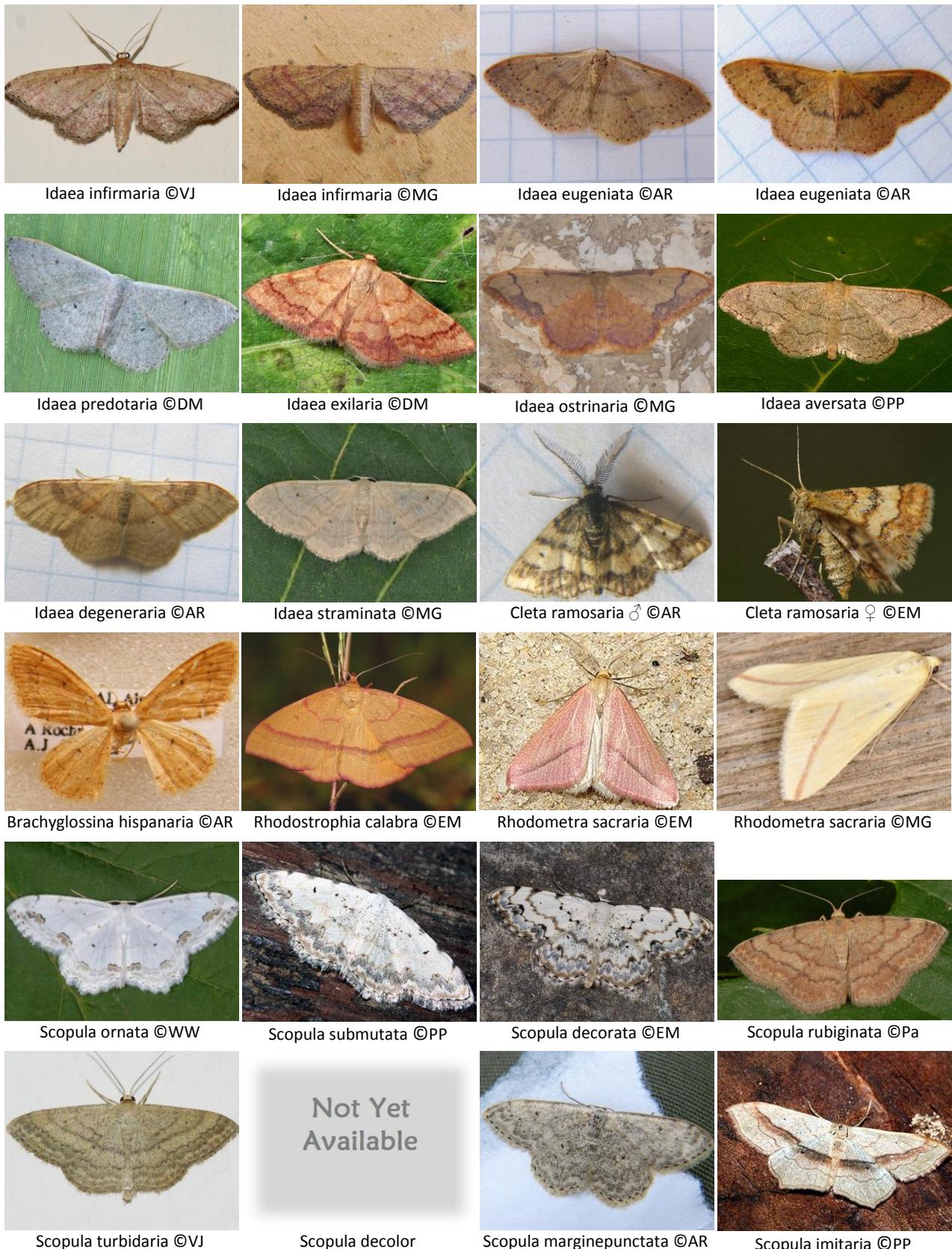
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Scopula emutaria ©PP



Scopula minorata ©AR



Scopula rufomixtaria ©MG



Scopula asellaria ©EM



Timandra comae ©PP

## Notodontidae



Thaumetopoea pityocampa ©PP



Thaumetopoea herculeana ©FR



Notodonta ziczac ©PP



Drymonia querna ©PP



Pterostoma palpina ©EM



Cerura iberica ©PP



Furcula bifida ©PP



Phalera bucephala ©PP



Peridea anceps ©PP



Harpyia milhauseri ©FR

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## Erebidae



*Lymantria dispar* ♂ ©PP



*Lymantria dispar* ♀ ©WW



*Ocneria atlantica* ©AR



*Ocneria rubea* ©PP



*Orgyia antiqua* ♂ ©PP



*Orgyia trigotephas* ©Pa



*Euproctis chrysorrhoea* ©MG



*Euproctis similis* ©DM



*Paidia rica* ©PP



*Apaidia mesogona* ©EM



*Miltochrista miniata* ©EM



*Lithosia quadra* ©PP



*Lithosia quadra* ©AR



*Eilema caniola* ©PP



*Eilema marcida* ©AR



*Eilema predotae* ©AR



*Eilema uniola* ©PP

Not Yet Available



*Eilema rungsi*

Not Yet Available



*Eilema bipuncta*



*Phragmatobia fuliginosa* ©AR



*Cymbalophora pudica* ©PP



*Spilosoma lutea* ©PP



*Diaphora mendica* ♂ ©MG



*Diaphora mendica* ♀ ©AR

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Catocala nymphagoga ©MG

Catocala nymphaea ©EM

Catocala mariana ©AR

## Nolidae



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## Euteliidae



*Eutelia adulatrix* ©DW

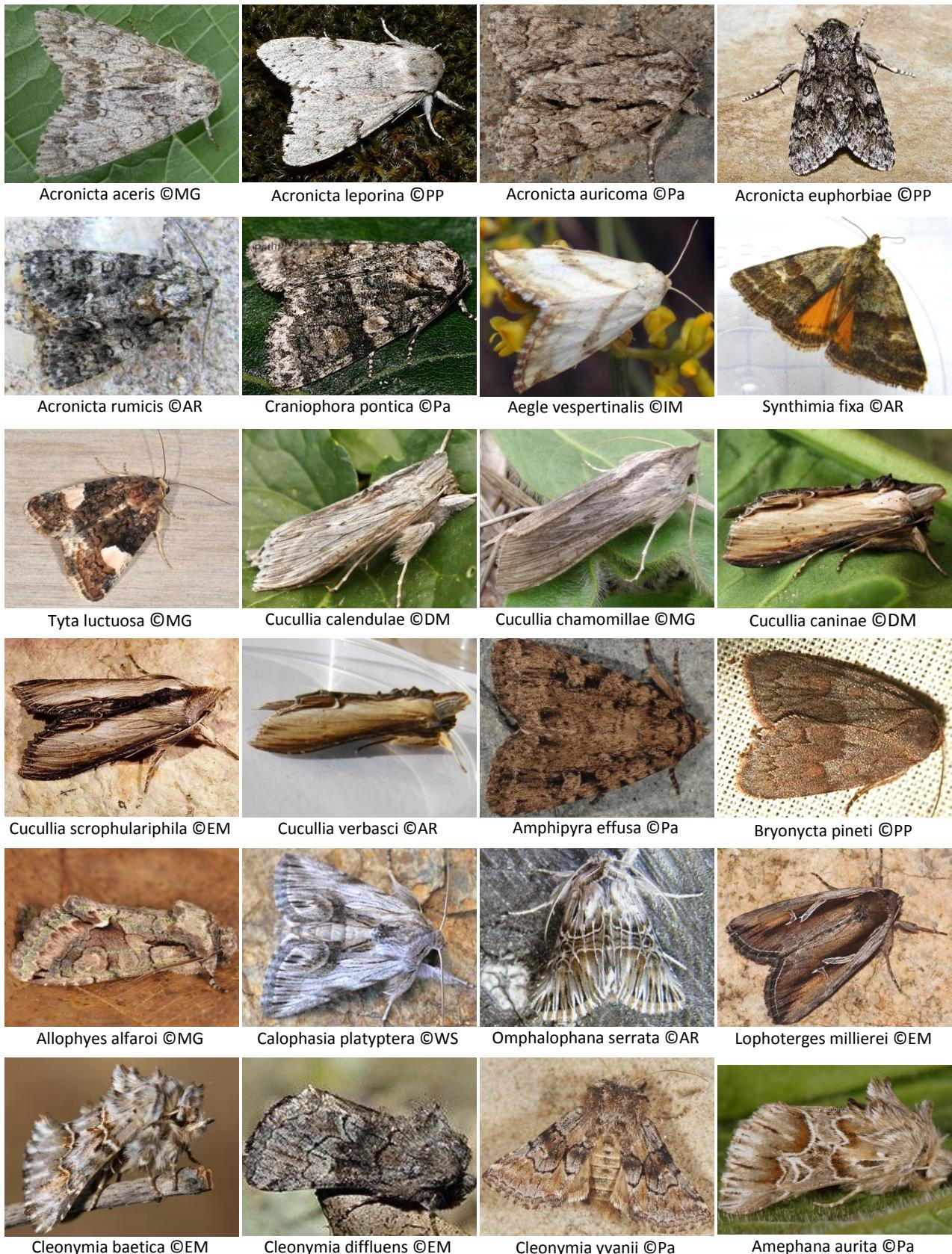
## Noctuidae



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Not Yet Available

*Unchelea myodea*



*Atethmia algirica* ©AR

*Dryobota labecula* ©VJ

*Dryobotodes monochroma* ©Pa

*Dryobotodes roboris* ©VJ

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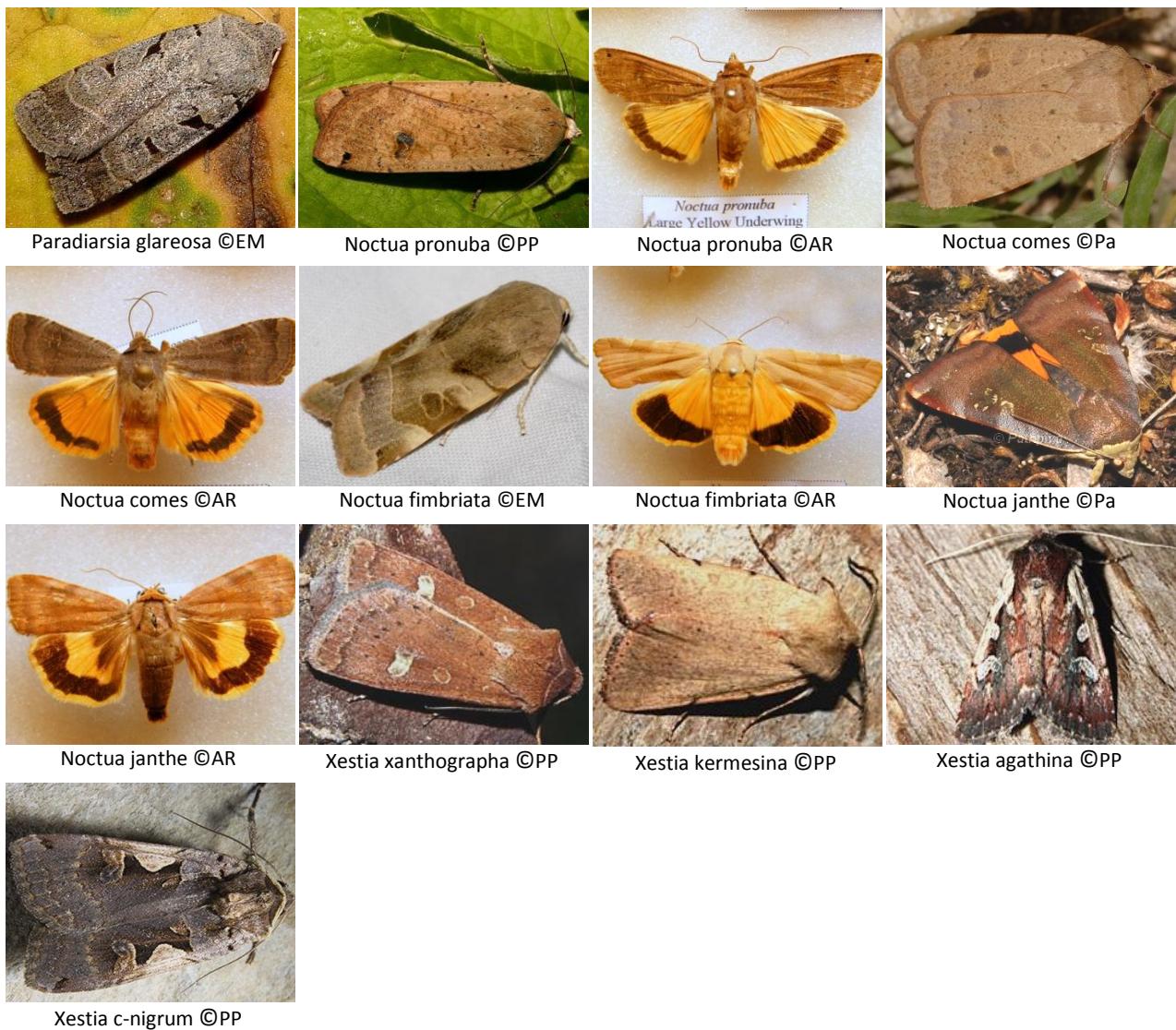
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# INDEX

## A

Abraxas pantaria .....	10
Abrostola triplasia .....	22
Acanthovalva inconspicuaria .....	12
Acasis viretata .....	14
Acherontia atropos .....	9
Acontia	
lucida.....	22
trabealis.....	22
Acronicta	
aceris.....	23
auricoma.....	23
euphorbiae .....	23
leporina.....	23
psi22 .....	23
rumicis.....	23
Adactylotis gesticularia .....	10
Aedia leucomelas .....	22
Aegle vespertinalis .....	23
Afriberina tenietaria .....	10
Aglaope infausta.....	7
Agrius convolvuli.....	9
Agrochola	
blaidea.....	26
haematidea.....	26
helvola.....	26
lychnidis.....	26
Agrotis	
alexandriensis.....	29
bigramma .....	29
boetica.....	29
catalaunensis.....	29
exclamationis.....	29
graslini.....	29
herzogi .....	29
ipsilon .....	29
lata .....	29
puta .....	29
sabulosa.....	29
segetum.....	29
spinifera.....	29
trux .....	29
Aleucis distinctata.....	10
Allophyes alfaroi .....	23
Amephana aurita .....	23
Ammopolia witzenmanni.....	27
Amphyipyra effusa.....	23
Amygdaloptera testaria.....	12
Anarta	
myrtilli .....	27
pugnax .....	27
sodae .....	27
trifolii.....	27
Apaidia mesogona.....	18
Apamea arabs .....	26
Aplasta ononaria.....	12
Aplocera efformata .....	12
Aporophyla	
chioleuca .....	27

lueneburgensis.....	27
nigra.....	27
Arctia villica .....	19
Aspitates ochrearia .....	10
Atethmia algirica .....	26
Athetis hospes .....	25
Autographa gamma.....	22

## B

Bembecia	
iberica .....	6
ichneumoniformis .....	6
sirphiformis.....	6
Bena bicolorana .....	21
Brachyglossina hispanaria .....	16
Bryonycta pineti .....	23
Bryophila	
microglossa.....	24
petrea.....	24
ravula .....	24
vandalusiae.....	24
Bustilloxia saturata.....	12

## C

Cabera	
exanthemata .....	11
pusaria .....	11
Calamodes occitanaria.....	10
Callopistria	
juventina.....	24
latreillei.....	24
Calophasia platyptera .....	23
Camptogramma bilineata .....	14
Caradrina	
aspera .....	24
clavipalpis .....	25
flavirena .....	25
germainii .....	25
noctivaga.....	25
proxima .....	24
Cardepia sociabilis .....	27
Catarhoe basochesiata .....	14
Catephia alchymista .....	20
Catocala	
coniuncta .....	20
conversa .....	20
dilecta .....	20
elocata .....	20
mariana .....	21
nymphaea .....	21
nymphagoga .....	21
optata .....	20
promissa .....	20
Cerastis faceta .....	29
Cerocala scapulosa .....	20
Cerura iberica .....	17
Chamaesphecia	
aerifrons .....	7

maurusia.....	7
mysiniformis .....	6

Charissa	
mucidaria .....	11
obscurata.....	11

Chemerina caliginearia .....	10
------------------------------	----

Chesias	
isabella .....	12
legatella .....	12
rufata .....	12

Chiasmia	
aestimaria .....	12
clathrata.....	11

Chilodes maritima .....	25
-------------------------	----

Chloantha hyperici .....	25
--------------------------	----

Chloroclysta siterata .....	13
-----------------------------	----

Chrysodeixis chalcites .....	22
------------------------------	----

Cilix	
-------	--

algirica .....	8
hispanica .....	8

Cleonymia	
baetica .....	23
diffluens .....	23
yvanii .....	23

Cleta ramosaria .....	16
-----------------------	----

Clytie illunaris .....	20
------------------------	----

Coenobia rufa .....	25
---------------------	----

Colocasia coryli .....	22
------------------------	----

Colostygia multistrigaria .....	13
---------------------------------	----

Compsoptera opacaria .....	12
----------------------------	----

Condica viscosa .....	24
-----------------------	----

Conisania andalusica .....	27
----------------------------	----

Conistra staudingeri .....	26
----------------------------	----

Coscinia cribaria .....	19
-------------------------	----

<b>Cossidae</b> .....	6
-----------------------	---

Cossus cossus .....	6
---------------------	---

Costaconvexa polygrammata .....	14
---------------------------------	----

Craniophora pontica .....	23
---------------------------	----

Crocallis	
-----------	--

auberti .....	11
---------------	----

dardoinaria .....	11
-------------------	----

tusciaria .....	11
-----------------	----

Cryphia	
---------	--

algae .....	24
-------------	----

pallida .....	24
---------------	----

Ctenoplusia	
-------------	--

accentifera .....	22
-------------------	----

limbirena .....	22
-----------------	----

Cucullia	
----------	--

calendulae .....	23
------------------	----

caninae .....	23
---------------	----

chamomillae .....	23
-------------------	----

scrophulariphila .....	23
------------------------	----

verbasci .....	23
----------------	----

Cyclophora	
------------	--

hyponoea .....	14
----------------	----

puppillary .....	14
------------------	----

Cymbalophora pudica .....	18
---------------------------	----

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**D**

<i>Denticucullus mabillei</i> .....	26
<i>Diachrysia chrysitis</i> .....	22
<i>Diaphora mendica</i> .....	18
<i>Drasteria cailino</i> .....	20
<b>Drepanidae</b> .....	8
<i>Drymonia querna</i> .....	17
<i>Dryobota labecula</i> .....	26
<i>Dryobotodes</i>	
<i>monochroma</i> .....	26
<i>roboris</i> .....	26
<i>tenebrosa</i> .....	27
<i>Dyscia</i>	
<i>distinctaria</i> .....	10
<i>penulataria</i> .....	10
<i>Dysgonia</i>	
<i>algira</i> .....	20
<i>torrida</i> .....	20
<i>Dyspessa ulula</i> .....	6

**E**

<i>Earias insulana</i> .....	21
<i>Eilema</i>	
<i>bipuncta</i> .....	18
<i>caniola</i> .....	18
<i>marcida</i> .....	18
<i>predotae</i> .....	18
<i>rungsi</i> .....	18
<i>uniola</i> .....	18
<i>Ekboarmia atlanticaria</i> .....	10
<i>Ennomos</i>	
<i>alniaria</i> .....	11
<i>fuscantaria</i> .....	11
<i>quercaria</i> .....	11
<i>Epirrhoe sandosaria</i> .....	13
<i>Episema grueneri</i> .....	26
<b>Erebidae</b> .....	18
<i>Eremopoda orana</i> .....	26
<i>Eublemma</i>	
<i>candidana</i> .....	19
<i>cochylioides</i> .....	19
<i>ostrina</i> .....	19
<i>parva</i> .....	19
<i>polygramma</i> .....	19
<i>pura</i> .....	19
<i>scitula</i> .....	19
<i>Euclidia glyphica</i> .....	20
<i>Eucoptocnemis optabilis</i> .....	29
<i>Eupithecia</i>	
<i>breviculata</i> .....	13
<i>centaureata</i> .....	13
<i>cocciferata</i> .....	13
<i>dodoneata</i> .....	13
<i>extremata</i> .....	13
<i>gratiosata</i> .....	13
<i>innotata</i> .....	13
<i>irriguata</i> .....	13
<i>laquearia</i> .....	13
<i>liguriata</i> .....	13
<i>massiliata</i> .....	13
<i>oxycedrata</i> .....	13
<i>phoeniceata</i> .....	13
<i>pulchellata</i> .....	13

<i>scopariata</i> .....	13
<i>ultimaria</i> .....	13
<i>venosata</i> .....	13
<i>Euplagia quadripunctaria</i> .....	19
<i>Euproctis</i>	
<i>chrysorrhoea</i> .....	18
<i>similis</i> .....	18
<i>Eutelia adulatrix</i> .....	22
<b>Euteliidae</b> .....	22
<i>Euxoa</i>	
<i>oranaria</i> .....	29
<i>temera</i> .....	29

**F**

<i>Furcula bifida</i> .....	17
-----------------------------	----

**G**

<b>Geometridae</b> .....	10
<i>Gerinia honoraria</i> .....	11
<i>Gnopharmia stevenaria</i> .....	12
<i>Gnophos perspersata</i> .....	11
<i>Gortyna</i>	
<i>borellii</i> .....	25
<i>puengeleri</i> .....	25
<i>xanthenes</i> .....	25
<i>Grammodes bifasciata</i> .....	20
<i>Gymnoscelis rufifasciata</i> .....	13

**H**

<i>Hadena</i>	
<i>albimacula</i> .....	28
<i>bicruris</i> .....	28
<i>confusa</i> .....	28
<i>magnolii</i> .....	28
<i>perplexa</i> .....	28
<i>sancta</i> .....	28
<i>Harpyia milhauseri</i> .....	17
<i>Hecatera</i>	
<i>dysodea</i> .....	27
<i>weissi</i> .....	28
<i>Helicoverpa armigera</i> .....	24
<i>Heliothis</i>	
<i>incarnata</i> .....	24
<i>nubigera</i> .....	24
<i>peltigera</i> .....	24
<i>Hemaris fuciformis</i> .....	9
<i>Hemistola chrysoprasaria</i> .....	12
<b>Heterogynidae</b> .....	7
<i>Heterogynis penella</i> .....	7
<i>Hippotion celorio</i> .....	9
<i>Hoplodrina</i>	
<i>ambigua</i> .....	25
<i>hesperica</i> .....	25
<i>Horisme scorteata</i> .....	14
<i>Hospitalia flavolineata</i> .....	14
<i>Hoyosia codeti</i> .....	7
<i>Hyles livornica</i> .....	9
<i>Hypena</i>	
<i>lividalis</i> .....	19
<i>obsitalis</i> .....	19
<i>Hypomecis punctinalis</i> .....	10

**I**

<i>Idaea</i>	
<i>alyssumata</i> .....	15
<i>antiquaria</i> .....	14
<i>aversata</i> .....	16
<i>belemiata</i> .....	15
<i>bigladiata</i> .....	15
<i>biselata</i> .....	15
<i>blaesi</i> .....	15
<i>calunetaria</i> .....	15
<i>carvalhoi</i> .....	15
<i>cervantaria</i> .....	15
<i>circuitaria</i> .....	15
<i>consanguiberica</i> .....	14
<i>degeneraria</i> .....	16
<i>dimidiata</i> .....	15
<i>efflorata</i> .....	15
<i>elongaria</i> .....	15
<i>eugeniata</i> .....	16
<i>exilaria</i> .....	16
<i>fractilineata</i> .....	15
<i>fuscovenosa</i> .....	15
<i>incisaria</i> .....	15
<i>infirmitaria</i> .....	16
<i>inquinata</i> .....	15
<i>joannisiata</i> .....	15
<i>litigiosaria</i> .....	14
<i>longaria</i> .....	15
<i>lusohispanica</i> .....	14
<i>lutulentaria</i> .....	15
<i>mediaria</i> .....	14
<i>minuscularia</i> .....	15
<i>mustelata</i> .....	14
<i>obsoletaria</i> .....	15
<i>ochrata</i> .....	14
<i>ostrinaria</i> .....	16
<i>predotaria</i> .....	16
<i>sardoniata</i> .....	14
<i>straminata</i> .....	16
<i>subsaturata</i> .....	15
<i>subsericeata</i> .....	15
<i>Isturgia</i>	
<i>filumata</i> .....	12
<i>miniosaria</i> .....	12
<i>pulinda</i> .....	12
<i>Itame vincularia</i> .....	12

**L**

<i>Lacanobia oleracea</i> .....	27
<i>Laothoe populi</i> .....	9
<i>Larentia malvata</i> .....	14
<i>Lasiocampa trifolii</i> .....	8
<b>Lasiocampidae</b> .....	8
<i>Leucania</i>	
<i>joannisi</i> .....	28
<i>loreyi</i> .....	28
<i>punctosa</i> .....	28
<i>putrescens</i> .....	28
<i>zeae</i> .....	28
<i>Leucochlaena oditis</i> .....	26
<b>Limacodidae</b> .....	7
<i>Lithophane</i>	
<i>leautieri</i> .....	26

semibrunnea.....	26
Lithosia quadra.....	18
Lophoterges millierei .....	23
Luperina	
dumerilii.....	25
nickerlii .....	25
testacea.....	25
Lycia hirtaria.....	10
Lycophotia	
erythrina .....	29
molothina.....	29
Lygephila craccae.....	20
Lymantria dispar.....	18
Lythria sanguinaria .....	13
<b>M</b>	
Macroglossum stellatarum.....	9
Macrothylacia digramma.....	8
Malacosoma neustria .....	8
Mamestra brassicae .....	27
Marumba quercus.....	9
Meganola	
albula.....	21
strigula.....	21
togatalalis .....	21
Menophra	
abruptaria .....	10
japygiaria .....	10
nycthemeraria.....	10
Mesapamea secalis.....	26
Mesoligia furuncula.....	26
Metachrostis velox.....	20
Metopoceras felicina.....	24
Microloxia herbaria .....	12
Miltochrista miniata .....	18
Mimas tiliae .....	9
Minucia lunaris .....	20
Mniotype occidentalis .....	27
Mormo maura .....	25
Myinodes interpunctaria.....	10
Mythimna	
albipuncta .....	28
ferrago .....	28
l-album .....	28
languida.....	28
litoralis .....	28
prominens.....	28
riparia .....	28
sicula.....	28
unipuncta.....	28
vitellina .....	28
<b>N</b>	
Nebula ibericata .....	13
Noctua	
comes.....	30
fimbriata.....	30
janthe .....	30
pronuba .....	30
Noctuidae.....	22
Nodaria nodosalis.....	19
Nola	
chlamitulalis.....	21
cicatricalis .....	21
squalida.....	21
subchlamydula .....	21
tutulella .....	21
<b>Nolidae</b> .....	21
Nonagria typhae.....	25
Notodontidae.....	17
Nychiodes andalusaria .....	10
Nycteola	
columbana .....	21
siculana.....	21
Nycterosea obstipata .....	14
Nyctobrya muralis .....	24
<b>O</b>	
Ochropleura	
leucogaster .....	29
plecta .....	29
Ocneria	
atlantica.....	18
rubea.....	18
Odice	
jucunda .....	19
pergrata.....	19
Omphalophana serrata.....	23
Omphaloscelis lunosa .....	26
Onychora agaritharia .....	12
Ophiusa tirhaca .....	20
Opisthograptis luteolata.....	11
Orgya	
antiqua .....	18
trigoteprhas .....	18
Oria musculosa .....	25
Orthosia	
cerasi .....	27
cruda.....	27
gothica .....	27
incerta .....	27
<b>P</b>	
Pachynemria	
hippocastanaria .....	11
tibiaria .....	11
Paidia rica .....	18
Pandesma robusta .....	20
Paradiarsia glareosa .....	30
Paranthrene tabaniformis .....	6
Parascotia nisseni .....	19
Pechipogo plumigeralis .....	19
Peribatodes	
ilicaria.....	10
rhomboidaria .....	10
umbraria.....	10
Peridea anceps .....	17
Peridroma saucia .....	28
Petrophora	
chlorosata .....	11
convergata .....	11
narbonea.....	11
Phaiogramma	
etruscaria .....	12
faustinata .....	12
Phalera bucephala.....	17
Phlogophora meticulosa .....	25
Phragmatobia fuliginosa .....	18
Phyllodesma	
kermesifolia .....	8
suberifolia .....	8
Phytometra viridaria .....	20
Polymixis	
argillaceago .....	27
dubia.....	27
lichenea .....	27
xanthomista .....	27
Polyphaenis sericata.....	25
Proserpinus proserpina .....	9
Pseudenargia ulicis .....	25
Pseudoips prasinana .....	21
Pseudopanthera macularia .....	11
Pseudoterpnia coronillaria .....	12
Pseudozarba bipartita .....	22
Psilogaster loti .....	8
Pterostoma palpina .....	17
Pyropteron	
chrysidiiformis .....	6
doryliformis .....	6
hispanica .....	6
koschwitzi .....	6
leucomelaena .....	6
muscaeformis .....	6
<b>R</b>	
Raphia hybris .....	22
Recoropha canteneri .....	24
Rhizedra lutosa .....	25
Rhodometra sacraria .....	16
Rhodostrophia calabra .....	16
Rhoptria asperaria .....	12
Rhypagla lacernaria .....	20
<b>S</b>	
Saturnia pyri .....	9
<b>Saturniidae</b> .....	9
Schrankia costaestrigalis .....	19
Scoliopteryx libatrix .....	19
Scopula	
asellaria .....	17
decolor .....	16
decorata .....	16
emutarria .....	17
imitaria .....	16
marginepunctata .....	16
minorata .....	17
ornata .....	16
rubiginata .....	16
rufomixtaria .....	17
submutata .....	16
turbidaria .....	16
Scotopteryx peribolata .....	14
Selenia lunularia .....	11
Selidosema	
pyrenaearia .....	10
taeniolaria .....	10
Sesamia nonagrioides .....	26
<b>Sesiidae</b> .....	6

Smerinthus ocellata.....	9
<b>Sphingidae</b> .....	9
Spilosoma lutea.....	18
Spodoptera	
cilium .....	24
exigua.....	24
littoralis .....	24
Spudaea rutticilla.....	26
Stegania trimaculata.....	11
Stilbia andalusiaca.....	24
Streblote panda .....	8
Synanthedon	
codeti.....	6
myopaeformis.....	6
stomoxiformis .....	6
theryi .....	6
Synthimia fixa .....	23
<b>T</b>	
Tathorhynchus exsiccata .....	20
Tephronia	
Ihommearia.....	10
sepiaria.....	10
Tethea ocularis.....	8
Thalpophila vitalba.....	25
Thaumetopoea	
herculeana.....	17
pityocampa.....	17
Thera cupressata .....	13
Thyatira batis .....	8
Thysanoplusia	
daubei .....	22
orichalcea.....	22
Timandra comae .....	17
Tinthia tineiformis.....	6
Toulgoetia cauteriata.....	11
Trichiura ilicis .....	8
Trichoplusia ni.....	22
Trigonophora flammearia .....	27
Tyria jacobaeae .....	19
Tyta luctuosa.....	23
<b>U</b>	
Unchelea myodea .....	26
Utetheisa pulchella.....	19
<b>W</b>	
Watsonalla uncinula.....	8
<b>X</b>	
Xanthorhoe ferrugata.....	14
Zestia	
agathina.....	30
c-nigrum.....	30
kermesina .....	30
xanthographa.....	30
Xylene exsoleta .....	26
Xylocampa areola .....	24
<b>Z</b>	
Zebeeba falsalis .....	19
Zethes insularis .....	20
Zeuzera pyrina.....	6
Zygaena	
fausta.....	7
hilaris .....	7
lavandulae .....	7
occitanica.....	7
rhadamanthus.....	7
sarpedon.....	7
trifolii .....	7
<b>Zygaenidae</b> .....	7

