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Spialia rosae Hernández-Roldán, Dapporto, Dincă, Vicente & Vila,
2016, and 17 moth species new for the fauna of Portugal
(Insecta: Lepidoptera)

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Abstract: Far from complete, the Portuguese Lepidoptera faunal list is still unsettled as many new species are added (and deleted) year after year. Here, 18 hitherto unknown species are added to that list. Whilst most of these discoveries are probably just the result of an intensification of field-work in formerly less known areas of the country, e.g. *Xanthorhoe designata* (Hufnagel, 1767), *Xestia sexstrigata* (Haworth, 1809), *Apamea epomidion* (Haworth, 1809), etc., or the use of techniques such as DNA barcoding (*Spialia rosae* Hernández-Roldán, Dapporto, Dincă, Vicente & Vila, 2016), others probably result from range expansions by allochthonous species with an invasive potential, such as the case of *Epiphyas postvittana* (Walker, 1863) and likely *Prays peregrina* Agassiz, 2007.

Key words: Lepidoptera, new species, distribution, Portugal.

Resumen: *Spialia rosae* Hernández-Roldán, Dapporto, Dincă, Vicente & Vila 2016, y 17 especies de polillas nuevas para la fauna de Portugal (Insecta: Lepidoptera). Lejos de considerarse completa, la lista faunística de los Lepidoptera portugueses no es todavía definitiva, ya que se añaden (y eliminan) muchas nuevas especies año tras año. Se añaden aquí 18 especies todavía desconocidas a dicha lista. Mientras que la mayoría de estos descubrimientos son probablemente sólo el resultado de intensificar el esfuerzo de muestreo en áreas del país menos conocidas previamente, p. ej. *Xanthorhoe designata* (Hufnagel, 1767), *Xestia sexstrigata* (Haworth, 1809), *Apamea epomidion* (Haworth, 1809), o del uso de técnicas como el DNA barcoding (*Spialia rosae* Hernández-Roldán, Dapporto, Dincă, Vicente & Vila, 2016), otros probablemente resultan de la expansión de especies alóctonas potencialmente invasoras, como es el caso de *Epiphyas postvittana* (Walker, 1863) y posiblemente *Prays peregrina* Agassiz, 2007.

Palabras clave: Lepidoptera, nuevas especies, distribución, Portugal.

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Introduction

Whilst mainland Portugal is a small territory lying in the periphery of Europe, in the western tip of a peninsula and surrounded by the Atlantic ocean on two sides, it still harbours an interesting diversity of butterflies and moths (Maravalhas, 2003). However, a great part of it is still not properly studied, and the country's species list is still very prone to fluctuations given to changing concepts of what constitutes a species, new taxonomic research and its tools, or the dynamics of people (increasing or

decreasing field-work effort) and of species (climate-change, human-mediated transport of goods and products and their hitch-hiking insects).

In fact, since the publication of the latest revisionary list of Portuguese Lepidoptera (Corley, 2015), which listed 2588 species, almost 200 species have been subsequently found in the country (Marabuto, pers. obs.). Between published and still unpublished data requiring further study, we are closely approaching 2800 species and should perhaps reach the figure of 3000 before 2030. After field-work by the author and colleagues, it was found that the following 18 species represent hitherto unknown species for the country.

Material and methods

Specimens were recorded either during the day through active searching or captured at mercury vapour light over a white sheet (160W blended-bulb). Otherwise, early stages were reared in captivity after their visual location in the field.

Identification of the majority of species was carried out through external morphology, while others required dissection (gen. det.) or genetic analysis, which is either way indicated in these conflicting cases. The nomenclature of families and species and order mostly follows *Fauna Europaea* (Karsholt et al., 2013) and Corley (2015). The nomenclature of plant names follows Flora-On (2022).

List of families and species

PSYCHIDAE

1. *Ptilocephala moncaunella* (Chapman, 1903)

- Lama Grande, P.N. Montesinho, Bragança. 1350 m a.s.l. MGRS: 29TPG8250. 19.VI.2004. Eduardo Marabuto, Paulo Simões & Ernestino Maravalhas leg. Daytime spotting. (Fig. 1a). Gen. det.

Field-work aiming at comprehending better the Lepidoptera fauna of the NE corner of Portugal gave rise to a publication reporting on the new finds (Marabuto & Maravalhas, 2008). However, not all was published there, and the only collected specimen of *P. moncaunella* remained unidentified, because of minor habitus mismatch from *Ptilocephala monteiroi* (Bourgogne, 1953) (Fig. 1b), the most likely identity of this specimen.

The publication by Arnscheid & Weidlich (2017), prompted its final assignment to *P. moncaunella* (conf. W. Arnscheid) after the more yellow thorax and proximal area of abdomen, male genitalia and wider wings. The species had previously been listed for Portugal without justification (Sobczyk, 2011), based on Sauter & Hättenschwiler in Karsholt & Razowski (1996) (Corley, 2015). The closely related *P. monteiroi* inhabits a different ecological niche in Mediterranean-type environments and is widespread in Portugal, at least from the Lisbon area to the extreme north of the country (Marabuto, pers. obs.; Corley, 2015).

YPONOMEUTIDAE

2. *Pseudoswammerdamia combinella* (Hübner, 1786)

- Proença a Velha, Idanha-a-Nova, Castelo Branco. 340 m a.s.l. MGRS: 29TPE5133. 27.V.2013. Eduardo Marabuto leg. Daytime spotting.
- Vale da Torre, Castelo Branco. 350 m a.s.l. MGRS: 29TPE3529. 4.IV.2020. Tita Frazão Lopes obs. Eduardo Marabuto det. Daytime spotting. (Fig. 1c).

A widespread euriecioid species in Europe but with few records in the Iberian Peninsula. Its limiting factor is mostly the presence of suitable hostplants. Larvae are leaf-miners at first and then live on a

silken web under leaves of *Prunus spinosa* (Agassiz, 1987), but also the closely related *P. domestica* (Schütze, 1931), probably sharing distribution with *Thecla betulae* (Linnaeus, 1758) in Portugal (Marabuto *et al.*, 2022).

PRAYDIDAE

3. *Prays peregrina* Agassiz, 2007

- Estorãos, Ponte de Lima, Viana do Castelo. 30 m a.s.l. MGRS: 29TNG2926. 28.IX.2021; 16.XII.2021; 17.II.2022; 07.III.2022. Ernesto Gonçalves leg., Eduardo Marabuto det. Larvae, pupae or adults on *Ruta graveolens*. (Figs. 1e, f, g).
- Gemunde, Maia, Porto. MGRS: 29TNF3069. 25.X.2021. Carlos Silva obs. Adults.
- Árvore, Vila do Conde, Porto. 8 m a.s.l. MGRS: 29TNF2175. 09.VII.2022. Luis P. da Silva obs. Adult.
- Verdemilho, Aveiro. 15 m a.s.l. MGRS: 29TNE2996. 23.VII.2022. Eduardo Marabuto leg. Frass and larval exuviae on *R. graveolens*.

This enigmatic species was recently described from England where specimens were first but repeatedly collected in London from 2003 to 2007 (Agassiz, 2007). Later, it has been found in SE England as well (Agassiz & Kiddie, 2016) and in 2019 in the Canary Islands (Falck & Karsholt, 2019). Whilst its origin is not yet precisely known, SE Asia and the Mediterranean have been suggested, because its closest relatives are Asiatic (Agassiz, 2007) and its local host-plant was discovered to be *R. chalepensis* and *R. graveolens* (Plant, 2016), widespread south-European species but also widely kept in gardens for their purportedly deterrent properties against insects and misfortune (evil eye).

These records are thus the first for Portugal, the Iberian Peninsula and the European mainland, of a species which now presents itself as provisionally an Atlanto-Mediterranean element. Its origin has been considered as cryptogenic in López-Vaamonde *et al.* (2010), i.e., not known. Indeed, it is not yet known whether the current findings in Portugal represent its hitherto undiscovered native range, or the species is a recent colonist. A support for the latter hypothesis may come from the generalised finding of the species in the NW of Portugal and always under an anthropogenic context, exploiting only garden *R. graveolens*, even though there are other native ruses widespread in Portugal. Perhaps ruses are only secondary hosts from an original different Rutaceae, like *Citrus* spp., as has happened with some butterflies of the genus *Papilio* Linnaeus, 1758 in the Nearctic, choosing ruses over native hosts (e.g., Ferris & Emmel, 1982).

GLYPHIPTERIGIDAE

4. *Digitivalva occidentella* (Klimesch, 1956)

- Janes, Cascais, Lisboa, 130 m a.s.l. MGRS: 29SMC6188. 27.V.2015. Eduardo Marabuto leg. At light-trap. Gen. det. (Fig. 1d).

Digitivalva occidentella seems to be a seldom recorded West-Mediterranean species not known by many more specimens than the type material (Klimesch, 1956). In Iberia this species is apparently known only from Andalucía (Gaedike, 1971).

Its known host-plant, *Inula conyza*, is locally present in the area (Porto *et al.*, 2020), under *Pinus halepensis* light woodland.

OECOPHORIDAE

5. *Epicallima mikkolai* (Lvovsky, 1995)

- Semino (Vila Sol), Quarteira, Loulé, Faro. 40 m a.s.l. MGRS: 29SNB8005. 11.IX.2020. Eduardo Marabuto leg. At light-trap. (Fig. 1h).

A poorly known species, otherwise known from Tunisia (Lvovsky, 1995), SE Spain, where it was reared from larvae collected from the palm *Phoenix dactylifera* (Vives Moreno, 2003), and the Canary islands in Gran Canaria (Falck & Karsholt, 2019). A number of specimens in *BiodiversidadVirtual* database from SE Iberia and currently assigned to either *Epicallima* sp. or *E. formosella* (Denis & Schiffermüller, 1775) are phenotypically similar to the collected specimen and should be assigned to this species if material is available for dissection or when wing-pattern differences are properly assessed.

SCYTHRIDIDAE

6. *Eretmocera medinella* (Staudinger, 1859)

- EVOA, Vila Franca de Xira, Lisboa. 1 m a.s.l. MGRS: 29SNC0299. VIII.2017 & 27.VIII.2019. Pedro Henriques leg., Eduardo Marabuto det. Several specimens. Daytime spotting. (Fig. 1i).

A day-flying small moth private to salt-marshes and salt-steppes but apparently very local. It was first described from Chiclana (Cádiz, Andalucía) by Staudinger (1859) and all Spanish records still come from the Atlantic shores of this autonomous community (Huertas Dionisio, 2002, 2007). Otherwise, the species has been recorded from Sicily, Cyprus, eastern Turkey, Central Asia, S. Ural, Iran, Morocco, Algeria, Libya, and Tunisia (Walsingham, 1889; Rungs, 1967, 1979; Bengtsson, 1997; Nupponen *et al.*, 2000; Özbek, 2009; Barton, 2018). This species is apparently oligophagous on hallophytic *Amaranthaceae* and larvae have been cited on *Beta vulgaris*, *Salsola vermiculata*, *Atriplex halimus*, *Atriplex patula* (Huertas Dionisio, 2002, 2007), *Atriplex prostrata* (Huertas Dionisio, 2007), *Halogeton sativus* (Rungs, 1967) and probably *Atriplex semibaccata* (Barton, 2018).

Current observations report to adult individuals hopping on the salt-barren fields amongst halophytic therophytes.

TORTRICIDAE

7. *Epiphyas postvittana* (Walker, 1863)

- Peninha, Colares, Sintra, Lisboa. 330 m a.s.l. MGRS: 29SMC5991. 20.X.2014. Eduardo Marabuto leg. 2 specimens at light-trap. (Fig. 2a).

Chronological first Iberian record, the nearest known records in Europe lie in NW France (Cosson, 2009) and the extreme south of Spain (Gaona *et al.*, 2020).

The light-brown Apple-moth is originally native to Australia but has been known in New Zealand since 1891 (Evans, 1952) and in Great Britain since the 1930's (Meyrick, 1937; Baker, 1968), from where it may have colonised Ireland (Bond, 1998), France since 2000 (Cosson, 2009), while scattered records exist from the Netherlands (Wolschrijn & Kuchlein, 2006) and Sweden (Svensson, 2009). New Caledonia and Hawaii have also been colonised (Danthanarayana, 1975), and more recently California (Varela *et al.*, 2008; Brown *et al.*, 2010) and the Azores (Vieira & Karsholt, 2010; Vieira *et al.*, 2012; Pérez Santa-Rita *et al.*, 2018). After the finding reported here, it has been further recorded in the extreme south of Spain (Cádiz) by Gaona *et al.* (2020), so the species may be expanding. The caterpillars are extremely polyphagous, known to be able to feed on up to 500 plant species belonging to 363 genera in 121 different families (Suckling & Brockerhoff, 2010), and hence the species has potential economic importance, justifying aggressive control measures such as the ones being carried out in California (Venette *et al.*, 2003). The spreading of the species and ulterior finding in Portugal follows the climatic suitability of SW Europe and particularly the western coastal areas of the continent for the species, according to ecological niche-modelling (He, 2010).

8. *Lobesia limoniana* (Millière, 1860)

- Ludo, Ria Formosa, Faro. 2 m a.s.l. MGRS: 29SNA8997. 25.XII.2022. Eduardo Marabuto leg. Larval spinings on *Limonium ovalifolium*. (Fig. 2c). Adults reared (Fig. 2d) and gen. det.

- Vilamoura (marina), Faro. 1 m a.s.l. MGRS: 29SNB7703. 02.XII.2022. Eduardo Marabuto leg. Larval spinings on *Limonium algarvense*. Adults reared.

A species with a chiefly West-Mediterranean distribution and deeply associated with coastal salt-marshes, where larvae feed on *Limonium* spp. (Plumbaginaceae). Occurs in France, including Corsica (Millière, 1860; Kennel, 1916), Spain in Cataluña (Baixeras, 1990), Alicante (Huemer & Wieser, 2010) and Andalucía (Huertas Dionisio, 2002, 2007, 2022), Italy, including Sicily (Karsholt & Razowski, 1996; Razowski, 2003) and in Greece (Trematerra, 2007).

In Andalucía, it occurs in the contiguous salt-marshes to the Portuguese Algarve, in Ayamonte (Huelva), where adults have been reported in at least two annual generations from January to April and August to October (Huertas Dionisio, 2022). The early stages have been described by Millière (1860) and more recently by Huertas Dionisio (2022). Larvae can be found in the flower-heads, buds and leaves of *Limonium algarvense* and *L. narbonense* during the winter (Huertas Dionisio, 2002, 2007, 2022).

It was in *L. ovalifolium* that several larvae were found in spun-up shelters made out of leaves. Upon rearing, the identity of the species was confirmed through adult morphology and dissection. The species is very similar in all stages with *Lobesia indusiana* (Zeller, 1847), which is already known from Portugal (Corley, 2015). However syntopic and ecologically similar the two species are (Razowski, 2003), they are apparently seasonally asynchronous, feed on different *Limonium* spp. and can be distinguished on some early stage details and adult wingspan (Huertas Dionisio, 2022). This represents a westward expansion of the known distribution of the species by about 65 km.

HESPERIIDAE

9. *Spialia rosae* Hernández-Roldán, Dapporto, Dincă, Vicente & Vila, 2016

- Bemposta (barragem), Mogadouro, Bragança. 350 m a.s.l. MGRS: 29TQF1074. 19.07.2019. One specimen. Eduardo Marabuto leg. Daytime spotting. COI barcoded. (Fig. 2b).
- Nave de Haver, Almeida, Guarda. 720 m a.s.l. MGRS: 29TPE8686. 22.07.2021. Several specimens, one female ovipositing on *Rosa canina*. Eduardo Marabuto & Tatiana Moreira leg. Daytime spotting.

Since Hernández-Roldán *et al.* (2016) revealed that Iberian populations of *Spialia sertorius* (Hoffmannsegg, 1804) actually encompass a cryptic species otherwise only distinguishable on ecology, genetics and wing chemical profiles (*Spialia rosae*), an interest arose on where in the Iberian geography would this new species be present. This fostered the appearance of many new records of this new species through mainly two methods: 1) the field-observation of ovipositing females on *Rosa* spp. or the location of feeding larvae on this host-plant, or 2) the genetic analysis of a DNA fragment with discriminant properties, like the barcode segment (5') of mitochondrial gene COI. The species was initially found as scattered through some Spanish mountain ranges (Sierra Nevada, La Sagra, Iberian System, E Cantabrian range, Sierra de Guadarrama, Sierra de Gredos and near the Pyrenees) but has since also been found in the Subbaetic ranges and Jaén (Obregón *et al.*, 2020), eastwards to Cataluña (Hinojosa *et al.*, 2021) and more lowland sites in northern Iberia (Montoya Jiménez *et al.*, 2022). Thus, although the species was of possible occurrence in Portugal, informed searching was needed for its location.

As such, the first located specimen was a female found hovering over a bush of *Rosa micrantha*, but failing to land because of wind conditions. It was collected and barcoded for the first part (5') of COI mtDNA gene (protocols in Marabuto *et al.*, 2020), and confirmed as a first record for Portugal. The concerned specimen has a 100% match (0% p. distance) with the only haplotype found in the centre of Spain, coloured in red in Hinojosa *et al.* (2021). Moreover, this first record increases the ecological breadth of the species for its location implies the lowest confirmed altitude for the species so far (350 m a.s.l.) and under a strong continental Mediterranean environment at the bottom of the Douro river valley. This observation greatly increases the potential distribution area of the species within the Iberian Peninsula.

The second confirmed record corresponds to a more traditional setting for the specimen, a submontane hill at higher altitude (720 m a.s.l.), where small bushes of *Rosa canina* hosted a small population of *S. rosae*, with perching males ready to take flight upon the arrival of any passing butterfly. A female was found egg-laying on one of these roses.

These Portuguese findings considerably expand the known distribution of the species westwards and open many possibilities for a potentially much wider range of the species in Iberia.

CRAMBIDAE

10. *Titanio tarraconensis* Leraut & Luquet, 1982

- Serra da Nogueira (summit), Bragança. 1300 m a.s.l. MGRS: 29TPG7820. 16.V.2012. Eduardo Marabuto & Tiago Magalhães leg. Daytime spotting. (Fig. 2e).
- Serra da Nogueira, Bragança. 1160 m a.s.l. MGRS: 29TPG7723. 16.V.2012. Eduardo Marabuto & Tiago Magalhães leg. Daytime spotting. (Fig. 2f).

A small, day-flying and apparently rare species (Nel, 2003; Fournier, 2014) with a scattered distribution in France, Spain and Morocco (Léraut & Luquet, 1982; Slamka, 2006), where it replaces the more widespread European *Titanio normalis* (Hübner, 1796). In Spain, there are at least records from Cataluña (Pérez De-Gregorio, 2004; Ylla & Macià, 2017), Murcia (Agenjo, 1952; Garre et al., 2021), Comunidad Valenciana (Ranz, 2021) and Andalucía (iNaturalist, 2022). In any case, all records are a long distance from NE Portugal, which is revealing of both the remarkable biodiversity richness of Serra da Nogueira (Maravalhas et al., 2004; Marabuto & Maravalhas, 2008) and the elusive character of this species.

The current observation reports to the occurrence of more than five specimens seen along the cleared roadsides, flying in daytime over short vegetation, as short flights, frequently settling on the ground. Although the larvae are cited on *Convolvulus cantabrica*, this species does not occur in Portugal, and the only locally present bindweed is *C. arvensis*, an already hypothesised host-plant (Chrétien, 1898).

GEOMETRIDAE

11. *Apochima flabellaria* (Heeger, 1838)

- Vila Real de Santo António, Faro. 5 m a.s.l. MGRS: 29SPB3917. 6.I.2014. Dinis Versa Silva obs., Eduardo Marabuto det. Daytime spotting. (Fig. 2g).

A peri-Mediterranean species extending into central Asia, with few Iberian records limited to SW Andalucía (Redondo et al., 2009; Müller et al., 2019; Gaona, 2020; Moreno-Benítez et al., 2020). It flies in the winter, from November to March (Müller et al., 2019), which probably accounts for the paucity of records. The current first Portuguese record extends the known distribution circa 200 km westwards.

12. *Idaea alicantaria* (Reisser, 1963)

- Castro Marim, Faro. 2 m a.s.l. MGRS: 29SPB3821. 12.VI.2020. Eduardo Marabuto leg. Daytime spotting. Several specimens. (Fig. 2h).

Iberian endemic species with two main populations (Alicante-Almería area and in the Ebro valley) and small, satellite ones in Ibiza (Balearic islands) and the left bank of Guadalquivir river (Cádiz) (Hausmann, 2004; Redondo et al., 2009) in thermomediterranean, halophitic environments at low altitude. Interestingly, the species has not yet been found in the well researched coastal protected areas of the Huelva province in Spain and this record thus represents a 100 km range extension of the species' distribution to the west, although its presence in the country had already been hypothesized in the original description (Reisser, 1963).

13. *Xanthorhoe designata* (Hufnagel, 1767)

- Fresulfe (praia fluvial), Vinhais, Bragança. 655 m a.s.l. MGRS: 29TPG7140. 16.V.2012. Eduardo Marabuto & Tiago Magalhães leg. At light-trap. (Fig. 3a).

Eurosiberian forest species scarcely known in Iberia from a northern belt spanning from Galicia to the Pyrenees (Redondo *et al.*, 2009; Hausmann & Viidalepp, 2012), but recently more records have surfaced from Galicia (Fernández Vidal 2011; Pino Pérez & Castro González, 2012; Fernández Vidal, 2017). In Portugal, this exact record was cited in Hausmann & Viidalepp (2012) and Corley (2015), without any detail having ever been published. A second Portuguese observation surfaced in the meantime, from Castro Laboreiro (Minho), published in Corley *et al.* (2016).

14. *Triphosa tauteli* Leraut, 2008

- Fresulfe (praia fluvial), Vinhais, Bragança. 655 m a.s.l. MGRS: 29TPG7140. 16.V.2012. Eduardo Marabuto & Tiago Magalhães leg. At light-trap. (Fig. 3b).

With the description and further analyses on European populations of Moroccan *Triphosa dyriata* Powell, 1941, genitalic and genetic differences granted species-status to *T. tauteli* (Leraut, 2008; Hausmann & Viidalepp, 2012), and older records of the former (e.g., Redondo *et al.*, 2009) should be transferred to this species. *T. tauteli* is known from Italy, France, northern and eastern Spain and now NE Portugal. In Spain, nearest known localities are in the provinces of León (Manceñido-González & González-Estébanez, 2015) and Ávila (Redondo *et al.*, 2009; Jambrina Pérez & Magro, 2013). This record was inadvertently mentioned in Corley (2015).

NOCTUIDAE

15. *Apamea epomidion* (Haworth, 1809)

- Serra da Nogueira, Bragança. 1150 m a.s.l. MGRS: 29TPG7724. 9.VI.2015. Eduardo Marabuto leg. At light-trap. (Fig. 3c).

Eurosiberian species associated with temperate deciduous woodland with little water deficit (Zilli *et al.*, 2005). In Iberia, it is only known from a northern temperate belt spanning from Cataluña (Sarto i Monteys, 1984), through Álava and Guipúzcoa (Cifuentes & Alcobendas, 2004), Palencia (Jubete, 2015), León (Manceñido-González & González-Estébanez, 2014) to Zamora and Galicia (Jambrina *et al.*, 2003; Fernández Vidal, 2018) and as an isolated record in the south of the Peninsula in Sierra de Segura (Lencina Gutiérrez & Albert Rico, 2017). Overall a scarce species with few records, the current Portuguese record is geographically nearest to the only record in the Spanish province of Zamora (Vilariño de Sanabria: Jambrina *et al.*, 2003) and about 100 km south of the only Galician one in Lugo (O Courel: Fernández Vidal, 2018).

16. *Eublemma amoena* (Hübner, [1803])

- Vale de Moinhos, Vila Nova de Foz Côa, Guarda. 240 m a.s.l. MGRS: 29TPF5847. 29.V.2013. Eduardo Marabuto leg. At light-trap.

Xerothermophilous species known from dry Mediterranean environments between Spain and central Asia. It is apparently widespread but local in Iberia (Calle, 1983), including in provinces bordering Portugal such as Galicia - one observation by Silva Cruz & Gonçalves (1950) recovered in Fernández Vidal (2012); Castilla y León (Magro & Jambrina Pérez, 2015) in Valladolid, León (González Estébanez & Manceñido González, 2012), Ávila (Blázquez-Caselles, 2008) and Zamora (Jambrina *et al.*, 2003); Extremadura (Nóvoa Pérez *et al.*, 2002) in Cáceres (Blázquez-Caselles, 2014) and Badajoz (Ortiz-García *et al.*, 1992). Larvae are cited as feeding on *Onopordum acanthium*, a thistle with a limited distribution in NE Portugal (Clamote *et al.*, 2020), so the species may not be found much beyond its distribution, unless it also uses other host-plants. The species had already been cited for Portugal (Vizela, Minho) by Silva Cruz & Wattison (1931) and Mindelo (Porto) (Monteiro, 1959), records dismissed by Corley (2008,

2015) because no specimen was traced. Both lie outside the xerothermophilous facies of usual habitats occupied by the species and hold no populations of the foodplant.

17. *Xestia sexstrigata* (Haworth, 1809)

- Salgueiros, Vinhais, Bragança. 935 m a.s.l. MGRS: 29TPG6341. 18.VIII.2012. Eduardo Marabuto & Tiago Magalhães leg. At light-trap. (Fig. 3d).
- Guadramil, Rio-de-Onor, Bragança. 715 m a.s.l. MGRS: 29TQG0143. 13.VIII.2016. Eduardo Marabuto, A.R. Gonçalves, C. Silva, T. Moreira, J. Nunes, E. Jesus, M.A. Abrunhosa, J.A. Fernandes, T. Magalhães, G. Barros & T. Silva leg. At light-trap.

Eurosiberian temperate hygrophilic species (Fibiger, 1993), whose nearest known localities are in southern Galicia (Pino Pérez, 2015), in upland wet meadows. As mentioned in Corley (2008) and Corley (2015), earlier Portuguese records (Silva Cruz & Gonçalves, 1966) refer to misidentifications of *Xestia xanthographa* (Denis & Schiffermüller, 1775).

NOLIDAE

18. *Nola cucullatella* (Linnaeus, 1758)

- Tourém, Montalegre, Vila Real. 860 m a.s.l. MGRS: 29TNG9139. 16.VIII.2016. Eduardo Marabuto leg. On a lit window. Gen. det.

A West-Palaeartic species with a wide European distribution which is replaced by sister species *Nola tutulella* Zerny, 1927 in the southern Atlanto-Mediterranean region, particularly in southern Iberia and North Africa (Hacker et al., 2012). The two species have a very similar habitus and likely have been extensively misidentified in the past and the contact zone is still not well known. In fact, most of the Iberian knowledge of these two species still comes from Vives Moreno (1990), who while revising the species group in the region, defined a distribution later replicated by Fibiger et al. (2009) and Hacker et al. (2012). Accordingly, all old records of *N. cucullatella* from Portugal, which come from the southern half of the country, were transferred to *N. tutulella* by Vives Moreno (1990). In nearby Spain, the species is known at least from León and Burgos in Castilla y León (Magro & Jambrina Pérez, 2015), but may be being repeatedly confused with *N. tutulella* in Cáceres (Blázquez Caselles, 2014).

Here, the species is reinstated as occurring in Portugal upon a worn specimen whose diagnosis was confirmed through dissection and ecological setting of its locality. In spite of no known occurrences in Galicia, the species is likely present in this Spanish region.

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Fig. 1. - Habitus of new Portuguese species. **a.** - *Ptilocephala moncaunella*. **b.** - *Ptilocephala monteiroi*. **c.** - *Pseudoswammerdamia combinella*. **d.** - *Digitivalva occidentella*. **e.** - *Prays peregrina*, adult. **f.** - *Prays peregrina* on host-plant. **g.** - *Prays peregrina*, pupae. **h.** - *Epicallima mikkolai*. **i.** - *Eretmocera medinella*.

Photos: Eduardo Marabuto (a, b, d & h); Tita Frazão Lopes (c); Ernesto Gonçalves (e, f & g); Pedro Henriques (i).



Fig. 2.- Habitus of new Portuguese species. a.- *Epiphyas postvittana*. b.- *Spialia rosae*. c.- *Lobesia limoniana*, L5 larva on *Limonium ovalifolium*. d.- *Lobesia limoniana*. e-f.- *Titanio tarraconensis*. g.- *A pochima flabellaria*. h.- *Idae alicantaria*. Photos: Eduardo Marabuto (a-f & h); Dinis Versa Silva (g).



Fig. 3.- Habitus of new Portuguese species. a.- *Xanthorhoe designata*. b.- *Triphosa tauteli*. c.- *Apamea epomidion*. d.- *Xestia sexstrigata*. All photos: Eduardo Marabuto.