Opogona omoscopa (Meyrick, 1893) (Lepidoptera, Tineidae), a new species for Cantabria and new records of *Borkhausenia crimnodes* Meyrick, 1912 (Lepidoptera, Oecophoridae)

Francisco Eduardo Oliver Ruiz[1] & Daniel Oliver García[2]

[1] *Ceballos 8, P.3, 3D Suances, Cantabria. España. email: eduardooliverruiz@gmail.com*;
https://orcid.org/0009-0007-3463-8319
[2] *Marqués de la Valdavia 13, P.A, 1C Collado Villalba, Madrid, España. email: danielpiracucu@gmail.com;*
https://orcid.org/0009-0008-6600-7367

Abstract

This paper documents the presence in Cantabria of a new species: *Opogona omoscopa* (Meyrick, 1893), as well as *Borkhausenia crimnodes* Meyrick, 1912, a species previously cited in the region (Oliver Ruiz & Oliver García, 2025), providing new records that confirm its geographical expansion from the area from which it is presumed to have been initially introduced.
Key Words: Lepidoptera, Tineidae, Oecophoridae, alien species, dispersal, Cantabria, Spain.

Resumen

En el presente trabajo se documenta la presencia en Cantabria de una nueva especie: *Opogona omoscopa* (Meyrick, 1893), así como de *Borkhausenia crimnodes* Meyrick, 1912, especie previamente citada en la región (Oliver Ruiz & Oliver García, 2025), aportando nuevos registros que confirman su expansión geográfica desde el área donde se presume tuvo lugar su introducción inicial.
Palabras clave: Lepidoptera, Tineidae, Oecophoridae, especie alóctona, dispersión, Cantabria, España.

Introduction

In the current context of globalisation and increasing mobility of goods and people, the presence of alien species in various biotopes is an increasingly frequent phenomenon, resulting from both anthropogenic and natural biological dispersion processes. In this contribution to the knowledge of the Lepidoptera of Cantabria, two species with these characteristics are presented. The presence of both may be linked to human activity. *Opogona omoscopa* (Meyrick, 1893) is a species of uncertain origin (Bylli, 2009). It is speculated that the species may be native to the Atlantic island of Saint Helena and has spread throughout the world through human trade (EPPO, 2010; GBIF, 2024), with sightings from Australia and New Zealand, through the Hawaiian Islands, South Africa, Central and North America (Landcare Research, 2024) and several countries in Europe (Sterling et al., 2009). There are confirmed sightings in the Canary Islands (Gaedike & Falck, 2019), Madeira and the Azores (Gaedike & Karsholt, 2001) and in the Iberian Peninsula, sightings in Portugal (Corley et al., 2018), **in Catalonia (Requena et al., 2022)** and a vague mention in Gibraltar (EPPO, 2010). As for *Borkhausenia crimnodes* Meyrick, 1912, we already reported its presence in Cantabria in 2024 (Oliver Ruiz & Oliver García, 2024), and to test the theory that the species may have arrived in shipments of wood from the southern hemisphere

via the Sniace company (a cellulose factory near the town of Torrelavega), in 2025 we set up a series of light traps for sampling in different locations more or less close to its site.

Materials and methods

Two female *Opogona omoscopa* were obtained on 9.vii.2025 in Suances (UTM 30TVP1408). After genital dissection of both specimens identification was confirmed by Martin Corley. For *Borkhausenia crimnodes*, sampling was carried out between 29.vi.2025 and 14.ix.2025. Light traps with different wavelength spectra were used. Most frequently, 400W mercury vapour lamps were used, sometimes supplemented with 125W black mercury lamps. Morphological, genital and distribution observations and capture data for *Opogona omoscopa* are included, as well as data confirming the expansion of *Borkhausenia crimnodes* in the north of the Iberian Peninsula. When necessary, genital dissections were performed using the standard procedure of macerating abdomens in potassium hydroxide and subsequently preparing the genitalia between slides and coverslips (Yela, 1992). Microscopic and macro photographs were taken with a Canon 3500 camera, which were enhanced with photographic software and are stored together with the specimens in the authors' private collection. At the time of writing this report, it is assumed that all the literature relating to this species in Cantabria has been consulted. The geographical coordinates are given in the MGRS system, WGS84 datum.

Abbreviations

Fig: Images, graphs and maps represented in the text.
mm: millimetres
UTM: Universal Transverse Mercator
MGRS: Military Grid Reference System
KOH: Potassium hydroxide

Results and Discussion

Figure 1. *Opogona omoscopa*, female. Suances, Cantabria, Spain, 9.ix.2025.

Figure 2. *Opogona omoscopa*, enlarged detail of the wings. Suances, Cantabria, Spain, 9.ix.2025.

Figure 3. *Opogona omoscopa*, gynopygium. Suances, Cantabria, Spain, 9.vii.2025.

Figure 4. Anal papillaeand apophyses of Opogona omoscopa. Suances, Cantabria, Spain. 9.ix.2025.

Figure 5. *Opogona omoscopa*, signum. Suances, Cantabria, Spain, 9.vii.2025.

Figure 6. *Borkhausenia crimnodes*. Cortiguera, Cantabria, Spain, 22. viii.2025.

Figure 7. Distribution of *Opogona omoscopa* and *Borkhausenia crimnodes* in Cantabria, Spain.

Locations:

Opogona omoscopa:

Suances 30TVP1408: 9.ix.2025: 2 specimens.

Borkhausenia crimnodes:

1. San Pedro de Rudagüera, 30TVP0602: 29.vi.2025: 2 specimens; 16.vii.2025: 2 specimens.
2. Cortiguera, 30TVP1506: 10.vii.2025: 6 specimens; 16.vii.2025: 6 specimens; 29.vii.2025: 19 specimens; 12.viii.2025: 22 specimens; 22.viii.2025: 5 specimens; 2.ix.2025: 3 specimens.
3. Ongayo, 30TVP1406: 4.vii.2025: 4 specimens; 15.vii.2025: 6 specimens; 22.vii.2025: 13 specimens; 8.viii.2025: 16 specimens; 23. viii.2025: 8 specimens; 3.ix.2025: 2 specimens.
4. Viveda, 30TVP1404: 12.vii.2025: 1 specimen; 30.vii.2025: 11 specimens; 12.viii.2025: 17 specimens; 31.viii.2025: 6 specimens.
5. Polanco, 30TVP1803: 20.vii.2025: 15 specimens; 18.viii.2025: 9 specimens; 8.ix.2025: 1 specimen.

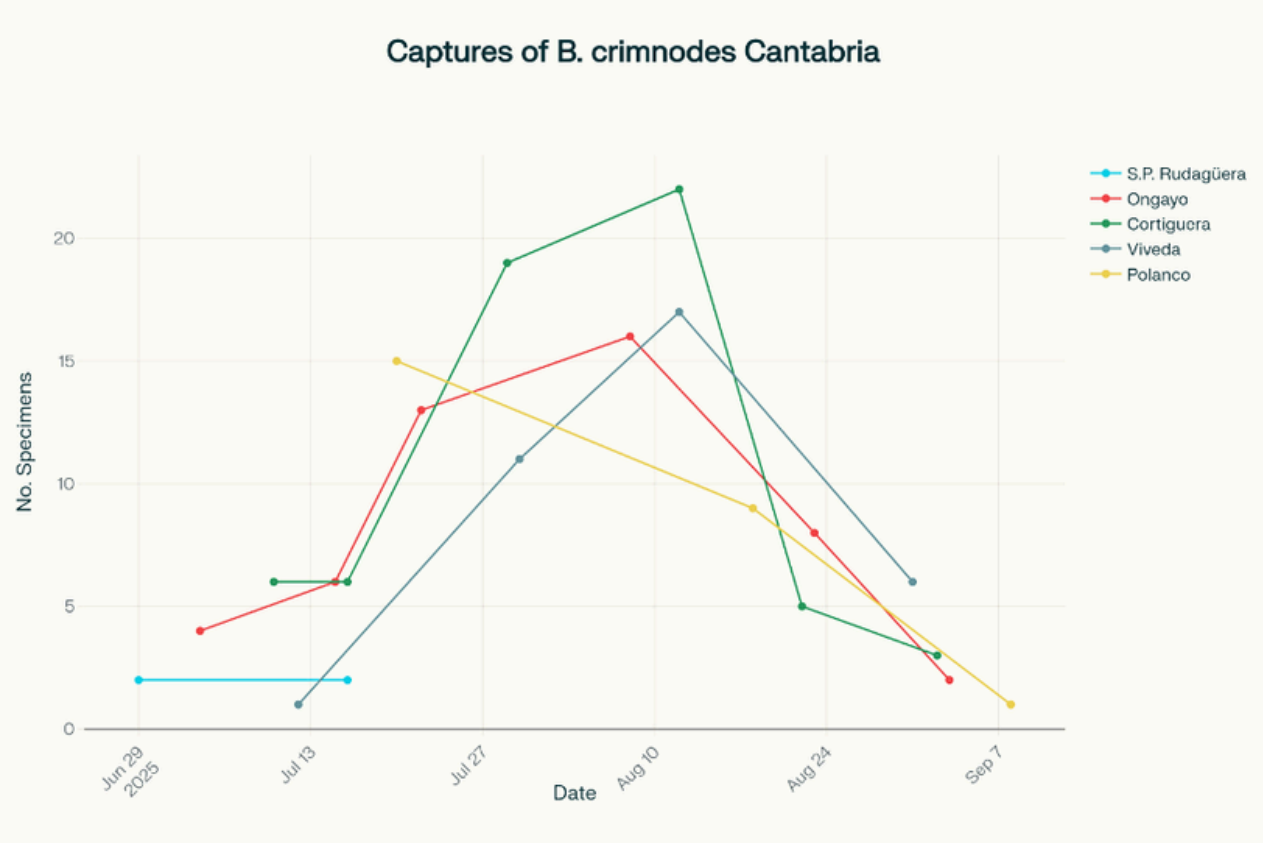

Figure 8. Density plot showing peak occurrence of *Borkhausenia crimnodes*.

1. *Opogona omoscopa* (Meyrick, 1893) (Fig: 1)

The caterpillars of this species feed on leaf litter and decaying fruit, especially on palm trees, and can perforate the crown of palms, but they are generally considered secondary pests attracted to decaying plant tissue (EPPO, 2010). Moore (1959) reported that the pupation period lasted 25 days during June in Lisarow, Australia. The time required from oviposition to adult emergence was 10 to 12 weeks during the warmer months in the same location, extending to

four months during the colder periods. Moore (1959) found no evidence of parasitism during his studies, but he did report that the larvae were infected by an entomopathogenic fungus of the *Rhizocybe vermicularis* type. In New Zealand, it is found in all types of natural and artificial biotopes (Landcare Research, 2024). The two specimens (females) from Suances have a wingspan of 16 mm and 19.5 mm respectively, and in New Zealand they are given an average size of between 7 and 11.5 mm (Landcare Research, 2024), which differs greatly from the size observed in the Cantabrian specimens. Lepiforum shows a photo of a specimen from the Azores with a wingspan of 20 mm, which is closer to the measurements taken on our specimens (Lepiforum e.V, 2006-2025). The wings are greyish with yellowish reflections under direct light; under indirect light, they show muted grey-brown tones. The forewings are elongated and relatively narrow with a slightly pointed apex, while the hindwings are narrower than the forewings, with a rounded apex and a slightly concave distal margin (Fig. 2). The most notable feature of its *gynopygium* (Fig. 3) is that the *signum* (Fig. 5) on the *corpus bursae* is irregular and occupies a large part of it, with a peculiar and distinctive shape. Other characteristics are that the *apophyses* are long and very thin (Fig. 4).

2. *Borkhausenia crimnodes* Meyrick, 1912 (Fig: 6)

The larval food source of *Borkhausenia crimnodes* is unknown, although it is probably dry plant matter or fungi (Corley et al., 2017). This type of larval behaviour facilitates its passive transport through human trade and subsequent establishment in altered habitats. In the previous study (Oliver Ruiz & Oliver García, 2024), we only had access to one male specimen with a wingspan of 13 mm, but now that we have more specimens, we have been able to take average measurements of between 9 and 13 mm. The most common size is 10 mm. As can be seen, both species have similar feeding habits.

Relationship between the two species

The detection of *Opogona omoscopa* in Cantabria extends its Iberian range to the north of the peninsula, confirming its expansion, probably through human activity. Its discovery in heavily modified coastal environments is consistent with previous European records (EPPO, 2010). The high density of *Borkhausenia crimnodes* specimens around the Sniace factory supports its local establishment, possibly linked to past importation of wood from the southern hemisphere, as probably occurred in Portugal (Corley et al., 2008). A total of 194 specimens were recorded in locations near the former Sniace factory, with captures reaching double figures at some sampling points. The phenology observed suggests an annual generation with a peak between late July and early August. It is more than likely that the species has been expanding for years and is now inhabiting many more locations in the area. A map showing the location of the species mentioned is provided (Fig. 7), as well as a graph explaining and visualising the above (Fig. 8). Both species may benefit from habitats altered by human activities, such as *Eucalyptus* plantations, abandoned sites, nurseries, etc.

Acknowledgements

To the Directorate-General for Biodiversity, Environment and Climate Change of the Government of Cantabria for granting permission to carry out sampling in 2025 and capture the material studied. To Martin Corley, for his invaluable help in identifying the specimens.

References

Billi, F. 2009. *Opogona omoscopa* (Meyrick, 1893), parasite occasionnel des palmiers, espèce nouvelle pour la France (Lep. Tineidae). *Oreina*, **6**: 1–3.

Corley, M.F.V., Marabuto, E., Maravalhas, E., Pires, P. & Cardoso, J.P. 2008. New and interesting Portuguese Lepidoptera records from 2007 (Insecta: Lepidoptera). *SHILAP Revista de Lepidopterología*, **36**(143): 283–300.

Corley, M.F.V., Ferreira, S., Lvovsky, A.L., & Rosete, J. 2017. *Borkhausenia crimnodes* Meyrick, 1912 (Lepidoptera, Oecophoridae), a southern hemisphere species resident in Portugal. *Nota Lepidopterologica*, **40**(1): 15–24. DOI 10.3897/nl.40.10938.

Corley, M.F.V., Rosete, J., Gonçalves, A.R., Mata, V., Nunes, J. & Pires, P. 2018. New and interesting Portuguese Lepidoptera records from 2016 (Insecta: Lepidoptera). *SHILAP Revista de Lepidopterología*, **46**(181): 33–56.

EPPO 2010. First report of *Opogona omoscopa* in France. *European and Mediterranean Plant Protection Organization*. https://gd.eppo.int

Gaedike, R. & Falck, P. 2019.Tineoidea (Meessiidae, Tineidae) y Glyphipterigidae: Acrolepiinae de las Islas Canarias, España (Insecta: Lepidoptera). *SHILAP Revista de Lepidopterología*, **47**(187): 507–517.

Gaedike, R. & Karsholt, O. 2001. Contribution to the Lepidopteera fauna of the Madeira Islands. Part 2. Tineidae, Acrolepiidae, Epermeniidae. *Beitrage zur Entomologie*, **51**: 161–213.

GBIF. 2024. *Opogona omoscopa*. *Global Biodiversity Information Facility*. https://www.gbif.org

Landcare Research. 2024. Moths and Butterflies of New Zealand: *Opogona omoscopa* species file. https://www.landcareresearch.co.nz

Lepiforum.V. 2006–2024.https://lepiforum.org/wiki/page/*Opogona omoscopa*.14.xi.2025.

Meyrick, E. 1893. Descriptions of Australian Micro-Lepidoptera. *Proceedings of the Linnean Society of New South Wales*, **7**: 435–487.

Moore, K. M. 1959. Observations on Some Australian Forest Insects. *The Australian Zoologist*, **12**(4):337-350.

Oliver Ruiz, F.E. & Oliver García, D. 2025. *Borkhausenia crimnodes* Meyrick, 1912 (Lepidoptera, Oecophoridae), a new species for Cantabria and Spain. *Artimelia – Lepidoptera Ibérica*, **12**: 45–52.

Requena, E. & Pérez De-Gregorio, J. J. 2022. Noves dades sobre la fauna de microlepidòpters de Catalunya (Lepidoptera: Nepticulidae, Adelidae, Tischeriidae, Psychidae, Tineidae, Bucculatricidae, Gracillariidae, Ypsolophidae, Lyonetiidae, Douglasiidae, Autostichidae, Oecophoridae, Batrachedridae, Momphidae). *Butlletí de la Societat Catalana de Lepidopterologia*, **113**: 25–33.

Yela, J.L., 1992. *Los Noctuidos (Lepidoptera) de la Alcarria (España Central), y su relación con las principales formaciones vegetales de porte arbóreo*. Ministerio de Agricultura, Pesca y Alimentación, Dirección General de Sanidad de la Producción Agraria, Subdirección General de Sanidad Vegetal. Madrid, 509 pp.