SHILAP Revista de lepidopterología, 53 (211) septiembre 2025: 631-636 eISSN: 2340-4078 ISSN: 0300-5267
https://doi.org/10.57065/shilap.1094 https://shilap.org
https://zoobank.org/45D2E0A7-CC92-4653-99E5-578C0D54957A

Batrachedra olei Falck, sp. nov. from the Canary Islands, Spain (Lepidoptera: Batrachedridae)

Per Falck

Abstract

Batrachedra olei Falck, sp. nov. is described based on specimens from La Gomera, Canary Islands, Spain. Adults, male and female genitalia are figured. DNA barcodes are analyzed. A differential diagnosis from the similar *B. parvulipunctella* Chrétien, 1915 is given. For comparison the male and female genitalia of *B. parvulipunctella* are figured.
Keywords: Lepidoptera, Batrachedridae, new species, DNA barcodes, Canary Islands, Spain.

Batrachedra olei **Falck, sp. nov. de las Islas Canarias, España (Lepidoptera: Batrachedridae)**

Resumen

Se describe *Batrachedra olei* Falck, sp. nov. a partir de ejemplares de La Gomera, Islas Canarias, España. Se ilustran los adultos y la genitalia del macho y de la hembra. Se analizan los códigos de barras de ADN. Se ofrece un diagnóstico diferencial con *B. parvulipunctella* Chrétien, 1915. A efectos comparativos, se muestran la genitalia del macho y de la hembra de *B. parvulipunctella*.
Palabras clave: Lepidoptera, Batrachedridae, nueva especie, ADN código de barras, Islas Canarias, España.

Introduction

The family Batrachedridae Heinemann & Wocke, 1876 comprises 10 genera (Nieukerken et al. 2011, p. 215), of which the most species rich genus is *Batrachedra* Herrich-Schäffer, 1853 with about 114 known species worldwide. It is recorded from all continents except Antarctic. Seven species are known from Europe and North Africa (Savela, 2024). During field work in La Gomera in 2021 the author collected three specimens of a *Batrachedra* species believed to belong to *B. parvulipunctella* Chrétien, 1915. Dissection of the genitalia and barcoding revealed an undescribed species dealt with in the present paper. The genus *Batrachedra* is recorded from the Canary Islands for the first time (Vives Moreno, 2014, p. 134).

Abbreviations used

PF Collection of Per Falck, Neksø, Denmark
MNCN Collection of Antonio Vives, Museo Nacional de Ciencias Naturales, Madrid, Spain

Material and methods

All of the specimens were collected by the author and attracted to actinic light.
Male and female genitalia were dissected and prepared following Robinson (1976).
Adults were photographed with a Canon EOS 700D camera equipped with a Canon EF 100 mm objective.

The genitalia slides were photographed using a Soptop CX40T Trinocular microscope in conjunction with a Toup Tek P10500AE3 / E3ISPM05000KPA-E3 / 5.0MP USB3 camera.

The author examined the morphology and the DNA barcodes from the new species. DNA samples were prepared as described by Falck & Karsholt (2023, p. 271). Details of successfully sequenced voucher specimens are publicly available through the dataset DS-BATACAN at www.boldsystems.org. and at dx.doi.org/10.5883/BS-BATACAN.

***Batrachedra olei* Falck, sp. nov.** (Figures 1, 2, 3, 3a, 5)
https://zoobank.org/45D2E0A7-CC92-4653-99E5-578C0D54957A

Holotype ♂: Spain, La Gomera, Hermigua, 250 m, 24-X-12-XI-2023, genitalia slide 3643PF, leg. P. Falck (MNCN).

Paratypes: Spain, La Gomera, Hermigua, 250 m, 2 ♂, 1 ♀, 9-12-VIII-2021, leg. P. Falck, DNA samples Lepid Phyl 0921PF/CILEP920-21, 0922PF/CILEP921-21, 0923PF/CILEP922-21, same data but 2 ♂, 2 ♀, 24-X-12-XI-2023, leg. P. Falck, genitalia slides 3642PF, 3644PF, 4123PF, same data but 2 ♂, 1 ♀, 9-23-III-2024, leg. P. Falck, genitalia slides 4120PF, 4121PF, same data but 1 ♀, 27-VIII-13-IX-2024, leg. P. Falck (PF); Tamargada, 450 m, 13 ♂, 6 ♀, 27-VIII-13-IX-2024, leg. P. Falck (MNCN, PF); La Caleta, 330 m, 8 ♂, 1 ♀, 27-VIII-13-IX-2024, leg. P. Falck (PF).

Diagnosis: *B. olei* resembles several yellowish ochreous *Batrachedra* species and especially *B. parvulipunctella* Chrétien, 1915. It differs from most species by the two longitudinal dark streaks bordering the cell and the lack of distinct black dots, which are characteristic in many species e. g. *B. pinicolella* (Zeller, 1839). It differs from *B. parvulipunctella* by the pure white head and neck. In the male genitalia *B. olei* is characterized by the moderately pointed gnathos, the short anellus lobes and the long straight, apically bent phallus. In *B. parvulipunctella* (Figures 4, 4a) the anellus lobes are longer and the phallus is slightly and evenly bent. In the female genitalia *B. olei* is characterized by the sclerotized, funnel-shaped structure in the antrum and the membranous posterior half of ductus bursae. In *B. parvulipunctella* (Figure 6) the sclerotized structure in antrum is arrow-shaped and slightly bent and the posterior, membranous part of ductus bursae is shorter. Adults and the genitalia of *B. parvulipunctella* are figured by Koster & Sinev (2003).

Description. Adult (Figures 1, 2): Wingspan 7.5-12.5 mm. Labial palp slender, upturned; segment 2 white, ventrally with raised scales which are mottled with a few grey scales; segment 3 slightly shorter than segment 2, white mottled with few grey scales. Scapus white. Antenna yellowish brown, in apical third irregularly ringed with grey. Head and neck pure white. Thorax white, laterally yellowish ochreous. Tegula yellowish ochreous. Forewing yellowish ochreous mottled with grey scales, more densely on costa; two indistinct, longitudinal streaks, one just below and one just above the cell; sometimes a small, distinct spot at the end of the cell; fringe yellowish grey. Hindwing shining yellowish grey. Abdomen yellowish grey.

Variation: There is some variation in the wingspan and the amount of grey mottling of the forewing.

Male genitalia (Figures 3, 3a): Uncus long and pointed. Gnathos as long as uncus, tip slightly pointed. Tegumen elongate. Valva simple, tapering and slightly upwardly bent; apex relatively pointed. Anellus lobes elongate and broad. Phallus longer than valva, straight, apically at ¾ bent.

Female genitalia (Figure 5): Papillae anales membranous, pointed posteriorly, covered with short setae. Posterior apophysis almost as long as anterior apophysis. Antrum weakly sclerotized, funnel-shaped, inside with a sclerotized, funnel-shaped structure posteriorly with an irregular margin. Ductus bursae narrow, membranous, spiculate in anterior half. Corpus bursae oval, membranous. Signum an oval weakly sclerotized plate, almost the same length as corpus bursae, covered with rows of sclerotized ridges.

DNA barcodes: We obtained full length DNA barcode (658 bp) from two specimens and DNA barcode fragments of 624 bp from one specimen. The barcodes fall within Barcode Index Number (BIN) BOLD: AEN1162. The maximum intraspecific p-distance is 0%. The minimum p-distance to nearest neighbor, an unnamed *Batrachedra* species from South Africa, is 3.21 %. The minimum divergence to *B. parvulipunctella* is 5.84%.

Biology: The early stages are unknown. The adults were collected at light from January to the beginning of November.

Distribution: Known only from the northern part of the island of La Gomera, Spain. Probably endemic to La Gomera.

Etymology: The species is dedicated to the Danish lepidopterist and my good friend Ole Karsholt.

Discussion

The larvae of the European *Batrachedra*-species are miners or live in seeds, catkins or buds, however, *B. parvulipunctella* lives in a silky case, and it is feeding on the waxy secretions of coccids, which have colonies on *Phragmites australis* (Cav.) Trin. ex. Steud. or *Arundo donax* L. (Koster & Sinev, 2003).

As stated, above *B. olei* is probably endemic to the Canary Islands, although it cannot be ruled out that the species is introduced by man and now have become established. However, the present study did not reveal any species corresponding with *B. olei* either in adult/genital morphology or in DNA barcodes.

Acknowledgements

I am grateful to Ole Karsholt (Natural History Museum of Denmark, Copenhagen) who read the final manuscript and improved both the English language and the content; Javier Gastón (Bilbao, Spain), for the photographic review and adjustments, and finally I am moreover grateful to Dr. Antonio Vives (Madrid, Spain) for translating the abstract into Spanish, for editing my manuscript, and for his kind help with obtaining permission to collect Lepidoptera in the Canary Islands into the Scientific Project of SHILAP.

Conflit of Interest

The authors declare that there are no known financial interest or personal relationships that could influence the work presented.

References

Falck, P., & Karsholt, O. (2023). The Symmocinae and Holcopogoninae in the Canary Islands and Madeira, with descriptions of 13 new species (Lepidoptera: Autostichidae). *SHILAP Revista de lepidopterología, 51*(202), 269-314. https://doi.org/10.57065/shilap.462

Koster, S. J. C., & Sinev, S. Yu. (2003). Momphidae, Batrachedridae, Stathmopodidae, Agonoxenidae, Cosmopterigidae, Chrysopeleiidae. In P. Huemer, O. Karsholt & L. Lyneborg. *Microlepidoptera of Europe* (Vol. 5). Apollo Books. https://doi.org/10.1163/9789004473850

Nieukerken, E. J. van, Kaila, L., Kitching, I. J., Kristensen, N. P., Lees, D. C., Minet, J., Mitter, Mutanen, M., Reiger, J. C., Simonsen, T. J., Wahlberg, N., Yen, S.-H., Zahiri, R., Adamski, D., Baixeras, J., Bartsch, D., Bengtsson, B. Å. Brown, J. W., Bucheli, S. R., Davis, D. R., De Prins, J., De Prins, W., Epstein, M. E., Gentili-Poole, P., Gielis, C., Hättenschwiler, P., Hausmann, A., Holloway, J. D., Kallies, A., Karsholt, O., Kawahara, A., Koster, S. J. C., Kozlov, M., Lafontaine, J. D., Lamas, G., Landry, J.-F., Lee, S., Nuss, M., Park, K. T., Penz, C., Rota, J., Schmidt, B. C., Schintlemeister, A., Sohn, J. C., Solis, M. A., Tarmann, G. M., Warren, A. D., Weller, S., Yakovlev, R. V., Zolothuhin, V. V., & Zwick, A. (2011). Order Lepidoptera Linnaeus, 1758. In Z.-Q. Zhang (Ed.). Animal biodiversity: An outline of higher-level classification and survey of taxonomic richness. *Zootaxa, 3148*, 212-221. https://doi.org/10.11646/zootaxa.3148.1.41

Robinson, G. S. (1976). The preparation of slides of Lepidoptera genitalia with special reference to the Microlepidoptera. *Entomologist's Gazette, 27*, 127-132.

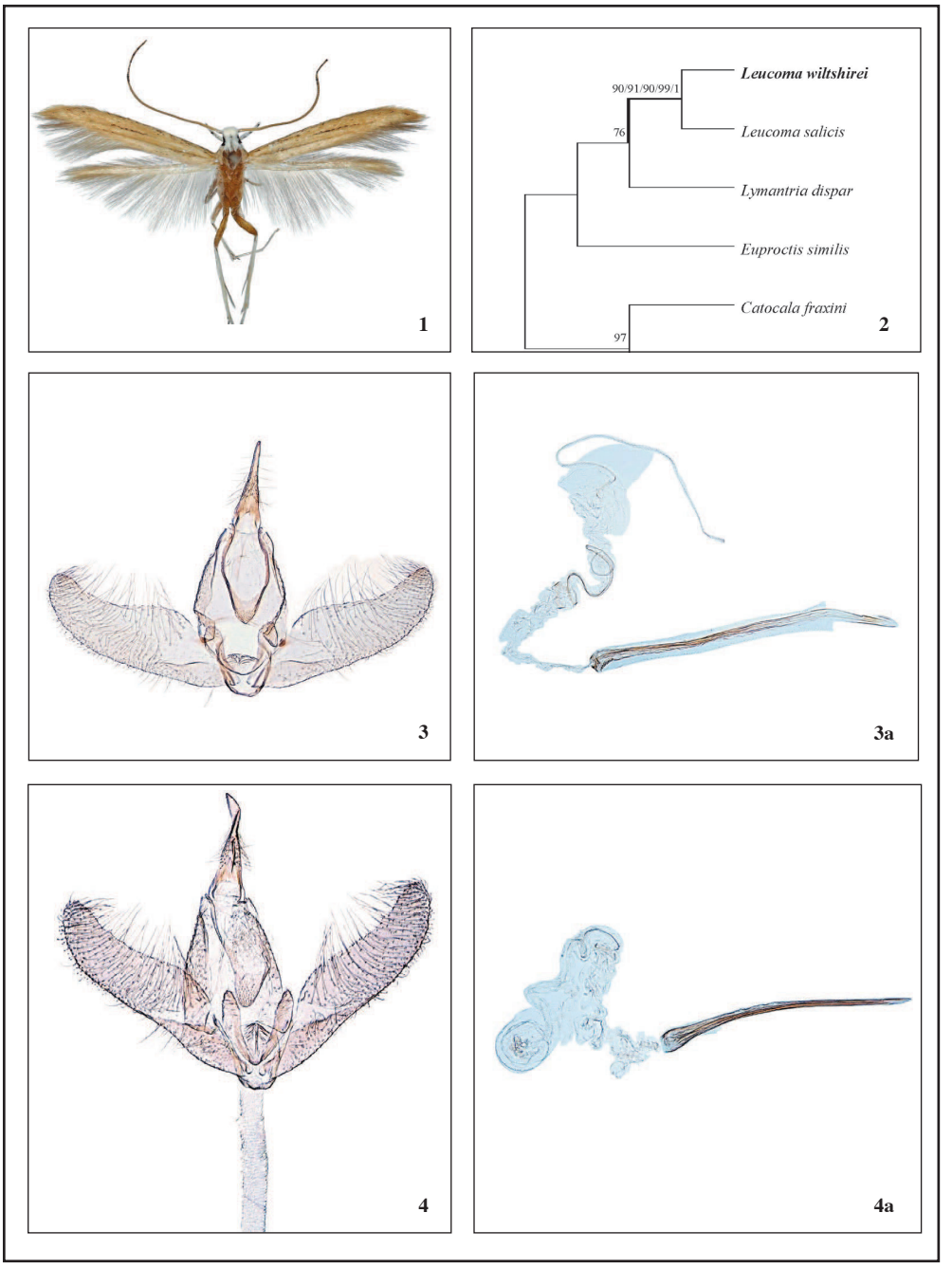
Savela, M. (2024). Batrachedridae Heinemann & Wocke, 1870. *Lepidoptera and some other life forms*. https://www.funet.fi/pub/sci/bio/life/insecta/lepidoptera/ditrysia/gelechioidea/batrachedridae/

Vives Moreno, A. (2014). *Catálogo sistemático y sinonímico de los Lepidoptera de la Península Ibérica, de Ceuta, de Melilla y de las islas Azores, Baleares, Canarias, Madeira y Salvajes*. Improitalia.

Per Falck
Aarsdalevej, 22
DK-3730 Neksø
DINAMARCA / *DENMARK*
E-mail: per.falck@live.dk
https://orcid.org/0000-0002-0030-9214

(Recibido para publicación / *Received for publication* 9-X-2024)
(Revisado y aceptado / *Revised and accepted* 15-XII-2024)
(Publicado / *Published* 30-IX-2025)

Figures 1-4. 1. *Batrachedra olei* Falck, sp. nov., ♂, La Gomera, 11.5 mm. **2.** *Batrachedra olei* Falck, sp. nov., ♀, La Gomera, 12 mm. **3.** *Batrachedra olei* Falck, sp. nov., ♂ genitalia, La Gomera, GP4120PF. **3a.** *Batrachedra olei* Falck, sp. nov., ♂, phallus, GP4121PF. **4.** *Batrachedra parvulipunctella* Chrétien, 1915, ♂ genitalia, Italy, GP4141ZM. **4a.** *Batrachedra parvulipunctella* Chrétien, 1915, ♂, phallus, GP4141ZM.



Figures 5-6. 5. *Batrachedra olei* Falck, sp. nov., ♀ genitalia, La Gomera, GP4123PF. **6.** *Batrachedra parvulipunctella* Chrétien, 1915, ♀ genitalia, France, GP4142ZM.