SAPIENZA
UNIVERSITÀ EDITRICE

© Author(s)
E-ISSN 2284-4880
ISSN 0429-288X

Fragmenta entomologica, 54 (2): 297–300 (2022)

Short scientific note
Submitted: May 23rd 2022 – *Accepted:* September 18th, 2022 – *Published:* December 15th, 2022
DOI: 10.13133/2284-4880/1327

Apomyelois bistriatella new to Italy from "Tenuta Presidenziale di Castelporziano" (Lepidoptera: Pyralidae)

Manuela PINZARI [1, *], Sauro GIANNERINI [2], Mario PINZARI [3]

[1]*Coordinatrice del Progetto Biodiversità dei Lepidotteri della Tenuta Presidenziale di Castelporziano. Università degli studi Roma Tre, Via Ostiense 133, I-00154 Rome, Italy* – manuela.pinzari@uniroma3.it; https://orcid.org/0000-0003-0829-3453
[2]*Segretariato Generale della Presidenza della Repubblica / Servizio Tenuta Presidenziale di Castelporziano, settore Tutela e gestione ambientale, Via Pontina, 690, I-00128 Rome, Italy* – s.giannerini@quirinale.it
[3]*Piazza Francesco Morosini, 12 I-00136 Rome, Italy* – mario.pinzari@uniroma3.it; https://orcid.org/0000-0002-5279-2092
* Corresponding author

Abstract
Apomyelois bistriatella (Hulst, 1887) was found for the first time in Italy (Latium).

Key Words: Tenuta Presidenziale di Castelporziano, Biodiversity, Lepidoptera fauna, *Apomyelois bistriatella.*

Introduction

As part of researches on the Lepidoptera fauna of of Central Italy, the results of which have been summarised in previous works (Pinzari 2019; Pinzari & Pinzari 2019 a, 2019 b, 2021 a; Pinzari et al. 2019), the Lepidoptera Biodiversity project of the Presidential Estate of Castelporziano ("Tenuta Presidenziale di Castelporziano"; Central Italy, Latium, Rome Province) was launched in 2019 under the supervision of the senior author MP. The goals of this project are to monitor the species already known for the Estate and to achieve a thorough inventory of the area. Our survey has already led to some interesting results (Pinzari & Pinzari 2021 b).

In this paper, we record the presence of *Apomyelois bistriatella* (Hulst, 1887) (Pyralidae) in the site, a species never recorded before in Italy, on the basis of a specimen sampled on. The nominotypical subspecies of *A. bistriatella* occurs in North America. In Europe, the subspecies *Apomyelois bistriatella subcognata* (Ragonot, 1887) is recorded. It was so far found in the Spain (Ortiz et al. 2016), Portugal (Silva et al. 2021), France, the Netherlands, England, Germany, Austria, Switzerland, Romania and the Scandinavian peninsula, up to the Baltic countries and Russia. No records are available for Balkan Peninsula and Italy (Sinev 1986; Kozlov & Jalava 1994; Ivinskis 1993; Wieser & Huemer 1997; de Jong, Y. et al. 2014). It is a localized species (Leraut 2014).

Materials and Methods

Sampling methods
Light-trapping (using Mixed Light 160 W lamp) took place in fixed spots with power available around the bird ringing center of Torpaterno, inside the Castelporziano Estate.

Species identification
Concerning the habitus of *Apomyelois bistriatella* (Hulst, 1887), this is very similar to *Glyptoteles leucacrinella* Zeller, 1848, *Hortolepis betulae* (Goeze, 1778) and *Apomyelois cognata* (Staudinger, 1871), but the species can easily be identified after features of its genitalia.

The single collected specimen (see below in Results) was identified by examination of the external habitus and a dissection of the genitalia using the taxonomic characters reported in the literature (Slamka 1997, 2019; Leraut 2014). Of great help were the excellent photos of female genitalia of *A. bistriatella* by H. Pichler available in the website Lepiforum.org (http://www.lepiforum.de/, accessed on 2020).

Pichler H. collected some moths in Graz, St. Peter, ca. 380 m, Styria (Austria) on 8-VIII-2017 and 6-IX-2020 and got confirmation of the species identity by D. Bartsch (Staatliches Museum für Naturkunde Stuttgart, Rosenstein, Germany (http://www.lepiforum.de/, accessed on 2021).

The genitalia of our specimen were boiled in KOH solution (10%) for a few minutes. After getting the photos, genital parts were glycerol-preserved into microtubes. These were closed with vinyl glue that is easily soluble in water and put under the specimen itself.

The collected specimen is deposited in Mn and M. Pinzari collection in Rome (Italy).

Results

Apomyelois bistriatella (Hulst, 1887) was found in a mixed pine-oak woodland next to Torpaterno pond within a partly cultivated but still fairly well-preserved area (Tinelli et al. 2012).

Record: **ITALY**: Lazio (Rome Province), Presidential Estate of Castelporziano, Torpaterno (41.40. 47.165N, 12.23. 36.157E), 1.X.2019, M. Pinzari & S. Giannerini leg., 1 ♀ (gen. praep. PIRA 594, M. Pinzari).

Fig. 1 – *Apomyelois bistriatella* **(Hulst, 1887) ♀: a, adult female; b, genital parts (gen. praep**. PIRA 594, M. Pinzari). Scale bar: 5 mm.

Biology. The caterpillar of *Apomyelois bistriatella* feeds on Ascomycetes, in particular *Hypoxylon occidentale*), *Daldinia vernicosa* and *D. concentrica* (Powell 1967; Goater 1986), on decaying birch, hazel, alder and other plants (Sinev 1987). Fungi on burnt young birch and gorse are attacked in October by larvae pupating in spring (Wieser & Huemer 1997).

Discussion and conclusions

The rather worn status of the specimen we collected (Fig. 1 a) helped us little for the species determination. However, the study of the female genitalia allowed us to identify correctly the species as *A. bistriatella*. In this species, the female genitalia have characters completely different from those of other externally similar species, especially for the presence of a large and characteristic signum on the bursa copulatrix (Fig. 1 b).

Little is known about *Apomyelois cognata*, that is present in Russia and Greece. According to Leraut (2014) it is very similar in habitus to *A. bistriatella*, but it is a little larger and lighter in colour. Concerning the wingspan, that of *A. bistriatella* ranges between 15-19 mm while that of *A. cognata* is about 22 mm. With a wingspan of 20 mm, our specimen is of intermediate size. It is worth noting that Leraut (2014) raises doubts about the fact that the two species can really be distinguished.

Acknowledgments – Thanks to Dr.ssa Giulia Bonella, Director of the Presidential Estate of Castelporziano, Dr. Daniele Cecca, Head of the Technical, Scientific and Training Area, and the Scientific Council of the Presidential Estate of Castelporziano for having authorized the publication of the results as a part of the Biodiversity Research Project of the Lepidoptera of this Natural Reserve.

References

De Jong Y., Verbeek M., Michelsen V., Per de Place B., Los W., Steeman F., Bailly N., Basire C., Chylarecki P., Stloukal E., Hagedorn G., Wetzel F.T., Glöckler F., Kroupa A., Korb G., Hoffmann A., Häuser C., Kohlbecker A., Müller A., Güntsch A., Stoev P., Penev L. 2014. Fauna Europaea – all European animal species on the web. Biodiversity Data Journal, 2: e4034. doi: 10.3897/BDJ.2.e4034. (accessed on December 2021).

Goater B. 1986. British Pyralid Moths. – Harley Books, Great Horkesley, Colchester, 175 pp., 8 plates.

Ivinskis P. 1993. Check-list of Lithuanian Lepidoptera. in Vilnius, 210 pp.

Kozlov M.V., Jalava, J. 1994. Lepidoptera of the Kola Peninsula, northwestern Russia. Entomologica Fennica, 5(2): 65−85.

Leraut P. 2014. Papillons de nuit d'Europe, Pyrales 2, 4: 440 pp., 69 pls., N.A.P. Editions.

Ortiz J.G., Ullastre J.Y., Vilà R.M., 2016. *Apomyelois bistriatella* (Hulst, 1887), un nuevo pirálido para la fauna de la Península Ibérica (Lepidoptera: Pyralidae, Phycitinae).– Arquivos Entomolóxicos, 15: 107−113.

Pichler H. 2021. Lepiforum, Bestimmung von Schmetterlingen (Lepidoptera) und ihren Präimaginalstadien. Available at http://www.lepiforum.de/ (accessed on December 2021).

Pinzari M. 2019. *Phylloneta sisyphia* (Clerck, 1757) (Araneae: Theridiidae), a Predator of Larvae of *Euphydryas aurinia* (Rottemburg, 1775) (Lepidoptera: Nymphalidae) and its Parasitoid *Erycia furibunda* (Zetterstedt, 1844) (Diptera: Tachinidae). Acta zoologica bulgarica, 71(2): 195−200.

Pinzari M., Cianferoni F., Fabiani A., Dioli P. 2019. Predation by nymphs of *Picromerus bidens* (Heteroptera: Pentatomidae, Asopinae) on caterpillars of *Euphydryas aurinia provincialis*

(Lepidoptera: Nymphalidae) in Italy. Redia – Journal of Zoology, 102: 89−94.

Pinzari M., Pinzari M. 2019a. Genus *Delplanqueia* Leraut, 2001 and *D. inscriptella* (Duponchel, 1836) (Lepidoptera, Pyralidae) in Italy. Journal of Entomological and Acarological Research, 51: 60−68.

Pinzari M., Pinzari M. 2019b. Contribution to the knowledge of Lepidoptera fauna of Lampedusa: *Bifascioides leucomelanella* (Rebel, 1917) and *Ceutholopha isidis* (Zeller, 1867) (Lepidoptera) new to Italy. Journal of Entomological and Acarological Research, 51: 8031.

Pinzari M., Pinzari, M. 2021a. *Nemophora minimella* ([Denis & Schiffermuller], 1775) e *Phyllonorycter millierella* (Staudinger, 1871) nuove per l'Italia peninsulare ed altre specie nuove per I dintorni del SIC di Monte Cagno, Borbona (Provincia di Rieti, Lazio). Bollettino dell'Associazione Romana di Entomologia, Nuova Serie 2 (1-4) (2021): 29−37.

Pinzari M., Pinzari M. 2021b. Il Progetto Biodiversità dei Lepidotteri della Tenuta Presidenziale di Castelporziano: primo rapporto (Lepidoptera). In: "Il Sistema Ambientale della Tenuta presidenziale di Castelporziano. Ricerche sulla complessità di un ecosistema forestale costiero mediterraneo", Scritti e documenti LXII Accademia Nazionale delle Scienze detta dei XL, in collaborazione con Segretariato Generale della Presidenza della Repubblica. ISBN 978-88-98075- 42-3, ISSN 03-91-4666.

Powell J.A. 1967. *Apomyelois bistriatella*: a moth which feeds in an Ascomycete fungus (Lepidoptera: Pyralidae). Journal of the New York Entomological Society, 75(4): 190−194.

Silva C., Nunes J., Jesus E. 2021 – New species of Lepidoptera for mainland Portugal (Insecta: Lepidoptera). SHILAP Revista de lepidopterología, 49(195): 507−511.

Sinev S.Y. 1986. Family Phycitidae. In: G.S. Medvedev (ed.), Keys to the Insects of the European Part of the USSR 4 (3): 251−340. [In Russian – English translation 1997].

Slamka F. 1997. Die Zűnslerartingen (Pyraloidea) Mitteleuropas. Bestimmen, Verbreitung, Flugstandort, Lebensweise der Raupen.Bratislava, 112 pp.

Slamka F. 2019. Pyraloidea of Europe (Lepidoptera), Volume 4, Phycitinae – Part 1. Identification, Distribution, Habitat, Biology. Bratislava, 432 pp.

Tinelli A., Folletto A., Manfredi Frattarelli F., Maffei L., Musicanti A., Recanatesi F. 2012. Il Sistema ambientale della Tenuta Presidenziale di Castelporziano. Le Zone Umide. Ed. Accademia Nazionale della Scienze detta dei XL.

Wieser C., Huemer P., 1997. Bemerkenswerte Nachweise von Schmetterlingen aus Kärnten (Lepidoptera). Carinthia II, 187/107: 385−393.