



Ratasa alienalis (Eversmann, 1844) (Lep.: Pyralidae: Phycitinae), a genus and species new to Iran

Helen Alipanah*

Iranian Research Institute of Plant Protection (IRIPP), Agricultural Research, Education and Extension Organization (AREEO), Tehran.

ABSTRACT. The genus *Ratasa* Herrich-Schäffer, 1849 and *R. alienalis* (Eversmann, 1844) are identified based on a single male specimen collected in Golestan National Park, Sulgerd region and preserved in the Hayk Mirzayans Insect Museum. Both genus and species are newly reported for the fauna of Iran. Taxonomic characterization of the species as well as the adult male and male genitalia figures are presented herein.

Key words: *Ratasa*, new record, Golestan National Park, Iran

Received:
06 July, 2019

Accepted:
12 September, 2019

Published:
09 October, 2019

Subject Editor:
František Slamka

Citation: Alipanah, H. (2019) *Ratasa alienalis* (Eversmann, 1844) (Lep.: Pyralidae: Phycitinae), a genus and species new to Iran. *Journal of Insect Biodiversity and Systematics*, 5 (4), 263–267.

Introduction

Ratasa Herrich-Schäffer, 1849 is a monotypic triline genus of snout moths with only one species, *R. alienalis* (Eversmann, 1844), which is distributed in Uzbekistan, European part of Russia, Turkmenia and Transcaspia. The genus is characterized by presence of vein R_3 in the forewing; distinct separation of veins M_{2+3} from Cu_1 , and $Sc+R_1$ from R_s in the hindwing; lack of maxillary palpi; short trunk; and long ciliae of male antennae (Roesler, 1973).

A single male of *R. alienalis* was identified while studying the pyralid specimens preserved in the Hayk Mirzayans Insect Museum (HMIM), Iranian Research

Institute of Plant Protection (IRIPP). The genus and species are newly reported for the fauna of Iran.

Material and methods

Photographs were taken with a digital camera DSC-F717 and a Dino-Eye microscope eye-piece camera. The software Combine ZP was also used to stack some images. Dissection and slide-mounting methods for genitalia were based on those described by Clarke (1941) and Robinson (1976). Preparations were stained with Chlorazol black and mounted in Euparal. The examined specimen deposited in the Hayk Mirzayans Insect Museum.

Corresponding author: Helen Alipanah, E-mail: alipanah@iripp.ir; halipanah@gmail.com

Copyright © 2019, Helen Alipanah. This is an open access article distributed under the terms of the Creative Commons Attribution License (CC BY NC 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Results

The adult examined male and its genitalia are briefly characterized as follows:

Genus *Ratasa* Herrich-Schäffer, 1849

Herrich-Schäffer, 1849, *Schmett. Eur., Pyral.* 4:93. *Pyralis alienalis* Eversmann, by monotypy, USSR: Urals.

Ratasa alienalis (Eversmann, 1844)

= *Ratasa noctualis* (Eversmann, 1842:559) (*Pyralis*) (homonym); type locality: Russia, Orenburg. (Figs 1A, B; 2A-D)

Material examined. North Khorāsān Prov.:

1 ♂, Golestān National Park, Sulgerd, 1050 m, 14.IV.1997, V. Nazari leg. (GS: HA-2470).

Diagnosis. Antennae filiform, in female with ventral pubescence, male with long ciliae ventrally. Forewing (Figs 1A, B) almost 2.5 times as long as the wide with length of 8-10.5 mm, in the examined male 10 mm; upperside (Fig. 1A) light gray brown admixed with pale yellow and blackish-brown scales, scales at the innermost part of the basal area black brown or pale gray yellow with large

numbers of individual erect dark brown scales, ante-medial line at beyond one-third of the forewing, oblique, pale yellowish-white. Medial area slightly brightened, dark brown with scattered dark scales decreasing against inside the edge of wing, at costal margin with a large dark brown faded spot. Discoidal spot as a wiped out dark brown spot with wiped out border behind the cell, post-medial line at three-thirds the forewing length, parallel to the outer margin, finely serrated medially, pale yellowish-white with fine brown margins, with a faded, dark blackish-brown spot at the apex along with post-medial line; fringes brown with a pale yellowish-white transverse line; underside (Fig. 1B) dirty white with gray scales, slightly darker at margins, post-medial line white, with brown frame. Hindwing upperside (Fig. 1A) white medially, slightly dark brown towards the outer margins, brown basally, fringes white; underside (Fig. 1B) pale white, with slightly narrower outer line compared with the upperside (Roesler, 1973).

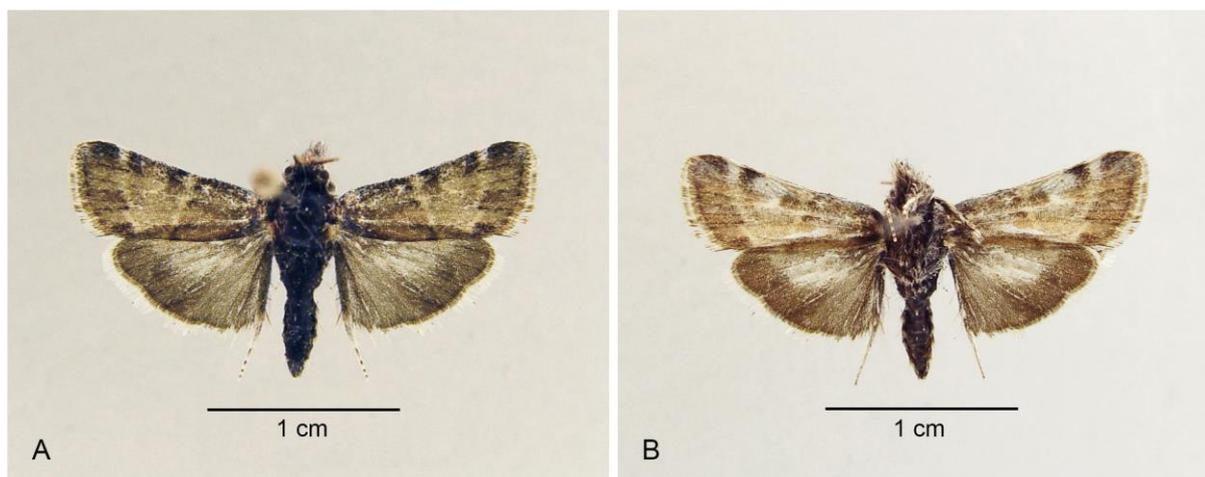


Figure 1. *Ratasa alienalis* (Eversmann), adult male: **A.** Upperside; **B.** Underside.

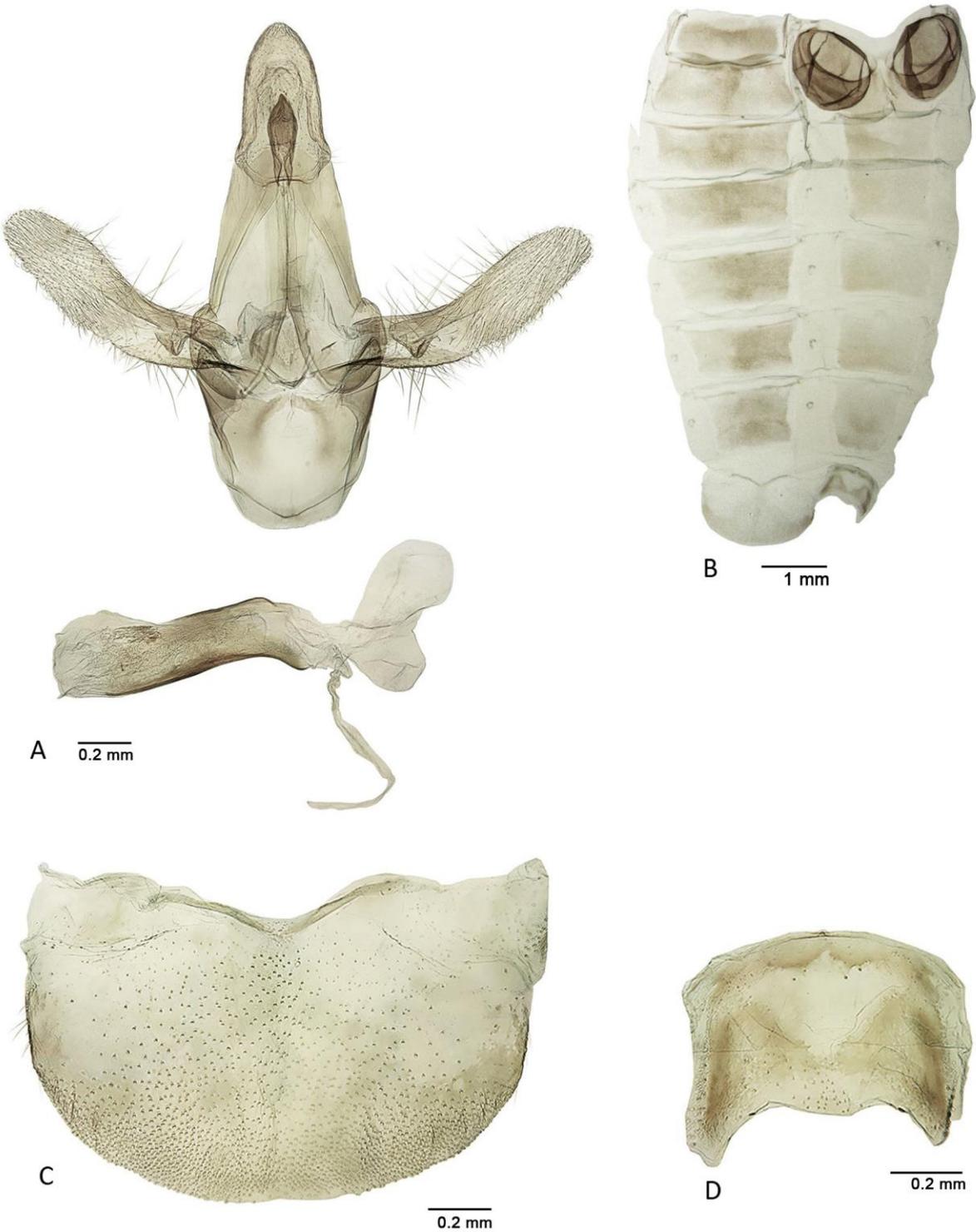


Figure 2. *Ratasa alienalis* (Eversmann), male genitalia and abdomen. **A.** Male genitalia, main body and phallus; **B.** Abdomen; **C.** Eighth abdominal tergite; **D.** Eighth abdominal sternite.

Male genitalia (Fig. 2A) with uncus long, triangular, tapering distally, rounded apically; gnathos tongue-shaped, pointed apically, obviously forked basally; transtilla not sclerotized; juxta strong, slightly longer than broad, proximally rounded, terminally flattened; valva relatively narrow, medially with an anterior flat curve, apically rounded, about 3.5 times as long as wide, with a flap-like clasper in the proximal quarter and several covering bristles, costa stout, short, very wide at the base, pointed terminally, with length less than half length of the valva; sacculus rather slender, with a swelling at proximal one-third, pointed distally; vinculum nearly heart-shaped, slightly broader than long; culcita not normally developed on eighth sternite; phallus strong with varying width, widest at distal half, straight and about as long as the valva, vesica at distal half with some strong sclerotized tooth plates, without cornuti. Sternite VIII (Figs 2B, D) as a dome-shaped structure, wide in the middle, narrowing laterally, outer ends pointed and terminally bent (Roesler, 1973); tergite VIII (Fig. 2B, C) relatively large, semi-oval.

Distribution. Uzbekistan: Tashkent; European part of Russia: Orenburg, Ural; Turkmenia: Turkmenbashi (formerly known as Krasnowodsk); Transcaspia: Tura (Roesler, 1973).

Remarks. The genus and species are newly reported for the fauna of Iran.

Discussion

The specimens preserved in the HMIM have been gathered regularly since more than 75 year ago. Although several expeditions have been achieved in different parts of the Golestan National Park including Sulgerd, only a single male of the monotypic genus, *Ratasa* was found over there, unexpectedly. It is supposed that this area has not been well studied or the species may have low populations or even it may be because of their weak attraction

to light traps. But, it would be reasonable that multiple sampling in this area being carried out for several consecutive years to reach certainty.

Acknowledgments

I would like to thank to Vazrik Nazari (Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Canada) who has collected the examined specimen and has already worked in Insect Taxonomy Research Department of the Iranian Research Institute of Plant Protection.

Conflict of Interests

The author declares that there is no conflict of interest regarding the publication of this paper.

References

- Clarke, J.F.G. (1941) The preparation of slides of the genitalia of Lepidoptera. *Bulletin of the Brooklyn Entomological Society*, 36, 149–161.
- Eversmann, E.F.V. (1842) Quaedam Lepidopterorum species novae, in Rossia orientali observatae, nunc descriptae et depictae. *Bulletin de la Société Impériale des Naturalistes de Moscou* 15 (3), 543–565, pls 5–6.
- Herrich-Schäffer, G.A.W. (1847–1855) [imprint "1849"]: Systematische Bearbeitung der Schmetterlinge von Europa, zugleich als Text, Revision und Supplement zu Jakob Hübner's Sammlung europäischer Schmetterlinge. 4: Die Zünsler und Wickler. G.J. Manz, Regensburg. [1]–2–288, (Index) [1]–2–48, pls 1–23 (Pyralidides) + 1–59 (Tortricides).
- Robinson, G.S. (1976) The preparation of slides of Lepidoptera genitalia with special reference to the Microlepidoptera. *Entomologist's Gazette*, 27, 127–132.
- Roesler, R.U. (1973) Phycitinae. Trifine Acrobasiina. In: Amsel, H.G., Gregor, F., Reisser, H. (Eds) *Microlepidoptera Palaeartica* 4 (1–2). Georg Fromme & Co., Wien, Part 1: i–xvi, 752 pp, Part 2: 137 pp, pls. 1–170.

اولین گزارش جنس و گونه شب پره (*Ratasa alienalis* (Eversmann, 1844)) Lep.: Pyralidae:)
Phycitinae) از ایران

هلن عالی پناه

مؤسسه تحقیقات گیاه پزشکی کشور، سازمان تحقیقات، آموزش و ترویج کشاورزی، صندوق پستی ۱۴۵۴-۱۹۳۹۵، تهران.
پست الکترونیکی نویسنده مسئول مکاتبه: alipannah@iripp.ir; halipannah@gmail.com
تاریخ دریافت: ۱۵ تیر ۱۳۹۸، تاریخ پذیرش: ۲۱ شهریور ۱۳۹۸، تاریخ انتشار: ۱۷ مهر ۱۳۹۸

چکیده: جنس *Ratasa* Herrich-Schaffer, 1949 و گونه‌ی *Ratasa alienalis* (Eversmann, 1844) بر مبنای یک نمونه نر جمع‌آوری شده از منطقه سولگرد پارک ملی گلستان که در موزه حشرات هایک میرزایانس نگهداری می‌شود، شناسایی شد. این جنس و گونه برای اولین بار از ایران گزارش می‌شوند. در این مقاله، صفات تاکسونومیک گونه به همراه تصاویر نر بالغ و اندام تناسلی نر ارائه شده است.

واژگان کلیدی: *Ratasa*، گزارش جدید، پارک ملی گلستان، ایران