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Short Article 6



# Pammene crataegophila Amsel, 1935 (Tortricidae: Olethreutinae), a new record and potentially harmful species from Iran

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Published online December 11, 2025 **ABSTRACT.** *Pammene crataegophila* Amsel is reported from Iran for the first time. Larvae were collected in the Alamut region, Qazvin Province, feeding on the fruits of hawthorn, *Crataegus pontica* K.Koch., and causing damage to it. Morphological characters of the species, as well as diagnostic features of both male and female genitalia, are illustrated and discussed with reference to the examined specimens and available sources. A brief review of the biology of the species is also provided. This species has previously been reported on *Crataegus* species, specifically *Crataegus azarolus* L. (in Cyprus). However, *C. pontica* is a new host plant for the species.

KEYWORDS: Crataegus, Grapholitini, Damage, Harmful species, Pest

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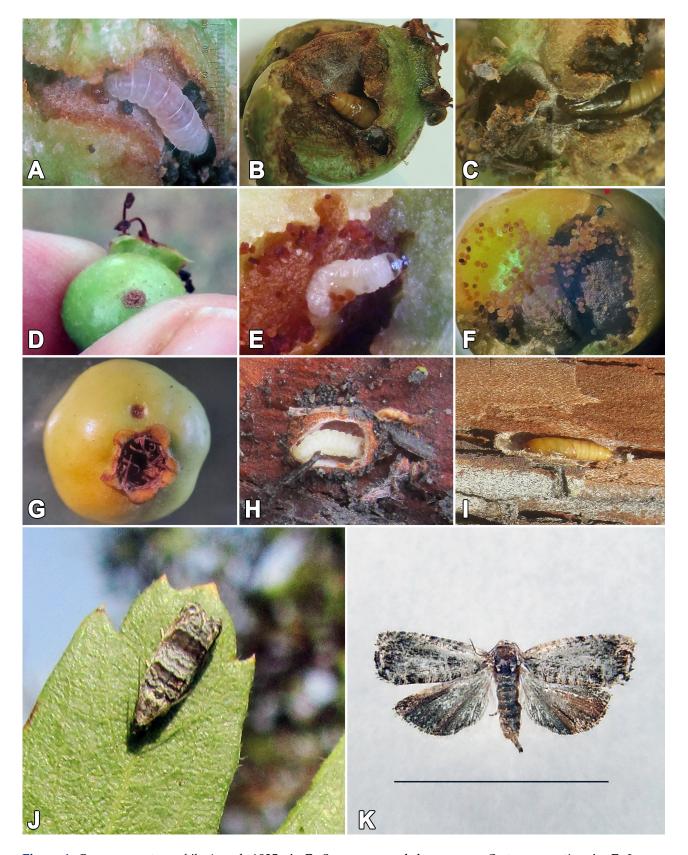
#### **INTRODUCTION**

The genus *Pammene* Hübner, [1825] 1816, with almost 90 described species worldwide, including 81 in the Palaeacrtic region (Gilligan et al. 2018), is widespread in the forest zones of Eurasia (Razowski 2003). The larvae of most species are cryptophagous and feed on cones of Cupressaceae and Pinaceae, acorns of Fagaceae, flowers of Rosaceae, and catkins of Betulaceae (Brown 2022), However, some are gall makers, and some feed in leaves, more rarely in seeds, stems, or under bark (Razowski 2003). As stated by Razowski (2003), there is usually one, or rarely two, generations per year.

During August 2024, the larvae of a *Pammene* species were observed feeding on the fruits of *Crataegus pontica* K.Koch in the Falar region (Alamut, Qazvin Province), Iran (Fig. 1A–G). Reared adults were identified as *Pammene crataegophila* Amsel, 1935, a species previously unknown in Iran. Three species, namely *Pammene caliginosa* Kuznetsov, 1972, *P. festiva* Kuznetsov, 1972, and *P. trauniana* ([Denis & Schiffermüller], 1775) were previously reported from Iran (Toll, 1948; Kuznetsov, 1964; Danilevsky & Kuznetsov 1968; Kuznetsov 1972), so the new record brings the total to four. The diagnostic characters of *Pammene crataegophila*, including the male and female genitalia, are presented, and a brief explanation of the biology of the species and its symptoms on the host plant is provided. This is also the first report of *C. pontica* as a host plant for *P. crataegophila*.

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**Figure 1.** *Pammene crataegophila* Amsel, 1935. **A–G.** Symptoms and damages on *Crataegus pontica*: **A.**, **E.** Larvae while feeding on the fruit's flesh; **B.**, **C.** Pupae of the first generation inside the fruit; **D.**, **G.** Holes on the surface of the unripe (D) and ripe (G) fruit; **F.** The feces retained after feeding of larva of the second generation (the red arrow indicates the exit hole of the larva after feeding); **H.** Last larval instar of the second generation in a thin cocoon under the bark of a tree; **I.** Pupae of the second generation under the bark of a tree; **J.** Adult specimen on *Crataegus pontica* leaf; **K.** Pinned adult female (scale bar 10 mm).

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#### **MATERIAL AND METHODS**

Larvae were collected directly on the host plant during field trips in 2024. They were transported to Qazvin Agricultural and Natural Resources Research and Education Center, Qazvin, Iran, where they were reared in the laboratory in Petri dishes containing wet cotton. In addition, adult specimens were collected directly on the host plant using an aspirator. Methods of genitalia dissection followed those of Robinson (1976) and Clarke (1941) with some modifications. Photographs of larvae, pupae, and damage to plants were taken using a Canon® SX210 macro camera. A Sony® DSC-F717 camera and a Dino-Eye Microscope Eye-piece camera were used to photograph pinned adults and genitalia structures, respectively. The software Combine ZP was used to stack the images. The terminology for morphological characters of adults follows Razowski (2003).

#### **RESULTS**

**Taxonomic hierarchy** 

Class Insecta Linnaeus, 1758

Order Lepidoptera Linnaeus, 1758

Family Tortricidae Latreille, 1803

Subfamily Olethreutinae Walsingham, 1895

Tribe Grapholitini Guenée, 1845

Genus Pammene Hübner, [1825]

**Type species.** *Tortrix trauniana* [Denis & Schiffermuller, 1775]

Pammene crataegophila Amsel, 1935 (Figs 1J-K, 2A-H)

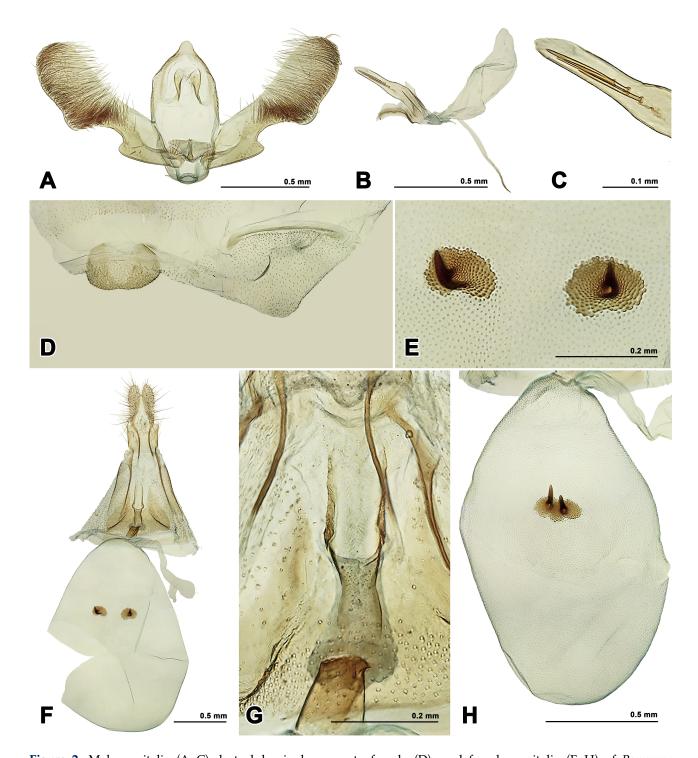
*Material examined.*  $2 \circ \circ$ ,  $2 \circ \circ$ ,  $2 \circ \circ$ , **Qazvin Prov.:** Alamut, Falār,  $36^{\circ}29'49.2"N$   $50^{\circ}10'21.84"E$ , 1544 m, 7.viii.2024 (on *Crataegus pontica*) (genitalia slides, HA-3025, HA-3026, HA-3027, HMIM).

Morphological characteristics. Head. The frons and vertex of males and females are covered with dirty-creamy scales admixed with grey, with slightly raised scales at the upper part of the frons; labial palpi especially the second segment - are heavily scaled as described by Barton (2015), but in one of the examined females the scaling of the second segment obscures the third; the second segment longest. The scales of the lateral sides of labial palpi are creamy, admixed with brown towards the apex; the third segment has brown scales admixed with creamy. As stated by Barton (2015), antennae in both the male and female are filiform, light grey-brown, and ringed with whitish-creamy.

Thorax. Forewing (Fig. 1J, K) has a gently convex costa, a straight dorsum, and a slightly rounded termen, shallowly notched near the apex. Length of the forewing is 4.9-5.0 mm (x = 4.95 mm  $\pm 0.07$  mm; n = 2) in males and 5.4-5.5 mm (x = 5.45 mm  $\pm 0.07$  mm; n = 2) in females; the wingspan is 11.5 mm (n = 1) and 12.3-12.4 mm (n = 2) in the male and females, respectively. As stated by Barton (2015), the forewing ground color is fuscous-brown with white and dark brown plumbeous markings, five pairs of strigulae between apex and median fascia, small basal fascia covered with brown and pale fuscous-brown scales, subbasal fascia gently curving convex distally, dark brown median fascia angled distally, dark brown postmedian (subterminal) fascia angled distally from costa towards distal edge of speculum, and short preterminal fascia. The speculum has 4-5 dark brown, elongate inner spots; the fringes are grey-brown. The hindwing is dark brown near the termen, and increasingly paler proximally; the fringes are white-tipped grey-brown.

**Abdomen.** In the male genitalia (Fig. 2A–C) the uncus is a weak apical prominence of the tegumen; the valva is relatively wide beyond the neck, rounded apically, with a deep incision ventrally; the cucullus is expanded ventrally, protruding at the ventral corner; the angle of the sacculus is acute, with a ventral incision with peculiar groups of setae and spines on the upper side. As stated by Danilevsky & Kuznetsov (1968), the inner surface of the cucullus has hairs and bristles. The aedeagus is slightly swollen at the base, with a ventral prominence/ there are two cornuti arranged in a row. However, in the single male we examined, there are three cornuti, and a fourth one seems to be lost (Fig. 2B, C).

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**Figure 2.** Male genitalia (A–C), last abdominal segment of male (D), and female genitalia (E–H) of *Pammene crataegophila* Amsel, 1935. **A.**, **F.** Main body in ventral view; **B.** Aedeagus in lateral view; **C.** Distal half of the aedeagus in lateral view; **E.** Signa; **G.** Ostium, antrum area, and cingulum in ventral view; **H.** Corpus bursae in ventral view; (A–D. Genitalia slide, HA-3025, HMIM; E., F. Genitalia slide, HA-3026, HMIM; G., H. Genitalia slide, HA-3027, HMIM).

The last abdominal sternum of the examined male is somewhat trapezoidal, small, sclerotized plate; while the last abdominal tergum is weakly sclerotized, protruding medially (Fig. 2D). In the female genitalia (Fig. 2E–H), the papillae anales are rounded apically and bear long setae; the sterigma is a very narrow, sclerotized band ventrally around the ostium, with two elongate, slightly thicker, upcurved, parallel, tapering ends to the proximal part of the lamella postvaginalis; the antrum is slightly sclerotized, cone-shaped, and short; the ductus bursae is slightly sclerotized, longer than the cingulum;

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as stated by Barton (2015), the cingulum is cylindrical and well sclerotized; the ductus seminalis arises from the corpus bursae adjacent to the ductus bursae; the corpus bursae is large, oval to pear-shaped, with two signa composed of a nearly circular sclerotized base with a pointed, curved spine centrally (Fig. 2E, F, H) (Barton 2015).

*Distribution.* Turkey, Cyprus, Israel (the Judean Hills west of Jerusalem), Russia (Amsel 1935; Danilevsky & Kuznetsov 1968; Barton 2015; Aarvik 2017), and Iran (new record).

Host plants. Crataegus sp. (Rosaceae) (Amsel 1935), C. azarolus L. (Barton 2015), and C. pontica (present study).

**Biology.** This species has two generations per year. Based on observations of the second author, larvae feed on the fruit's flesh and create tunnels inside the fruit (Fig. 1A, E). First-generation larvae pupate inside the fruit (Fig. 1B, C) and the pupae hatch towards the peduncle (Fig. 1C). After entering the fruit and feeding on the fruit's flesh, the second generation of larvae exit via a hole on the surface of the fruit (Fig. 1F) and sometimes enter the ripe fruit through another hole (Fig. 1G). The second-generation larvae pupate under the bark of trees in a thin cocoon (Fig. 1H, I). Further details on the biology of the species are the subject of current studies, the results of which will be published in a separate article

#### **DISCUSSION**

Forty-four species of plants in a wide range of families have been reported as the larval host plants of the genus Pammene, mostly Fagaceae (supporting 12 species), Rosaceae (supporting six species), Pinaceae (supporting four species), and Cupressaceae (supporting four species). Seven Quercus-feeding species are also recorded from cynipid galls on their Fagaceae hosts (Brown 2022). Several Pammene species are economically important pests. For example, P. fasciana (Linnaeus, 1761) is a well-known pest of oak (Quercus spp.) and sweet chestnut (Castanea sativa Mill.), especially in mainland Europe (Speranza 1999; Avtzis 2012; Clausi et al. 2016). Likewise, Pammene critica (Meyrick, 1905) is a pest of pigeon pea or red gram (Cajanus cajan (L.) Millsp.) in India and Sri Lanka, and is most abundant during the pre-flowering stage of the host (Ghosh 1981). The Sycamore piercer, Pammene aurita Razowski, 1991, is another species whose larvae are known to feed on plant tissues, causing direct damage to fruit trees. Their damage to fruit and leaves can range from mild to severe, and can lead to significant crop loss during large infestations (Anonymous 2024). Several Pammene species are known to be harmful to their hosts, but have not yet been considered as pests. For example, Pammene rhediella Clerck, 1759 was considered as a pest of Crataegus monogyna Jacq. in Slovakia by Kollár (2007). Their larvae sometimes attack the fruits of plum and apple (Gratwick 1992). Also, Pammene mariana Zerny, 1920 was found to inflict damage to juniper fruits in Turkey by Erdal Zengin (2024).

Some Pammene species such as P. agnotana Rebel, 1914, P. crataegicola Liu & Komai, 1993, P. crataegophila, P. germmana (Hübner, [1799]), P. rhediella (Clerck, 1759) and P. spiniana Duponchel, 1842, feed on different species of the genus Crataegus (Disque 1908; Amsel 1935; Toll 1947; Danilevsky & Kuznetsov 1968; Bradley et al. 1979; O'Keefe 1991; Liu & Komai 1993; Kollár 2007; Barton 2015; Brown 2022), with P. crataegophila reported to feed exclusively on Crataegus sp. and Crataegus azarolus L. (Amsel 1935; Barton 2015). The Pammene species of Iran are poorly studied and only three species, namely, Pammene caliginosa Kuznetsov, 1972, P. festiva Kuznetsov, 1972, and P. trauniana ([Denis & Schiffermüller], 1775) are reported from Iran. Pammene caliginosa is collected from Sistan and Baluchestan (Khash-Zahedan Rd., Sangan; type locality) and Fars (Sineh Sefid) Provinces; P. festiva from Fars (Shiraz-Kazerun Rd., Sineh Sefid; type locality) Province; and P. trauniana from Razavi Khorasan (Mirabi Mt.) Province (Toll 1948; Kuznetsov 1964; Danilevsky & Kuznetsov 1968; Kuznetsov 1972). The first two species are not listed as species that feed on any particular host plants; however, the reported host plants for Pammene trauniana in Europe are Acer campestre L. (Bradley et al. 1979; Brown 2022), Acer monspessulanum turcomanicum (Pojark.) Rech. f. (Kuznetsov 1964; Danilevsky & Kuznetzov 1968; Brown 2022), and Quercus sp. (Kuznetsov 1960; Danilevsky & Kuznetsov 1968; Brown 2022). Acer campestre is found in East Azarbaijan, Gilan, Golestan, and Mazandaran Provinces, A. monspessulanum turcomanicum in Golestan, North Khorasan, Razavi Khorasan, and Semnan Provinces, and the members of the genus Quercus mainly in the North and North-West of Iran (Mozaffarian 2005). Therefore, apart from the other factors affecting the distribution of *Pammene trauniana* in Iran, it seems that the presence of *A. m. turcomanicum* in Razavi Khorasan Province could have a remarkable effect on the distribution *P. trauniana* in this Province.

Although in the present study, *P. crataegophila* has been observed feeding on hawthorn fruits and causing severe damage to the host plant during high populations, it is not yet considered a pest in Iran. Additional studies on the biology of this species and investigating the possibility of its presence in other areas of Iran on *Crataegus pontica* or other species of the genus *Crataegus* will provide greater detail on its host range and biology. As it was mentioned before, the *Pammene* species of Iran have not been studied yet. Thus, it is not clear if *P. crataegophila* is a native overlooked species that naturally occurs in the country or an invasive/alien species to discuss its possible routes of invasion.

#### **AUTHOR'S CONTRIBUTION**

The authors confirm their contribution to the paper as follows: H. Alipanah: Identifying the species, preparing genitalia slides, taking photos of the adults and genitalia, preparing the plate of illustrations, writing, editing, and reviewing the manuscript; A. Zarnegar: Field work, collecting and photographing specimens in the field, cooperating in drafting, editing, and reviewing the manuscript. The authors read and approved the final version of the manuscript.

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This research received no specific grant from any funding agencies.

#### AVAILABILITY OF DATA AND MATERIAL

The specimens listed in this study are deposited in the Hayk Mirzayans Insect Museum (HMIM), Iranian Research Institute of Plant Protection (IRIPP), Tehran, Iran, and Qazvin Agricultural and Natural Resources Research and Education Center, Qazvin, Iran, and are available from the curator upon request.

#### ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study only included arthropod material, and all required ethical guidelines for the treatment and use of animals were strictly adhered to in accordance with international, national, and institutional regulations. No human participants were involved in any studies conducted by the authors for this article.

#### CONSENT FOR PUBLICATION

Not applicable.

#### **CONFLICT OF INTERESTS**

The authors declare that there is no conflict of interest regarding the publication of this paper.

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#### **REFERENCES**

Aarvik, L. (2017) Fauna Europaea: Tortricidae. In: Karsholt, O. & van Nieukerken, E.J. (eds) Fauna Europaea: Lepidoptera. Fauna Europaea version 06. Available from: http://www.faunaeur.org [Accessed June 2, 2025]

Amsel, H.G. (1935) Neue palästinensische Lepidopteren. *Mitteilungen aus dem Zoologischen Museum in Berlin*, 20 (2), 271–319, pl. 9–18.

Anonymous (2024) Picture insect. Sycamore piercer *Pammene aurita*. Available from: https://pictureinsect.com/wiki/Pammene\_aurita.html [Accessed June 21, 2025]

Avtzis, D.N. (2012) The distribution of *Pammene fasciana* L. (Lepidoptera: Tortricidae) in Greece: an underestimated chestnut-feeding pest. *International Journal of Pest Management*, 58 (2), 115–19. https://doi.org/10.1080/09670874.2012.667584

Bae, Y.-S. & Park, K.-T. (1998) The genus *Pammene* Hübner (Lepidoptera: Tortricidae) from Korea, with descriptions of two new species. *Zoological Studies*, 37 (4), 291–301.

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Barton, I. (2015) On *Pammene crataegophila* Amsel, 1935 (Tortricidae) from Cyprus, with a description of the female genitalia. *The Entomologist's Record and Journal of Variation*, 127 (3), 104–108.

- Bradley, J.D., Tremewan, W.G. & Smith, A. (1979) *British Tortricoid Moths. Tortricidae: Olethreutinae*. The Ray Society; London. 336 pp.
- Brown, J.W. (2022) A review of host plants for the tortricid tribe Grapholitini, with a synopsis of host utilization by genus (Lepidoptera: Tortricidae). *Insecta Mundi*, 0944, 1–75.
- Clarke, J.F.G. (1941) The preparation of slides of the genitalia of Lepidoptera. *Bulletin of the Brooklyn Entomological Society*, 36, 149–161.
- Clausi, M., Leone, D., Oreste, M. & Tarasco, E. (2016) Comments on the morphology and biology of *Pammene castanicola* Trematerra & Clausi, 2009 (Lepidoptera: Tortricidae: Grapholitini). *Zootaxa*, 4168 (3), 570–572. https://doi.org/10.11646/zootaxa.4168.3.8
- Danilevsky, A.S. & Kuznetsov, V.I. (1968) Fauna of the USSR. Insecta, Lepidoptera. Tortricidae, the Leaf-Roller Moths. Tribe Laspeyresiini. Vol. V (1). Nauka, Moscow. 635 pp. [in Russian]
- Disque, H. (1908) Versuch einer microlepidopterologischen Botanik. Deutsche Entomologische Zeitschrift Iris, 21, 34-147.
- Erdal Zengin, F. (2024) Insect pests on berries of *Juniperus excelsa* M. Bieb and their natural enemies in Kütahya, *KSU Journal of Agriculture and Nature*, 27 (2), 377–381. https://doi.org/10.18016/ksutarimdoga.vi.1318165
- Ghosh, M.R. (1981) Incidence of some important insect pests in red gram (Cajanus cajan) in West Bengal. Entomon, 6, 215-218.
- Gilligan, T.M., Baixeras, J. & Brown, J.W. (2018) T@RTS: Online World Catalogue of the Tortricidae (Ver. 4.0). http://www.tortricid.net/catalogue.asp [Accessed May 25, 2025]
- Gratwick, M. (1992). Plum fruit moths. In: Gratwick, M. (ed.) *Crop Pests in the UK*. Springer, Dordrecht, pp. 123–125. https://doi.org/10.1007/978-94-011-1490-5\_25
- Hübner, J. (1816–1826) *Verzeichniß bekannter Schmettlinge*. Bey dem Verfasser zu Finden, Augsburg. 431 + 72 pp. https://doi.org/10.5962/bhl.title.48607
- Kollár, J. (2007) The harmful Entomofauna of woody plants in Slovakia. Acta Entomologica Serbica, 12 (1), 67-79.
- Kuznetsov, V.I. (1960) New species of the genera *Salsolicola* Kuznetsov, g. nov., *Pammene* Hb., and *Laspeyresia* Hb. (Lepidoptera, Tortricidae) in the USSR fauna. *Entomologicheskoe Obozrenie*, 39, 189–199.
- Kuznetsov, V.I. (1964) New and little-known Paleractic species of the genus *Pammene* Hb. (Lepidoptera, Tortricidae). *Entomologicheskoe Obozrenie*, 43, 692–705.
- Kuznetzov, V.I. (1972) New species of the leaf-rollers (Lepidoptera, Tortricidae) from Iran and Caucasus. *Proceedings of the Zoological Institute, Academy of Sciences of the USSR*, 52, 311–318. [in Russian]
- Liu, Y.Q. & Komai, F. (1993) A new species of the genus *Pammene* (Lepidoptera: Tortricidae) injurious to fruits of hawthorn in China. *Tinea*, 13, 241–244.
- Mozaffarian, V. (2005) Trees and Shrubs of Iran. Farhang Moaser publishers, Tehran. 1003 pp. [in Persian]
- O'Keefe, D. (1991) Pammene agnotana (Reb.) (Lep., Tortricidae) resident in Kent. Entomologist's Record and Journal of Variation, 103, 327-328.
- Razowski, J. (2003) Tortricidae of Europe. Olethreutinae, 2. Slamka, Bratislava. 301 pp.
- Robinson, G.S. (1976) The preparation of slides of lepidoptera genitalia with special reference to the Microlepidoptera. Entomologist's Gazette, 27, 127–132.
- Speranza, S. (1999) Chestnut pests in Central Italy. *Acta Horticulturae*, 494, 417–424. https://doi.org/10.17660/ActaHortic.1999.494.62
- Toll, S. (1947) Przyczynek do fauny motyli t. zw. Dronych Polski. Materjaly dla Fizjograficzna Kraju, 6, 16–37. [in Polish]
- Toll, S. (1948) Beitrag zur Mikrolepidopterenfauna von Nordost-Persien. Zeitschrift der Wiener Entomologischen Gesellschaft, 32, 107–116, pls. 4–6.

# حضور Tortricidae: Olethreutinae) Pammene crataegophila Amsel, 1935) در ایران، گونهای با قابلیت خسارتزایی

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چکیده: گونهٔ Pammene crataegophila Amsel برای اولین بار از ایران گزارش می شود. لاروهای متعلق به این گونه در سال ۱۴۰۳ در منطقه الموت استان قزوین، ایران، هنگام تغذیه از میوهها و ایجاد دالان در برگهای زالزالک، Crataegus pontica K. Koch مشاهده و جمع آوری شدند و خساراتی را به آن وارد کرده بودند. ویژگیهای ریخت شناسی گونه و همچنین ویژگیهای تشخیصی اندامهای زادآوری نر و ماده با استناد به نمونههای مورد مطالعه و منابع موجود، ارایه، به تصویر کشیده شده و مورد بحث قرار گرفته اند. درباره زیست شناسی گونه نیز توضیحات مختصری ارایه شده است. این گونه قبلاً از روی بعضی از گونههای متعلق به جنس Crataegus و بهویژه گونه نیز توضیحات گزارش شده و در اینجا گونهٔ محرفی می شود.

واژگان كليدى: زالزالك، Grapholitini، خسارت، گونهٔ خسارتزا، آفت