

## A NEW SPECIES OF *OPHIOMYIA* BRASCHNIKOV, 1897 (DIPTERA: AGROMYZIDAE) FROM QAZVIN, WITH A REVIEW OF THE IRANIAN AGROMYZID FAUNA

Гугля, Ю. О. Новый вид рода *Ophiomyia* Braschnikov, 1897 (Diptera: Agromyzidae) з Казвіну з оглядом фауни агромізид Ірану. *Вісті Харківського ентомологічного товариства*. 2026. Т. XXXIV, вип. 1. С. 3–8. DOI: 10.36016/KhESG-2026-34-1-1.

Починаючи з 1938 року для фауни Ірану було зареєстровано 59 видів мух-мінерів. Хоча дані про один–три види спорадично з'являлися у різних працях, ці дослідження не були систематичними. Перший офіційний чекліст був опублікований лише у 2010 році та включав 26 видів. Оновлений список із 46 видів вийшов у 2015 році. Нещодавно, у 2020 та 2023 роках, до списку було додано ще сім видів, два з яких були описані з Ірану і наразі відомі лише з типових локалітетів. Крім того, описано новий вид мух-агрозид, *Ophiomyia korneyevi* sp. n., зібраний у Казвіні (Іран) у 2014 році. Опис супроводжений ілюстраціями голови, крила та терміналії самця. У цій праці наведено повний чекліст відомих іранських видів, що складається з 60 назв. 8 рис., 37 назв.

**Ключові слова:** морфологія, голова, терміналії самця, чекліст.

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Since 1938, 59 species of leaf-mining flies have been recorded for the fauna of Iran. Although data on one to three species sporadically appeared in various papers, these studies were not systematic. The first formal checklist was published only in 2010 and included 26 species. An updated list with 46 species was followed in 2015. Most recently, seven additional species were added in 2020 and 2023, two of which were described from Iran and are currently known only from their type localities. Additionally, a new species of agromyzid fly, *Ophiomyia korneyevi* sp. n., collected in Qazvin (Iran) in 2014, is described. The description is accompanied by illustrations of the head, wing, and male terminalia. A full checklist of the known Iranian species, consisting of 60 species, is provided herein. 8 figs, 37 refs.

**Keywords:** morphology, head, male terminalia, checklist.

**Introduction.** The first data on the Agromyzidae of Iran appeared in 1938, when *Agromyza ambigua* Fallén, 1823 was recorded as a crop pest (Afshar, 1938). New data on the agromyzid fauna were published sporadically from the 1960s to the present day, but these primarily concerned only one to three species (Farahbakhsh, 1961; Abai, 1984; Zlobin, 1993; Esmaili *et al.*, 1996; Radjabi *et al.*, 1997; Jafarzadeh, Pourmirza, 1998; Kalantar Hormozi *et al.*, 2000; Amin *et al.*, 2002; Sasakawa, 2005; von Tschirnhaus, Karimpour, 2006; Mahmoodi *et al.*, 2011; Shahreki *et al.*, 2012; Hazini *et al.*, 2013; Nartshuk, 2019; Kazerani *et al.*, 2023; Martinez, 2025). Griffiths (1964) cited data on nine ‘Persian’ species collected in Iran. The first formal checklist of Iranian agromyzids was published only in 2010 and comprised 26 species (Dousti, 2010). Subsequently, an updated checklist was published in 2015, including 46 species from 15 genera (Ranji *et al.*, 2015). Finally, Černý *et al.* (2020) additionally listed seven species from six genera. To date, 59 Agromyzidae species have been recorded in Iran (two species from this list remain identified only to the range of the genus: *Ophiomyia* sp. and *Phytobia* sp.), which is an extremely small number for such a vast territory (Appendix). Consequently, the Iranian fauna of Agromyzidae remains poorly investigated.

*Liriomyza persica* Griffiths, 1964 and *Cerodontha* (*Poemyza*) *albinea* Zlobin, 1993 were described from Iran. To date, the former has not been recorded anywhere outside of Iran, while the type series of the latter includes specimens from both Mongolia (holotype and paratypes) and Iran (paratype). *Cerodontha* (*P.*) *albinea* has also not been collected elsewhere since its description. Among the material collected by Valery Korneyev and Severyn Korneyev in Iran in 2014, a previously unknown species of the genus *Ophiomyia* was discovered, which is described below.

**Materials and methods.** A single specimen was collected by sweeping, pinned on a minutia pin, and labeled individually. The genitalia were dissected and macerated in a potassium hydroxide solution, then washed in a faint acetic acid solution and subsequently in distilled water. The terminalia are preserved in a mixture of glycerol and ethanol (1:1) in a microvial mounted together with the specimen.

The terminology for external morphology and male terminalia follows Lonsdale (2021). All drawings were made by the author. The holotype is deposited in the collection of the Museum of Nature of V. N. Karazin Kharkiv National University (KMNU), Ukraine.

**Results and discussions.** The worldwide distributed genus *Ophiomyia* was separated in subfamily Ophiomyiinae together with *Melanagromyza* Hendel, 1920, *Euhexomyza* Lonsdale, 2014 and *Tropicomyia* Spencer, 1973 based on whole genomic phylogenetic analysis provided by Xuan *et al.* (2023). To date, five species from the genus *Ophiomyia* were known in Iran. Among them, *O. beckeri* (Hendel, 1923), *O. curvipalpis* (Zetterstedt, 1848), *O. nasuta* (Melander, 1913) and *O. orbiculata* (Hendel, 1931) are widely distributed in Palaearctic Region (Papp, Černý, 2015), and *O. phaseoli* (Tryon, 1895) occurs throughout the Old-World tropics from Northern Australia and the islands of Micronesia, across Asia and Africa and reaches Egypt and Israel (Spencer, 1973). Only the last is known as a serious pest, attacking Leguminosae, such as *Cajanus*, *Canavalia*, *Crotalaria*, *Dolichos*, *Glycine*, *Phaseolus*, *Pueraria*, *Soja*, and *Vigna* (Spencer, 1973).

All five species are very different, well distinguished from each other, and cannot be confused with the new species described below.

## Family AGROMYZIDAE Fallén, 1823

### Subfamily OPHIOMYIINAE Xuan *et al.*, 2023

#### Genus *Ophiomyia* Braschnikov, 1897

#### *Ophiomyia korneyevi* sp. nov.

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**Description.** Head (Figs 1, 2). Blackish-brown. Vibrissal fasciculus absent. Orbit black, distinctly projected above eye in profile, slightly more prominent at level of lunule in lateral view; narrow, slightly shining, without clear contour in anterior view; 2 *ori*, 2–3 *ors*. *Fr orb* setae thick, short, reclinate, arranged in one irregular row. Frons with satin-like shine. Lunule wide, low, flattened, with small dorsal convexity reaching level of anterior *ori*. Facial carina bulbous, distinctly projected, with distinct furrow. Ocellar triangle same colour and shine as face in frontal view; black and shining in dorsal view, reaching level of posterior *ori*. Maximum height of eye 3.8× maximum height of gena.

Wing (Fig. 3). Greyish; all veins brown. Costa ending slightly after  $R_{4+5}$ . Last section of  $M_4$  0.8× as long as penultimate section. Calypter grey, margin and fringe black. Wing length 2.8 mm.

Thorax and legs. Mesonotum and scutellum uniformly moderately shining, with slight brownish pruinosity laterally in dorsal view. 2+0 *dc*; *acr* in 6–8 rows. Halter black. Legs: femur black, shining; tibia and tarsi dark grey, matt.

Male genitalia (Figs 4–8). Phallus atypical for genus, with extremely elongated, tail-shaped anterior half of distiphallus. Distiphallus widening posteriorly, with flattened posterior edge in ventral view; with well-sclerotized long ventral lobe and weakly sclerotized short dorsal lobe in lateral view. Mesophallus not reaching posterior edge of distiphallus. Basiphallus narrow, slightly curved, well-sclerotized, with parallel lateral margins in ventral view. Membranous gap between distiphallus and basiphallus as long as basiphallus. Hypandrium long, uniformly narrowing anteriorly, with wide, uniformly sclerotized arms. Epandrium typical for genus, hemispherical. Surstylus with group of strong short setae and one more slender, elongated seta. Ejaculatory apodeme triangular, slightly curved, 1.9× as long as phallus.

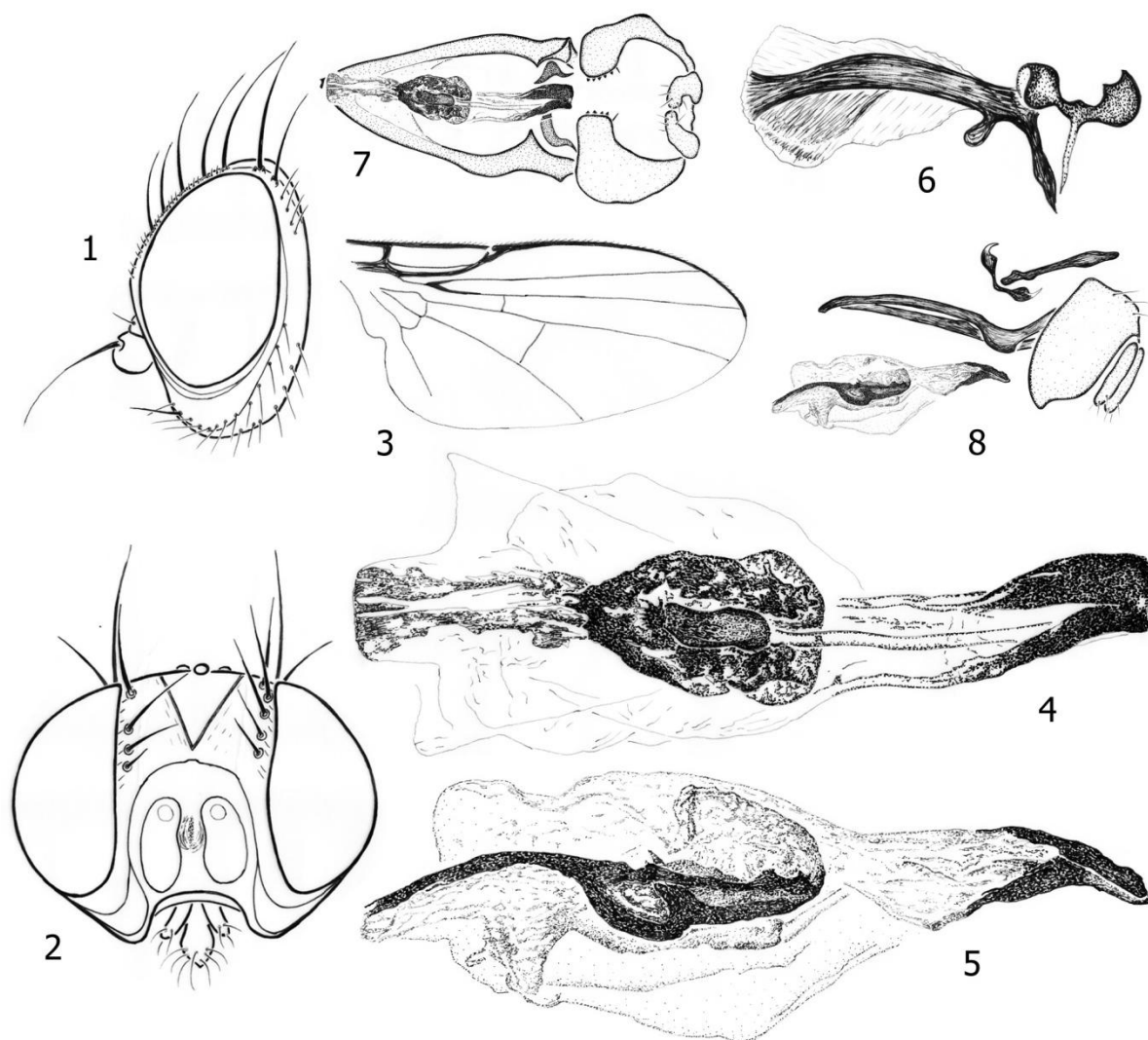
**Material.** Type. Holotype ♂, 'Iran, Qazvin, / wetland at waterfall / 36°07' N, 50°33' E / 1500 m, 7.06.2014 / S & V. Korneyev'; red label: 'HOLOTYPE / *Ophiomyia korneyevi* ♂ / Guglya, 2026 / Inv. № H-2333'.

**Geographical distribution.** Known only from northwestern Iran (Qazvin).

**Host plants.** Unknown.

**Systematic remarks.** Elongated shape of phallus, bulbous facial carina and absence of fasciculus of the new species make it close to *O. vanyushai* Guglya, 2014 which was described from Ukraine and further collected in Switzerland (Guglya, 2014; Černý, Bächli, 2018). At the same time, the new species can immediately be recognized by distiphallus, which is characteristically widened posteriorly (viewed from below).

**Etymology.** The new species is named in honour of the dipterist Valery Korneyev, who collected the holotype.



**Figs 1–8.** *Ophiomyia korneyevi* sp. n.: 1 — head (lateral view); 2 — head (frontal view); 3 — wing; 4 — phallus (lateral view); 5 — phallus (ventral view); 6 — ejaculatory apodeme; 7 — epiandrium, hypandrium and phallus proportionally (ventral view); 8 — epiandrium, hypandrium, ejaculatory apodeme and phallus proportionally (lateral view).

**Conclusions.** Taking into account the limited degree of study, the Iranian fauna of agromyzid flies is of great interest to researchers. However, it should be noted that collecting insects in Iran remains a difficult and sometimes impossible challenge. To date, 60 species have been recorded from Iran, two of which were identified only to the genus rang. Three of them have been described from Iran, such as *Ophiomyia korneyevi*, *Cerodontha* (*Poemyza*) *albineura* and *Liriomyza persica*. Many species in the Iranian checklist are widely distributed; however, several others, such as *Amauromyza* (*Amauromyza*) *carlina*, *A. (Cephalomyza) fraxini*, *Liriomyza hieracii*, *Melanagromyza nigrissima*, and *Chromatomyia farfarella*, are rare European species whose identification is doubtful and requires further clarification.

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## Appendix.

### THE UPDATED CHECKLIST OF IRANIAN AGROMYZIDAE

#### Subfamily AGROMYZINAE

1. *Agromyza alnibetula* Hendel, 1931  
Abai, 1984; Dousti, 2006.
2. *Agromyza ambigua* Fallén, 1823  
Afshar, 1938; Farahbakhsh, 1961; Dousti, 2006.
3. *Agromyza frontella* (Rondani, 1875)  
Nartshuk, von Tschirnhaus, 2017.
4. *Agromyza parvicornis* Loew, 1869  
Esmaili *et al.*, 1996.
5. *Agromyza rondensis* Strobl, 1900  
Nartshuk, von Tschirnhaus, 2017.

#### Subfamily OPHIOMYIINAE

6. *Hexomyza schineri* (Giraud, 1861)  
Farahbakhsh, 1961; Abai, 1984; Behdad, 1988.
7. *Melanagromyza aeneoventris* (Fallén, 1823)  
Ranji *et al.*, 2015.
8. *Melanagromyza albocilia* Hendel, 1931  
Ranji *et al.*, 2015.
9. *Melanagromyza cunctans* (Meigen, 1830)  
Shahreki *et al.*, 2012.
10. *Melanagromyza nigrissima* Spencer, 1976  
Ranji *et al.*, 2015.
11. *Melanagromyza sativae* Spencer, 1957  
Griffiths, 1964; Spencer, 1990.
12. *Ophiomyia beckeri* (Hendel, 1923)  
Ranji *et al.*, 2015.
13. *Ophiomyia curvipalpis* (Zetterstedt, 1848)  
Ranji *et al.*, 2015.
14. *Ophiomyia korneyevi* sp. n.
15. *Ophiomyia nasuta* (Melander, 1913)  
Nartshuk, 2019.
16. *Ophiomyia orbiculata* (Hendel, 1931)  
Ranji *et al.*, 2015.
17. *Ophiomyia phaseoli* (Tryon, 1895)  
Mahmoodi *et al.*, 2011.
18. *Ophiomyia* sp.  
Hazini *et al.*, 2013.

#### Subfamily PHYTOMYZINAE

19. *Amauromyza (Amauromyza) balcanica* (Hendel, 1931)  
Griffiths, 1964.
20. *Amauromyza (Amauromyza) carlina* (Hering, 1944)  
Dousti, 2006.
21. *Amauromyza (Cephalomyza) fraxini* (Beiger, 1980)  
Dousti, 2006 (as *Aulagromyza*).
22. *Amauromyza (Cephalomyza) gyrans* (Fallén, 1823)  
Griffiths, 1964.
23. *Amauromyza (Cephalomyza) luteiceps* (Hendel, 1920)  
Ranji *et al.*, 2015.
24. *Amauromyza (Cephalomyza) monfalconensis* (Strobl, 1909)  
Černý *et al.*, 2020.
25. *Aulagromyza heringii* (Hendel, 1920)  
Kazerani *et al.*, 2023.
26. *Aulagromyza populi* (Kaltenbach, 1864)  
Ranji *et al.*, 2015.
27. *Calycomyza humeralis* (von Roser, 1840)  
Dousti, 2006.
28. *Cerodontha (Cerodontha) denticornis* (Panzer, 1806)  
Radjabi *et al.*, 1997; Radjabi, Behrozin, 2002.
29. *Cerodontha (Icteromyza) geniculata* (Fallén, 1823)  
Sasakawa, 2005.
30. *Cerodontha (Poemyza) albineura* Zlobin, 1993  
Zlobin, 1993.
31. *Cerodontha (Poemyza) lateralis* (Macquart, 1835)  
Černý *et al.*, 2020.
32. *Cerodontha (Poemyza) pygmaea* (Meigen, 1830)  
Griffiths, 1964.
33. *Cerodontha (Poemyza) pygmella* (Hendel, 1931)  
Ranji *et al.*, 2015 (as *lapplandica* jun. syn.).
34. *Chromatomyia farfarella* (Hendel, 1935)  
Černý *et al.*, 2020.
35. *Chromatomyia horticola* Goureau, 1851  
Griffiths, 1964; Kalantar Hormozi *et al.*, 2000; Lotfalizadeh, 2004; Dousti, 2006; Shahreki *et al.*, 2012; Pourhaji *et al.*, 2012; Hazini *et al.*, 2013; Ranji *et al.*, 2015.
36. *Chromatomyia milii* (Kaltenbach, 1864)  
Černý *et al.*, 2020.
37. *Chromatomyia nigra* (Meigen, 1830)  
Shahreki *et al.*, 2012.

- 38. *Liriomyza bryoniae* (Kaltenbach, 1858)**  
Hazini *et al.*, 2013; Ranji *et al.*, 2015.
- 39. *Liriomyza congesta* (Becker, 1903)**  
Griffiths, 1964; Behdad, 1993; Esmaili *et al.*, 1996; Shahreki *et al.*, 2012; Ranji *et al.*, 2015.
- 40. *Liriomyza hieracii* (Kaltenbach, 1862)**  
Ranji *et al.*, 2015.
- 41. *Liriomyza pedestris* Hendel, 1931**  
Martinez, 2025.
- 42. *Liriomyza persica* Griffiths, 1964**  
Griffiths, 1964.
- 43. *Liriomyza pusilla* (Meigen, 1830)**  
von Tschirnhaus, Karimpour, 2006.
- 44. *Liriomyza pusio* (Meigen, 1830)**  
Griffiths, 1964.
- 45. *Liriomyza sativa* Blanchard, 1938**  
Kalantar Hormozi *et al.*, 2000; Zahiri *et al.*, 2003; Shahreki *et al.*, 2012; Ranji *et al.*, 2015.
- 46. *Liriomyza sonchi* Hendel, 1931**  
Hazini *et al.*, 2013.
- 47. *Liriomyza trifolii* (Burgess et Comstock, 1880)**  
Amin *et al.*, 2002; Farrokhi *et al.*, 2004, Dousti, 2006; Ranji *et al.*, 2015.
- 48. *Liriomyza violiphaga* Hendel, 1932**  
Griffiths, 1964; Ranji *et al.*, 2015 (as *Galiomyza*).
- 49. *Metopomyza junci* von Tschirnhaus, 1981**  
Černý *et al.*, 2020.
- 50. *Metopomyza scutellata* (Fallén, 1823)**  
Černý, 2018.
- 51. *Phytoliriomyza arctica* (Lundbeck, 1901)**  
Černý *et al.*, 2020.
- 52. *Phytoliriomyza dorsata* (Siebke, 1863)**  
Shahreki *et al.*, 2012.
- 53. *Phytobia* sp.**  
Ranji *et al.*, 2015.
- 54. *Phytomyza lappae* Goureau, 1851**  
Hazini *et al.*, 2013.
- 55. *Phytomyza minuscula* Goureau, 1851**  
Esmaili *et al.*, 1996.
- 56. *Phytomyza orobanchia* Kaltenbach, 1864**  
Jafarzadeh, Pourmirza, 1998; Movahedi-Fazel *et al.*, 1998.
- 57. *Phytomyza plantaginis* Robineau-Desvoidy, 1851**  
Hazini *et al.*, 2013; Ranji *et al.*, 2015.
- 58. *Phytomyza rhabdophora* Griffiths, 1964**  
Černý *et al.*, 2020.
- 59. *Pseudonapomyza atra* (Meigen, 1830)**  
Dousti, 2010; Ranji *et al.*, 2015; Černý *et al.*, 2020.
- 60. *Pseudonapomyza europaea* Spencer, 1973**  
Ranji *et al.*, 2015.



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