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MINING FLIES OF THE GENUS *OPHIOMYIA* (DIPTERA, AGROMYZIDAE) OF EASTERN UKRAINE AND ADJACENT TERRITORIES: REVIEW OF SPECIES WITH A FASCICULUS

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Mining Flies of the Genus *Ophiomyia* (Diptera, Agromyzidae) of Eastern Ukraine and Adjacent Territories: Review of Species with a Fasciculus. Guglya J. A. — During 2009–2013, twenty-three species of agromyzid flies from the genus *Ophiomyia* Braschnikov, 1897 were collected in the territory of eastern and south-eastern Ukraine. Among them, six species are described as new for science: *Ophiomyia australis* sp. n., *O. crispa* sp. n., *O. fasciculusalba* sp. n., *O. malalata* sp. n., *O. punctata* sp. n. and *O. versera* sp. n. Male heads and genitalia are illustrated for all species. Pictures of the female genitalia are also provided for *O. curvipalpis* (Zetterstedt, 1848), *O. disordens* Pakalniškis, 1998, *O. fennoniensis* Spencer, 1976, *O. maura* (Meigen, 1832), *O. melandricaulis* Hering, 1943, *O. ranunculicaulis* Hering, 1949, *O. slovaca* Černý, 1994, *O. skanensis* Spencer, 1976 and *O. submaura* Hering, 1926. Information on distribution and host plants are also provided.

Key words: Agromyzinae, *Ophiomyia*, fauna, Ukraine, new species.

Минирующие мушки рода *Ophiomyia* (Diptera, Agromyzidae) востока Украины и прилегающих территорий: обзор видов с фасцикулюсом. Гугля Ю. А. — В течение 2009–2013 гг. на территории востока и юго-востока Украины было собрано 23 вида агромизид рода *Ophiomyia* Braschnikov, 1897. Среди них шесть описываются как новые: *Ophiomyia australis* sp. n., *O. crispa* sp. n., *O. fasciculusalba* sp. n., *O. malalata* sp. n., *O. punctata* sp. n. и *O. versera* sp. n. Для всех видов приведены рисунки голов и гениталий самцов, а для таких видов, как *O. curvipalpis* (Zetterstedt, 1848), *O. disordens* Pakalniškis, 1998, *O. fennoniensis* Spencer, 1976, *O. maura* (Meigen, 1832), *O. melandricaulis* Hering, 1943, *O. ranunculicaulis* Hering, 1949, *O. slovaca* Černý, 1994, *O. skanensis* Spencer, 1976 and *O. submaura* Hering, 1926., ещё и гениталий самок. Статья содержит информацию о распространении, кормовой приуроченности и особенностях биологии.

Ключевые слова: Agromyzinae, *Ophiomyia*, фауна, Украина, новые виды.

Introduction

Agromyzidae are minute to medium-sized (wing length 0.9–6.5 mm) flies with hyaline wings. Colour of the body can be various: black, grey, blackish-yellow and some species have a shining green or blue abdomen and mesonotum. Most of their larvae feed in the leaf parenchyma and also less commonly in the leaf epidermis, as well as in the stems of various monocots, dicots, ferns and other terrestrial plants. But sometimes they can attack seeds and roots, or the cambium of tree twigs and trunks, and some species form galls. They are strictly phytophagous, with many pest species, including some polyphagous taxa, and species with conspicuous economic importance. The family includes about 3000 named species worldwide (Marshall, 2012), but it is still a poorly examined family. The family is relatively well studied in Europe, where there are about 500 species, but the fauna of Ukraine remains virtually unknown. The genus *Ophiomyia* Braschnikov, 1897 includes about 200 species occurring in temperate areas and, to a lesser degree, the tropics of the Old and New World. They are characterized by an asymmetrical phallus with a long basiphallus, and many species have a raised facial keel separating the antennal grooves, a male vibrissal fasciculus consisting of partly fused setae, and usually a uniformly black or dark grey body.

This preliminary study of the Eastern Ukrainian fauna, started in 2009, has revealed numerous species previously unrecorded from Ukraine, including previously unknown new species that are described below. This paper concerns only those species with a fasciculus (in males) or a strong vibrissa (in females). *Ophiomyia delphinii* Hendel, 1926 and *O. eucodonus* Hering, 1960 were hitherto found only in the adjacent territories of Russia, but are expected to be found in Ukraine. During this investigation, 166 specimens of mining flies in 23 species from the genus *Ophiomyia* were collected and analyzed, including six new species:

Ophiomyia australis sp. n., *O. crispa* sp. n., *O. fasciculusalba* sp. n., *O. malalata* sp. n., *O. punctata* sp. n. and *O. versera* sp. n. All species were supplied with pictures of heads and genitalia, and also with short comparative diagnosis. Descriptions of the remaining species assigned to *Ophiomyia*, and a key to species occurring in Eastern Ukraine, will be considered in a forthcoming paper.

Material and methods

Material was collected in 41 localities of eastern and southeastern Ukraine during 2009–2013. Adults were collected mainly by sweeping. Dissected genitalia were macerated in potassium hidroxyde, washed, examined in glycerol, and stored in a microvial pinned together with the fly specimen. Some adults were reared from larva using the methods as described by Guglya (2010). The keys by Černý (1985, 1994), Pakalniškis (1998) and Spencer (1964, 1976, 1990) and Hendel (1931) were used for identification. All material collected by the author was deposited in the collection of Kharkiv Museum of Nature (KMN).

Morphological terminology follows Spencer (1987).

Abbreviations in text: ac — acrostichal setulae; dc — dorso-central seta; frorb sta — fronto-orbital setula; fr s — frontal seta; orb s — orbital seta; / — in a label means the beginning of a new line.

Results and discussions

List of locations of collected material. Bairak — Ukraine, Kharkiv Region (49°25′ N, 36°50′ E); **Borisovka** — Russia, Belgorod Region, Natural Reserve "Belogorye" (50°35′ N, 35°58′ E); **Botanical Garden** — Ukraine, Kharkiv (50°01′ N, 36°14′ E); **Bukino** — Ukraine, Kharkiv Region (49°07′ N, 37°24′ E); **Eskhar** — Ukraine, Kharkiv Region (49°48′ N, 36°36′ E); **Illenko** — Ukraine, Lugansk Region, River Derkul bank (48°38′ N, 36°41′ E); **Haydary** — Ukraine, Kharkiv Region, The National Nature Park "Homilshanski Lisy" (49°37′ N, 36°19′ E); **Gatishche** — Ukraine, Kharkiv Region (50°18′ N, 36°51′ E); **Kamenka** — Ukraine, Kharkiv Region, The National Nature Park "Dvurechanskiy" (49° 59′ N, 37° 53′ E); **Kharkiv** — Ukraine, centre (50° 00′ N, 36° 14′ E); **Kytsivka** — Ukraine, Kharkiv Region (49°51′ N, 36°49′ E); **Kochetok** — Ukraine, Kharkiv Region (49°51′ N, 36°43′ E); **Krasnoye** — Ukraine, Kharkiv Region, The National Nature Park "Dvurechanskiy" (49°56′ N, 37°47′ E); **Krinichnoye** — Ukraine, Kharkiv Region (49°27′ N, 36°45′ E); **Kuripchine** — Ukraine, Mykolayiv Region, The National Nature Park "Buzkiy Gard" (49°59′ N, 31°00′ E); **Kuzemin** — Ukraine, Sumy Region, The National Nature Park "Getmanskiy" (50°08′ N, 34°40′ E); **Lubotin** — Ukraine, Kharkiv Region (49°56′ N, 35°57′ E); **Mala Volchya** — Ukraine, Kharkiv Region (50°21′ N, 37°15′ E); **Mokhnach** — Ukraine, Kharkiv Region (49°44′ N, 36°32′ E); **Myghia** — Ukraine, Mykolayiv Region, The National Nature Park "Buzkiy Gard" (48°01′ N, 30°57′ E); **Novodruzhesk** — Ukraine, Donetsk Region (48°59′ N, 38°21′ E); **Ogurtsovo** — Ukraine, Kharkiv Region (50°18′ N, 36°49′ E); **Orchik** — Ukraine, Kharkiv Region (49°09′ N, 35°01′ E); Osinovka — Russia, Saratov Region (51°52′ N, 42°46′ E); **Petrivka** — Ukraine, Lugansk Region (48°47′ N, 39°16′ E); **Petrivske** — Ukraine, Kharkiv Region (49°10′ N, 36°58′ E); **Poltava** — Ukraine (49°37′ N, 34°32′ E); **Pyatykhatky** — Ukraine, N Kharkiv (50°05′ N, 36°14′ E); **Rubizhne** — Ukraine, Kharkiv Region (50°10′ N, 36°47′ E); **Sidorove** — Ukraine, Donetsk Region, The National Nature Park "Svyatyye Gory" (49°00′ N, 37°37′ E); **Sokolniki** — Ukraine, Kharkiv (49°25′ N, 36°15′ E); **Stara Pokrovka** — Ukraine, Kharkiv Region (49°48′ N; 36°32′ E); **Trostyanets** — Ukraine, Sumy Region (50°28′ N, 34°55′ E); **Timchenky** — Ukraine, Kharkiv Region (49°44′ N, 36°08′ E); **Vakalovshchina** — Ukraine, Sumy Region (51°02′ N, 34°55′ E); **Velyka Pysarivka** — Ukraine, Sumy Region, The National Nature Park "Getmanskiy" (50°26′ N, 35°28′ E); **Vilkhuvatka** — Ukraine, Kharkiv Region (50°11′ N, 37°31′ E); **Vilshany** — Ukraine, Kharkiv Region (50°03′ N, 35°51′ E); **Volokhiv Yar** — Ukraine, Kharkiv Region (49°36′ N, 36°57′ E); **Vudy** — Ukraine, Kharkiv Region (50°23′ N, 36°04′ E); **Zadonetske** — Ukraine, Kharkiv Region, The National Nature Park "Homilshanski Lisy" (49°39′ N, 36°20′ E); **Zhovtneve** — Ukraine, Kharkiv Region (49°26′ N, 35°30′ E).

Ophiomyia australis Guglya, **sp. n.** (fig. 1–5)

Material examined. Type. Holotype ♂ (dissected), Ukraine: Mykolayiv Region, Kuripchine (49°59′ N, 31°00′ E), rocky steppe, 27.06.2010 (Guglya) [«Миколаївська обл. / НПП «Бузький Гард», / с. Куріпчине / 27.06.2010 / Зібр. Гугля Ю.», «12.30–17.00 / трава на краю листяного / ліса, косіння»] (KMN).

Description

Head (fig. 1, 2). Orbit not projected above eye in profile, narrow, 0.2× as wide as frons, subshining (anterior view); 2 orb s, 2 fr s; frorb sta short, sparse, reclinate; keel with two parallel furrows at pedicel level, bulb as wide as base of antenna; lunule rectangular, tapered dorsally; vibrissal fasciculus strong at base and sharply narrowing apically; ocellar triangle slightly shining, without clear contours; 1st flagellomere slightly longer than wide, with pale pubescence (viewed laterally).

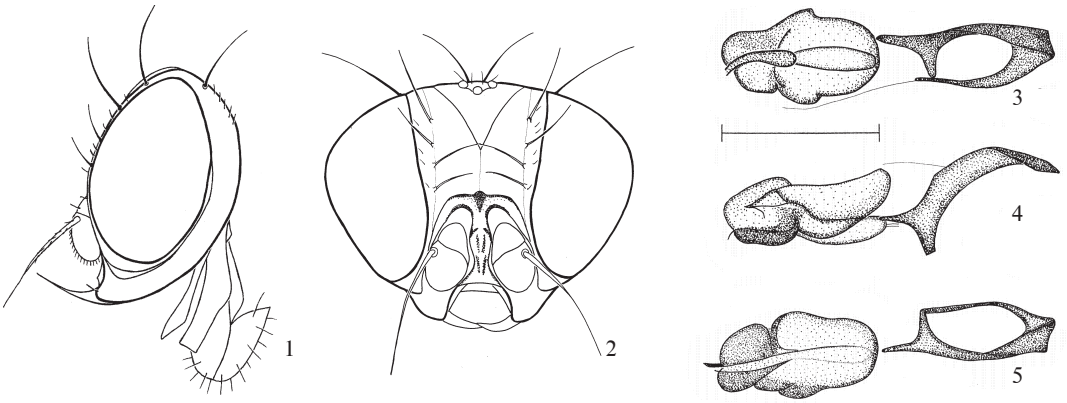

Fig. 1–5. *Ophiomyia australis* sp. n., holotype: 1, 2 — male head; 3 — phallus, ventral view; 4 — same, lateral view; 5 — same, dorsal view. Scale bar 0.1 mm.

Рис. 1–5. *O. australis* sp. n., голотип: 1, 2 — голова самца; 3 — фаллюс, вентральный вид; 4 — то же, латеральный вид; 5 — то же, дорсальный вид. Масштабная линейка 0,1 мм.

Wing. Costa reaching M; last section of M 0.66× as long as penultimate; calypter grey; fringe and margin black. Length of wing 1.8 mm.

Mesonotum blackish-blue, slightly shining (anterior view); 2 dc; ac sparse, 2 nearest to scutoscutellar suture and in 6 at level of 2nd dc; halters and legs black.

Male genitalia (fig. 3–5). Phallus 0.21 mm long. Distiphallus oval, with widest medial part. Endophallus and dorsal plate of distiphallus posteriorly of the same length and reach the left arm of basiphallus.

Diagnosis. This species is similar to *Ophiomyia io* Pakalniškis, 1998, known from Lithuania, in all external characters except for the shape and size of the gena. *Ophiomyia australis* sp. n. has an elongate gena that is 0.2× as wide as the maximum height of the eye. *Ophiomyia io* has a narrow gena that is angular at the posterior margin, and is 0.11–0.15× as wide as the maximuim height of the eye. The male terminalia of the new species also differ: length of distiphallus 2.6× as long as wide, and the phallus complex is not twisted; in *O. io*, the distiphallus is 2.13× as long as wide, and is "slightly turned leftwards round its own longitudinal axis" (Pakalniškis, 1998). *Ophiomyia australis* sp. n. can be recognized from all other species of the genus occurring in Ukraine by having the vibrissal fasciculus strong at base and sharply narrowed apically, in combination with the peculiar shape of the facial keel.

Etymology. The name (Latin australis — southern) reflects its discovery in the south of Ukraine.

Ophiomyia crispa Guglya, **sp. n.** (fig. 6–10)

Material examined. Type. Holotype ♂ (dissected), Ukraine: Kharkiv Region, 16 km SSW Zachepilovka, near Orchik (49°09′ N, 35°01′ E), 15.05.2011 (Guglya) [«Харьковская обл. / Зачепиловский р-н, / окр. с. Орчик, / 15.05.2011 / Собр. Гугля Ю. А.», «9.00–9.30 / поляны с ксерофильной / растительностью в / сосняке, кошение»].

Paratypes: 1 ♂ (dissected), labels as for holotype; 1 ♂ (dissected), Ukraine: Mykolayiv Region, Myghia (48°01′ N, 30°57′ E), rocky steppe, 30.06.2010 (Guglya) [«Миколаївська обл., / НПП «Бузький Гард», / с. Мигія / 30.06.2010 / Собр. Гугля Ю.», «17.00 / Гранітний степ на березі / р. Південний Буг»] (KMN).

Description

Head (fig. 6, 7). Orbit not or slightly projected above eye in profile, narrow, 0.14× as wide as frons, subshining (anterior view); 2 orb s, 2 fr s; all setae located on border of orbits and frons; frorb sta short, reclinate; facial bulb visibly projecting, 0.8× as wide as base of antenna; lunule wider medially, its upper margin rounded; ocellar triangle reaching level

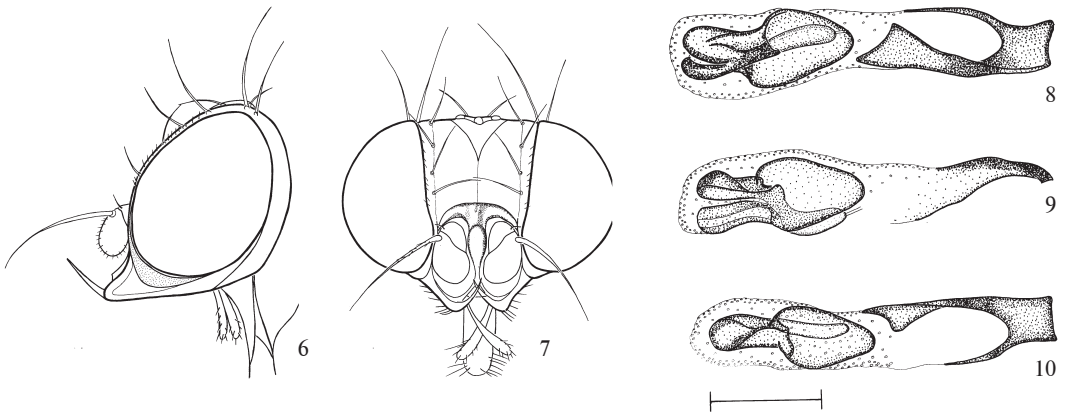

Fig. 6–10. *O. crispa* sp. n., holotype: 6, 7 — male head; 8 — phallus, ventral view; 9 — same, lateral view; 10 — same, dorsal view. Scale bar 0.1 mm.

Рис. 6–10. *O. crispa* sp. n., голотип: 6, 7 — голова самца; *8* — фаллюс, вентральный вид; 9 — то же, латеральный вид; 10 — то же, дорсальный вид. Масштабная линейка 0,1 мм.

of 2nd fr s; frons divided into two equal parts with distinct medial longitudinal line; vibrissal fasciculus straight, directed dorsally; 1st flagellomere slightly longer than wide.

Wing. Costa reaching M; last and penultimate sections of M equal; calypter and fringe grey, margin brown. Length of wing 1.9 mm.

Mesonotum blackish-grey, shining (anterior view); 2 dc; ac in irregular rows, with 2 nearest to scutoscutellar suture and 9 at level of 2nd dc; halters and legs black.

Male genitalia (fig. 8–10). Phallus 0.30 mm long (length without membranous structure). Length of distiphallus and basiphallus are equal, endophallus is curved.

Diagnosis. This new species is most similar externally to *O. curvipalpis* (fig. 11–12) and *O. disordens* (fig. 22–23) in having an extremely elongate, narrow gena, a well-marked facial keel and a wide cheek with clear contours. It can be easily differentiated from these species in having a medial line on the frons, a rounded lunule, orb s and fr s lying on the border of the orbit and frons and a bulbous, elongate facial keel. Such curvation of the endophallus is very unusual for *Ophiomyia* in general. The distiphallus of *O. curvipalpis* (fig. 13, 14) and *O. disordens* (fig. 24–25) are 0.6–0.7× as long as the basiphallus, and their endophalli are straight.

Distribution. Southern and Eastern Ukraine (NW Mykolayiv Region and S Kharkiv Region).

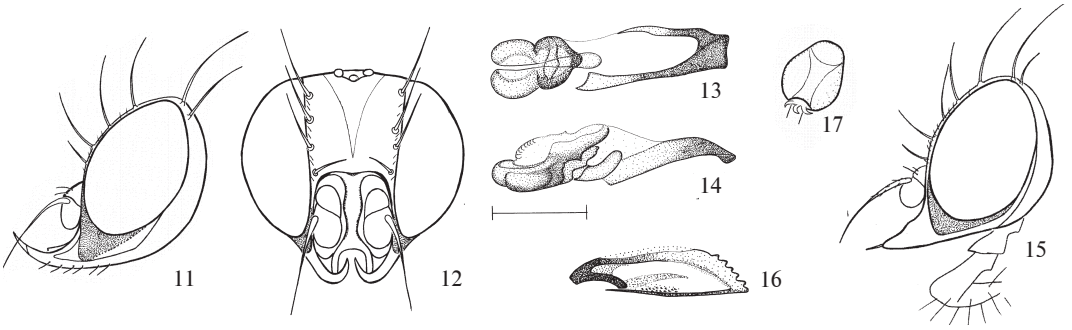

Fig. 11–17. *O. curvipalpis* (Zetterstedt): 11, 12 — male head; 13 — phallus, ventral view; 14 — same, lateral view; 15 — female head; 16 — egg guide, left blade; 17 — spermatheca. Scale bar 0.1 mm.

Рис. 11–17. *O. curvipalpis* (Zetterstedt): 11, 12 — голова самца; 13 — фаллюс, вентральный вид; 14 — то же, латеральный вид; 15 — голова самки; 16 — левая лопасть восьмого стернита; 17 — сперматека. Масштабная линейка 0,1 мм.

Etymology. This species has an unusually curved endophallus, so the origin of name based on this indication (Latin crispus — curly).

Ophiomyia curvipalpis (Zetterstedt, 1848) (fig. 11–17)

Material examined. Stara Pokrovka, 03.05.2010, 1 ♂; near Orchik, 15.05.2011, 1 ♂, 2 ♀; near Kamenka, 16.05.2010, 2 ♂, 2 ♀; Vilshany, 29.05.2011, 1 ♀; Pyatykhatky, 02.05.2012 and 10.06.2010, 6 ♂, 7 ♀; Ogurtsovo, 15.07.2010, 1 ♂; near Vakalovshchina, 15.06.2010, 1 ♀; near Kuripchine, 27.06.2010, 1 ♀; near Zadonetske, 27.06.2009, 1 ♀; near Kuzemin, 14.08.2011 and 28.08.2010, 2 ♀; near Rubizhne, 26.08.2012, 1 ♀.

Redescription

Head (fig. 11, 12, 15). Orbit not or only slightly projected above eye in profile; 2 orb s, 2 fr s; frorb sta sparse, short, reclinate; ocellar triangle very long, nearly reaching lunule; lunule very short, with slight deepening in central part of upper margin; facial bulb 0.7× as wide as base of antenna, elongate; gena in male uniformly upcurved, vibrissal fasciculus very short but thick; gena in female long, straight, vibrissa very slender and short; 1st flagellomere slightly longer than wide and with white pubescence.

Wing. Costa reaching M; last section of M 1.2× as long as penultimate; calypter greyish-white, fringe brownish-grey; margin black. Length of wing 1.7–2.0 mm.

Mesonotum blackish-grey, shining (anterior view); 2 dc; ac 2 nearest to scutoscutellar suture and 6 at level of 2nd dc; halter and legs black.

Male genitalia (fig. 13, 14). Phallus 0.26 mm long. "Symmetrical distiphallus consisting of two brown, somewhat spotted, oval bladders. The basiphallus is elongate, with the right arm (viewed laterally) more strongly chitinized" (Spencer, 1976). Basiphallus 1.4× as long as distiphallus.

Female terminalia (fig. 16, 17). Both spermathecae equal, oval, length 1.15× width. Apical margin of egg guide with well-marked and rounded apically teeth. Distal part of medial margin with dark scales in two irregular rows.

Distribution. Widespread in Europe from Spain to Russia (Spencer, 1976), Turkey (Civelek et al., 2009), Lithuania (Pakalniškis, 1994), Ukraine (Guglya, 2011, 2012).

Host plant. Asteraceae: *Achillea millefolium* L., *A. ptarmica* L., *Anthemis tinctoria* L., *Artemisia vulgaris* L., *Matricaria inodora* L. (Spencer, 1976), *Tanacetum vulgare* L., *Artemisia absinthium* L., *Centaurea rhenana* Boreau (Pakalniškis, 1994); *Aster*, *Crepis*, *Reichardia* (Benavent-Corai et al., 2005).

Bionomics. Larva forms narrow stem mine. Pupation takes place at the end of the mine (Spencer, 1976).

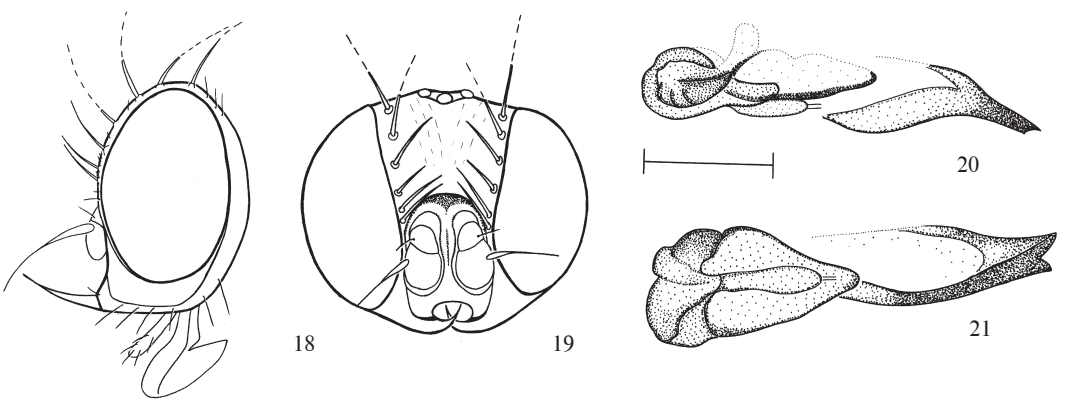

Fig. 18–21. *O. delphinii* Hendel: 18, 19 — male head; 20 — phallus, lateral view; 21 — same, ventral view. Scale bar 0.1 mm.

Рис. 18–21. *O. delphinii* Hendel: 18, 19 — голова самца; 20 — фаллюс, латеральный вид; 21 — то же, вентральный вид. Масштабная линейка 0,1 мм.

Ophiomyia delphinii Hendel, 1926 (fig. 18–21)

Material examined. Russia: Near Osinovka, lake bank, 02.08.2011, 1 ♂.

Redescription

Head (fig. 18, 19). Orbit not or slightly projected above eye in profile, shining (anterior view); frons shining; 3 orb s, 3 fr s; frorb sta sparse, reclinate; facial bulb 0.6× as wide as base of antenna, flattened, with central furrow; lunule rounded; ocellar triangle shining, reaching lunule; vibrissal fasciculus long, strong, uniformly curving dorsally; 1st flagellomere small, rounded, blackish-brown.

Wing. Costa ending between R_{4+5} and M; last section of M 0.8× as long as penultimate; calypter and fringe grey; margin black. Length of wing 2.0–2.4 mm.

Mesonotum shining, black (anterior view); 2 dc; ac 2 nearest to scutoscutellar suture and 6 at level of 2nd dc; halters and legs blackish-brown.

Male genitalia (fig. 20, 21). Phallus 0.31 mm long. "Aedeagus with elongated basiphallus typical of the genus. Mesophallus-distiphallus complex distinctly rotated, higly asymmetric" (Spencer, 1964). Distiphallus triangular (lateral view).

Distribution. Former Yugoslavia, Dalmatia (Spencer, 1964), Turkey (Civelek et al., 2009), Saratov Region of Russia.

Host plant. Ranunculaceae: Hitherto is known only from *Delphinium staphysagria* L. The host is widespread in the Mediterranean area and extends into Asia Minor, so this species is expected to be more widespread (Spencer, 1990).

Bionomics. Larva forms a long, whitish, upper surface, linear mine. Pupation takes place in the leaf (Spencer, 1964).

Ophiomyia disordens Pakalniškis, 1998 (fig. 22–28)

Material examined. Near Petrivske, 29.04.2013, 02.05.2013, 21–22.05.2011, 2 ♂, 2 ♀; Stara Pokrovka, 12.06.2012, 1 ♂; near Kamenka, 04.07.2009, 1 ♀; Sokolniki, 10.07.2011, 1 ♀; near Kuzemin, 22.05.2010, 1 ♀.

Redescription

Head (fig. 22, 23, 26). Orbit not or slightly projected above eye in profile; 2 orb s, 2 fr s; frorb sta short, reclinate; facial bulb as wide as pedicel, slightly flattened; lunule narrow, dorsal margin straight; ocellar triangle reaching level of 2nd fr s; apical third of gena curved dorsally; vibrissal fasciculus short, strong, straight and directed upwards; 1st flagellomere small, rounded.

Wing. Costa reaching M; last section of M 0.85× as long as penultimate; calypter greyish-yellow; fringe whitish; margin brown.

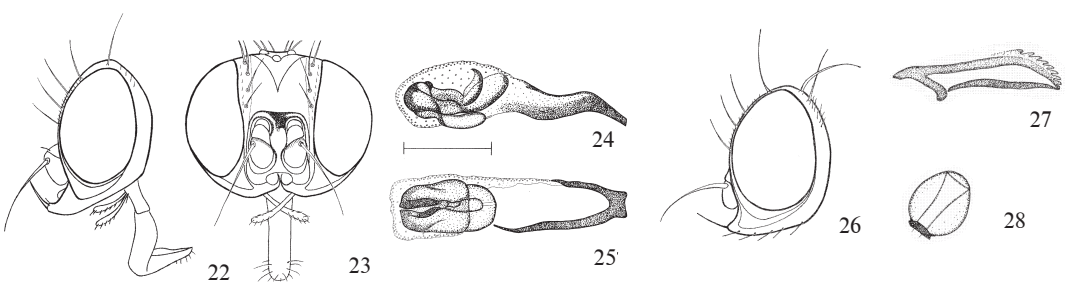

Fig. 22–28. *O. disordens* Pakalniškis: 22, 23 — male head; 24 — phallus, lateral view; 25 — same, ventral view; 26 — female head; 27 — egg guide, left blade; 28 — spermatheca. Scale bar 0.1 mm.

Рис. 22–28. *O. disordens* Pakalniškis: 22, 23 — голова самца; 24 — фаллюс, латеральный вид; 25 — то же, вентральный вид; 26 — голова самки; 27 — левая лопасть восьмого стернита; 28 — сперматека. Масштабная линейка 0,1 мм.

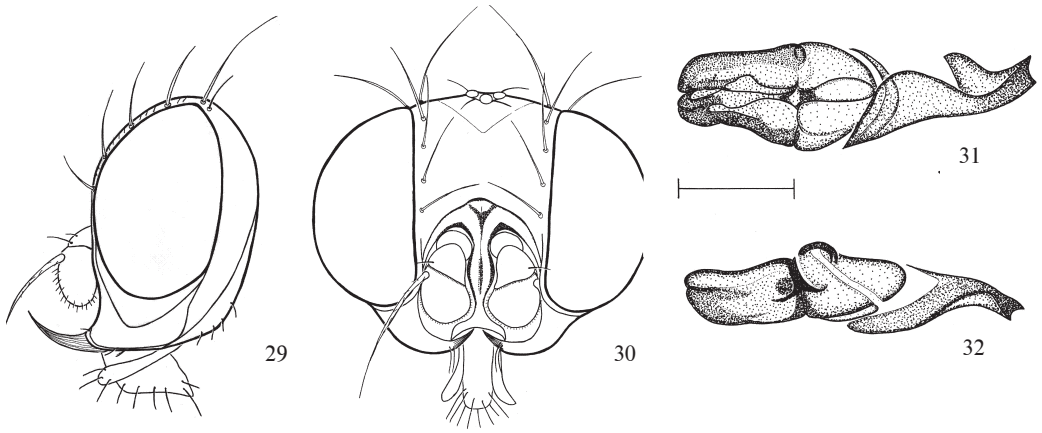

Fig. 29–32. *O. eucodonus* Hering: 29, 30 — male head; 31 — phallus, ventral view; 32 — same, lateral view. Scale bar 0.1 mm.

Рис. 29–32. *O. eucodonus* Hering: 29, 30 — голова самца; 31 — фаллюс, вентральный вид; 32 — то же, латеральный вид. Масштабная линейка 0,1 мм.

Mesonotum grey, shining (anterior view); 2 dc; ac in irregular rows, 2 nearest to scutoscutellar suture and 6 at level of 2nd dc; halters and legs brown.

Male genitalia (fig. 24, 25). Phallus 0.27 mm long. Distiphallus rectangular (ventral view), 0.7× as long as basiphallus. Endophallus short, not reaching of posterior margin of distiphallus. Membrane visibly dotted.

Female terminalia (fig. 27, 28). Both spermathecae equal, slightly longer, than wide. Apical margin of egg guide with well-marked, elongate teeth, length 2.0× width. Medial margin without scales.

Distribution. Lithuania (Pakalniškis, 1998), Ukraine (Guglya, 2012).

Host plant. Asteraceae: *Achilea ptarmica* L., *Artemisia* spp., *Tanacetum vulgare* L. (Pakalniškis, 1998).

Bionomics. The larva feeds as a stem miner (Pakalniskis, 1998).

Ophiomyia eucodonus Hering, 1960 (fig. 29–32)

Material examined. Russia: near Borisovka, 05.07.2011, 1 ♂.

Redescription

Head (fig. 29, 30). Orbit slightly projected above eye in profile; 2 orb s, 2 fr s; frorb sta short, reclinate; facial bulb as wide as base of antenna; lunule rounded, tapered at upper margin, with furrow; ocellar triangle matt, reaching level of 1st orb s, wide; vibrissal fasciculus strong at base, elongate, curved dorsally; gena with cheek 0.27× as wide as the maximum height of the eye; 1st flagellomere slightly longer than wide (viewed laterally).

Wing. Costa reaching M; last and penultimate sections of M equal; calypter and fringe grey; margin brown. Length of wing 2.0–2.1 mm.

Mesonotum black, slightly shining (anterior view); 2 dc; ac 1 nearest to scutoscutellar suture and 9 at level of 2nd dc; halters and legs black.

Male genitalia (fig. 31, 32). Phallus 0.32 mm long. Distiphallus oval, with widest proximal part and "slender dorsal process above mesophallus" (Spencer, 1964). Distiphallus 1.2× as long as basiphallus.

Distribution. Germany (Spencer, 1990), Belgorod Region of Russia.

Host plant. Campanulaceae: *Campanula trachelium* L., *C. rapunculoides* L. (Spencer, 1990).

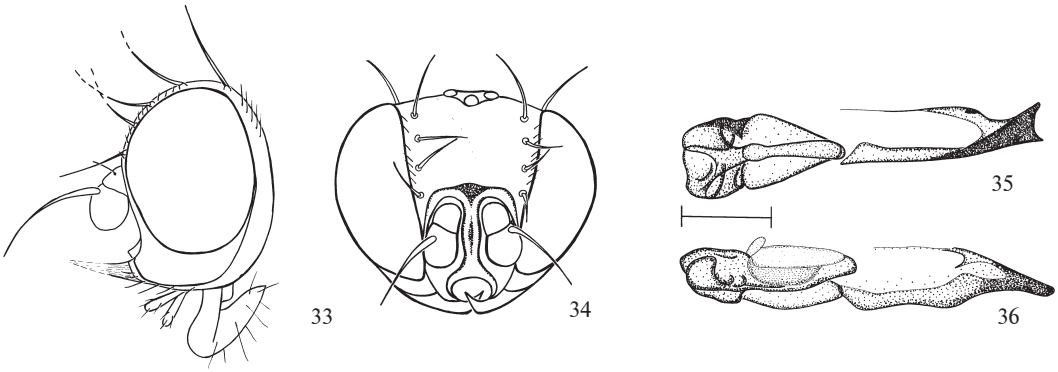

Fig. 33–36. *O. fasciculusalba* sp. n., holotype: 33, 34 — male head; 35 — phallus, ventral view; 36 — same, lateral view. Scale bar 0.1 mm.

Рис. 33–36. *O. fasciculusalba* sp. n., голотип: 33, 34 — голова самца; 35 — фаллюс, вентральный вид; 36 — то же, латеральный вид. Масштабная линейка 0,1 мм.

Bionomics. Larva forms external stem mine with virtual absence of frass (Spencer, 1990).

Ophiomyia fasciculusalba Guglya, **sp. n.** (fig. 33–36)

Material examined. Type. Holotype ♂ (dissected), Ukraine: Mykolayiv Region, near Kuripchine (49°59′ N, 31°00′ E), 27.06.2010, rocky steppe (Guglya) [«Миколаївська обл. / НПП «Бузький Гард», / с. Куріпчине / 27.06.010 / Собр. Гугля Ю.», «9.30–12.30 / трава на краю листяного / ліса, косіння»] (KMN).

Description

Head (fig. 33, 34). Orbit projected above eye in profile; 2 orb s, 2 fr s; frorb sta reclinate; facial bulb 0.7× as wide as base of antenna, flattened, with furrow; dorsal margin of lunule straight and medially tapered; ocellar triangle hardly visible from frons; anterior part of gena bearing fasciculus oriented slightly dorsaly, gena 0.2× as wide as height of eye; vibrissal fasciculus straight, directed slightly upwards, from pale to white at the end; 1st flagellomere rounded.

Wing. Costa reaching M; last section of M 0.6× as long as penultimate; calypter and fringe grey; margin black. Length of wing 2.2 mm.

Mesonotum greyish-black, shining (anterior view); 2 dc; ac 2 nearest to scutoscutellar suture and 8 at level of 2nd dc; halters brown; legs black.

Male genitalia (fig. 35, 36). Phallus 0.4 mm long. Distal part of distiphallus is rectangular and proximal part — triangular (ventral view). Basiphallus moderately long, 1.2× as long as distiphallus.

Diagnosis. The new species can be easily recognized from all congeners occurring in Ukraine by a combination of the following external characters: orbit projected above eye in profile, straight and medially tapered dorsal margin of lunule, gena oriented slightly dorsaly, facial bulb with distinct furrow, and vibrissal fasciculus pale to white apically. The structure of the male genitalia is very similar to *O. delphinii* (fig. 20, 21), which also occurs in the former Yugoslavia, Turkey and Saratov Region of Russia. The phallus of *O. fasciculusalba* sp. n., however, is longer and narrower (ratio of length to maximum width is 4.3 : 1) than that of *O. delphinii* (ratio of length to maximum width is 3.4 : 1). Furthermore, the endophallus of the new species is moderately long and reaches the anterior branches of the basiphallus; the endophallus of *O. delphinii* is proportionally shorter.

Distribution. Southern Ukraine (NW Mykolayiv Region).

Etymology. The vibrissal fasciculus is white apically, so the origin of the name is based on this indication (Latin alba — white).

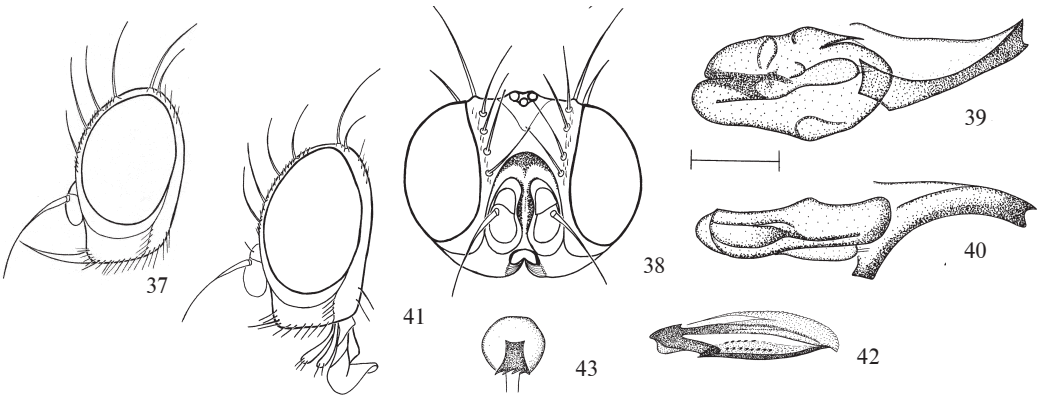

Fig. 37–43. *O. fennoniensis* Spencer: 37, 38 — male head; 39 — phallus, ventral view; 40 — same, lateral view; 41 — female head; 42 — egg guide, left blade; 43 — spermatheca. Scale bar 0.1 mm.

Рис. 37–43. *O. fennoniensis* Spencer: 37, 38 — голова самца; 39 — фаллюс, вентральный вид; 40 — то же, латеральный вид; 41 — голова самки; 42 — левая лопасть восьмого стернита; 43 — сперматека. Масштабная линейка 0,1 мм.

Ophiomyia fennoniensis Spencer, 1976 (fig. 37–43)

Material examined. Near Haydary, 04.06.2011, 2 ♂, 4 ♀.

Redescription

Head (fig. 37, 38, 41). Orbit moderately projected above eye in profile; 2 orb s, 2 fr s; frorb sta short, reclinate; width of facial bulb equal to the pedicel, elongated, with slight furrow; lunule rounded; vibrissal fasciculus in male strong; in female only slight vibrissa present; ocellar triangle reaching level of 1st orb s; 1st flagellomere slightly longer than wide (viewed laterally), uniformly brown.

Wing. Costa reaching M; last section of M slightly shorter or equal to penultimate; calypter and fringe grey; margin black. Length of wing 2.5 mm.

Mesonotum black, shining (anterior view); 2 dc; ac 4 nearest to scutoscutellar suture and 7–8 at level of 2nd dc; halters brown; legs black.

Male genitalia (fig. 39, 40). Phallus 0.37 mm long. Distiphallus oval (ventral view), 1.2× as long as basiphallus. Basiphallus highly asymmetrical, with strongly chitinized right arm. Its distal margin reaches 0.2 of length of distiphallus and posterior margin of endophallus.

Female terminalia (fig. 42, 43). Both spermathecae equal, rounded, with flattened apices. Egg guide: apex hook-like, sharp, curved medially. Apical and lateral margins are flattened, with small, weakly differentiated teeth. Membrane on medial margin with two straight rows of dark scales.

Distribution. Finland (Spencer, 1976), Lithuania (Pakalniškis, 1994), Ukraine (Guglya, 2011).

Ophiomyia heracleivora Spencer, 1957 (fig. 44–47)

Material examined. Near Vakalovshchina, 15.06.2010, 1 ♂; near Petrivske, 21–22.05.2011 and 10.05.2012, 7 ♂; near Kytsivka, 04.05.2012, 1 ♂.

Redescription

Head (fig. 44, 45). Orbit projected above eye in profile; 2 orb s, 2 or 3 fr s; frorb sta small, sparse, reclinate; facial bulb as wide as pedicel, with deep furrow widening dorsally, extending onto lunule; frons matt; ocellar triangle shining, with distinct con-

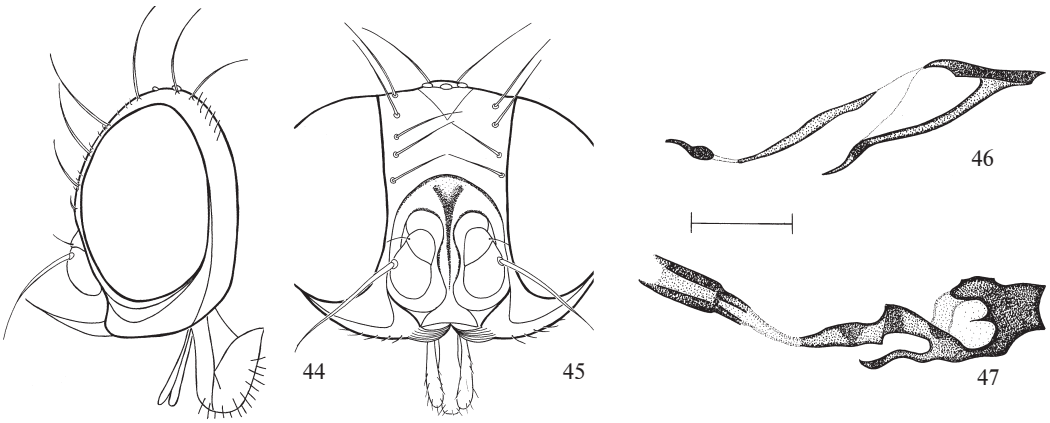

Fig. 44–47. *O. heracleivora* Spencer: 44, 45 — male head; 46 — phallus, lateral view; 47 — same, ventral view. Scale bar 0.1 mm.

Рис. 44–47. *O. heracleivora* Spencer: 44, 45 — голова самца; 46 — фаллюс, латеральный вид; 47 — то же, вентральный вид. Масштабная линейка 0,1 мм.

tours, reaching level between 1st and 2nd orb s; vibrissal fasciculus curving upwards; 1st flagellomere slightly longer than wide.

Wing. Costa reaching M; last section of M 0.66× as long as penultimate; calypter and fringe beige, margin brown. Length of wing 2.4–2.7 mm.

Mesonotum blackish-grey, matt (anterior view); 2 dc; ac 1 nearest to scutoscutellar suture and 7 at level of 2nd dc; halters and legs black.

Male genitalia (fig. 46, 47). Phallus 0.37 mm long. "Basiphallus typical of the genus, mesophallus long, linear, slightly separated from the greatly reduced, symmetrical paired process representing the distiphallus" (Spencer, 1964).

Redistribution. England (Spencer, 1964), Lithuania (Pakalniškis et al., 2006), Ukraine (Guglya, 2011, 2012).

Host plants. Apiaceae: *Heracleum sphondylium* L. (Spencer, 1964), *Daucus carota* L., *Libanotis montana* Crantz, *Pimpinella saxifraga* L. and *Cenolophium fischeri* (Spreng.) Koch ex DC., *Selinum carvifolia* (L.) (Pakalniškis, 1994, 1996).

Bionomics. Larva forms epidermal mines in stems and leaf stalks. Pupation takes place in the base of the leaf or under the stem epidermis (Spencer, 1964).

Ophiomyia malalata Guglya, **sp. n.** (fig. 48–51)

Material examined. Type. Holotype ♂ (dissected), Ukraine: N of Kharkiv, Pyatykhatky (50°05′ N, 36°14′ E), 02.05.2012, big gully (Guglya) [«N окр. Харькова, / яр между п. Пятихатки и / с. Черкасская Лозовая / 02.05.2012, кошение / Собр. Гугля Ю. А.»] (KMN).

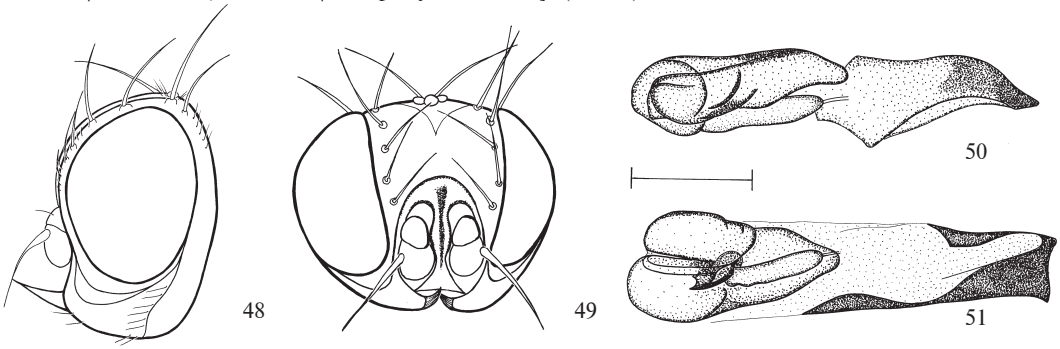

Fig. 48–51. *O. malalata* sp. n., holotype: 48, 49 — male head; 50 — phallus, lateral view; 51 — same, ventral view. Scale bar 0.1 mm.

Рис. 48–51. *O. malalata* sp. n., голотип: 48, 49 — голова самца; 50 — фаллюс, латеральный вид; 51 — то же, вентральный вид Масштабная линейка 0,1 мм.

Description

Head (fig. 48, 49). Frons and orbit strongly projected above eye in profile, cheek forms wide ring below eye; frorb sta sparse, elongate, reclinate; 2 orb s, 3 different sized fr s, 1st fr s significantly slender and shorter than others; width of facial bulb equal to the base of antenna, keel and most of lunule with deep furrow; lunule rounded; ocellar triangle slightly shining, reaching level of 1st orb s; gena wide, 0.25× as wide as height of the eye, subrectangular; vibrissal fasciculus strong, short, straight and directed slightly upwards; 1st flagellomere subcircular.

Wing. Costa reaching R_{4+5}, last section of M slightly longer than penultimate; calypter and fringe grey; margin dark brown. Length of wing 2.3 mm.

Mesonotum shining, black (anterior view); 3 dc (third slender and shorter); ac 2 nearest to scutoscutellar suture and 6 at level of 2nd dc; halters and legs black.

Male genitalia (fig. 50, 51). Phallus 0.33 mm long. Distal margin of basiphallus wide, 0.6× as wide as widest size of distiphallus, apex broadly rounded, almost flat. Basiphallus 1.2× as long as distiphallus. Both arms of basiphallus well-marked, but left very weakly chitinized. Distiphallus triangular and elongate.

Diagnosis. The new species is similar to *Ophiomyia rapta* (Spencer, 1964) in having a very wide gena and frons, an orbit that strongly projects above the eye, and a strong, short vibrissal fasciculus. *Ophiomyia malalata* differs, however, in having only 3 fr s (not 4 fr s), a subcircular 1st flagellomere, and an endophallus that is posteriorly much shorter than distiphallus. The new species can be easily recognized from all Ukrainian congeners by having a very wide and rectangular gena with a short vibrissal fasciculus, in combination with a projecting frons, a cheek that forms a wide ring below the eye, and 3 differently sized fr s.

Distribution. Eastern Ukraine (N Kharkiv).

Etymology. The name reflects the wide gena (Latin mala — gena, jowl, late — wide).

Ophiomyia maura (Meigen, 1832) (fig. 52–58)

Material examined. Near Timchenky, 06.06.2010 — mines with puparia, reared from *Solidago virgaurea* — 22–23.06.2010, 1 ♂, 1 ♀; near Petrivske, 17.07.2011 — mines with puparia, reared from *S. virgaurea* — 27.07.2011, 1 ♀.

Redescription

Head (fig. 52, 53, 56). Orbit not projecting above eye in profile; 2 orb s, 2 fr s; frorb sta reclinate; facial bulb 1.25× as wide as base of antenna; dorsal margin of lunule

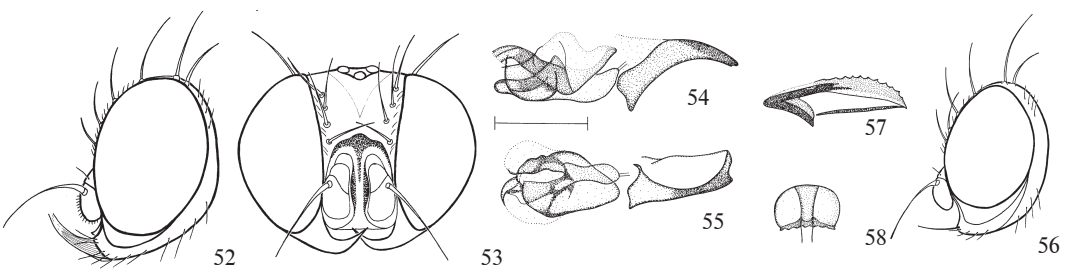

Fig. 52–58. *O. maura* (Meigen): 52, 53 — male head; 54 — phallus, lateral view; 55 — same, ventral view; 56 — female head; 57 — egg guide, left blade; 58 — spermatheca. Scale bar 0.1 mm.

Рис. 52–58. *O. maura* (Meigen): 52, 53 — голова самца; 54 — фаллюс, латеральный вид; 55 — то же, вентральный вид; 56 — голова самки; 57 — левая лопасть восьмого стернита; 58 — сперматека. Масштабная линейка 0,1 мм.

straight and medially tapered; ocellar triangle shining, reaching level of 2nd fr s; vibrissal fasciculus in male long, strong, uniformly curving dorsally, in female only long vibrissa present; 1st flagellomere rounded (viewed laterally).

Wing. Costa reaching M; last and penultimate sections of M equal; calypter grey; fringe grey to black; margin dark grey to black. Length of wing 1.9–2.2 mm.

Mesonotum blackish-grey, shining (anterior view); 2 dc; ac 2 nearest to scutoscutellar suture and 8 at level of 2nd dc; halters and legs black.

Male genitalia (fig. 54, 55). Phallus 0.27 mm long. Distiphallus rectangular (ventral view), equal to the length of basiphallus. Endophallus wide and relatively long, posteriorly equal to the distiphallus. Membrane without visible punctation.

Female terminalia (fig. 57, 58). Both spermathecae equal, wider than long, in ratio 1.85 : 1. Teeth on apical and lateral margin of egg guide sharp, short, sparse, well-marked. Medial margin without scales.

Distribution. Common in much of Europe: Denmark, Norway, Sweden, Finland (Spencer, 1976), Lithuania, Latvia, Byelorussia, Kaliningrad Region of Russia (Pakalniškis, 1994), Turkey (Civelek et al., 2009), Ukraine (Guglya, 2010, 2011). Also Japan, USA, Canada (Spencer, 1976).

Host plant. Asteraceae: *Solidago virgaurea* L. (Spencer, 1976; Guglya, 2010). More rarely *Aster* spp. (Spencer, 1976), *Erigeron* (Benavent-Corai et al., 2005).

Bionomics. Larva forms white serpentine mines in the upper surface of the leaf. The first generation pupates inside of the mine, and the second pupates in the ground. Puparium inside the mine is green.

Ophiomyia melandricaulis Hering, 1943 (fig. 59–66)

Material examined. Near Pyatykhatky, 02.05.2012, 1 ♀; near Kytsivka, 04.05.2012, 1 ♀; near Novodruzhesk, 21.07.2010, 1 ♀; Kharkiv, centre, 09.08.2011, 1 ♀.

Redescription

Head (fig. 59, 60, 64). Orbit matt, slightly projected above eye in profile; 3 orb s, 2 fr s; frorb sta sparse, reclinate; keel 0.6× as wide as base of antenna, flattened, without furrow, but with wide deepening at the level of the pedicel; lunule wide but low, dorsal margin of lunule straight and medially tapered; ocellar triangle slightly shining, reaching level of 2nd fr s.

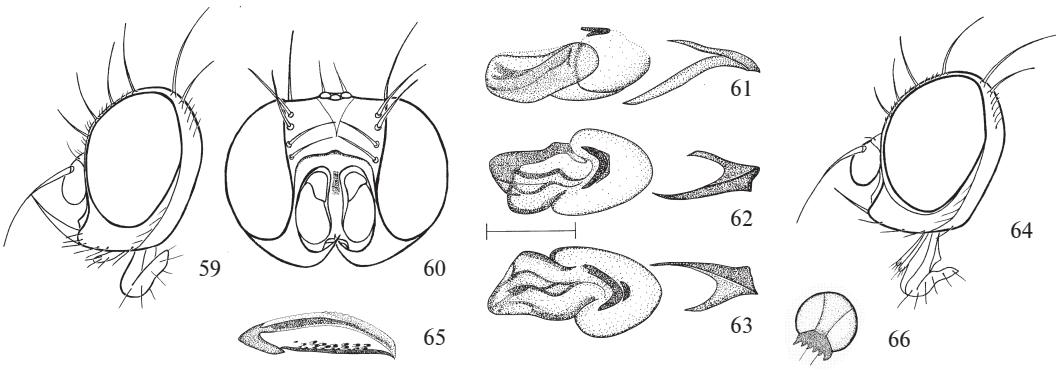

Fig. 59–66. *O. melandricaulis* Hering: 59, 60 — male head; 61 — phallus, lateral view; 62 — same, ventral view; 63 — same, dorsal view; 64 — female head; 65 — egg guide, left blade; 66 — spermatheca. Scale bar 0.1 mm.

Рис. 59–66. *O. melandricaulis* Hering: 59, 60 — голова самца; 61 — фаллюс, латеральный вид; 62 — то же, вентральный вид; 63 — то же, дорсальный вид; 64 — голова самки; 65 — левая лопасть восьмого стернита; 66 — сперматека. Масштабная линейка 0,1 мм.

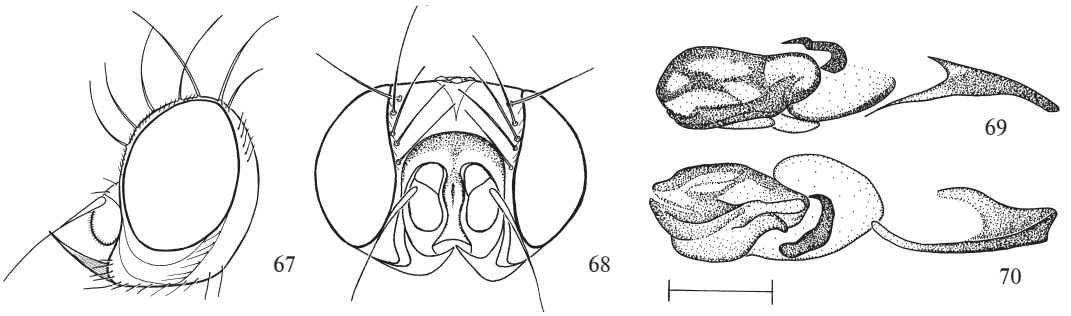

Fig. 67–70. *O. melandryi* de Meijere: 67, 68 — male head; 69 — phallus, lateral view; 70 — same, ventral view. Scale bar 0.1 mm.

Рис. 67–70. *O. melandryi* de Meijere: 67, 68 — голова самца; 69 — фаллюс, латеральный вид; 70 — то же, вентральный вид. Масштабная линейка 0,1 мм.

Wing. Costa reaching M, last section of M 0.85× as long as penultimate; calypter whitish-grey, fringe and margin black. Length of wing 2.3–2.6 mm.

Mesonotum blackish-grey (anterior view); 2 dc; ac 2 nearest to scutoscutellar suture and 6 at level of 2nd dc; halters and legs black.

Male genitalia (fig. 61–63). Phallus 0.29 mm long. "Aedeagus with distinctive V-shaped process above, as in *O. melandryi*, whole distiphallus complex conspiciously dark" (Spencer, 1964) and relatively long, 1.25× as long as basiphallus. Basal part of distiphallus wider than apical part.

Female terminalia (fig. 65, 66). Both spermathecae equal, rounded. Apex of egg guide truncated acute medially. Teeth on apical and lateral margin badly differentiated. Membrane of medial margin with large scales.

Distribution. France, Germany, England (Spencer, 1964), Lithuania, Kaliningrad Region of Russia (Pakalniškis, 1994), Ukraine (Guglya, 2011, 2012).

Host plant. Caryophyllaceae: *Melandrium diurnum* (Sibth.)*, M. album* (Mill.), *Moehringia trinervia* (L.) (Spencer, 1964), *Holosteum umbellatum* L. (Pakalniškis, 1994), *Silene, Stellaria* (Benavent-Corai et al., 2005).

Bionomics. Larva forms shallow stem mines (Spencer, 1964).

Ophiomyia melandryi de Meijere, 1924 (fig. 67–70)

Material examined. Near Haydary, 24.06.2009, 1 ♂; near Kuzemin, 28.05.2011, 1 ♂; near Vakalovshchina, 13 and 16.06.2010, 2 ♂; Kharkiv, centre, 09.08.2011, 1 ♂.

Redescription

Head (fig. 67, 68). Orbit matt (anterior view), projected above eye in profile; 3 orb s, 2 fr s (all long and strong); frorb sta reclinate; facial bulb oval, with small furrow; lunule wide, rounded; ocellar triangle narrow, slightly shining; 1st flagellomere with dark sparse pubescence.

Wing. Costa reaching M; last and penultimate sections of M equal; calypter, fringe and margin dark grey. Length of wing 2.6 mm.

Mesonotum black, from matt to slightly shining (anterior view); 2 long and 3 very short dc; ac 4 nearest to scutoscutellar suture and 8 at level of 2nd dc; halters and legs black.

Male genitalia (fig. 69, 70). Phallus 0.38 mm long. "Distiphallus complex with characteristic black U-shape process above, with asymmetrical membranous flap on one side only, mesophallus uniformly rounded behind" (Spencer, 1964). Basal part of distiphallus as wide as apical part (ventral view).

Distribution. Widespread in Europe (England, Germany, Holland, Italy) (Spencer, 1964), including Lithuania (Pakalniškis, 1994) and Ukraine (Guglya, 2011).

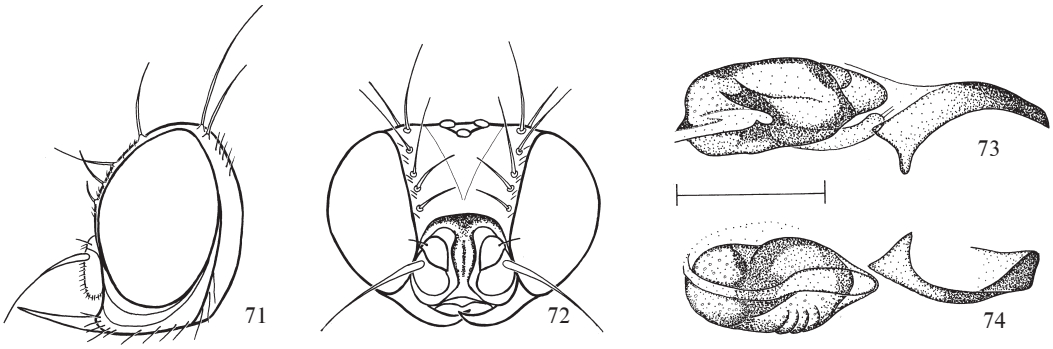

Fig. 71–74. *O. mohelensis* Černý: 71, 72 — male head; 73 — phallus, lateral view; 74 — same, ventral view. Scale bar 0.1 mm.

Рис. 71–74. *O. mohelensis* Černý: 71, 72 — голова самца; 73 — фаллюс, латеральный вид; 74 — то же, вентральный вид. Масштабная линейка 0,1 мм.

Host plant. Caryophyllaceae: *Melandrium* spp., *Lychnis* spp. (Spencer, 1964), *Silene* (Benavent-Corai et al., 2005).

Bionomics. Larva forms shallow mines inside the hollow stem. Pupation takes place within the stem near a node (Spencer, 1964).

Ophiomyia mohelensis Černý, 1994 (fig. 71–74)

Material examined. Near Petrivske, 22.05.2011, 1 ♂.

Redescription

Head (fig. 71, 72). Orbit slightly projected above eye in profile; 2 orb s, 2 fr s; frorb sta short, reclinate; facial bulb wide, 1.2× as wide as base of antenna, with distinct furrow; lunule narrow, upper margin flattened; ocellar triangle wide and long, reaching level of 1st fr s; gena slightly projected anteriorly (lateral view); vibrissal fasciculus in male very strong, straight and long; 1st flagellomere slightly longer than wide (lateral view).

Wing. Costa ending slightly beyond M; last and penultimate sections of M equal; margin brown. Wing yellowish. Length of wing 1. 5–1.7 mm.

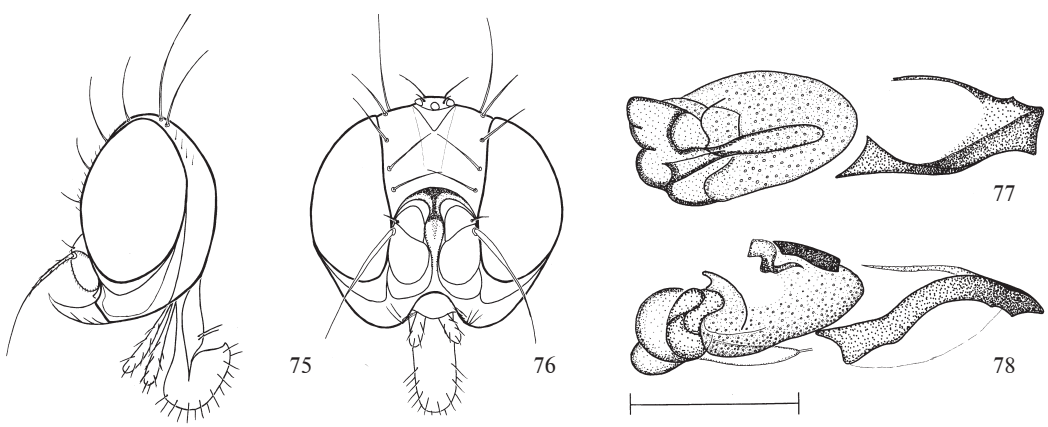

Fig. 75–78. *O. punctata* sp. n., holotype: 75, 76 — male head; 77 — phallus, ventral view; 78 — same, lateral view. Scale bar 0.1 mm.

Рис. 75–78. *O. punctata* sp. n., голотип: 75, 76 — голова самца; 77 — фаллюс, вентральный вид; 78 — то же, латеральный вид. Масштабная линейка 0,1 мм.

Mesonotum blackish-grey, shining (anterior view); 2 dc; ac 2 nearest to scutoscutellar suture and 4 at level of 2nd dc; halters and legs black.

Male genitalia (fig. 73, 74). Phallus 0.25 mm long. Distiphallus oval, tapered posteriorly above endophallus, 1.1× as long as basiphallus. Endophallus posteriorly as long as distiphallus and curved dorsally.

Distribution. Czech Republic (Černý, 1994), Ukraine (Guglya, 2012).

Ophiomyia punctata Guglya, **sp. n.** (fig. 75–78)

Material examined. Type. Holotype ♂ (dissected), Ukraine: Lugansk Region, 15 km E Stanichno-Lugansk, bank of River Derkul, near Illenko (48°38′ N, 36°41′ E), 23.07.2010 (Guglya) [«Луганская обл. / Станично-Луганский р-н, / окр. с. Ильенко / 23. 07. 2010 / Собр. Гугля Ю.», «15.00, кошение, / пойменный луг, / бер. р. Деркул»].

Paratype ♂ (dissected), Ukraine: Kharkiv Region, near Zhovtneve (49°26′ N, 35°30′ E) 15.05.2011 (Guglya) [«Харьковская обл. / Красноградский р-н / окр. с. Жовтневое / 15.05.2011 / Собр. Гугля Ю.», «разнотравный луг / рядом с трассой»] (KMN).

Description

Head (fig. 75, 76). Orbit not projected above eye in profile, matt (anterior view), without distinct contours; 2 orb s, 2 fr s; frorb sta sparse, short, reclinate; facial bulb 0.8× as wide as base of antenna; lunule rounded; ocellar triangle very small, reaching level of 1st orb s, subshining; vibrissal fasciculus very strong, uniformly curving dorsally, short; 1st flagellomere slightly longer than wide (viewed laterally).

Wing. Costa reaching M; last and penultimate sections of M equal; calypter grey; fringe and margin brown. Length of wing 1.8 mm.

Mesonotum greyish-black shining (anterior view); 2 dc; ac 2 nearest to scutoscutellar suture and 7 at level of 2nd dc; halters black; legs brown.

Male genitalia (fig. 77, 78). Phallus 0.25 mm long. Basiphallus 0.9× as long as distiphallus. Basal lobe of distiphallus thickly dotted and with dorsal curved process (lateral view). Distal part of distiphallus highly asymmetrical, its right lobe rounded, and left lobe elongated apically. Endophallus very narrow and short.

Diagnosis. The new species is similar to *Ophiomyia maura* (fig. 52–55) in having a curving vibrissal fasciculus that is wide basally in combination with slightly elongated and narrow gena. It differs in having a rounded lunule, with that of *O. maura* being angular and tapered on the dorsal margin. Differences in the structure of the male geni-

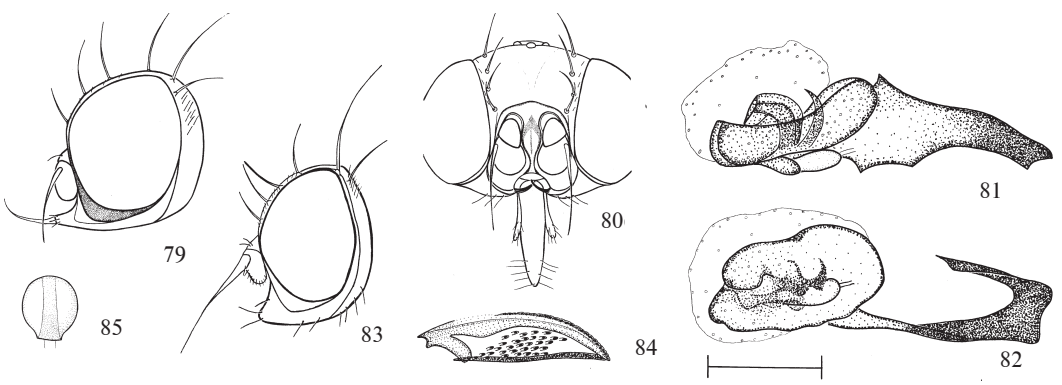

Fig. 79–85. *O. ranunculicaulis* Hering: 79, 80 — male head; 81 — phallus, lateral view; 82 — same, ventral view; 83 — female head; 84 — egg guide, left blade; 85 — spermatheca. Scale bar 0.1 mm.

Рис. 79–85. *O. ranunculicaulis* Hering: 79, 80 — голова самца; 81 — фаллюс, латеральный вид; 82 — то же, вентральный вид; 83 — голова самки; 84 — левая лопасть восьмого стернита; 85 — сперматека. Масштабная линейка 0,1 мм.

talia are most significant, and the only reliable way to differentiate the two species is to examine the dissected genitalia. The shape of the distiphallus in *O. punctata* sp. n. is ovate, but in *O. maura* it is rectangular (ventral view). The size of the endophallus rather differs too, being narrow and short in the new species, and long and thick in *O. maura*.

Distribution. Eastern Ukraine (E Lugansk Region and S Kharkiv Region).

Etymology. The name reflects the thickly punctated basal lobe of the distiphallus in the new species (Latin punctum — point).

Ophiomyia ranunculicaulis Hering, 1949 (fig. 79–85)

Material examined. Near Orchik, 15.05.2011, 1 ♂; near Kuzemin, 22–23.05.2010, 29.05.2011 and 13.08.2011, 9 ♂, 3 ♀; near Petrivske, 22.05.2011 and 04.07.2010, 2 ♂; near Timchenky, 14.00, 06.06.2010, 1 ♂; near Haydary, 18.00, 04.06.2011, 1 ♂; near Rubizhne, 13.00, 11.06.2011, 1 ♂.

Redescription

Head (fig. 79, 80, 83). Head rounded in profile; orbits slightly projected above eyes in profile, matt (anterior view); 2 orb s, 2 fr s; frorb sta reclinate and incurving; facial bulb as wide as the base of antenna, with distinct furrow; lunule rectangular, slightly tapered at upper margin; ocellar triangle matt, without clear contours; gena in male fingerlike, elongate, with very long, slender vibrissal fasciculus that curves apically. The female has a triangular gena and a slender vibrissa.

Wing. Costa reaching M; last section of M 0.8× as long as penultimate; calypter, fringe and margin grey. Length of wing 2. 3 mm.

Mesonotum black, slightly shining (anterior view); 2 dc; ac 3 nearest to scutoscutellar suture and 6 at level of 2nd dc; halters and legs brown.

Male genitalia (fig. 81, 82). Phallus 0.29 mm long (length without membranous structure). "Aedeagus with only short ventral bladder and distinctive curved process rising dorsally" (Spencer, 1976). Distiphallus oval, relatively short, 0.7× as long as basiphallus.

Female terminalia (fig. 84, 85). Both spermathecae equal, rounded. Apex of egg guide acute medially. Teeth on apical and lateral margin are dark, apically directed, closely spaced. Medial plate of egg guide bears numerous large scales.

Distribution. Sweden, Germany, France, England, Scotland (Spencer, 1976), Lithuania (Pakalniškis, 1994), Ukraine (Guglya, 2011, 2012).

Host plant. Ranunculaceae: *Ranunculus acris* L., *R. lanuginosus* L., *R. polyanthemos* L. (Spencer, 1976).

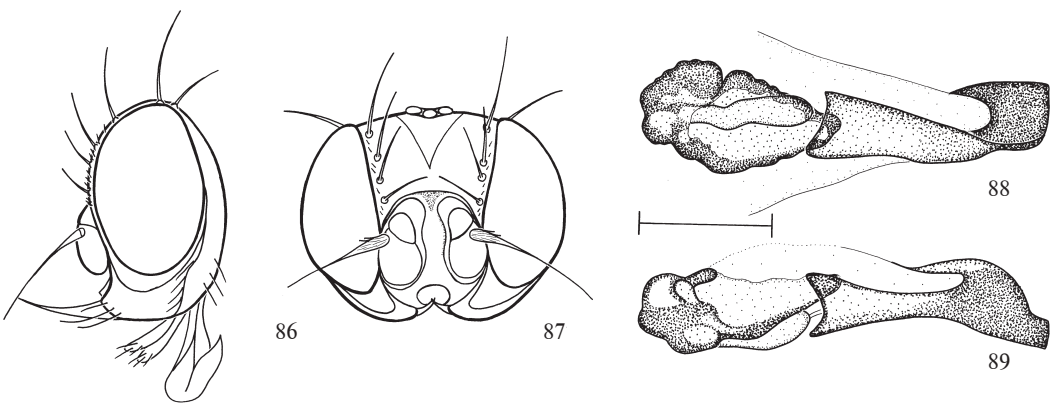

Fig. 86–89. *O. senecionina* Hering: 86, 87 — male head; 88 — phallus, ventral view; 89 — same, lateral view. Scale bar 0.1 mm.

Рис. 86–89. *O. senecionina* Hering: 86, 87 — голова самца; 88 — фаллюс, вентральный вид; 89 — то же, латеральный вид. Масштабная линейка 0,1 мм.

Bionomics. Larva forms a stem mine that proceeds basally in a spiral. Pupation takes place at the end of the mine (Spencer, 1976).

Ophiomyia senecionina Hering, 1944 (fig. 86–89)

Material examined. Velyka Pysarivka, 24.06.2012, 1 ♂.

Redescription

Head (fig. 86, 87). Orbit projected above eye in profile; 2 orb s, 2 fr s; frorb sta short, reclinate; facial bulb as wide as pedicel; lunule narrow; ocellar triangle reaching level of 2nd fr s; vibrissal fasciculus very long, strong, projecting anteriorly; 1st flagellomere slightly longer than wide (viewed laterally).

Wing. Costa reaching M; last and penultimate sections of M equal; calypter grey; fringe and margin brown. Length of wing 1.7–1.9 mm.

Mesonotum blackish-grey, shining (anterior view); 2 dc; ac 4 nearest to scutoscutellar suture and 6 at level of 2nd dc; halters brown; legs black.

Male genitalia (fig. 88, 89). Phallus 0.31 mm long. Distiphallus rectangular (ventral view), relatively short, 0.8× as long as basiphallus, "with several distinct lobes" (Spencer, 1964). Basiphallus unusually wide, with extremely chitinized right arm and extremely short left arm.

Distribution. Northern France, England (Spencer, 1990), Eastern Ukraine (Guglya, 2012).

Host plant. Asteraceae: *Senecio jacobeae* L., *S. erucifolius* L. (Spencer, 1990).

Bionomics. Larva forms external stem mines (Spencer, 1990).

Comments. The specimen collected from Ukraine differs from the material collected in western Europe in that the facial bulb, the 1st flagellomere and the base of the arista are thickly covered with white scales.

Ophiomyia skanensis Spencer, 1976 (fig. 90–96)

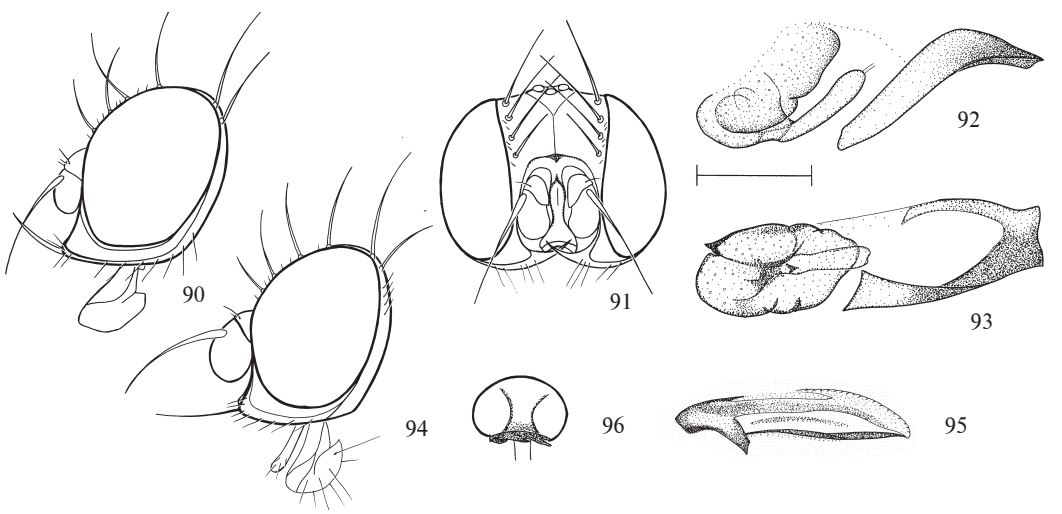

Fig. 90–96. *O. skanensis* Spencer: 90, 91 — male head; 92 — phallus, lateral view; 93 — same, ventral view; 94 — female head; 95 — egg guide, left blade; 96 — spermatheca. Scale bar 0.1 mm.

Рис. 90–96. *O. skanensis* Spencer: 90, 91 — голова самца; 92 — фаллюс, латеральный вид; 93 — то же, вентральный вид; 94 — голова самки; 95 — левая лопасть восьмого стернита; 96 — сперматека. Масштабная линейка 0,1 мм.

Material examined. Near Petrivske, 03.07.2010 and 10.05.2012, 2 ♂, 1 ♀; near Rubizhne, 20.05.2012 and 26.08.2012, 1 ♂; near Vilkhuvatka, 06.08.2011, 1 ♀; near Vakalovshchina, 16.06.2010, 2 ♂; near Ogurtsovo, 15.07.2010, 1 ♂; near Bairak, 18.07.2010, 1 ♂; near Illenko, 23.07.2010, 1 ♂.

Redescription

Head (fig. 90, 91, 94). Orbit not projected above eye in profile, slightly shining (anterior view); 2 orb s, 2 fr s; frorb sta reclinate; facial bulb with small furrow; lunule narrow, 0.6× as wide as base of antenna, rectangular; ocellar triangle reaching level of 1st orb s; frons divided into two equal parts with distinct medial longitudinal line; vibrissal fasciculus in male and vibrissa in female moderately long; 1st flagellomere small, with short white pubescence (viewed laterally).

Wing. Costa reaching M; last section of M 0.71× as long as penultimate; calypter dark grey; fringe grey; margin black. Length of wing 2.2 mm.

Mesonotum greyish-black, shining (anterior view); 2 dc; ac 2 nearest to scutoscutellar suture and 6 at level of 2nd dc; halters and legs brown.

Male genitalia (fig. 92, 93). Phallus 0.30 mm long. Longitudinal axis of distiphallus, endophallus and basiphallus are parallel. Endophallus long and distanced from distiphallus.

Female terminalia (fig. 95, 96). Both spermathecae equal, slightly wider than long, in ratio 1.75 : 1. Teeth on apical and lateral margin of egg guide flattened, badly differentiated. Membrane on medial margin with numerous minute scales.

Distribution. Sweden (Spencer, 1976), Lithuania (Pakalniškis et al., 2006), Ukraine (Guglya, 2011, 2012).

Ophiomyia slovaca Černý, 1994 (fig. 97–103)

Material examined. Near Orchik, 15.05.2011, 3 ♂, 1 ♀; Sokolniki, 01.05.2012, 1 ♂; Pyatykhatky, 02.05.2012, 3 ♂.

Redescription

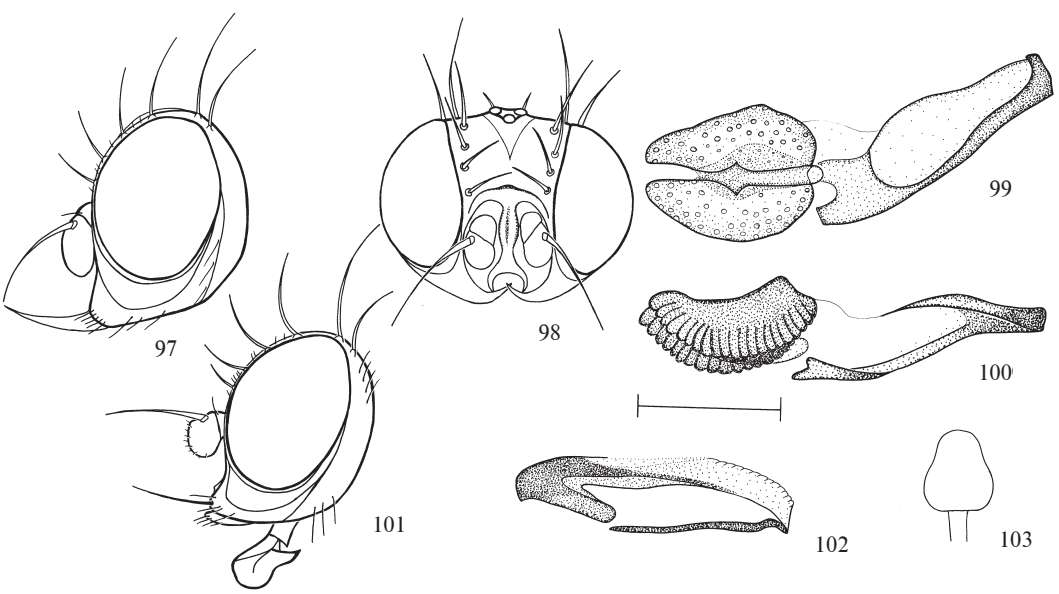

Fig. 97–103. *O. slovaca* Černý: 97, 98 — male head; 99 — phallus, ventral view; 100 — same, lateral view; 101 — female head; 102 — egg guide, left blade; 103 — spermatheca. Scale bar 0.1 mm.

Рис. 97–103. *O. slovaca* Černý: 97, 98 — голова самца; 99 — фаллюс, вентральный вид; 100 — то же, латеральный вид; 101 — голова самки; 102 — левая лопасть восьмого стернита; 103 — сперматека. Масштабная линейка 0,1 мм.

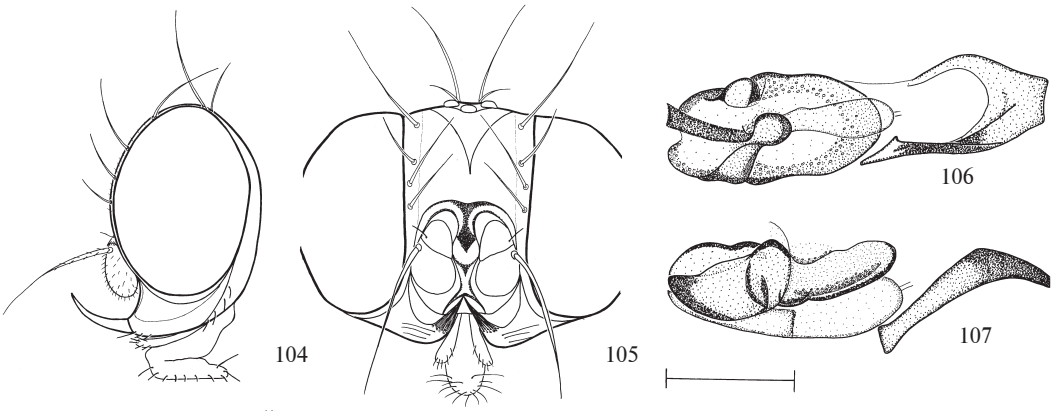

Fig. 104–107. *O. spenceri* Černý: 104, 105 — male head; 106 — phallus, ventral view; 107 — same, lateral view. Scale bar 0.1 mm.

Рис. 104–107. *O. spenceri* Černý: 104, 105 — голова самца; 106 — фаллюс, вентральный вид; 107 — то же, латеральный вид. Масштабная линейка 0,1 мм.

Head (fig. 97, 98, 101). Orbit not or slightly projected above eye in profile, matt (anterior view); 2 orb s, 2 fr s; frorb sta sparse, short, reclinate; bulb as wide as pedicel, flattened, with furrow; lunule rounded very slightly, central part of its dorsal margin tapered; ocellar triangle slightly shining (dorsal view), reaching level of 1st orb s; vibrissal fasciculus in male strong, uniformly narrowing and incurving upwards, in female vibrissa long; 1st flagellomere small, rounded (viewed laterally).

Wing. Costa reaching R_{4+5}; last section of M slightly longer than penultimate; calypter and fringe dark grey; margin black. Length of wing 1.8–2.2 mm.

Mesonotum blackish-grey, shining (anterior view); 2 strong dc; ac 2 nearest to scutoscutellar suture and 5 at level of 2nd dc; halters and legs black.

Male genitalia (fig. 99, 100). Phallus 0.29 mm long. "distiphallus bilobate and swollen, with typical surface structure" (Černý, 1994) short, 0.6× as long as basiphallus.

Female terminalia (fig. 102, 103). Both spermathecae equal, elongated, tapering apically. Apex of egg guide cutted, acute medially. Teeth on lateral margin disposed closely, without space between them. Medial margin without any scales.

Distribution. Slovakia (Černý, 1994), Lithuania (Pakalniškis, 1994), Ukraine (Guglya, 2011, 2012).

Host plant. Fabaceae: *Lathyrus pratensis* L., *Vicia angustifolia* Reichard, *V. cracca* L., *V. villosa* Roth. (Palalniškis, 1996).

Bionomics. Larva forms stem-mines. Puparium is black. (Palalniškis, 1996)

Ophiomyia spenceri Černý, 1985 (fig. 104–107)

Material examined. Near Kuzemin, 23.05.2012 and 28.05.2011, 3 ♂; near Kytsivka, 04.05.2012, 1 ♂; near Rubizhne, 20.05.2012, 8 ♂.

Redescription

Head (fig. 104, 105). Orbit not or slightly projected above eye in profile; 2 orb s, 2 fr s; frorb sta sparse, reclinate; facial bulb equal in width to the base of the antenna, spherical, with deep triangle furrow in upper third; lunule narrow; ocellar triangle large with clear contours, brilliantly shining, reaching level of 2nd fr s; gena moderately narrow, 0.18× as wide as height of eye, projected anteriorly; vibrissal fasciculus in male curving upwards, elongate, strong; 1st flagellomere rounded (viewed laterally).

Wing. Costa reaching M; last and penultimate sections of M equal; calypter grey; fringe grey or black; margin black. Length of wing 1.9–2.1 mm.

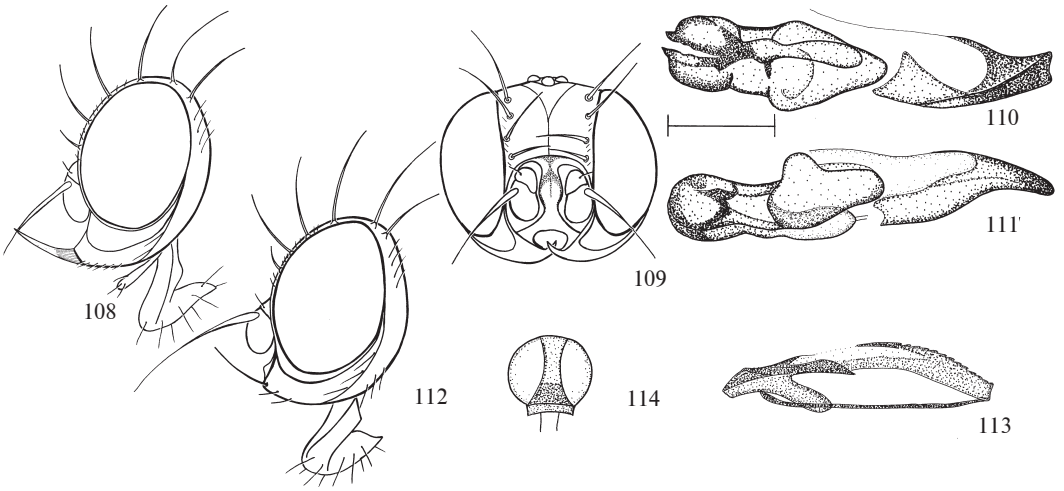

Fig. 108–114. *O. submaura* Hering: 108, 109 — male head; 110 — phallus, ventral view; 111 — same, lateral view; 112 — female head; 113 — egg guide, left blade; 114 — spermatheca. Scale bar 0.1 mm.

Рис. 108–114. *O. submaura* Hering: 108, 109 — голова самца; 110 — фаллюс, вентральный вид; 111 — то же, латеральный вид; 112 — голова самки; 113 — левая лопасть восьмого стернита; 114 — сперматека. Масштабная линейка 0,1 мм.

Mesonotum blackish-grey, shining (anterior view); 2 dc; ac in irregular rows, 2 nearest to scutoscutellar suture and 7–8 at level of 2nd dc; halters and legs black.

Male genitalia (fig. 106, 107). Phallus 0.29 mm long. "Basiphallus V-shaped, basally short-bifid, its longer part reaching basal fourth of distiphallus" (Černý, 1985). Distiphallus 1.2× as long as basiphallus.

Distribution. Czech Republic (Moravia) (Černý, 1985), Lithuania (Pakalniškis, 1994), Ukraine (Guglya, 2012).

Host plant. Asteraceae: *Centaurea jacea* L. (Černý, 1985), *Achillea millefolium* L. (Pakalniškis, 1998).

Bionomics. Larva forms surface stem mines. Pupation takes place in the lowest part of the mine above the epidermis (Černý, 1985).

Ophiomyia submaura Hering, 1926 (fig. 108–114)

Material examined. Pyatykhatky, 02.05.2012, 13.05.2011 and 10.06.2010, 9 ♂, 12 ♀; near Vakalovshchina, 15.06.2010, 2 ♂, 3 ♀; Sokolniki, 01.05.2012 and 10.07.2011, 4 ♀; near Petrivske, 25.06.2011, 2 ♀; near Sidorovo, 07.08.2010, 1 ♀; Kharkiv, centre, 09.08.2011, 2 ♀; near Mohnach, 29.04.2012, 1 ♀.

Redescription

Head (fig. 108, 109, 112). Orbit slightly projected above eye in profile; 2 orb s, 2 fr s; frorb sta sparse, reclinate; frons divided on two equal parts with distinct medial longitudinal line; facial bulb 1.13× as wide as base of antenna, with slight furrow; lunule shallowly rounded; ocellar triangle subshining, reaching level of 1st orb s; vibrissal fasciculus in male strong, long, female with long vibrissa; 1st flagellomere small, brown (viewed laterally).

Wing. Costa ending between R4+5 and M; last section of M 1.1× as long as penultimate; calypter and fringe grey; margin brown. Length of wing 1.9 mm.

Mesonotum blackish-grey, shining (anterior view); 2 dc; ac 2 nearest to scutoscutellar suture and 5 at level of 2nd dc; halters and legs black.

Male genitalia (fig. 110, 111). Phallus 0.36 mm long. Distiphallus long, 1.25× as long as basiphallus, with wider, triangular basal part and narrower, subrectangular apical part (ventral view). Endophallus not reaching posterior margin of distiphallus (ventral and lateral view). Shape of basiphallus is typical for genus.

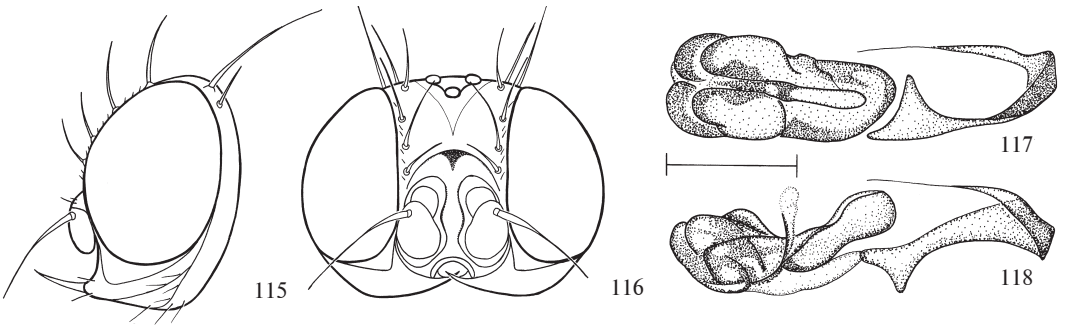

Fig. 115–118. *O. versera* sp. n., holotype: 115, 116 — male head; 117 — phallus, ventral view; 118 — same, lateral view. Scale bar 0.1 mm.

Рис. 115–118. *O. versera* sp. n., голотип: 115, 116 — голова самца; 117 — фаллюс, вентральный вид; 118 — то же, латеральный вид. Масштабная линейка 0,1 мм.

Female terminalia (fig. 113, 114). Both spermathecae equal, spherical, with short basal collar. Apex of egg guide truncated, acute laterally. Teeth on lateral margin apically directed, sharp, dark. Membrane of medial margin without any scales.

Distribution. Germany, Hungary, Spain (Spencer, 1964), Turkey (Civelek et al., 2009), Lithuania (Pakalniškis, 1994), Ukraine (Guglya, 2011, 2012).

Host plant. Lamiaceae *Chaiturus marrubiastrum* (L.) Reichenb. (Guglya, 2013), Fabaceae: *Medicago falcata* L. (Pakalniškis, 1996).

Bionomics. Larva forms brown spot-like leaf mines (Guglya, 2013).

Ophiomyia versera Guglya, **sp. n.** (fig. 115–118)

Material examined. Type. Holotype ♂ (dissected), Ukraine: Kharkiv Region, near Krasnoye (49°56′ N, 37°47′ E), 23.05.2012, chalky hill (Guglya) [«Харьковская обл. / Двуречанский р-н, / окр. с. Красное / 23.05.2012 / Собр. Гугля Ю. А.», «10.30, / разнотравные / балочки на вершине / меловой горы»] (KMN).

Description

Head (fig. 115, 116). Orbit not projected above eye in profile, subshining (anterior view); 2 orb s, 2 fr s; frorb sta short, sparse, reclinate; facial bulb flattened, without any furrow; lunule rounded; ocellar triangle shining, long, extending to the level of 2nd fr s; vibrissal fasciculus short, directed anteriorly; gena angular, 0.16× as wide as height of the eye; 1st flagellomere slightly longer than wide (viewed laterally).

Wing. Last section of M 1.7× as long as penultimate; calypter and fringe beige; margin brown. Length of wing 1.6 mm.

Mesonotum blackish-grey, shining (anterior view); 2 dc; ac sparse, 2 nearest to scutoscutellar suture and 6 at level of 2nd dc; halters black, legs blackish-brown.

Male genitalia (fig. 117, 118). Phallus 0.29 mm long. Basiphallus 0.85× as long as distiphallus. Endophallus narrow and short, not reaching posterior margin of distiphallus, but reaching distal margin of right arm of basiphallus. Distiphallus subrectangular, with wider distal part (lateral view) bears a tubular exvagination dorsally.

Diagnosis. The new species is similar to *Ophiomyia fennoniensis* (fig. 37–41) in having an angular gena and a rounded lunule. It differs externally in being smaller (1.6 mm, not 2.5 mm), in having a shallower orbit and keel, and a smooth bulb on the keel (not furrowed). Regarding the structure of the phallus, the new species has the distiphallus widest on the distal half (not medially) and the central part of the distiphallus bears a tubular exvagination. It cannot be easily recognized from congeners without genitalic dissection.

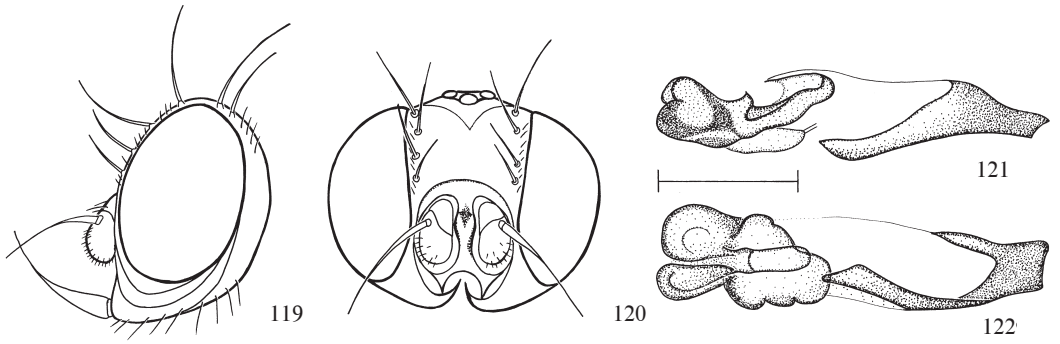

Fig. 119–122. *O. vitiosa* Spencer: 119, 120 — male head; 121 — phallus, lateral view; 122 — same, ventral view. Scale bar 0.1 mm.

Рис. 119–122. *O. vitiosa* Spencer: 119, 120 — голова самца; 121 — фаллюс, латеральный вид; 122 — то же, вентральный вид. Масштабная линейка 0,1 мм.

Distribution. Eastern Ukraine (E Kharkiv Region).

Etymology. The specific epithet indicates the season when the holotype was caught (Latin ver — spring; sera — late).

Ophiomyia vitiosa Spencer, 1964 (fig. 119–122)

Material examined. Near Kamenka, 14.05.2010, 1 ♂; Velyka Pysarevka, 24.06.2012, 4 ♂.

Redescription

Head (fig. 119, 120). Orbit not projected above eye in profile; 2 orb s, 2 fr s; frorb sta short, reclinate; facial bulb 0.8× as wide as pedicel, subovate; lunule rounded; ocellar triangle shining (dorsal view), extending to level of 1st orb s; vibrissal fasciculus strong at the base, apical half sharply narrowing and angled dorsally; 1st flagellomere rounded, with white pubescence (viewed laterally).

Wing. Costa ending between R_{4+5} and M; last and penultimate sections of M equal; calypter grey; fringe black; margin brown. Length of wing 2.0 mm.

Mesonotum black (anterior view); 2 dc; ac 2 nearest to scutoscutellar suture and 6 at level of 2nd dc; legs black.

Male genitalia (fig. 121, 122). Phallus 0.28 mm long. "Aedeagus large, conspiciously dark-brown, divided distally, covered with numerous minute spines" (Spencer, 1964). Basiphallus typical for the genus. Endophallus short, not reaching posterior margin of distiphallus. Posterior part of distiphallus triangular and slightly curved laterally (ventral view).

Distribution. Austria, Spain (Spencer, 1964), Lithuania (Pakalniskis, 1996), Ukraine (Guglya, 2011, 2012).

Host plant. Scrophulariaceae: *Linaria vulgaris* Mill. (Pakalniškis, 1996).

Bionomic. Larva forms stem-mines (Pakalniškis, 1996).

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