

The fauna of Agromyzidae (Diptera) in the Gemer region (Central Slovakia), with descriptions of three new species from Slovakia

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Abstract: A review of the fauna of leaf-mining flies (Diptera: Agromyzidae) in the Gemer region (Slovakia) is presented. A total of 140 species of Agromyzidae are recorded from the Gemer region in central Slovakia (Muránska planina NP – 126 species, Slovenský raj NP – 54 species, Slovenský kras NP – 22 species). Three new species, *Cerodontha (Butomyza) gemerensis* sp. n., *Chromatomyia cepelaki* sp. n. and *Liriomyza muranica* sp. n., are described from Slovakia (Gemer region). All descriptions are supplemented by illustrations of diagnostic features including those of the male and female terminalia. Twenty-one species, *Cerodontha (Dizygomyza) luzulae* (Groschke, 1957), *Hexomyza simplicoides* (Hendel, 1920), *Liriomyza scorzonerae* Rydén, 1951, *L. urophorina* Mik, 1894, *Napomyza bellidis* Griffiths, 1967, *N. cichorii* Spencer, 1966, *N. maritima* von Tschirnhaus, 1981, *Ophiomyia spenceri* Černý, 1985, *O. stenophaga* Pakalniškis, 1998, *Phytomyza adjuncta* Hering, 1928, *P. brischkei* Hendel, 1922, *P. griffithsi* Spencer, 1963, *P. medicaginis* Hering, 1925, *P. podagrariae* Hering, 1954, *P. rydeni* Hering, 1934, *P. salviae* (Hering, 1924), *P. soenderupi* Hering, 1941, *P. spoliata* Strobl, 1906, *P. trolliivora* Hering, 1935, *P. tussilaginis* Hendel, 1925 and *P. vitalbae* Kaltenbach, 1872, are recorded from Slovakia for the first time. The significance of the regional fauna of Agromyzidae in the Gemer area is discussed.

Keywords: Diptera, Agromyzidae, faunistics, biology, new species, new records, Slovakia, Gemer

Introduction

The Agromyzidae belong to one of the most species-rich families of acalyptrate Diptera, with more than 2900 described species worldwide. More than 900 species of the family occur in Europe. The last Slovak checklist (Černý & Vála 2009) includes 284 species. Very small to small acalyptrate flies with a wing length between slightly more than 1 mm and 6.5 mm but usually 2-3 mm. Body yellow or black, sometimes with a metallic greenish tinge. Most species are monophagous or oligophagous, and only rarely are they polyphagous (Spencer 1990, Benavent-Corai et al. 2005). Some species are known as economically important pests (Spencer 1973), but on the other hand several species are used as biological agents for the control of certain plants.

The family Agromyzidae has not been previously studied in the Gemer area. Hitherto, only three species, viz. *Agromyza albipennis* Meigen, 1830, *A. pseudoreptans* Nowakowski, 1967 and *Chromatomyia milii* (Kaltenbach, 1864), have been known from the locality Muráň and their records were summarized by Vála (1986) in the faunal compendium *Diptera Slovenska II* (Diptera of Slovakia II) edited by the late J. Čepelák. New faunal data were obtained by the examination of the material collected recently in the study area by J. Ševčík in 2009 (mainly from his Malaise traps in two localities of the Muránska planina Mts), a few specimens from a Malaise trap operated by L. Vidlička in Paseky near Tisovec in 2001, and mainly the sample collected by the author in the Muránska planina NP (30 localities) and Slovenský raj NP (4 localities) in 2010. Further specimens of Agromyzidae examined were collected by B. Mocek in two localities in the Slovenský kras NP (Koniarská planina and Plešivecká planina) in 1989-90. A total of 140 species have now been confirmed in the study area (see below). This study of mining flies belongs to a series of papers devoted to Diptera of the Gemer area (cf. Ševčík 2011, Ševčík & Kurina 2011a,b, Roháček 2011, Roháček & Ševčík 2011, Woźnica 2011).

Material and methods

The list of species below is based mainly on the material collected recently (1998-1999, 2001, 2009-2010) in the Gemer region by means of Malaise traps and sweep netting, identified by the author. The material examined is deposited in the collections as follows: CMCH, MEBC and SMOC. If not stated otherwise the material is deposited in the author's collection (CMCH). The morphological terminology essentially follows Papp & Darvas (2000). The nomenclature used here follows the most recent Checklist of Diptera of the Czech Republic and Slovakia, electronic version 2 (see Černý & Vála 2009) and the Fauna Europaea database, version 2.4 (Martinez 2011). The type material is marked (fundamental principles) by different labels: holotype (red), paratype (yellow) and species identification (white).

Abbreviations used: * = new records for Slovakia; BR = Biosphere Reserve; CMCH = Černý Miloš, Halenkovice, Czech Republic (personal collection); CMVO = Miloslav Vála, Olomouc, Czech Republic (personal collection); MEBC = Museum of East Bohemia, Hradec Králové, Czech Republic; MT = Malaise trap; NP = National Park, NPR = National Nature Reserve; PR = Nature Reserve; SMOC = Slezské zemské muzeum, Opava, Czech Republic; SW = sweeping.

Abbreviations of morphological terms used in text and/or figures: acr – acrostichal setulae, as – apical scutellar seta, bs – basal scutellar seta, CuA₁ – cubitus, dc – dorsocentral seta, DM-Cu – discal medial-cubital cross vein (posterior, tp), epa – outer (external) post-alar seta, ge – genal seta, hu – postpronotal (humeral) seta, ia – intra-alar seta or setulae, ipa – inner post-alar seta, mspl – anepisternal (mesopleural) seta, M₁ – 1st branch of media, ntp – notopleural seta, oc – ocellar seta, os – orbital setulae, ori – anterior fronto-orbital seta, ors – posterior fronto-orbital seta, pd – posterodorsal seta, ppl – propleural seta, prs = presutural seta, prsc – prescutellar seta, pvt – postvertical seta, R₂₊₃ – 2nd branch of radius, R₄₊₅ – 3rd branch of radius, R-M – radial-medial cross vein (anterior, ta), sa – supra-alar seta, stpl – katepisternal (sternopleural) seta, vi – vibrissal seta, vt – vertical seta, vte – lateral (outer) vertical seta, vti – medial (inner) vertical seta, knee – articulation between femur and tibia and their parts immediately adjacent to this articulation.

Study area

The Gemer area is considered here to cover the territory of three national parks in central Slovakia – Muránska planina NP, Slovenský raj NP and Slovenský kras NP. Most of the material presented in this paper was collected as part of the All Taxa Biodiversity Inventories project (ATBI, see www.atbi.eu) organized by Workpackage 7 (WP7) of the “European Distributed Institute of Taxonomy” (EDIT, see www.e-taxonomy.eu). All three national parks represent well-preserved karst areas with both montane and thermophilous habitats. The results of the species inventory within the ATBI project are also available on the Internet page <http://www.atbi.eu/gemer/>.

List of localities

1. Muránska planina NP, Muráň village, trail to Muráň castle, 48°44'50"N, 20°02'50"E, 500-600 m a.s.l., 7.vi.2010, vegetation in mixed forest, M. Černý leg., SW.
2. Muránska planina NP, Muráň village, trail to Muráň castle, 48°45'18"N, 20°03'06"E, 600-700 m a.s.l., 7.vi.2010, vegetation in mixed forest, M. Černý leg., SW.
3. Muránska planina NP, NPR Cigánka, northern margin, 48°45'43"N, 20°03'43"E, 850 m a.s.l., 7.vi.2010, vegetation in mixed forest, M. Černý leg., SW.
4. Muránska planina NP, NPR Cigánka, vicinity of Muráň castle, 48°45'34"N, 20°03'37"E, 930 m a.s.l., 7.vi.2010, vegetation amongst the ruins of castle, M. Černý leg., SW.
5. Muránska planina NP, Hrdzavá dolina, trail after yellow tourist mark to Nižná Kl'aková, 48°44'53"N, 20°00'31"E, 600 m a.s.l., 8.vi.2010, vegetation along small brook in deciduous forest, M. Černý leg., SW.
6. Muránska planina NP, Hrdzavá dolina, trail after yellow tourist mark to Nižná Kl'aková, 48°46'17"N, 19°59'23"E, 1000 m a.s.l., 8.vi.2010, vegetation in mixed forest, M. Černý leg., SW.
7. Muránska planina NP, NPR Nižná Kl'aková, 48°45'60"N, 19°57'45"E, 1200-1220 m a.s.l., 8.vi.2010, meadow, M. Černý leg., SW.
8. Muránska planina NP, Muránska Huta village, 0.5 km W meadow, 48°46'38"N, 20°06'31"E, 735-740 m a.s.l., 9.vi.2010, meadow, M. Černý leg., SW.
9. Muránska planina NP, Muránska Huta village, trail after red tourist mark to Vel'ká lúka, 48°46'47"N, 20°06'24"E, 750-770 m a.s.l., 9.vi.2010, along small brook in deciduous forest, M. Černý leg., SW.
10. Muránska planina NP, Muránska Huta village, trail after red tourist mark to Vel'ká lúka, 48°46'48"N, 20°05'52"E, 800-840 m a.s.l., 9.vi.2010, vegetation in forest ride, M. Černý leg., SW.

11. Muránska planina NP, Muránska Huta village, 1.7 km W Pod skalou, 48°46'51"N, 20°05'31"E, 880-890 m a.s.l., pasture beside along mixed forest, M. Černý leg., SW.
12. Muránska planina NP, Veľká lúka, 48°46'36"N, 20°04'12"E, 887 m a.s.l., meadow, M. Černý leg., SW.
13. Muránska planina NP, Veľká lúka – Piesky, 48°46'22"N, 20°03'40"E, 880-887 m a.s.l., meadow, M. Černý leg., SW.
14. Muránska planina NP, Muránska Huta village, 0.2 km W small cascade, 48°46'44"N, 20°06'37"E, 700 m a.s.l., vegetation along small brook, M. Černý leg., SW.
15. Muránska planina NP, Muráň village, 1 km NE, 48°44'40"N, 20°03'20"E, 410-420 m a.s.l., meadow, M. Černý leg., SW.
16. Muránska planina NP, Muráň village, 1 km NE, 48°44'38"N, 20°03'25"E, 390 m a.s.l., vegetation along brook, M. Černý leg., SW.
17. Muránska planina NP, NPR Voniaca, 48°42'20"N, 19°57'32"E, 1100-1114 m a.s.l., flower meadow, M. Černý leg., SW.
18. Muránska planina NP, NPR Voniaca, 48°42'18"N, 19°57'35"E, 1110 m.a.s.l., vegetation in mixed forest, M. Černý leg., SW.
19. Muránska planina NP, NPR Šarkanica, trail after yellow tourist mark NPR Voniaca to Paseky, 48°42'16"N, 19°57'52"E, 940-950 m a.s.l., vegetation in mixed forest, M. Černý leg., SW.
20. Muránska planina NP, Paseky near Tisovec, 48°42'41"N, 19°59'37"E, 520 m a.s.l., meadow, M. Černý leg., SW.
21. Muránska planina NP, NPR Javorníková, 48°44'04"N, 20°00'56"E, 490-500 m a.s.l., vegetation along small brook in deciduous forest, M. Černý leg., SW.
22. Muránska planina NP, NPR Javorníková in lower parts, 48°43'58"N, 20°01'27"E, 450-460 m a.s.l., meadow amongst mixed forest, M. Černý leg., SW.
23. Muránska planina NP, NPR Zlatníanské skalky, 48°49'34"N, 20°04'49"E, 760 m a.s.l., vegetation along side, flower meadow, M. Černý leg., SW.
24. Muránska planina NP, Zlatno village, 1 km SW Za Havraníkom, 48°49'14"N, 20°04'24", 765-770 m a.s.l., meadow, M. Černý leg., SW.
25. Muránska planina NP, Havraní dolina, 48°48'54"N, 20°04'34"E, 790-800 m a.s.l., vegetation near small brook, M. Černý leg., SW.
26. Muránska planina NP, Havraní dolina, 48°48'19"N, 20°03'49"E, 870-880 m a.s.l., vegetation along side in mixed forest, M. Černý leg., SW.
27. Muránska planina NP, Zlatno village, 1 km SW Za Havraníkom, 48°49'10"N, 20°04'30"E, 780-790 m a.s.l., vegetation along brook, M. Černý leg., SW.
28. Muránska planina NP, Muráň village, 0.5 km S meadow, 48°43'09"N, 20°02'53"E, 420-430 m a.s.l., M. Černý leg., SW.
29. Muránska planina NP, Muránska Lehota village, Muránske rybníky, 48°43'46"N, 20°02'37"E, 375 m a.s.l., pond side vegetation, M. Černý leg., SW.
30. Muránska planina NP, Tisovec village, PR Suché Doly, 48°40'28"N, 19°52'57"E, 630-660 m a.s.l., meadow, M. Černý leg., SW.
31. Slovenský raj NP, Dobšinská ľadová jaskyňa env., 48°52'31"N, 20°18'10"E, 840-880 m a.s.l., meadow amongst mixed forest, M. Černý leg., SW.
32. Slovenský raj NP, Dobšinská ľadová jaskyňa env., 48°52'30"N, 20°18'01"E, 830-840 m a.s.l., vegetation along brook, M. Černý leg., SW.
33. Slovenský raj NP, Telgárt village, 5.5 km NE, NPR Hnilecká jelšina, 48°52'55"N, 20°15'58"E, 900-960 m a.s.l., vegetation along brook, M. Černý leg., SW.
34. Slovenský raj NP, Telgárt village, 5.5 km NE, NPR Hnilecká jelšina, 48°52'51"N, 20°15'33"E, 900-930 m a.s.l., meadow, M. Černý leg., SW.
35. Muránska planina NP, PR Fabova hoľa, 48°46'23"N, 19°52'39"E, 1230 m a.s.l., spring area in young spruce forest, J. Ševčík leg., MT.
36. Muránska planina NP, NPR Poludnica, 48°45'15"N, 20°2'10"E, 460 m a.s.l., along small brook in deciduous forest, J. Ševčík leg., SW.
37. Muránska planina NP, Paseky near Tisovec, 48°42'51"N, 19°59'48"E, 520 m a.s.l., on margin of mown meadow near beech forest, Ľ. Vidlička leg., MT.
38. Slovenský kras NP, Gemerská Hôrka village, Koniarská planina, steppe – forest, B. Mocek leg., SW.
39. Slovenský kras NP, Plešivec village, Plešivecká planina, pasture, B. Mocek leg., SW.

Taxonomy

Cerodontha (Butomomyza) gemerensis sp. n.

(Figs 1-10, 31-34)

Type locality: Slovakia, Slovenský raj NP, Dobšinská ľadová jaskyňa env., 48°52'30"N, 20°18'01"E, 830-840 m a.s.l.

Type material: Holotype: ♂ (CMCH) labelled: "SK: NP Slovenský raj, Dobšinská ľadová jaskyňa, 10.vi.2010, M. Černý leg., SW, E 20.300395, N 48.875159, vegetations along brook, 830-840 m" (printed white label); "*Cerodontha (But.) gemerensis* sp. nov., M. Černý det. 2012", Loc. No. 31. Terminalia dissected, mounted on the same pin (medium: glycerin and gum resin).

Paratypes: Same data as in holotype (1♂1♀ SMOG, 1♀ CMCH). "SK: NP Muránska planina, Muránska Huta, vegetation, 9.vi.2010, in forest aisle, M. Černý leg., SW, E 20.097942, N 48.780175, 840 m" (1♂ CMCH); "*Cerodontha (But.) gemerensis* sp. nov., det. M. Černý 2012", Loc. No. 10. Terminalia dissected, mounted on the same pin (medium: glycerin and gum resin).

Etymology: The species is named after the type locality, Gemer region (Central Slovakia).

Description Male (holotype). Head blackish brown, ocellar triangle black shining, fronto-orbital plate blackish brown, darker at eye margin. Frontal vitta ochre brown, gena brown and parafacialia black mat. Antennae blackish brown and palpi black. Antennal pits brownish black. Lunule brown. Thorax black, scutum and scutellum matt, blackish grey. Postpronotal lobe black with a small triangular ochreous-yellow spot at medial margin. Anepisternum black, along upper and hind margin only narrowly bordered with yellow, with small yellow triangular spot in posterodorsal corner; mspl seta and setulae on black area. Wing hyaline, base of wing yellow, veins ochre brown, calypteres white yellow, margin and fringe ochre brown. Knob of halteres white yellow, stem basally yellow. Legs blackish brown, with only foreknees yellow. Abdomen blackish brown, shining.

Head (Figs 1-2). Frons broad, about as wide as 2 width of eye at level of anterior ocellus, tapering toward lunule. Fronto-orbital plate about 0.22 width of frons, conspicuously protruding in front of eye in profile. Frontal vitta conspicuously wrinkled longitudinally. Two strong equal reclinate ors setae, conspicuously divergent and 3 ori setae present, upper seta reclinate. Orbital setulae reclinate, sparse in two rows, situated mainly between the upper ors and the lower ori. First flagellomere small, round, with short pubescence. Arista long as eye is high, short pubescence. Antennal bases spaced, separated by the sharp narrow carina. Gena highest in posterior part, reaching only 0.19 height of eye. Parafacialia visible as a narrow ring below eyes. Lunule U-shaped, broader below, higher than broad, lower margin reaching above line of lower ors setae. One stronger and long vi seta and 5 long ge setae present. Eye slightly higher than broad in relation 1.25 : 1.0, totally bare.

Scutum with 1+3 dc, 1st and 2nd dc setae reaching only 0.5 times length of 4st dc, 2nd dc inserted in front of sa setae line. Acrostichal setulae in 6-7 rows, gradually reduced posteriorly, only in 4-5 rows between 3rd and 4st dc, four prsc setulae longer as acr setulae. Postpronotal lobe with 1 hu seta and 10 setulae. One ia seta present, twice as long as acr setulae, 10-11 postsutural ia setulae present. One ipa seta present, only 0.4 times as long as epa setae. Scutellum broader than long, index 1.5. All usual setae present: 1 oc, 1 pvt, 1 vte, 1 vti, 1 ppl, 1+1 ntp, 1 mspl, 1 spl, 1 sa, 1 prs, 1 epa, 1 as, 1 bs.

Wing (Fig. 3) 2.62 mm long. Costa ending to vein M₁, distinctly attenuated between apices of R₄₊₅ and M₁. Costal sections 2-4 in the ratio of 3.85 : 1.23 : 1.00. Discal cell large, the last part of CuA₁ about 1.40 times as long as penultimate part. Distance between R-M and DM-Cu equal as long as DM-Cu.

Legs, mid tibiae without pd setae.

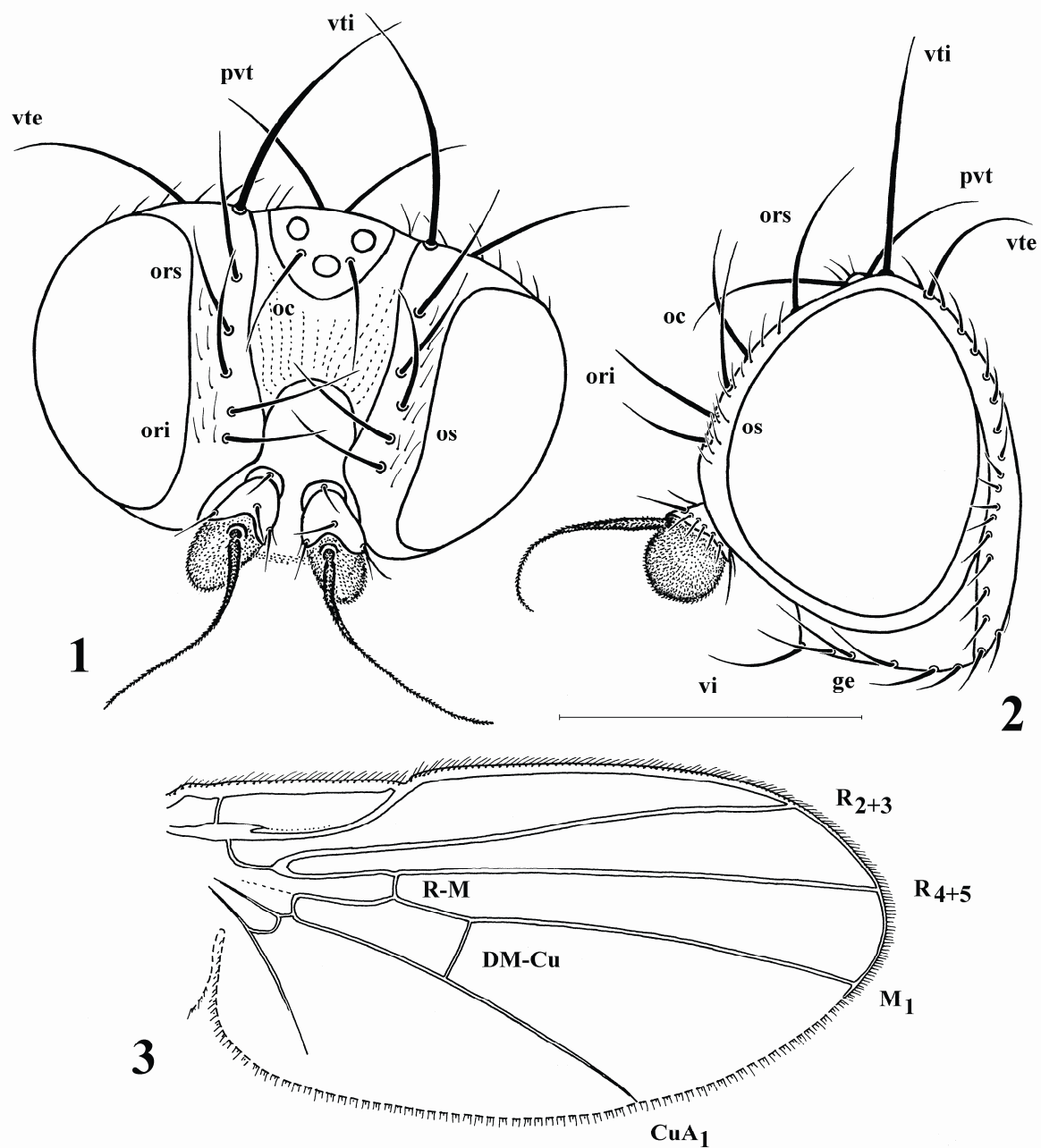
Abdomen oval, 6th tergite 1.25 times longer than 5th tergite. Male terminalia (Figs. 4-10): epandrium broader than high in relation 1.40 : 1.00. Cerci (Fig. 10) short, club-shaped, tapered ventrally, reaching 0.35 height of epandrium. Small caudal projection present (Fig. 9). Surstylus with a group of long spines along inner ventral margin (Fig. 10). Phallus (Figs. 4-5), distiphallus with characteristic S-shaped and paired tubules, distal sclerite 1.9 times longer than broad. Paraphallus very small and slightly pigmented, hypophallus long, enlarged basally. Hypandrium (Fig. 6) U-shaped. Ejaculatory apodeme (Fig. 7-8) small, V-shaped with narrow blade.

Female. Externally identical with male, 6th tergite 1.8 times longer than 5th tergite. Female terminalia (Figs. 31-34): Ovipositor sheath (Figs. 31, 32), apodeme very long, 1.8 times as long as broad. Spermathecae (Fig. 34) orbicular, strongly pigmented, with truncate proximal end, necks long with broad pigmented ring, ducts broad and weakly pigmented. Ventral receptacle as Fig. 33.

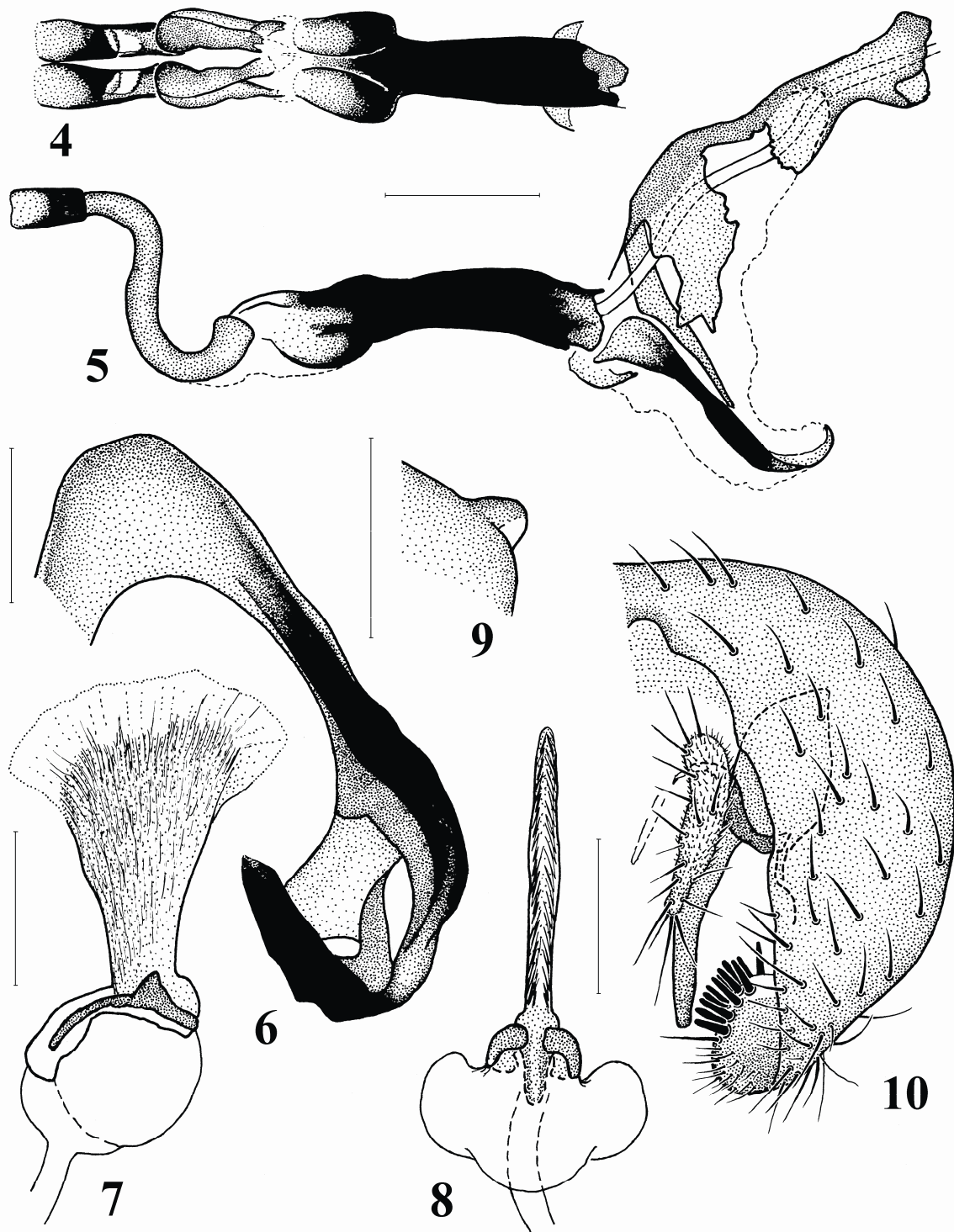
Biology unknown.

Body length 2.50-3.05 mm (holotype 2.75 mm).

Variability: Compared with the holotype, the other specimens do not differ in colour. Only the following characters are apparently variable: the width of the frons is 1.80-2.00 times broader than eye, 1st and 2nd dc setae



Figs 1–3: *Cerodontha (Butomomyza) gemerensis* sp. n., male (holotype). 1 – head frontally; 2 – the same laterally; 3 – wing. Scales: Figs 1, 2 = 0.5 mm, Fig. 3 = 1 mm. For abbreviations see text.



Figs 4–10: *Cerodontha (Butomomyza) gemerensis* sp. n., male (holotype). 4 – phallus in ventral view; 5 – dtto laterally; 6 – hypandrium; 7 – ejaculatory apodeme laterally; 8 – dtto dorsally; 9 – caudal projection laterally; 10 – epandrium, surstylus and cercus caudally; Scales = 0.1 mm.

reaching only 0.35–0.5 times length of 4st dc. The wing is 2.62–3.00 mm long, costal sections 2–4 are in the ratio of 3.85–4.39 : 1.23–1.30 : 1.00, the length of the last part of CuA₁ varies between 1.00–1.40.

Discussion: *C. (B.) gemerensis* sp. n. is very similar to *C. (B.) scirpi* (Karl, 1926) in external features. However, this new species is distinct in having the fronto-orbital plate conspicuously protruding in front of eye in profile, the width of the frons 1.80–2.00 times broader than eye and calypteres white yellow, margin and fringe ochre brown. The male terminalia are very different from those of *C. (B.) scirpi*. Distiphallus with conspicuously S-shaped and paired tubules, surstylus with a group of long spines along inner ventral margin, ejaculatory apodeme small, with narrow blade, small caudal projection present (cf. Nowakowski 1973 Fig. 154)

Biology: Unknown.

Distribution: Slovakia, hitherto known only from the localities on Muránska planina NP and Slovenský raj NP.

***Chromatomyia cepelaki* sp. n.**

(Figs. 11–19)

Type locality: Slovakia, Muránska planina NP, Havraní dolina, 48°48'19"N, 20°03'49"E, 870–880 m a.s.l.

Type specimens: Holotype: ♂ (CMCH) labelled: “SK: NP Muránska planina, Havraní dolina, mixed forest, 12.vi.2010, vegetation, M. Černý leg., SW, E 20.063653, N 48.805252, 870–880 m” (printed white label); “*Chromatomyia cepelaki* sp. nov., det. M. Černý 2012”, Loc. No. 26. Terminalia dissected, mounted on the same pin (medium: glycerin and gum resin).

Etymology: This species is named in honour of doc. RNDr. Juraj Čepelák, CSc., a distinguished Slovak dipterist.

Description: Male (holotype). Ocellar triangle black shining, occiput black, but brownish at sides ventrally. Fronto-orbital plate brownish black, mat, frontal vitta ochrous brown. Gena ochrous brown, ventrally pale, parafacialia blackish brown. Antennae and palpi blackish brown. Antennal pits black. Thorax black, weakly to moderately shining finely grey-dusted. Notopleuron brown. Anepisternum along upper and hind margin only narrowly bordered with yellow. Wing hyaline, base of wing yellow, veins ochre brown, calypteres white yellow, margin ochre and fringe brownish black. Knob and stem of halteres yellowish white. Legs brown, fore knee yellow, yellow part as broad as femur, mid and hind knees only slightly paler. Abdomen brownish black.

Head (Figs 12, 13). Frons broad, about twice as wide as eye at level of anterior ocellus. Fronto-orbital plate about 0.25 width of frons, protruding in front of eye in profile as narrow ring. Two equally long reclinate ors setae, upper setae conspicuously divergent, and 2 ori setae present. Orbital setulae fine and sparse. First flagellomere small, rounded, with long pubescence on anterior margin. Arista only 0.72 times as long as eye is high, spindle dilated basally, with long pubescence. Gena highest in posterior part, reaching 0.26 height of eye. Parafacialia as a narrow ring below eyes. Lunule higher than semicircle, upper margin reaching above line of lower ors setae. One stronger and long vi seta and 5 short ge setae present. Eye oval, higher than broad in relation 1.23 : 1.0, covered with short sparser pubescence.

Scutum with 1+3 dc, 1st, 2nd and 3rd dc setae reaching only 0.6 times length of 4st dc, 1st dc inserted in front of prs setae line and 2nd dc in sa setae line. Acrostichal setulae irregular in 4 rows anteriorly, only some setulae between 3rd and 4st dc setae. Postpronotal lobe with 1 hu seta and 5 setulae, 10–12 presutural ia and 5–6 postsutural ia setulae present. Shorter ipa seta present, only 0.3 times as long as epa seta. Scutellum broader than long, index 2. All usual setae present: 1 oc, 1 pvt, 1 vte, 1 vti, 1 ppl, 1+1 ntp, 1 mspl, 1 stpl, 1 sa, 1 prs, 1 epa, 1 as, 1 bs.

Wing (Fig. 11) 2.3 mm long, costa ending slightly beyond R₄₊₅. Wing tip located between R₄₊₅ and M₁. Costal sections 2–4 in the ratio of 3.22 : 0.89 : 1.00.

Legs, mid tibiae without pd setae.

Abdomen oval, 6th tergite 1.25 times longer than 5th tergite. Male terminalia (Figs. 14–19): epandrium as broad as high. Surstylus (Fig. 17) with two strong spines and group of thin and long setae on inner surface. Cerci small, clavate, tapering ventrally, with very long ventral seta (Fig. 17). Phallus as Figs. 18 and 19. Basiphallus very long, 2.4 times as long as aedeagal apodema, with very narrow arms. Hypandrium (Fig. 16) V-shaped, with broad arms, weakly pigmented. Ejaculatory apodeme (Fig. 14, 15) very small, weakly pigmented.

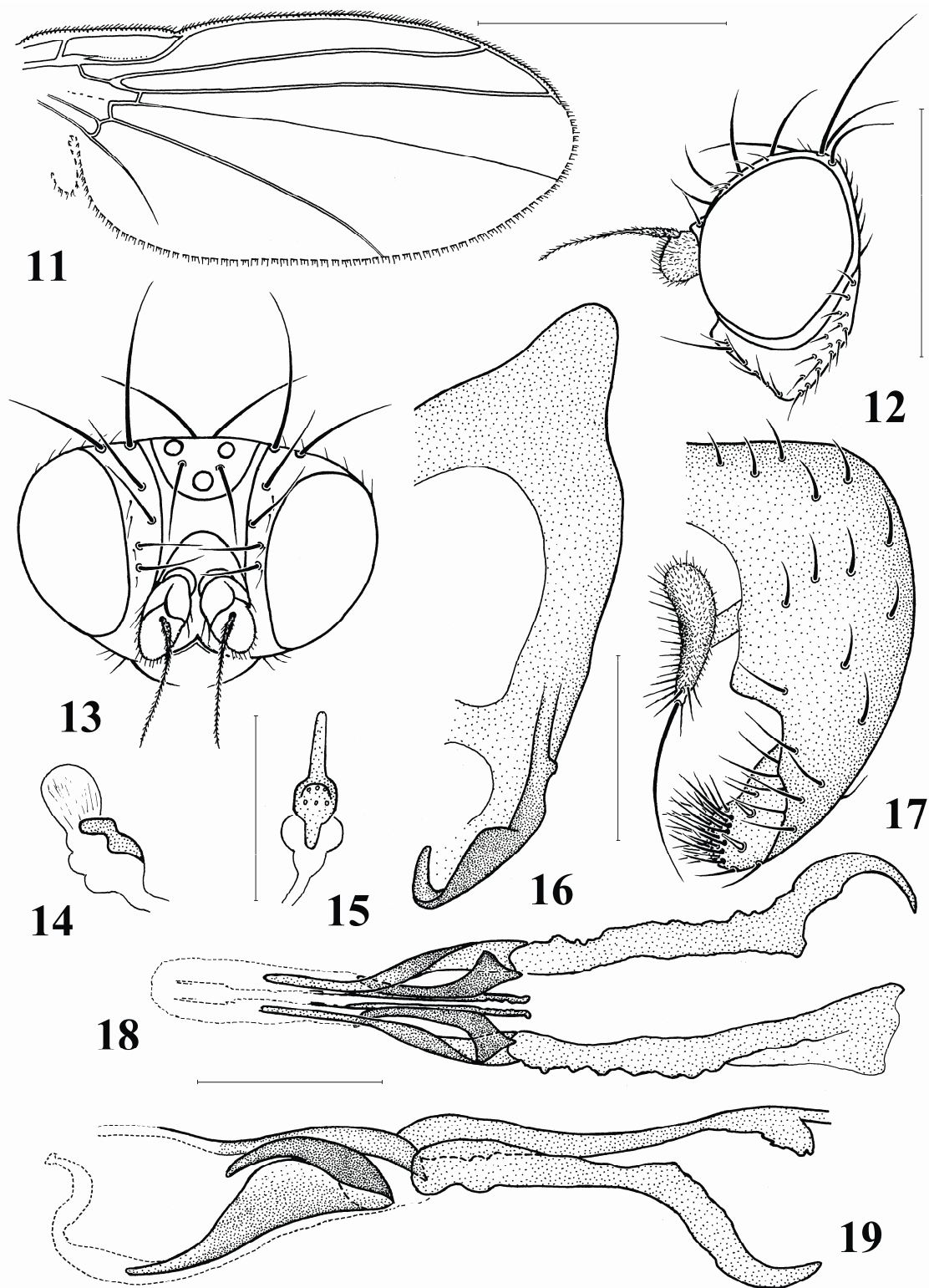
Female unknown.

Body length 2.00 mm.

Discussion: This new species closely resembles *Chromatomyia milii* (Kaltenbach, 1864) in general appearance but it differs by longer pubescence on the first flagellomere and by the shortly and sparser pubescent eye. Moreover, it differs distinctly from the latter species in the structure of the male terminalia. Although the general phallus structure of *C. cepelaki* sp. n. clearly indicates that it belongs to the *C. milii* group its form and structure are markedly different from those of all related species (see Griffiths 1980).

Biology: Unknown.

Distribution: Slovakia (Muránska planina NP), hitherto known only from the type locality.



Figs 11–19: *Chromatomyia cepelaki* sp. n., male (holotype). 11 – wing; 12 – head laterally; 13 – dtto frontally; 14 – ejaculatory apodeme laterally; 15 – dtto dorsally; 16 – hypandrium; 17 epandrium, surstylus and cercus caudally; 18 – phallus ventrally; 19 – dtto laterally. Scales: Figs 14–19 = 0.1 mm, Figs 12, 13 = 0.5 mm, Fig. 11 = 1 mm.

***Liriomyza muranica* sp. n.**
(Figs. 20-30, 35-37)

Type locality: Slovakia, Muránska planina NP, Muráň village, 1 km NE, 48°44'40"N, 20°03'20"E, 410-420 m a.s.l., meadow.

Type specimens: Holotype: ♂ (CMCH) labelled: "SK: NP Muránska planina, Muráň village, 1 km NE, 9.vi.2010, meadow, M. Černý leg., SW, E 20.055585, N 48.744672, 410-420 m" (printed white label); "*Liriomyza muranica* sp. nov., det. M. Černý 2012", Loc. No. 15. Terminalia dissected, mounted on the same pin (medium: glycerin and gum resin).

Paratypes: Same data as in holotype (1♂ CMCH); "Slovakia, NP Muránska planina, NPR Voniaca, 11.vi.2010, meadow, M. Černý leg., SW, E 20.055585, N 48.744672, 1100-1114 m" (5♂1♀ CMCH, SMO) Loc. No. 17; "SK: NP Muránska planina, Tisovec, PR Suché Doly, 13.vi.2010, meadow, M. Černý leg., SW, E 19.882593, N 48.674583, 630-660 m" (1♂ CMCH) Loc. No. 30; "SLOVAKIA centr., Kyslinky, Pri Bútlavke, 48.40N 19.24E, 20.vi.2003, M. Vála lgt." (2♂ CMVO); "SLOVAKIA centr., Detva, Horná Chrapková, 48.36N 19.26E, 24.vi.2003, M. Vála lgt." (1♂ CMVO). "*Liriomyza muranica* sp. nov., det. M. Černý 2012". Terminalia dissected, mounted on the same pin (medium: glycerin and gum resin).

Etymology: The name of *L. muranica* sp. n. indicates locality Muráň (Muránska planina NP, Central Slovakia) where the holotype was found.

Description (male, holotype). Head pale, only ocellar triangle black shining and occiput brownish black, fronto-orbital plate, frontal vitta, gena and parafacialia yellow. Hind margin of eye pale brown to base of vti, the latter seta being situated in boundary between dark and yellow areas. Antennae and palpi yellow. Antennal pits yellow to brown. Epistome yellow. Scutum black matt, only posterior corners with wedge-shaped yellow spot, epe and ia seta inserted at margin of black area. Scutellum yellow, with black spot at base laterally, basal scutellar seta inserted at margin of black area. Postpronotal lobe yellow with black stripe in centre, postpronotal seta on the fringe of black area. Notopleuron yellow, brownish black. Anepisternum yellow with a wedge-shaped blackish spot reaching anteriorly 0.6 times of the pleural height and being prolonged along posterior margin as narrow band above anepisternal seta. Anepimeron black brown, suture between anepisternum and anepimeron yellow. Katepisternum black, yellow only dorsally as a narrow line. Meron black, katepimeron yellow. No yellow band between katepisternum and meron. Ventral pleural black band without interruption. Wing hyaline, base of wing yellow, veins ochre brown, calypteres white yellow, margin ochre and fringe ochre yellow. Knob and stem of halteres yellow. Legs. Fore coxa yellow with basal 0.3-0.5 black, mid and hind coxae black. Femora largely yellow with blackish brown longitudinal stripes, tibiae and tarsi darker, brown. Abdomen largely brown, 4th and 5th tergite with narrow yellow medial longitudinal stripe, 6th tergite yellowish with small dark spot in the middle of posterior margin.

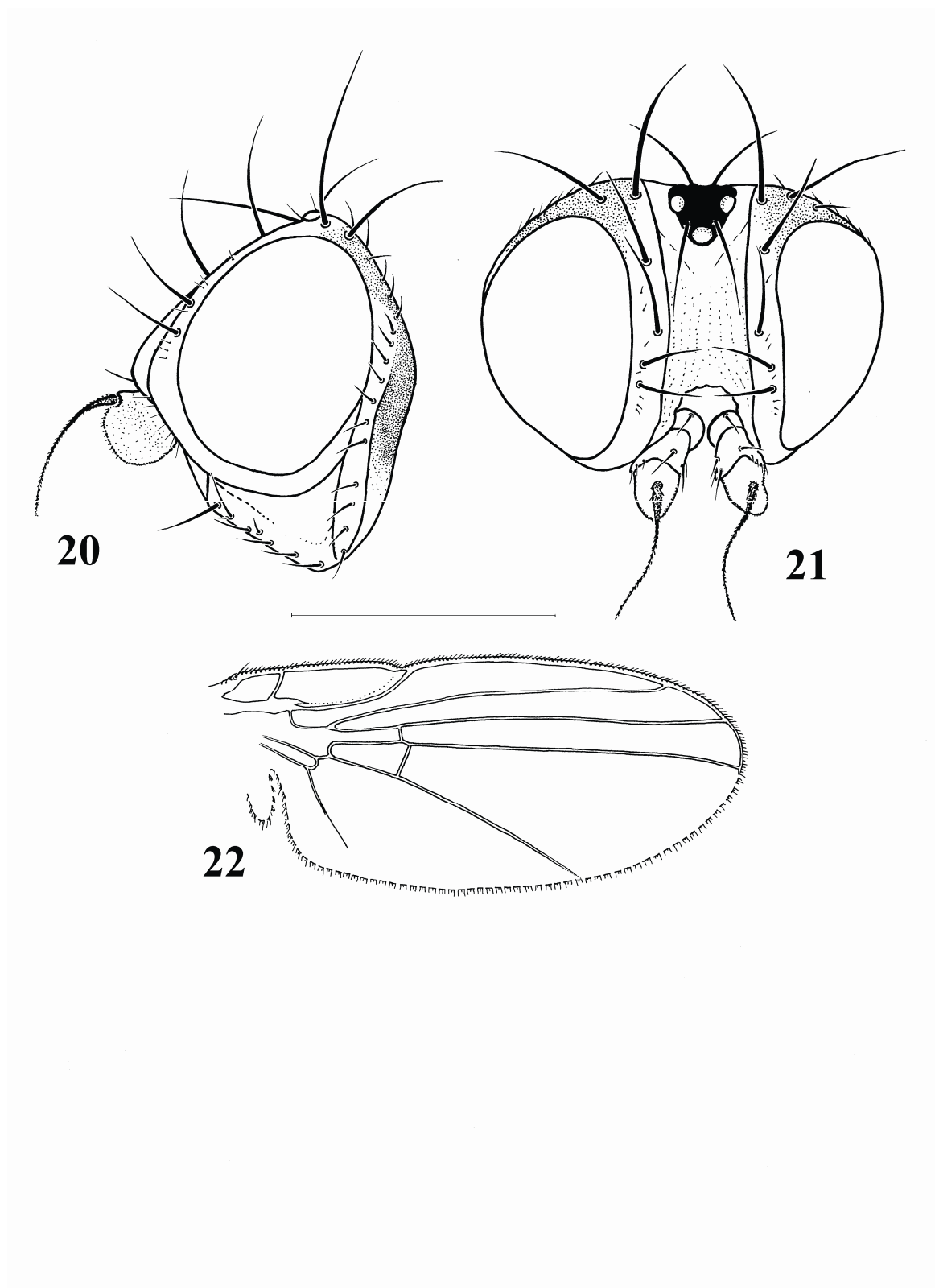
Head (Figs 20, 21). Frons broad, about as wide as 1.8 width of eye at level of anterior ocellus, tapering toward lunule. Fronto-orbital plate about 0.25 width of frons, protruding in front of eye in profile. Two long reclinate ors setae and 2 ori setae. Orbital setulae very short, fine and sporadic. First flagellomere slightly higher than longer, shortly pubescence. Arista only 0.65 times as long as eye is high, spindle dilated basally, short pubescence. Palpi normal, narrow. Gena highest in posterior part, reaching 0.5 height of eye. Parafacialia visible as a broad ring below eyes. Lunule higher than broad, upper margin reaching above line of lower ori setae. One stronger and long vi seta and 5-6 short ge setae present. Subtriangular epistome present. Eye slightly higher than broad in relation 1.2 : 1.0, totally bare.

Scutum with 1+3 dc strong and long setae, in front of presutural dc seta 5 additional setulae and between 3rd and 4th dc other shorter additional seta. 1st and 2nd dc setae reaching only 0.5 times length of 4th dc. Acrostichal setulae in 4 rows, gradually reduced posteriorly. One ia seta present, twice as long as acr setulae, 6-8 postsutural ia setulae present, ipa seta lacking. Scutellum broader than long, index 1.8. All usual setae present: 1 oc, 1 pvt, 1 vte, 1 vti, 1 ppl, 1 hu, 1+1 ntp, 1 mspl, 1 spl, 1 sa, 1 prs, 1 epa, 1 as, 1 bs.

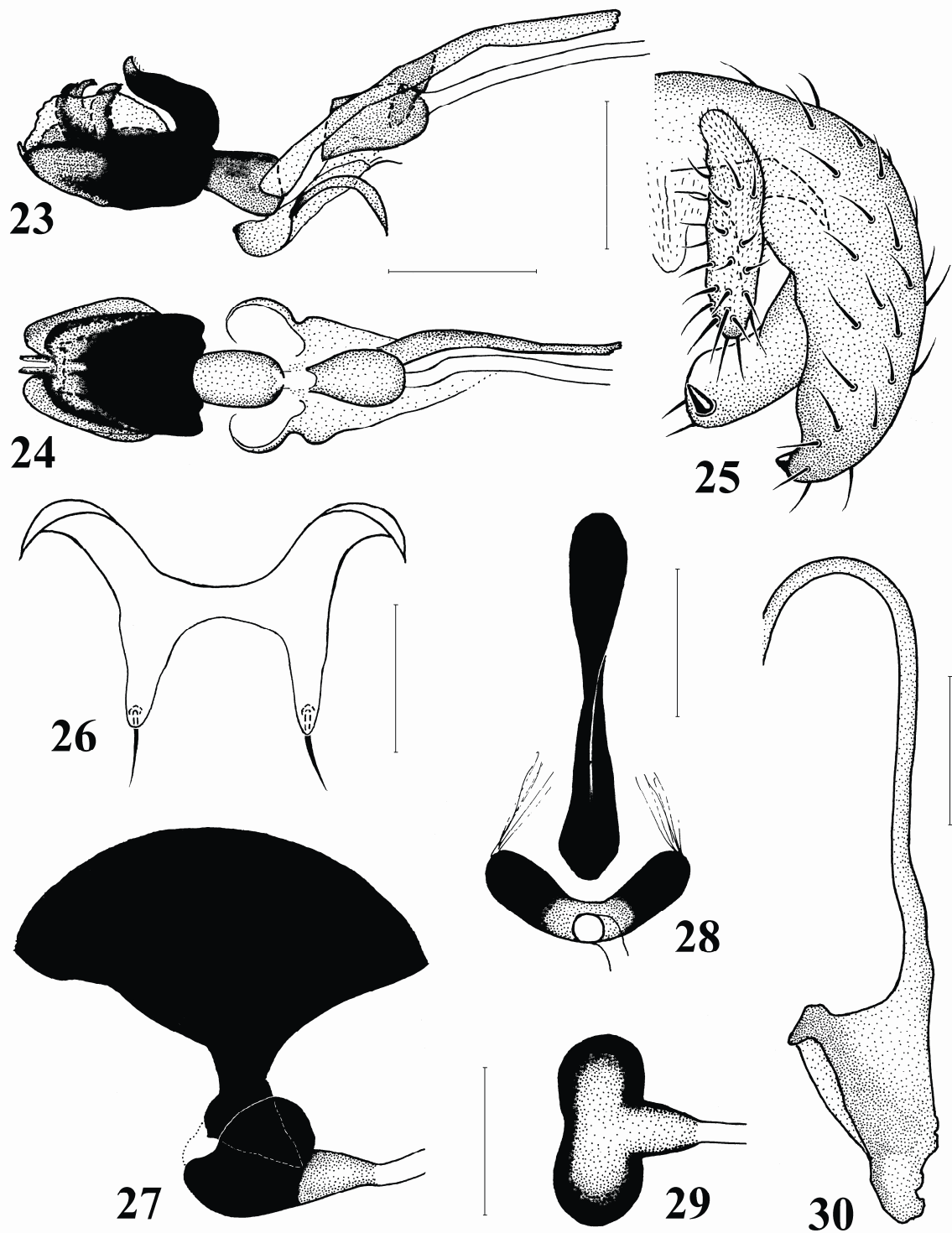
Wing (Fig. 22) 2.25 mm long. Costa reaching end of vein M₁. Costal sections 2-4 in the ratio of 4.50 : 1.16 : 1.00. Both cross-veins very closely situated. Posterior cross-vein very close to anterior, discal cell thus small. The last part of CuA₁ 3.23 times longer than penultimate part.

Legs, mid tibiae without pd setae.

Abdomen oval, 6th tergite 1.3 times longer than 5th tergite. Male terminalia (Figs. 23-30): epandrium as high as broad. Surstylus with long spine and two short setae (Fig. 25). Cerci moderately long, about as long as 0.55 height of epandrium, covered with slender setulae. Phallus (Figs. 23, 24), distiphallus complex symmetrical, with characteristic structures. Mesophallus short. Hypophallus forming weakly chitinized plate. Basiphallus long and narrow. Bacilliform sclerites (Fig. 26) H-shaped, posterior processes long and narrow, with



Figs 20–22: *Liriomyza muranica* sp. n., male (holotype). 22 – wing; 20 – head laterally; 21 – dtto frontally. Scales: Figs 20, 21 = 0.5 mm, Fig. 22 = 1 mm.



Figs 23–30: *Liriomyza muranica* sp. n., male (holotype). 23 – phallus laterally; 24 – dtto ventrally; 25 – epandrium, surstylus and cercus caudally; 26 – bacilliform sclerites frontally; 27 – ejaculatory apodeme laterally; 28 – dtto dorsally; 29 – basal sclerite of ejaculatory apodeme caudally; 30 – hypandrium. Scales = 0.1 mm.

long setae. Hypandrium (Fig. 30) narrowly U-shaped, with narrow arms, broad basally. Ejaculatory apodeme (Fig. 27-29) Y-shaped, strongly pigmented, with very broad blade and narrow stalk, basal sclerite as Fig. 29.

Female. Externally identical with male, 6th tergite 1.2 times longer than 5th tergite. Female terminalia (Figs. 35-38): Ovipositor sheath (Figs. 35, 36), apodeme 1.35 times as long as broad. Spermathecae (Fig. 38) very large, capsules spherical, strongly pigmented, with rugose narrow ring proximally, necks very narrow and weakly pigmented, ducts broad and weakly pigmented. Ventral receptacle as Fig. 37.

Body length 1.8–2.35 mm (holotype 2.35 mm).

Variability: Compared with the holotype, the other specimens do not differ in the colour. Only the following characters are apparently variable: the width of the frons is 1.80–1.95 times broader than eye, the wing is 1.70–2.25 mm long, costal sections 2–4 are in the ratio of 4.39–4.55 : 1.16–1.25 : 1.00, the length of the last part of CuA₁ varies between 3.25–3.60. Both cross-veins very closely situated or in almost the same line.

Discussion: This species is very similar to *L. latipalpis* Hendel, 1920 on external characters, differing from the latter only by both vt setae on brown ground, palpi narrow, yellow band between katepisternum and meron absent, fore coxa yellow with basal 0.3–0.5 black, posterior cross-vein very close to anterior, the last part of CuA₁ 3.23 times longer than penultimate part. The form of male terminalia *L. muranica* sp. n. closely resembles that in *L. latipalpis* and *L. wachtlii* Hendel, 1920 (see Spencer 1976 – Figs 451, 450, 500, 501).

Biology: Unknown.

Distribution. Slovakia (Muránska planina NP), hitherto known only from the type locality, NPR Voniaca and PR Suché Doly, and Poľana BR (Detva - Horná Chrapková and Kyslinky, Pri Bútlavke).

A list of species

AGROMYZINAE

Agromyza albipennis Meigen, 1830

Literature: Muráň (Vála 1986).

Remarks: A common Holarctic species with larvae mining in leaves of Poaceae.

Agromyza cinerascens Macquart, 1835

Material: Plešivecká planina [39], 1♂, 9.v.1990.

Remarks: A common Palaearctic species. Adults occur in spring, larvae mine in Poaceae.

Agromyza frontella (Rondani, 1875)

Material: Vel'ká lúka [12], 1♂, 9.vi.2010; Vel'ká lúka – Piesky [13], 1♂, 9.vi.2010; Paseky near Tisovec [37], 1♂, 4.vii.2001; Koniarská planina [38], 1♀, 10.v.1990 (MEBC).

Remarks: A Holarctic species of economic importance as a result of mining in lucerne (*Medicago sativa*).

Agromyza megalopsis Hering, 1933

Material: NPR Javorníková [21], 1♂, 11.vi.2010.

Remarks: An economically significant Palaearctic species damaging barley (*Hordeum* spp.), particularly in South Europe.

Agromyza mobilis Meigen, 1830

Material: Muráň village [2], 1♀, 7.vi.2010; Hrdzavá dolina [5], 1♂, 8.vi.2010; Muráň village [16], 4♂, 9.vi.2010; NPR Javorníková [21], 3♂, 11.vi.2010; Dobšinská ľadová jaskyňa env. [31], 1♂, 10.vi.2010; NPR Hnilecká jelšina [34], 1♂, 10.vi.2010; Plešivecká planina [39], 1♂, 12.vi.1989 (MEBC).

Remarks: A common Palaearctic species, mining in Poaceae including wheat (*Triticum* spp.).

Agromyza nigripes Meigen, 1830

Material: Dobšinská ľadová jaskyňa env. [32], 2♂, 10.vi.2010; NPR Hnilecká jelšina [33], 2♂, 10.vi.2010.

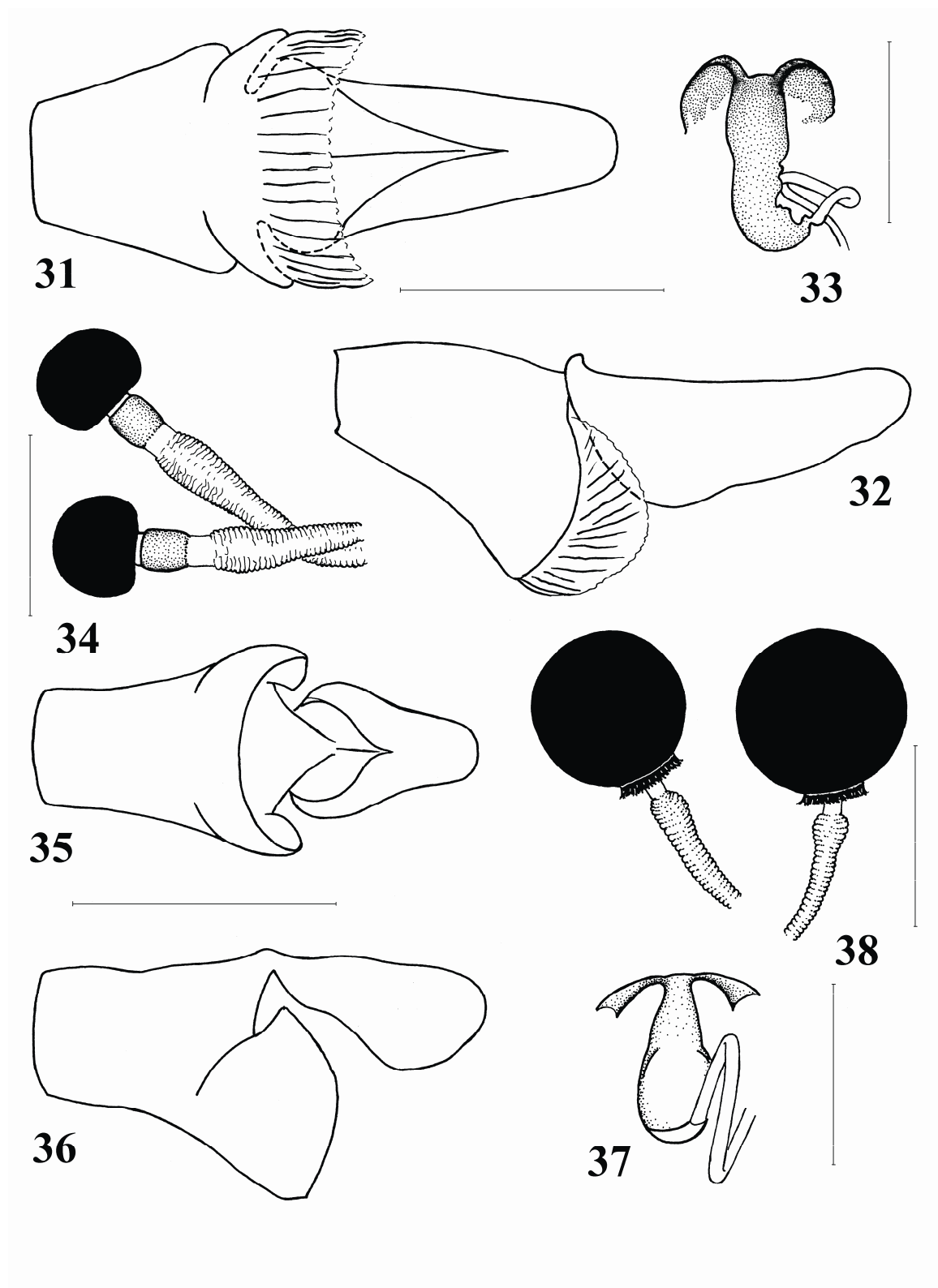
Remarks: A common and widespread Palaearctic species mining in some species of Poaceae.

Agromyza pseudoreptans Nowakowski, 1967

Literature: Muráň (Vála 1986).

Material: Muráň village [2], 1♀, 27.vi.2010; NPR Cigánka [4], 1♂, 7.vi.2010; Hrdzavá dolina [6], 1♂, 8.vi.2010; NPR Šarkanica [19], 5♂4♀, 11.vi.2010; Zlatno village [27], 1♂, 12.vi.2010.

Remarks: A Holarctic species, very common in Central Europe. The larva forming an irregular elongate linear blotch mine, normally adjoining margin of leaf on *Urtica dioica* and *Parietaria* spp.



Figs 31–38: *Cerodontha (Butomomyza) gemerensis* sp. n., female (paratype). 31 – ovipositor ventrally; 32 – dtto laterally; 33 – ventral receptacle; 34 – spermathecae. *Liriomyza muranica* sp. n., female (paratype). 35 – ovipositor ventrally; 36 – dtto laterally; 37 – ventral receptacle; 38 – spermathecae. Scales = 0.1 mm.

***Agromyza viciae* Kaltenbach, 1872**

Material: NPR Cigánka [4], 1♂, 7.vi.2010; Muránska Huta village [14], 1♂, 9.vi.2010; Zlatno village [27], 1♂, 12.vi.2010.

Remarks: A European species, not yet recorded in Eastern Europe. Larva forms a blotch mine on leaves of *Vicia* species.

***Hexomyza cecidogena* (Hering, 1927)**

Material: Havraní dolina [25], 1♂, 12.vi.2010.

Remarks: A rare species occurring in Central, West and Southern Europe. Its larva forms an oval twig gall up to 1 cm long on *Salix* spp., confirmed from *S. aurita* and *S. repens*.

****Hexomyza simplicoides* (Hendel, 1920)**

Material: Muránska Lehota village [29], 1♂, 12.vi.2010.

Remarks: A Holarctic species known from Europe, China, Japan, Kyrgyzstan and United States. Its larva forms an oval twig gall on *Salix* spp., confirmed from *S. atrocinerea*, *S. aurita*, *S. caprea*, *S. pedicillata* and *S. niedzweckii*, records on *Populus* are doubtful. This is the first record from Slovakia.

***Melanagromyza aenea* (Meigen, 1830)**

Material: Muráň village [16], 1♂, 9.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010.

Remarks: A European species with larvae mining in stems of *Urtica dioica*.

***Melanagromyza astragali* Spencer, 1976**

Material: Muránska Huta village [8], 1♂, 9.vi.2010.

Remarks: This species was described from Sweden based on specimens reared from stems of *Astragalus glycyphyllus* and later on it was recorded from several other countries of Europe.

***Melanagromyza eupatorii* Spencer, 1957**

Material: NPR Cigánka [4], 2♀, 7.vi.2010; Hrdzavá dolina [5], 2♂3♀, 8.vi.2010.

Remarks: A European species, the larva is internal stem-borer. Host plants are *Eupatorium cannabinum*, *Senecio erucifolius*, *S. jacobaea*, *Inula conyza* and *Chrysanthemum leucanthemum*.

***Melanagromyza cunctans* (Meigen, 1830)**

Material: NPR Javorníková [21], 1♂, 11.vi.2010; Muráň village [28], 3♂, 12.vi.2010.

Remarks: A widespread species known from the Palaearctic, Afrotropical and Oriental Regions. The larva forming a slender cylindrical gall in the upper part of the stem on *Lotus corniculatus*.

***Melanagromyza pubescens* Hendel, 1923**

Material: Muránska Huta village [14], 1♂, 9.vi.2010; Paseky near Tisovec [20], 1♀, 11.vi.2010; NPR Javorníková [21], 2♂, 11.vi.2010.

Remarks: A species widespread in the Palaearctic and Afrotropical Regions with larvae mining in stems of *Artemisia* species.

***Melanagromyza sativae* Spencer, 1957**

Material: Muránska Huta village [9], 2♂, 9.vi.2010; Muránska Huta village [14], 1♀, 9.vi.2010; Zlatno village [27], 2♀, 12.vi.2010; Dobšinská ľadová jaskyňa env. [31], 1♂, 10.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010.

Remarks: A Palaearctic species, in Europe not yet recorded in North Europe. The larva is an internal stem-borer on *Angelica silvestris*, *Pastinaca sativa*, however, also feeds on *Diactamus albus*, *Torilis japonica* and *Pimpinella major* and it may well also occur on other genera of the Umbelliferae.

***Ophiomyia campanularum* Starý, 1930**

Material: NPR Cigánka [3], 1♀, 7.vi.2010.

Remarks: A European species recorded in Central Europe and Sweden. The larva forming external stem mine, with spaced grains on *Campanula rotundifolia*.

***Ophiomyia cunctata* (Hendel, 1920)**

Material: Hrdzavá dolina [5], 2♂, 8.vi.2010; Hrdzavá dolina [6], 1♀, 8.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010.

Remarks: A West Palaearctic species. The larva forming a whitish mine along the midrib, with lateral offshoots into the leaf blade on *Crepis*, *Hypochoeris*, *Lactuca*, *Lapsana*, *Mycelis*, *Picris*, *Prenanthes*, *Sonchus*, *Taraxacum*.

***Ophiomyia curvipalpis* (Zetterstedt, 1848)**

Material: Muránska Lehota village [29], 1♀, 12.vi.2010.

Remarks: A Palaearctic species. Its larva forms a narrow, inconspicuous stem mine on Compositae, including *Achillea millefolium* and *A. ptarmica*, *Anthemis tinctoria*, *Artemisia vulgaris*, *Matricaria inodora* possibly also *Medicago sativa* and species of *Aster*, *Centaurea*, *Crepis* and *Tanacetum*.

***Ophiomyia galii* Hering, 1937**

Material: Paseky near Tisovec [37], 1♂, 6.vii.2001.

Remarks: A Palaearctic species, the larvae are leaf miners in *Asperula* and *Galium* species. Classified as data deficient (DD) in the Red list of Slovak Diptera (Jedlička & Stloukalová 2001).

***Ophiomyia heracleivora* Spencer, 1957**

Material: Hrdzavá dolina [5], 2♂, 8.vi.2010; Muránska Huta village [8], 2♂, 9.vi.2010; Muráň village [15], 1♂, 9.vi.2010; NPR Hnilecká jelšina [33], 2♂, 10.vi.2010.

Remarks: A European species with larvae mining in species of *Angelica*, *Daucus*, *Heracleum*, *Peucedanum*, *Pimpinella*, *Selium* and *Seseli*.

***Ophiomyia heringi* Starý, 1930**

Material: Hrdzavá dolina [5], 1♂, 8.vi.2010; Pod skalou [11], 1♂, 9.vi.2010; NPR Zlatníanské skalky [23], 1♂, 12.vi.2010.

Remarks: A European species, the larva forming a external stem mine with frass in two rows of disconnected strips on *Campanula persicifolia*, *Crepis* sp., *Hypochoeris radicata*, *Juisone* sp., *Lapsana communis*, *Leontodon* sp., *Mycelis* sp., *Phyteuma* sp., *Prenanthes* sp., *Reichardia* sp., *Tragopogon* sp.

***Ophiomyia melandricaulis* Hering, 1943**

Material: Paseky near Tisovec [20], 1♂, 11.vi.2010; Paseky near Tisovec [37], 1♂, 6.vii.2001.

Remarks: A European species, the larva forming a shallow external stem mine on *Cerastium glomeratus*, *C. holosteoides*, *Lichnis flos-cuculi*, *Malachium aquaticum*, *Melandrium diurnum*, *M. album*, *Moehringia trinervia*, *Stellaria media*, *S. nemorum*.

***Ophiomyia melandryi* de Meijere, 1924**

Material: Havraní dolina [26], 1♂, 12.vi.2010.

Remarks: A Palaearctic species, the larva forming a shallow mine inside the hollow stem on *Melandrium* spp. and *Lychnis* spp.

***Ophiomyia nasuta* (Melander, 1913)**

Material: NPR Nižná Kl'aková [7], 2♀ 8.vi.2010; Muránska Huta village [9], 2♂, 9.vi.2010; Pod skalou [11], 1♂, 9.vi.2010; Veľká lúka [12], 2♂, 9.vi.2010; Veľká lúka – Piesky [13], 2♂, 9.vi.2010; Zlatno village [24], 2♂3♀, 12.vi.2010; Havraní dolina [26], 1♂, 12.vi.2010; Zlatno village [27], 1♂1♀, 12.vi.2010; Dobšinská ľadová jaskyňa env. [31], 1♂, 10.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010; Plešivecká planina [39], 1♂, 9.v.1990 (MEBC).

Remarks: A Holarctic species known from temperate and North Europe, North America and Japan. Its larvae mine in plants of the genus *Taraxacum*.

***Ophiomyia orbiculata* (Hendel, 1931)**

Material: Muránska Huta village [8], 2♂2♀, 9.vi.2010; Muránska Huta village [9], 1♀, 9.vi.2010; Muránska Huta village [10], 1♂, 9.vi.2010; Muránska Huta village [14], 1♂, 9.vi.2010; Muráň village [15], 2♂, 9.vi.2010; Muráň village [16], 2♂, 9.vi.2010; NPR Javorníková [21], 1♀, 11.vi.2010; NPR Javorníková [22], 2♂1♀, 11.vi.2010; Havraní dolina [26], 1♀, 12.vi.2010; Muránska Lehota village [29], 1♂1♀, 12.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010; Paseky near Tisovec [37], 1♂, 19.vi.2001, 1♀, 10.viii.2001.

Remarks: A species known from temperate and North Europe but also recorded from the former Yugoslavia and Turkey. Larva is a stem miner in *Lathyrus latifolius*, *Pisum sativum*, and probably also in *Vicia* species.

***Ophiomyia orientalis* Černý, 1994**

Material: Hrdzavá dolina [5], 1♂, 8.vi.2010.

Remarks: The species, first described from Slovakia, is known only from the type locality (Humenné distr., Kolbasov – Černý 1994). Classified as data deficient (DD) in the Red list of Slovak Diptera (Jedlička & Stloukalová 2001). Biology unknown.

***Ophiomyia pinguis* (Fallén, 1820)**

Material: Muránska Lehota village [29], 4♂1♀, 12.vi.2010.

Remarks: A widespread Palaearctic species, its host plants are *Cichorium intybus*, *C. endivia*, *Lactuca sativa* and *Leontodon* spp. and *Taraxacum officinale*.

***Ophiomyia ranunculicaulis* Hering, 1949**

Material: NPR Nižná Kl'aková [7], 1♂, 8.vi.2010; Zlatno village [27], 1♀, 12.vi.2010; NPR Hnilecká jelšina [34], 2♂, 10.vi.2010.

Remarks: A European species, its larva forms a stem mine on *Ranunculus acris*, more rarely *R. lanuginosus* and *R. polyanthemus*.

****Ophiomyia spenceri* Černý, 1985**

Material: Muránska Huta village [9], 1♂, 9.vi.2010; Muránska Lehota village [29], 1♀, 12.vi.2010.

Remarks: The species was first described from Czech Republic and is also known from Lithuania. This is the first record from Slovakia.

****Ophiomyia stenophaga* Pakalniškis, 1998**

Material: Muránska Huta village [9], 1♂, 9.vi.2010.

Remarks: Species known only from Lithuania, this is the first record from Slovakia.

***Ophiomyia vimmeri* Černý, 1994**

Material: Muráň village [1], 2♂, 27.vi.2010; Hrdzavá dolina [5], 2♀, 8.vi.2010; NPR Zlatnianské skalky [23], 1♀, 12.vi.2010; Zlatno village [24], 1♂, 12.vi.2010; Zlatno village [27], 1♂, 12.vi.2010; Muráň village [28], 1♀, 12.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010.

Remarks: A West Palaearctic species, originally described from the Czech Republic. Biology unknown. Classified as data deficient (DD) in the Red list of Slovak Diptera (Jedlička & Stloukalová 2001).

PHYTOMYZINAE

***Amauromyza (Cephalomyza) gyrans* (Fallén, 1823)**

Material: Muráň village [1], 2♂, 27.vi.2010; Hrdzavá dolina [5], 2♂, 8.vi.2010; NPR Voniaca [17], 1♂, 11.vi.2010.

Remarks: A less common species but known from many countries of Europe and from Japan. The larvae forming a shallow whitish linear blotch mine in species of the family Campanulaceae.

***Amauromyza (Cephalomyza) monfalconensis* (Strobl, 1909)**

Material: NPR Nižná Kl'aková [7], 1♂, 8.vi.2010; Muránska Huta village [8], 1♀, 9.vi.2010; Pod skalou [11], 1♂, 9.vi.2010; Vel'ká lúka [12], 4♀, 9.vi.2010; Vel'ká lúka – Piesky [13], 2♂1♀, 9.vi.2010; Zlatno village [24], 1♂, 12.vi.2010; Dobšinská ľadová jaskyňa env. [31], 2♂, 10.vi.2010.

Remarks: A species known from temperate and North Europe and also recorded from Uzbekistan. It is uncommon in Central Europe. Stem-borer on *Rumex* sp.

***Aulagromyza trivittata* (Loew, 1873)**

Material: NPR Cigánka [4], 2♀, 7.vi.2010; Vel'ká lúka – Piesky [13], 1♀, 9.vi.2010; Zlatno village [27], 1♀, 12.vi.2010; Dobšinská ľadová jaskyňa env. [31], 1♂, 10.vi.2010; Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010; NPR Hnilecká jelšina [33], 1♀, 10.vi.2010; Plešivecká planina [39], 1♀, 9.v.1990 (MEBC).

Remarks: A West Palaearctic species. Larva is a leaf miner on various *Salix* species.

***Calycomyza artemisiae* (Kaltenbach, 1856)**

Material: Muránska Lehota village [29], 1♀, 12.vi.2010.

Remarks: A Holarctic species, distributed throughout Europe, also in the Oriental Region and Australia. The larva forming a whitish blotch mine on *Artemisia vulgaris*, occasionally *Eupatorium cannabinum*.

***Cerodontha (Butomomyza) angulata* (Loew, 1869)**

Material: Muráň village [16], 1♂, 9.vi.2010.

Remarks: A widespread (subcosmopolitan) but only locally common species, with many records from Europe. The larva forming a long greenish mine on *Carex* spp. rarely *Scirpus silvaticus*.

***Cerodontha (Cerodontha) affinis* (Fallén, 1823)**

Material: NPR Voniaca [17], 2♂2♀, 11.vi.2010; Zlatno village [24], 3♂2♀, 12.vi.2010; NPR Suché Doly [30], 2♂, 13.vi.2010; PR Fabova hoľa [35], 1♀, 16.vi.-25.viii.2009; Plešivecká planina [39], 2♂5♀, 12.vi.1989 (MEBC).

Remarks: A less common species of temperate and North Europe. Host plant and early stages unknown.

Cerodontha (Cerodontha) denticornis (Panzer, 1806)

Material: NPR Nižná Kl'aková [7], 2♂, 8.vi.2010; Muráň village [15], 1♂, 9.vi.2010; Muránska Lehota village [29], 2♂, 12.vi.2010; NPR Suché Doly [30], 7♂, 13.vi.2010; Paseky near Tisovec [37], 1♀, 19.vi.2001, 2♂, 22.vi.2001, 1♂1♀, 4.vii.2001, 2♀, 6.vii.2001, 1♀, 10.-14.vii.2001, 1♀, 14.ix.2001; Koniarská planina [38], 1♂, 10.v.1990 (MEBC).

Remarks: A very common and widespread species known from the Palaearctic, Afrotropical and Oriental Regions. Its larvae develop in leaf sheaths of various species of Poaceae.

Cerodontha (Cerodontha) fulvipes (Meigen, 1830)

Material: NPR Javorníková [21], 1♀, 11.vi.2010.

Remarks: A widespread Palaearctic species, common in Central Europe, with larvae mining in Poaceae.

Cerodontha (Dizygomyza) bimaculata (Meigen, 1830)

Material: NPR Nižná Kl'aková [7], 1♂, 8.vi.2010; NPR Javorníková [21], 1♂, 11.vi.2010; Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010; Paseky near Tisovec [37], 2♂, 6.vii.2001.

Remarks: A Palaearctic species, common in Europe. Larvae mine in leaves of *Luzula pilosa* and other *Luzula* species.

Cerodontha (Dizygomyza) fasciata (Strobl, 1880)

Material: Koniarská planina [38], 1♂, 10.v.1990 (MEBC).

Remarks: A rather common Holarctic species with biology unknown.

Cerodontha (Dizygomyza) luctuosa (Meigen, 1830)

Material: Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010.

Remarks: A Holarctic species, frequently recorded from Europe. Its larvae develop in *Juncus effusus*.

****Cerodontha (Dizygomyza) luzulae (Groschke, 1957)***

Material: PR Fabova hoľa [35], 1♂, 16.vi.-25.viii.2009.

Remarks: This European species was recorded from some Central European countries (the Czech Republic, Germany, Hungary, Poland and Switzerland) and the British Isles, Greece and Yugoslavia. The larva feeds on *Luzula sylvatica*. This is the first record from Slovakia.

Cerodontha (Dizygomyza) morosa (Meigen, 1830)

Material: Havraní dolina [26], 1♂, 12.vi.2010; Dobšinská ľadová jaskyňa env. [31], 1♂, 10.vi.2010; Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010; NPR Hnilecká jelšina [33], 2♂, 10.vi.2010.

Remarks: A common species widespread in the Palaearctic and Oriental Regions and mining in *Carex* species.

Cerodontha (Dizygomyza) suturalis (Hendel, 1931)

Material: Muráň village [16], 1♂, 9.vi.2010; Zlatno village [24], 1♂, 12.vi.2010; Muránska Lehota village [29], 2♂, 12.vi.2010; Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010; Paseky near Tisovec [37], 1♂, 19.vi.2001.

Remarks: A rather common Palaearctic species known from many countries of Europe and mining in *Carex* species.

Cerodontha (Icteromyza) capitata (Zetterstedt, 1848)

Material: Muránska Lehota village [29], 1♂, 12.vi.2010.

Remarks: A rather common Holarctic species. Its larvae develop in roots of *Juncus effusus*.

Cerodontha (Icteromyza) geniculata (Fallen, 1823)

Material: Havraní dolina [26], 1♂, 12.vi.2010.

Remarks: A species known from the Palaearctic, Afrotropical and Oriental Regions, locally common in Central Europe. The larva forming a linear leaf mine on *Eriophorum latifolium*, frequently several feeding together.

Cerodontha (Phytagromyza) flavocingulata (Strobl, 1909)

Material: Koniarská planina [38], 1♂, 10.v.1990 (MEBC).

Remarks: A Holarctic species, common in Central Europe. Larva is leaf miner on various species of Poaceae.

Cerodontha (Poemyza) atra (Meigen, 1830)

Material: NPR Cigánka [3], 12♂1♀, 7.vi.2010; Hrdzavá dolina [5], 2♂, 8.vi.2010; Hrdzavá dolina [6], 1♀, 8.vi.2010; NPR Nižná Kl'aková [7], 4♂4♀, 8.vi.2010; Muránska Huta village [8], 7♂, 9.vi.2010; Pod skalou [11], 3♂, 9.vi.2010; Veľká lúka – Piesky [13], 7♂, 9.vi.2010; Muránska Huta village [14], 3♂, 9.vi.2010; Muráň village [16], 9♂1♀, 9.vi.2010; NPR Voniaca [17], 4♂2♀, 11.vi.2010; Paseky near Tisovec [20], 3♂, 11.vi.2010;

NPR Javorníková [21], 6♂3♀, 11.vi.2010; Zlatno village [24], 5♂2♀, 12.vi.2010; Havraní dolina [26], 1♂1♀, 12.vi.2010; Zlatno village [27], 1♀, 12.vi.2010; Muráň village [28], 10♂, 12.vi.2010; Muránska Lehota village [29], 1♂2♀, 12.vi.2010; NPR Suché Doly [30], 5♂2♀, 13.vi.2010; Dobšinská ľadová jaskyňa env. [31], 8♂, 10.vi.2010; NPR Hnilecká jelšina [33], 4♂, 10.vi.2010; NPR Hnilecká jelšina [34], 4♂, 10.vi.2010; Paseky near Tisovec [37], 2♂, 22.vi.2001, 1♂, 4.vii.2001, 1♂, 6.vii.2001, 5♂, 10.-14.vii.2001, 1♀, 10.viii.2001; Koniarská planina [38], 1♂, 10.v.1990 (MEBC); Plešivecká planina [39], 1♂, 12.vi.1989 (MEBC).

Remarks: A very common Palaearctic species with larvae developing in some grass species (Poaceae).

Cerodontha (Poemyza) imbuta (Meigen, 1838)

Material: Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010; NPR Hnilecká jelšina [34], 1♂, 10.vi.2010.

Remarks: A European species, not rare in Central Europe. Larvae mine in grasses, recorded from *Deschampsia caespitosa*, *Calamagrostis canescens*.

Cerodontha (Poemyza) incisa (Meigen, 1830)

Material: Plešivecká planina [39], 1♂, 9.v.1990 (MEBC).

Remarks: A common Holarctic species, with larvae mining in leaves of various grasses (Poaceae).

Cerodontha (Poemyza) lateralis (Macquart, 1835)

Material: Veľká lúka [12], 1♀, 9.vi.2010; Muráň village [15], 1♂, 9.vi.2010; NPR Javorníková [21], 1♂, 11.vi.2010; NPR Javorníková [22], 1♀, 11.vi.2010; NPR Zlatnianské skalky [23], 3♀, 12.vi.2010; Zlatno village [24], 2♂2♀, 12.vi.2010; Muráň village [28], 1♂, 12.vi.2010; Muránska Lehota village [29], 4♂2♀, 12.vi.2010; NPR Suché Doly [30], 2♂, 13.vi.2010; NPR Hnilecká jelšina [33], 1♂1♀, 10.vi.2010; Paseky near Tisovec [37], 2♂, 6.vii.2001, Koniarská planina [38], 1♂, 14.vi.1989 (MEBC).

Remarks: A Palaearctic species, common in Europe. The larva making a linear mine in a number of species of Poaceae.

Cerodontha (Poemyza) muscina (Meigen, 1830)

Material: NPR Voniaca [17], 1♀, 11.vi.2010; Paseky near Tisovec [20], 1♀, 11.vi.2010; NPR Javorníková [21], 1♀, 11.vi.2010; Zlatno village [27], 1♂, 12.vi.2010.

Remarks: A common Holarctic species, with larvae mining in Gramineae, confirmed in species of the genera *Dactylis*, *Festuca*, *Holcus*, *Milium* and *Poa*.

Cerodontha (Poemyza) pygmaea (Meigen, 1830)

Material: Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010.

Remarks: A Palaearctic species. The larva mining in Gramineae, favourite host plants are *Dactylis glomerata*, *Brachypodium sylvaticum*, *Deschampsia caespitosa*. Several larvae normally feed together.

Cerodontha (Poemyza) spencerae Zlobin, 1993

Material: Havraní dolina [26], 1♂, 12.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010.

Remarks: A Holarctic species but only known from sporadic records in Europe. Biology unknown. Classified as vulnerable (VU) in the Red list of Slovak Diptera (Jedlička & Stloukalová 2001) (as syn. *Cerodontha inconspicua* auct.).

Cerodontha (Xenophytomyza) biseta (Hendel, 1920)

Material: Hrdzavá dolina [5], 1♂, 8.vi.2010; Muráň village [16], 2♂, 9.vi.2010; NPR Zlatnianské skalky [23], 1♂, 12.vi.2010; Muráň village [28], 1♂, 12.vi.2010.

Remarks: A very common Holarctic species, with larvae certainly feeding in grasses.

Cerodontha (Xenophytomyza) venturii Nowakowski, 1967

Material: Hrdzavá dolina [5], 1♂, 8.vi.2010; Muránska Huta village [14], 1♂, 9.vi.2010; NPR Voniaca [17], 1♀, 11.vi.2010; Havraní dolina [26], 1♂, 12.vi.2010; Zlatno village [27], 1♂, 12.vi.2010; Dobšinská ľadová jaskyňa env. [31], 1♂, 10.vi.2010, Koniarská planina [38], 1♂, 10.v.1990 (MEBC).

Remarks: A European species, common in Central Europe. Larva is probably an internal feeder in Poaceae.

Chromatomyia fuscula (Zetterstedt, 1838)

Material: PR Fabova hoľa [35], 3♂, 16.vi.-25.viii.2009.

Remarks: A common Holarctic species mainly occurring in spring. Its larvae are leaf miners in Poaceae.

***Chromatomyia gentianae* (Hendel, 1920)**

Material: Havraní dolina [26], 2♂, 12.vi.2010; PR Fabova hoľa [35], 1♂, 15.v.-16.vi.2009, 1♂, 16.vi.-25.viii.2009.

Remarks: A European species, not yet recorded in Northern Europe, but also known from India and Japan.

***Chromatomyia horticola* (Goureaux, 1851)**

Material: Zlatno village [24], 2♂, 12.vi.2010.

Remarks: A very common, subcosmopolitan and widely polyphytophagous species.

***Chromatomyia isicae* (Hering, 1962)**

Material: PR Fabova hoľa [35], 1♂, 16.vi.-25.viii.2009.

Remarks: A species only known from Central and North Europe, also known from Lithuania. Host plants are unknown but the species plausibly develops in grasses.

***Chromatomyia milii* (Kaltenbach, 1864)**

Literature: Muráň (Vála 1986).

Material: Paseky near Tisovec [20], 1♂, 11.vi.2010; NPR Javorníková [21], 1♂, 11.vi.2010; Havraní dolina [26], 1♂, 12.vi.2010; Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010; Paseky near Tisovec [37], 1♂, 6.vii.2001; PR Fabova hoľa [35], 1♂, 16.vi.-25.viii.2009.

Remarks: A rather common species widespread in the Holarctic and Oriental Regions, mining in various Poaceae.

***Chromatomyia ramosa* (Hendel, 1923)**

Material: Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010; NPR Hnilecká jelšina [33], 2♂, 10.vi.2010.

Remarks: A species known from a number of countries in Europe, not rare in Central Europe.

***Chromatomyia rhaetica* Griffiths, 1980**

Material: PR Fabova hoľa [35], 1♂, 16.vi.-25.viii.2009.

Remarks: A rare high montane species described from Rhaetic Alps in Austria and later recorded from mountains in the Czech Republic – Šumava Mts. and Slovakia – Vysoké Tatry Mts. (see Černý & Vála 2005).

***Chromatomyia styriaca* Griffiths, 1980**

Material: PR Fabova hoľa [35], 1♂, 15.v.-16.vi.2009.

Remarks: An uncommon species recorded from several sites in North and Central Europe.

***Galiomyza galiivora* (Spencer, 1969)**

Material: Dobšinská ľadová jaskyňa env. [32], 1♀, 10.vi.2010; Paseky near Tisovec [37], 1♂, 19.vi.2001.

Remarks: A species described by Spencer (1969) from specimens reared from *Galium* spp. in Canada (Alberta), larva forms upper surface linear mine. It was later recorded from United States and Europe (Belgium, Corsica, Czech Republic, Germany, Greece, Hungary, Italy, Lithuania, Poland, Slovakia, Switzerland).

***Liriomyza buhri* Hering, 1937**

Material: Dobšinská ľadová jaskyňa env. [31], 1♂, 10.vi.2010.

Remarks: A European species whose larva forms a whitish stem mine in many species of *Campanula* spp., also *Phyteuma spicatum* and *Jasione* species.

***Liriomyza flaveola* (Fallén, 1823)**

Material: Hrdzavá dolina [6], 1♀, 8.vi.2010; NPR Nižná Kl'aková [7], 1♀ 8.vi.2010; Havraní dolina [26], 1♂1♀, 12.vi.2010; NPR Poludnica [36], 1♂, 27.ix.2009; Plešivecká planina [39], 3♀, 9.v.1990 (MEBC).

Remarks: A Palaearctic species also recorded from India. Larva forms a narrow, whitish leaf mine in many genera of Gramineae, particularly *Bromus*, *Dactylis*, *Holcus* and *Poa* species, also on cultivated *Avena sativa* and *Hordeum vulgare*.

***Liriomyza hieracii* (Kaltenbach, 1862)**

Material: NPR Nižná Kl'aková [7], 1♂, 8.vi.2010.

Remarks: A European species. Larva forms a primary upper surface blotch mine on *Hieracium* species, recorded from *H. lachenalii*, *H. laevigatum*, *H. murorum* and *H. vulgatum*.

***Liriomyza infuscat* Hering, 1926**

Material: Muráň village [1], 1♂, 27.vi.2010; Hrdzavá dolina [5], 1♂, 8.vi.2010; NPR Voniaca [17], 1♀, 11.vi.2010; Dobšinská ľadová jaskyňa env. [31], 1♂, 10.vi.2010; Dobšinská ľadová jaskyňa env. [32], 3♂,

10.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010.

Remarks: A Palearctic species. Host plants unconfirmed but they certainly belong to Poaceae.

***Liriomyza ptarmicae* de Meijere, 1925**

Material: Muránska Huta village [8], 1♂, 9.vi.2010; Muránska Huta village [9], 1♂, 9.vi.2010; Muráň village [16], 1♂, 9.vi.2010; Havraní dolina [26], 1♂, 12.vi.2010; Zlatno village [27], 1♂, 12.vi.2010; Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010.

Remarks: A Holarctic species, with larva forming a narrow linear mine on both the lower and upper leaf surfaces of *Achillea distans*, *A. millefolium*, *A. panonica*, *A. ptarmica* and also *Anthemis*, *Artemisia*, *Chrysanthemum*, *Leucanthemum* and *Matricaria* species.

***Liriomyza puella* (Meigen, 1830)**

Material: Muráň village [1], 1♂, 27.vi.2010; Hrdzavá dolina [5], 1♂, 8.vi.2010.

Remarks: A European species, but also known from Turkey. The larva forming an initially linear leaf mine, later producing an irregular blotch with conspicuous feeding lines, mines quickly turn brownish. Host plants are *Lapsana communis*, *Prenanthes purpurea*.

***Liriomyza richteri* Hering, 1927**

Material: Muráň village [1], 1♂, 27.vi.2010; Hrdzavá dolina [5], 1♂, 8.vi.2010; NPR Hnilecká jelšina [33], 2♂, 10.vi.2010.

Remarks: A Palearctic species, with larva mining in *Avena*, *Deschampsia* and *Oryzopsis* species.

****Liriomyza scorzonerae* Rydén, 1951**

Material: Veľká lúka – Piesky [13], 1♂, 9.vi.2010.

Remarks: A European species. The larva initially forming a narrow lower surface linear mine, later producing a large blotch frequently adjoining the leaf margin on the upper surface, several larva can feed together. Host plant is *Scorzonera humilis* and *Lactuca* sp. This is the first record from Slovakia.

***Liriomyza soror* Hendel, 1931**

Material: Muráň village [15], 1♂, 9.vi.2010.

Remarks: A Palearctic species. Its larvae mine in species of *Carduus* and *Cirsium*.

***Liriomyza strigata* (Meigen, 1830)**

Material: Muráň village [1], 2♂, 27.vi.2010; Hrdzavá dolina [5], 4♂, 8.vi.2010; Muráň village [28], 1♂, 12.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010.

Remarks: A polyphagous species widespread in the Palearctic and Oriental Regions. Larvae mine in numerous species of 189 plant genera (Benavent-Corai et al. 2005).

****Liriomyza urophorina* Mik, 1894**

Material: NPR Cigánka [4], 1♀, 7.vi.2010; NPR Voniaca [17], 1♂1♀, 11.vi.2010.

Remarks: A European species, not yet recorded in Scandinavia but also known from India. The larvae feeding in flower buds on *Lilium martagon*. This is the first record from Slovakia.

***Liriomyza virgo* (Zetterstedt, 1838)**

Material: NPR Hnilecká jelšina [33], 1♂, 10.vi.2010.

Remarks: A European species. Its larva forms an external stem mine which quickly turns blackish in *Equisetum fluviatile*, possibly also in other *Equisetum* spp.

***Metopomyza flavonotata* (Haliday, 1833)**

Material: NPR Cigánka [3], 1♀, 7.vi.2010; Veľká lúka - Piesky [13], 1♂2♀, 9.vi.2010; Muráň village [15], 1♀, 9.vi.2010; Muráň village [16], 2♂, 9.vi.2010; NPR Voniaca [17], 1♀, 11.vi.2010; Paseky near Tisovec [20], 1♀, 11.vi.2010; Havraní dolina [26], 1♂, 12.vi.2010; Za Havraníkom [27], 1♂1♀, 12.vi.2010; Dobšinská ľadová jaskyňa env. [31], 2♂1♀, 10.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010.

Remarks: A Palearctic species, widespread in Europe, developing in grasses (recorded from *Deschampsia caespitosa*).

***Metopomyza nigriorbita* (Hendel, 1931)**

Material: Pod skalou [11], 1♂, 9.vi.2010.

Remarks: A Palearctic species recorded from several countries in Europe. Biology unknown.

***Metopomyza scutellata* (Fallén, 1823)**

Material: Muráň village [16], 1♂, 9.vi.2010; NPR Javorníková [22], 1♂, 11.vi.2010; Dobšinská ľadová jaskyňa env. [31], 1♂1♀, 10.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010.

Remarks: A Palaearctic species, widespread in Europe, its larvae develop in sedges (*Carex* species).

***Metopomyza xanthaspis* (Loew, 1858)**

Material: Muránska Huta village [8], 1♂, 9.vi.2010; Muráň village [16], 1♂, 9.vi.2010; NPR Voniaca [17], 1♀, 11.vi.2010; NPR Javorníková [21], 1♀, 11.vi.2010; Dobšinská ľadová jaskyňa env. [31], 1♂, 10.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010; Paseky near Tisovec [37], 1♂, 6.vii.2001, Koniarská planina [38], 2♂1♀, 10.v.1990 (MEBC).

Remarks: A widespread Palaearctic species. Larvae are leaf miners of *Carex humilis*.

***Napomyza achilleanella* von Tschirnhaus, 1992**

Material: Veľká lúka - Piesky [13], 1♂, 9.vi.2010; Muráň village [16], 1♂, 9.vi.2010.

Remarks: Possibly a widespread Palaearctic species but known only from Central and North Europe and Kirghizia. Host plant is *Achillea millefolium*, possibly can feed on other members of Asteraceae.

****Napomyza bellidis* Griffiths, 1967**

Material: Pod skalou [11], 1♂, 9.vi.2010.

Remarks: A Palaearctic species, the larva forming a leaf mine on *Bellis perennis*. This is the first record from Slovakia.

****Napomyza cichorii* Spencer, 1966**

Material: NPR Hnilecká jelšina [33], 1♂, 10.vi.2010.

Remarks: A Palaearctic species. Larvae feeding in stems and roots of *Cichorium intibus* and *C. endivia* (Asteraceae). This is the first record from Slovakia.

***Napomyza lateralis* (Fallén, 1823)**

Material: NPR Cigánka [4], 2♂, 7.vi.2010; NPR Nižná Kl'aková [7], 1♀, 8.vi.2010; NPR Voniaca [17], 1♂, 11.vi.2010; Paseky near Tisovec [37], 2♂, 10.-14.vii.2001, 1♂, 10.viii.2001.

Remarks: A Palaearctic species. The larva form a stem mine on *Anthemis*, *Bellis*, *Bidens*, *Calendula*, *Carduus*, *Centaurea*, *Cirsium*, *Crepis*, *Dimorphotheca*, *Helichrysum*, *Hypochaeris*, *Inula*, *Lactuca*, *Linum*, *Lupinus*, *Matricaria*, *Senecio*, *Silybum*, *Tripleurospermum* species.

****Napomyza maritima* von Tschirnhaus, 1981**

Material: Plešivecká planina [39], 1♂, 9.v.1990 (MEBC).

Remarks: Type series includes specimens from Germany, France and Slovenia, later recorded from the Czech Republic, Denmark, Finland, Hungary, Kazakhstan, Russia, Sweden and Uzbekistan. The larva feeds in stems of *Artemisia maritima*. This is the first record from Slovakia.

***Napomyza scrophulariae* Spencer, 1966**

Material: Paseky near Tisovec [37], 1♂, 4.vii.2001.

Remarks: A West Palaearctic species known from Europe, Morocco and Israel. The larva normally appears to feed in the lower stem and may also feed in the seeds. Host plants are *Digitalis*, *Verbascum* and *Mentha*.

***Phytobia lunulata* (Hendel, 1920)**

Material: Koniarská planina [38], 1♀, 14.vi.1989 (MEBC); Plešivecká planina [39], 1♂, 12.vi.1989 (MEBC).

Remarks: This species has hitherto been recorded from Austria, Czech Republic, France, Germany, Hungary, Slovakia and Spain. Biology of this species is unknown but supposedly similar to other *Phytobia* spp. larvae that feed as cambium borers.

****Phytomyza adjuncta* Hering, 1928**

Material: Havraní dolina [26], 1♂, 12.vi.2010; Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010.

Remarks: A European species, the larva forming a linear leaf mine on *Pimpinella* spp., particularly *P. major*, *P. saxifraga*. This is the first record from Slovakia.

***Phytomyza albipennis* Fallén, 1823**

Material: Hrdzavá dolina [5], 2♂, 8.vi.2010; NPR Nižná Kl'aková [7], 1♀, 8.vi.2010; Pod skalou [11], 1♂, 9.vi.2010; Dobšinská ľadová jaskyňa env. [31], 1♂, 10.vi.2010; NPR Hnilecká jelšina [33], 2♂, 10.vi.2010; Koniarská planina [38], 2♂3♀, 10.v.1990 (MEBC).

Remarks: A Palaearctic species, frequently recorded from Europe. Host plant unknown, but specimens have been caught on *Ranunculus* and the larvae possibly feeds as an internal stem-borer (Spencer 1972, 1990).

***Phytomyza angelicastris* Hering, 1932**

Material: Havraní dolina [26], 1♂, 12.vi.2010.

Remarks: A European species. The larva forming an irregular upper surface linear leaf mine, which can widen and become almost blotch like at the end on *Angelica sylvestris* and *Aegopodium podagraria*.

***Phytomyza aquilegiae* Hardy, 1849**

Material: NPR Voniaca [17], 2♂, 11.vi.2010.

Remarks: A Palaearctic species, widespread in Europe and recorded from Kazakhstan and Kyrgyzstan. The larva forming a large blotch mine on *Aquilegia* spp., also *Thalictrum aquilegiifolium*.

***Phytomyza aurei* Hering, 1931**

Material: Havraní dolina [26], 1♂, 12.vi.2010.

Remarks: A rarely encountered species, found in only a few countries of Europe.

****Phytomyza brischkei* Hendel, 1922**

Material: NPR Nižná Kl'aková [7], 1♂, 8.vi.2010.

Remarks: A European species, the larva forming a linear mine in leaves on *Anthyllis vulneraria* and *Trifolium* spp., confirmed from *T. alpinum*, *T. campestre*, *T. fragiferum* and *T. repens*. This is the first record from Slovakia.

***Phytomyza calthivora* Hendel, 1934**

Material: Zlatno village [27], 1♂, 12.vi.2010; Dobšinská ľadová jaskyňa env. [32], 2♂, 10.vi.2010.

Remarks: This species known only from temperate Europe, not yet recorded in Southern and East Europe. The larva forming a short, broad mine, frequently in lower leaves on *Caltha palustris*.

***Phytomyza calthophila* Hering, 1931**

Material: Zlatno village [27], 1♂, 12.vi.2010.

Remarks: A common but local species in most of Europe. The larva forms a long, narrow, upper surface mine on leaf of *Caltha palustris*.

***Phytomyza chaerophylli* Kaltenbach, 1856**

Material: Muráň village [16], 3♂, 9.vi.2010; Paseky near Tisovec [20], 1♂, 11.vi.2010.

Remarks: A common species widespread in Europe and also recorded from Turkey. The larva forming a short, narrow linear mine, generally closely following margin of leaf segment, in very small sections of a leaf producing a secondary blotch on many Apiaceae species.

***Phytomyza clematidis* Kaltenbach, 1859**

Material: Muránska Huta village [9], 1♂, 9.vi.2010; Pod skalou [11], 1♂, 9.vi.2010; Veľká lúka – Piesky [13], 1♂, 9.vi.2010; Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010; NPR Hnilecká jelšina [34], 1♂, 10.vi.2010.

Remarks: A widespread Palaearctic species with numerous records in Europe. The larva feeding in seed-head on *Clematis cirrhosa*, *C. vitalba*, *Ranunculus acris*, *R. auricomus*, *R. lanuginosus* and *R. lingua*.

***Phytomyza continua* Hendel, 1920**

Material: NPR Voniaca [17], 1♂, 11.vi.2010.

Remarks: A Palaearctic species with larvae mining along midrib of leaves of *Cirsium* and *Carduus* species.

***Phytomyza crassiseta* Zetterstedt, 1860**

Material: NPR Cigánka [3], 1♂, 7.vi.2010; NPR Cigánka [4], 1♂3♀, 7.vi.2010; NPR Nižná Kl'aková [7], 2♂1♀, 8.vi.2010; Muránska Huta village [8], 2♂1♀, 9.vi.2010; Pod skalou [11], 1♀, 9.vi.2010; Muránska Huta village [14], 1♂, 9.vi.2010; Muráň village [16], 3♂, 9.vi.2010; NPR Voniaca [17], 1♀, 11.vi.2010; Paseky near Tisovec [20], 1♀, 11.vi.2010; NPR Javorníková [21], 1♀, 11.vi.2010; NPR Javorníková [22], 1♀, 11.vi.2010; Havraní dolina [26], 2♀, 12.vi.2010; Dobšinská ľadová jaskyňa env. [31], 1♂, 10.vi.2010; Paseky near Tisovec [37], 1♂, 6.vii.2001.

Remarks: A common Holarctic species also reaching to the Neotropical Region. Larva mine leaves of *Veronica* species.

***Phytomyza evanescens* Hendel, 1920**

Material: Pod skalou [11], 1♂, 9.vi.2010; Dobšinská ľadová jaskyňa env. [31], 1♂, 10.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010, Plešivecká planina [39], 1♂, 12.vi.1989 (MEBC).

Remarks: A Holarctic species. Larva is internal stem borer of *Ranunculus acris* and *R. lanuginosus*.

***Phytomyza farfarae* Hendel, 1935**

Material: NPR Nižná Kl'aková [7], 1♂, 8.vi.2010; Veľká lúka [12], 1♂, 9.vi.2010.

Remarks: A European species, only recorded from Central and Southern Europe.

***Phytomyza flavicornis* Fallén, 1823**

Material: PR Fabova hoľa [35], 1♀, 15.v.-16.vi.2009.

Remarks: A common Holarctic and Oriental species. Larvae feed internally in stems of *Urtica dioica*.

***Phytomyza flavofemorata* Strobl, 1893**

Material: Muráň village [15], 1♀, 9.vi.2010.

Remarks: A European species, the larvae feeding and pupating in seed-heads on *Melampyrum* spp.

***Phytomyza glechomae* Kaltenbach, 1862**

Material: Plešivecká planina [39], 1♂, 9.v.1990 (MEBC).

Remarks: A Palaearctic species common in Europe. Larva is a leaf miner of *Glechoma hederacea*.

****Phytomyza griffithsi* Spencer, 1963**

Material: NPR Hnilecká jelšina [33], 1♂, 10.vi.2010.

Remarks: A species from Temperate Europe, and also known from Yugoslavia and Cyprus. The larva initially forming a lower surface leaf mine, but largely on upper surface, irregularly linear, finally almost filling the petiole and ending at the base on *Plantago* spp., confirmed from *P. major* and *P. media*. This is the first record from Slovakia.

***Phytomyza gymnostoma* Loew, 1858**

Material: NPR Voniaca [17], 3♂2♀, 11.vi.2010.

Remarks: A West Palaearctic species with larvae mining in *Allium* species, a serious pest of *Allium porrum*.

****Phytomyza medicaginis* Hering, 1925**

Material: Zlatno village [27], 1♂, 12.vi.2010.

Remarks: A European species, not yet recorded in Northern Europe. The larva forming an initially linear mine, later developing into a whitish blotch, becoming blackish on *Brunnera macrophylla*, *Echium vulgare*, *Lithospermum officinale*, *L. purpureo-caeruleum*, *Symphytum asperum*, *S. officinale* and *S. tuberosum*. This is the first record from Slovakia.

***Phytomyza nigrifemur* Hering, 1934**

Material: Havraní dolina [26], 3♂, 12.vi.2010; Dobšinská ľadová jaskyňa env. [31], 1♂, 10.vi.2010.

Remarks: A European species, not yet recorded in Southern Europe. Biology unknown.

***Phytomyza notata* Meigen, 1830**

Material: NPR Nižná Kl'aková [7], 1♂, 8.vi.2010; Muráň village [28], 1♂, 12.vi.2010.

Remarks: A European species known from a number of sites. The larva forming a short, broad linear mine, sometimes with a small, circular brown patch at beginning on leaf *Ranunculus* spp., recorded on *R. acer*, *R. auricomus*, *R. bulbosus* and particularly *R. repens*.

***Phytomyza penicilla* Hendel, 1935**

Material: Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010; PR Fabova hoľa [35], 1♂, 16.vi.2009, 1♂, 16.vi.-25.viii.2009.

Remarks: A European species. The larvae of the first generation feed in the midrib of the basal leaves before the flowering stem. The summer generation feeds in the stem, boring down to and sometimes penetrating the root. Host plants are *Cichorium endivia*, *C. intybus*, also *Lactuca serriola*, *Lapsana communis*, *Arctium majus*.

***Phytomyza pimpinellae* Hendel, 1924**

Material: Muráň village [16], 4♂, 9.vi.2010; Muráň village [28], 4♂, 12.vi.2010.

Remarks: A species recorded from many countries of Europe. The larva forming a relatively short and broad upper surface mine on *Pimpinella major*, *P. saxifraga*.

***Phytomyza plantaginis* Robineau-Desvoidy, 1851**

Material: NPR Nižná Kl'aková [7], 2♂, 8.vi.2010; NPR Voniaca [17], 1♂, 11.vi.2010; Paseky near Tisovec [20], 1♂, 11.vi.2010; Muráň village [28], 1♂, 12.vi.2010; Muránska Lehota village [29], 1♂, 12.vi.2010.

Remarks: A subcosmopolitan species, reported frequently throughout Europe. The larva forming a narrow, white linear mine, normally in the leaf but more rarely also in the stem on *Plantago* spp., particularly *P. lanceolata* and *P. major*.

****Phytomyza podagrariae* Hering, 1954**

Material: Muráň village [16], 2♂, 9.vi.2010.

Remarks: This little known species has hitherto been recorded from Czech Republic, Germany, Lithuania, Poland and Turkey. The larva mining on *Aegopodium* sp. This is the first record from Slovakia.

***Phytomyza ptarmicae* Hering, 1937**

Material: NPR Voniaca [18], 2♀, 11.vi.2010; Havraní dolina [26], 1♂, 12.vi.2010.

Remarks: An uncommon species of temperate and North Europe. The larva forming leaf mine on *A. millefolium* and *A. ptarmica*.

***Phytomyza pullula* Zetterstedt, 1848**

Material: Muráň village [1], 1♀, 7.vi.2010; NPR Nižná Kl'aková [7], 1♀, 8.vi.2010; Paseky near Tisovec [20], 1♀, 11.vi.2010; Paseky near Tisovec [37], 1♂, 6.vii.2001.

Remarks: A Holarctic species common throughout much of Europe, Turkey, Canada and United States. The larva forms a narrow linear mine on *Achillea*, *Anthemis*, *Chrysanthemum vulgare* and *Matricaria*.

***Phytomyza ranunculi* (Schränk, 1803)**

Material: NPR Cigánka [4], 1♂, 7.vi.2010; Hrdzavá dolina [5], 1♂, 8.vi.2010; NPR Nižná Kl'aková [7], 3♀, 8.vi.2010; Pod skalou [11], 1♂, 9.vi.2010; Vel'ká lúka [12], 1♂, 9.vi.2010; Dobšinská ľadová jaskyňa env. [31], 1♀, 10.vi.2010; Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010; Plešivecká planina [39], 1♀, 9.v.1990 (MEBC).

Remarks: A common Holarctic and Oriental species developing in various species of Ranunculaceae.

***Phytomyza ranunculicola* Hering, 1949**

Material: Hrdzavá dolina [5], 1♂, 8.vi.2010; NPR Nižná Kl'aková [7], 3♂, 8.vi.2010; Vel'ká lúka [12], 1♂, 9.vi.2010; Vel'ká lúka – Piesky [13], 3♂, 9.vi.2010; Muránska Lehota village [29], 1♂, 12.vi.2010; NPR Hnilecká jelšina [34], 1♂, 10.vi.2010.

Remarks: A common species frequently encountered throughout Europe. The larva forming a secondary blotch mine on *Ranunculus acer* and *R. bulbosus*.

***Phytomyza ranunculivora* Hering, 1932**

Material: Muráň village [16], 1♂, 9.vi.2010; Dobšinská ľadová jaskyňa env. [32], 3♂, 10.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010; NPR Hnilecká jelšina [34], 1♂, 10.vi.2010.

Remarks: A species known from many countries of Europe. The larva form a long white linear mine on *Ranunculus* spp.

***Phytomyza rostrata* Hering, 1934**

Material: NPR Nižná Kl'aková [7], 2♂, 8.vi.2010; Vel'ká lúka [12], 1♂, 9.vi.2010; Zlatno village [24], 3♂1♀, 12.vi.2010; Dobšinská ľadová jaskyňa env. [31], 2♂, 10.vi.2010; NPR Hnilecká jelšina [33], 1♂, 10.vi.2010; Koniarská planina [38], 1♂, 10.v.1990 (MEBC).

Remarks: A Holarctic species, known from Europe, not yet recorded in Southern Europe, but also recorded from Turkey and Canada. Oviposition takes place in an upper leaf and a short mine is formed either in the leaf or stem, but the larva feeds primarily in the stem on Scrophulariaceae, confirmed from *Euphrasia*, *Melampyrum*, *Odontites* and *Rhinanthus*.

****Phytomyza rydeni* Hering, 1934**

Material: NPR Hnilecká jelšina [33], 1♂, 10.vi.2010.

Remarks: A temperate and North European species. The larva forming a primary blotch mine at the tip of a leaf segment on *Ranunculus acer*. This is the first record from Slovakia.

****Phytomyza salviae* (Hering, 1924)**

Material: NPR Javorníková [22], 2♂, 11.vi.2010.

Remarks: A European species known in Central Europe and Romania, recorded from Taiwan. Larvae develop in *Ballota* and *Salvia* species. This is the first record from Slovakia.

***Phytomyza soenderupi Hering, 1941**

Material: Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010; NPR Hnilecká jelšina [33], 5♂, 10.vi.2010; PR Fabova hoľa [35], 14♂, 15.v.-16.vi.2009, 12♂, 16.vi.-25.viii.2009.

Remarks: A European species but unknown in Southern Europe. The larva feeding within the petiole on *Caltha palustris*. This is the first record from Slovakia.

***Phytomyza spoliata Strobl, 1906**

Material: Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010.

Remarks: A West Palaearctic species known from Europe and from Israel, Turkey. The larva forming an irregular linear mine which can develop into a secondary blotch on *Centaurea* spp., confirmed from *C. calcitrapa*, *C. haynaldii*, *C. jacea*, *C. pohrygia* subsp. *pseudophrygia*, *C. sadleriana*; possibly also *Cirsium heterophyllum*. This is the first record from Slovakia.

Phytomyza subrostrata Frey, 1946

Material: Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010.

Remarks: A rare species, recorded only from North and Central Europe. The larva feeding in flower head on *Trollius europaeus*.

Phytomyza tetrasticha Hendel, 1927

Material: Zlatno village [27], 1♂, 12.vi.2010.

Remarks: A Palaearctic species known from many sites in Europe. Larvae develop in *Mentha* species.

***Phytomyza trolliivora Hering, 1935**

Material: Dobšinská ľadová jaskyňa env. [32], 1♂, 10.vi.2010.

Remarks: A European species, but not yet recorded in Southern Europe. The larva forming primary blotch mine on *Trollius europaeus*. This is the first record from Slovakia.

***Phytomyza tussilaginis Hendel, 1925**

Material: Hrdzavá dolina [5], 1♂, 8.vi.2010; Hrdzavá dolina [6], 1♀, 8.vi.2010, ex larva on *Petasites hybridus*.

Remarks: A Holarctic species, widespread in Europe, also known from Alaska and Canada. The larva forming a long, linear, greenish-white mine with frass in separate grains on *Adenostyles* spp., *Tussilago farfara*, *Petasites* spp., particularly *P. frigidus* and *P. hybridus*. This is the first record from Slovakia.

***Phytomyza vitalbae Kaltenbach, 1872**

Material: Paseky near Tisovec [37], 1♂, 19.vi.2001, 1♂, 4.vii.2001.

Remarks: A species widespread in the Europe, frequently common, also known from Canada, Canary Islands, China, Cyprus, Nepal, Russia–Yakutia, South Africa, Taiwan, Uzbekistan, and Australia. The larva forms a long, narrow, upper surface mine on *Clematis vitalba*, *C. alpina* and other *Clematis* spp. This is the first record from Slovakia.

Phytomyza varipes Macquart, 1835

Material: Veľká ľúka – Piesky [13], 3♂, 9.vi.2010; Muráň village [16], 1♂, 9.vi.2010; NPR Voniaca [17], 1♀, 11.vi.2010; Zlatno village [24], 1♀, 12.vi.2010.

Remarks: A Holarctic species, widespread in Europe, also known from Russia–Yakutia, Canada and Greenland. The larva feeding in seed on *Rhinanthus*.

Phytomyza wahlgreni Rydén, 1944

Material: Muráň village [1], 1♀, 7.vi.2010; NPR Cigánka [3], 2♀, 7.vi.2010; NPR Cigánka [4], 2♀, 7.vi.2010; Muránska Huta village [8], 2♂, 9.vi.2010; Pod skalou [11], 1♀, 9.vi.2010; Veľká ľúka [12], 5♂, 9.vi.2010; Veľká ľúka – Piesky [13], 12♂, 9.vi.2010; Muráň village [16], 2♂, 9.vi.2010; Paseky near Tisovec [20], 2♀, 11.vi.2010; Zlatno village [24], 3♂, 12.vi.2010.

Remarks: A Holarctic species, widespread in Europe, also known from China, Kuril Islands and United States. Larva mines in leaves of *Taraxacum* species.

Pseudonapomyza atra (Meigen, 1830)

Material: Muránska Huta village [8], 1♂, 9.vi.2010; Muráň village [15], 1♂, 9.vi.2010; Muránska Lehota village [29], 1♀, 12.vi.2010.

Remarks: A common Holarctic and Oriental species with larvae mining in various grasses (Poaceae).

***Pseudonapomyza europaea* Spencer, 1973**

Material: Muráň village [15], 2♂, 9.vi.2010; Paseky near Tisovec [37], 1♂, 4.vii.2001; Koniarská planina [38], 1♂, 10.v.1990 (MEBC).

Remarks: A Palearctic species known from many countries in Europe, Turkey and Japan. Biology unknown.

***Pseudonapomyza moraviae* Černý, 1992**

Material: Paseky near Tisovec [37], 1♂, 6.vii.2001.

Remarks: A European species of unknown biology, hitherto recorded only from the Czech Republic, Hungary, Russia and Slovakia.

Discussion and conclusions

A total of 140 species recorded from the Gemer area (Muráňská planina NP – 126 species, Slovenský raj NP – 54 species, Slovenský kras NP – 22 species) demonstrates the remarkably high diversity of Agromyzidae in this territory, which is almost the same as in two other most intensively studied regions of Slovakia, viz. Bukovské vrchy Mts (Vála & Černý 1995 – 150 species) and Poľana Mts (Vála & Černý 2009 – 159 species). Because only three species have been recorded from the Gemer region up to the present, *Agromyza albipennis* Meigen, 1830, *A. pseudoreptans* Nowakowski, 1967 and *Chromatomyia milii* (Kaltenbach, 1864) the recent faunal research added as many as 137 species to the regional fauna.

The significance of the Agromyzidae fauna in the Gemer area consists not only in the high species richness but also because it includes 3 new species which are described above, viz. *Cerodontha* (*Butomyza*) *gemerensis* sp. n., *Chromatomyia cepelaki* sp. n. and *Liriomyza muranica* sp. n. Moreover, twenty-one species, viz. *Cerodontha* (*Dizygomyza*) *luzulae* (Groschke, 1957), *Hexomyza simplicoides* (Hendel, 1920), *Liriomyza scorzonerae* Rydén, 1951, *L. urophorina* Mik, 1894, *Napomyza bellidis* Griffiths, 1967, *N. cichorii* Spencer, 1966, *N. maritima* von Tschirnhaus, 1981, *Ophiomyia spenceri* Černý, 1985, *O. stenophaga* Pakalniškis, 1998, *Phytomyza adjuncta* Hering, 1928, *P. brischkei* Hendel, 1922, *P. griffithsi* Spencer, 1963, *P. medicaginis* Hering, 1925, *P. podagrariae* Hering, 1954, *P. rydeni* Hering, 1934, *P. salviae* (Hering, 1924), *P. soenderupi* Hering, 1941, *P. spoliata* Strobl, 1906, *P. trolliivora* Hering, 1935, *P. tussilaginis* Hendel, 1925 and *P. vitalbae* Kaltenbach, 1872, found recently in Gemer territory, are recorded from Slovakia for the first time.

Apart from the common and very frequent species like *Cerodontha* (*Poemyza*) *atra* (Meigen, 1830), *Ophiomyia orbiculata* (Hendel, 1931) and/or *Phytomyza crassisetata* Zetterstedt, 1860 the occurrences of a number of species with more specific demands to the environmental conditions have been confirmed in the study area. Among others several psychrophilous species characteristic of montane ranges of Slovakia were encountered, viz. *Chromatomyia gentianae* (Hendel, 1920) being hitherto only recorded from Stučica NPR in the Bukovské vrchy Mts (Vála & Černý 1995), Dunajec in the NP Pieniny (Korbel 1954) and the Vysoké Tatry Mts (Zavřel 1956); *C. isicae* (Hering, 1962) known only from Čierny Potok in the Poľana Mts and Mengusovská dolina in the Vysoké Tatry Mts (Černý et al 2006); *C. rhaetica* Griffiths, 1980, a rare high montane species described from Rhaetic Alps in Austria and later recorded from mountains in the Czech Republic (Šumava Mts) and Slovakia (Vysoké Tatry Mts), see Černý & Vála (2005); *C. styriaca* Griffiths, 1980 hitherto only known from Mengusovská dolina and Popradské pleso in the Vysoké Tatry Mts (Černý et al 2006) and Hronček in the Poľana Mts (Vála & Černý 2009).

Also *Liriomyza urophorina* Mik, 1894 found in NPR Cigánka and NPR Voniaca (Muráňská planina NP) is a rare species from the Gemer area. It is considered an endangered species in the Czech Republic (Černý 2005) and should also be treated as such in Slovakia. In wet meadows with rich communities of the protected globe flower (*Trollius europaeus*) in the

vicinity of the Dobšinská ľadová jaskyňa (cave) in the Slovenský raj NP the occurrence of *P. trolliivora* Hering, 1935 was confirmed which is also a rarely recorded species. The same is true for *P. rydeni* Hering, 1934, a species found in wet submontane meadows in the locality NPR Hnilecká jelšina (Slovenský raj NP) which is a miner in *Ranunculus acer*. Other interesting species found in the Gemer area are: the Holarctic species *Cerodontha (Poemyza) spencerae* Zlobin, 1993 which occurs sporadically in the whole of Europe; *Ophiomyia orientalis* Černý, 1994, hitherto only known from the type locality (E. Slovakia: Humenné distr., Kolbasov – Černý 1994); *O. spenceri* Černý, 1985, which has only been known from the Czech Republic and Lithuania and, hence, this is another reliable record from Central Europe; *O. stenophaga* Pakalniškis, 1998, hitherto only known from Lithuania (thus this is the second record from Europe). *Pseudonapomyza moraviae* Černý, 1992 has recently been found in Horná Chrapková near Detva in the Poľana Mts. (Vála & Černý 2009) and is here reported from Slovakia for the second time.

Although the present study includes data about the occurrence of the family Agromyzidae in the Gemer region obtained during a relatively long time, the faunal research itself was realized in a few and short periods. Consequently, the survey list of taxa recorded from the study area cannot be considered definitive – the finding of additional species of Agromyzidae is not only possible but highly likely.

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Fauna čeledi Agromyzidae (Diptera) v Gemerské oblasti (střední Slovensko) s popisem tří nových druhů ze Slovenska

Je podán přehled druhů čeledi Agromyzidae (Diptera) zjištěných v Gemerské oblasti (Slovensko), která zahrnuje Národní parky Muránska planina, Slovenský raj a Slovenský kras. Na základě dříve publikovaných údajů a nově studovaného materiálu je z této oblasti uvedeno celkem 140 druhů (Muránska planina NP – 126 druhů, Slovenský ráj NP – 54 druhů, Slovenský kras NP – 22 druhů). Materiál byl získán v letech 1998-9, 2001, 2009-10 pomocí Malaiseho pastí a individuálním sběrem. Každý z těchto druhů je pojednán s informacemi o jeho celkovém rozšíření, faunistice na Slovensku, bionomii a významu pro ochranu přírody. Regionální fauna Gemeru této čeledi je význačná nejen kvůli vysoké druhové rozmanitosti ale také proto, že zahrnuje 3 nové druhy, které jsou z této oblasti popsány zde, a to *Cerodontha (Butomyza) gemerensis* sp. n., *Chromatomyia cepelaki* sp. n. a *Liriomyza muranica* sp. n. Dvacet jedna druhů, a to *Cerodontha (Dizygomyza) luzulae* (Groschke, 1957), *Hexomyza simplicoides* (Hendel, 1920), *Liriomyza scorzonerae* Rydén, 1951, *L. urophorina* Mik, 1894, *Napomyza bellidis* Griffiths, 1967, *N. cichorii* Spencer, 1966, *N. maritima* von Tschirnhaus, 1981, *Ophiomyia spenceri* Černý, 1985, *O. stenophaga* Pakalniškis, 1998, *Phytomyza adjuncta* Hering, 1928, *P. brischkei* Hendel, 1922, *P. griffithsi* Spencer, 1963, *P. medicaginis* Hering, 1925, *P. podagrariae* Hering, 1954, *P. rydeni* Hering, 1934, *P. salviae* (Hering, 1924), *P. soenderupi* Hering, 1941, *P. spoliata* Strobl, 1906, *P. trolliivora* Hering, 1935, *P. tussilaginis* Hendel, 1925 a *P. vitalbae* Kaltenbach, 1872, je zaznamenáno ze Slovenska poprvé.

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