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ON THE *AGROMYZIDAE* (DIPTERA) OF ESTONIA

The paper offers a list of 146 species of *Agromyzidae* found in Estonia. The present synopsis is based both on new material (collected mainly by K. Elberg and identified by V. Zlobin) and on publications by Elberg (1964) and Nowakowski (1972, 1973). Among the recently studied material there are 105 species new to Estonia. The geographic distribution of each species is outlined. A group of extensively distributed species includes five semi-cosmopolitan, 37 holarctic and 17 transpalaeartic species. Eighty of the species belong to a group of European species, out of which 52 have not been found east of Estonia. Fifteen of the species found in Estonia are not known either in Sweden or in Finland. Four species of Estonian *Agromyzidae* have been known hitherto only in their *terra typica*. Some other little-known European species also presented.

So far only one paper concerning the Estonian *Agromyzidae*, 31 species, has been published (Elberg, 1964). Some original data on the occurrence of the *Cerodontha* species in Estonia have been presented also in two monographs on this genus by Nowakowski (1972, 1973). All the other references to the *Agromyzidae* in Estonia (Родендорф, 1970; Spencer, 1976; Злобин, 1979; Griffiths, 1980; Танасийчук, Злобин, 1981; Papp, 1984) are based on the above-mentioned papers by Elberg and Nowakowski. Earlier, only 41 species had been recorded in Estonia.

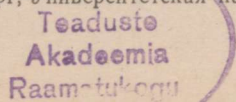
After the publication of the paper in 1964 K. Elberg continued collecting *Agromyzidae* in Estonia. Now the collection of *Diptera* in the Institute of Zoology and Botany, Tartu, includes some new material (525 male and 164 female specimens), all identified by V. Zlobin. This material consists of 140 species, of which 105 species are new for Estonia. Some specimens were collected by Dr. E. Nartshuk, Zoological Institute, St. Petersburg, and V. Gunberg (on labels V. Junno), Viljandi. The authors are greatly indebted to these people. Together with the six species mentioned only in literature there are 146 species in the present list of the Estonian *Agromyzidae*.

The literature data are given in breviter. Rare species (recorded only up to three times) are provided with detailed faunistic data. The numbers in brackets indicate the corresponding localities in the Estonian map. The geographic distribution of all the species is given mainly on the basis of the latest literature (Родендорф, 1970; Nowakowski, 1973; Spencer, 1976; Танасийчук, Злобин, 1981; Papp, 1984; Spencer, Steyskal, 1986; Spencer, Martinez, 1987; Пакальнишкис, 1989) as well as on the original investigations by V. Zlobin.

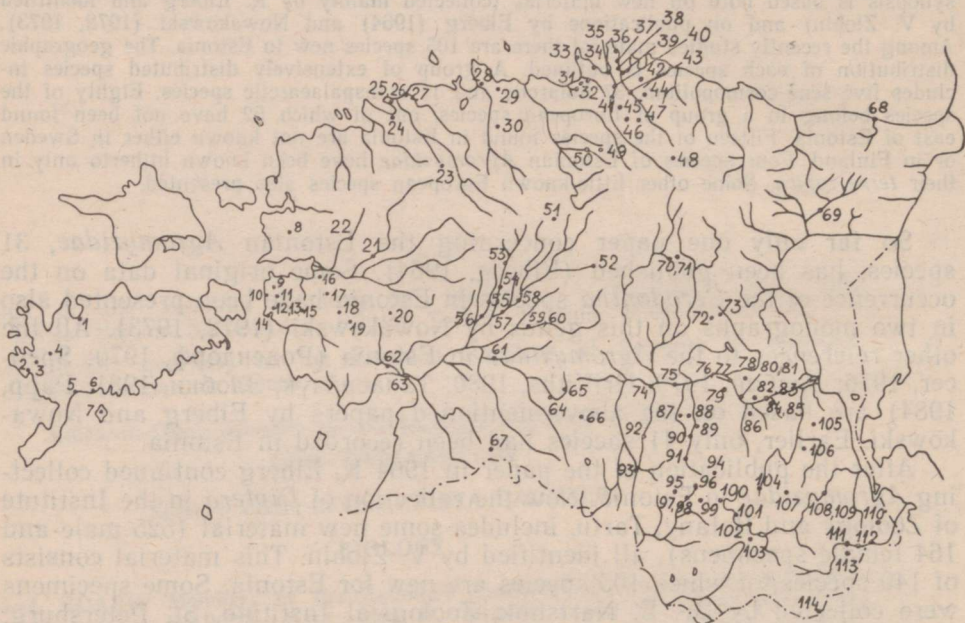
Out of all the territories neighbouring Estonia the *Agromyzidae* have been relatively more thoroughly investigated in Sweden: we can find 287 species in a monograph by Spencer (1976). Hackman (1980) has recorded 222 species in Finland. A total of 385 species are known in all Fennoscandia and Denmark (Spencer, 1976). In literature, there are no data about the number of the *Agromyzid* species of the St. Petersburg region or Latvia, which are also our neighbouring territories. In the monograph

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by Spencer (1976) we can find 173 species recorded in the four southern provinces of Finland (Alandia, Regio aboensis, Nylandia, Karelia australis) and 161 species found in the seven Swedish provinces (Bohuslän, Dalsland, Västergötland, Närke, Södermanland, Östergötland and Gotska Sandön) which are located at the same latitudes as Estonia. It is remarkable that 234 species have been registered in Skåne, the most southern province of Sweden. Considering the distribution of each species found in Northern and Central Europe, we suppose that approximately 250 to 300 species must be present in Estonia.



Collecting localities of the Estonian *Agromyzidae*. 1 — Küdema, 2 — Pilguse, 3 — Lümanda, 4 — the Viidumäe State Nature Reserve, 5 — Järve, 6 — Loode Forest, 7 — Island Abruca, 8 — Ridala, 9 — Möisaküla, 10 — Uueküla, 11 — Massu, 12 — Hanila, 13 — Laelatu, 14 — Puhtu, 15 — Tuhu Fen, 16 — the Matsalu State Nature Reserve, 17 — Lihula Bog, 18 — Mihkli, 19 — Koonga, 20 — Maima Bog, Island Virussaare, 21 — Teenuse, 22 — Silla, 23 — Hageri, 24 — Klooga, 25 — Lohusalu, 26 — Laulasmaa, 27 — Väana-Jõesuu, 28 — Tallinn, Merivälja, 29 — Tallinn, Maardu, 30 — Lake Limu, 31—47 — the Lahemaa National Park (31 — Muuksi, 32 — Puidisoo, 33 — Tammistu, 34 — Hara, 35 — Loksa, 36 — Viinistu, 37 — Turboneeme, 38 — Kasispea, 39 — Vihasoo, 40 — Vasaristi, 41 — Valgejõe, 42 — Palmse, 43 — Loobu, 44 — Viitna, 45 — Tõdva-Kõnnu, 46 — Vohnja Metsküla, 47 — Vohnja, Lake Kõverjärv), 48 — Neeruti, 49 — Nelijärve, 50 — Aegviidu, River Jänijõgi, 51 — Väatsa Swamp, 52 — Prandi, 53 — Kärü, 54 — Vöidula, 55 — Väandra, 56 — Vaki, 57 — Lüüste, 58 — Oriküla, 59 — Kaansoo, 60 — Nõmmitsa, 61 — Karuskose, River Lemmjõgi, 62 — Audru, 63 — Pärnu, 64 — Heimtali, 65 — Viljandi, 66 — Lake Kangelaski, 67 — Tihemetsa, 68 — Toila, 69 — Roostoja, 70 — Lake Kaasikjärv, 71 — Tooma, 72 — Kaarepera, 73 — Luua, 74 — Rannu-Jõesuu, 75 — Reku, 76 — Vorbuse, 77 — Jänese, 78 — Vasula, 79 — Tiksoja, Tähtvere Forest, 80 — Tartu, 81 — Ihaste, 82 — Lohkva, 83 — Kabina, 84 — Luunja, 85 — Vana-Kastre, 86 — Aardlapalu, 87 — Aruküla, 88 — Viisjaagu, 89 — Vapramäe, 90 — Illi, 91 — Hellenurme, 92 — Rannaküla, 93 — Pikasilla, 94 — Valgjärve, 95 — Arula, Lake Päästjärv, 96 — Lake Pühajärv, 97 — Kääriku, 98 — Trommi, 99 — Vidrike, 100 — Kooraste, 101 — Sulbi, 102 — Osula, 103 — Sõmerpalu Swamp, 104 — Vorbuse, Valley Tilleorg, 105 — Liispõllu, 106 — Mooste, 107 — Tilsi, 108 — Reo, valley of the River Vöhandu, 109 — Vindso, 110 — Lutepää, 111 — Railway Station of Piusa, 112 — Veski, 113 — Obinita, 114 — Parmu.

Among the 146 species found in Estonia there are 59 species with very extensive distribution: five semi-cosmopolitan, 37 holarctic and 17 transpalaeartic species. Eleven holarctic species have not been found east of Estonia in the Eastern Hemisphere. Eighty species belong to group of European species, 52 of them have not been found east of Estonia. But it is very likely that a certain number of them will be found in Eastern Europe in the future. However, some such species may be characterized as Western and/or Central European, because 29 species have not been found in Finland but are to be found both in Estonia and Sweden. Out of them eight species are known only in Estonia and in Skåne in Sweden. Fifteen of the species established in Estonia have not been found either in Sweden or in Finland. Many of the species found in Estonia belong to very rare European species. Four species were previously known only in their *terra typica* [*Ophiomyia sueciae* Spencer, 1976, in Sweden; *Agromyza lynceborghi* Spencer, 1976, in Denmark; *Cerodontha (Dizygomyza) bulbiseta* (Hendel, 1931) in Norway; *Napomyza bellidis* Griffiths, 1967, in England]. Thus, the present study is meant to add some new information on the distribution of *Agromyzidae*.

SUBFAMILY AGROMYZINAE

Genus *Melanagromyza* Hendel, 1920

1. *M. aenea* (Meigen, 1830)

Palmse (42), 24. vi. 79, 1♂; Oriküla (58), 13. vi. 79, 1♂ 1♀.
Widespread in Europe. The most easterly records are from Estonia.

2. *M. aeneoventris* (Fallén, 1823)

4 localities (29, 45, 82, 83), 5. vi.-10. vii., 4♂♂ 1♀.
Holarctic distribution, including West-Pakistan.

3. *M. angeliciphaga* Spencer, 1969

Väätsa (51), 15. vi. 60, 1♂.
Only other records from England, Germany, Denmark and Sweden (Skåne) and Lithuania.

4. *M. lappae* (Loew, 1850)

Viljandi (65), 28. vi. 79, 1♀, leg. V. Junno; Lohkva (82), 5. vi. 76, 1♂; Käärüku (97), Mustametsa, 8. vi. 73, 1♂.
Widespread in Europe, extending eastwards to Moscow.

5. *M. nigrissima* Spencer, 1976

6 localities (16, 31, 46, 57, 82, 102), 2 vi.-20. vii., 4♂♂ 2♀♀.
Only other records from Denmark, Sweden (Skåne) and Finland (Nylandia).

6. *M. pubescens* Hendel, 1923

Loksa (35), 5. vii. 80, 1♂.
Transpalaeartic: Austria, Germany, Denmark, Sweden (Småland), Finland (Nylandia and Savonia australis), Lithuania, Mongolia and by Zlobin also the Moscow and Amur regions.

7. *M. submetallescens* Spencer, 1966

Aardlapalu (86), 8. vi. 75, 1♂.
Only other records from Germany, Finland (Alandia, Nylandia, Kuusamo) and the Moscow region.

Genus *Ophiomyia* Braschnikov, 1897

8. *O. aquilegiana* Lundquist, 1947
Tuhu (15), 4. v. 61, 1♀.
Also recorded in Germany, England and Sweden (Södermanland).
9. *O. curvipalpis* (Zetterstedt, 1848)
Lohkva (82), 7. vi. 75, 1♀; Piusa (111), 19. vii. 80, 1♂.
Widespread in Europe, but rare in Sweden (Skåne and Södermanland), and absent from Finland; recorded also in central Asia.
10. *O. heracleivora* Spencer, 1957
Metsküla (46), 20. vi. 79, 1♂.
Earlier recorded only in England and Lithuania.
11. *O. nasuta* (Melander, 1913)
10 localities (44, 58, 83, 86, 88, 96—98, 101, 113), 30. v.—16. vii., 13♂♂, 6♀♀.
Holarctic.
12. *O. orbiculata* (Hendel, 1931)
9 localities (14, 43, 46, 79, 80, 82, 83, 86, 100), 8. vi.—13. vii., 8♂♂ 2♀♀.
Widespread in Europe, including the Moscow region.
13. *O. pulicaria* (Meigen, 1830)
Kõnnu (45), 20. vi. 79, 1♂.
Widespread in the Palaearctic Region, also confirmed in Kenya and Costa Rica.
14. *O. sueciae* Spencer, 1976
Kõnnu (45), 20. vi. 79, 2♀♀; Kabina (83), 13. vi. 73, 1♂.
The only other known record is the male holotype from Skåne, Sweden.

Genus *Agromyza* Fallén, 1810

15. *A. albipennis* Meigen, 1830
Vohnja, Lake Kõverjärvi (47), 22. vi. 73, 1♂; Lüüste (57), 13. vi. 79, 1♂;
Lohkva (82), 7. vi. 75, 1♂.
Holarctic, in the Eastern Hemisphere known in Europe, Kamchatka and Japan.
16. *A. albitarsis* Meigen, 1830
Võidula (54), 14. vi. 79, 1♀.
Holarctic, in the Eastern Hemisphere known in Europe, Central Asia and the Baikal area.
17. *A. ambigua* Fallén, 1823
5 localities (44, 46, 57, 82, 83), 3. v.—16. vi., 7♂♂.
Holarctic.
18. *A. cinerascens* Macquart, 1835
ELBERG, 1964: 319: Hanila (12), 7.—12. v., 3♂♂ 3♀♀. ТАНАСИЙЧУК, ЗЛОБИН, 1981: 143: Estonia.
7 localities (81—84, 87, 95, 104), 2.—20. v., 46♂♂ 22♀♀.
Transpalaearctic.
19. *A. demeijeri* Hendel, 1920
Lohkva (82), 8. v. 77, 1♂.
Earlier recorded in England, the Netherlands, Norway and Sweden (the most northerly record in Uppland).

20. *A. flavipennis* Hendel, 1920
Oriküla (58), 13. vi. 79, 3♀♀.
Widespread in Europe, yet in Fennoscandia only in Sweden (Skåne, Halland, Uppland). Not found east of Estonia.
21. *A. graminicola* Hendel, 1931
Roostoja (69), 20. vi. 73, 1♂.
Northern, central and eastern Europe.
22. *A. hendeli* Griffiths, 1963
ELBERG, 1964: 319: Massu (11), 12. vi. 61, 1♀.
European species, the distribution in Fennoscandia indistinct.
23. *A. intermittens* (Becker, 1907)
6 localities (16, 81, 81—83, 110), 3. v.—2. vi., 16♂♂ 2♀♀.
Widespread in Europe, but not found in Fennoscandia; also occurring in Central Asia and North Africa.
24. *A. johannae* de Meijere, 1924
Ihaste (81), 20. v. 78, 2♀♀.
Widespread in western Europe; in Sweden only in Skåne, not found in Finland.
25. *A. lyneborgi* Spencer, 1976
Palmse (42), 23. vi. 73, 1♂.
The only other records of this species are the two types of specimens from Denmark.
26. *A. mobilis* Meigen, 1830
Mihkli (18), 29. vi. 78, 1♂; Lohkva (82), 20. v. 78, 1♂; Kabina (83), 13., 16. vi. 73, 10. vii. 75, 4♂♂.
Transpalaearctic.
27. *A. nana* Meigen, 1830
Lohkva (82), 27. v. 77, 20. v. 78, 2♀♀; Rannaküla (92), 14. vi. 75, 2♂♂.
Widespread throughout Europe, also in North Africa and northern India.
28. *A. nigrella* (Rondani, 1875)
Kõnnu (45), 20. vi. 79, 1♀; Oriküla (58), 13. vi. 79, 1♀.
Holarctic, in Europe and the U.S.A. Not found east of Estonia.
29. *A. nigrescens* Hendel, 1920
Trommi (98), 9. vi. 73, 1♀.
Widespread in Europe, yet not found east of Estonia.
30. *A. nigripes* Meigen, 1830
13 localities (33, 36, 40, 44, 45, 53, 54, 80, 82, 83, 97, 101, 113), 2. vi.—16. vii., 20♂♂ 3♀♀.
Holarctic, throughout much of Europa, also North Africa and Canada.
31. *A. nigrociliata* Hendel, 1931
Lohusalu (25), 25. vi. 80, 1♂.
Widespread in Europa, including the Moscow region. In Sweden the most northernly record from Åsele Lappmark, yet not found in Finland.
32. *A. phragmitidis* Hendel, 1922
4 localities (25, 61, 80, 83), 13.—22. vi., 4♂♂.
Transpalaearctic. Also known in India.
33. *A. potentillae* (Kaltenbach, 1864)
ELBERG, 1964: 319 (*spiraeae*): Tuhu (15), 27. v. 61, 1♂. Trommi (98), 9. vi. 73, 1♂.
Holarctic.

34. **A. pseudoreptans** Nowakowski, 1967
6 localities (25, 39, 71, 79, 81, 102), 20. vi.—30. viii., 6♂♂ 2♀♀.
Holarctic. In Europe, not found east of Estonia.
35. **A. rondensis** Strobl, 1900
ELBERG, 1964: 319 (*veris*): Puhtu (14), 18., 20. v. 62. 1♂ 1♀. РОДЕНДОРФ, 1970: 237 (*veris*): Estonia. ТАНАСИЙЧУК, ЗЛОБИН, 1981: 146: Estonia.
5 localities (4, 58, 81—83), 7. v.—24. viii., 13♂♂ 2♀♀.
Also known in Spain, Austria, Germany, England, Norway, and Sweden (Skåne and Öland).
36. **A. sulfuriceps** Strobl, 1898
Kasispea (38), 8. vii. 80, 5♂♂ 1♀; Palmse (42), 23. vi. 73, 23. vi. 79, 2♂♂;
Lohkva (82), 15. vi. 80, 1♂.
Holarctic. Zlobin has also original records from the eastern part of the Palearctic Region. In Finland only from Nylandia.
37. **A. vicifoliae** Hering, 1932
4 localities (80, 82, 97, 112), 7. v.—17. vi., 5♂♂ 1♀.
Widely distributed in Europe. In Finland known from Alandia and Regio aboensis, not found east of Estonia.

SUBFAMILY PHYTOMYZINAE

Genus *Selachops* Wahlberg, 1844

38. **S. flavocincta** Wahlberg, 1844
Silla (22), 6. vi. 74, 1♂; Reo (108), 22. v. 72, 1♂ 1♀; Parmu (114), 29. v. 85, 1♂.
Also recorded in Germany, Austria, Hungary, Italy, Sweden, and the St. Petersburg region.

Genus *Amauromyza* Hendel, 1931

Subgenus *Amauromyza* Hendel, 1931

39. **A. (A.) morionella** (Zettstedt, 1848)
Lohkva (82), 23. vi. 73, 1♀.
Widespread in Europe; yet in Sweden found only in Skåne, Öland and Gotland, in Finland only from Regio aboensis. Not found east of Estonia.

Subgenus *Cephalomyza* Hendel, 1931

40. **A. (C.) monfalconensis** (Strobl, 1909)
5 localities (4, 18, 25, 97, 98), 7.—29. vi., 7♂♂.
Widespread in Europe; in Sweden only on Gotland, Västergötland and Närke, not found in Finland and east of Estonia.

Genus *Cerodontha* Rondani, 1861

Subgenus *Icteromyza* Hendel, 1931

41. **C. (I.) bohemanni** (Rydén, 1951)
Lümanda (3), 2. viii. 87, 1♂.
Also known in England, Germany, Sweden (Skåne, Östergötland, Uppland), and the St. Petersburg region.
42. **C. (I.) capitata** (Zetterstedt, 1848)
Sulbi (101), 8. vii. 73, 1♀.
Holarctic. According to Zlobin, this species is known up to Yakutia.

43. **C. (I.) geniculata** (Fallén, 1823)

NOWAKOWSKI, 1973: 40—41: Estland, Livland, without exact localities, 21. v.—4. vii., 2♂♂ 2♀♀. PAPP, 1984: 284: Est (abbr. for Estonia).

Neeruti (48), 21. vi. 79, 1♂.

Transpalaeartic.

Subgenus **Cerodontha** Rondani, 1861

44. **C. (C.) affinis** (Fallén, 1823)

NOWAKOWSKI, 1973: 54: Vändra (55), 8.—29. vi., 10 specimens; Audru (62), 22. vi.—18. vii., 24 specimens. ЗЛОБИН, 1979: 881: Estonia. PAPP, 1984: 285: Est.

Viinistu (36), 22. vi. 79, 5. vii. 80, 2♂♂ 1♀.

Widespread in central and northern Europe, eastwards up to the Moscow region.

45. **C. (C.) denticornis** (Panzer, 1806)

ELBERG, 1964: 319—320: Massu (11), Puhtu (14), Kaasikjärv (70), 12. v.—17. vi., 2♂♂ 2♀♀. NOWAKOWSKI, 1973: 64, 66: Ridala (8), Vändra (55), Audru (62) and Estland without localities, 18. vi.—25. ix., 29 specimens.

12 localities (2, 4, 37, 42, 59, 77, 80, 83, 89, 97, 101, 113), 7. vi.—11. viii., 15♂♂ 1♀.

A very common and widespread transpalaeartic species.

46. **C. (C.) fulvipes** (Meigen, 1830)

NOWAKOWSKI, 1973: 59, 60: Vändra (55), Audru (62), Tartu (80), 31. v.—17. vii., 13 specimens. ЗЛОБИН, 1979: 881: Estonia. PAPP, 1984: 286: Est.

Palmse (42), 23. vi. 73, 1♂; Lake Kõverjärv (47), 22. vi. 73, 1♂; Lake Kooraste (100), 7. vii. 73, 2♀♀.

Widespread in Europe, in Finland only in Alandia.

47. **C. (C.) hennigi** Nowakowski, 1967

11 localities (4, 6, 27, 28, 37, 41, 42, 45, 82, 83, 111), 20. vi.—22. viii., 15♂♂ 3♀♀.

Widespread in Europe, in Finland recorded in Alandia, confirmed from the St. Petersburg region.

48. **C. (C.) stackelbergi** Nowakowski, 1972

NOWAKOWSKI, 1972: 738: Vändra (55), 7. vii. 1904, 1♀ (Paratypoid). NOWAKOWSKI, 1973: 52: the same. SPENCER, 1976: 178: Estonia. PAPP, 1984: 287: Est.

Only other records from Finland, St. Petersburg region and Poland.

Subgenus **Xenophytomyza** Frey, 1946

49. **C. (X.) atronitens** (Hendel, 1920)

4 localities (4, 33, 82, 98), 7.—19. vi., 4♂♂.

Widespread in Europe, in Sweden known only in Västergötland, Närke and Gotland, in Finland in Alandia. Also confirmed in the St. Petersburg region.

50. **C. (X.) biseta** (Hendel, 1920).

NOWAKOWSKI, 1973: 71: Audru (62), 7. vii., 1♂; Estland, Livland, without localities, 30. vi. 1892, 1♂. PAPP, 1984: 285: Est.

Võidula (54), 14. vi. 79, 1♀; Lohkva (82), 18. vi. 80, 1♀; Pikasilla (93), 9. vi. 80, 1♀, leg. V. Junno.

Widespread in Europe, including the St. Petersburg and Moscow regions.

51. **C. (X.) venturii** Nowakowski, 1967
NOWAKOWSKI, 1967: 659: Estland, Livland, 6. vii. 1887, 1♀ (paratypoid). NOWAKOWSKI, 1973: 72: the same. SPENCER, 1976: 183: Estonia. PAPP, 1984: 285: Est. 8 localities (33, 40, 44, 53, 68, 82, 83, 97), 7.—25. vi., 9♂♂.
Also recorded in England, Austria, Switzerland, Denmark, Finland (Karelia borealis), and Lithuania. Not found east of Estonia.

Subgenus *Poemyza* Hendel, 1931

52. **C. (P.) atra** (Meigen, 1830)
19 localities (7, 19, 24, 25, 37, 42, 44—46, 50, 54, 56, 82, 83, 88, 90, 92, 97, 111), 5. vi.—19. vii., 49♂♂ 5♀♀.
Transpalaeartic, widespread in Europe.

53. **C. (P.) calamagrostidis** Nowakowski, 1967
5 localities (45, 60, 80, 82, 97), 8. vi.—6. vii., 7♂♂.
Transpalaeartic, yet not found in Fennoscandia. Confirmed in the St. Petersburg region.

54. **C. (P.) imbuta** (Meigen, 1838)
5 localities (24, 25, 42, 83, 113), 16. vi.—16. vii., 7♂♂.
Also recorded in England, Denmark, Finland, Poland and Lithuania.

55. **C. (P.) incisa** (Meigen, 1830)
NOWAKOWSKI, 1973: 119, 123: Audru (62), 7. vii. 1889, 1♂. PAPP, 1984: 288: Est. 6 localities (7, 60, 66, 74, 82, 84), 16. v.—2. ix., 4♂♂ 2♀♀.
Holarctic.

56. **C. (P.) inconspicua** (Malloch, 1913)
Kõnnu (45), 20. vi. 79, 1♂.
Holarctic, in the Eastern Hemisphere very rare, known only in Karelia rossica (Syväri) and the St. Petersburg region.

57. **C. (P.) lapplandica** (Rydén, 1956)
Lohkva (82), 8. v. 78, 1♂.
Earlier only in Swedish and Norwegian Lapland, and the Central European mountains.

58. **C. (P.) muscina** (Meigen, 1830)
6 localities (42, 82, 83, 94, 98, 100), 2. v.—7. vii., 3♂♂ 4♀♀.
Common holarctic species.

59. **C. (P.) phalaridis** Nowakowski, 1967
Vidrike (99), 7. vii. 73, 1♂.
In Central Europe and also in the Far East. Not found in Fennoscandia.

60. **C. (P.) phragmitidis** Nowakowski, 1967
ELBERG, 1964: 319 (*Poemyza atra*, see Nowakowski, 1973): Väätša (51), Massu (11), 20. vi.—20. viii., 2♀♀. NOWAKOWSKI, 1973: 97: Massu (11). SPENCER, 1976: 190: Estonia. PAPP, 1984: Est. Tartu (80), 22. vi. 80, 1♂.
Widespread in Europe, including the St. Petersburg region. Not recorded in Finland.

61. **C. (P.) pygmaea** (Meigen, 1830)
ELBERG, 1964: 319: Puhtu (14), 20. v. 62, 1♀. NOWAKOWSKI, 1973: 128, 132: Audru (62), 22. vii. 1887, 1♂; Estland, Livland, without exact locality, 11. v. 1889, 1♀. PAPP, 1984: 289—290: Est. ТАНАСИИЧУК, ЗЛОБИН, 1981: 148: Estonia.
6 localities (45, 54, 61, 82—84), 20. v.—20. vi., 6♂♂ 1♀.
Holarctic.

Subgenus *Phytagomyza* Hendel, 1920

62. *C. (P.) flavocingulata* Strobl, 1909)

10 localities (33, 42, 49, 51, 54, 68, 83, 89, 92, 98), 2. vi.—7. vii., 10♂♂ 2♀♀.
Holarctic. Widespread in Europe, also mentioned as coming from Canada,
and by Zlobin, from the eastern part of the Palaearctic Region.

Subgenus *Butomomyza* Nowakowski, 1967

63. *C. (B.) angulata* (Loew, 1869)

6 localities (45, 48, 64, 93, 97, 101), 7. vi.—8. vii., 7♂♂.

Holarctic. Not recorded in Finland, but met with in northern Norway.

64. *C. (B.) caricivora* (Groschke, 1954)

Heimtäli (64), 11. vi. 79, 1♂.

Only other certain records are from Germany, Poland, Sweden (Skåne),
and Finland (Savonia australis). Also a doubtful record from the Baikal
area.

Subgenus *Dizygomyza* Hendel, 1920

65. *C. (D.) bimaculata* (Meigen, 1830)

NOWAKOWSKI, 1973: 192, 194: Väandra (55), 25. vi. 1904, 1♂; 16. vii., 1♂.

4 localities (71, 82, 83, 110), 2.—29. vi., 3♂♂ 1♀.

Transpalaearctic, however not found in Finland.

66. *C. (D.) bulbiseta* (Hendel, 1931)

Luunja (84), 20. v. 73, 1♂.

Previously only the unique male holotype was found in Norway (with-
out precise locality).

67. *C. (D.) caricicola* (Hering, 1926)

NOWAKOWSKI, 1972: 760: Audru (62), 5. viii. 1891, 1♂. NOWAKOWSKI, 1973: 216:
the same. SPENCER, 1976: 220: Estonia. PAPP, 1984: 293: Est.

4 localities (7, 21, 46, 82), 16. v.—16. vii., 4♂♂.

Other records from Germany, Poland, England and Denmark.

68. *C. (D.) elbergi* Nowakowski, 1972

ELBERG, 1964: 319 (*Dizygomyza crassiseta*, see Nowakowski, 1972): Laelatu (13), 24.,
25. v. 61, 1♂ 2♀♀. NOWAKOWSKI, 1972: 755: Laelatu, 25. v. 61, 1♂ 1♀ (paratypoids).

NOWAKOWSKI, 1973: 184: the same. PAPP, 1984: 293: Est.

Maardu (29), 16. vi. 78, 1♂.

Also recorded in Austria, Poland, Hungary, and Mongolia.

69. *C. (D.) fasciata* (Strobl, 1880)

NOWAKOWSKI, 1972: 761 (*grisea*): Tartu, (80), 15. v. 1889, 1♂. NOWAKOWSKI, 1973:
225: the same. PAPP, 1984: 293: Est.

Kabina (83), 25. v. 74, 10. vii. 75, 2♂♂; Rannaküla (92), 5. vi. 74, 1♂.

Also confirmed without doubt in Austria, Denmark, Norway, Sweden (Got-
land), Finland (Ålandia and Nylandia), and Lithuania.

C. (D.) grisea was synonymised with *fasciata* by Spencer (1971) but was
treated as distinct by Nowakowski (1972). Later Spencer (1976) did not
accept this revival of *grisea*.

70. *C. (D.) ireos* (Robineau-Desvoidy, 1851)

Abruka (7), 15. vii. 73, 1♀; Tartu (80), 22. vi. 80, 1♂; Luunja (84),
20. v. 73, 1♂.

Transpalaearctic. In Finland recorded only in Ålandia.

71. **C. (D.) morosa** (Meigen, 1830)

ELBERG, 1964: 319: Tuhtu (15), Massu (11), Puhtu (14), Maima (20), 31.v.—12.viii., 5♂♂ 3♀♀. NOWAKOWSKI, 1972: 760: Hageri (23), Vändra (55), Audru (62), Pärnu (63), Tartu (80), 7.v.—5.viii., 3♂♂ 11♀♀. NOWAKOWSKI, 1973: 218, 220: the same. 10 localities (4, 42, 44, 45, 54, 56, 60, 82—84), 9.v.—30.vii., 11♂♂ 1♀. Transpalaeartic.

Genus **Liriomyza** Mik, 1984

72. **L. buhri** Hering, 1937

4 localities (4, 34, 42, 82), 3.—23.vi., 4♂♂.

Earlier known as occurring in France, Germany, Denmark, Sweden (widespread in south), Finland (Regio aboensis), and Lithuania.

73. **L. centaureae** Hering, 1927

Tiksoja (79), 19.vi. 61, 1♂.

Widespread in Europe; yet not found in Finland.

74. **L. congesta** (Becker, 1903)

Viidumäe (4), 29.vii. 87, 1♀; Kõnnu (45), 20.vi. 79, 1♂ 1♀; Lohkva (82), 27.v. 77, 1♀.

Transpalaeartic.

75. **L. equiseti** de Meijere, 1924

Palmse (42), 23.vi. 73, 1♂; Lohkva (82), 14., 18.vi. 80, 2♂♂.

The only other records from the Netherlands and England.

76. **L. eupatorii** (Kaltenbach, 1874)

Oriküla (58), 13.vi. 79, 4♂♂.

Holarctic. Europe and Canada. Not found east of Estonia.

77. **L. flaveola** (Fallén, 1823)

ELBERG, 1964: 320: Puhtu (14), 3.vii. 62, 1♀.

4 localities (80, 82, 83, 98), 2.vi.—26.vii., 3♂♂ 4♀♀.

Common throughout most of Europe. Also in Central Asia (Fergana).

78. **L. phryne** Hendel, 1931

Kabina (83), 16.vi. 73, 1♂.

Transpalaeartic. In Sweden from Skåne, Halland, Västmanland, and Gotland, but not found in Finland.

79. **L. ptarmicae** de Meijere, 1925

Lohkva (82), 7.vi. 75, 1♂; Rannaküla (92), 14.vi. 75, 1♂.

Holarctic. Widespread in Europe, not found east of Estonia. Also occurs in Canada.

80. **L. richteri** Hering, 1927

5 localities (42, 50, 54, 57, 83), 13.vi.—10.vii., 3♂♂ 2♀♀.

Holarctic. The Estonian records are the most southerly ones in Europe.

81. **L. scorzonerae** Rydén, 1951

Lohusalu (25), 25.vi. 80, 1♂; Palmse (42), 23, 24.vi. 79, 2♂♂ 1♀; Lohkva (82), 14.vi. 80, 1♂.

Poland and Lithuania, widespread in southern Sweden, the most northerly record in Sweden comes from Närke.

82. **L. strigata** (Meigen, 1830)

Oriküla (58), 13.vi. 79, 2♂♂.

Transpalaeartic.

83. *L. taraxaci* Hering, 1927

Lohkva (82), 3. vi. 76, 1♂.

Holarctic. Not recorded in Finland, but in Sweden found also in Torne Lappmark.

84. *L. tragopogonis* de Meijere, 1928

Toila (68), 21. vi. 73, 1♀.

Widespread in Europe. In Sweden found only in Skåne and Uppland; not found in Finland and east of Estonia.

85. *L. valerianae* Hendel, 1932

Väätsa (51), 3. vi. 60, 1♂.

European species, in Finland only in Regio aboensis and not found east of Estonia.

86. *L. virgo* (Zetterstedt, 1838)

ELBERG, 1964: 320: Kaasikjärv (70), 11. vi. 60, 1♂, 1♀; Sömerpalu (103), 23. vi. 60, 1♂.

Kõnnu (45), 20. vi. 79, 1♂; Kääriku (97), 8. vi. 73, 1♂.

Holarctic, in Europe and Alaska. Not found east of Estonia.

87. *L. virgula* Frey, 1946

Lohusalu (25), 25. vi. 80, 1♂.

The only other records from Germany (Lausitz) and Finland (Lapponia kemensis).

Genus *Galiomyza* Spencer, 1981

88. *G. morio* (Brischke, 1881)

Viitna (44), 19. vi. 78, 1♀.

Occurring widely in Europe, including the Moscow region.

Genus *Metopomyza* Enderlein, 1936

89. *M. flavonotata* (Haliday, 1833)

4 localities (44, 56, 82, 83), 25. v.—10. vii., 4♂♂ 3♀♀.

Eurosibirian species.

90. *M. nigriorbita* (Hendel, 1931)

ELBERG, 1964: 320 (*Liriomyza*): Sömerpalu (103), 28. vii., 60, 1♂.

Also known in Austria, Silesia, Lithuania, Denmark, and Sweden (Skåne).

91. *M. scutellata* (Fallén, 1823)

Võidula (54), 14. vi. 79, 1♀; Kabina (83), 5. vi. 75, 1. vii. 73, 2♀♀.

Widespread in Europe. The most eastern records are from Estonia and Lithuania.

92. *M. xanthaspida* (Hendel, 1920)

ELBERG, 1964: 320: Väätsa (51), 16. vi. 60, 1♂; Kaasikjärv (70), 11. vi. 60, 1♂; Sömerpalu (103), 4. vi. 60, 1♂.

Tartu (80), 22. vi. 80, 1♂; Vapramäe (89), 23. vi. 68, 1♂.

Widespread in Europe, including the Moscow region.

93. *M. xanthaspioides* (Frey, 1946)

Kabina (83), 13. vi. 73, 2♀♀.

The only other records from Sweden (Skåne, Närke), Finland (Helsinki area), Lithuania and the Moscow region.

94. **M. xanthaspis** (Loew, 1858)
ELBERG, 1964: 320: Sömerpalu (103), 22. vi. 60, 1 ♀.
Viitna (44), 19. vi. 78, 1 ♂.
Widespread in Europe.

Genus *Phytoliriomyza* Hendel, 1931

95. **Ph. dorsata** (Siebke, 1864)
ELBERG, 1964: 320 (*Liriomyza striata*): Sömerpalu (103), 22. vi. 60, 1 ♂; Kaasikjärv (70), 11. vi. 60, 1 ♂.
Luua (73), 22. vi. 69, 2 ♂ ♂.
Holarctic, Europe, Asia, North America.

96. **Ph. perpusilla** (Meigen, 1830)
ELBERG, 1964: 320: Tuhu (15), 16. vii. 61, 1 ♀.
Widespread in Europe, but rare in Sweden (Skåne) and Finland (Hel-sinki). Not found east of Estonia.

Genus *Calycomyza* Hendel, 1931

97. **C. artemisiae** (Kaltenbach, 1856)
Laulasmaa (26), 11. vii. 80, 1 ♂.
Holarctic. In Finland known only in Nylandia.

Genus *Nemorimyza* Frey, 1946

98. **N. posticata** (Meigen, 1830)
Obinitsa (113), 18. vii. 80, 1 ♂.
Holarctic. Also in Costa Rica.

Genus *Paraphytomyza* Enderlein, 1936

99. **P. buhri** (de Meijere, 1938)
4 localities (4, 58, 82, 91), 4. v.—7. vii., 5 ♂ ♂ 2 ♀ ♀.
Widespread in Europe. In Fennoscandia only in Finland (*Tavastia aust-ralis* and *Savonia australis*). Not found east of Estonia.

100. **P. trivittata** (Loew, 1873)
Viitna (44), 19. vi. 78, 1 ♂; Kabina (83), 3., 13. vi. 73, 2., 5. vi., 10. vii. 75, 1 ♂ 5 ♀ ♀.
Widespread in Europe but local. In Fennoscandia only in Sweden (Skåne, Uppland).

Genus *Pseudonapomyza* Hendel, 1920

101. **P. atra** (Meigen, 1830)
Lohkva (82), 18. vi. 80, 2 ♂ ♂; Kääriku (97), 8. vi. 73, 1 ♀; Trommi (98), 9. vi. 73, 2 ♂ ♂.
Transpalaeartic.

102. **P. europaea** Spencer, 1973
Järve (5), 26. vii. 87, 1 ♂, leg. E. P. Nartshuk.
According to original data presented by Zlobin, this species is transpalae-
artic. Not known in Fennoscandia.

Genus *Napomyza* Westwood, 1840

103. *N. albipennis* (Fallén, 1823)
7 localities (31, 33, 44, 83, 87, 93, 97), 5.—20. vi., 7♂♂ 1♀.
European species, not found east of Estonia.
104. *N. bellidis* Griffiths, 1967
Kõnnu (45), 20. vi. 79, 1♀.
Formerly known in *terra typica* — England (Barnet, Hertfordshire).
105. *N. elegans* (Meigen, 1830)
ELBERG, 1964: 320: Väätsa (51), 17. vi. 60, 1♀.
Widespread in Europe, not found east of Estonia.
106. *N. evanescens* (Hendel, 1920)
Tammistu (33), 19. vi. 79, 2♂♂; Tartu (80), 17. vi. 80, 1♂; Kabina (83),
3. vi. 73, 1♀.
Holarctic, in Europe not found east of Estonia.
107. *N. glabra* Hendel, 1935
Võidula (54), 14. vi. 79, 1♂; Lohkva (82), 27. v. 77, 1♂; Aruküla (87),
19. v. 65, 1♂.
The only other records from northern Germany (Mecklenburg) and
southern Finland (Nylandia and Regio aboensts).
108. *N. hirticornis* Hendel, 1932
Kabina (83), 16. vii. 73, 2♂♂.
Also recorded in Austria, Germany, Britain, and Denmark.
109. *N. lateralis* (Fallén, 1823)
ELBERG, 1964: 320: Mõisaküla (9), 1. vii. 62, 1♀. Massu (11), 24. viii. 61, 1♀; Puhtu
(14), 3. vii. 62, 1♀.
Väätsa (51), 17. vi. 60, 1♂; Kabina (83), 2. vi. 75, 1♂.
Holarctic.
110. *N. nigritula* (Zetterstedt, 1838)
Viisjaagu (88), 9. vi. 81, 1♂; Mooste (106), 27. v. 73, 1♀.
Holarctic, in Europe the most easterly records from Estonia and Lithuania.

Genus *Phytomyza* Fallén, 1810

111. *Ph. adjuncta* Hering, 1928
Kääriku (97), 7. vi. 73, 1♂.
Widespread in Europe, in Finland confirmed only in Alandia. Not found
east of Estonia.
112. *Ph. angelicae* Kaltenbach, 1874
Kabina (83), 10. vii. 75, 1♂; Vapramäe (89), 26. v. 68, 1♂.
Holarctic. Widespread in Europe, extending eastwards to the Moscow
region and, possibly, also present in Kazakhstan (as *heracleana*, see Spen-
cer, 1976).
113. *Ph. atomaria* Zetterstedt, 1848
Viisjaagu (88), 9. vi. 81, 1♂; Sulbi (101), 8. vii. 73, 1♀.
The only other record by Spencer (1976) was from Sweden (Skåne —
terra typica). According to Zlobin, this species is rather common in
Middle Volgaland.

114. **Ph. brevifacies** Hendel, 1934
Trommi (98), 9. vi. 73, 1 ♀.
The only other records from Silesia (*terra typica*), Lithuania and the Kola Peninsula (Ponoy).
115. **Ph. brunripes** Britschke, 1881
Kõnnu (45), 20. vi. 79, 1 ♀.
Widespread in Europe but local. In Sweden only in Öland and Gotland, not found in Finland. Not found north or east of Estonia.
116. **Ph. crassiseta** Zetterstedt, 1860
ELBERG, 1964: 320: Puhtu (14), 7. v. 62, 1 ♂.
4 localities (32, 42, 83, 85), 23. vi.—18. ix., 3 ♂ ♂ 2 ♀ ♀.
Common throughout most of Europe, including northern and central Russia.
117. **Ph. fallaciosa** Britschke, 1881
ELBERG, 1964: 320: Puhtu (14), 7. v. 62, 1 ♂.
Lohkva (82), 8. v. 79, 1 ♂ 1 ♀; Illi (90), 10. v. 68, 1 ♂.
Widespread in Europe, in Finland only in Regio aboensis and Nylandia. Not recorded east of Estonia.
118. **Ph. flavofemorata** Strobl, 1893
ELBERG, 1964: 320: Laelatu (13), 13. vi. 61, 1 ♂.
6 localities (4, 18, 36, 46, 53, 83), 14. vi.—7. vii., 10 ♂ ♂ 4 ♀ ♀.
Widespread in Europe. Not found east of Estonia.
119. **Ph. hedingi** Rydén, 1953
Toila (68), 26. vi. 73, 1 ♂; Tiksoja, Tähtvere (79), 20. vi. 80, 1 ♂, leg. V. Junno; Kabina (83), 28. ix. 75, 1 ♂.
The only other records from Norway and Iceland.
120. **Ph. milii** Kaltenbach, 1864
ELBERG, 1964: 320: Puhtu (14), 16. v. 62, 1 ♂.
Loksa (35), 5. vii. 80, 1 ♂; Reku (75), 30. vi. 73, 1 ♂; Kabina (83), 3. v., 5., 6. vi., 10. vii. 75, 2 ♂ ♂ 2 ♀ ♀.
Holarctic.
121. **Ph. nigra** Meigen, 1830
ELBERG, 1964: 320: Puhtu (14), 19. vi.—13. vii. 62, 6 ♂ ♂ 15 ♀ ♀; Lihula (17), 24. ix. 61, 1 ♀. GRIFFITHS, 1980: 49—55 (*Chromatomyia nigra*) (Meigen, 1830) s. lat., European form (*C. nigra* s. str. = *cinereofrons* Hardy): Estonia.
4 localities (1, 54, 82, 83), 3. v.—27. vii., 6 ♂ ♂ 5 ♀ ♀.
Holarctic.
122. **Ph. nigrifemur** Hering, 1934
7 localities (18, 24, 44, 46, 47, 58, 89), 13. vi.—7. vii., 10 ♂ ♂ 7 ♀ ♀.
Rare European species: Germany, Austria, Sweden (Uppland), Finland (Lapponia kemensis), the St. Petersburg region, and Lithuania.
123. **Ph. nigripennis** Fallén, 1823
ELBERG, 1964: 320: Puhtu (14), 7.—25. v. 62, 7 ♂ ♂ 1 ♀.
10 localities (18, 67, 72, 84, 87, 89, 94, 99, 106, 107), 10. v.—6. vi., 17 ♂ ♂ 2 ♀ ♀.
Widespread in Europe. Not found east of Estonia.
124. **Ph. obscurella** Fallén, 1823
Trommi (98), 9. vi. 73, 1 ♂.
Widespread in northern Europe, extending eastwards to Kirghizia. Confirmed also in Lithuania.

125. **P. plantaginis** Robineau-Desvoidy, 1851
Viidumäe (4), 22.v., 11. viii. 84, 2♂♂.
Holarctic.
126. **Ph. pubicornis** Hendel, 1920
ELBERG, 1964: 321: Hanila (12), 12.v. 62, 1♂ 1♀.
4 localities (52, 81, 83, 109), 6.—20.v., 8♂♂.
Widespread in western Europe, also recorded in Lithuania, not known in Finland and east of Estonia.
127. **Ph. pullula** Zetterstedt, 1848
Lohkva (82), 25.v. 75, 1♂; Kabina (83), 25.v. 74, 1♀.
Holarctic, in Finland only in Regio aboensis, not found east of Estonia.
128. **Ph. ramosa** Hendel, 1923
Viitna (44), 18.vi. 78, 1♂; Metsküla (46), 20.vi. 79, 1♂ 1♀; Liispõllu (105), 24.v. 74, 1♂.
Transpalaeartic.
129. **Ph. ranunculi** (Schrank, 1803)
ELBERG, 1964: 320: *Ph. r.* forma *albipes*, Laelatu (13), 30.ix. 61, 1♂; *Ph. r.* forma *praecox*, Puhtu (14), 12.iv.—25.v. 62, 3♂♂ 3♀♀.
7 localities (7, 24, 44, 50, 68, 83, 93), 5.vi.—16.vii., 6♂♂ 5♀♀.
Holarctic.
130. **Ph. ranunculicola** Hering, 1949
Viitna (44), 19.vi. 78, 1♂.
Previously known in France, Germany, Austria and Denmark.
131. **Ph. ranunculivora** Hering, 1932
Kabina (83), 13.vi. 73, 1♀.
Widespread in Europe. In Finland only Alandia. Not found east of Estonia.
132. **Ph. rhabdophora** Griffiths, 1964
Viidumäe (4), 11.viii. 84, 1♂; Vihasoo (39), 7.vii. 80, 2♂♂; Kabina (83), 16.vi. 73, 1♂.
In northern and central Europe. Confirmed in Lithuania, not found east of Estonia.
133. **Ph. robustella** Hendel, 1936
ELBERG, 1964: 321: Tuhu (15), 6.viii. 61, 1♂; Uueküla (10), 1.vii. 62, 1♂.
This name has been widely used in the literature for a group of species (Spencer, 1976). The Estonian specimens need new revision.
134. **Ph. rostrata** Hering, 1934
ELBERG, 1964: 321 (*sagitta*): Laelatu (13), 13.vi. 61, 1♀.
Kabina (83), 13.vi. 73, 1♀.
Also known in France, Germany, Denmark, Sweden, Finland (Alandia), Karelia (Syväri) and Lithuania.
135. **Ph. rufipes** Meigen, 1830
ELBERG, 1964: 321: Puhtu (14), 10.viii. 62, 1♀.
Pikasilla (93), 9.vi. 80, 1♀, leg. V. Junno.
Holarctic. In Europe not found east of Estonia.
136. **Ph. rydeni** Hering, 1934
Viitna (44), 19.vi. 78, 1♂; Tiksoja (79), 19.vi. 60, 1♂; Kääriku (97), 7.vi. 73, 1♀.
Recorded in Scotland, Denmark and Sweden (northwards up to Medelpad).

137. *Ph. soenderupi* Hering, 1941
Võidula (54), 14. vi. 79, 1♂.
The only other records from Denmark and northern Germany.
138. *Ph. spoliata* Strobl, 1906
Tammistu (33), 19. vi. 79, 1♂; Kabina (83), 3. vi. 73, 1♀.
Also in Austria, Germany, Lithuania, Mediterranean area, Denmark, Sweden, and Finland (Ålandia and Nylandia).
139. *Ph. subrostrata* Frey, 1946
Vorbuse (76), 29. v. 65., 1♂; Lohkva (82), 3. vi. 76, 1♀.
Previously recorded from Sweden, Finland and Karelia.
140. *Ph. tanaceti* Hendel, 1923
ELBERG, 1964: 321: Puhtu (14), 6. viii. 62, 1♂.
Viidumäe (4), 15. vi. 84, 1♂.
Widespread in Europe, not found east of Estonia.
141. *Ph. tenella* Meigen, 1830
ELBERG, 1964: 320 (*pedicularis*): Tuhu (15), 16. vi., 12. viii. 61, 2♀♀; Lake Limu (30), 5. vii. 60, 1♂.
Viidumäe (4), 15. vi. 84, 1♂.
Holarctic, in Europe not found east of Estonia.
142. *Ph. trollii* Hering, 1930
Viitna (44), 19. vi. 78, 1♂; Kabina (83), 16. vi. 73, 1♀, 2. vi. 75, 1♂ 2♀♀.
Previously rarely found in Fennoscandia, Denmark, Bavaria, Austria, Switzerland, and Siberia up to Lake Baikal.
143. *Ph. trolliivora* Hering, 1935
Kabina (83), 2. vi. 75, 1♂ 1♀.
Only recorded in Denmark, Swedish Lappland, northern Norway, Karelia (Syväri), and Germany.
144. *Ph. varipes* Macquart, 1835
Viinistu (36), 22. vi. 79, 1♀; Metsküla (46), 21. vi. 79, 1♂ 1♀.
Holarctic. In Europe not found east of Estonia.
145. *Ph. vitalbae* Kaltenbach, 1874
Kabina (83), 5. vi. 75, 1♀.
Widespread in the Palaearctic Region, also confirmed in Canada, southern Africa, Taiwan and Australia. In Fennoscandia recorded only in Sweden (Skåne).
146. *Ph. wahlgreni* Rydén, 1944
4 localities (45, 57, 83, 97), 3. v.—21. viii., 3♂♂ 3♀♀.
Holarctic.

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EESTI KAEVANDIKÄRBLASTEST (DIPTERA, AGROMYZIDAE)

Eestist on leitud 146 liiki kaevandikärblasi, neist 105 esmakordselt. Nimestik on koostatud kirjanduse (Elberg, 1964; Nowakowski, 1972, 1973) ning Zooloogia ja Botaanika Instituudi kahetiivaliste kogu põhjal. Materjali määras V. Zlobin. On käsitletud Eesti liikide geograafilist levikut. Laia levikuga liikide hulgas on 5 semikosmopoliitset, 37 holarktilist ja 17 transpalearktilist. 80-st Euroopa levikuga liigist pole 52 liiki leitud ida poolt Eestit. Eestist on leitud 15 liiki, mida pole kogutud ei Rootsist ega Soomest. 4 liiki oli senini teada vaid üksikute tüüpeksemplaridena. Töös on uusi leiundmeid veel mitmete teiste haruldaste Euroopa liikide kohta.

Кауро ЭЛЬБЕРГ, Владимир ЗЛОБИН

О МИНИРУЮЩИХ МУХАХ СЕМЕЙСТВА AGROMYZIDAE (DIPTERA) ЭСТОНИИ

В Эстонии найдено 146 видов минирующих мух, причем 105 впервые. Список видов составлен по материалам коллекции двукрылых Института зоологии и ботаники (Тарту) и по данным литературы (Elberg, 1964; Nowakowski, 1972, 1973). Материал определен В. В. Злобиным. Для каждого вида указано его географическое распространение. Среди широко распространенных видов имеются 5 полукосмополитических, 37 голарктических и 17 транспалеарктических. 80 видов известны до сих пор лишь в Европе. Из них 52 не установлены в восточной Эстонии. Из установленных в Эстонии видов 15 не найдены в Швеции и Финляндии. 4 вида были известны до сих пор лишь как типовые экземпляры. Приводятся данные о нахождении других редких европейских видов.