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NEW GENERA AND SPECIES OF GALL MIDGES (DIPTERA, CECIDOMYIIDAE) FROM THE RUSSIAN FAR EAST

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Two new genera and fifteen new species of gall midges are described from Primorskii krai: *Ametrodiplosis campanulae* sp. n., *A. lysimachiae* sp. n., *A. veronicastrum* sp. n., *Gynandrobremia salicifoliae* sp. n., *Mycodiplosis loniceracarpae* sp. n., *M. pteridiis* sp. n., *Resseliella salicicola* sp. n., *Acerovesiculomyia marikovskii* gen. et sp. n., *Karschomyia sidorenkoi* sp. n., *Lestodiplosis cacaliae* sp. n., *L. lonicericola* sp. n., *L. fimbripetalis* sp. n., *Contarinia veronicastrum* sp. n., *Dasineura storozhenkoi* sp. n., *Vitisiella vesicula* Fedotova et Kovalev, gen. et sp. n. All species reared from the galls or from flowers. The data on biology, gall-forming and distribution for new species are given. *Campanula cephalotes*, *Lysimachia davurica*, *Lonicera maackii*, *Pteridium aquilinum*, *Cirsium schantarense* and *Fimbripetalum radians* are firstly recorded as the host-plants for the gall midges.

KEY WORDS: Diptera, Cecidomyiidae, Gall Midges, galls, new taxa.

З. А. Федотова. Новые роды и виды галлиц (Diptera, Cecidomyiidae) с Дальнего Востока России // Дальневосточный энтомолог. 2003. N 125. С. 1-30.

Описано 2 новых рода и 15 новых видов галлиц из Приморского края: *Ametrodiplosis campanulae* sp. n., *A. lysimachiae* sp. n., *A. veronicastrum* sp. n., *Gynandrobremia salicifoliae* sp. n., *Mycodiplosis loniceracarpae* sp. n., *M. pteridiis* sp. n., *Resseliella salicicola* sp. n., *Acerovesiculomyia marikovskii* gen. et sp. n., *Karschomyia sidorenkoi* sp. n., *Lestodiplosis cacaliae* sp. n., *L. lonicericola* sp. n., *L. fimbripetalis* sp. n., *Contarinia veronicastrum* sp. n., *Dasineura storozhenkoi* sp. n.,

Vitisiella vesicula Fedotova et Kovalev, **gen. et sp. n.** Все виды выведены из галлов или цветков. Приводятся сведения по биологии, галлообразованию и распространению новых видов. Впервые отмечены как кормовые растения для галлиц *Campanula cephalotes*, *Lysimachia davurica*, *Lonicera maackii*, *Pteridium aquilinum*, *Cirsium schantarense* и *Fimbripetalum radians*.

Самарская сельскохозяйственная академия, пос. Усть-Кинельский Самарской области, 446442, Россия.

INTRODUCTION

I collected the Gall Midges in 2001 in the vicinity of Kamenushka village near Ussuriyskii Reserve (Primorskii krai, Russia). Fifteen new species from this locality have been described recently (Fedotova, 2002). The descriptions of two new genera: *Acerovesiculomyia* Fedotova, gen. n., *Vitisiella* Fedotova et Kovalev, gen. n. and fifteen new species from seven genera: *Gynandrobremia* Mamaev, 1965, *Dasineura* Rondani, 1840, *Ametrodiplosis* Rübsaamen, 1910, *Mycodiplosis* Rübsaamen, 1895, *Lestodiplosis* Kieffer, 1894, *Resseliella* Seitner, 1906, *Karschomyia* Felt, 1908 are given below.

Holotypes and some paratypes of new species are deposited in the Zoological Institute, St. Petersburg, other paratypes in the collection of Samara Academy of Agriculture, Ust-Kinelskii, Samarskaya oblast and Institute of Biology and Soil Science, Vladivostok. The abbreviations used in the descriptions and figure legends are as follows: F1, F2, ... F15 – flagellomeres 1, 2, ... 15 respectively.

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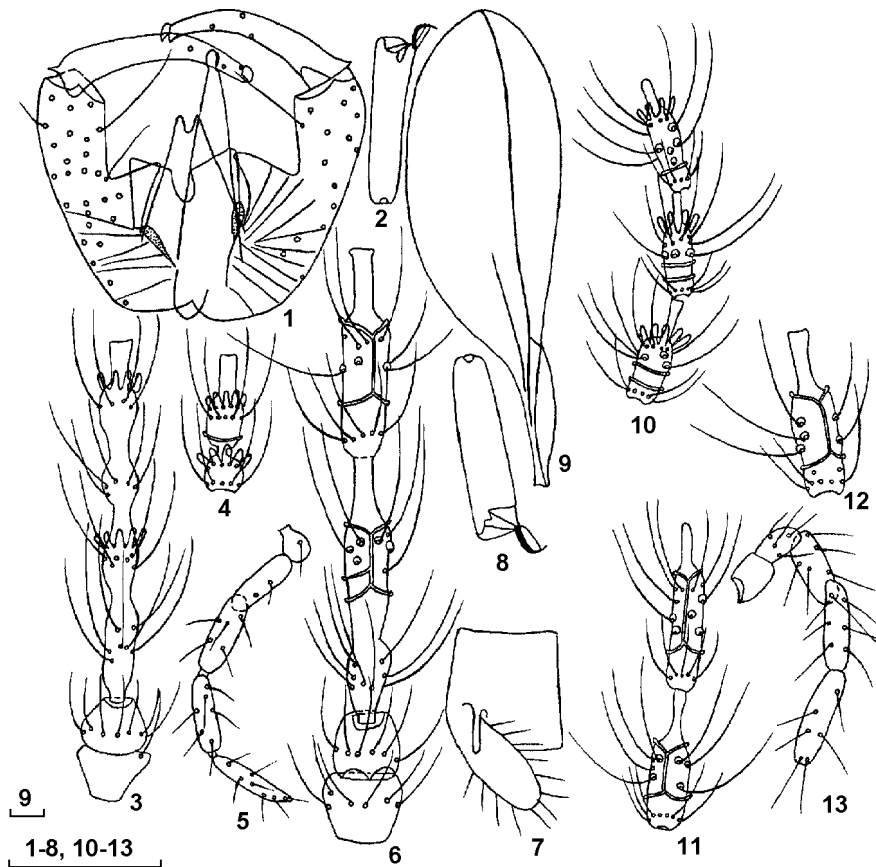
DESCRIPTIONS OF NEW TAXA

Ametrodiplosis campanulae Fedotova, sp. n.

Figs 1-13

MATERIAL. Holotype – ♂ (slide N 7089/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 24.VII 2001, larvae in flower galls on *Campanula cephalotes* (Z. Fedotova). Paratypes – 3 ♂, 4 ♀ (slide N 7089/1-4) from the same locality, emergence 10-12.VIII 2001 and after overwintering in laboratory.

DESCRIPTION. MALE. Body length 0.7-1.0 mm. Medial width of eye bridge 14 to 16 facets. Antennae 2+12-segmented. Scape, pedicel and base of F1 almost white, without sclerotization, scape equal pedicel. F1 with 2 nodes, 1.2 times as long as F2. Middle flagellomeres with short narrowed neck. F5 3.8 times as long as wide, distal neck 1.2 times shorter than distal node, distal node 1.4 times as long as proximal node and 7.0 times as long as proximal neck. F12 apically with long narrowed protrusion, 1.1 times 8 times as long as F11. Palpi 4-segmented, its ratio is 7:8:7:8 or 2:5:7:9, 2:5:8:7, segment 4 with rounded narrowed apex or with little



Figs 1-13. *Ametrodiplosis campanulae* sp. n.: 1-5, 9, 10 – male; 6-8, 11-13 – female. 1) genitalia; 2, 8) tarsal claw; 3, 6) scape, pedicel, F1, F2; 4) F5; 5) palpus; 7) ovipositor; 9) wing; 10) F10-F12; 11) F11, F12; 12) F5; 13) palpus. Scale line – 0.1 mm.

protrusion. Tarsal claw simple, empodium as long as claw. Wings 3.1 times as long as wide. Vein R_{1+2} running into anterior wing margin far before its middle, R_{4+5} far behind wing apex, large thickening only at the wing base. Gonocoxite strongly dilated basally, 4.1 times as long as wide. Gonostylus 0.7 times as long as gonocoxite, not swollen, slightly bent in proximal half, 5.1 times as long as wide. Cerci with long pointing lobes, with deep, nearly oval-form emargination, non-sclerotized. Hypoproct almost conical, strongly sclerotized, 1.2 times shorter than cerci, nearly emarginated between two short conical lobes. Basal outgrowths of gonocoxites triangular, with strongly sclerotized spot on internal side. Aedeagus longer than gonocoxites, enlarged basally and rounded or with oval protrusion apically. Genital base not wide, weakly sclerotized.

FEMALE. Body length 1.2-1.7 mm with retracted ovipositor. Antennae 2+12-segmented, scape equal pedicel, F1 strongly narrowed medially, 1.3 times as long as F2. Middle flagellomeres without narrowed neck. F5 3.5 times as long as wide, node 1.9 times as long as neck. F12 with long parallel-sided protrusion, 1.1 times as long as F11. Palpi 4-segmented, its ratio is 2:4:5:5 or 3:4:5:6, segment 4 almost oval-form, with rounded apex. Tarsal claw larger than in male, empodium as long as claw. Ovipositor 1.5 times as long as wide. Apical plate 2.1 times as long as wide, covered by long setae; invisible on ventral side of abdominal segment IX. Ventral plate is very long, 0.3 times as long as apical plate.

BIOLOGY. Pale-yellow-rose larvae live gregariously in flower galls, but their damages invisible. The flower not opened, not thickened, its lobes pressed together. Pupation in soil. Pupa stages prolong 10-12 days. Prepupa overwinters. There are two generations per year.

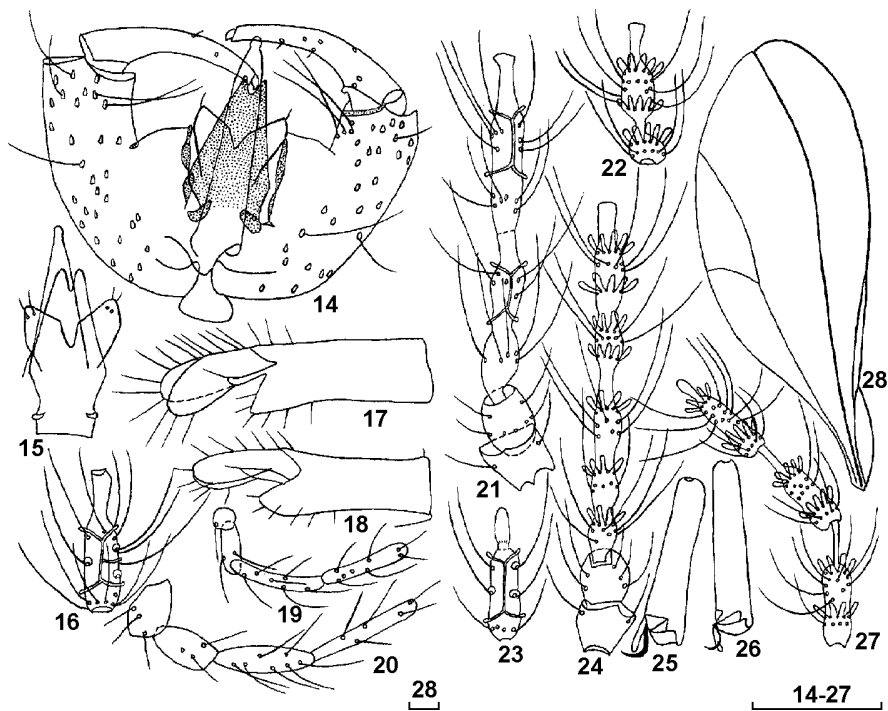
RELATIONSHIPS. New species closely related to *A. urticae* Kovalev, 1972, reared from leaves galls of *Urtica angustifolia* (Kovalev, 1972). New species differs from the latter by the short proximal and distal necks of male flagellomeres, by more distinct basal outgrowths of triangular gonocoxites, by strongly enlarged basally hypoproct, and by shorter necks of female flagellomeres. From other *Ametrodiplosis* species a new species differs by very long apical lobes of ovipositor, which has ventro-caudal position.

***Ametrodiplosis lysimachiae* Fedotova, sp. n.**

Figs 14-28

MATERIAL. Holotype – ♂ (slide N 7052/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 18.VII 2001, larvae in flower galls on *Lysimachia davurica* (Z. Fedotova). Paratypes – 6 ♂, 6 ♀ (slide N 7052/1-6) from the same locality, emergence 8-10.VIII 2001 and after overwintering in laboratory.

DESCRIPTION. MALE. Body length 1.4-1.6 mm. Medial width of eye bridge 12 to 14 facets. Antennae 2+12-segmented. Scape, pedicel and base of F1 almost white, without sclerotization. F1 with three nodes, 1.2 times as long as F2. F5 4.3 times as long as wide, distal neck 1.2 times as long as distal node, distal node 1.8 times as long as proximal node and 4.5 times as long as proximal neck. F12 apically with long narrowed protrusion as distal node, almost equal F11. Palpi 4-segmented, its ratio is 5:7:7:8 or 2:5:7:9, 2:5:8:7, segment 4 with rounded larger apex or with little protrusion. Tarsal claw simple, empodium longer than claw. Wings 2.6 times as long as wide. Vein R_{1+2} running into anterior wing margin far before its middle, R_{4+5} far behind wing apex, large thickening only at the wing base. Gonocoxite strongly dilated basally, 1.5 times as long as wide. Gonostylus 0.8 times as long as gonocoxite, not swollen, slightly bent in proximal half, 3.2 times as long as wide. Cerci with long pointing lobes, with deep, nearly triangular emargination, non-sclerotized. Hypoproct almost conical, strongly sclerotized, 0.8 times as wide as cerci, nearly emarginated between two short conical lobes. Basal outgrowths of gonocoxites triangular, with strongly sclerotized spot on internal side. Aedeagus longer



Figs 14-28. *Ametrodiplosis lysimachiae* sp. n.: 14-15, 19, 22, 24, 26-28 – male; 16-18, 20, 21, 23, 25 – female. 14) genitalia; 15) cerci, hypoproct and aedeagus (variability of shape); 16) F5; 17, 18) ovipositor (variability of shape); 19, 20) palpus; 21, 24) scape, pedicel, F1, F2; 22) F5; 23) F12; 25, 26) tarsal claw; 27) F10-F12; 28) wing. Scale line – 0.1 mm.

than gonocoxites, enlarged basally and with rounded or oval protrusion apically. Genital base not wide, weakly sclerotized.

FEMALE. Body length 1.4-1.8 mm with retracted ovipositor. Antennae 2+12-segmented, F1 strongly narrowed medially, equal F2. F5 4.3 times as long as wide; node 2.6 times as long as neck. F12 with long parallel-sided protrusion. F11 1.3 times as long as F12. Palpi 4-segmented, its ratio is 4:4:7:8, segment 4 almost parallel-sided, with rounded apex. Tarsal claw larger than in male, empodium smaller than that claw. Ovipositor 3.4-4.0 times as long as wide. Apical plate 2.9-3.1 times as long as wide, covered with slightly longer setae than those on ventral side of abdominal segment IX. Ventral plate is very long, 0.4-0.5 times as long as apical plate.

BIOLOGY. White-grey larvae live gregariously in flower galls, but their damages invisible. The flower not opened, weakly thickened, its lobes pressed together. Pupation in soil. A pupa stage prolongs 20-30 days. Prepupa overwinters. There are two generations per year.

RELATIONSHIPS. New species closely related to *A. campanulae* sp. n., but differs by very wide gonocoxites, by almost cordiform male cerci, by very thin palp segments, by additional elongated vein R_{1+2} , running vein R_{4+5} far behind wing apex and dorso-caudal position of apical lobes of ovipositor.

***Ametrodiplosis veronicastrum* Fedotova, sp. n.**

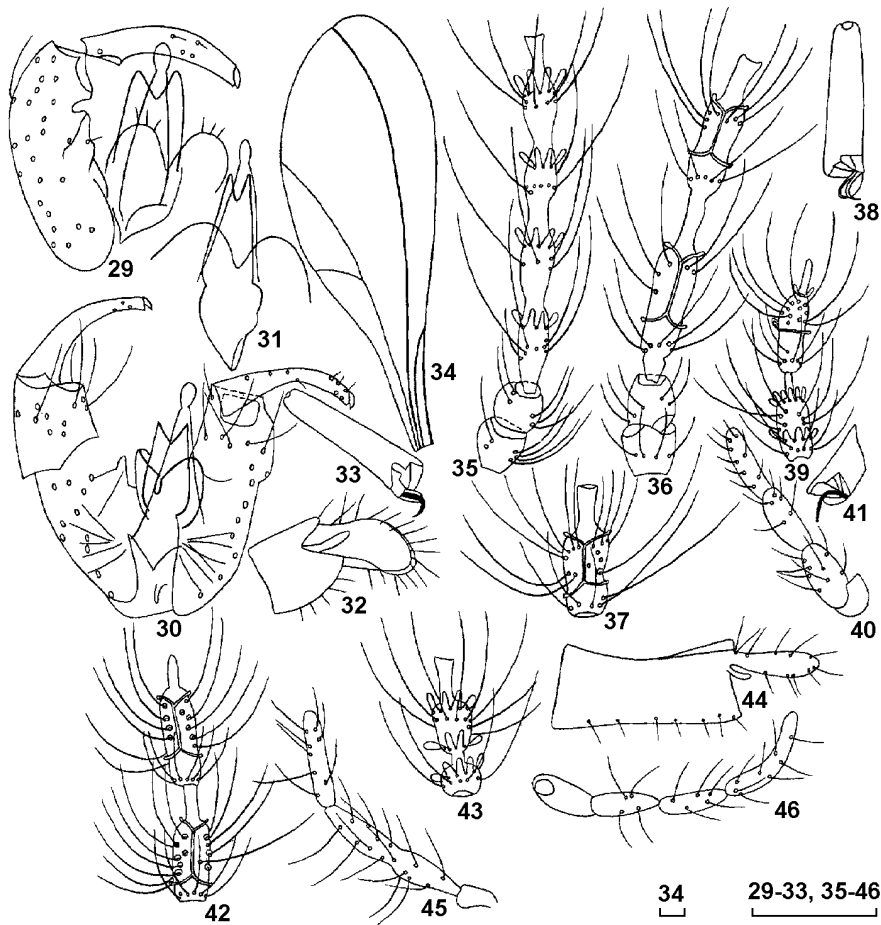
Figs 29-46

MATERIAL. Holotype – ♂ (slide N 7050 b/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 15.VII 2001, larvae in flower galls on *Veronicastrum sibiricum* (Z. Fedotova). Paratypes – 2 ♂, 6 ♀ (slide N 7050 b/1-3) from the same locality, emergence after winter in laboratory.

DESCRIPTION. MALE. Body length 0.9-1.1 mm. Medial width of eye bridge 11 to 12 facets. Antennae 2+12-segmented, scape rounded. F1 with short neck, 1.2 times as long as F2. F5 3.4 times as long as wide, distal neck 0.7 times as long as distal node, distal node 1.9 times as long as proximal node and 4.8 times as long as proximal neck. F12 apically with long narrowed protrusion. F11 1.3 times as long as F12, both with reduced sensorial files. Palpi 4-segmented, its ratio is 2:2:2:3, segment 4 with rounded apex. Tarsal claw simple, empodium shorter than claw, rounding medially. Wings 2.9-3.0 times as long as wide. Vein R_{1+2} running into anterior wing margin far before its middle, R_{4+5} far behind wing apex, there its strongly recurved. Gonocoxite strongly dilated basally, 1.6-1.8 times as long as wide. Gonostylus 1.4-1.8 times shorter than gonocoxite, not swollen, slightly bent in medial part, 3.0-3.2 times as long as wide. Cerci with around lobes; weakly emarginated, non-sclerotized. Hypoproct extended medially, almost rounded 1.6 times as narrow as cerci, not strongly sclerotized, oval emarginated between short rounded lobes. Aedeagus not longer than gonocoxites, strongly enlarged basally, conical apically. Genital base weakly sclerotized.

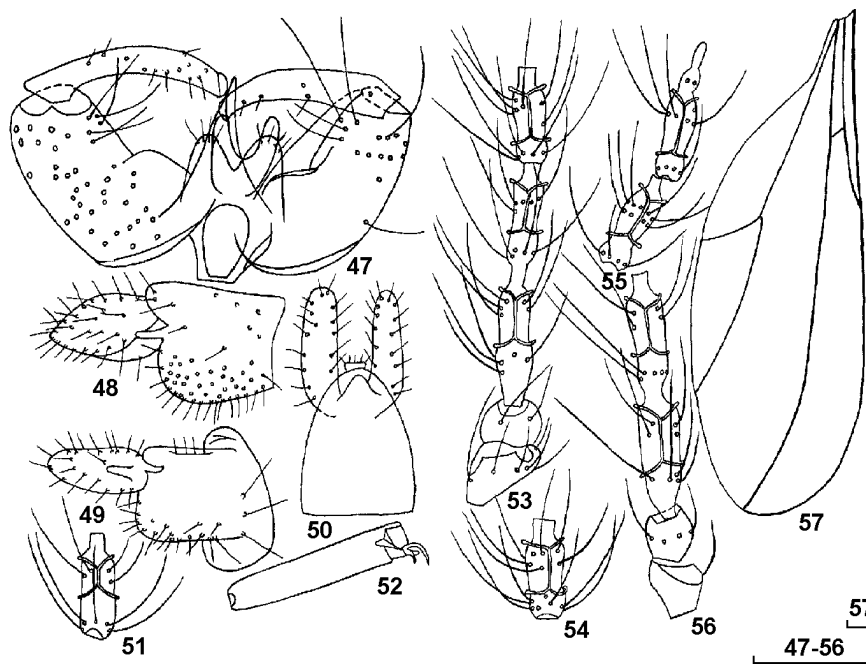
FEMALE. Body length 1.5-1.7 mm with retracted ovipositor. Antennae 2+12-segmented, F1 weakly narrowed medially, 1.3 times as long as F2. F5 4.0 times as long as wide, node 1.8 times as long as neck. F12 with long parallel-sided protrusion, 1.2 times as long as F11. Palpi 4-segmented, its ratio is 2:3:4:5, segment 4 almost parallel-sided, with rounded apex. Tarsal claw larger than in male, empodium smaller than claw. Ovipositor 3.2 times as long as wide. Apical plate 2.6-3.2 times as long as wide, covered with slightly longer setae than those on ventral side of abdominal segment IX. Ventral plate is very long, 2.2-3.2 times shorter than apical plate.

BIOLOGY. White larvae live gregariously in a flower gall. The flowers are not opened and weakly thickened, its lobes pressed together and covered by grey pubescent, 5 mm in diameter. Pupation in soil. Prepupa overwinters. There is one generations per year. New species was reared together with *Asteralobia (Euasteralobia) veronicastrum* Fedotova (Fedotova, 2002). In these galls developed also inquilines *Trotteria veronicastricola* Fedotova (Fedotova, 2002) and described above *Ametrodiplosis veronicastrum* sp. n. Quite possibly *Contarinia veronicastrum* sp. n. described below develop in flowers without galls. In this case flowers are without visible damages.



Figs 29-46. *Ametropiplosis veronicastrum* sp. n.: 29-31, 33, 35, 38, 39, 43 – male; 32, 34, 36, 37, 40, 41, 42, 44, 45 – female. 29-30) genitalia (variability of shape); 31) cerci, hypoproct and aedeagus (variability of shape); 32) ovipositor; 33) tarsal claw; 34) wing; 35-36) scape, pedicel, F1, F2; 37) F5; 38, 41) tarsal claw; 39) F11, F12; 40) palpus; 42) F11, F12; 43) F5; 44) ovipositor; 45-46) palpus. Scale line – 0.1 mm.

RELATIONSHIPS. New species closely related to *A. mamaevi* Kovalev, reared from leaf galls of *Abies holophylla* (Kovalev, 1972). New species differs by the presence of aedeagus sphaeroform apex, by rounded (not triangular) cerci lobes, by lacking or small finger-form basal outgrowths of gonocoxites, by weakly enlarged distally apical lobes of ovipositor, and by shorter necks of male flagellomeres.



Figs 47-57. *Gynandrobremia salicifoliae* sp. n.: 47, 53-55, 57 – male; 48-52, 56 – female. 47) genitalia; 48-50) ovipositor (variability of shape, 48-49 – laterally, 50 – ventrally); 51) F5; 52) tarsal claw; 53, 56) scape, pedicel, F1, F2; 54) F5; 55) F11, F12; 57) wing. Scale line – 0.1 mm.

***Gynandrobremia salicifoliae* Fedotova, sp. n.**

Figs 47-57, 88-92; 220-221

MATERIAL. Holotype – ♂ (slide N 7051/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 18.VII 2001, larvae in leaf galls on *Salix nipponica* (Z. Fedotova). Paratypes – 2 ♂, 31 ♀ (slide N 7051/1-10) from the same locality, emergence 31.VII-1.VIII 2001 and after winter in laboratory.

DESCRIPTION. MALE. Body length 1.4-1.8 mm. Medial width of eye bridge 14 to 15 facets. Antennae 2+12-segmented. F1 1.4 times as long as F2. F5 2.8 times as long as wide, node 3.4 times as long as neck. F12 with long, setose protrusion, 1.4 times as long as F11. Palpi 4-segmented, its ratio is 5:8:7:6, segment 4 enlarged apically. Tarsal claw with fine bent tooth at base, rounded in middle, empodium not longer than claw. Wings 2.9 times as long as wide. Vein R_{1+2} running into anterior wing margin far before its middle, R_{4+5} into wing behind apex. Gonocoxite strongly dilated basally, 2.0 times as long as wide. Gonostylus equal gonocoxite, not swollen, slightly bent in distal part, 5.8 times as long as wide. Cerci cordiform; with deep, nearly triangular emargination, non-sclerotized, 1.4 times as wide as hypoproct.

Hypoproct sclerotized, deeply emarginated apically, gradually widened laterally. Genital base wide, weakly sclerotized. Aedeagus slender, strongly enlarged medially and narrowed apically.

FEMALE. Body length 1.7-2.7 mm with retracted ovipositor. Antennae 2+12-segmented, F1 1.2 times as long as F2. F5 3.4 times as long as wide, node 5.1 times as long as neck. F12 with long, narrowed setose protrusion, 1.3 times as long as F11. Palpi 4-segmented, its ratio is 3:9:9:8 or 4:8:7:7, segment 4 enlarged behind middle, with rounded apex. Tarsal claw larger than in male, with larger tooth at base and more rounded at middle. Ovipositor 1.5-2.1 times as long as wide, covered with slightly longer setae than those on ventral side of abdominal segment IX. Apical plate with rounded apex, 2.0 times as long as wide. Ventral plate large and weakly emarginated.

BIOLOGY. White larvae live gregariously in a rolled galls on apex leave. The leaves are strongly thickened, densely covered with white spots and often pressed together at apex stem. Part full-grown larvae drop to the ground to pupate, the other part are pupating in the galls. Up to two generations occur per year. Part of larvae of first generation pupated only next spring, after pupa's overwintering in the soil. Pupa stage is 13-15 days.

RELATIONSHIPS. New species closely related to *Gynandrobremia populicola* Fedotova, 2002 reared from leave galls on *Populus koreana* (Fedotova, 2002), but differs by enlarged basally (not cordiform) cerci, by presence of small outgrowths of gonocoxites, by very short necks of male and female flagellomeres, by shorter wings, by deep emarginated hypoproct (not V-form), by more created gonostylus.

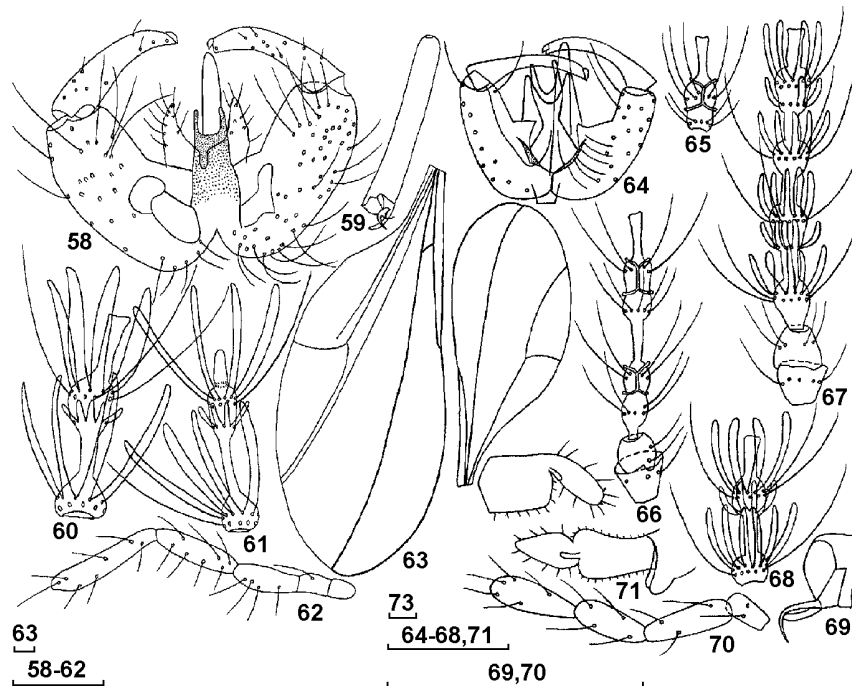
NOTES. *Rhabdophaga rosaeformis* O. Kovalev on *Salix nipponica* was described from Primorskii krai, but widely distributed in the Far East (Kovalev, 1967, Nijveldt & Yukawa, 1982). *Gynandrobremia salicicola* Mamaev 1965 on *Salix* sp. is known from Yaroslavl region, Russia (Mamaev, 1965, Skuhrová, 1986). A new species differs from the latter by more thicken base of aedeagus, by the lacking of apex protrusion on last male flagellomere, by smaller body size.

***Mycodiplosis loniceracarpae* Fedotova, sp. n.**

Figs 58-63

MATERIAL. Holotype – ♂ (slide N 7086): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 24.VII 2001, larvae in leave galls on *Lonicera maackii* (Z. Fedotova), emergence after overwintering in laboratory.

DESCRIPTION. MALE. Body length 1.8 mm. Medial width of eye bridge 12 to 14 facets. Antennae 2+12-segmented. F1 1.1 times as long as F2. Sensorial files of flagellomeres with long loops, that more that distal node and distal neck. F5 4.0 times as long as wide, distal neck 1.2 times as long as distal node, distal node 2.0 times as long as proximal node, the latter equal proximal neck. F12 apically with prolonged protrusion more than half part of distal node. F11 1.1 times as long as F12. Palpi 4-segmented, its ratio is 2:4:5:7, segment 4 with rounded enlarged apex. Tarsal claw with large dent, empodium longer than claw. Wings 2.5 times as long as



Figs 58-73. *Mycodiplosis loniceracarpae* sp. n. (58-63) and *M. pteridiis* sp. n. (64-73): 58-64, 67, 68, 73 – male; 65, 66, 69-72 – female. 58) genitalia; 59) tarsal claw; 60) F5; 61) F12; 62) palpus; 63) wing; 64) genitalia; 65, 68) F5; 66, 67) scape, pedicel, F1, F2; 69) tarsal claw; 70) palpus; 71, 72) ovipositor; 73) wing. Scale line – 0.1 mm.

wide. Vein R_{1+2} running into anterior wing margin far before its middle, R_{4+5} far behind wing apex. Gonocoxite strongly dilated basally, 2.2 times as long as wide. Gonostylus 0.7 times as long as gonocoxite, not swollen, slightly bent in proximal half, 4.0 times as long as wide. Cerci with long apical protrusion; with deep, ovals emargination, non-sclerotized. Hypoproct almost parallel-sided, nearly enlarged basally, 0.7 times as wide as cerci, sclerotized, strongly emarginated between long lobes. Basal outgrowths of gonocoxites triangular. Aedeagus longer than gonocoxites, enlarged basally and widely rounded apically. Genital base wide, weakly sclerotized.

FEMALE. Unknown.

BIOLOGY. Rose-orange larvae live gregariously or solitary in fruit's galls with red spots. Galls weakly thickened, somewhat pressed. Pupation in soil. Prepupa overwinters. There is one generation per year.

RELATIONSHIPS. A new species closely related to *Mycodiplosis fraxinicola* Fedotova, 2002, reared from leaves galls on *Fraxinus mandshurica* from the same locality (Fedotova, 2002). New species differs by almost parallel-sided, by not cordiform cerci, by more enlarged basally gonostyles, by the lacking of basal outgrowths of gonocoxites, by longer neck of male flagellomeres, by extended almost parallel-sided aedeagus.

***Mycodiplosis pteridiis* Fedotova, sp. n.**

Figs 64-73, 197-198, 222-223

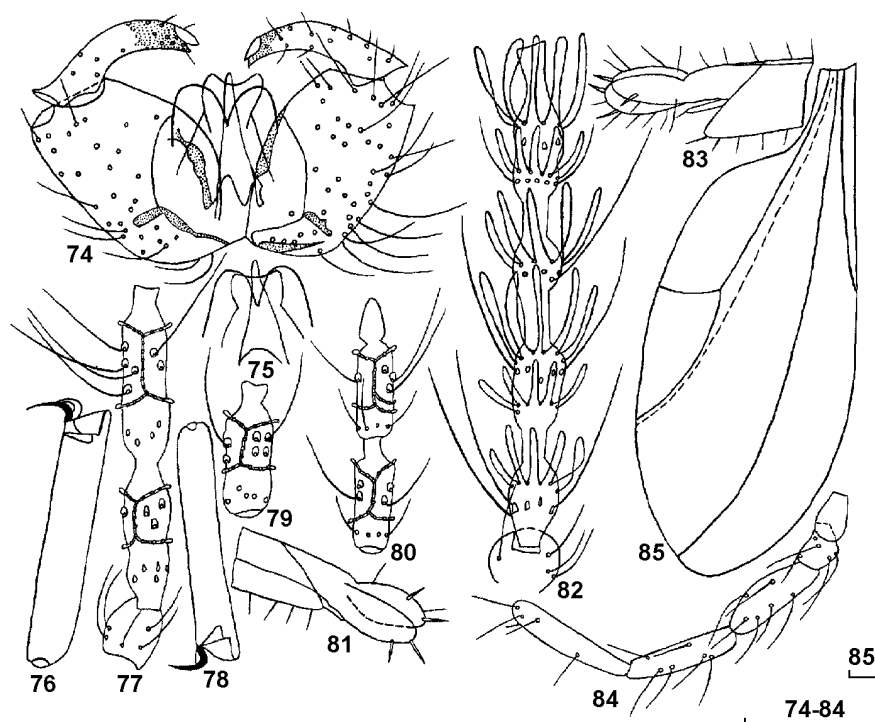
MATERIAL. Holotype – ♂ (slide N 7087/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 24.VII 2001, larvae in leaf galls on *Pteridium aquilinum* (Z. Fedotova). Paratypes – 1 ♂, 4 ♀ (slide N 7087/1-3) from the same locality, emergence after overwintering in laboratory, 1.VIII 2002.

DESCRIPTION. MALE. Body length 1.0-1.1 mm. Eye bridge 8 to 10 facets wide medially, with small protrusion behind eyes. Antennae 2+12-segmented, pedicel 1.1 times as long as scape, F1 1.1 times as long as F2. F5 4.4 times as long as wide, distal neck 1.2 times as long as distal node, distal node 1.5 times as long as proximal node and 1.2 times as long as proximal neck. F12 apically with long protrusion almost equal distal node. F11 1.1 times as long as F12. Palpi 4-segmented, its ratio is 4:8:7:8, segment 4 with rounded enlarged apex. Tarsal claw simple, empodium shorter than claw. Wings 2.4 times as long as wide. Vein R_{1+2} running into anterior wing margin far before its middle, R_{4+5} far behind wing apex. Gonocoxite not strongly dilated basally, 3.0 times as long as wide. Gonostylus 0.9 times as long as gonocoxite, nearly swollen basally, slightly bent in proximal half, 4.3 times as long as wide. Cerci with long apical lobes; with deep, nearly rounded emargination, non-sclerotized. Hypoproct narrow-sided medially, 0.5 times as wide as cerci, sclerotized, strongly emarginated between long lobes. Basal outgrowths of gonocoxites triangular piercing form, with strongly sclerotized spot. Aedeagus longer than gonocoxites, enlarged basally and rounded apically. Genital base narrow, weakly sclerotized.

FEMALE. Body length 0.9-1.1 mm with retracted ovipositor. Antennae 2+12-segmented, F1 1.2 times as long as F2. F5 2.9 times as long as wide, node 1.2 times as long as neck. F12 almost ovoid. F11 about 1.4 times as long as F12. Palpi 4-segmented, its ratio is 4:8:7:8, with enlarged apex. Tarsal claw smaller than in male, empodium shorter, as long as claw. Ovipositor 2.7 times as long as wide. Apical plate 1.9-2.2 times as long as wide, covered with slightly longer setae than those on ventral side of abdominal segment IX, with pair of spines on each, in dorso-caudal direction. Ventral plate very long, 0.3-0.5 times as long as apical plate.

BIOLOGY. Rose-orange larvae live gregariously in a gall on leaves. The leaf braided inside, along nerves, not opened, nerves weakly thickened, leaves pressed together. Pupation in soil. Prepupa overwinters. Pupa stages prolonged. There is one generation per year.

RELATIONSHIPS. A new species closely related to *M. filipendulae* Fedotova, 2002 reared from leaf galls on *Filipendula palmata* (Fedotova, 2002), but differs from latter by narrowed medially hypoproct (not parallel-sided), by lacking of finger-form protrusions on cerci lobes, by almost parallel-sided aedeagus (not conical with rounded protrusion), by aciculate basal outgrowths of gonocoxites (not rounded), by longer proximal neck of male flagellomeres, by dorso-caudal direction of apical lobes of ovipositor.



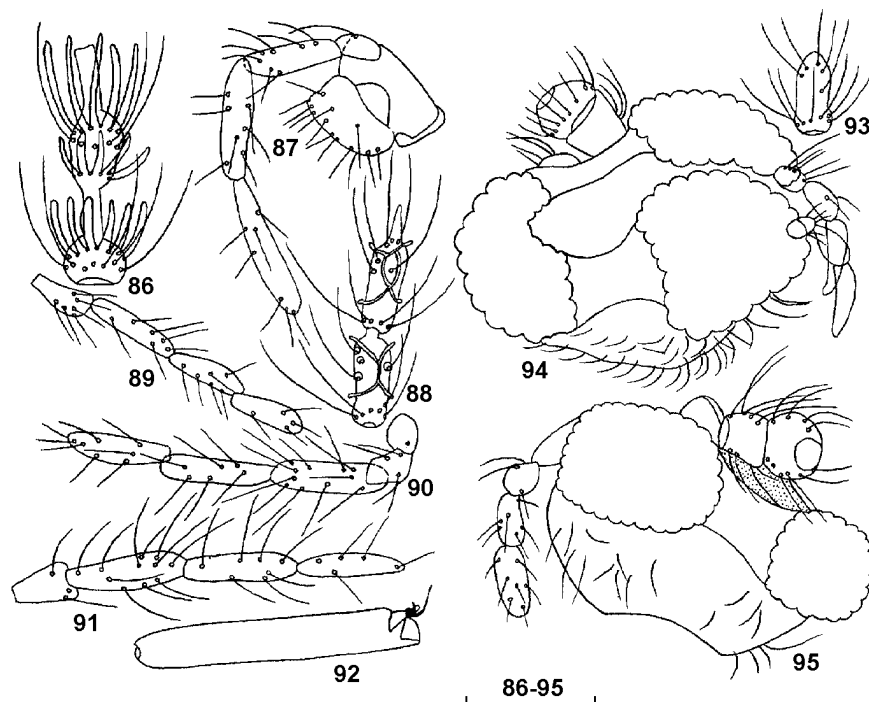
Figs 74-85. *Resseliella salicicola* sp. n.: 74, 75, 78, 82, 84, 85 – male; 76, 77, 79-81, 83 – female. 74) genitalia; 75) cerci, hypoproct and aedeagus (variability of shape); 76, 78) tarsal claw; 77) scape, pedicel, F1, F2; 79) F5; 80) F11, F12; 81, 83) ovipositor; 82) pedicel, F1, F2; 84) palpus; 85) wing. Scale line – 0.1 mm.

***Resseliella salicicola* Fedotova, sp. n.**

Figs 74-87

MATERIAL. Holotype – ♂ (slide N 7075/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 22.VII 2001, larvae in rosette galls of *Rhabdophaga rosaria* on *Salix gracilistyla* (Z. Fedotova). Paratypes – 3 ♂, 3 ♀ (slide N 7075/1-5) from the same locality, emergence after winter in laboratory.

DESCRIPTION. MALE. Body length 1.7-1.9 mm. Medial width of eye bridge 12 facets. Antennae 2+12-segmented. F1 equal F2. F5 3.9 times as long as wide, distal node 1.1 times as long as distal neck, distal node 1.6 times as long as proximal node and equal proximal neck. F12 and other part of flagellum are lost. Palpi 4-segmented, its ratio is 4:8:9:11, segment 4 almost oval-form. Tarsal segments 2-4 with black spots from scales in distal part, 1 and 5 segments without scales. Tarsal claw simple, empodium not longer than claw. Tibias basally and apically with scale spots. Femur with black scales completely. Wings 2.6 times its width. Vein R_{1+2} running



Figs 86-95. *Resseliella salicicola* sp. n. (86-87), *Gynandrobremyia salicifoliae* sp. n. (88-92) and *Acerovesiculomyia marikovskii* sp. n. (93-95); 86, 89, 92, 94 – male; 87-88, 90, 91, 93, 95 – female; 86) F5; 87) mouth parts; 88) F10, F11; 89-91) palpus; 92) tarsal claw; 93) F11; 94, 95) head. Scale line – 0.1 mm.

into anterior wing margin before its middle, R_{4+5} behind wing apex. Gonocoxite weakly dilated medially, 1.6 times its width. Gonostylus 0.8 times as long as gonocoxite, not swollen, slightly bent in distal half, 6.3 times as long as wide. Cerci cordiform; with deep, nearly triangular emargination, non-sclerotized. Hypoproct 0.5 times as wide as cerci, sclerotized, shallowly emarginated apically, gradually widened apically and basally. Basal outgrowths of gonocoxites is absent. Aedeagus not longer than gonocoxites, strongly widened basally.

FEMALE. Body length 2.1-2.6 mm with retracted ovipositor. Antennae 2+12-segmented, F1 equal F2. F5 2.9 times as long as wide, node 4.3 times as long as neck. F12 with conical protrusion, 1.2 times as long as F11, with rounded apex. Palpi 4-segmented, its ratio is 3:7:8:9, segment 4 with rounded apex, larger apically. Tarsal claw simple, larger than in male, bent basally. Ovipositor very long, equal abdomen, bent dorsally. Apical plate 2.7-3.2 times as long as wide, covered with slightly longer setae than those on ventral side of abdominal segment IX and 2 spines on such plate.

RELATIONSHIPS. New species closely related to *R. sibirica* (Mamaev), reared from *Larix* sp. cones from Siberia (Mamev, 1971) and later found in Kazakhstan, where it developed in cones of *Larix sibirica* (Fedotova, 1996). New species differs from *R. sibirica* by more enlarged gonocoxites, elongated gonostyles and less emarginated cerci and hypoproct; not long necks of male flagellomeres, and short necks of female flagellomeres.

BIOLOGY. Rose larvae live gregariously in rosette galls from leaves of *Rhabdophaga rosaria* (Loew, 1850), between base of the leaves. Egg about 4 times as long as wide. Pupation in soil. Prepupa overwinters. One generation per year. Adults were reared from galls after overwintering in laboratory.

NOTES. Only two species of gall midges, *Lygocecis yanagi* (Shinji, 1938) from swallow on the stem and *Rhabdophaga rosaria*, was known from *Salix gracilistyla*. Both species are oligophagous, second wide spread in Holarctic, first – in Far East Region (Skuhravá, 1986, Nijveldt & Yukawa, 1982; Fedotova & Kovalev, 2001).

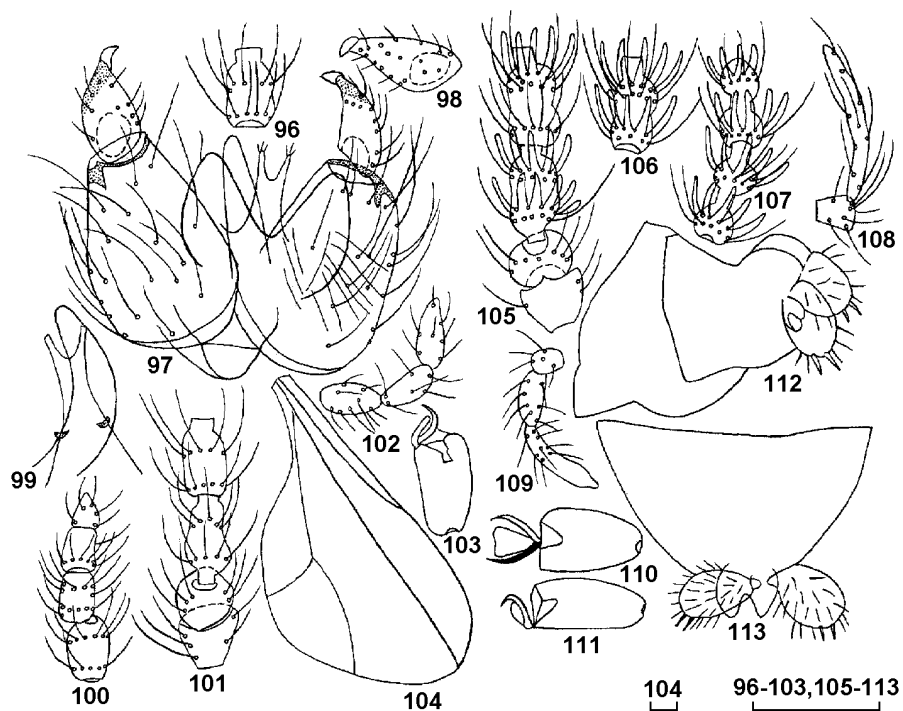
Genus *Acerovesiculomyia* Fedotova, gen. n.

Type species – *Acerovesiculomyia marikovskii* Fedotova, sp. n.

DIAGNOSIS. Eyes touching at vertex, medially interrupted by a narrow zone without ommatidia. Antennae 2+12-segmented, F1 and F2 of male and female are fused. Male middle flagellomeres without nodes, apical two-three ones with two nodes. Male flagellomeres with two whorls of sensorial files corresponding two whorls of setae. Female flagellomeres with neck and without sensorial files. Palpi 3-segmented. Tarsal claw simple, empodium shorter than claw. Wings almost around. Vein R_{4+5} running into wing apex. Male and female abdomen swollen. Male genitalia with stout gonocoxites and gonostylus. Gonostyle with distinct, but not colored white claw. Aedeagus recurved, longer than cerci and hypoproct. Cerci and hypoproct deeply emarginated. Ovipositor very short, almost semicircular dorsally with three terminal lamellae: two ventral lamellae directed ventro-caudally with apical spines; ventral lamella almost around, deeply emarginated.

SPECIES INCLUDED. Type species only.

RELATIONSHIPS. New genus closely related to monotypic genus *Drisina* Giard, 1893, but differs from the latter by large, widened basally (not slender) gonostyle, by recurved aedeagus, by rounded short wings, by three-segmented (not four segmented) palpi, by lacking of eyes bridges or touching line between eyes at vertex, by lacking of the veins M_{3+4} and Cu_{1+2} ; by very short almost semicircular (not long cylindrical) ovipositor with three (not two) lamellae, by lacking of proximal neck in male flagellomeres except 2-3 apical, by presence on middle flagellomeres only scarcely visible medial narrowing, by presence of neck on female flagellomeres, by gall-forming. *Drisina glutinosa* Giard, 1893 was reared from leaf galls, that consist from hollow on leaf of *Acer pseudoplatanus* in Europe (Skuhravá, 1986, 1997). Type species of new genus derives the one-side blister-form galls on upper surface of leaves. Lower side of gall without epidermis (not parenchymal gall), in view of semicircular concave, or hollow with free living single red larva.



Figs 96-113. *Acerovesiculomyia marikovskii* sp. n.: 97-99, 104-111 – male; 96, 100-103, 112, 113 – female. 96, 106) F5; 97) genitalia; 98) gonostilus (variability of shape); 99) hypoproct and aedeagus (variability of shape); 100) F9-F12; 101) scape, pedicel, F1, F2; 102) palpus; 103, 110, 111) tarsal claw; 104) wing; 105) scape, pedicel, F1, F2; 107) F11, F12; 108-109) palpus; 112) ovipositor lateral view; 113) ovipositor, ventral view. Scale line – 0.1 mm.

***Acerovesiculomyia marikovskii* Fedotova, sp. n.**

Figs 93-113, 225, 226

MATERIAL. Holotype – ♂ (slide N 7085/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 24.VII 2001, larvae in leaf blister galls on *Acer mono* (Z. Fedotova). Paratypes – 3 ♂, 4 ♀ (slide N 7085/1-2) from the same locality, emergence 26-30.VIII 2001 and after winter in laboratory.

DESCRIPTION. MALE. Body length 1.3-1.5 mm. Medial width of eye bridge 10 to 12 facets. Eye bridge without facets on lateral sides of head. Antennae 2+12-segmented. F1 1.2 times as long as F2. F5 2.2 times as long as wide, node 4.1 times as long as neck, with indistinct neck. F12 with short protrusion, 1.2 times as long as F11. Palpi 2-3-segmented, its ratio is 1:4,2:3:5 or 1:2:3, segment 3, with conical apex. Tarsal claw simple, with bent anterior apex, empodium shorter than claw. Wings

almost semicircular, 2.0 times as long as wide. Vein R_{1+2} running into anterior wing margin not far behind its middle, R_{4+5} into wing apex, C with dense setae. Gonocoxite strongly dilated basally, 1.5-1.6 times as long as wide. Gonostylus 0.5 times as long as gonocoxite, swollen basally, slightly bent in distal part, 2.2 times as long as wide. Claw of gonostylus without sclerotization, not dark. Its recurved dorso-ventrally direction. Cerci cordiform; with deep, nearly triangular emargination, non-sclerotized, 3.8 times as wide as hypoproct. Hypoproct sclerotized, with deeply emarginated apex, gradually widening basally. Genital base wide, strongly sclerotized. Aedeagus wide, strongly enlarged basally and narrowed apically.

FEMALE. Body length 1.3-1.6 mm with retracted ovipositor. Antennae 2+11-12-segmented, F1 1.0-1.5 times as long as F2. F5 1.5-1.7 times as long as wide, node 5.0 times as long as neck. F12 with rounded apex, 1.3 times as long as F11, the latter without neck, sometimes F11 consists from two, with conical apex. Palpi 3-segmented, its ratio is 3:4:6 or 2:3:5 or 1:1:1, segment 3 with conical apex and very enlarged medially. Tarsal claw larger than in male, with enlarged tooth at base and more rounded at middle. Ovipositor 1.2 times as long as wide, covered with slightly longer setae than those on ventral side of abdominal segment IX and two spines on such lamella. Apical plate with rounded apex, 1.4 times as long as wide. Ventral plate large and weakly emarginated, 2.7 times smaller than apical plate.

BIOLOGY. Red larvae live solitary in blister-form galls on leave. Upper surface of the leave weakly thickened, around with red spot. Low part of the leave gall without epidermis. Larvae live on the surface of the leaves inside concave. Some of last stage larvae drop to the ground for pupating, another ones pupating in the galls. One or two generations occur per year. Part of larvae of the first generation were pupated only next spring, after pupa's overwintering in the soil. Pupa stage is 12-18 days.

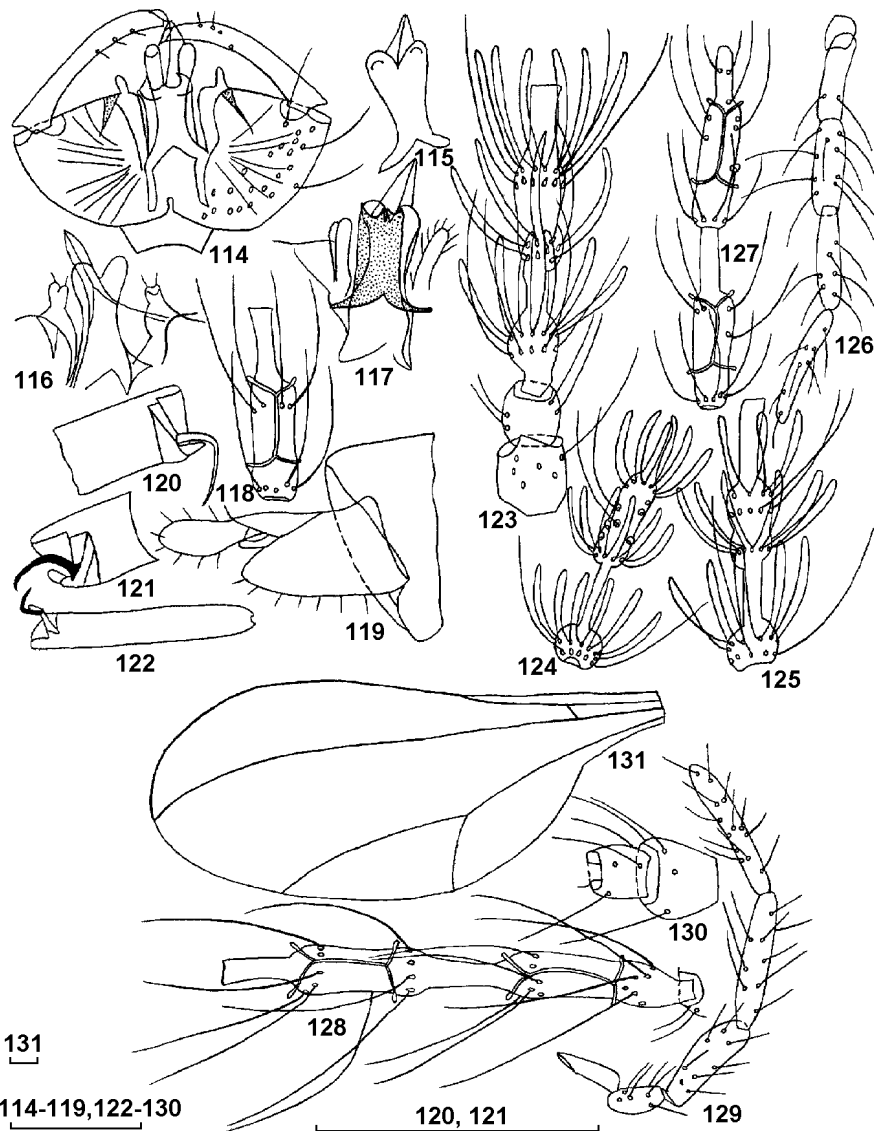
ETYMOLOGY. This species is dedicated to Pavel I. Marikovski, who was born in Vyazemskaya Station (Khabarovskii krai) in 1912 and started his scientific activity in Russian Far East.

***Karschomyia sidorenkoi* Fedotova, sp. n.**

Figs 114-131

MATERIAL. Holotype – ♂ (slide N 6999/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 11.VII 2001, larvae in flower galls on *Cirsium schantarense* (Z. Fedotova). Paratypes – 10 ♂, 28 ♀ (slide N 6999/1-5) from the same locality, emergence 24.VII-1.VIII 2001 and after overwintering in laboratory.

DESCRIPTION. MALE. Body length 1.2-1.8 mm. Medial width of eye bridge 15 to 17 facets. Antennae 2+12-segmented, pedicel 1.2 times as long as scape, F1 1.1 times as long as F2. Pedicel, scape and base of F1 are white; last part and other flagellomeres strongly sclerotized. F5 5.5 times as long as wide, distal neck equal distal node, distal node 1.9 times as long as proximal node and 1.5 times as long as proximal neck. F12 apically with long narrowed protrusion almost half part of the distal node. F11 1.1 times as long as F12. Palpi 4-segmented, its ratio is 3:6:7:8, segment 4 with pointed apex. Tarsal claw simple, recurved rectangular medially,



Figs 114-131. *Karshomyia sidorenkoi* sp. n.: 114-117, 121-125, 131 – male, 118-120, 126-130 – female. 114) genitalia; 115-117) cerci, hypoproct, aedeagus and apex of gonocoxites (variability of shape); 118) F5; 119) ovipositor; 120-122, 126, 129) palpus; 123) scape, pedicel, F1, F2; 124) F12; 125) F5; 127) F11, F12; 128) F1, F2; 130) scape, pedicel; 131) wing. Scale line – 0.1 mm.

empodium shorter than claw. Wings 2.4 times as long as wide. Vein R_{1+2} running into anterior wing margin far before its middle, R_{4+5} far behind wing apex. Gonocoxite strongly dilated apically, its width. Gonostylus 1.4 times as long as gonocoxite, not swollen, slightly bent in distal half, 5.1 times as long as wide. Cerci with long around apical plates; with deep, nearly triangular emargination, non-sclerotized, strongly narrowed medially. Hypoproct parallel-sided, 0.7 times as wide as cerci, sclerotized, strongly emarginated between four short points and two apical lobes. Basal outgrowths of gonocoxites prolonged narrowed, with strongly sclerotized spot basally. Aedeagus more prolonged than gonocoxites, enlarged basally and pointed apically. Genital base wide, weakly sclerotized, with two interior strongly sclerotized root.

FEMALE. Body length 1.3-1.8 mm with retracted ovipositor. Antennae 2+12-segmented, scape rounded, 1.3 times as long as angular pedicel. F1 1.1 times as long as F2. F5 4.0 times as long as wide, node 1.7 times as long as neck. F12 with long protrusion, equal F11. Palpi 4-segmented, its ratio is 3:6:7:8, with rounded apex. Tarsal claw smaller than in male, bent medially almost right angle, empodium shorter than claw. Ovipositor 2.6 times as long as wide. Apical plate 3.1 times as long as wide, covered with slightly longer setae than those on ventral side of abdominal segment IX. Ventral plate not long, 0.3 times as long as apical plate.

BIOLOGY. Rose larvae live gregariously in flowers. Its damages are invisible. Pupation in the flowers and soil. Pupa stages prolonged 14-30 days. Prepupa overwinters. There is one generation per year.

RELATIONSHIPS. New species closely related to *Karschomyia dubius* (Kovalev et Mamaev, 1966) from Primorskii krai (Kovalev & Mamaev, 1966), but differs from the latter by very large triangular gonocoxites with finger-form protrusions, by elongated gonostyles (not swollen), by conical aedeagus, by shorter proximal neck of middle male flagellomeres.

NOTES. The male genitalia of *Karschomyia sidorenkoi* sp. n. similar with ones of the genus *Stomatosema* Kieffer, 1904 from supertribe Stomatosematidi (Grover, 1964; Gagné, 1973, 1975).

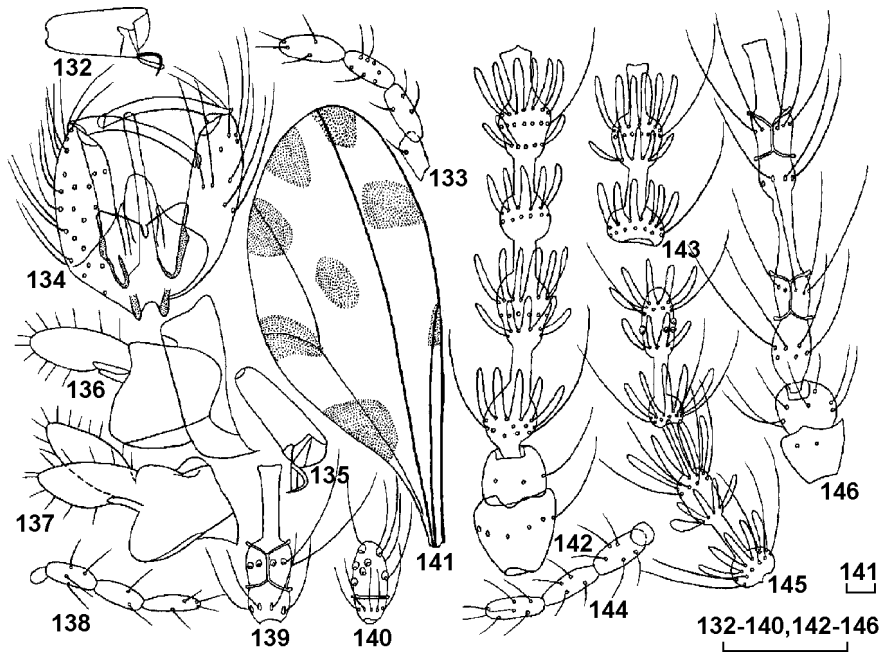
ETYMOLOGY. This species is dedicated to Vasily S. Sidorenko.

***Lestodiplosis cacaliae* Fedotova, sp. n.**

Figs 132-146

MATERIAL. Holotype – ♂ (slide N 7090/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 24.VII 2001, larvae in flower and bud galls on *Cacalia hastata* (Z. Fedotova). Paratypes – 8 ♂, 18 ♀ (slide N 7090/1-5) from the same locality, emergence 8-15.VIII 2001 and after diapause in laboratory ice-box.

DESCRIPTION. MALE. Body length 1.2-2.2 mm. Medial width of eye bridge 13 to 14 facets. Antennae 2+12-segmented, scape 1.4 times as long as pedicel. F1 with longest proximal next, 1.1 times as long as F2. F5 3.3 times as long as wide, distal node 1.2 times as long as distal neck, distal node 1.8 times as long as proximal node and 1.5 times as long as proximal neck. F12 with proximal neck and oviform



Figs 132-146. *Lestodiplosis cacaliae* sp. n.: 133-135, 141-143, 145 – male; 132, 136-140, 144, 146 – female. 132, 135) tarsal claw; 133, 138, 144) palpus; 134) genitalia; 136-137) ovipositor; 139, 143) F5; 140) F12; 141) wing; 142, 146) scape, pedicel, F1, F2; 145) F11, F12. Scale line – 0.1 mm.

distal node, almost 1.3 times as long as F11. Palpi 4-segmented, its ratio is 2:3:3:3, segment 4 almost oval form. Tarsal claw simple, empodium almost equal tarsal claw. Wings 2.5 times as long as wide, with dark spots from scales. Vein R_{1+2} running into anterior wing margin behind its middle, R_{4+5} behind wing apex. Gonocoxite maximal dilated medially, 3.1 times as long as wide. Gonostylus 0.7 times as long as gonocoxite, not swollen, slightly bent basally, 6.7 times as long as wide. Cerci with pointed lobes and deep triangular emargination, between its, non-sclerotized, 2.9 times as long as hypoproct. Hypoproct with rounded apex and almost parallel-sided. Basal outgrowths of gonocoxites uniformly not strongly sclerotized, nearly enlarged, with dense, dark hairs apical. Aedeagus longer than gonocoxites, almost parallel-sided, enlarged preapically. Genital base without large dark strongly sclerotized spots.

FEMALE. Body length 1.1-1.9 mm with retracted ovipositor. Antennae 2+12-segmented, scape rounded, almost equal pedicel. F1 with enlarged base and longest neck, 1.3 times as long as F2. F5 3.4 times as long as wide, node 1.1 times as long as neck. F12 with rounded apex, almost 2.0 times as long as F11. Palpi 4-segmented,

its ratio is 2:6:6:7 or 2:5:5:5, segment 4 with rounded apex and enlarged apically or parallel-sided. Tarsal claw simple, larger than in male, more rounded medially, empodium as long as claws. Ovipositor 1.9 times as long as wide. Apical plate 2,2-2.6 times as long as wide, covered with slightly long setae, without setae on ventral side of abdominal segment IX, that enlarged apically. Apical plate 2.8-3.6 times as long as ventral plate.

BIOLOGY. Pale-rose-orange larvae live solitary in flowers without gall-forming. Seldom the flower is weakly thickened. Pupation in the flowers and soil. Prepupa overwinters. Pupa stages prolonged 14-20 days. Adults were reared from flowers of a new vegetation period and after overwintering in laboratory. Quite possibly the larvae of new species are predators of plant mite Eriophyidae, but other species of gall midges not found in infested flowers.

RELATIONSHIPS. New species closely related to *Lestodiplosis maackiae* Fedotova, 2002 from flower galls of *Maackia amurensis* from the same locality (Fedotova, 2002), but differs by triangular lobes of cerci, by very long not recurved gonostyles, by shorter neck of male flagellomeres, by elongated palp segments, by rounded apex of F12 in male and female, by narrowed distally apical lobes of ovipositor.

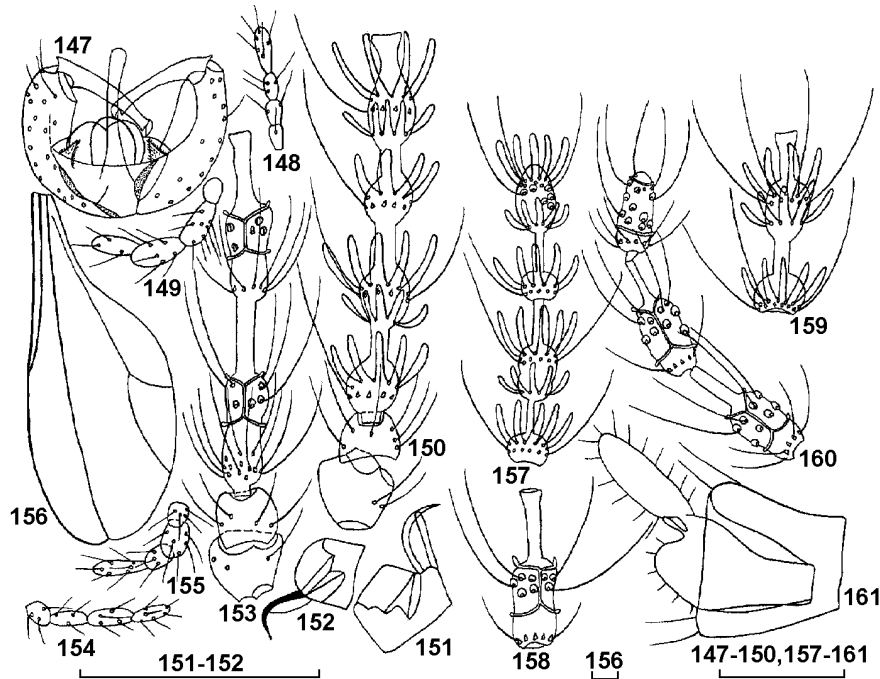
NOTES. There are two species of gall midges from flowers of *Cacalia hastata* in Primorskii krai (Kovalev, 1964, 1967): *Trotteria ussuriana* O.Kovalev, 1967 and *Asterolobia (Euasteralobia) calathidiphaga* O.Kovalev, 1964.

***Lestodiplosis lonicericola* Fedotova, sp. n.**

Figs 147-161

MATERIAL. Holotype – ♂ (slide N 7082/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 24.VII 2001, larvae in fruit galls on *Lonicera maackii* (Z. Fedotova). Paratypes – 1 ♂, 2 ♀ (slide N 7082/2) from the same locality, emergence after diapause in laboratory ice-box.

DESCRIPTION. MALE. Body length 1.0-1.2 mm. Medial width of eye bridge 14 to 16 facets. Antennae 2+12-segmented, scape 1.5 times as long as pedicel, F1 equal F2. F5 3.6 times as long as wide, distal node 1.3 times as long as distal neck, distal node 1.5 times as long as proximal node and proximal neck. F12 with oviform distal node, almost 1.2 times shorter than F11. Palpi 4-segmented, its ratio is 3:3:3:5, segment 4 enlarged distally. Tarsal claw simple, empodium shorter than claw. Wings 2.4 times as long as wide, without dark spots from scales. Vein R_{1+2} running into middle anterior wing margin, R_{4+5} into wing apex. Gonocoxite dilated apically, 2.7 times as long as wide. Gonostylus 1.2 times shorter than gonocoxite, not swollen, slightly bent basally, 5.0 times as long as wide. Cerci cordiform; with not deep, triangular emargination, non-sclerotized. Hypoproct sclerotized, oval-form, without emargination. Basal outgrowths of gonocoxites uniformly not strongly sclerotized, nearly enlarged, with dense, dark hairs apically. Aedeagus longer than gonocoxites, almost parallel-sided, nearly enlarged apically. Genital base with large dark strongly sclerotized spots.



Figs 147-161. *Lestodiplosis lonicericola* sp. n.: 147-150, 152, 156, 157, 159 – male, 151, 153-155, 158, 160-161 – female. 147) genitalia; 148, 149, 154, 155) palpus; 150, 153) scape, pedicel, F1, F2; 151-152) tarsal claw; 156) wing; 157) F11, F12; 158-159) F5; 160) F10-F12; 161) ovipositor. Scale line – 0.1 mm.

FEMALE. Body length 1.8-2.0 mm with retracted ovipositor. Antennae 2+12-segmented, scape 1.3 times as long as pedicel, F1 1.2 times as long as F2. F5 3.4 times as long as wide, node 1.1 times as long as neck. F12 with rounded apex, 1.2 times shorter than F11. Palpi 4-segmented, its ratio is 1:2:3:2, 2:3:4:4 or 3:4:3:6, segment 4 almost oval-form. Tarsal claw simple, larger than in male, more rounded medially, with equal empodium. Ovipositor 3.1 times as long as wide. Apical plate oval-form 1.8 times its width, covered with slightly more long setae than those on ventral side of abdominal segment IX. Apical plate 4.5 times as long as ventral plate.

BIOLOGY. Pale-orange larvae live solitary or gregarious in the fruits without gall-forming. Seldom fruits with red spots and weakly thickened. Pupation in soil. Prepupa overwinters. Pupa stages prolonged 12-25 days. Adults were reared from galls of a new vegetation period and after overwintering in laboratory.

RELATIONSHIPS. A new species closely related to *Lestodiplosis radosiae* Fedotova, 2002 reared from leave, bud and flower galls on *Radosia excisa* from the same locality (Fedotova, 2002), but differs from the latter by almost rounded hypoproct, by less emarginated cerci, by very long apical plates of ovipositor.

***Lestodiplosis fimbripetalis* Fedotova, sp. n.**

Fig. 162-169, 193-196, 229-231

MATERIAL. Holotype – ♂ (slide N 7037/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 15.VII 2001, larvae in flower and bud galls on *Fimbripetalum radicans* (Z. Fedotova). Paratypes – 4 ♂, 8 ♀ (slide N 7037/1-3) from the same locality, emergence 24.VII-8.VIII 2001 and after diapause in laboratory ice-box.

DESCRIPTION. MALE. Body length 1.1 mm. Medial width of eye bridge 14 to 16 facets. Eye bridge 13 to 15 facets wide medially. Antennae 2+12-segmented. F1 equal F2. F5 3.9 times as long as wide, distal node 1.3 times as long as distal neck, distal node 1.4 times as long as proximal node and 1.1 times as long as proximal neck. F12 oviform, almost 1.2 times as long as F11. Palpi 4-segmented, its ratio is 3:5:4:4, segment 4 almost oval form. Tarsal claw simple, empodium as long as claw. Wings 2.4 times as long as wide, without dark spots from scales. Vein R_{1+2} running into anterior wing margin before its middle, R_{4+5} into wing apex. Gonocoxite not dilated apically, 3.6 times as long as wide. Gonostylus 0.7 times as long as gonocoxite, not swollen, slightly bent medially, 7.4 times as long as wide. Cerci cordiform; with deep, nearly oval emargination, non-sclerotized. Hypoproct invisible. Basal outgrowths of gonocoxites uniformly not strongly sclerotized, nearly larged, with dense, dark hairs apical. Aedeagus longer than gonocoxites, almost parallel-sided. Genital base with large dark strongly sclerotized spots.

FEMALE. Body length 1.2-1.8 mm with retracted ovipositor. Antennae 2+12-segmented, F1 1.1 times as long as F2. F5 3.3 times as long as wide, node 3.8 times as long as neck. F12 with rounded apex, 1.3 times as long as F11. Palpi 4-segmented, its ratio is 3:3:5:4, segment 4 with rounded apex and enlarged basally. Tarsal claw simple, larger than in male, more rounded medially. Ovipositor 1.5 times as long as wide. Apical plate 1.8 times as long as wide, covered with slightly more long setae than those on ventral side of abdominal segment IX.

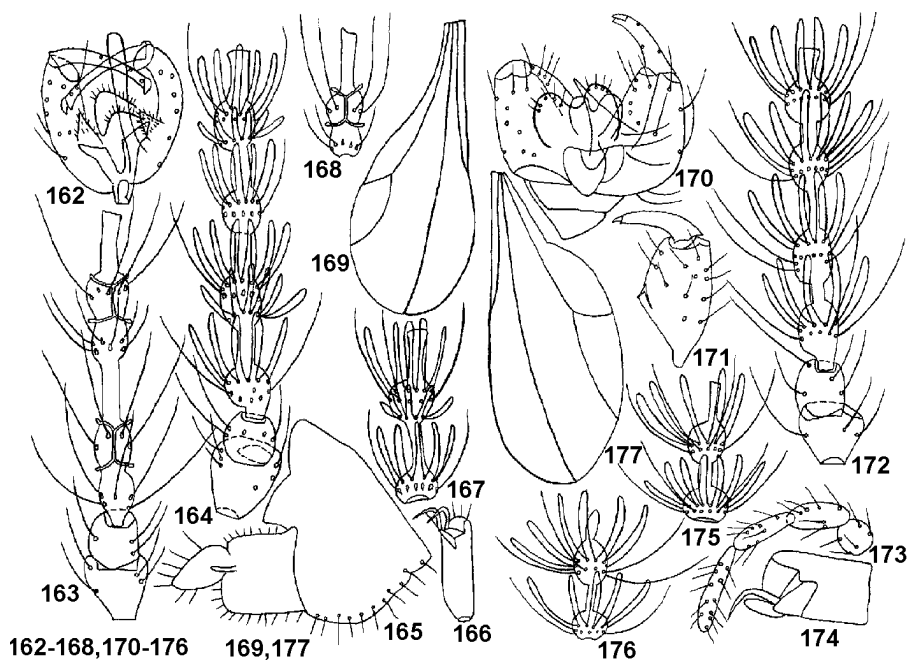
BIOLOGY. Pale-orange larvae live solitary under epidermis of stem on the plant apex, which bent and dry soon. Sometimes larvae live in flower and undeveloped buds without gall-forming. Seldom the flower is weakly thickened. Pupation in the galls and soil. Prepupa overwinters. Pupa stages prolonged 10-20 days. Adults were reared from galls of a new vegetation period and after overwintering in laboratory.

RELATIONSHIPS. A new species closely related to *Lestodiplosis lonicericola* sp. n., but differs from the latter by less around of lateral sides of hypoproct, and by longer apical plates of ovipositor.

***Contarinia veronicastrum* Fedotova, sp. n.**

Figs 170-177

MATERIAL. Holotype – ♂ (slide N 7050 c/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 15.VII 2001, larvae in flower galls on *Veronicastrum sibiricum* (Z. Fedotova). Paratype – 1 ♂ (slide N 7050 c/2) from the same locality, emergence after winter in laboratory.



Figs 162-177. *Lestodiplosis fimbripetalis* sp. n. (162-169) and *Contarinia veronicastrum* sp. n. (170-177): 162, 164, 166-167, 169-177 – male, 163, 165, 168 – female. 162, 170) genitalia; 163, 164, 172) scape, pedicel, F1, F2; 165) ovipositor; 166, 174) tarsal claw; 167-168, 175) F5; 169, 177) wing; 171) gonostylus and gonocoxites (variability of shape); 173) palpus; 176) F12. Scale line – 0.1 mm.

DESCRIPTION. MALE. Body length 1.0-1.2 mm. Medial width of eye bridge 14 facets. Eye bridge 14 to 15 facets wide medially. Antennae 2+12-segmented, scape somewhat prolonged. F1 with large proximal and distal nodes, and long distal neck, 1.3 times as long as F2. F5 2.9 times as long as wide, distal neck equal distal node, distal node 1.2 times as long as proximal node and 1.8 times as long as proximal neck. F12 apically with long narrowed protrusion. Palpi 4-segmented, its ratio is 2:2:2:3, segment 4 somewhat larger distally, with rounded apex. Tarsal claw simple, empodium shorter than claw, rounded medially. Wings 2.4 times as long as wide. Vein R_{1+2} running into anterior wing margin far before its middle, R_{4+5} far in wing apex, there its strongly recurved. Gonocoxite not dilated basally, 2.8-3.0 times as long as wide. Gonostylus 0.6-0.8 times as long as gonocoxite, not swollen, slightly bent in medial part, 3.3-3.5 times as long as wide. Cerci with around lobes; with deep, nearly triangular emargination, non-sclerotized. Hypoproct weakly enlarged basally, 1.7 times as narrow as cerci, strongly sclerotized, emarginated between short pointed lobes. Basal outgrowths of gonocoxites prolonged narrowed form,

without sclerotized spots. Aedeagus more longer than gonocoxites, enlarged basally, with rounded protrusion apically. Genital base weakly sclerotized.

FEMALE unknown.

BIOLOGY. White larvae live gregariously in a flower gall. The flowers are not opened and weakly thickened, its lobes pressed together and covered by grey pubescent, 5 mm in diameter. Pupation in soil. Prepupa overwinters. There is one generation per year. A new species is inquiline in the galls of *Asteralobia* (*Euasteralobia*) *veronicastrum* Fedotova, 2002 in Primorskii krai (Fedotova, 2002). In these galls inquilines of *Trotteria veronicastricola* Fedotova, 2002 developed also.

RELATIONSHIPS. A new species closely related to *Contarinia kurenzovi* Kovalev, 1972, described from South part of Primorskii krai, that damaged leaves and veins of *Phellodendron amurense* (Kovalev, 1972), but differs from the latter by wide rounded lobes of hypoproct, by more prolonged neck of male flagellomeres.

***Dasineura storozhenkoi* Fedotova, sp. n.**

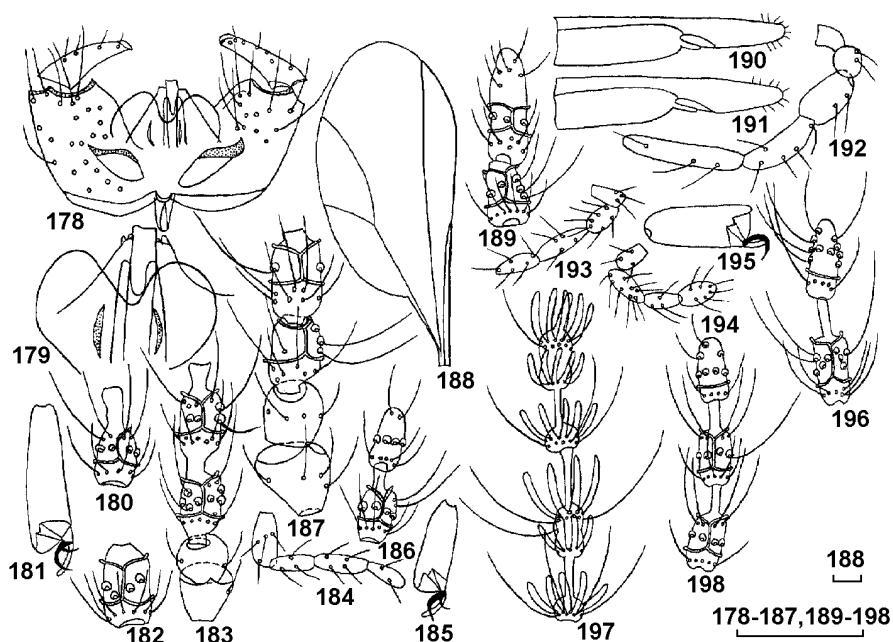
Figs 178-192

MATERIAL. Holotype – ♂ (slide N 7065/1): Russia, Primorski krai, 23 km SE Ussuriysk, 18.VII 2001, larvae in flower galls on *Vicia cracca* (Z. Fedotova). Paratypes – 11 ♂ (slide N 7065/1-2), from the same locality, emergence 28.VII-20.VIII 2001 and after overwintering in laboratory ice-box.

DESCRIPTION. MALE. Body length 1,3 mm. Medial width of eye bridge 6 to 7 facets. Antennae 2+11-segmented. F1 1.3 times as long as F2. F5 2.4 times as long as wide, basal node 1.5 times as long as neck. F11 almost oval, 1.2 times as long as F10. Palpi 4-segmented, its ratio is 4:3:3:3, segment 4 widen apically. Tarsal claw with fine bent tooth at base, empodium longer than claw. Wings 2.4 times as long as wide. Vein R_{1+2} running into anterior wing margin far before its middle, R_{4+5} far before its wing apex. Gonocoxite not strongly dilated basally, 1.6 times as long as wide. Gonostylus 0.7 times as long as gonocoxite, swollen basally, slightly bent in proximal half, 2.9 times as long as wide. Cerci cordiform; with deep, nearly triangular emargination, non-sclerotized, gradually widening medially. Cerci 4.5 times as wide as hypoproct, sclerotized, deeply emarginated apically, almost parallel-sided. Basal outgrowths of gonocoxites not sclerotized, nearly triangular-sided, dentate apically, somewhat oblique apically toward aedeagus and slightly undulate.

FEMALE. Body length 1.2-2.2 mm with retracted ovipositor. Antennae 2+12-13-segmented, F1 0.9 times as long as F2. F5 1.7 times as long as wide, F12 formed by two fused segments, 1.8 times as long as F11, with rounded apex. Palpi 4-segmented, with rounded apex, its ratio is 1:2:3:4. Tarsal claw more rounded than in male, with larger tooth at base. Apical plate of ovipositor nearly triangular, covered with little setae apically, 3.3-3.6 times as long as wide, ventral side of abdominal segment IX without setae.

BIOLOGY. Pale-rose larvae live gregariously in large, 8-10 mm cephalic flower gall. There are two generations per year. Pupation in soil. Pupa stage is 10-15 days. Prepupa overwinters. Adults were reared in laboratory.



Figs 178-198. *Dasineura storozhenkoi* sp. n. (178-192), *Lestodiplosis fimbripetalis* sp. n. (193-196) and *Mycodiplosis pteridiis* sp. n. (197-198): 178-180, 183-186, 188, 194, 197 – male; 181, 182, 187, 189-193, 195, 196, 198 – female. 178) genitalia; 179) cerci, hypoproct and aedeagus (variability of shape); 180, 182) F5; 181, 185, 195) tarsal claw; 183, 187) scape, pedicel, F1, F2; 184, 192-194) palpus; 186) F10, F11; 188) wing; 189, 196-197) F11, F12; 190-191) ovipositor (variability of shape); 198) F10-F12. Scale line - 0.1 mm.

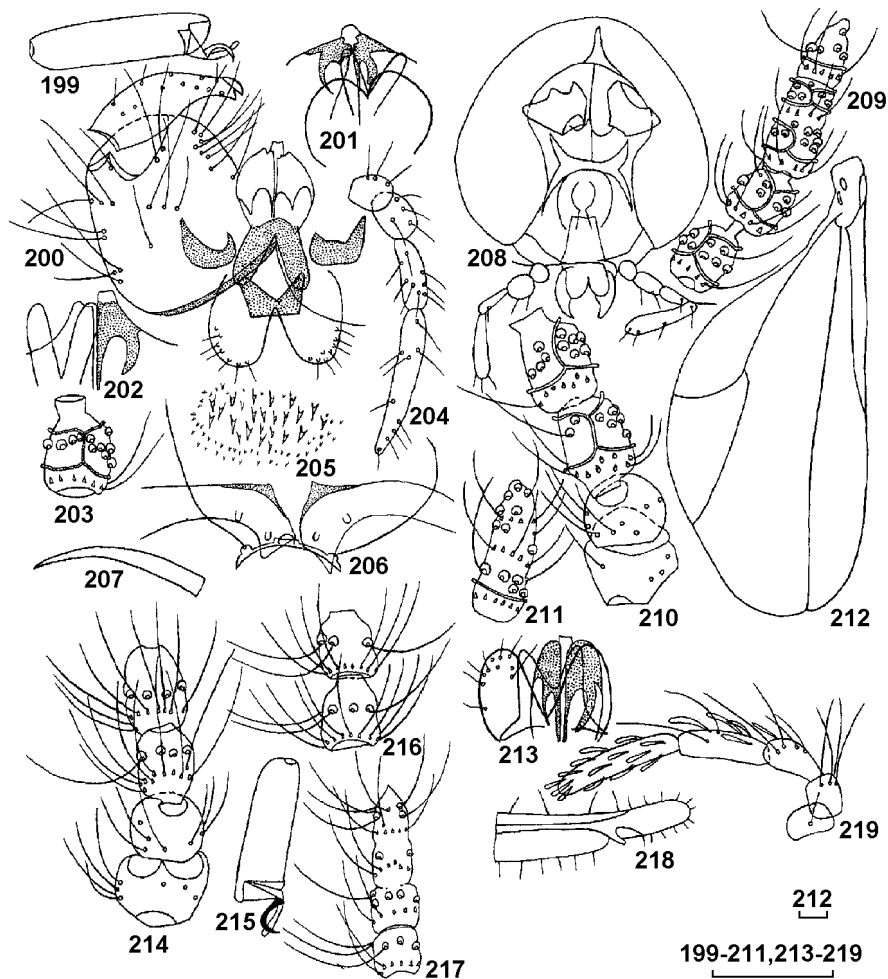
RELATIONSHIPS. A new species closely related to *Dasineura tavolga* Fedotova, 2002 from flower galls on *Spiraea salicifolia* in Primorskii krai (Fedotova, 2002), but differs by swollen gonostylus in the base, by rounded lobes of the cerci, by more enlarged male and female flagellomeres, by more narrowed apically apical plates of the ovipositor. There were two species of *Dasineura* Rondani, 1840 on *Vicia cracca* (Skuhrová, 1986). From both species, *D. spadicea* (Rübsaamen, 1917) and *D. viciae* (Kieffer, 1888), a new species well distinguishes by morphological characters.

ETYMOLOGY. This species is dedicated to Sergey Yu. Storozhenko.

Genus *Vitisiella* Fedotova et O. Kovalev, gen. n.

Type species – *Vitisiella vesicula* Fedotova et O. Kovalev, sp. n.

DIAGNOSIS. Female antennae more segmented than male ones: 2+14-15 segmented for male and 2+15-17 segmented for female; scape and pedicel transversal,



Figs 199-219. *Vitsiella vesicula* sp. n.: 199-204, 208-213 – male; 214-219 – female; 205-207 – pupa. 199, 215) tarsal claw; 200) genitalia; 201, 202, 213) cerci, hypoproct, basal outgrowth of gonocoxites and aedeagus (variability of shape); 203) F5; 204, 219) palpus; 205) spines on dorsal surface terminal pupa segment; 206) basal portion of antennae sheath; 207) prothoracic horn; 208) hard; 209) F11-F13; 210, 214) scape, pedicel, F1, F2; 211) F14; 212) wing; 216) F4, F5; 217) F14-F17; 218) apex of ovipositor. Scale line – 0.1 mm.

strongly sclerotized. Male flagellomeres with very short neck, female flagellomeres without neck on short flagellomeres. Male flagellomeres with three, female with two verticil. Female basal verticil consist from very long dense setae. Female basal verticil with 14-16 setae around flagellomere. Palpi 4-segmented, segments long and

straight. Tarsal claw simple, empodium longer than claw. Wings short, maximal enlarged and rounded medially. Wing short, vein R_{1+2} running into anterior wing margin far behind its middle, R_{4+5} before its wing apex. Gonocoxite not strongly dilated basally, almost oval. Gonostylus swollen basally, narrowed apically, covered by microtrichia only 2/3 part proximally, 1/3 distal part without microtrichia, ventral part of gonostylus without microtrichia too. Cerci and hypoproct with deep triangular emargination. Basal outgrowths of gonocoxites wide, almost completely with strongly sclerotized spot, apically rounded. Aedeagus not sclerotized, narrow, almost cylindrical, not longer than cerci, hypoproct and basal outgrowth of gonocoxites. Ovipositor short, not sclerotized, IX and X segments together consist 1/3 part of abdomen, its wide no more than tarsal wide. Apical plate, dorsal and ventral part of IX abdomen segment with short setae. Body length 1.8-2.2 mm.

SPECIES INCLUDED. Type species only.

RELATIONSHIPS. A new genus closely related to *Wachtliella* Rübsaamen, 1915, but distinguishes from the latter by different number of flagellomeres in female and male, by simple (not dentate) tarsal claw, by running vein R_{4+5} far before wing apex, by presence of long setae in basal verticil female flagellomeres, by lacking of microtrichia on gonostyle apex, by triangular emarginate cerci, by hypoproct, by strongly spot-like sclerotization of basal outgrowth, by not sclerotized short ovipositor, by setae on dorsal side of IX abdominal segment.

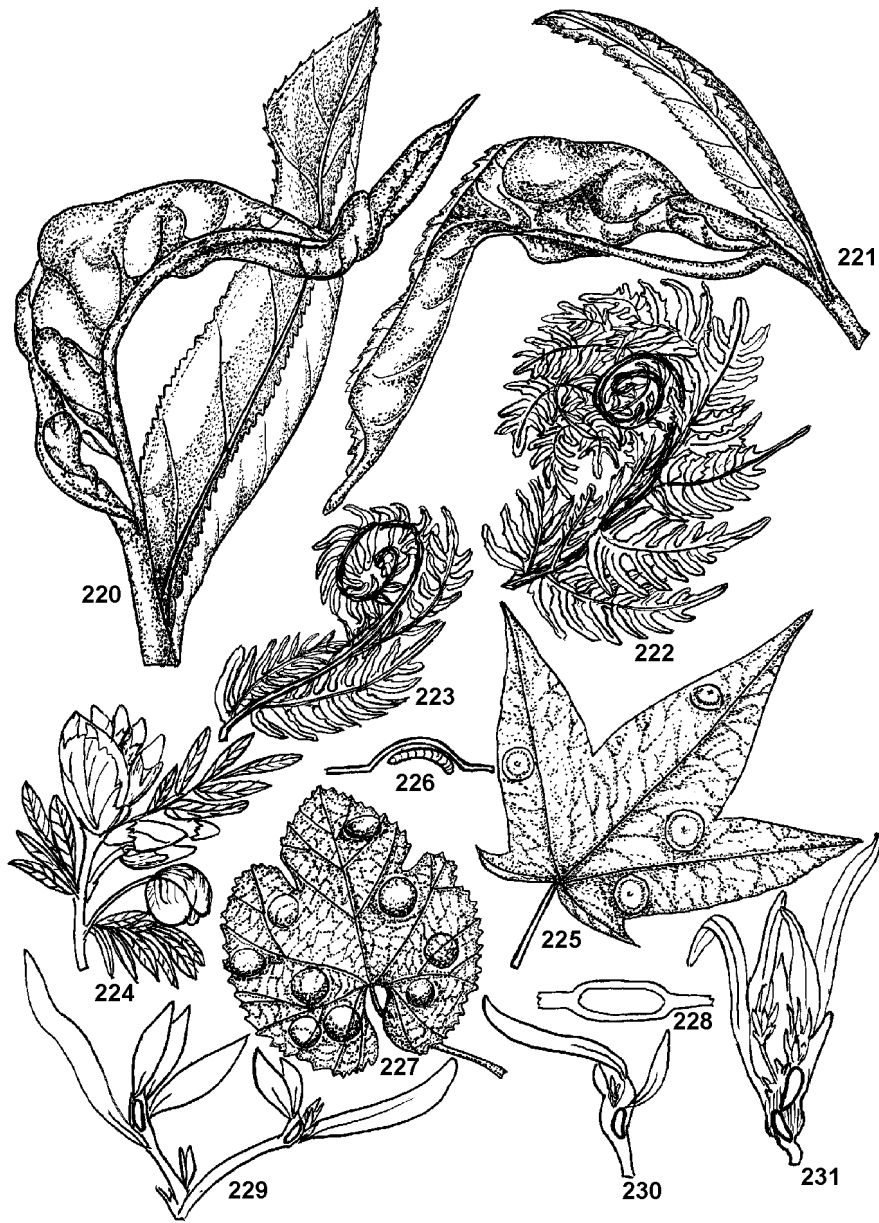
NOTES. There are two Palearctic monotypical genera with species developed in blister parenchymal galls on leaves of *Acer*: *Driscina* Giard, 1893 (tribe Contariini) and *Harrisomyia* Skuhrová, 1986 (tribe Oligotrophini) (Skuhrová, 1997). A new genus belongs to tribe Cecidomyiini, therefore two other genera differs from it by less number of ommatidia, or by interrupted narrow zone without ommatidia in middle part of eyes.

***Vitisiella vesicula* Fedotova et O. Kovalev, sp. n.**

Figs 199-219, 227-228

MATERIAL. Holotype – ♂ (slide N 7012 b/1): Russia, Primorski krai, 30 km SE Ussuriysk, Kamenushka, 12.VII 2001, larvae in leaf galls on *Vitis amurensis* (Z. Fedotova). Paratypes – 2 ♂ (slide N 7012 b/2-3), from the same locality, emergence 7.VIII-20.VIII 2001 and after winter in laboratory ice-box; 2 ♂, 2 ♀ (slide N 69): island Popova near Vladivostok, leaf galls on *Vitis amurensis*, 21.VII 1962, emergence 26.I 1963 (O. Kovalev).

DESCRIPTION. MALE. Body length 1.8-2.0 mm. Medial width of eye bridge 5 to 7 facets. Antennae 2+14-15 segmented, pedicel asymmetrical. F1 without neck, F2 1.3 times as long as F1. F5 1.5 times as long as wide, basal node 3.6 times as long as neck. F14 consists of 2-3 segments, pointed apically, 2.3 times as long as F13, the latter without neck. Palpi 4-segmented, its ratio is 2:3:4:9, segment 1 and 2 rounded, 4 pointed apically. Tarsal claw simple, empodium more longer than claw. Wings maximal enlarged medially, 2.4 times as long as wide. Vein R_{1+2} running into anterior wing margin far behind its middle, R_{4+5} before its wing apex. Gonocoxite not



Figs 220- 231. Galls of the Gall Midges. 220, 221) *Gynandrobremia salicifoliae* sp. n. (variability of shape); 222, 223) *Mycodiplosis pteridiis* sp. n.; 224) *Dasineura storozhenkoi* sp. n.; 225) *Acerovesiculomyia marikovskii* sp. n.; 226) the same, in a cut; 227) *Vitisiella vesicula* sp. n.; 228) the same, in a cut; 229-231) *Lestodiplosis fimbripetalis* sp. n., in a cut.

strongly dilated basally, almost oval, 1.3 times as long as wide. Gonostylus 0.8 times as long as gonocoxite, swollen basally, slightly bent medially, 2.7 times as long as wide. Cerci cordiform; with deep, nearly triangular emargination, non-sclerotized, lobes gradually widening basally. Cerci 2.1 times as wide as hypoproct, sclerotized, deeply emarginated apically, lobes almost parallel-sided. Basal outgrowths of gonocoxites strongly sclerotized, nearly oval-sided, dentate apically.

FEMALE. Body length 1.8-2.2 mm with retracted ovipositor. Antennae 2+15-17-segmented, scape wider and longer than transversal pedicel, both sclerotized. Flagellomeres very narrowed preapically, without sclerotization, white, with very dense verticil of setae which 2 times as long as flagellomere, completely sclerotized. F1 almost equal F2. F5 1.7 times as long as wide; F15 formed by three fused segments, 3.1 times as long as F14, with pointed apex. Palpi 4-segmented, its ratio 1:2:3:4, segment 4 with rounded apex. Tarsal claw more rounded than in male. Ovipositor 7.8 times as long as wide, 3.0 times shorter than abdomen. Apical plate of ovipositor almost oval, 2.8 times as long as wide, covered with little setae apically and longer ones on dorsal and ventral sides of IX abdomen segment.

PUPA. Apical spine relatively long, well sclerotized, apically pointed, prothoracic horn very long and narrow. Terminal abdomen segment with 3-4 transverse rows of spines.

BIOLOGY. Pale-orange larvae live solitary in small, 3-7 mm plate glabrous leave galls, without hairs on upper surface. Pupation in soil. Pupa stage is 20-35 days. Prepupa overwinters. Adults were reared in laboratory.

NOTES. *Janetiella oenophila* (Haimhoffen, 1875) from the same galls on *Vitis vinifera* described from Austria and distributed in Europe (Great Britain, Portugal, France, Germany, Hungary, Romania, Bulgaria, Cyprus, Ukraine) and Asia (Turkey, Lebanon, Primorskii krai). The re-description of this species reared from the leave galls on *Vitis amurensis* in Russian Far East was given by Kovalev (1967).

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