Far Eastern Entomologist
Дальневосточный энтомолог

Journal published by Far East Branch
of the Russian Entomological Society
and Laboratory of Entomology,
Institute of Biology and Soil Science,
Vladivostok

Number 137: 1-32 ISSN 1026-051X May 2004

NEW SPECIES OF GALL MIDGES OF THE GENUS *KARSHOMYIA* FELT, 1908 (DIPTERA, CECIDOMYIIDAE) AND RELATED NEW GENERA FROM THE RUSSIAN FAR EAST

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Five new species of genus *Karshomyia* and 8 new species from 7 new genera, related to it, are described from Primorskii krai: *Karshomyia* (*Hiastatus*) *striatella* **sp. n.,** *K.* (*H.*) *mamaevi* **sp. n.,** *K.* (*H.*) *alata* **sp. n.,** *K.* (*H.*) *obstructa* **sp. n.,** *K.* (*H.*) *galeriformis* **sp. n.,** *Ussuridiplosis* **gen. n**., *Ogdodiplosis utkini* **gen. et sp. n.,** *Foveoladiplosis capitulifera* **gen. et sp. n.,** *Undadiplosis tomentosa* **gen. et sp. n.,** *Fimbriatodiplosis calceus* **gen. et sp. n.,** *Gigantodiplosis pilosa* **gen. et sp. n.,** *Opinatidiplosis turriformis* **gen. et sp. n.,** *O. mica* **sp. n.** and *Palmatidiplosis fasciculifera* **gen. et sp. n.** New combination is proposed: *Ussuridiplosis pallida* (Kovalev et Mamaev, 1966), **comb. n.**

KEY WORDS: Diptera, Cecidomyiidae, Gall Midges, new genera, new species.

З. А. Федотова, В. С. Сидоренко. Новые виды галлиц из рода *Karshomyia* Felt, 1908 (Diptera, Cecidomyiidae) и новых близких родов с Дальнего Востока России // Дальневосточный энтомолог. 2004. N 137. С. 1-32.

Пять новых видов рода *Karshomyia* и 8 новых видов из семи близких к нему новых родов описываются из Приморского края: *Karshomyia* (*Hiastatus*) *striatella* **sp. n.,** *K.* (*H.*) *mamaevi* **sp. n.,** *K.* (*H.*) *alata* **sp. n.,** *K.* (*H.*) *obstructa* **sp. n.,** *K.* (*H.*) *galeriformis* **sp. n.,** *Ussuridiplosis* **gen. n**., *Ogdodiplosis utkini* **gen. et sp. n.,** *Foveoladiplosis capitulifera* **gen. et sp. n.,** *Undadiplosis tomentosa* **gen. et**

sp. n., *Fimbriatodiplosis calceus* **gen. et sp. n.,** *Gigantodiplosis pilosa* **gen. et sp. n.,** *Opinatidiplosis turriformis* **gen. et sp. n.,** *O. mica* **sp. n.** and *Palmatidiplosis fasciculifera* **gen. et sp. n.** Предлагается новая комбинация: *Ussuridiplosis pallida* (Kovalev et Mamaev, 1966), **comb. n.**

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INTRODUCTION

The widely distributed genus *Karshomyia* Felt includes more than 45 species (Gagné, 1973a, b, Harris, 1980, Gagné, 1994, 2004). According to the Catalogue of Palaearctic Diptera there were 10 species (Skuhravá, 1986). Later R. Gagné (1994) synonymized *Lobodiplosis* Felt, 1908 (with 6 Nearctic and 1 Palaearctic species) with *Karshomyia*. After a revision of Palaearctic species by B. Mamaev and M. Krivosheina (1997), 20 species of *Karshomyia* were recorded and 2 species were synonymized. They proposed to divide the genus into 2 subgenera *Karshomyia* s. str. and *Hiastatus* Marikovskij, 1956 (type species: *Hiastatus concinnus* Marikovskij, 1956, by original designation) based on the presence of an additional lobe of the gonostylus. R. Gagné (2004) in his Catalog of World Cecidomyiidae doesn't support this subdivision and considers the genus *Lobodiplosis* as a synonym of *Karshomyia*. We consider that the Palaearctic species *Lobodiplosis pallida* (Kovalev et Mamaev, 1966) was erroneously placed in the genus *Lobodiplosis*. Moreover, this species must be excluded from this genus. This statement is based on the following morphological characters: gonocoxite with entire apical triangular dilation, without spines; gonostylus thin, articulated with gonocoxite subapically; cerci short cordiform; hypoproct thin, strongly broadened apically; aedeagus thin, cylindrical. A new genus is established for this species here. Anyway, the genus *Karshomyia* is still awaiting revision because numerous species with unusual form of gonocoxites or gonostylus are included (Skuhravá, 1997).

Ten species of *Karshomyia* were known from the Russian Far East: 8 from Primorye: *K*. (*K*.) *hemispherica* Kovalev et Mamaev, *K*. (*Hiastatus*) *dubia* (Kovalev et Mamaev) (Kovalev, Mamaev, 1966) *Karshomyia* (*Karshomyia*) *apiculata* Mamaev et M. Krivosheina, *K*. (*Hiastatus*) *acietata* Mamaev et M. Krivosheina, *K*. (*H*.) *fungicola* Mamaev et M. Krivosheina, *K*. (*H*.) *producta* Mamaev et M. Krivosheina, *K*. (*H*.) *setosa* Mamaev et M. Krivosheina, *K*. (*H*.) *spinulifera* Mamaev et M. Krivosheina, *K*. (*H*.) *xylogena* Mamaev et M. Krivosheina (Mamaev & Krivosheina, 1997). Two species were found in Kamchatka: *K*. (*K*.) *viburni* (Felt, 1907) and *K*. (*K*.) *ramosa* (Kieffer, 1904) (Mamaev, 1994). After examination of material collected in 2001 in the vicinity of Kamenushka village near Ussuriyskii Reserve (Primorskii krai, Russia) 5 new species of *Karshomyia* described as well as 8 new species in 7 new genera closely related to *Karshomyia*. Additionally we found 2 males (slide 173 LT 6/1-2) of *K*. (*H*.) *spinulifera* Mamaev et M. Krivosheina in the same locality: 30 km SE Ussuriysk, Kamenushka, 23.VIII 2001 (V. Sidorenko).

Holotypes and some paratypes of the 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 – length of flagellomeres 1, 2, ... 15; LT – light trap; MT – Malaise trap; WT – window trap.

The present study has been supported by grants of the Far Eastern Branch of the Russian Academy of Sciences (N 03-1-0-06-28, N 03-3-B-06-016, and N 04-1-ОБН-100).

Genus *Karshomyia* Felt, 1908

The following synonymy is given after K. Harris (1980), M. Skuhravá (1986), R. Gagné (1994), B. Mamaev & M. Krivosheina (1997):

Karshomyia Felt, 1908: 398. Type species: *Mycodiplosis viburni* Felt, 1907 (original designation).

Lobodiplosis Felt, 1908: 397. Type species: *Mycodiplosis acerina* Felt, 1907 (original designation).

Metadiplosis Felt, 1908: 406. Type species: *Metadiplosis spinosa* Felt, 1908 (original designation).

Plesiobremia Kieffer, 1912: 1. Type species: *Bremia ramosa* Kieffer, 1904 (original designation).

Tristephanus Kieffer, 1913: 106. Type species: *Tristephanus atricauda* Kieffer, 1913 (original designation).

Apamargamyia (also as *Apramargamyia*) Sharma et Rao, 1978:287. Type species: *Apamargamyia orientalis* Sharma et Rao (original designation).

The diagnosis of the genus *Karshomyia* after description of the new species is as follows: the apex of F1 with small unsclerotized ring, sometimes with basal ring; F12 always with apical protrusion of specific form. Male flagellomeres with two nodes: elongated distal one usually with very deep narrowing on all segments and rounded or transversal proximal node. Male flagellomeres with three whorls of sensorial filae and two whorls of setae. Sensorial filae of mid whorls always shorter than filae of basal and apical whorls. Palpi 2-4-segmented. Thorax light brown, with 3 dark brown dorsal stripes. Genitalia strongly extended caudally, capsular, with confluent gonocoxites. Gonocoxites oval, elongated; gonostylus wide, usually swollen distally, densely covered by microtrichia, setae, tubercles or oblique strips. Ventral side of gonostyles usually with rimose strip, covered by short setae. Cerci long or short, usually longer than gonocoxites, with two apical lobes, dissected by narrow or rimose excision. Gonocoxites dilated, often with dorso-lateral projections or denticles. Aedeagus variable in shape. Terminal segments with long appendage. Ovipositor not protractile, terminal segment of lamella elongated.

Karshomyia (Hiastatus) striatella **Fedotova et Sidorenko, sp. n.**
Figs 1-8

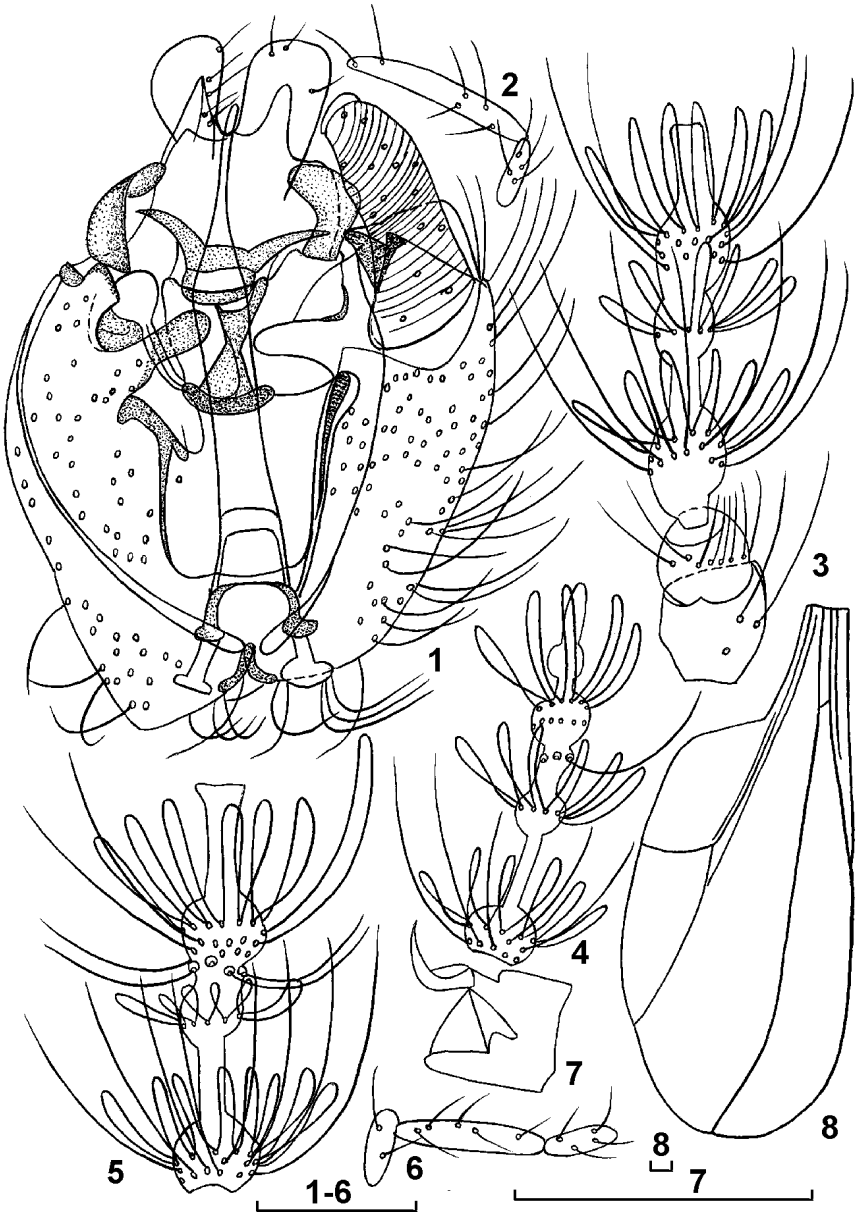
MATERIAL. Holotype – ♂ (slide 166 WT 7010/34): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 16.VII 2001 (Z. Fedotova).

DESCRIPTION. MALE. Body length 2.1 mm, wing length 2.8 mm, wing width 1.2 mm, antenna length 3.7 mm. Head with postvertical peak. Antennae dark brown. Mid flagellomeres with two nodes: elongated distal ones with very deep narrowing on mid segments and rounded proximal ones. Male flagellomeres with three whorls of sensorial filae and two whorls of numerous setae, especially on distal whorl. Sensorial filae of flagellomeres with short loops not reaching to the next node, sometimes 1-2 loops longer. Appendage of terminal antennal segments with long protrusion, almost oval apically and strongly swollen basally. Proximal node F1 swollen and rounded. Necks of last F not longer than necks of proximal F. Pedicel almost rounded, 1.3 times shorter than scape. F1 5.2 times as long as wide, with very short basal neck, distal neck 2.1 times shorter than distal node; distal node 3.0 times as long as proximal neck and 1.7 times longer than proximal node. F1 and F2 equal in length. F5 4.5 times as long as wide, distal neck 1.3 times shorter than distal node; distal node 2.1 times as long as proximal node and 1.9 times as long as proximal neck. Tarsal claws of all legs simple, semicircular curved at middle, as long as empodium. Thorax light brown, with 3 dark brown dorsal stripes. Palpi 2-3-segmented, their ratio 1:2.9 or 1:2:1, last segment narrowed apically. Wing very wide, widest distally, 2.4 times as long as width. Veins M_{3+4}, pCu and forked Cu present. Fork of Cu situated almost an equal distance from the base of wing and from junction of R_{1+2} with C. Gonocoxites with apical lobe, 2.1 times as long as wide, strongly dilated apically, widely rounded laterally, with 1 long sclerotized apical plate and long finger-like protrusion near apex on inner side. Apical lobe with strongly sclerotized elongated narrow structure. Gonocoxites densely covered by large pores and long curved setae basally. Gonostylus slightly dilated proximally, almost straight, 2.1 times as long as wide, 2.0 times smaller than gonocoxites, covered by oblique strips. Aedeagal complex elongate, with strongly sclerotized structures. Cerci very wide, obtuse apically, divided by long excision, longer than gonocoxites. Hypoproct slightly sclerotized, apex with pointed lateral protrusions and slightly dilated basal plates, and with sclerotized stem between its. Cerci and hypoproct equal in width. Aedeagus thick, strongly sclerotized, pointed distally and slightly enlarged basally, almost equal in length to gonocoxites and gonostylus longer than hypoproct.

FEMALE unknown.

RELATIONSHIPS. The new species differs from other known species by presence of long apical and apico-medial protrusions on the gonocoxites, very wide cerci and a very long sclerotized aedeagus. The new species is more similar to *Karshomyia* (*Hiastatus*) *figurata* Mamaev et M. Krivosheina from Teletskoye Lake and Latvia (Mamaev & Krivosheina, 1997), but differs by thicker gonostyles, slighter dissected hypoproct, 2-3-segmented palpi (not 4-segmented) and also absence of the apical lobe of the gonocoxites.

ETYMOLOGY. Name of the new species is formed from the Latin *striatellus* (striation) in relation to the gonostylus covered by oblique notches.



Figs. 1-8. *Karshomyia* (*Hiastatus*) *striatella* sp. n., male: 1) genitalia; 2, 6) palpus (variation of shape); 3) scape, pedicel and F1; 4) F12; 5) F5; 7) tarsal claw; 8) wing. Scale line – 0.1 mm.

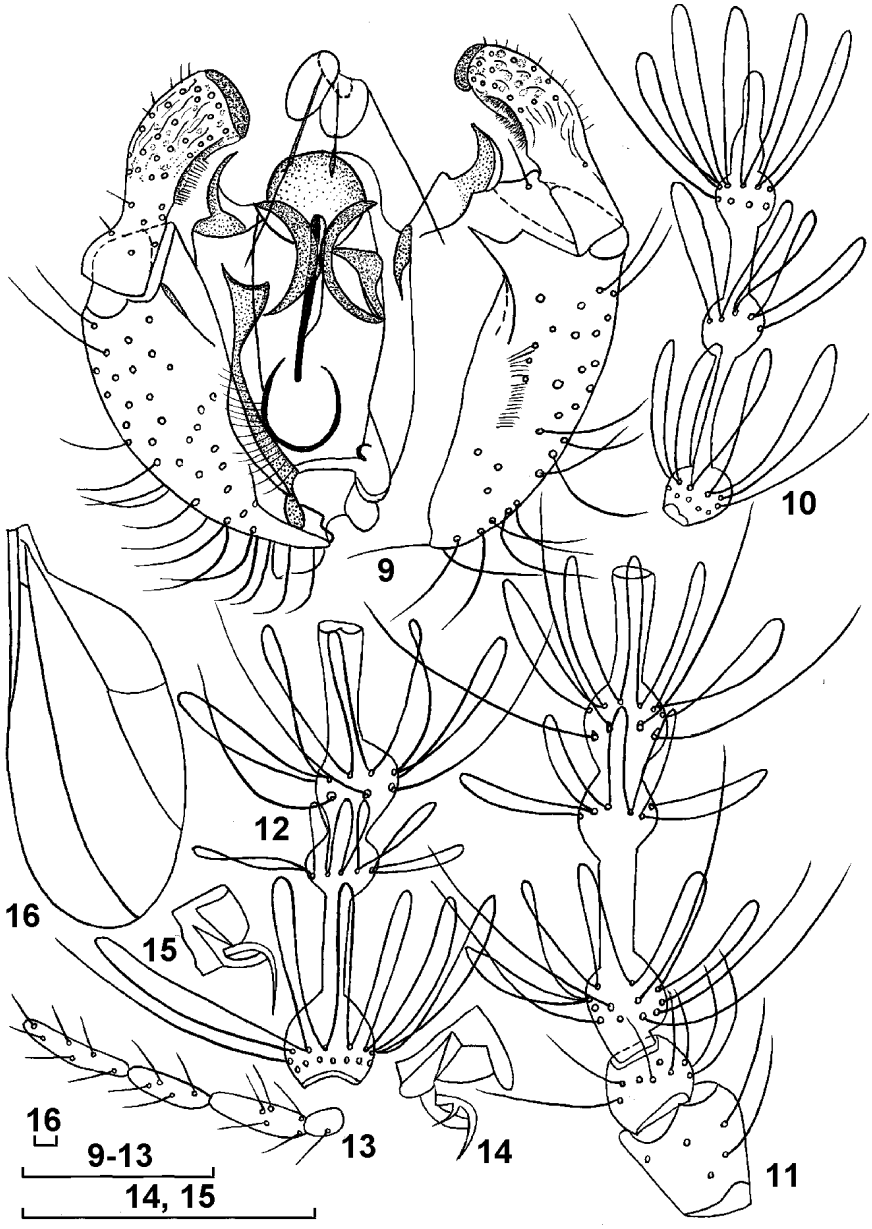
Karshomyia (Hiastatus) mamaevi **Fedotova et Sidorenko, sp. n.**
Figs 9-16

MATERIAL. Holotype – ♂ (slide 167 WT 7010/03): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 16.VII 2001 (Z. Fedotova).

DESCRIPTION. MALE. Body length 1.8 mm, wing length 2.1 mm, wing width 0.9 mm, antenna length 3.0. Last sensorial filae of flagellomeres with long loops reaching to the next node. Appendage of terminal antennal segment with long protrusion narrowed apically. Necks of last F not longer than necks of proximal F. Pedicel longitudinally compressed and rounded laterally, 1.7 times shorter than scape. F1 6.0 times as long as wide, with very short basal neck, distal neck 1.4 times shorter than distal node; distal node 1.7 times as long as proximal neck and 2.1 times longer than proximal node. F5 5.1 times as long as wide, distal neck 1.4 times shorter than distal node; distal node 1.9 times as long as proximal node and 1.7 times as long as proximal neck. Tarsal claws of mid and hind legs simple, semicircularly curved at middle, as long as empodium. Fore legs with dentated tarsal claw. Palpi 4-segmented, their ratio 1:2.8:2.3:3.2, last segment enlarged distally, with rounded apex. Thorax light brown, with 3 dark brown dorsal stripes. Wing very wide, widest distally, 2.3 times as long as width. Fork of *Cu* situated an equal distance from the base of wing and from junction of R_{1+2} with *C*. Gonocoxites 2.1 times as long as wide, strongly dilated apically, widely rounded laterally. Apical lobe with slightly sclerotized hook. Inner side of gonocoxites with pointed protrusions apico-medially. Gonocoxites densely covered by large pores and hook-like curved setae basally. Gonostylus densely covered by tubercles and stripes, maximally dilated apically, with very large wide claws; ventral side with short setae in middle part, slightly curved medially, 3.0 times as long as wide, 1.5 times smaller than gonocoxites. Cerci longer than gonocoxites, with pair of oval apical lobes and strongly dilated basally, 1.8 times wider than hypoproct. Hypoproct slightly sclerotized, strongly swollen apically, with rounded apex and strongly sclerotized X-shaped structures. Aedeagus thin, slightly enlarged distally, as long as gonocoxites, apically rounded.

FEMALE unknown.

RELATIONSHIPS. The new species differs from other known species by the presence of the X-shaped structure of the hypoproct and strongly elongated lobes of the the cerci. The new species is closest to *Karshomyia* (*Hiastatus*) *xylogena* Mamaev et M. Krivosheina from “Kedrovaya pad” Reserve (Mamaev & Krivosheina, 1997), but differs by the shorter apical hook and absence of apico-medial protrusion of the gonocoxites, more swollen gonostyles, strongly swollen apex of hypoproct and different form of the aedeagus (aedeagus of xylogena thick, with narrowed apex and, at least, with 8 preapical papillae), and less swollen protrusion of F12; F12 with one node (not two).



Figs 9-16. *Karshomyia* (*Hiastatus*) *mamaevi* sp. n., male: 9) genitalia; 10) F12; 11) scape, pedicel and F1; 12) F5; 13) palpus; 14) fore tarsal claw; 15) hind tarsal claw; 16) wing. Scale line – 0.1 mm.

Karshomyia (Hiastatus) alata **Fedotova, sp. n.**
Figs 17-24

MATERIAL. Holotype – ♂ (slide 169 LT 6/5): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 23.VIII 2001 (V. Sidorenko).

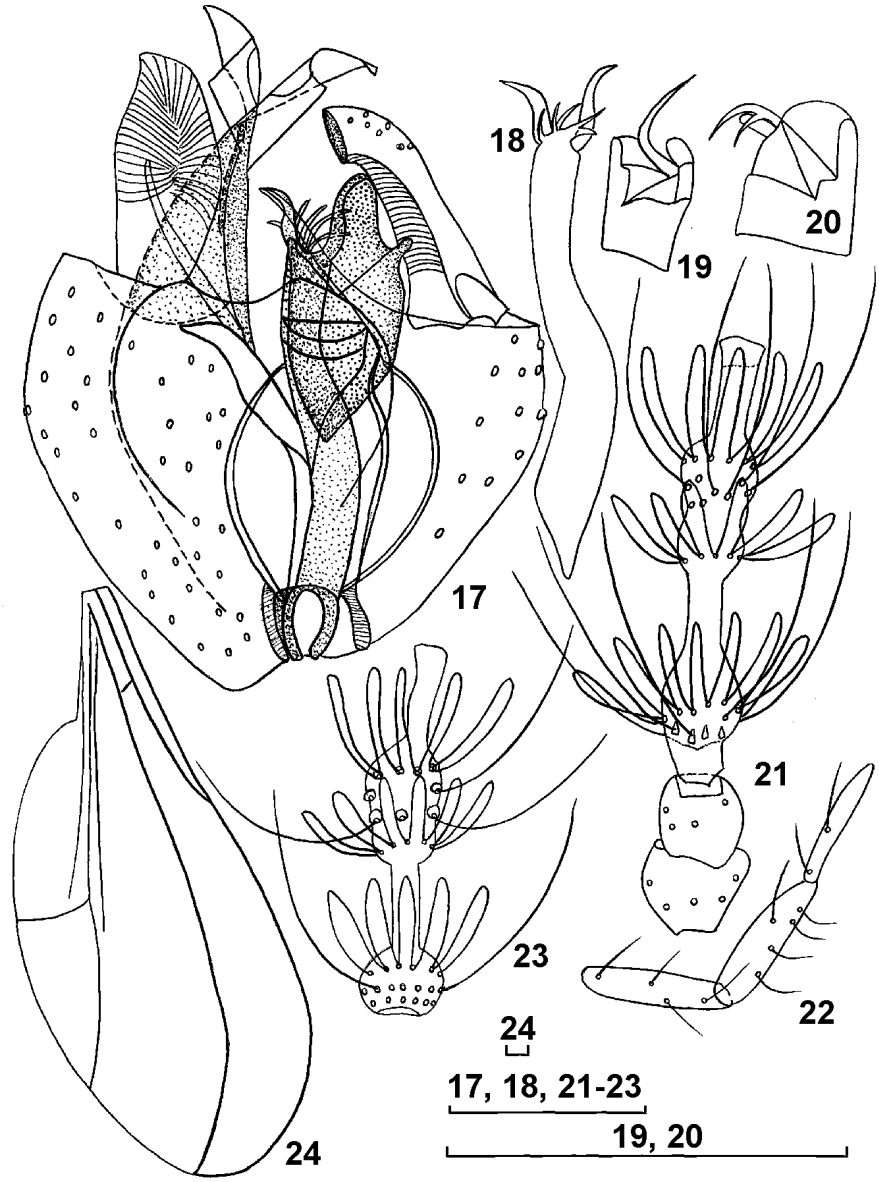
DESCRIPTION. MALE. Body length 2.0 mm, wing length 2.45 mm, width length 0.93 mm. Head with postvertical peak. Antennae dark brown. Distal node of mid flagellomeres with weak narrowing, proximal one semicircular and longitudinally compressed. Sensorial filae of mid whorl shorter than ones on basal and apical whorls. Apical sensorial filae of flagellomeres with short loops not reaching to the next node. Pedicel almost rounded, 1.1 times shorter than scape. F1 with apical unsclerotized ring. 1.2 times longer than F2, with basal and apical unsclerotized rings, 5.3 times as long as wide, basal neck unclear, distal neck 1.3 times shorter than distal node; distal node 2.0 times as long as proximal neck and 1.5 times longer than proximal node. F5 4.4 times as long as wide, distal neck 1.3 times shorter than distal node; distal node 1.8 times as long as proximal node and 1.5 times as long as proximal neck. Tarsal claws of hind legs simple, semicircularly curved at middle, empodium shorter than claw, claw of fore leg with denticle. Palpi 4-segmented, their [its if palpus singular] ratio 1:3.7:5.0:4.1, last segment almost parallel-sided, with rounded apex. Thorax light brown, with 3 dark brown dorsal stripes. Wing very wide, widest distally, 2.4 times as long as width. Veins M_{3+4}, *pCu* and forked *Cu* present. Fork of *Cu* situated on more short distance from the base of wing than from junction of R_{1+2} with *C*. Gonocoxites almost rectangular apically, 1.7 times as long as wide, strongly dilated apically, widely rounded laterally, with 1 long unsclerotized pointed apical protrusion. Gonocoxites sparsely covered by large pores. Gonostylus slightly dilated proximally or almost straight, 2.7 times as long as wide, 1.3 times shorter than gonocoxites, covered by oblique strips. Cerci with very wide and long lobes, obtuseand pointed apically, divided by triangular excision, much longer than gonocoxites; 1.4 times wider than hypoproct. Basal triangular part of cerci strongly sclerotized. Hypoproct strongly sclerotized, almost rhomboid, with narrowed and pointed apex; lateral margin with small protrusion. Aedeagus thick, strongly sclerotized U-shaped apically, with 4-5 thin short filae inside fork, shorter than apical protrusion of gonocoxites, basally with two protrusions.

FEMALE unknown.

RELATIONSHIPS. The new species differs from other known species by the form of the cerci, very long apical protrusion of gonocoxites, and sclerotized forked aedeagus. The new species is most similar to *Karshomyia* (*Hiastatus*) *xylogena* Mamaev et M. Krivosheina from "Kedrovaya pad" Reserve (Mamaev & Krivosheina, 1997) but differs by the longer apical protrusions of gonocoxites, parallel-sided aedeagus, wide rhomboid hypoproct and wide claw of gonostylus.

Karshomyia (Hiastatus) obstructa **Fedotova, sp. n.**
Figs 25-34

MATERIAL. Holotype – ♂ (slide 168 LT 5B/62): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 23.VIII 2001 (V. Sidorenko). Paratype – ♂ (slide 168 LT 5B/61), same data as holotype.



Figs 17-24. *Karshomyia* (*Hiastatus*) *alata* sp. n., male: 17) genitalia; 18) aedeagus; 19) hind tarsal claw; 20) fore tarsal claw; 21) scape, pedicel and F1; 22) palpus; 23) F5; 24) wing. Scale line – 0.1 mm.

DESCRIPTION. MALE. Body light brown, length 1.0 mm, wing length 1.5-1.9 mm, wing width 0.6-0.9 mm. Head with postvertical peak. Sensorial filae of mid flagellomeres with short loops not reaching to the next node. Pedicel almost rounded, 1.1 times shorter than scape. F1 1.1-1.3 times longer than F2, with basal and apical unsclerotized rings, 5.3 times as long as wide, basal neck distinct, proximal node almost rounded or oval, distal neck 1.3-1.5 times shorter than distal node; distal node 2.0 times as long as proximal neck and almost equal in length to proximal node. F5 4.4 times as long as wide, distal neck equal in length to distal node; distal node 1.5 times as long as proximal node and 1.8 times as long as proximal neck. Tarsal claws of hind legs simple, semicircularly curved at middle, empodium equal in length to claw; claw of the fore leg with denticle. Palpi 4-segmented, their ratio 1:2.5:1.2:1.4, last segment enlarged apically, with rounded apex. Thorax light brown, with 3 dark brown dorsal stripes. Wing very wide, widest distally, 2.6 times as long as width. Veins M_{3+4}, *pCu* and forked *Cu* present. Fork of *Cu* situated a greater distance from the base of wing than from junction of R_{1+2} with *C*. Gonocoxites without apical lobe, slightly rounded apically, 2.0 times as long as wide, strongly dilated apically, widely rounded laterally, with 1 long unsclerotized recurved apical protrusion and with setose apical plate or hook. Gonocoxites sparsely covered by large pores. Gonostylus almost straight or slightly dilated proximally, 2.6-2.7 times as long as wide, 1.0-1.1 times shorter than gonocoxites, covered by oblique strips. Aedeagal complex elongated, conical, with slightly sclerotized aedeagus. Cerci V-shaped, with very wide and long lobes, obtuse or rounded apically, divided by triangular excision. Basal triangular part of cerci almost unsclerotized. Hypoproct more strongly sclerotized, with cordate excision on apical margin and with long proximal lateral protrusions. Cerci 1.3-1.5 times wider than hypoproct. Aedeagus thin, narrowed apically, with large distal oval swelling, not longer than apical protrusion of gonocoxites, basally with two protrusions.

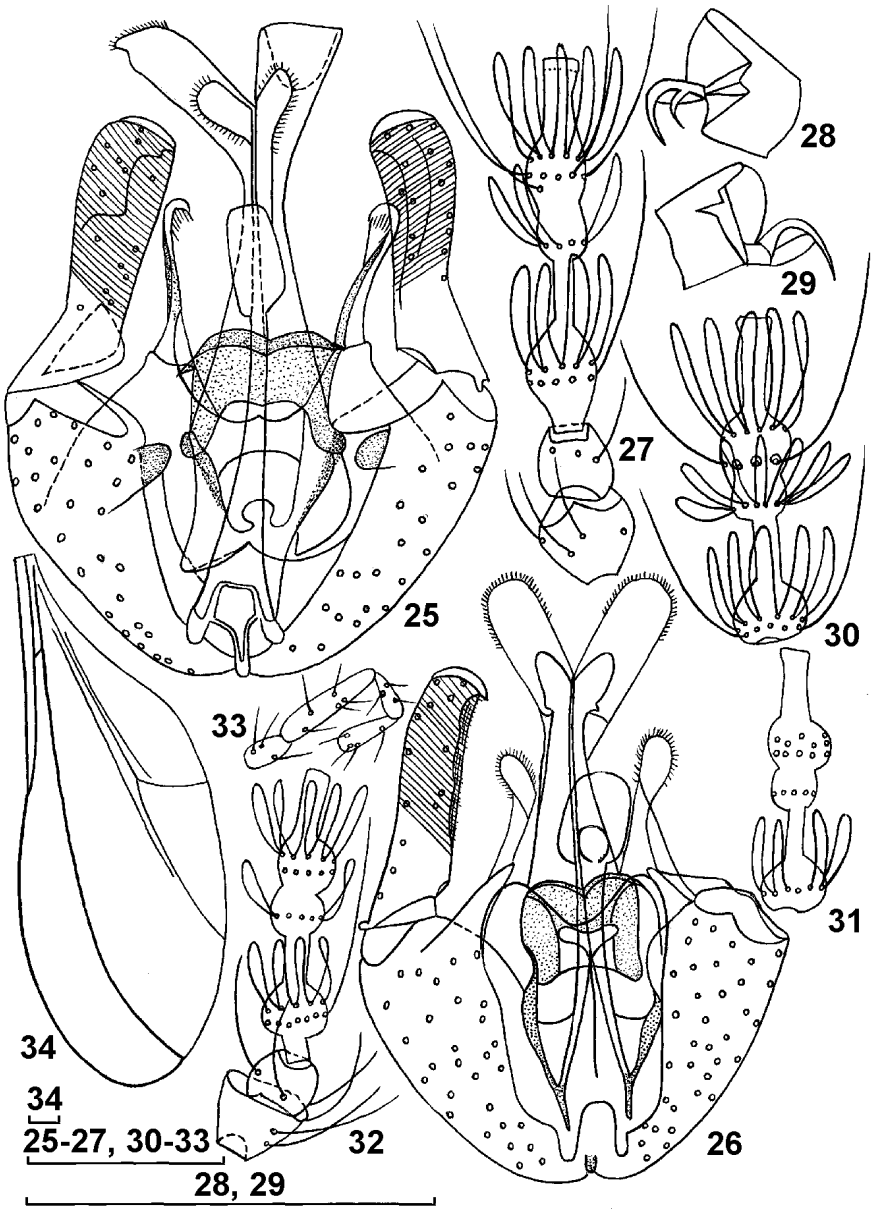
FEMALE unknown.

RELATIONSHIPS. The new species differs from other known species by the form of the very long cerci, very long apical protrusions of gonocoxites, and swollen apex of aedeagus. The new species most resembles *Karshomyia* (*Hiastatus*) *abnormis* Mamaev from Moskovskaja oblast (Mamaev, 1961), but differs by the longer apical protrusions of the gonocoxites, absence of hooks on gonocoxites, apically swollen (not parallel-sided) aedeagus, almost square (not rounded) and wide claw of gonostylus.

ETYMOLOGY. The name of the new species is formed from the Latin *obstructum* in relation to the bulky structures of genitalia.

Karshomyia (Hiastatus) galeriformis **Fedotova, sp. n.**
Figs 35-41

MATERIAL. Holotype – ♂ (slide 172 WT 7010/51): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 18.VII 2001 (Z. Fedotova).



Figs 25-34. *Karshomyia* (*Hiastatus*) *obstructa sp*. n., male: 25, 26) genitalia (variation of shape); 27, 32) scape, pedicel and F1 (variation of shape); 28) fore tarsal claw; 29) hind tarsal claw; 30, 31) F5 (variation of shape); 33) palpus; 34) wing. Scale line – 0.1 mm.

DESCRIPTION. MALE. Body length 2.3 mm, wing length 3.5 mm, wing width 1.4 mm, antennae length 3.0. Head with postvertical tubercle. Apex and base of F1 with unsclerotized ring. Last sensorial filae of flagellomeres with long loops reaching to the next node. Necks of last F longer than necks of proximal F. Pedicel longitudinally compressed and rounded laterally, 1.2 times shorter than scape. Distal node of mid flagellomeres divided into two almost equal rounded nodes. F1 4.4 times as long as wide, with long basal neck, equal to a fifth part of proximal node, distal neck 1.9 times longer than distal node, distal node 2.2 times as long as proximal neck and 1.3 times longer than proximal node. F2 1.1 times longer than F1. F5 4.7 times as long as wide, distal neck equal in length to distal node, distal node 1.4 times as long as proximal neck and 1.6 times longer than proximal node. Tarsal claws of hind legs simple, slightly curved at middle, empodium slightly longer than claw. Palpi 4-segmented, their ratio 1.3:1.1:1.0:1.1, last segment enlarged laterally, with rounded apex. Thorax light brown, with 3 dark brown dorsal stripes. Wing very wide, widest distally, 2.5 times as long as width. Fork of *Cu* situated a greater distance from the base of wing than from junction of R_{1+2} with *C*. Gonocoxites 1.7 times as long as wide, strongly dilated basally, almost straight laterally. Apical lobe elongate, rounded apically. Medial lobe very long, sclerotized, pointed and recurved apically. Gonocoxites densely covered by large pores. Gonostylus free of tubercles and strips, most dilated apically, with very large basal spot of sclerotization, elongate before middle of gonostylus, ventral side with short setae in middle part. Gonostylus with very thin white hair-like claw, curved medially, 3.6 times as long as wide, 1.3 times smaller than gonocoxites. Cerci longer than gonocoxites, with oval apical lobes and semicircular excision, not dilated basally, 1.8 times wider than hypoproct. Hypoproct slightly sclerotized and enlarged basally, with slight excision apically. Aedeagus thin, triangularly pointed apically, much longer than gonocoxites.

FEMALE unknown.

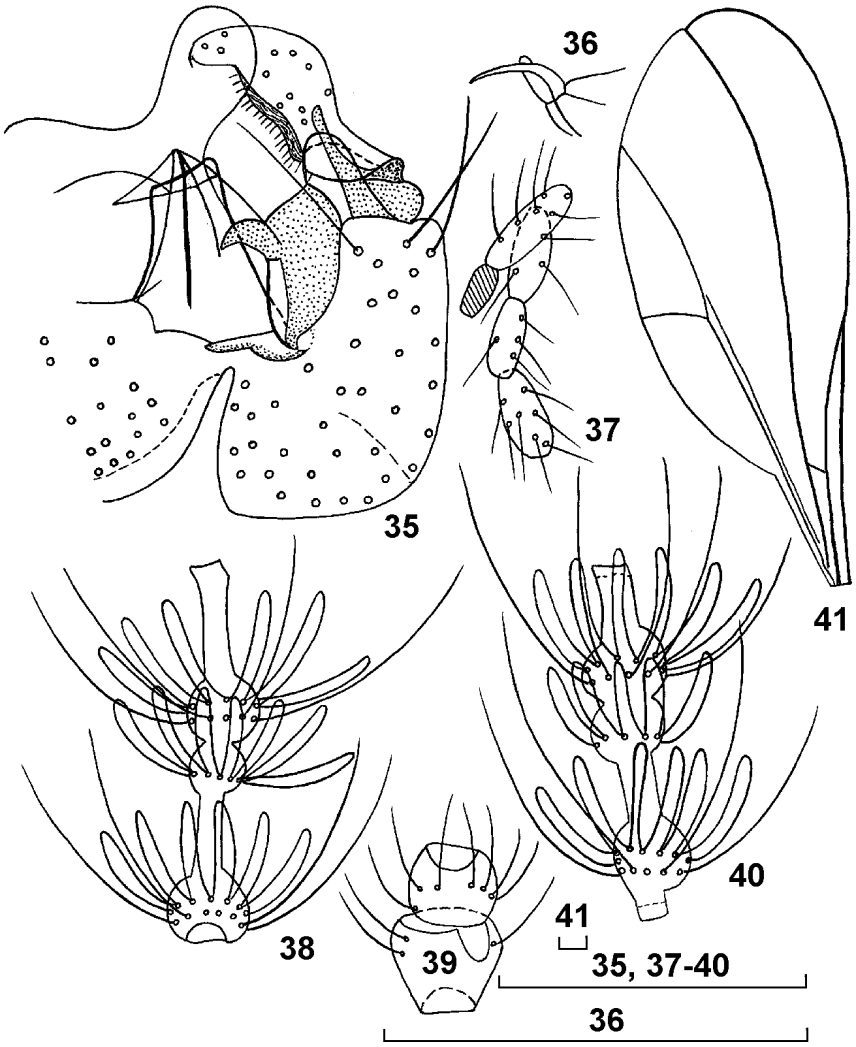
RELATIONSHIPS. The new species differs from other known species by the presence of thewide strongly sclerotized structure of gonocoxites and gonostylus and strongly prolonged lobes of cerci. The new species is most similar to *Karshomyia* (*Hiastatus*) *acietata* Mamaev et M. Krivosheina from "Kedrovaya pad" Reserve (Mamaev & Krivosheina, 1997), but differs by the presence of the apical lobe of the gonocoxites and absence of a very large, strongly sclerotized structure of the aedeagal complex, also the more swollen and recurved gonostyles.

ETYMOLOGY. The name of the new species is the Latin *galeriformis* in relation to the form of cerci and hypoproct.

Genus *Ussuridiplosis* Fedotova, gen.n.

Type species: *Lobodiplosis pallida* Kovalev et Mamaev, 1966.

DIAGNOSIS. Antennae with 2+12 segments, F1 and F2 of both sexes fused. Male flagellomeres with two nodes: elongated distal one with very strong narrowing on all segments, devided distal node on two parts and rounded proximal



Figs 35-41. *Karshomyia* (*Hiastatus*) *galeriformis* sp. n., male: 35) genitalia; 36) hind tarsal claw; 37) palpus; 38) F5; 39) scape and pedicel; 40) F1; 41) wing. Scale line – 0.1 mm.

ones. Male flagellomeres with three whorls of sensorial filae of equal length and two whorls of setae. Palpi 4-segmented. Tarsal claw simple, empodium rudimentary. Male genitalia with stout gonocoxites and slender gonostylus. Gonocoxites triangular, with long triangular apical lobes. On the end of triangular lobes there are a group of short setae. Gonostylus attached to gonocoxites almost in middle part of gonocoxites, slightly recurved medially or almost straight, with claw on the end. Length of gono-

styles equal to length of apical process of gonocoxites. Cerci bilobed, not deeply triangularly emarginated. Hypoproct narrowed medially, strongly enlarged distally and slightly concave apically. Aedeagus almost cylindrical, elongate, much shorter than gonocoxites, with small and thin apical protrusion.

SPECIES INCLUDED. Only *Ussuridiplosis pallida* (Kovalev et Mamaev, 1966), **comb. n.**

RELATIONSHIPS. The new genus differs from other known genera of the *Karshomyia*-group by the presence of very long and wide lobes on the apical part of the gonocoxites, the form of gonocoxites, strongly enlarged medially, form of thin hypoproct, narrowed medially and short cerci. From the genus *Lobodiplosis* Felt the new genus differs by the specific form of gonocoxites, larger cerci and hypoproct and thin aedeagus. From the genus *Karshomyia* Felt the new genus differs by the thin gonostylus, not triangularly swollen gonocoxites, short cerci and thin aedeagus without additional structures. The new genus is most similar to *Dentifibula* Felt, 1908 by the presence of long apical lobes on gonocoxites with short apical setae and medially attached gonostyles but differs from it by having two (not three) whorls of sensorial filae on flagellomeres and enlarged cerci and hypoproct.

ETYMOLOGY. The name of the new genus is formed from Ussuriiskii Natural Reserve and from the traditional ending (-*diplosis*).

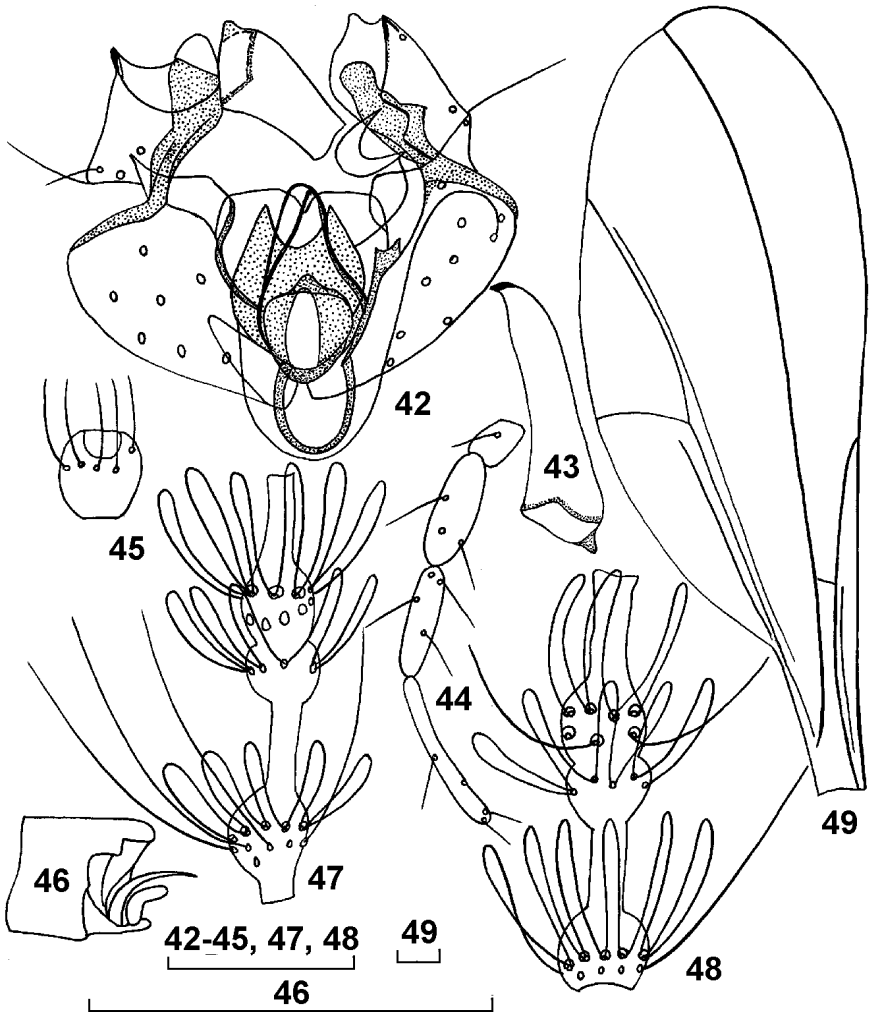
Genus *Ogdodiplosis* Fedotova, gen. n.

Type species: *Ogdodiplosis utkini* Fedotova, sp. n.

DIAGNOSIS. Eyes very large, occupying nearly entire head capsule. Head with postvertical peak. Male and female F1 and F2 fused. Male flagellomeres with two nodes: elongated distal one with narrowing on all segments and with rounded proximal ones. Male flagellomeres with three whorls of sensorial filae and two whorls of setae. Sensorial filae of flagellomeres with equal loops reaching to next node. Palpi 4-segmented. Tarsal claw simple, slightly curved, empodium shorter than claw. Wing enlarged distally. Vein R_{1+2} joining *C* before middle of wing, R_{4+5} strongly curved and joining *C* distinctly behind wing apex, forming very large cell. M_{3+4}, *pCu* and forked *Cu* present. Male genitalia with unusual gonocoxites and stout gonostylus. Gonocoxites broad, consisting of two parts: basal part of triangular form, apical part quadrate, with apical protuberance. Both parts of gonocoxites connected by strongly sclerotized strip, most enlarged in apical part. Gonostylus almost straight, apically with narrow claw. Cerci short, emarginate. Hypoproct with pointed lobes, concave apically, more sclerotized than other parts of aedeagal complex. Aedeagus swollen basally, slightly sclerotized.

SPECIES INCLUDED. Only type species.

RELATIONSHIPS. The new genus differs from other known genera by the presence of an apical lobe on the gonocoxites, a very wide aedeagus, the presence of a deep narrowing on the distal nodes of the male flagellomeres, and a recurved vein R_{4+5} joining *C* far from the wing apex.



Figs 42-49. *Ogdodiplosis utkini* sp. n., male: 42) genitalia; 43) gonostylus; 44) palpus; 45) scapus; 46) tarsal claw); 47) F1; 48) F3; 49) wing. Scale line – 0.1 mm.

***Ogdodiplosis utkini* Fedotova, sp. n.**
Figs 42-49

MATERIAL. Holotype – ♂ (slide 121 WT 7010/51): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 18.VII 2001 (Z. Fedotova).

DESCRIPTION. MALE. Body length 1.45 mm, wing length 2.1 mm, wing width 0.75 mm. Pedicel rounded. Distal nodes of flagellomeres elongated, with deep excision, proximal nodes almost rounded. Sensorial filae of flagellomeres with long loops, reached to apex of proximal and distal necks. F1 5.1 times as long as wide, distal neck 1.5 times shorter than distal node; distal node 1.7 times as long as proximal neck and 1.3 times longer than proximal node. F5 4.3 times as long as wide, distal neck 1.4 times shorter than distal node; distal node 1.7 times as long as proximal node and proximal neck. Tarsal claw simple, semicircularly curved at middle, empodium smaller than claw. Palpi 4-segmented, their ratio 1:2.4:2.4:3.0, last segment very thin, enlarged distally or parallel-sided, with rounded apex. Wing strongly elongated, widest distally, 2.8 times as long as width. Fork of *Cu* situated at a greater distance from the base of wing than from junction of R_{1+2} with *C*. Gonocoxites 2.0 times as long as wide, strongly dilated medially, widely rounded laterally, with 1 long seta near base of very large apical lobe. Apical lobe with strongly sclerotized elongated narrow structure. Gonocoxites covered with large pores. Gonostylus slightly dilated proximally, straight, 3.4 times as long as wide, 1.3 times smaller than gonocoxites. Cerci small, with short obtuse apical lobes and with small triangular excision. Hypoproct slightly sclerotized, strongly swollen basally, with semicircularly concave apex. Aedeagus thick, slightly enlarged basally, as long as basal part of of gonocoxites, equal in length to cerci and slightly longer than hypoproct; apically rounded.

FEMALE unknown.

ETYMOLOGY. The new species is named in memory of the botanist L.A. Utkin.

Genus *Foveoladiplosis* Fedotova gen. n.

Type species: *Foveoladiplosis capitulifera* Fedotova, sp. n.

DIAGNOSIS. Eyes very large, occupying nearly the entire head capsule. Head with postvertical peak. Antennae with 2+12 segments, F1 and F2 of both sexes fused. Male flagellomeres with two nodes: elongated distal one with narrowing on all segments and rounded proximal one. Male flagellomeres with three whorls of sensorial filae and two whorls of setae. Sensorial filae of flagellomeres with short loops far not reached to the next node. Terminal antennal segment without protrusion, narrowed apically. Necks of last F shorter than necks of proximal F. Palpi 4-segmented. Tarsal claw simple, rectangularly curved, empodium indistinct. Wing elongated, widest medially. Vein R_{1+2} joining *C* not far before midd of wing, R_{4+5} strongly curved and joining *C* distinctly beyond wing apex. Veins *pCu* and forked *Cu* present. Fork of *Cu* situated at a greater distance from the base of wing than from junction of R_{1+2} with *C*. Male genitalia with stout gonocoxites and slender gonostylus. Gonocoxites broad, slightly rounded apically, with preapical cavity on inner side. Gonostylus slightly recurved apically, with claw on (shaped) protrusion. Cerci bilobed and emarginate. Hypoproct narrowed basally, strongly enlarged and concave apically. Aedeagus bifurcated, elongated, slightly shorter than gonocoxites, thin, slightly sclerotized and enlarged basally.

SPECIES INCLUDED. Only type species.

RELATIONSHIPS. The new genus differs from other known genera by the presence of very large processes on apical part of gonostylus; form of gonocoxites with large excision on inner side and complicated form of thin hypoproct, narrowed basally, and additional vein *pCu*. The new genus is most similar to *Karschomyia* Felt but differs from it by the more enlarged gonocoxites, longer than the bifurcated aedeagus (almost equal in length of aedeagus, cerci and hypoproct), short proximal and distal necks of middle flagellomeres, absent apical protrusion on F12 and very enlarged, strongly sclerotized alveolated base of aedeagus and specific form of gonostyles.

ETYMOLOGY. The name of the genus is formed from the Latin *foveola* – alveolated form of basal part of aedeagal complex and from the traditional ending (-*diplosis*) for genera of subfamily Cecidomyiinae.

Foveoladiplosis capitulifera **Fedotova, sp. n.**
Figs 50-57

MATERIAL. Holotype – ♂ (slide 122 WT 7010/51): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 18.VII 2001. Paratypes – 1 ♂ (slide 122 WT 7010/52), the same locality (Z. Fedotova).

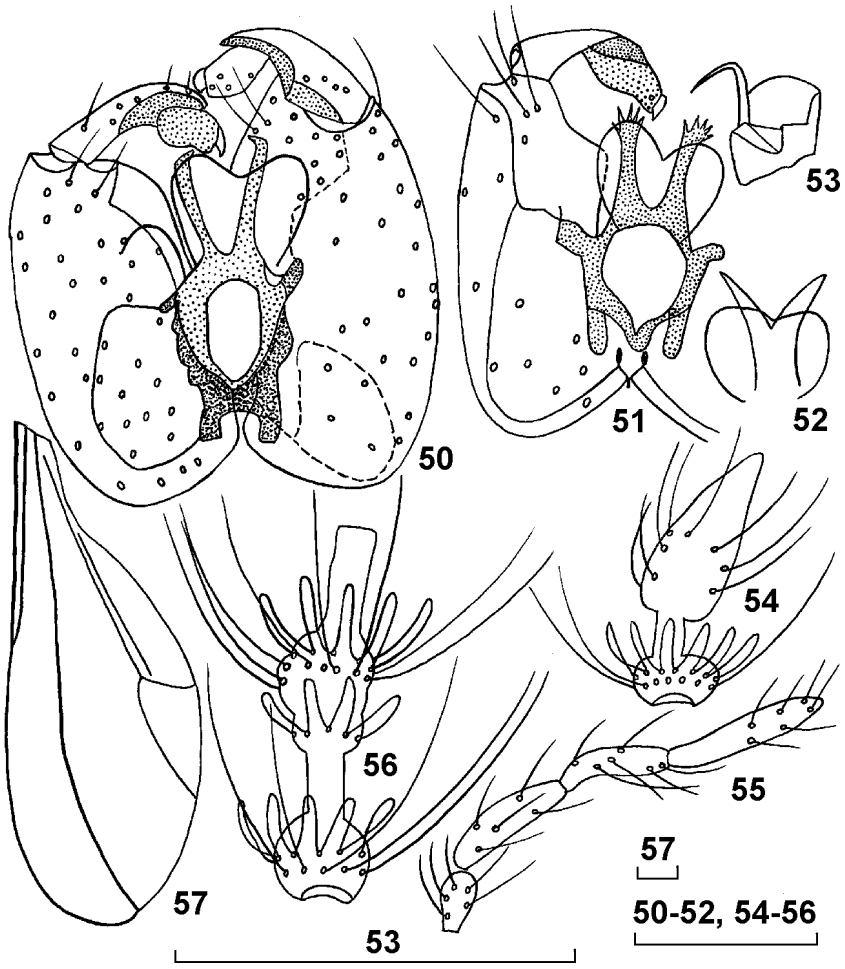
DESCRIPTION. MALE. Body length 0.76-0.95 mm, length of wing 1.43-1.50 mm, wing width 0.45-0.56 mm. F3 4.0 times as long as wide, distal neck 1.2 times shorter than distal node. Distal node of F3 1.4 time longer than proximal one and 2.2 times longer than proximal neck. F12 3.3 times as long as wide, with large distal conical node. Palpi 4-segmented, their ratio 1:2.1:1.8:2.7, 4th segment slightly pointed apically. Wing 2.7 times as long as wide, widest medially. Apical part of gonocoxites distally with wide excision on inner side. Gonocoxites 2.1-2.2 times as long as wide. Gonostyles 3.0-4.3 times shorter than gonocoxites, slightly curved medially, and about 3.0-4.3 times as long as wide, with strongly sclerotized elongated swelling before claw. Cerci with triangular apical excision between rounded lobes. Hypoproct Y--shaped, 1.2 times narrower than cerci; slightly sclerotized, enlarged proximally, with triangular apical excision. Medio-apical processes of gonocoxites rounded or rectangular. Aedeagus with rhomboid alveolated cavity, sclerotized and enlarged basally. Apical part of aedeagus bifurcated, with spines or hooks.

FEMALE unknown.

Genus *Undadiplosis* Fedotova, gen. n.

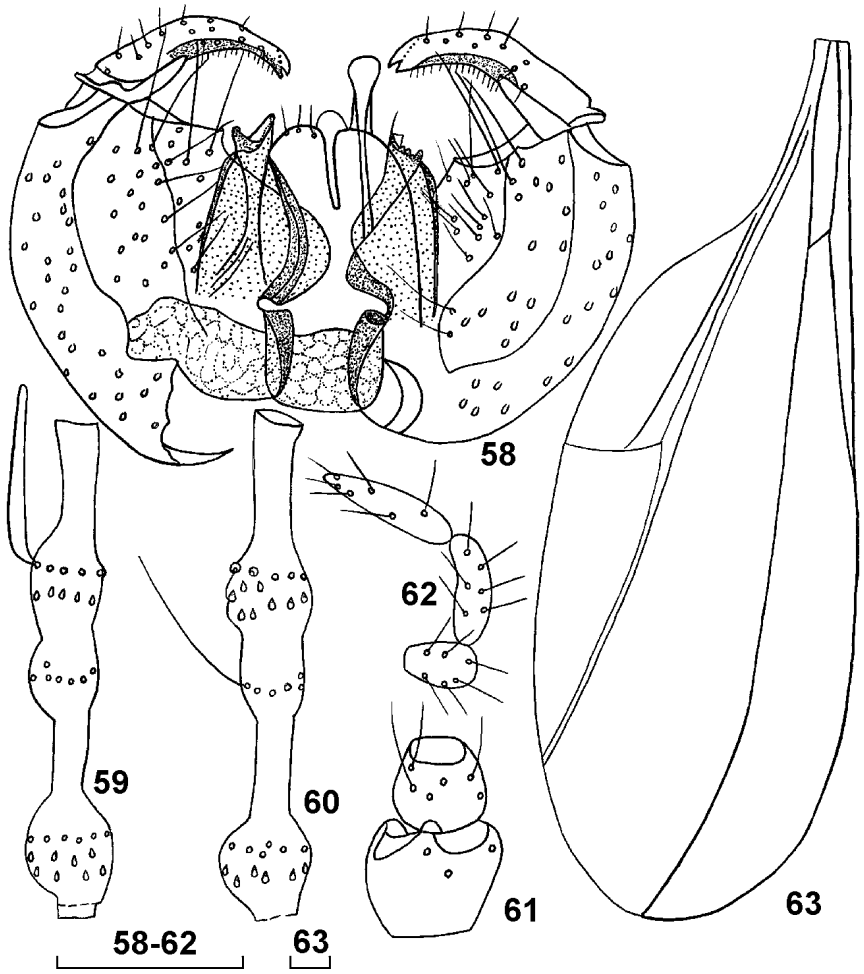
Type species: *Undadiplosis tomentosa* Fedotova, sp. n.

DIAGNOSIS. Eyes very large, occupying nearly the entire head capsule. Head without postvertical peak. Antennae with 2+12 segments, F1 and F2 of both sexes fused. Male flagellomeres with two nodes: elongated distal one with narrowing on all segments and rounded proximal one. Male flagellomeres with three whorls of



Figs 50-57. *Foveoladiplosis capitulifera* sp. n., male: 50, 51) genitalia (variation of shape); 52) cerci and hypoproct (variation of shape); 53) tarsal claw; 54) F12; 55) palpus; 56) F5; 57) wing. Scale line – 0.1 mm.

sensorial filae and two whorls of setae. Sensorial filae of flagellomeres with long loops, reaching to the next node. Palpi 3-segmented. Wing elongated, widest near middle. Vein R_{1+2} joining *C* not far before middle of wing, R_{4+5} slightly curved and joining *C* distinctly beyond wing apex. Veins M_{3+4}, *pCu* and forked *Cu* present. Fork of *Cu* situated an equal distance from the base of wing and from junction of R_{1+2} with *C*. Male genitalia with stout, very wide gonocoxites and slender gonostylus. Gonocoxites strongly rounded laterally, with long medial sclerotized process. Gonostylus shorter than width of gonocoxites, strongly recurved distally,



Figs 58-63. *Undadiplosis tomentosa* sp. n., male: 58) genitalia; 59) F1; 60) F2; 61) scape and pedicel; 62) palpus; 63) wing. Scale line – 0.1 mm.

with white, almost invisible claw and ventral distal cavity, covered by short setae. Cerci bilobed and narrowly emarginated. Hypoproct narrowed, rounded apically. Cerci and hypoproct almost equal in length to gonocoxites. Aedeagus very thin, swollen apically, slightly longer than gonocoxites.

SPECIES INCLUDED. Only type species.

RELATIONSHIPS. The new genus differs from other known genera by the presence of a very long cavity in the apical part of the gonostyles; the form of gonocoxites with large sclerotized medial processes on the inner side and the complicated form of the thin aedeagus, narrowed basally, and additional vein *pCu*.

The new genus most resembles *Karschomyia* Felt but differs from it by the more enlarged gonocoxites (inner structure of genitalia strongly sclerotized and incurved), almost equal length of cerci and hypoproct (shorter in *Karshomyia*); very thin aedeagus; elongated proximal and distal necks and proximal node of mid flagellomeres and specific form of gonostyles.

ETYMOLOGY. The name of the new genus is formed from the Latin *unda* (wave) – form of basal part of aedeagal complex and from traditional ending (*-diplosis*) for genera of subfamily Cecidomyiinae.

Undadiplosis tomentosa **Fedotova, sp. n.**
Figs 58-63

MATERIAL. Holotype – ♂ (slide 150 LT 14/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 30.VIII. 2001 (V. Sidorenko).

DESCRIPTION. MALE. Body length 1.68 mm, wing length 2.45 mm, wing width 0.93 mm. Scape of antennae very wide, 1.3 times longer than pedicel. F1 5.9 times as long as wide, distal neck 1.5 times shorter than distal node. Distal node of F1 1.4 times longer than proximal one and 2.2 times longer than proximal neck. F2 slightly longer than F1, with longer necks than those of F1. Palpi 3-segmented, their ratio 1:1.6:1.9, 3rd segment slightly pointed apically. Wing 2.8 times as long as wide, widest medially. Medial part of gonocoxites with wide sclerotized process, with dentated protrusions apically. Gonocoxites 1.6 times as long as wide. Gonostylus 1.5 times shorter than gonocoxites, strongly concave basally. Strongly sclerotized elongate setose distal cavity occupying almost half of length of gonostylus. Gonostylus about 3.6 times as long as wide. Cerci with thin excision between rounded lobes. Hypoproct finger-like, almost 3.0 times narrower than cerci; unsclerotized, enlarged proximally. Medio-apical processes of hypoproct rectangular, strongly chitinized, complicated. Aedeagus unsclerotized, with apical rounded protrusion.

FEMALE unknown.

ETYMOLOGY. The name of the new species is formed from the Latin *tomentosus* – in relation to the felted distal part of gonostyles, covered on ventral side by pubescence.

Genus *Fimbriatodiplosis* Fedotova, gen. n.

Type species***:*** *Fimbriatodiplosis calceus* Fedotova, sp. n.

DIAGNOSIS. Eyes completely covering head. Head with postvertical peak. Pedicel brown; dark, 1.4 times shorter than paler scape. Antennae with 2+12 segments, male F1 and F2 fused. Male flagellomeres with two nodes: long distal one with deep medial constriction; rounded proximal one with long proximal and distal neck. F12 with elongate protrusion. Male flagellomeres with three whorls of sensorial loop-shaped filae and two whorls of setae. The sensorial filae of basal and

apical whorls longer than medial one. Palpi 4-segmented. Tarsal claw with long, medial denticle, empodium shorter than claw. Wing widest medially. Vein R_{1+2} joining *C* before middle of wing, R_{4+5} strongly enlarged, M_{3+4} and forked *Cu* present, *pCu* absent. Fork of *Cu* situated an equal distance from the base of wing and from junction of R_{1+2} with *C*. Male genitalia widely rounded, with wide gonocoxites and strongly swollen gonostylus. Gonocoxites broadly obtuse apically, densely covered by long hairs. Gonostylus very strongly swollen medially before the claw, from ventral side with a wide beard-like protrusion. Cerci very large, slightly emarginate. Hypoproct wide, horseshoe-shaped, strongly sclerotized, entire apically. Aedeagus sclerotized, strongly enlarged basally and subapically.

SPECIES INCLUDED. Only type species.

RELATIONSHIPS. The new genus differs from other known genera by the presence of a very large swelling on the middle part of the gonostylus, a beard-like protrusion on ventral side before claw and strongly sclerotized aedeagus and hypoproct. According to the form of the gonostylus the new genus is closest to *Karshomyia* Felt but differs from it by the strongly sclerotized parts of the aedeadal complex, strongly narrowed distal nodes of flagellomeres and specific form of vein R_{4+5}.

ETYMOLOGY. The name of the new genus is formed from Latin *fimbriatus* – beard-like ventral lobe of gonostylus and from traditional ending (*-diplosis*) for genera of subfamily Cecidomyiinae.

Fimbriatodiplosis calceus **Fedotova, sp. n.**
Figs 64-72

MATERIAL. Holotype – ♂ (slide 149 MT 24 B/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 29.VIII 2001 (V. Sidorenko).

DESCRIPTION. MALE. Body length 2.3 mm, wing length 2.1 mm, wing width 1.0 mm. Antennae with 2+12 segments, scape enlarged apically, trapezoidal pedicel 1.4 times shorter and narrower than scape. Proximal node of flagellomeres rounded, shorter than proximal and distal necks, distal node much longer. Sensorial filae of flagellomeres with long loops, reaching to apex of proximal and distal necks. F1 5.3 times as long as wide, distal neck 2.1 times shorter than distal node; distal node 1.5 times as long as proximal node and 2.7 times longer than proximal neck. F1 and F2 equal in length. F5 4.0 times as long as wide, distal neck 1.4 times shorter than distal node; distal node 2.5 times as long as proximal node and 1.4 times longer than proximal neck. Last flagellomeres with more long proximal and distal neck. F11 and F12 with very narrow constriction on distal node. F12 almost equal in length to F11, with apical pinnacled protrusion. Palpi 4-segmented, their ratio 1.0:1.0:1.0:1.2, 4th segment rounded apically and enlarged laterally. Wing not strongly elongated, 2.4 times as long as wide. Vein R_{1+2} strongly recurved medially, joining *C* before middle of wing. Gonocoxites almost straight, 1.8 times as long as wide. Gonostylus 1.6 times smaller than gonocoxites, 1.6 times as long as wide, almost hook-shaped. Cerci small, very wide, with short apical rounded lobes, equal in length to hypoproct and 2.1 times narrower than them. Aedeagus as long as hypoproct, thick, rounded apically.

FEMALE unknown.

ETYMOLOGY. The name of the new species is the Latin naun *calceus* – in relation to the form of gonostylus, resembling of shoe.

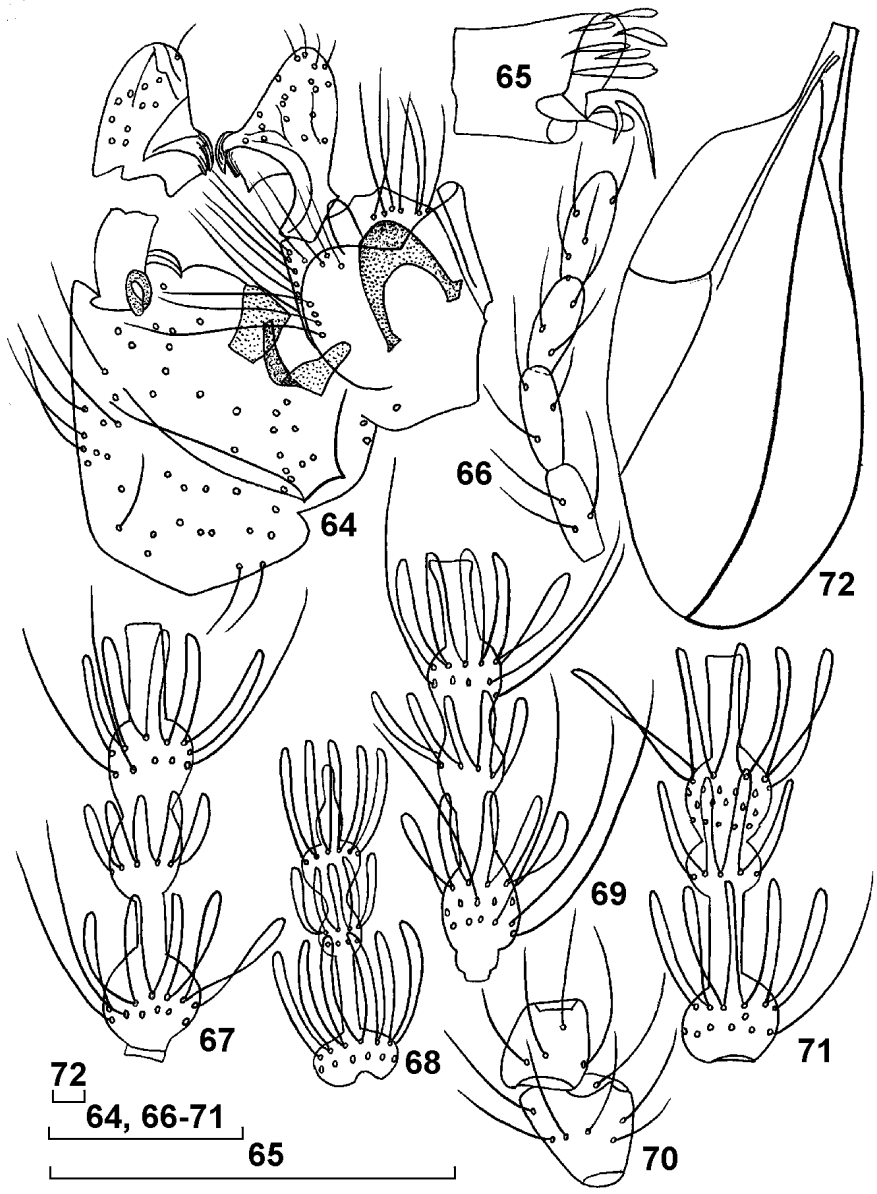


Fig. 64-72. *Fimbriatodiplosis calceus* sp. n., male: 64) genitalia; 65) tarsal claw; 66) palpus; 67) F2; 68) F12; 69) F1; 70) scape and pedicel; 71) F5; 72) wing**.** Scale line – 0.1 mm.

Genus *Gigantodiplosis* Fedotova, gen. n.

Type species: *Gigantodiplosis pilosa* Fedotova, sp. n.

DIAGNOSIS. Eyes very large, occupying nearly entire head capsule. Head without postvertical peak. Antennae with 2+12 segments, F1 and F2 of both sexes fused. Male flagellomeres with two nodes: elongated distal one with strong narrowing on all segments (except 12th) and rounded proximal one. Male flagellomeres with three whorls of sensorial filae and two whorls of setae. Sensorial filae of flagellomeres with short loops, not reaching to the next node. Palpi 1-segmented, labrum almost rounded. Tarsal claws simple, empodium not apparent. Wing elongate, widest behind middle. Vein R_{1+2} joining C far before middle of wing, R_{4+5} slightly curved and joining C distinctly beyond wing apex. Vein r_s recurved, S-shaped. Veins M_{3+4} and forked Cu present. Fork of Cu situated an equal distance from the base of wing and from junction of R_{1+2} with C. Male genitalia with stout, very wide gonocoxites and gonostylus. Gonocoxites strongly enlarged basally, covered by numerous pores, without medial processes. Cerci short with rounded lobes. Hypoproct consists of two almost separated pointed protrusions, longer than gonocoxites, narrowly emarginate. Gonostylus almost equal in length to gonocoxites, slightly recurved distally, with very large white claw. Ventral side of gonostylus near middle with dense long hairs. Cerci and hypoproct almost equal in length to gonocoxites. Aedeagus almost the same form as one of the lobes of hypoproct, with apical hook, slightly shorter than hypoproct, swollen apically, equal in length to gonocoxites.

SPECIES INCLUDED. Only type species.

RELATIONSHIPS. The new genus differs from other known genera by the presence of very long lobes of the hypoproct and a strongly enlarged claw on the apex of the gonostylus, covered by long hairs near the middle of the ventral side. The new genus is most similar to *Karshomyia* Felt but differs from it by the more enlarged gonocoxites (almost equal in length to the hypoproct), shorter than aedeagus, very short proximal and distal necks of mid flagellomeres and specific form of gonostyles, and also 1-segmented palpi.

ETYMOLOGY. The name of the new genus is formed from the Latin *giganteus* – huge form and size of gonostylus with large apical claw and from the traditional ending (-*diplosis*) for genera of subfamily Cecidomyiinae.

Gigantodiplosis pilosa Fedotova, sp. n.

Figs 73-81

MATERIAL. Holotype – ♂ (slide 154 MT 14 H/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 23.VIII 2001 (V. Sidorenko).

DESCRIPTION. MALE. Body length 1.62 mm, wing length 1.8 mm, wing width 0.8 mm. Scape of antennae very small, 1.5 times shorter than pedicel. F1 4.5 times as long as wide, distal neck 2.1 times shorter than distal node. Distal node of F1 1.6 times longer than proximal one and 2.7 times longer than proximal neck. F2 1.1 times

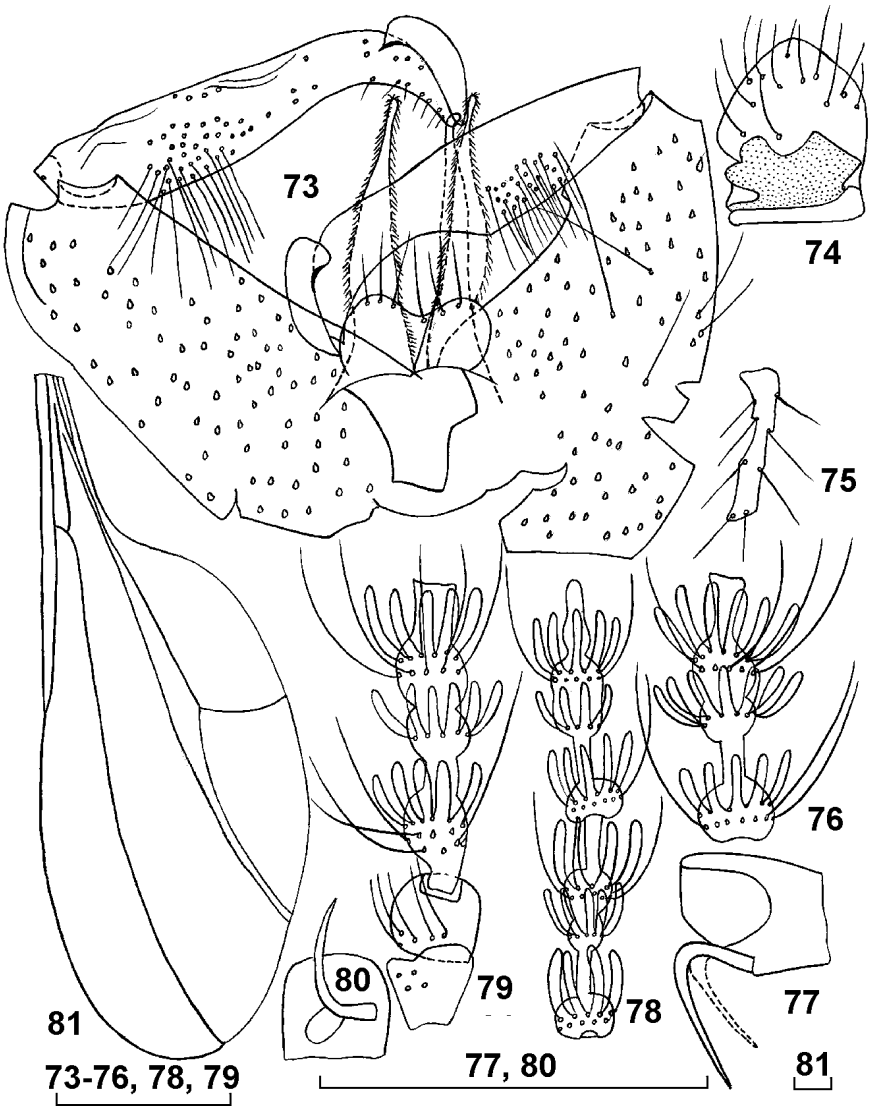


Fig. 73-81. *Gigantodiplosis pilosa* sp. n., male: 73) genitalia; 74) labrum; 75) palpus; 76) F5; 77, 80) tarsal claw (variation of shape); 78) F11 and F12; 79) scape, pedicel and F1; 81) wing. Scale line – 0.1 mm.

longer than F1, with longer necks than those of F1. Palpi 1-segmented, 1.9 times as long as width, slightly obtuse apically. Wing 2.6 times as long as wide. Gonocoxites 2.0 times as long as wide, without basal or medial processes. Gonostylus strongly enlarged basally, about 4.7 times as long as wide, with strongly enlarged apical claw,

1.04 times shorter than gonocoxites. Cerci with thin excision between rounded lobes. Hypoproct with two finger-like protrusions, almost equal in width to cerci; unsclerotized, very thin apically and enlarged proximally. Aedeagus unclerotized, with apical small hook.

FEMALE unknown.

ETYMOLOGY. The name of the new species is formed from the Latin *pilosa* in relation to the hairy part on ventral side of gonostylus.

Genus *Opinatodiplosis* Fedotova, gen. n.

Type species: *Opinatodiplosis turriformis* Fedotova, sp. n.

DIAGNOSIS. Eyes very large, occupying nearly entire head capsule. Head with postvertical peak. Male flagellomeres with two nodes: slightly elongated distal one without narrowing on all segments and rounded proximal one. Male flagellomeres with three whorls of sensorial filae and two whorls of setae. Sensorial filae of flagellomeres with short loops of equal length, not reaching to the next node. Palpi 4-segmented. Tarsal claws simple, empodium not apparent or slightly longer than claw. Wing not elongate, widest near middle. Vein R_{1+2} joining *C* not far before middle of wing, R_{4+5} slightly curved and joining *C* distinctly behind wing apex. Veins M_{3+4} and *pCu* absent. Fork of *Cu* situated a greater distance from the base of wing than from junction of R_{1+2} with *C*. Male genitalia with stout, very wide gonocoxites and slender short or elongate gonostylus. Gonocoxites strongly rounded laterally, with long medial sclerotized straight and small rounded or triangular sclerotized medial processes. Apical margin of gonocoxites straight or with long curved protrusion. Cerci bilobed and narrowly triangularly emarginate or slightly -excavated. Hypoproct narrowed, almost parallel-sided, truncated apically or with wide excision. Cerci and hypoproct almost equal in length to gonocoxites. Aedeagus very thin, swollen distally, parallel-sided basally and apically, slightly longer than gonocoxites.

SPECIES INCLUDED. Only type species.

RELATIONSHIPS. The new genus differs from other known genera in the reduced small cerci and hypoproct; the form of the gonocoxites – almost oviform, with large sclerotized medial strip on inner side and short thin aedeagus, narrowed apically, and narrow hypoproct. The new genus is close to *Karshomyia* Felt but differs from it by the more enlarged gonocoxites (almost equal in length to cerci and hypoproct), short thin aedeagus; almost rounded proximal and distal nodes of mid flagellomeres; very short gonostylus; slightly sclerotized inner structure of genitalia; absence of medial excavation on gonocoxites and very small size of the body.

ETYMOLOGY. The name of the new genus is formed from the Latin *opinatus* – imagined, in relation to the reduced form of cerci and barely visible hypoproct and from the traditional ending (*-diplosis*) for genera of subfamily Cecidomyiinae.

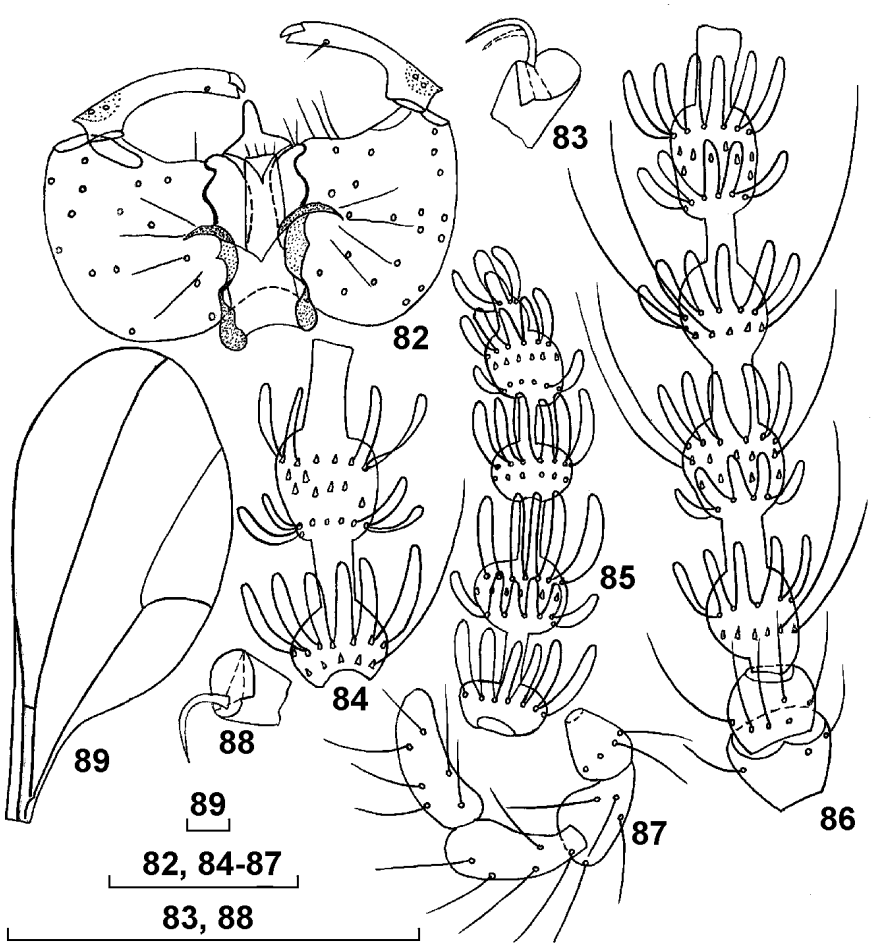


Fig. 82-89. *Opinatodiplosis turriformis* sp. n., male: 82) genitalia; 83, 88) tarsal claw (variation of shape); 84) F5; 85) F11 and F12; 86) scape, pedicel, F1 and F 2; 87) palpus; 89) wing. Scale line – 0.1 mm.

Opinatodiplosis turriformis **Fedotova, sp. n.**
Figs 82-89

MATERIAL. Holotype – ♂ (slide 153 MT 1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 30.VI 2001 (V. Sidorenko).
DESCRIPTION. MALE. Body length 0.95 mm, wing length 1.42 mm, wing width 0.6 mm. Scape of antennae very wide, 1.2 times longer than pedicel. F1 3.1 times as long as wide, distal neck 1.6 times shorter than distal node. Distal node of F1 1.2 times longer than proximal one and 2.3 times longer than proximal neck. F2 slightly

longer than F1, with narrower nodes than those of F1. Palpi 4-segmented, their ratio 1:1.5:1.6:1.9, 4th segment strongly enlarged medially and narrowed apically. Wing almost semicircular, 2.3 times as long as wide. Apical part of gonocoxites almost straight, covered by short setae. Gonocoxites without excision, 1.2 times as long as wide. Gonostylus 1.1 times shorter than gonocoxites, strongly enlarged basally and slightly apically, about 3.5 times as long as wide. Gonostylus shorter than width of gonocoxites, strongly recurved distally. Cerci with thin exci sion between rounded lobes. Hypoproct straight, almost 2.6 times narrower than cerci; usclerotized. Aedeagus unsclerotized, with apical elongated protrusion.

FEMALE unknown.

ETYMOLOGY. The name of the new species is the Latin *turriformis* in relation to the form of the aedeagal complex of genitalia.

Opinatodiplosis mica **Fedotova, sp. n.**
Figs 90-96

MATERIAL. Holotype – ♂ (slide 165b LT 10): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 27.VI. 2001 (V. Sidorenko).

DESCRIPTION. MALE. Body length 0.8 mm, wing length 1.2 mm, wing width 0.5 mm. F1 and F2 almost equal in length. F1 4.8 times as long as wide, distal neck 1.3 times shorter than distal node. Distal node of F1 as long as proximal one and 2.3 times longer than proximal neck. Distal node slightly elongated, without narrowing. F5 3.9 times as long as wide, distal neck 1.1 times shorter than distal node; distal node 1.5 times as long as proximal node and 1.7 times longer than proximal neck. Palpi 4-segmented, their ratio 1:1:1:1.7, 4th segment almost parallel-sided, rounded apically. Tarsal claw simple, empodium slightly longer than claw. Wing almost semicircular, 2.3 times as long as wide, vein *pCu* present. Apical part of gonocoxites with long recurved protrusions, reaching each other. Gonocoxites with wide basal excision, 2.2 times as long as wide, in middle part with triangular strongly sclerotized process. Gonostylus 1.2 times shorter than gonocoxites, strongly enlarged basally and dorsally, pointed apically. Gonostylus about 3.2 times as long as wide. Cerci widely rounded laterally and excavated apically. Hypoproct with long apical protrusion, directed laterally, almost equal in width to cerci, sclerotized. Aedeagus unsclerotized, partallel-sided, rounded apically.

FEMALE unknown.

RELATIONSHIPS. The new species differs from *Opinatodiplosis turriformis* sp. n. by the large excision at the base of gonocoxites, triangular sclerotized process on the base of gonocoxites; presence of apical protrusion of gonocoxites and very long gonostylus with large swelling in the base.

ETYMOLOGY. The name of the new species is the Latin naun *mica* – crumb, in relation to the size of the body and genitalia.

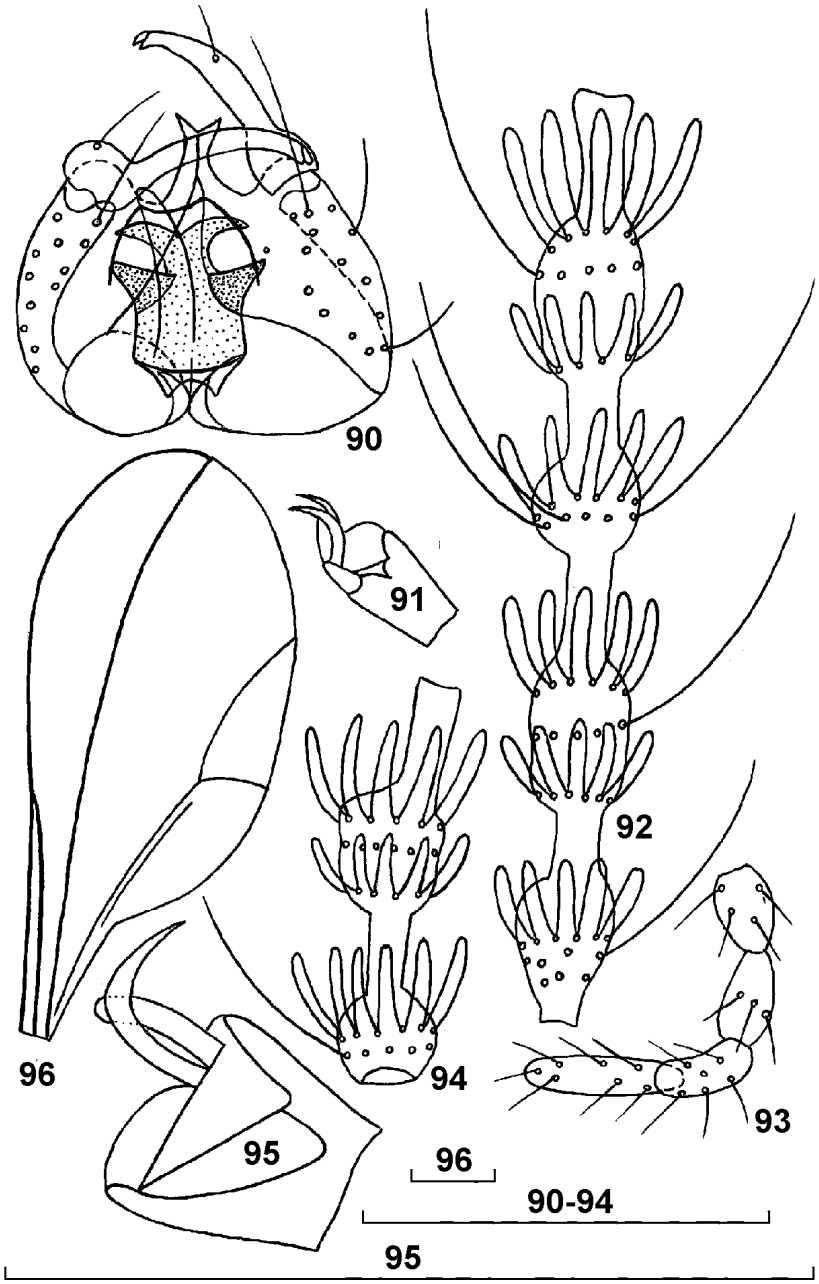


Fig. 90-96. *Opinatodiplosis mica* sp. n., male: 90) genitalia; 91, 95) tarsal claw (variation of shape); 92) F1 and F2; 93) palpus; 94) F5; 96) wing. Scale line – 0.1 mm.

Genus *Palmatodiplosis* Fedotova, gen. n.

Type species: *Palmatodiplosis fasciculifera* Fedotova, sp. n.

DIAGNOSIS. Eyes very large, occupying nearly entire head capsule. Head without postvertical peak. Male flagellomeres with two nodes: slightly elongated distal one without narrowing on all segments and rounded proximal one. Male flagellomeres with three whorls of sensorial filae and two whorls of setae. Sensorial filae of flagellomeres with short loops, almost reaching to the next node. Palpi 3-segmented. Tarsal claws simple on fore tarsus and with denticles on hind tarsus, empodium equal in length to claw. Wing not elongate, widest near middle. Vein R_{1+2} joining *C* far before middle of wing, R_{4+5} strongly curved and joining *C* very far behind wing apex. Veins M_{3+4}, and *pCu* present. Fork of *Cu* situated an equal distance from the base of wing and from junction of R_{1+2} with *C*. Male genitalia with stout, very wide gonocoxites and wide tuberous short gonostylus. Gonocoxites almost rectangular, strongly emarginate medially, with long apical, unsclerotized pointed process. Length of gonostylus almost equal to width of gonocoxites, almost straight. Cerci bilobed, with oval emargination. Hypoproct narrowed apically, widely enlarged basally. Cerci and hypoproct almost equal in length to aedeagus. Aedeagus distinctly sclerotized, swollen medially, almost rhomboidal. Inner structure of genitalia strongly sclerotized.

SPECIES INCLUDED. Only type species.

RELATIONSHIPS. The new genus differs from other known genera by the form of the wide gonocoxites (almost rectangular, with large unsclerotized apical process but sclerotized medially in the place of a medial cavity) and rhomboidal sclerotized aedeagus. The new genus is similar to *Karshomyia* Felt but differs from it by the more enlarged (not rounded) gonocoxites; almost straight short gonostylus, covered with tubercles; shorter necks of mid flagellomeres and short loops of filae; sclerotized aedeagus and 3-segmented palpi.

ETYMOLOGY. The name of the new genus is formed from the Latin *palmatus* – in relation to the palmate form of gonostylus and from traditional ending (*-diplosis*) for genera of subfamily Cecidomyiinae.

Palmatodiplosis fasciculifera Fedotova, sp. n.

Figs 97-103

MATERIAL. Holotype – ♂ (slide 157 LT 15 B/1): Russia, Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 23.VIII. 2001 (V. Sidorenko).

DESCRIPTION. MALE. Body dark brown, length 1.45 mm, wing length 2.2 mm, wing width 0.83 mm. F1 with apical unsclerotized ring. F5 3.4 times as long as wide, distal node 1.7 times longer than proximal one and 2.3 times longer than proximal neck; distal neck 1.5 times shorter than distal node and 1.5 times longer than proximal neck. Palpi 3-segmented, their ratio 1.0:0.5:5.4, 3rd segment rounded apically and enlarged distally. Wing 2.7 times as long as wide. Thorax light brown, with 3 dark brown dorsal stripes. Gonocoxites medially sclerotized, 1.3 times as long

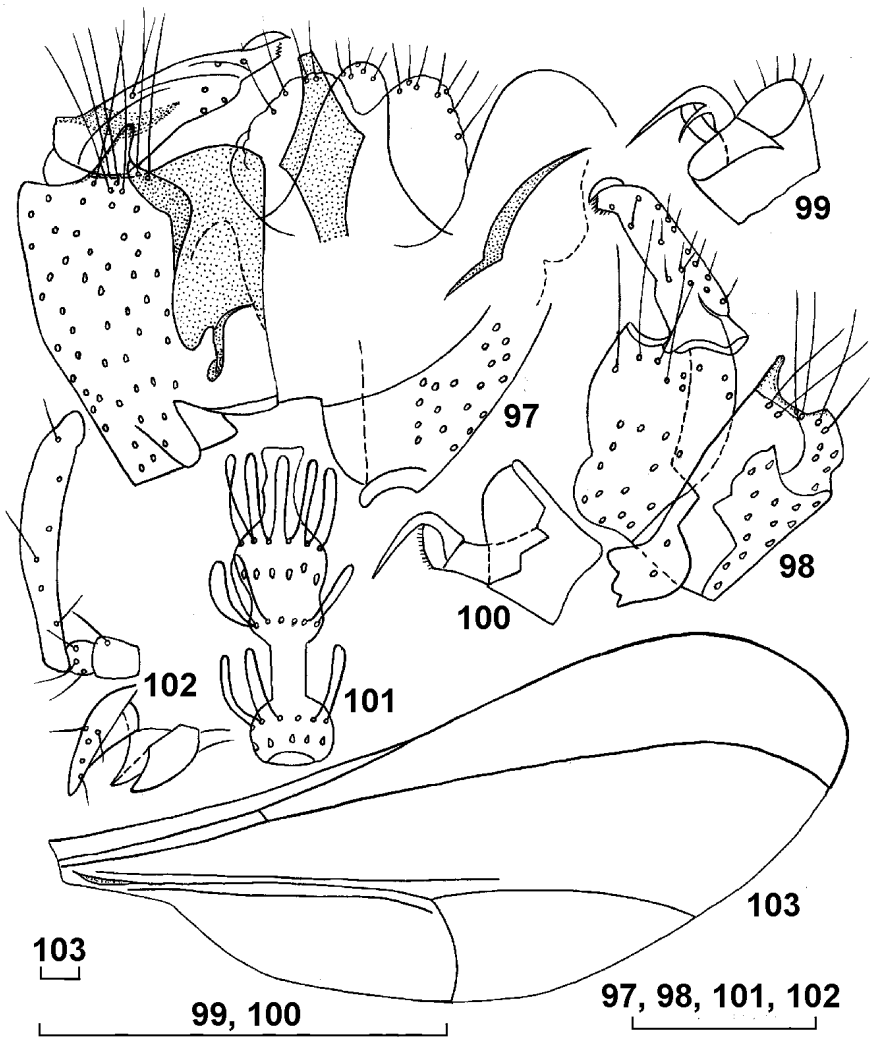


Fig. 97-103. *Palmatodiplosis fasciculifera* sp. n., male: 97) genitalia; 98) gonocoxite and gonostylus (variation of shape); 99) hind tarsal claw; 100) fore tarsal claw; 101) F5; 102) mouth parts; 103) wing. Scale line – 0.1 mm.

as wide. There is a fascicle of long hairs around the apical process of gonocoxites. Gonostylus 1.2 times shorter than gonocoxites, strongly enlarged basally, dentate apically near the claw. Gonostylus about 3.0 times longer than width, enlarged basally, ventrally with the same tubercles as near apex. Cerci with triangular

excision between rounded lobes. Hypoproct entire, 1.3 times narrower than cerci, unsclerotized, strongly enlarged basally. Aedeagus completely sclerotized, obtuse apically.

FEMALE unknown.

ACKNOWLEDGEMENTS

We are very grateful to Dr P. Chandler (Melksham, UK) for critical reading of manuscript.

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