

## New taxa of the tribe Coquillettomyiini Mamaev, 1968 (Diptera: Cecidomyiidae) from the Russian Far East

### Новые таксоны из трибы Coquillettomyiini Mamaev, 1968 (Diptera: Cecidomyiidae) с Дальнего Востока России

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KEY WORDS: Diptera, Cecidomyiidae, *Coquillettomyia*, Russian Far East, new genera, new species

КЛЮЧЕВЫЕ СЛОВА: Diptera, Cecidomyiidae, *Coquillettomyia*, Дальний Восток России, новые роды, новые виды

ABSTRACT. Based on material from the Russian Far East, 2 new genera, *Faristodiplosis* **gen. n.** and *Galeidiplosis* **gen. n.** closely related to the genus *Coquillettomyia* are described. Thirteen new species: *Coquillettomyia combinata* **sp. n.**, *C. primorskii* **sp. n.**, *Galeidiplosis quadricoxita* **sp. n.**, *G. pluridens* **sp. n.**, *Faristodiplosis glochidiata* **sp. n.**, *F. aculeata* **sp. n.**, *F. aliformis* **sp. n.**, *F. collaris* **sp. n.**, *F. furcata* **sp. n.**, *F. scalaris* **sp. n.**, *F. stratiota* **sp. n.**, *F. spathulata* **sp. n.**, *F. urceolata* **sp. n.** are described. Two species *Coquillettomyia bidenticulata* (Bu & Zheng, 1994, **comb. n.**) and *C. elongata* (Bu & Zheng, 1994, **comb. n.**) are transferred to new genus *Fareastodiplosis* **gen. n.** A key for recognition of the new genera is given.

РЕЗЮМЕ. По материалам с Дальнего Востока России описываются 2 новых для науки рода *Faristodiplosis* **gen. n.** и *Galeidiplosis* **gen. n.**, близкие к роду *Coquillettomyia*. Описываются 13 новых для науки видов: *Coquillettomyia combinata* **sp. n.**, *C. primorskii* **sp. n.**, *Galeidiplosis quadricoxita* **sp. n.**, *G. pluridens* **sp. n.**, *Faristodiplosis glochidiata* **sp. n.**, *F. aculeata* **sp. n.**, *F. aliformis* **sp. n.**, *F. collaris* **sp. n.**, *F. furcata* **sp. n.**, *F. scalaris* **sp. n.**, *F. stratiota* **sp. n.**, *F. spathulata* **sp. n.**, *F. urceolata* **sp. n.** Два вида: *Coquillettomyia bidenticulata* (Bu & Zheng, 1994, **comb. n.**) и *C. elongata* (Bu & Zheng, 1994, **comb. n.**) перенесены в новый род *Fareastodiplosis* **gen. n.** Составлен ключ для определения новых родов.

#### Introduction

Felt [1908] established the genus *Coquillettomyia* for *Mycodiplosis lobata* Felt, 1907, which was described from New York. Palaeartic species of this

genus were studied and revised by Mamaev [1969, 1972, 1973], who established some generic and species synonyms and described 5 new species. Recently, 4 new species were described from China [Bu & Zheng, 1994] and 2 new species from Russia [Mamaev, 1998].

Thus, the genus *Coquillettomyia* includes at least 25 species (23 hitherto described), mainly from the Palaeartic region. Seventeen species, including 2 new to science (described here), are known from the Palaeartic region. Four species were recorded from the Nearctic region [Foote, 1965], while 2 and 3 species were found in the Neotropical and Oriental regions respectively [Gagné, 1973, 1994]. Only 1 species was recorded from Central America [Gagné, 1968]. There are no records from the Afrotropical and Australian regions.

The present study is based on material collected in Primorskii krai near Ussuriiskii Natural Reserve by various methods in 2001 as part of an International research program, "International Biodiversity Observation Year" (IBOY). The following abbreviations are used in the text for the collection methods: LT — light trap; MT — Malaise trap; WT — window trap.

Holotypes and some paratypes are deposited in the Zoological Institute, St.-Petersburg, Russia (ZISP). Other paratypes are in the collection of the Samara Academy of Agriculture, Ust-Kinelskii, Samarskaya oblast, Russia (SAA) and Institute of Biology and Soil Science, Vladivostok, Russia (IBSS).

#### Recognition of genera

There are several opinions about the systematic position of the genus *Coquillettomyia* within the tribe Coquillettomyiini. Mamaev [1968] suggested placing *Coquillettomyia* and *Camptodiplosis* Kieffer in a sep-

arate subtribe (Coquillettomyiina) of the tribe Cecidomyiini, based on the structure of the hypopygium. Later Mamaev [1973] gave a more detailed diagnosis of the tribe: all tarsal claws usually with denticles; aedeagus with strongly sclerotized plate; bases of gonocoxites with processes; X tergite in form of narrow spatulate plate. On the other hand, Gagné [1994] considered *Coquillettomyia*, together with the genus *Mycodiplosis* Rübsaamen, to be in the tribe Mycodiplosini. According to him, *Coquillettomyia*' species have a smoothly concave cerci, in contrast to the Clinodiplosini' species with angularly concave cerci. In the Manual of Palaearctic Diptera Skuhrová [1997] placed *Coquillettomyia* together with *Camptodiplosis* in the tribe Coquillettomyiini s. l., based on the shape of the narrow hypoproct. She considered in Coquillettomyiini 7 unrelated genera with characteristic processes on the genitalia. But *Camptodiplosis* related to the Clinodiplosini by at least one pair of tarsal claws with denticles, well-developed gonocoxites and gonostylus, a narrow and long aedeagus without a sclerotized plate. However, males of the genus *Galeidiplosis* **gen. n.** has flagellomeres with one, two, or more extraordinarily elongated circumfilar loops, suggesting a relationship of this genus to the tribe Breimiini. Thus, the composition and relationships within the tribe Coquillettomyiini are still unclear and await additional revision.

The tribe Coquillettomyiini now includes 7 genera, characterized by the following characters: vein  $R_{4+5}$  slightly arched backwards, joining costa beyond the wing apex; male genitalia complicated, with the gonocoxites and gonostylus variously modified and frequently with accessory structures [Skuhrová, 1997].

The three genera can be simply recognized by the following key.

1. Proximal and distal nodes of flagellomeres rounded; distal nodes without constriction; with 1–2 sets and sensorial loops, longer than flagellomeres (Figs 19, 24–28). Claw of fore tarsus simple (Fig. 20). Gonocoxites very large (Figs 13, 21), slightly narrowed subapically on inner side, with large medio-basal and seldom inner processes. Gonocoxites and gonostylus equal in length (Figs 13, 22), gonostylus with semicircular emargination or concave. .... *Galeidiplosis* **gen. n.**
- Distal nodes of flagellomeres pear-shaped; distal node with constriction (Figs 3, 7, 9–11); setae and sensorial loops almost equal in length. Gonostylus shorter than gonocoxites. Aedeagus (Figs 1, 8) looks like sclerotized aedeagal plate ..... 2
2. Tarsal claws simple (Fig. 4). Aedeagus partly sclerotized, shorter than gonocoxites, without sclerotized swelling at base (Figs 1, 8). Gonocoxites narrowed subapically on inner side, with large medio-basal processes ..... *Coquillettomyia* Felt
- Tarsal claws dentate (Figs 38, 41). Aedeagus completely sclerotized, longer than gonocoxites, almost cylindrical (Figs 40, 45) or with sclerotized swelling at base (Figs. 34, 52, 60). Gonocoxites without subapical narrowing and without medio-basal processes (Figs 34, 40, 45) ..... *Faristodiplosis* **gen. n.**

Genus *Coquillettomyia* Felt, 1908: 398

Type species: *Mycodiplosis lobata* Felt, 1907.

*Almatamyia* Marikovskij, 1953: 135.

Type species: *Almatamyia mirifica* Marikovskij, 1953.

*Strobilodiplosis* Möhn, 1955a:127.

Type species: *Strobilodiplosis uvae* Möhn, 1955a.

*Pelodiplosis* Möhn, 1955a:132.

Type species: *Pelodiplosis umida* Möhn, 1955a.

*Picrodiplosis* Möhn, 1955a:137.

Type species: *Picrodiplosis caricis* Möhn, 1955a.

DIAGNOSIS. Necks of female flagellomeres setulose in some species. Tarsal claws usually simple. Gonocoxites not very wide, slightly longer than wide, narrowed before apex on inner side, with large medio-basal processes. Gonostylus shorter than gonocoxites, sometimes bilaterally flattened or flanged. Aedeagus looks like partly sclerotized plate, not swollen at base. Hypoproct narrow, spatulate, with round, slightly obtuse or concave apex covered by small microtrichiae.

DESCRIPTION. Male. Head elongated, nearly 1.5 times as long as wide (lateral aspect). Eyes large, broadly joined at vertex. Antennae with 2+12 segments and short terminal appendage. Scape enlarged apically; pedicel transverse (Fig. 7) or rounded. Male flagellomeres binodose; distal node pear-shaped with constriction in basal third; proximal and distal nodes with equal circumfilar loops and vertical setae, without elongated 1–2 sets and loops (Figs 9–11). Length of flagellomere' necks sometimes increasing toward apex of antenna (Figs 9–11). Length of proximal and distal necks of some last flagellomeres 2–3 times longer than necks of 1-st flagellomere; 12-th flagellomere with long protrusion (Fig. 10). Palpus 4-segmented (Fig. 6). Vein  $R_{1+2}$  joining *C* before middle of wing,  $R_{4+5}$  strongly curved and joining *C* distinctly beyond wing apex (Fig. 32). *C* broken at tip of  $R_{4+5}$ ;  $M_{3+4}$  and *pCu* forked; *Cu* presents. Wing densely covered with long, hair-like scales. Claws rounded (Fig. 4), toothed, or simple. Empodium shorter than claw or equal in length. Tarsomeres densely covered with scales and long curved setae on 1-st tarsomere and base of 2-nd one as well as apex of tibia (Fig. 90). Abdominal tergites and sternites narrowly sclerotized with one row of setae on thin streak. Genitalia with wide gonocoxites (Figs 1, 8) and long slender gonostylus, shorter than gonocoxites. Gonocoxites large, wider than long, narrowed subapically on inner side (Figs 1–2), with large medio-basal and sometimes small inner processes joined to aedeagus (Figs 1–2, 8). Cerci cordiform, emarginated. Hypoproct usually narrower than aedeagus, almost parallel-sided (Fig. 8) or slightly enlarged basally (Figs 1–2), rounded (Fig. 1) or somewhat concave apically (Figs 2, 8), typically covered with microtrichiae. Aedeagus in form of wide partly sclerotized plate, sometimes with sclerotized denticles and emargination, often only with marginal sclerotization.

Female. Antennae with 2+12 segments, terminal segments with long protrusion. Antennal medial flagellomeres long, cylindrical, slightly constricted at middle, with short neck and simple circumfila. Ovipositor not protractile; terminal and small ventral lamellae separated.

BIOLOGY. Larvae breed on decaying vegetable remains or among fungus [Möhn, 1955a, b; Gagné, 1994]. Larvae of *Coquillettomyia caricis* are free living under leaf sheaths of *Carex* sp. [Mamaev, 1969, 1973]. *C. uvae* (Möhn) found in fallen cones of *Picea abies*, and *C. umida* (Möhn) among fallen leaves of *Populus* and *Quercus* spp. [Skuhrová, 1997]. In the Netherlands, *C. lobata* reared from rosette-like galls of

*Rhabdophaga heterobia* (Loew) on *Salix triandra* [Nijveldt, 1973]. The adults of the Neotropical *C. obliqua* Gagné associated with cacao flowers [Gagné, 1994]. Several Indian species associated with rust: *Carex indica* on *Andropogon* sp. (Poaceae); *C. fungivora* on rust of *Andropogon sorghum* (Poaceae) and *Jasminum grandiflorum* (Oleaceae) [Gagné, 1973].

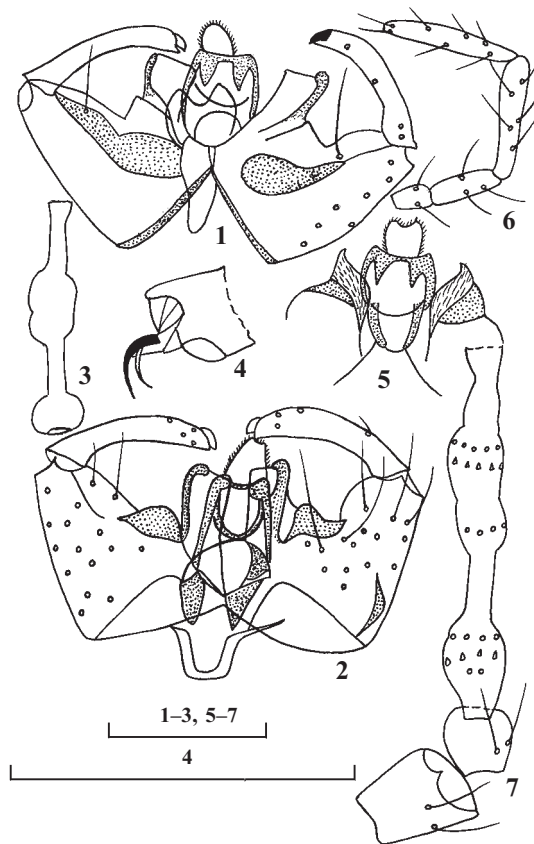
Species included: *C. bidens* Mamaev, 1973 — Russian Far East; *C. bryanti* Felt, 1913 — Nearctic; *C. bulbiformis* Bu & Zheng, 1994 — China; *C. caricis* (Möhn, 1955) (*Picrodiplosis*) (*Almatamyia pegeli* Marikovskij, 1960) — Germany, Poland, Lithuania, Latvia, European part of Russia, Transcaucasus, Kazakhstan, Kirgizia, Russian Far East, China; *C. combinata* sp. n. — Russian Far East; *C. dentata* Felt, 1908 — Germany, European part of Russia, Russian Far East, Nearctic; *C. divergens* Mamaev, 1973 — European part of Russia; *C. extensa* Mamaev, 1973 — Germany, European part of Russia; *C. fungivora* (Nayar, 1949) (*Octodiplosis*) — India; *C. indica* (Rao & Saksena, 1959) (*Dactylodiplosis*) — India; *C. knabi* Felt, 1912 — Central America, Costa Rica; *C. kurilensis* Mamaev, 1998 — Russian Far East; *C. lobata* (Felt, 1907) (*Mycodiplosis*) (*Almatamyia insolita* Marikovskij, 1960) — Netherlands, Germany, Latvia, European part of Russia, Transcaucasus, Kazakhstan, Middle Asia, Russian Far East, Nearctic; *C. mediospina* (Grover, 1965) (*Serratomyia*) — India; *C. mirifica* (Marikovskij, 1953) (*Almatamyia*) — Lithuania, European part of Russia, Kazakhstan, Russian Far East; *C. nigricornis* Mamaev, 1973 — European part of Russia; *C. obliqua* Gagné, 1984 — Neotropic; *C. primorskii* sp. n. — Russian Far East; *C. regionalis* Mamaev, 1998 — European part of Russia; *C. spinosa* Mamaev, 1973 — Russian Far East; *C. texana* Felt, 1908 — Nearctic; *C. townsendi* Felt, 1912 (*Karschomyia*) — Neotropic; *C. truncata* Bu & Zheng, 1994 — China; *C. umida* (Möhn, 1955) (*Pelodiplosis*) — Germany, Latvia, European part of Russia; *C. uvae* (Möhn, 1955) (*Strobodiplosis*) — Germany.

***Coquillettomyia combinata* Fedotova & Sidorenko, sp. n.**

Figs 1–7, 32

**MATERIAL.** *Holotype*, ♂, RUSSIA: Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 15.VIII. 2001, slide 22MT6/1, Sidorenko (ZISP). *Paratypes*: 1 ♂, the same locality, 28.VIII. 2001, slide 22MT23H/2, Sidorenko; 1 ♂, from the same locality, 30.VI. 2001, slide 22MT1, Sidorenko (IBSS, SAA).

**DESCRIPTION.** MALE. Body length 1.0–1.3 mm; wing length 1.7–2.0 mm, width 0.5–0.7 mm. Antennae with 2+12-segments. Scape 1.6 times as long as pedicel. Flagellomere necks not extended toward antennal apex. 1-st flagellomere equal in length with 2-nd; length of 2-nd flagellomere 5.5 times as long as wide; distal node 1.3 times as long as distal neck; distal node 1.7 times as long as proximal node and 1.3 times as long as proximal neck. 5-th flagellomere 5.2 times as long as wide; distal node 1.2 times as long as distal neck; distal node 1.9 times as long as proximal node and 1.6 times as long as proximal neck. 12-th flagellomere and some terminal flagellomeres lost. Palpus 4-segmented, their ratio 1:1.7:2.9:3.3; 4th segment somewhat enlarged before apex. Tarsal claws simple, curved basally; empodium as long as claw. Wings 2.7 times as long as wide. Vein  $R_{4+5}$  curved basally. Gonocoxites strongly narrowed apically and rectangular, enlarged medially, 1.5–1.6 times as long as wide, with long medio-basal process, obtuse or pointed apically. Gonostylus 1.2 times shorter than gonocoxites, not swollen, slightly bent medially, 4.4–4.8 times as long as wide. Cerci unclear. Hypoproct long, pubescent, with slightly emarginated or



Figs 1–7. *Coquillettomyia combinata* sp. n., male. 1–2 — genitalia; 3 — 5-th flagellomere; 4 — tarsal claw; 5 — hypoproct, aedeagus and medio-basal processes of gonocoxites (variations of shape); 6 — palpus; 7 — scape, pedicel and 1-st flagellomere. Scales: 0.1 mm.

Рис. 1–7. *Coquillettomyia combinata* sp. n., самец: 1–2 — гениталии; 3 — 5-й членик жгутика; 4 — коготок лапки; 5 — гипопрокт, эдеагус и медиио-базальные выросты гонококситов (изменчивость формы); 6 — щупик; 7 — скапус, педицел и 1-й членик жгутика. Масштаб: 0,1 мм.

rounded apex, enlarged basally, and 2.5 times narrower than aedeagal complex. Aedeagus slightly longer than gonocoxites, strongly widened laterally, slightly concave apically, apical sclerotized margin with strongly sclerotized denticles or rounded pits.

**FEMALE** unknown.

**RELATIONSHIPS.** This new species is closely related to *C. lobata*, but differs from it by the absence of a narrowed middle part in the aedeagal plate, less sclerotized on the apical half, by different form of basal process on the gonocoxites [Mamaev, 1973], by non-enlarged base of the gonostylus, and by wider hypoproct with rounded (not triangular) emargination [Nijveldt, 1973]. The new species also is closely related to *C. primorskii* sp. n., but differs from it by the smaller body size, by elongated aedeagal complex, and by a long and wide medio-basal process on the gonocoxites.

***Coquillettomyia primorskii* Fedotova & Sidorenko, sp. n.**

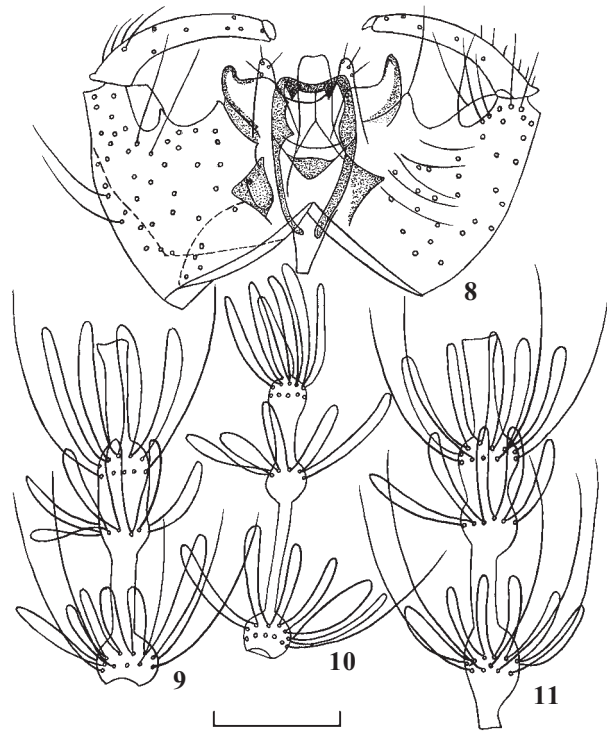
Figs 8–11

**MATERIAL.** *Holotype*, ♂, RUSSIA: Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 12.VII. 2001, slide 19/7010/2, on a light of window, Fedotova (ZISP)

**DESCRIPTION. MALE.** Body length 1.7 mm; wing length 2.4 mm, width 0.9 mm. Antennae with 2+12-segments. Length of flagellomere' necks gradually extended toward apex. 1-st flagellomere equal to 2-nd, which is 6.5 times as long as wide; distal node 1.1 times as long as distal neck, distal node 1.2 times as long as proximal node and proximal neck. 5-th flagellomere 5.2 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, which is 1.4 times shorter than proximal neck. 12-th flagellomere 7.6 times as long as wide, with long proximal neck and apical protrusion. Palpus 4-segmented, form unclear. First tarsal segment with dark scales; 4-th and 5-th segments white. Tarsal claws curved basally, with small denticle; empodium as long as claw. Wings 2.6 times as long as wide. Gonocoxites strongly narrowed apically, with wide medio-basal acute processes, strongly sclerotized apically, 1.4 times as long as wide, with small inner pointed process. Gonostylus 1.2 times shorter than gonocoxites, not swollen, slightly bent in proximal half, 4.5 times as long as wide. Cerci wide, parallel-sided, with apical semicircular emargination. Hypoproct 1.3 times narrower than cerci, almost parallel-sided, with semicircular emargination between narrow lobes. Basal processes of gonocoxites triangular. Aedeagus shorter than gonocoxites, strongly widened basally, obtused apically. Sclerotized plate of aedeagus rounded laterally and pointed basally, with two triangular sclerotized points on apical margin and enlarged sclerotization medially.

**FEMALE** unknown.

**RELATIONSHIPS.** This new species is closely related to *C. lobata*, but differs from it by the absence of narrowing in



Figs 8–11. *Coquillettomyia primorskii* sp. n., male. 8 — genitalia; 9 — 5-th flagellomere; 10 — 12-th flagellomere; 11 — 1-st flagellomere. Scale: 0.1 mm.

Рис. 8–11. *Coquillettomyia primorskii* sp. n., самец: 8 — гениталии; 9 — 5-й членок жгутика; 10 — 12-й членок жгутика; 11 — 1-й членок жгутика. Масштаб: 0,1 мм.

the middle of the aedeagal plate and slighter sclerotization, by not enlarged base of the gonostylus, by wider hypoproct with rounded (not triangular) emargination, and by presence of medio-basal and inner processes on the gonocoxites.

#### Genus *Galeidiplosis* Fedotova gen. n.

Type species: *Galeidiplosis quadricoxita* Fedotova, sp. n.

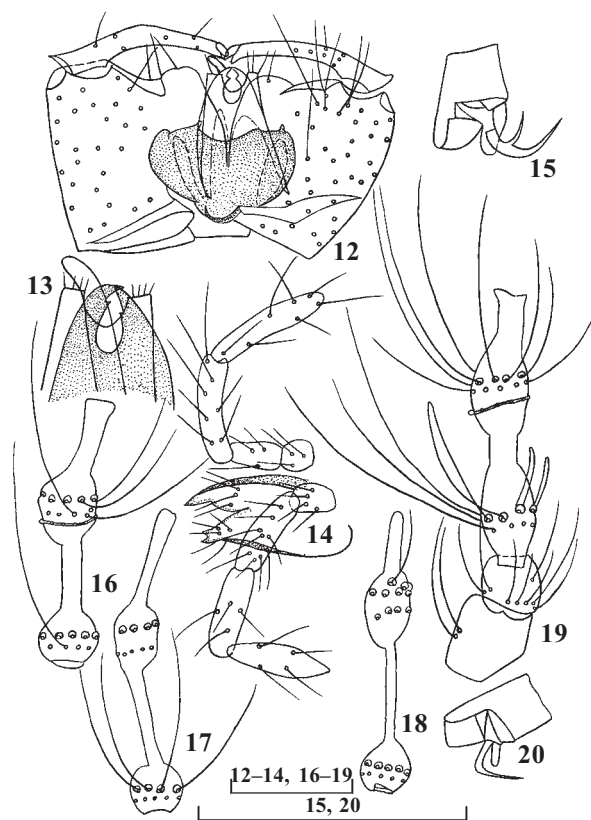
**DIAGNOSIS.** Male flagellomeres binodose; proximal and distal node rounded; distal node without constriction, with 1–2 setae on each node, longer than loops of regular circufila (Figs 15–19, 24, 28). Length of flagellomere' necks sometimes increasing toward antennal apex (Figs 18, 19, 24, 28). Length of proximal and distal necks of terminal flagellomeres 2–3 times longer than necks of 1-st flagellomere. 12-th flagellomere with long protrusion (Fig. 18). Vein  $R_{4+5}$  curved distally and joining *C* far behind wing apex (Figs 32, 33). Tarsal claws usually simple (Fig. 20). Gonocoxites very wide, length almost equal with or slightly longer than width, slightly narrowed subapically on inner side, with small medio-basal processes (Figs 12, 21), sometimes sclerotized. Gonostylus almost equal in width with gonocoxites. Aedeagus thin, unsclerotized, not swollen at base, with sclerotized aedeagal plate (Figs 13, 22). Aedeagal plate completely sclerotized, with denticles. Hypoproct narrow, with concave apex, covered by small microtrichiae. Cerci large, sometimes sclerotized (Fig. 12).

#### *Galeidiplosis quadricoxita* Fedotova, sp. n.

Figs 12–20, 33, 90

**MATERIAL. Holotype**, ♂, RUSSIA: Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 26.VIII. 2001, slide 12LT7/1, Sidorenko (ZISP). **Paratypes**, 1 ♂, the same locality, 23.VIII.2001, slide 12LT5B/2, Sidorenko (IBSS).

**DESCRIPTION. MALE.** Body length 0.9–1.6 mm; wing length 2.6 mm, width 0.9 mm. Antennae with 2+12-segments. Scape 1.4 times as long as pedicel (Fig. 19). Length of flagellomere' necks strongly extended toward apex (Figs 16–19). 1-st flagellomere 1.1 times as long as 2-nd. 2-nd flagellomere 5.0 times as long as wide; distal neck 1.9 times shorter than distal node; distal node equal in length to proximal node and 3.9 times as long as proximal neck. 5-th flagellomere 4.6 times as long as wide (Fig. 16); distal neck 1.1 times shorter than distal node; distal node 1.4 times as long as proximal node and 1.2 times shorter than proximal neck. 12-th flagellomere apically with long protrusion, which is 1.5 times shorter than distal node (Fig. 18). 11-th flagellomere 1.1 times as long as 12-th. Palpus 4-segmented, its ratio 1:1.4:3.1:3.5; segment 4 enlarged distally, with rounded or pointed apex (Fig. 14). Tarsal claws of fore tarsus simple (Fig. 20); empodium shorter than claw; hind tarsus with denticle (Fig. 4). Wings 2.4 times as long as wide (Fig. 33). Vein  $R_{1+2}$  joining *C* far before middle of wing;  $R_{4+5}$  joining *C* far behind wing apex. Gonocoxites not strongly dilated basally (Fig. 12), almost quadrate, 1.1 times as long as wide. Gonostylus as long as wide of gonocoxites, slightly swollen basally and bent in middle, 7.6 times as long as wide. Cerci slightly sclerotized, with short apical lobes and small rounded emargination. Hypoproct almost parallel-sided distally, slightly enlarged basally, 2.3 times narrower than cerci, unsclerotized, and strongly emarginated between obtuse lobes. Basal processes of gonocoxites rounded, separated from gonocoxites, without protrusions. Aedeagus unsclerotized, longer than gonocoxites, not enlarged basally and rounded apically. Plate of aedeagus partly sclerotized, only lateral and distal half



Figs 12–20. *Galeidiplosis quadricoxita* sp. n., male. 12 — genitalia; 13 — cerci, hypoproct and aedeagus (variations of shape); 14 — mouth parts; 15, 20 — tarsal claw (15 — fore leg, 20 — hind leg); 16 — 5-th flagellomere; 17 — 11-th flagellomere; 18 — 12-th flagellomere; 19 — scape, pedicel and 1-st flagellomere. Scales: 0.1 mm.

Рис. 12–20. *Galeidiplosis quadricoxita* sp. n., самец: 12 — гениталии; 13 — церки, гипопрокт и эдеагус (изменчивость формы); 14 — ротовые органы; 15, 20 — коготок лапки (15 — передней ноги, 20 — задней ноги); 16 — 5-й членик жгутика; 17 — 11-й членик жгутика; 18 — 12-й членик жгутика; 19 — скапус, педицел и 1-й членик жгутика. Масштаб: 0,1 мм.

sclerotized, with two denticles on each lobe and oval emargination between it. Genital base wide, weakly sclerotized.

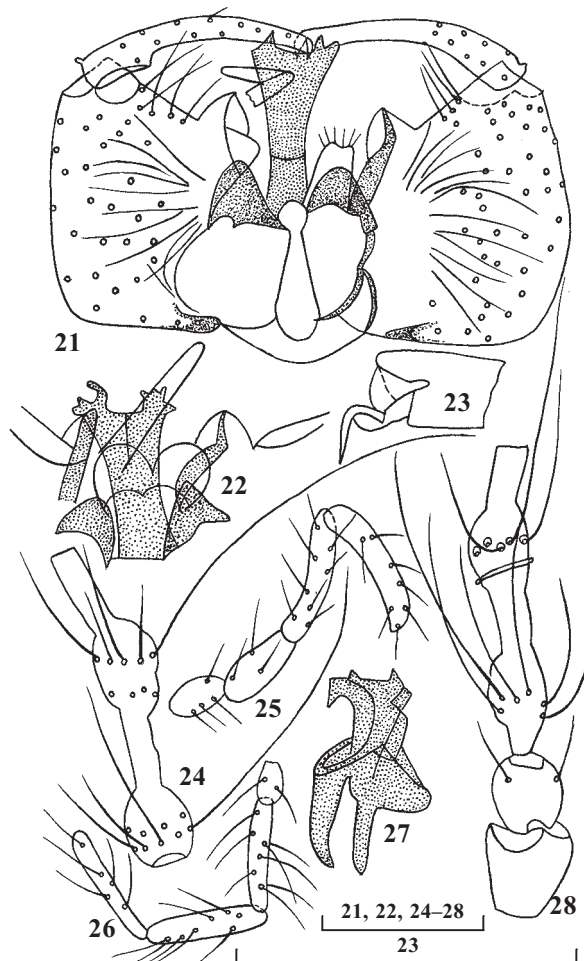
FEMALE unknown.

RELATIONSHIPS. This new species is closely related to *C. dentata*, widespread in the Palaearctic and Nearctic Regions [Gagné, 1981], but differs from the latter by a bidentate lobe on the sclerotized plate of the aedeagus (denticles not crossed), by basally enlarged plate, and by very wide gonocoxites and long gonostylus equal in length to the gonocoxites.

***Galeidiplosis pluridens* Fedotova & Sidorenko, sp. n.**  
Figs 21–28

MATERIAL. **Holotype**, ♂, RUSSIA: Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 27.VIII.2001, slide 23LT2H/1, Sidorenko (ZISP). **Paratypes**, 1 ♂, the same locality, 31.VIII.2001, slide 23LT16H/2, Sidorenko (IBSS); 1 ♂, same locality, slide 23LT6/3, 27.VIII.2001, Sidorenko (SAA).

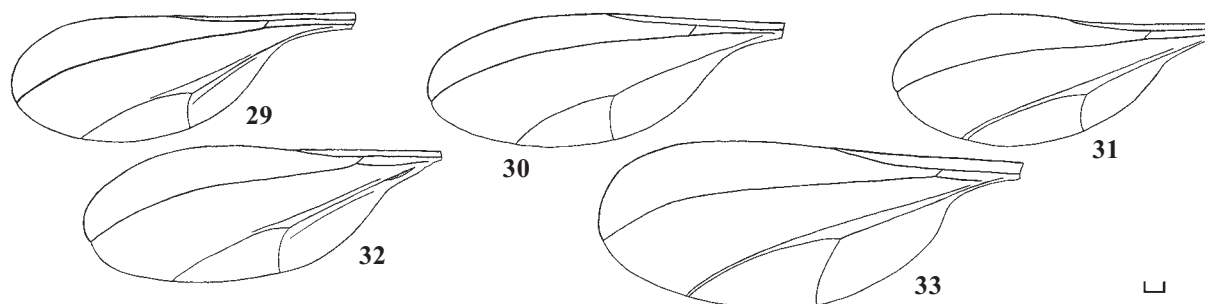
DESCRIPTION. MALE. Body length 1.7 mm; wing length 2.2 mm, width 0.8 mm. Antennae with 2+12-segments. Scape 1.1 times as long as pedicel. 1st flagellomere 1.1 times as long as 2-nd. 5-th flagellomere 4.6 times as long as wide; proximal



Figs 21–28. *Galeidiplosis pluridens* sp. n., male. 21 — genitalia; 22 — cerci, hypoproct, aedeagus and medio-basal processes of gonocoxites (variations of shape); 23 — tarsal claw; 24 — 5-th flagellomere; 25–26 — palpus (variations of shape); 27 — aedeagus (variations of shape); 28 — scape, pedicel, 1-st flagellomere. Scales: 0.1 mm.

Рис. 21–28. *Galeidiplosis pluridens* sp. n., самец: 21 — гениталии; 22 — церки, гипопрокт, эдеагус и медио-базальные выросты гоноксоцитов (изменчивость формы); 23 — коготок лапки; 24 — 5-й членик жгутика; 25–26 — щупики (изменчивость формы); 27 — эдеагус (изменчивость формы); 28 — скапус, педицел, 1-й членик жгутика. Масштаб: 0,1 мм.

node as long as proximal neck; distal node 1.4 times as long as proximal node and 1.2 times as long as distal neck. Flagellomeres with slightly elongated necks toward apex of antenna; basal verticil of setae on medial flagellomeres with one seta more than 2 times longer flagellomere. 12-th flagellomere and some apical flagellomere lost. Palpus 4-segmented, their ratio 1:1.6:2.5:2.6; segment 4 curved medially, with pointed apex. Tarsal claws simple, curved medially; empodium almost equal in length with claw. Vein  $R_{4+5}$  not strongly curved;  $M_{3+4}$  presents;  $R_{1+2}$  very short, joining *C* closer to base of wing than forks of  $Cu_1$  and  $Cu_2$ . Gonocoxites almost quadrate, with short sclerotized inner processes and triangular medio-basal process, 1.3 times as long as wide. Gonostylus 1.1 times shorter than gonocoxites, slightly swollen basally and bent medially, 6.2 times as long as wide. Cerci cordiform, with narrow triangular emargination between rounded lobes. Hypoproct short, enlarged basally, 3.5 times narrower than cerci, excavat-



Figs. 29–33. Male, wings. 29 — *Faristodiplosis stratiota* sp. n.; 30 — *F. spatbulata* sp. n.; 31 — *F. scalaris* sp. n.; 32 — *Coquillettomyia combinata* sp. n.; 33 — *Galeidiplosis quadricoxita* sp. n. Scale: 0.1 mm.

Рис. 29–33. Крылья самцов. 29 — *Faristodiplosis stratiota* sp. n.; 30 — *F. spatbulata* sp. n.; 31 — *F. scalaris* sp. n.; 32 — *Coquillettomyia combinata* sp. n.; 33 — *Galeidiplosis quadricoxita* sp. n. Масштаб: 0,1 мм.

ed apically, with dense pubescence on apex. Inner processes of gonocoxites pointed and slightly sclerotized. Aedeagal complex completely sclerotized, longer than gonocoxites, strongly widened apically, with denticles on apex, almost parallel-sided basally. Opening of unsclerotized thin aedeagus divided from sclerotized plate of aedeagus.

FEMALE unknown.

RELATIONSHIPS. This new species is closely related to *C. bidenticulata* from China but differs from it by different form and length of nodes and necks of the flagellomeres, by simple tarsal claws the presence of inner and medio-basal processes on the gonocoxites, by enlarged gonocoxites, by narrowed and elongated gonostylus, by rounded (not triangular) cercal lobes and by completely and strongly sclerotized aedeagus. The new species is related to *G. quadricoxita* sp. n. (Fig. 12) described above, but differs from it by the different form of the sclerotized aedeagal plates and hypoproct.

#### Genus *Faristodiplosis* Fedotova, gen. n.

Type species: *Faristodiplosis glochidiata* Fedotova, sp. n.

DIAGNOSIS. Male flagellomeres with setae and sensorial loops equal in length (Figs 35–37, 42, 46). Vein  $R_{1+2}$  short, joining *C* closer to base of wing than fork of  $Cu_1$  and  $Cu_2$  (Fig. 44). Tarsal claws with denticle (Figs 38–39, 41), rarely simple (Figs 53, 84). Genitalia with slender gonocoxites and gonostylus, longer than width of gonocoxites (Figs 34, 40–59). Gonocoxites narrow, oval or elongated, without subapical narrowing, and without medio-basal processes (Figs 78, 85, 91), rarely with small rectangular inner swelling (Figs 45, 68). Gonostylus with long emargination in place of connection with gonocoxites (Figs 34, 68, 85, 91), shorter than gonocoxites. Cerci widened, bilobed, with deep triangular emargination (Fig. 40), not sclerotized. Hypoproct narrower than aedeagus, without emargination, almost parallel-sided (Fig. 45) or slightly enlarged apically and basally (Fig. 40). Aedeagus completely sclerotized, almost cylindrical, without basal swelling (Figs 45, 68, 78–79), with uncinat or obtuse apex, usually enlarged and strongly sclerotized basally (Figs 40, 59, 85, 91). Aedeagus sometimes with additional middle swelling on dorsal surface (Figs 45, 60, 78, 85).

SPECIES INCLUDED. 11 species, 9 of them new to science. Two species formerly described in the genus *Coquillettomyia* [Bu & Zheng, 1994] are transferred here to the genus *Faristodiplosis* gen. n. — *F. bidenticulata* (Bu & Zheng, 1994), **comb. n.** (*Coquillettomyia*) and *F. elongata* (Bu & Zheng, 1994), **comb. n.** (*Coquillettomyia*) — on the basis of dentated tarsal claws, the shape of the slender, completely sclerotized aedeagus, narrow hypoproct (as wide

as aedeagus) and gonocoxites without medio-basal processes.

#### *Faristodiplosis glochidiata* Fedotova, sp. n.

Figs 34–39, 66, 67

MATERIAL. **Holotype**, ♂, RUSSIA: Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 14.VII. 2001, slide 13/7010/4, in a light on window, Fedotova (ZISP).

DESCRIPTION. MALE. Body length 1.3 mm; wing length 2.0 mm, width 0.8 mm. Antennae with 2+12-segments, scape 1.3 times as long as pedicel. 1-st flagellomere 1.1 times as long as 2-nd. 2-nd flagellomere 4.1 times as long as wide; distal node 5.8 times as long as distal neck; distal node equal in length with proximal node and 6.0 times longer than proximal neck. 5-th flagellomere 5.2 times as long as wide; distal node 2.2 times as long as distal neck, distal node 3.7 times as long as proximal node, which is 1.7 times longer than proximal neck. Flagellomere' necks not elongated toward apex. 12-th flagellomere 4.1 times as long as wide, with long proximal neck and apical protrusion. Palpus 4-segmented, their ratio 1:1.3:2.2:3.6 or 1:2.1:1.6:2.4; segment 4 narrowed in distal half. Tarsal claws curved basally, with long denticle; empodium shorter than claw. Vein  $R_{4+5}$  slightly curved;  $M_{3+4}$  presents;  $R_{1+2}$  very short. Gonocoxites almost oval, strongly rounded laterally, without processes, 1.6 times as long as wide. Gonostylus 1.1 times shorter than gonocoxites, swollen basally and slightly bent medially, 5.9 times as long as wide. Cerci almost completely divided, deeply emarginated, gradually widened basally and rounded apically. Hypoproct 1.3 times narrower than cerci, almost parallel-sided, with rounded apex. Aedeagus longer than gonocoxites, strongly widened basally, with hook apically, and with dorsal swelling, more sclerotized than aedeagus.

FEMALE unknown.

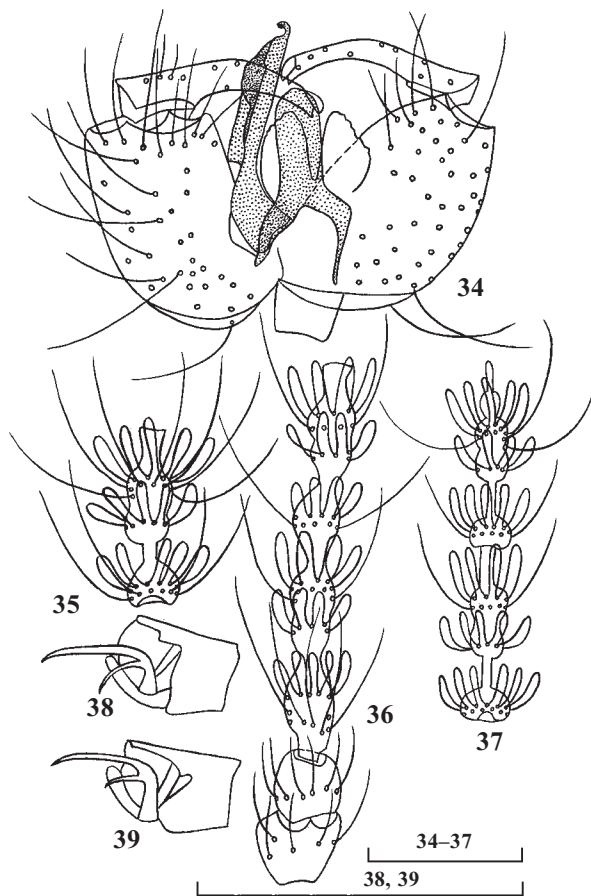
RELATIONSHIPS. New species closely related to *F. elongata* **comb. n.** from China but differs from it by elongated distal node of middle flagellomeres, by presence of hook on apex of aedeagus; by not narrowed apically hypoproct; by presence of strongly sclerotized outgrowths at the base of hypoproct, by semicircular (not oviform) lobes of cerci divided by narrow (not semicircular) emargination and by absence of baso-medial lobe in the base of gonocoxites.

#### *Faristodiplosis aculeata* Fedotova, sp. n.

Figs 40–44

MATERIAL. **Holotype**, ♂, RUSSIA: Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 13.VII. 2001, slide 3/7010/3, in light on window, Fedotova (ZISP).

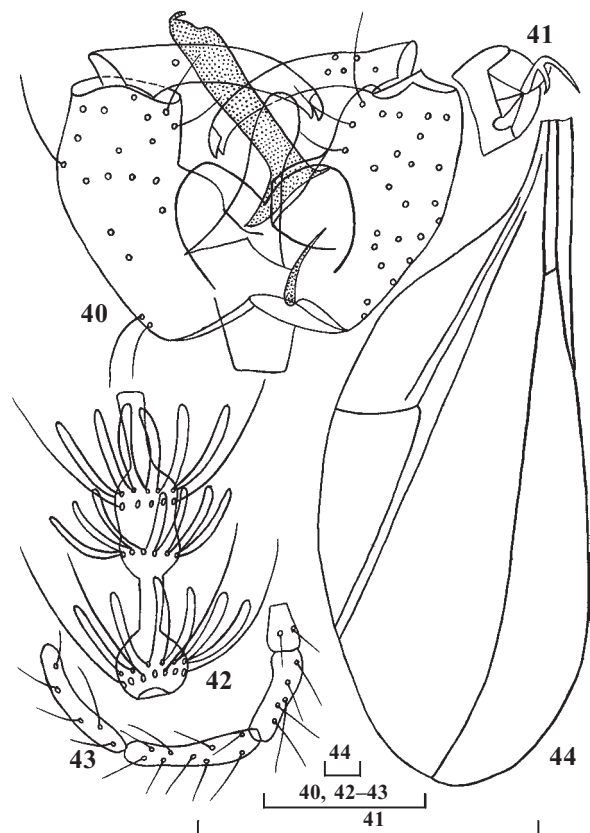
DESCRIPTION. MALE. Body length 1.5 mm; wing length 2.1 mm, width 0.8 mm. Antennae with 2+12-seg-



Figs. 34–39. *Faristodiplosis glochidiata* sp. n., male: 34 — genitalia; 35 — 5-th flagellomere; 36 — scape, pedicel, 1-st and 2-nd flagellomeres; 37 — 11-th and 12-th flagellomeres; 38–39 — tarsal claw (38 — fore leg, 39 — hind leg). Scales: 0.1 mm.

Рис. 34–39. *Faristodiplosis glochidiata* sp. n., самец: 34 — гениталии; 35 — 5-й членик жгутика; 36 — скапус, педицел, 1-й и 2-й членики жгутика; 37 — 11-й и 12-й членики жгутика; 38–39 — коготок лапки (38 — передней ноги, 39 — задней ноги). Масштаб: 0,1 мм.

ments; scape 1.5 times as long as pedicel. 1-st flagellomere 1.2 times as long as 2-nd. 2-nd flagellomere 5.4 times as long as wide; distal node 1.6 times as long as distal neck; distal node 1.4 times as long as proximal node and 2.5 times as long as proximal neck. 5-th flagellomere 6.2 times as long as wide; distal node 1.3 times as long as distal neck; distal node 1.6 times as long as proximal node and 2.0 times as long as proximal neck. Flagellomere neck not strongly elongated toward apex. 12-th and some terminal flagellomeres lost. Palpus 4-segmented, their ratio 1:2:3:2; segment 4 almost parallel-sided, with rounded apex. Tarsal claws curved medially, with short denticle at base; empodium almost equal in length with claw. Vein  $R_{4+5}$  slightly curved;  $M_{3+4}$  presents;  $R_{1+2}$  very short, joining  $C$  closer to base of wing than forks of  $Cu_1$  and  $Cu_2$ . Gonocoxites almost parallel-sided, with small inner swelling at base, 1.9 times as long as wide. Gonostylus 1.1 times shorter than gonocoxites, slightly swollen basally and bent basally, 5.8 times as long as wide. Cerci cordiform, with wide triangular emargination between oviform lobes. Hypoproct 1.8 times narrower than cerci, enlarged distally and proximally. Inner processes of gonocoxites undeveloped or unclear, rounded. Aedeagus longer than gonocoxites,



Figs. 40–44. *Faristodiplosis aculeata* sp. n., male: 40 — genitalia; 41 — tarsal claw; 42 — 5-th flagellomere; 43 — palpus; 44 — wing. Scales: 0.1 mm.

Рис. 40–44. *Faristodiplosis aculeata* sp. n., самец: 40 — гениталии; 41 — коготок лапки; 42 — 5-й членик жгутика; 43 — щупик; 44 — крыло. Масштаб: 0,1 мм.

strongly widened basally, with hook apically, without dorsal swelling.

FEMALE unknown.

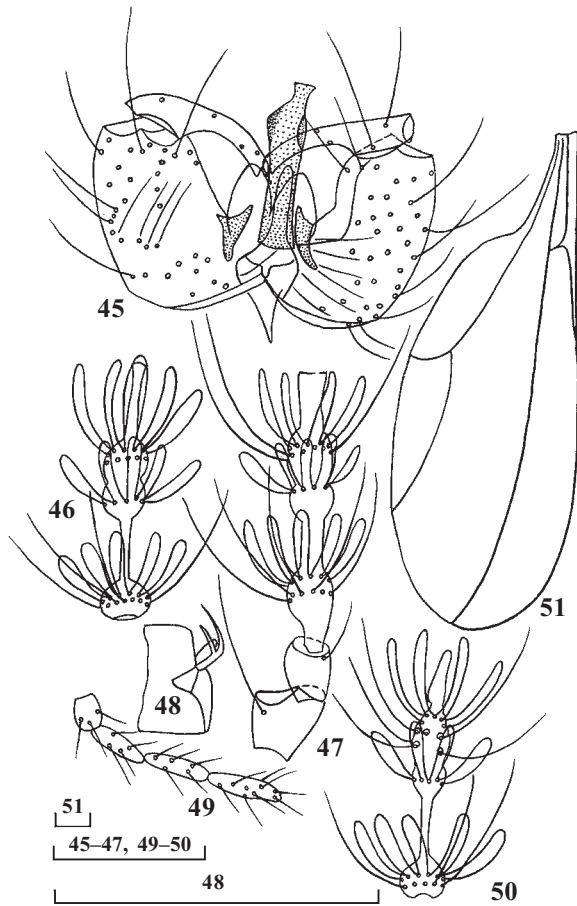
RELATIONSHIPS. This new species is closely related to *F. glochidiata* sp. n., described above, but differs from it by longer nodes and necks of flagellomeres, by presence of a hypoproct narrowed in the middle, by enlarged inner processes at the base of the gonocoxites and by wider hypoproct, compressed laterally, but not parallel-sided.

#### *Faristodiplosis collaris* Fedotova, sp. n.

Figs 45–51

MATERIAL. **Holotype**, ♂, RUSSIA: Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 13.VII. 2001, slide 20/7010/3, in light on window, Fedotova (ZISP).

DESCRIPTION. MALE. Body length 1.3 mm; wing length 1.7, width 0.6. Antennae with 2+12-segments; scape 1.3 times as long as pedicel. 1-st flagellomere 1.1 times as long as 2-nd one. 2-nd flagellomere 6.1 times as long as wide; distal node 1.9 times as long as distal neck; distal node 1.2 times as long as proximal node and 2.2 times as long as proximal neck. 5-th flagellomere 3.8 times as long as wide; distal node as long as distal neck; distal node 1.7 times as long as proximal node and 1.3 times as long as proximal neck. Necks of flagellomeres elongated toward apex of antenna. 12-th and 11-th flagellomeres almost equal in length; terminal flagellomeres with conical protrusion. Palpus 4-segmented, their ratio 1:2:2:3; seg-



Figs. 45–51. *Faristodiplosis collaris* sp. n., male. 45 — genitalia; 46 — 5-th flagellomere; 47 — scape, pedicel, 1-st flagellomere; 48 — tarsal claw; 49 — palpus, 50 — 12-th flagellomere; 51 — wing. Scales: 0.1 mm.

Рис. 45–51. *Faristodiplosis collaris* sp. n., самец: 45 — гениталии; 46 — 5-й членик жгутика; 47 — скапус, педицел, 1-й членик жгутика; 48 — коготок лапки; 49 — щупик, 50 — 12-й членик жгутика; 51 — крыло. Масштаб: 0,1 мм.

ment 4 enlarged medially, with rounded apex. Tarsal claws curved medially, with long denticle at base; empodium almost equal in length to claw. Vein  $R_{4+5}$  not strongly curved;  $M_{3+4}$  absents;  $R_{1+2}$  very short. Gonocoxites almost parallel-sided, with long pointed sclerotized inner processes at base, 1.7 times as long as wide. Gonostylus 1.2 times shorter than gonocoxites, slightly swollen medially and bent basally, 4.6 times as long as wide. Cerci cordiform, with narrow triangular emargination between oviform lobes. Hypoproct 2.8 times narrower than cerci, narrowed distally and enlarged proximally, narrower than base of aedeagus. Aedeagus longer than gonocoxites, not widened basally, with collar near apex, without dorsal swelling.

FEMALE unknown.

RELATIONSHIPS. This new species is closely related to *F. glochidiata* sp. n., described above, but differs from it by longer flagellomere' nodes and necks, by short palpal segments, by narrow wing without additional veins, by the presence of a collar on the aedeagus and obtuse apex (not hook-form), by apically narrowed hypoproct, by oviform lobes of cerci (not semicircular), by presence of pointed strongly sclerotized processes at the base of the gonocoxites,

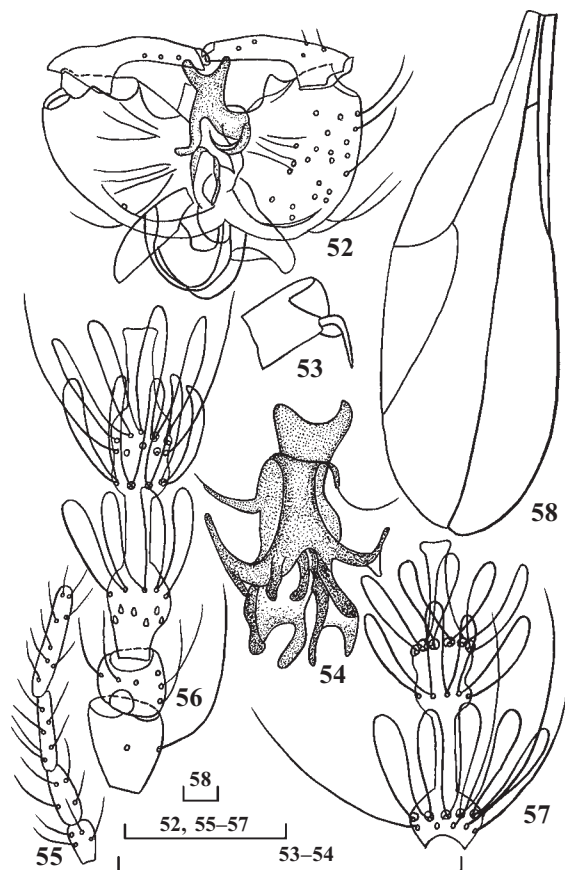
by strongly enlarged base of the gonostylus.

***Faristodiplosis furcata* Fedotova, sp. n.**

Figs 52–58

MATERIAL. **Holotype**, ♂, RUSSIA: Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 14.VII. 2001, slide 8/7010/4, in light on window, Fedotova (ZISP).

DESCRIPTION. MALE. Body length 1.5 mm; wing length 1.2, width 0.6. Antennae with 2+12-segments; scape 1.3 times as long as pedicel. 1-st flagellomere 1.1 times as long as 2-nd one, 5.4 times as long as wide; distal node 1.2 times as long as distal neck; distal node as long as proximal node and 1.3 times as long as proximal neck. 5-th flagellomere 4.6 times as long as wide; distal node 1.1. times shorter than distal neck; distal node 1.6 times as long as proximal node and 1.2 times as long as proximal neck. Terminal flagellomeres lost. Palpus 4-segmented, their ratio 1:1.5:1.9:2.7; segment 4 almost parallel-sided, with rounded apex. Tarsal claws simple, curved proximally; empodium almost equal in length to claw. Vein  $R_{4+5}$  straight, joining  $C$  near wing apex;  $M_{3+4}$  absents;  $R_{1+2}$  very short, joining  $C$  at equal distance from base of wing and from forks of  $\tilde{N}u$ . Gonocoxites strongly rounded laterally, 1.6 times as long as wide. Gonostylus 1.1 times shorter than gonocoxites, slightly swollen basally and bent basally, 3.0 times as long as wide.



Figs. 52–58. *Faristodiplosis furcata* sp. n., male. 52 — genitalia; 53 — tarsal claw; 54 — aedeagus; 55 — palpus, 56 — scape, pedicel, 1-st flagellomere; 57 — 5-th flagellomere; 58 — wing. Scales: 0.1 mm.

Рис. 52–58. *Faristodiplosis furcata* sp. n., самец: 52 — гениталии; 53 — коготок лапки; 54 — эдеагус; 55 — щупик, 56 — скапус, педицел, 1-й членик жгутика; 57 — 5-й членик жгутика; 58 — крыло. Масштаб: 0,1 мм.



Cerci with narrow, almost divided lobes. Hypoproct unclear. Aedeagus strongly sclerotized, longer than gonocoxites, strongly widened basally, narrowed medially, forked apically.

FEMALE unknown.

RELATIONSHIPS. This new species is closely related to *F. bidenticulata* from China, but differs from it by simple (not dentated) tarsal claws, by long wings without additional veins, by short palpal segments, by absence of lateral sclerotization and apical denticles on the aedeagus, by wider gonocoxites without emargination basally and by enlarged base on the gonostylus.

***Faristodiplosis scalaris* Fedotova & Sidorenko, sp. n.**  
Figs 31, 59–65

MATERIAL. **Holotype**, ♂, RUSSIA: Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 30.VI. 2001, slide 11MT1/1, Sidorenko (ZISP).

DESCRIPTION. MALE. Body length 1.1 mm; wing length 1.8, width 0.7. Antennae 2.1 times longer than body, with 2+12-segments; scape 2.2 times longer than very small pedicel. 1-st flagellomere 5.0 times as long as wide, 1.2 times as long as 2-nd one; distal node 1.2 times as long as distal neck; distal node 1.2 times as long as proximal node and 1.5 times as long as proximal neck. 5-th flagellomere 4.3 times as long as wide; distal node equals in length with distal neck; distal node 1.5 times as long as proximal node and proximal neck. Flagellomere' necks elongated toward apex. 12-th flagellomere 1.2 times shorter than 11-th one, with conical distal node. Palpus 4-segmented, their ratio 1:2:2:4; segment 4 rounded laterally, with pointed apex. Tarsal claws curved medially, with short denticle at base; empodium shorter than claw. Vein  $R_{4+5}$  not strongly curved;  $M_{3+4}$  presents;  $R_{1+2}$  very short, joining  $C$  closer to base of wing than forks of  $Cu_1$  and  $Cu_2$ . Gonocoxites 1.2 times as long as wide, enlarged apically. Gonostylus 1.3 times shorter than gonocoxites, slightly swollen basally and bent basally, 5.2 times as long as wide. Cerci cordiform, with wide triangular emargination between oviform lobes. Hypoproct 1.8 times narrower than cerci, enlarged proximally. Aedeagus as long as gonocoxites, strongly widened basally, stepped apically, with sclerotized dorsal swelling.

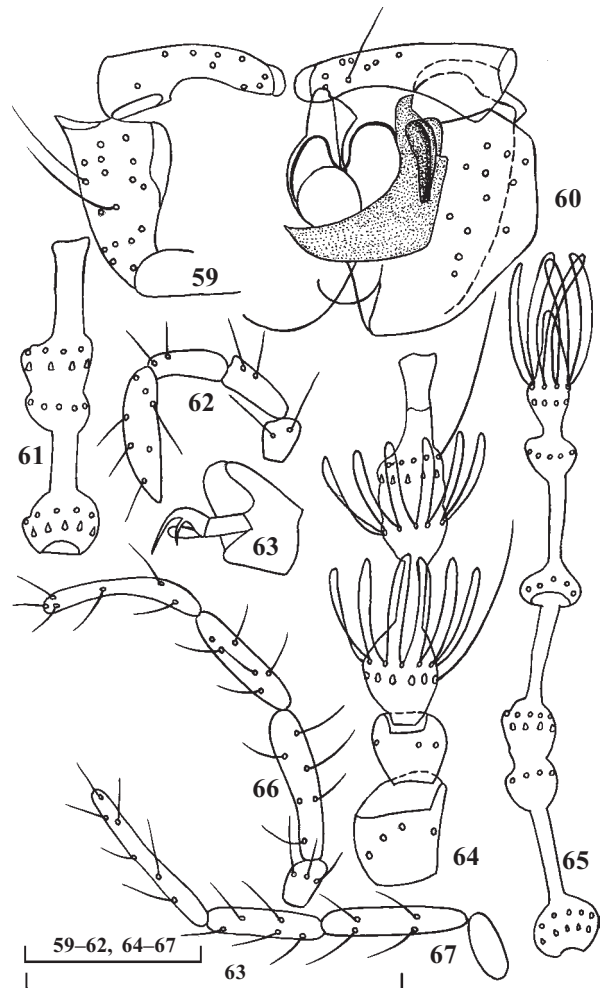
FEMALE unknown.

RELATIONSHIPS. This new species is closely related to *F. glochidiata* sp. n., described above, but differs from it by longer nodes and necks of flagellomeres, by presence of narrowing in the apical part of the aedeagus, by stronger sclerotization of the aedeagus, by wide enlarged base, by stepped apex of the aedeagus, by shorter gonostylus, by basally enlarged hypoproct, by oviform cerci with deep, nearly triangular emargination.

***Faristodiplosis stratiota* Fedotova & Sidorenko, sp. n.**  
Figs 29, 68–77

MATERIAL. **Holotype**, ♂, RUSSIA: Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 26.VIII. 2001, slide 9LT7/1, Sidorenko (ZISP). **Paratypes**, 2 ♂, the same locality, 23.VIII.2001, slide 9LT6/2-3, Sidorenko; 1 ♂, the same locality, 31.VIII.2001, slide 9LT16H/4, Sidorenko; 1 ♂, the same locality, 28.VIII.2001, slide MT9/23H/5, Sidorenko; 1 ♂, the same locality, 25.VIII.2001, slide MT9/18H/6, Sidorenko (IBSS, SAA).

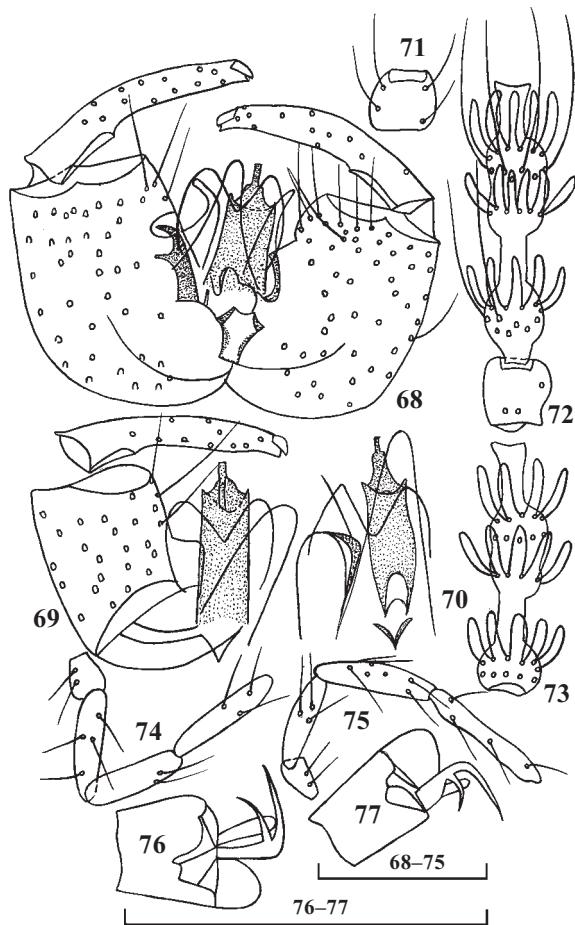
DESCRIPTION. MALE. Body length 0.9–1.4 mm; length of wing 1.7–1.9, width 0.7–0.8. Antennae with 2+12-segments; scape 1.2 times as long as pedicel. 1-st flagellomere 1.1 times as long as 2-nd one. 2-nd flagellomere 4.6 times as long as wide, distal node 1.9 times as long as distal neck; distal node 1.5 times as long as proximal node and 1.2 times as long as proximal neck. 5-th flagellomere 4.3 times as long as wide;



Figs. 59–67. *Faristodiplosis scalaris* sp. n., male (59–65) and *Faristodiplosis glochidiata* sp. n., male (66–67). 59 — gonocoxite and gonostylus; 60 — genitalia; 61 — 5-th flagellomere; 62, 66–67 — palpus; 63 — tarsal claw; 64 — scape, pedicel, 1-st, 2-nd flagellomere; 65 — 11-th, 12-th flagellomere. Scales: 0.1 mm.

Рис. 59–67. *Faristodiplosis scalaris* sp. n., самец (59–65) и *Faristodiplosis glochidiatus* sp. n., самец (66–67): 59 — гонококситы и гоностили; 60 — гениталии; 61 — 5-й членик жгутика; 62, 66–67 — щупики; 63 — коготок лапки; 64 — скапус, педицел, 1-й и 2-й членики жгутика; 65 — 11–12-й членики жгутика. Масштаб: 0,1 мм.

distal node 1.5 times as long as distal neck; distal node 1.2 times as long as proximal node and 1.8 times as long as proximal neck. Necks of flagellomeres slightly elongated toward apex of antenna. 11-th, 12-th, and some apical flagellomeres lost. Palpus 4-segmented, their ratio 2:4:5:6 or 3:7:6:5; segment 4 enlarged medially, with rounded apex. Tarsal claws curved medially, with long denticle at base; empodium almost equal in length with claw. Vein  $R_{4+5}$  not strongly curved;  $M_{3+4}$  presents;  $R_{1+2}$  longer than in other species. Gonocoxites almost parallel-sided, with short rounded sclerotized inner process at base, 1.5–1.7 times as long as wide. Gonostylus 1.2–1.8 times shorter than gonocoxites, not swollen basally, slightly bent medially, 3.3–3.9 times as long as wide. Cerci cordiform, with wide triangular emargination between oviform lobes. Hypoproct 1.9 times narrower than cerci, enlarged proximally.



Figs. 68–77. *Faristodiplosis stratiota* sp. n., male. 68 — genitalia; 69 — part of genitalia (variations of shape); 70 — cerci, hypoproct aedeagus and basal process (variations of shape); 71 — pedicel (variations of shape); 72 — pedicel, 1-st flagellomere; 73 — 5-th flagellomere; 74–75 — palpus; 76–77 — tarsal claw (variations of shape). Scales: 0.1 mm.

Рис. 68–77. *Faristodiplosis stratiota* sp. n., самец: 68 — гениталии; 69 — фрагмент гениталий (изменчивость формы); 70 — церки, гипопрокт, эдеагус и базальный вырост (изменчивость формы); 71 — педицел (изменчивость формы); 72 — педицел, 1-й членик жгутика; 73 — 5-й членик жгутика; 74–75 — щупики; 76–77 — коготок лапки (изменчивость формы). Масштаб: 0,1 мм.

Aedeagus as long as gonocoxites, almost parallel-sided, with ladder-shaped narrowing near apex.

FEMALE unknown.

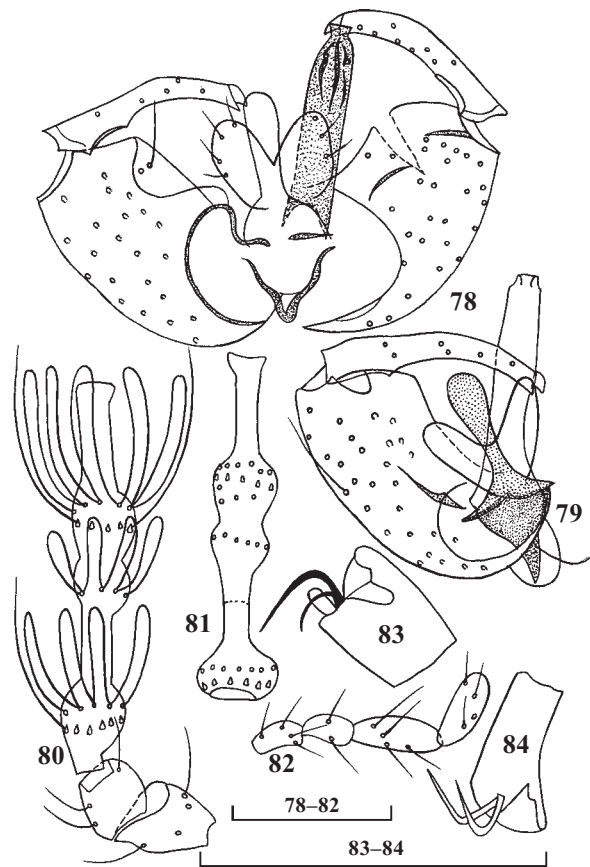
RELATIONSHIPS. This new species is closely related to *F. aliformis* sp. n., described below, and *F. furcata* sp. n. by the presence of short loops of the flagellomeres, but differs from its by the parallel-sided aedeagus narrowed subapically (not hook-formed or concaved), by presence of recurved elongated processes at the base of the gonocoxites, and by non-enlarged base of the gonostylus.

***Faristodiplosis spathulata* Fedotova & Sidorenko, sp. n.**

Figs 30, 78–84

MATERIAL. HOLOTYPE, ♂, RUSSIA: Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 26.VIII. 2001, slide 15LT7/1, Sidorenko (ZISP). PARATYPES, 2 ♂, the same data, slides 15LT7/2 and slide 15LT6/3, Sidorenko (SAA, IBSS).

DESCRIPTION. MALE. Body length 1.1 mm; length of wing 1.9 mm wide 0.7 mm. Antenna with 2+12-segments; scape 1.5 times as long as pedicel. 1-st flagellomere 1.1 times as long as 2-nd one. 2-nd flagellomere 5.8 times as long as wide; distal node equal in length with distal neck; distal node 1.2 times as long as proximal node and 1.7 times as long as proximal neck. 5-th flagellomere 4.3 times as long as wide; distal node 1.5 times as long as distal neck; distal node 1.9 times as long as proximal node and 1.6 times as long as proximal neck. Necks of flagellomeres slightly elongated toward apex of antenna. 11-th, 12-th, and some apical flagellomeres lost. Palpus 4-segmented, their ratio 1:1:2:1.3; segment 4 enlarged apically, with rounded apex. Tarsal claws curved basally, with long denticle at base; empodium very short. Vein  $R_{4+5}$  not strongly curved; basal fork of  $Cu_1$  and  $Cu_2$  and apex of  $R_{1+2}$  situated equidistant from wing apex.  $Rs$  joining  $R_{1+2}$  equidistant from base of  $R_{1+2}$  and its apex. Gonocoxites almost parallel-sided, without sclerotized inner processes at base, 2.1 times as long as wide. Gonostylus 1.2–1.3 times shorter than gonocoxites, not swollen basally, slightly bent medially, 4.5–5.9 times as long as wide. Cerci cordiform or V-form, with wide triangular emargination between parallel-sided lobes. Hypoproct spatulate, 1.5–1.6 times narrower than cerci, enlarged proximally and distally, narrowed distally and subapi-



Figs. 78–84. *Faristodiplosis spathulata* sp. n., male. 78 — genitalia; 79 — part of genitalia (variations of shape); 80 — scape, pedicel, 1-st flagellomere; 81 — 5-th flagellomere; 82 — palpus; 83–84 — tarsal claw. Scales: 0.1 mm.

Рис. 78–84. *Faristodiplosis spathulata* sp. n., самец: 78 — гениталии; 79 — фрагмент гениталиев (изменчивость формы); 80 — скапус, педицел, 1-й членик жгутика; 81 — 5-й членик жгутика; 82 — щупик; 83–84 — коготок лапки. Масштаб: 0,1 мм.

cally. Aedeagus longer than gonocoxites, almost parallel-sided, with narrowing near apex and small dorsal ridges.

FEMALE unknown.

RELATIONSHIPS. This new species is closely related to *F. aculeata* sp. n., described above, but differs from it by longer narrowed distal nodes of flagellomeres, by more elongated sensorial loops of the flagellomeres, by shorter and thicker palpal segments, by narrower and longer wings, by presence of apical narrowing on the aedeagus and by very short obtuse apex (not hook-form), by oviform or parallel-sided lobes on the cerci (not semicircular) and not enlarged base of the gonostylus.

***Faristodiplosis aliformis* Fedotova & Sidorenko, sp. n.**  
Figs 85–89

MATERIAL. **Holotype**, ♂, RUSSIA: Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 14.VII 2001, slide 34WT4/1, Sidorenko (ZISP). **Paratypes**, 1 ♂, same locality, 23.VIII.2001, slide 34LT6/2, Sidorenko (IBSS).

DESCRIPTION. MALE. Body length 1.4 mm; length of wing 2.4 mm, width 0.8 mm. Antennae with 2+12-segments; scape 1.2 times as long as pedicel. 1-st flagellomere 1.1 times as long as 2-nd one. 2-nd flagellomere 4.7 times as long as wide; distal node 1.4 times as long as distal neck; distal node 1.2 times as long as proximal node and 1.7 times as long as proximal neck. 5-th flagellomere 4.3 times as long as wide; distal node 1.4 times as long as distal neck; distal node 2.0 times as long as proximal node and 2.2 times as long as proximal neck. Flagellomeres without strongly elongated necks toward apex of antenna. 11-th and 12-th flagellomeres lost. Palpus 4-segmented, their ratio 1:1.5:2.7:2.9; segment 4 enlarged from mid point to apex, rounded apically. Tarsal claws curved basally, with long denticle at base; empodium shorter than width of claw. Vein  $R_{4+5}$  not strongly curved. Gonocoxites almost oval, without medio-basal process, 1.6 times as long as wide. Gonostylus 1.2 times shorter than gonocoxites, slightly swollen basally and bent basally, 5.1 times as long as wide. Cerci cordiform, with wide triangular emargination between oviform lobes. Hypoproct 3.6 times narrower than cerci, strongly enlarged basally and rounded apically. Inner processes of gonocoxites undeveloped or unclear, strongly sclerotized, rounded. Aedeagus shorter than gonocoxites, strongly widened basally, with wing-shaped collar near apex. Apex of aedeagus hooked.

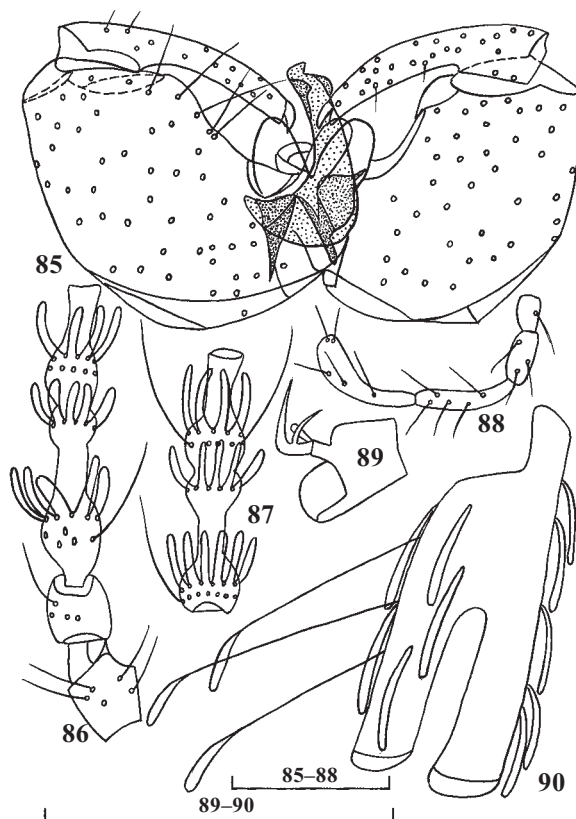
FEMALE unknown.

RELATIONSHIPS. This new species is closely related to *F. collaris* sp. n., described above, but differs from it by shorter flagellomere nodes and necks, by narrow wing, by enlarged base of the aedeagus, by widened apex of the hypoproct, by presence of rounded (not pointed) processes at the base of the gonocoxites and by strongly enlarged base of the elongated gonostylus.

***Faristodiplosis urceolata* Fedotova, sp. n.**  
Figs 91–94

MATERIAL. **Holotype**, ♂, RUSSIA: Primorskii krai, 30 km SE Ussuriysk, Kamenushka, 30.VI. 2001, slide 35MT1/1, Sidorenko (ZISP).

DESCRIPTION. MALE. Body length 1.3; length of wing 2.0, width 0.8. Antennae with 2+12-segments; scape 1.2 times as long as pedicel. 1-st flagellomere 1.1 times as long as 2-nd one. 5-th flagellomere 4.3 times as long as wide, distal node 1.2 times shorter than distal neck; distal node 1.5 times as long as proximal one and 1.1 times as long as proximal neck. Flagellomeres without strongly elongated necks toward apex of antenna. 11-th, 12-th, and some apical flagellomeres



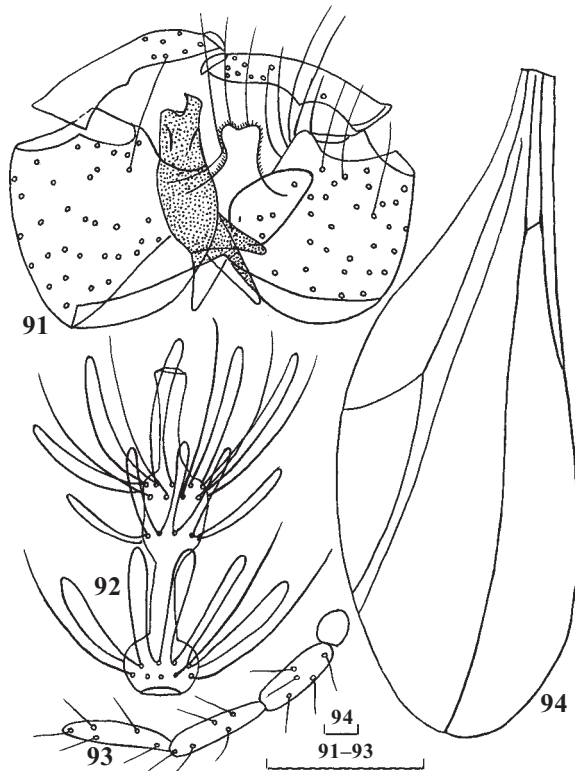
Figs. 85–90. *Faristodiplosis aliformis* sp. n., male (85–89) and *Galeidiplosis quadricoxita* sp. n., male (90): 85 — genitalia; 86 — scape, pedicel, 1-st flagellomere; 87 — 5-th flagellomere; 88 — palpus, 89 — tarsal claw; 90 — scales on 1-st tarsomere. Scales: 0.1 mm.

Рис. 85–90. *Faristodiplosis aliformis* sp. n., самец (85–89) и *Galeidiplosis quadricoxita* sp. n., самец (90): 85 — гениталии; 86 — скапус, педицел, 1-й членник жгутика; 87 — 5-й членник жгутика; 88 — щупик, 89 — коготок лапки; 90 — щетинки на 1-м членнике лапки. Масштаб: 0,1 мм.

lost. Palpus 4-segmented, their ratio 1:2.7:3.1:3.3; segment 4 narrowed apically, with pointed apex. Tarsal claws lost. Wings 2.8 times as long as wide; vein  $R_{4+5}$  almost straight; additional veins near  $Cu_1$ ,  $M_{3+4}$ ,  $R_{1+2}$  very long, joining  $C$  on almost equidistant from base of wing, at level of fork of  $Cu_1$  and  $Cu_2$ . Gonocoxites almost quadrate, 1.3 times as long as wide. Gonostylus 1.2 times shorter than gonocoxites, slightly swollen basally and bent medially, 3.2 times as long as wide. Cerci cordiform, with wide triangular emargination between oviform lobes. Hypoproct with microtrichiae, enlarged proximally, narrowed medially. Aedeagus as long as gonocoxites, jug-shaped medially, and almost parallel-sided apically, with hook on apex, and large dorsal swelling near apex. Genital base pointed, weakly sclerotized.

FEMALE unknown.

RELATIONSHIPS. This new species is closely related to *F. scalaris* sp. n., described above, but differs from it by narrow wings, by shorter nodes and necks of flagellomere as well as palpal segments, by presence of subapical narrowing on the aedeagus and dorsal swelling near the apex, by narrowing near the middle of the hypoproct, by oviform lobes of the cerci, by enlarged slightly sclerotized gonocoxites and by slightly enlarged base of gonostylus.



Figs. 91–94. *Faristodiplosis urceolata* sp. n., male. 91 — genitalia; 92 — 5-th flagellomere; 93 — palpus; 94 — wing. Scales: 0.1 mm.

Рис. 91–94. *Faristodiplosis urceolata* sp. n., самец: 91 — гениталии; 92 — 5-й членик жгутика; 93 — щупик; 94 — крыло. Масштаб: 0,1 мм.

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