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To the taxonomy of the gall midges of the genus *Karschomyia* Felt, 1908 (Diptera: Cecidomyiidae), with description of 11 new species

К таксономии галлиц рода *Karschomyia* Felt, 1908 (Diptera: Cecidomyiidae), с описанием 11 новых видов

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KEY WORDS: gall-midges, *Karschomyia*, palaearctic, eleven new species, description, key, synonym.
КЛЮЧЕВЫЕ СЛОВА: галлицы, *Karschomyia*, палеарктический, одиннадцать новых видов, описание, определительная таблица, синоним.

ABSTRACT. The palaearctic materials of the genus *Karschomyia* Felt (Diptera, Cecidomyiidae) are revised. The division of the genus in 2 subgenera: *Karschomyia* s.str. and *Hiastatus* Marikovskij, stat.n., differing by the presence of additional lobe of the gonostylus, is suggested. Eleven new species are described: *apiculata* sp.n. and *spungisi* sp.n. from the subgenus *Karschomyia* s.str., and nine new species from the subgenus *Hiastatus* Marikovskij: *acietata* sp.n., *ciliata* sp.n., *figurata* sp.n., *fungicola* sp.n., *oklandi* sp.n., *producta* sp.n., *setosa* sp.n., *spinulifera* sp.n., *xylogena* sp.n. The above species differ mainly by the structure of male genitalia. The following new synonyms are proposed (valid names are given right): *Karschomyia aceri* Mamaev, 1960 = *K. viburni* (Felt, 1907), syn.n.; *K. concinna* Marikovskij, 1956 = *K. caulicola* (Coquillett, 1895), syn.n. and *K. insolita* Gagné, 1973 = *K. hemispherica* Kovalev et Mamaev, 1966, syn.n. Key to the species of the genus *Karschomyia* is given.

РЕЗЮМЕ. Ревизованы материалы по двукрылым рода *Karschomyia* Felt (Diptera, Cecidomyiidae) Палеарктики. Предложено деление рода на 2 подрода: *Karschomyia* s.str. и *Hiastatus* Marikovskij, stat.n., отличающихся присутствием придаточной лопасти на гоностилях. Описано 11 новых видов: *apiculata* sp.n. и *spungisi* sp.n. из подрода *Karschomyia* s.str. и 9 новых видов из подрода *Hiastatus* Marikovskij: *acietata* sp.n., *ciliata* sp.n., *figurata* sp.n., *fungicola* sp.n., *oklandi* sp.n., *producta* sp.n., *setosa* sp.n., *spinulifera* sp.n., *xylogena* sp.n. Виды различаются в основном только строением гениталий самцов. Предложены также следующие синонимы: *Karschomyia aceri* Mamaev, 1960 = *K. viburni* (Felt, 1907), syn.n.; *K. concinna* Marikovskij, 1956 = *K. caulicola* (Coquillett, 1895), syn.n. и *K. insolita* Gagné, 1973 = *K. hemispherica* Kovalev et Mamaev, 1966, syn.n. Приводится определительная таблица видов галлиц рода *Karschomyia*.

Introduction

The genus *Karschomyia* was described in 1908 on the basis of *Mycodiplosis viburni* Felt, 1907, known from the only male specimen from Washington Park (Felt, 1908). Later, several more species of this genus were registered in the USA. The first species reported from the Palaearctic Region — *K. aceri* Mamaev, 1960 — was reared from larvae collected under bark of decaying maple in Voronezh Area, Russia. B.Mamaev [1961b] described 4 new species of the genus *Hiastatus* Marikovskij, which was synonymized later under *Karschomyia* Felt. These genera differ distinctly by the presence of additional lobe of the gonostylus, so the authors of the present work suppose to treat them in future at least as 2 subgenera. The revision of Nearctic species of the genus *Karschomyia* Felt increased the number of species to 10 [Gagné, 1973], 7 species were described as new by the abovementioned author. The key to Nearctic species was published, biology of several species described. R.Gagné [1973] found a male of european species *K. ramosa* (Kieffer, 1904) in Felt's collection in New York State Museum and concluded that *K. elegans* Mamaev, 1961 is a synonym of this species. Palaearctic fauna of the genus *Karschomyia* Felt included 10 species, according to the Catalogue of Palaearctic Diptera [Skuhravá, 1986]. The detailed examination of the collections of the gall midges allowed to discover several new species from the territory of the former Soviet Union and one species in Norway. The types of the new species are kept in

the collection of B.M. Mamaev (BMM) and B. Økland, Norwegian Forest Research Institute, Ås, Norway (NFRI).

Genus *Karschomyia* Felt, 1908

Karschomyia Felt, 1908: 398. Type species – *Mycodiplosis viburni* Felt, 1907:130 (orig.des.).

Plesiobremia Kieffer, 1912: 1. Type species – *Bremia ramosa* Kieffer, 1904: 394 (orig.des.).

Hiastatus Marikovskij, 1956: 188. Type species – *Hiastatus concinnus* Marikovskij, 1956: 189 (orig.des).

DIAGNOSIS. Male. Head elongated, nearly twice as long as wide (lateral aspect). Eyes large, broadly joined at vertex. Antennae consist of 2+12 segments and long terminal appedage. Male antennal segments binodose, distal node with 3 sets of long looped regular circumfila, slightly depressed in the middle. Palpus 4-segmented. R_5 strongly curved and joined with costa distinctly bejond wing apex. C broken at the tip of R_5, M_{3+4} and Cu present. Wings densely covered with long, hair-like scales. Claws sharply bent, toothed or simple. Empodium shorter than claw. Tarsomeres densely covered with scales. Abdominal tergites and sternites sclerotized, II–VI transversely divided. Genitalia complicated, of 2 types: gonostyles without lobe (subgenus *Hiastatus* Marikovskij, 1956, **stat.n.**) and with lobe (subgenus *Karschomyia* Felt, 1908). Gonocoxites dilated, as a rule with dorsolateral projections or dents. Cerci long or short. Aedeagus variable in shape.

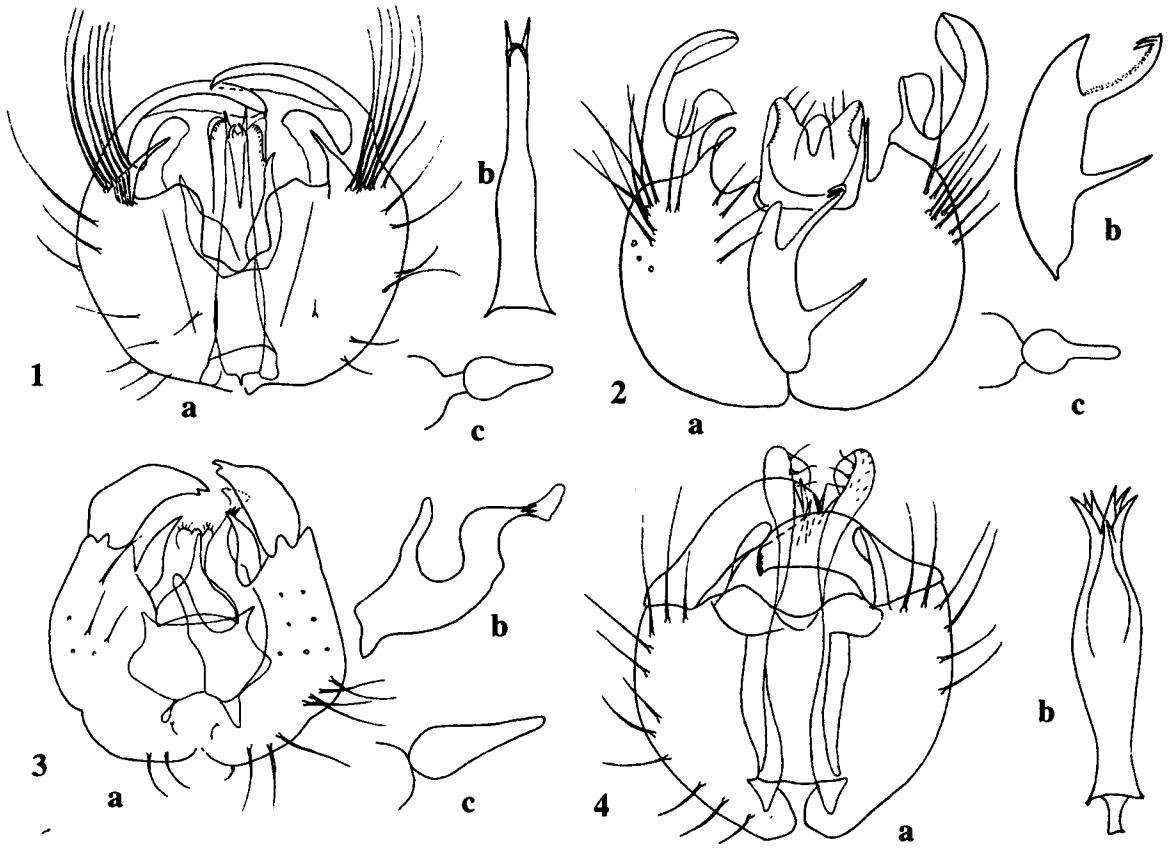
Female. Antennae consist of 2+12 segments, terminal segment with long appendage. Antennal segment long, cylindric, slightly constricted in middle, with short stem and simple circumfila. Ovipositor not protractile, terminal segment of lamella elongated.

Larva. Spatula clove-shaped. All 8 terminal papillae apically bear thick pointed spinules of the same type [Mamaev, Krivosheina, 1993].

BIOLOGY. Larvae as a rule breed in decaying vegetable remains. A number of Palaearctic species were reared from decaying wood and fruit bodies of fungi. Most of Nearctic species were either swept or caught in traps or were reared from stems of Iceland poppy, pig carcass and pine bolts [Gagné, 1973].

Key to the species of the genus *Karschomyia* Felt, 1908 (males)

1. Gonostyles with basal lobe (subgenus *Karschomyia*, s.str.) 2
– Gonostyles without basal lobe (subgenus *Hiastatus* Marikovskij) 6
2. Aedeagus with 2 long curved needle-shaped sclerotized basal appendages. All tarsal claws simple ..... *K. hemisphaerica* Kovalev et Mamaev
– Aedeagus without sclerotized basal appendages. Claws at least of fore legs toothed 3
3. Aedeagus simple, thin, needle-shaped 4
– Aedeagus complicated, thick 5
4. Aedeagus with 4 long divergent terminal string-like branches ..... *K. ramosa* (Kieffer)
– Aedeagus with 2 short parallel terminal needles .... *K. viburni* (Felt)
5. Aedeagus divergent in the middle, forming thick median lobe and thin branch with terminal spinulae (Fig.2,b). Claws toothed on forelegs, middle and hind legs with simple claws ..... *K. spungisi* sp.n.
– Aedeagus simple, moderately thick, with terminal spinulae (Fig.1,b). All legs with toothed claws . .. *K. apiculata* sp.n.
6. Aedeagus with 2 long curved sickle-shaped sclerotized basal appendages (Fig.6, a) ..... *K. fungicola* sp.n.
– Aedeagus without long sclerotized basal appendages 7
7. Gonocoxites with long dorso-lateral finger-shaped appendages, densely covered with short setae (Fig.9,a); gonostyles long, excavated, with small median lobe ..... *K. setosa* sp.n.
– Gonocoxites without dorso-lateral pubescent appendages 8
8. Gonostyles are tapering to the end and partly covered with microtrichiae, without numerous wrinkles .. 9
– Gonostyles with broad, usually dilated apical part, covered with numerous wrinkles 10
9. Gonocoxites with strong dorso-lateral spur. Aedeagus bifurcated at middle (Fig.3,b) ... *K. acietata* sp.n.
– Gonocoxites without dorso-lateral spur. Aedeagus entire lire-shaped ..... *K. dubia* Kovalev et Mamaev
10. Aedeagus pear-shaped with needle-like sclerotized appendages in middle ..... *K. xylophila* (Mamaev)
– Aedeagus without needle-like sclerotized appendages in middle 11
11. Aedeagus simple, cylindric or with strong apical dilation, without particular terminal structure .. 12
– Aedeagus complicated, with different particular terminal structure 13
12. Aedeagus cylindric. Cerci very long, reaching apex of gonostyles. Dorso-lateral spur 0,5 as long as gonostyles ..... *K. abnormis* (Mamaev)
– Aedeagus with strong apical dilation. Cerci not reaching apex of gonostyles. Dorso-lateral dent short ..... *K. marikovskii* (Mamaev)
13. Aedeagus apically with many spinules 14
– Aedeagus apically bifurcated or with 2–4 hook- or finger-shaped appendages 16
14. Aedeagus without middle projection with terminal cluster of spinulae (Fig.4,b) ..... *K. ciliata* sp.n.
– Aedeagus with middle pointed projection and surrounding spinulae at base of it 15
15. Ventral margin of male genitalia densely covered with hook-like setae (Fig.11,a). Gonocoxite with one long dent. Lamellae of cerci divergent ..... *K. xylogena* sp.n.
– Ventral margin of male genitalia without hook-like setae (Fig.10,a). Gonocoxite with 2 dents. Lamellae of cerci compact ..... *K. spinulifera* sp.n.
16. Aedeagus bifurcated 17
– Aedeagus apically with 2–4 hook- or finger-shaped appendages 18
17. Gonostyles with distinctly dilated apical part. Aedeagus with 2 finger-shaped apical projections and round incision between them (Fig.8,b) *K. producta* sp.n.
– Gonostyles uniformly thick. Aedeagus with 2 divergent apical acute projections and angulate incision between them ..... *K. caulicola* (Coquillett)
18. Gonostyles uniformly thick. Aedeagus with 2 finger-shaped appendages directed inwards (Fig.7,b) . ... *K. oklandi* sp.n.
– Gonostyles with dilated apical part. Aedeagus with 2–4 hook-shaped projections directed caudally . 19



Figs 1–4. *Karschomyia* spp.: 1 — *K. apiculata* sp.n., 2 — *K. spungisi* sp.n., 3 — *K. acietata* sp.n., 4 — *K. ciliata* sp.n.; a — male genitalia, dorsal view, b — aedeagus, dorsal view (1,4), lateral view (2,3), c — appendage of male terminal antennal segment.

Рис. 1–4. *Karschomyia* spp.: 1 — *K. apiculata* sp.n., 2 — *K. spungisi* sp.n., 3 — *K. acietata* sp.n., 4 — *K. ciliata* sp.n.; a — гениталии самца, вид сверху, b — эдеагус, вид сверху (1,4), сбоку (2,3), c — придаток последнего членика антенн самца.

19. Aedeagus oval with 2 thick hook-shaped projections ..... *K. curvidentata* (Mamaev)
— Aedeagus angulate with 4 thin hook-shaped projections (Fig.5,b) ..... *K. figurata* sp.n.

Karschomyia (Karschomyia) apiculata Mamaev et M. Krivosheina, **sp.n.**

Fig. 1.

MATERIAL. Holotype ♂, [Russia] Far East, Suputinskiy [= Ussuriskiy] Zapovednik, N 88, 23.IX.1964, under the bark of *Ulmus* sp., (B.M. Mamaev) (BMM). Paratype: 1 ♂, [Russia, Kursk Area] Kurskiy Zapovednik, 2.VII.1970 (Kh.P. Mamaeva) (BMM).

DESCRIPTION. ♂. Yellowish-brown, length of wing 1,6 mm, antennae as long as wing. Head: eyes very large, occupy nearly whole nead capsula. Antennae yellow, distal stem of flagellar segments slightly longer than the proximal one. Terminal antennal segment with short distal stem and pear-like appendage. Thorax: pale-brown, with 3 brown dorsal stripes. Hind legs about twice as long as the wing. Tarsal claws of alll legs toothed (in holotype). Abdomen: segments with one complete and one incomplete brown dorsal streaks and two complete brown ventral streaks. Genitalia: gonocoxites broad, rounded, with 1 dorsolateral dent and a group of strong long setae in the base of gonostyles. Gonostyles narrow, pointed, with broad additional basal lobe, apical tooth present. Aedeagus straight, slightly broaded basally, with 4 apical papillae.

♀ unknown.

BIOLOGY. The larvae developed under bark of *Ulmus* sp.

Karshomyia (Karschomyia) hemispherica Kovalev et Mamaev

Karshomyia hemispherica Kovalev et Mamaev, 1966: 231
Karschomyia insolita Gagné, 1973: 351, **syn.nov.**

MATERIAL: 2♂, [Russia] Far East, Kedrovaya Pad', 23.VIII.1964 (B.M. Mamaev); 1 1 1♂, same locality, 25.VIII.1964 (B.M. Mamaev).

Detailed examination of the morphology of male genitalia showed their identity, including the shape of the gonostylus [Kovalev, Mamaev, 1966: fig.6]; the morphology of other genital structures and other characters proves the identity of these species.

DISTRIBUTION. Widely distributed in Nearctic and East Palaearctic Regions.

Karschomyia (Karschomyia) spungisi Mamaev et M. Krivosheina, **sp.n.**

Fig.2.

MATERIAL. Holotype ♂, [Russia] Moscow Area, Pavlovskaya Sloboda, coniferous forest, 12.VIII.1963 (Kh.P. Mamaeva). Paratypes: 8 ♂♂, same data, 11.VIII.1962; 3 ♂, Litva [= Lituania], Vevis, 5.VIII.1962 (Kh.P. Mamaeva); 1 ♂, Darsini, Latvija, 461-5a, pine forest, 8.VIII.1977; 1 ♂, same label, 469-1a, 10.VIII.1977; 2 ♂,

same label, 471-3a, 471-1f, 15.VIII.1977; 1 ♂, same label 479-3b, same label, 30.VIII.1977; 1 ♂, same label, M17-IIIa, 19.VIII.1978; 1 ♂; Latvija, Valka, pine forest, 532-3a, 20.VIII.1978 (V.V. Spungis) (BMM).

DESCRIPTION. ♂. Brown, length of wing 2,3 mm, antennae distinctly longer than wing (2,8 mm). Head: eyes very large, antennae brown, distal stem of flagellar segments as long as proximal one. Terminal antennal segment with pear-shaped appendage. Thorax: brown, with 3 dark brown dorsal streaks. Hind legs 1,7 as long as wing. Tarsal claws of the fore legs toothed, middle and hind legs with simple claws. Abdomen: segments with one complete and one incomplete brown dorsal streaks and two complete brown ventral streaks. Genitalia: gonocoxites broad, rounded, with dorso-lateral projection and cluster of setae. Gonostyles narrow with large round basal lobe, terminal tooth not developed. Aedeagus bifurcated at apex, with distinct setulae and 2 terminal projections on the thinner part.

♀ unknown.

BIOLOGY. Unknown.

Karschomyia (Karschomyia) viburni (Felt)

Mycodiplosis viburni Felt, 1907: 130

Karchomyia aceri Mamaev, 1960: 1523, **syn.n.**

MATERIAL. 1 ♂, 1 ♀, Voronezh Area, Tellerman Forestry, reared from the larvae collected under the bark of Acer, 10.IX.1959 (B.M. Mamaev); 2 ♂♂, Vologda Area, Kadnikovskaya, 1.VII.1962 (N.P. Krivosheina); 2 ♂♂, Kamchatka, Kozyrevsk, 20.VI.1984 (B.M. Mamaev).

The examination of the large series of specimens from various regions of Palaearctic and their comparison with the photo, given by Felt [1907] and figures, given by Gagné [1973] showed the identity of these species.

DISTRIBUTION. Widely distributed in Holarctic Region.

Karschomyia (Hiastatus) acietata Mamaev et M. Krivosheina, **sp.n.**

Fig. 3.

MATERIAL. Holotype ♂, [Russia] Far East, Kedrovaya Pad' Reserve, oak-wood, 23.VIII.1964 (B.M. Mamaev) (BMM).

DESCRIPTION. ♂. Small, yellow, length of wing 1,5 mm, antennae as long as wing. Head: eyes very large, occupy nearly whole head capsule. Antennae yellow, distal stem of flagellar segment slightly longer than proximal one. Terminal antennal segment with subsessile lanceolate appendage. Thorax: yellow with dorsal streaks. Claws of middle legs simple; fore and hind legs broken. Abdomen: segments without distinct sclerotization, with dorsal and ventral protuberances. Genitalia: gonocoxites broad, with medio-lateral spur. Gonostyles broad, tapering apically with terminal tooth. Aedeagus apically narrowed with median projection and terminal dilation.

♀ unknown.

BIOLOGY. Unknown.

Karschomyia (Hiastatus) caulicola (Coquillett)

Diplosis caulicola Coquillett, 1895: 401

Hiastatus concinnus Marikovskij, 1956: 189, **syn.n.**

MATERIAL: 4 ♂♂, Leningrad Area, without date, (P.I. Marikovskij), det.P.I. Marikovskij; 6 ♂♂, Carpathians, Kvasy, 30.VI.1963 (B.M. Mamaev); 1 ♂, Moscow Area, Danki, 28.V.1969 (B.M. Mamaev); 1 ♂, Krasnodar Province, Krasnaya Polyana, 19.V.1967 (B.M. Mamaev); 1 ♂, Altai, Artybash, 1.VII.1981 (M.G. Krivosheina).

The detailed comparison of collection materials and the figures, published by Gagné [1973] and Marikovskij [1956] showed the identity of these two species, including male genitalia.

DISTRIBUTION: Widely distributed in Holarctic Region.

Karschomyia (Hiastatus) ciliata Mamaev et M. Krivosheina, **sp.n.**

Fig. 4.

MATERIAL. Holotype ♂, [Russia, Vologda Distr.] Kadnikovskaya , Vologda Area, 13.VII.1962 (N.P. Krivosheina) (BMM).

DESCRIPTION. ♂. Brown, length of wing 1,8 mm, antennae slightly longer, than wing. Head: eyes moderately large, antennae brown, distal stem of flagellar segments as long as proximal one; appendage of terminal antennal segment oval with cylindric prolongation. Thorax: brown, with 3 dark brown dorsal streaks. Hind legs twice as long as wing. Claws of forelegs toothed, of middle and hind legs simple. Abdomen: dorsal and ventral streaks well sclerotized of common shape. Genitalia: gonocoxites broad, with narrow medio-dorsal lobe. Gonostyles broad, bulbous, with apical claw. Cerci long. Aedeagus multidentate apically.

♀ unknown.

BIOLOGY. Unknown.

Karschomyia (Hiastatus) figurata Mamaev et M. Krivosheina, **sp.n.**

Fig.5.

MATERIAL. Holotype ♂, [Russia] Gorno-Altayskaya Autonomous Area, Teletskoye Lake, Artybash, 1.VII.1981 (M.G. Krivosheina). Paratype: 1 ♂, Latvia, Moritsala Reserve, lime-wood, swept (V.V. Spungis) (BMM).

DESCRIPTION. ♂. Light brown, length of wing 2,3 mm. Apical parts of antennae lost. Head: eyes very large; antennae light brown, distal stem of flagellar segments slightly longer than proximal one. Thorax: pale brown, with 3 brown dorsal streaks. Hind legs 1,8 times as long as wing. Claws of fore legs toothed, of middle and hind legs simple. Abdomen: segments with one complete and one incomplete brown dorsal streaks and two complete brown ventral streaks. Genitalia: gonocoxites broad, with dorsolateral spur. Gonostyles broadened and rounded apically, with apical tooth. Aedeagus with 4 short hooks.

♀ unknown.

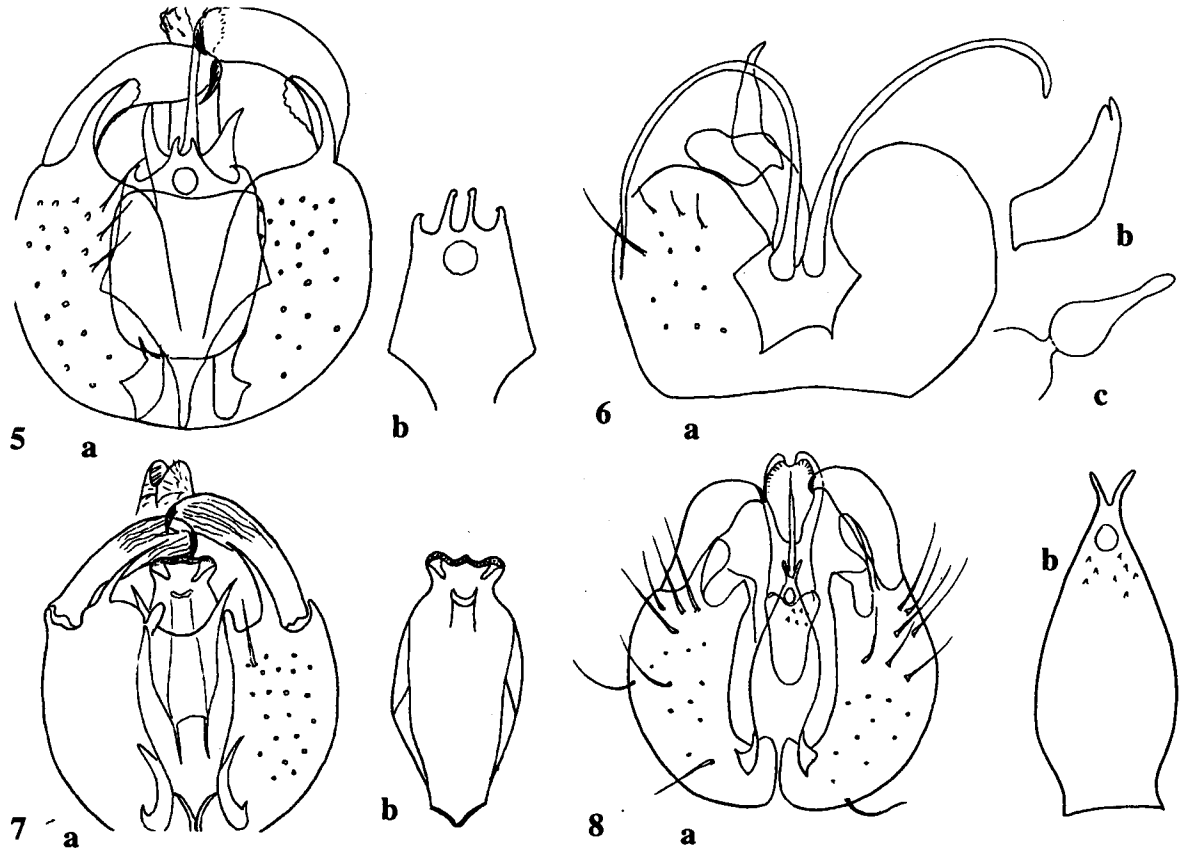
BIOLOGY. Unknown.

Karschomyia (Hiastatus) fungicola Mamaev et M. Krivosheina, **sp.n.**

Fig.6.

MATERIAL. Holotype ♂, [Russia] Far East, Kedrovaya Pad' Reserve, N 29, in polypore, 28.VIII.1964 (B.M. Mamaev). Paratypes: ♂, 3 ♀♀, on the same slide; (B.M. Mamaev) (BMM).

DESCRIPTION. ♂. Yellowish-brown, length of wing 1,9 mm, antennae distinctly longer than wing. Head: eyes very large, occupy nearly whole head capsule. Antennae light brown; distal stem of flagellar segments slightly longer than proximal one. Appendage of terminal antennal segment



Figs 5–8. *Karschomyia* spp.: 5 — *K. figurata* sp.n., 6 — *K. fungicola* sp.n., 7 — *K. oklandi* sp.n., 8 — *K. producta* sp.n.; a — male genitalia, dorsal view, b — aedeagus, dorsal view (5,7,8), gonostylus, dorsal view (6), c — appendage of male terminal antennal segment.

Рис. 5–8. *Karschomyia* spp.: 5 — *K. figurata* sp.n., 6 — *K. fungicola* sp.n., 7 — *K. oklandi* sp.n., 8 — *K. producta* sp.n.; a — гениталии самца, вид сверху, b — эдеагус, вид сверху (5,7,8), гоностиль, вид сверху (6), c — придаток последнего членика антенн самца.

subsessile, round, with finger-shaped apical part. Thorax: pale brown, with brown notum. Hind legs 1,7 times as long as wing. Tarsal claws of all legs simple. Abdomen: weakly sclerotized. Genitalia: gonocoxites broad, rounded. Gonostyles broad, narrowed apically, with apical tooth. Aedeagus thick, bent in the middle, tapering at apex, with 2 long sickle-shaped sclerotized appendages in base.

♀. Brown, length of wing 2,2 mm. Antennae 2/3 as long as wing. Head: eyes large, eye bridge very broad, occupies the whole vertex. Antennae light brown; basal enlargement of flagellar segments 2,8–3,0 times as long as broad, with 2 whorls of setae, sensoria simple with 2 rings and 2 longitudinal connectives; stem is about 1/3 as long as basal enlargement; terminal appendage similar to those of male. Basal enlargements and base of stems are covered with microtrichia. Thorax: similar to those of male. Abdomen: weakly sclerotized, without brown streaks. Lamellae of ovipositor 2-segmented, terminal segment about 4 times as long as broad, with 2 long terminal setae.

BIOLOGY. Larvae develop in polyporous fungi.

Karschomyia (Hiastatus) oklandi Mamaev et M.Krivosheina, **sp.n.**

Fig.7.

MATERIAL. Holotype ♂, Norway, Roelingen, Tappenberg, VIII 1991 (B. Økland), (NFRI)

DESCRIPTION. ♂. Light brown, length of wing 2,5 mm, antennae as long as wing. Head: eyes occupy nearly the whole head capsule. Antennae brown, distal stem of flagellar segments slightly longer than proximal one. Penultimate antennal segment with distinct stem; terminal appendage round with long finger-shaped terminal part. Thorax: brown, with dark brown notum. Hind legs 1,8 times as long as wing. Tarsal claws of all legs toothed. Abdomen: segments with one complete and one incomplete brown dorsal; streaks. Genitalia: gonocoxites broad, each with 1 long spur. Gonostyles slightly broadened apically, with apical tooth. Aedeagus broad, slightly constricted subapically, with 2 apical lobes and small finger-shaped appendages directed inwards.

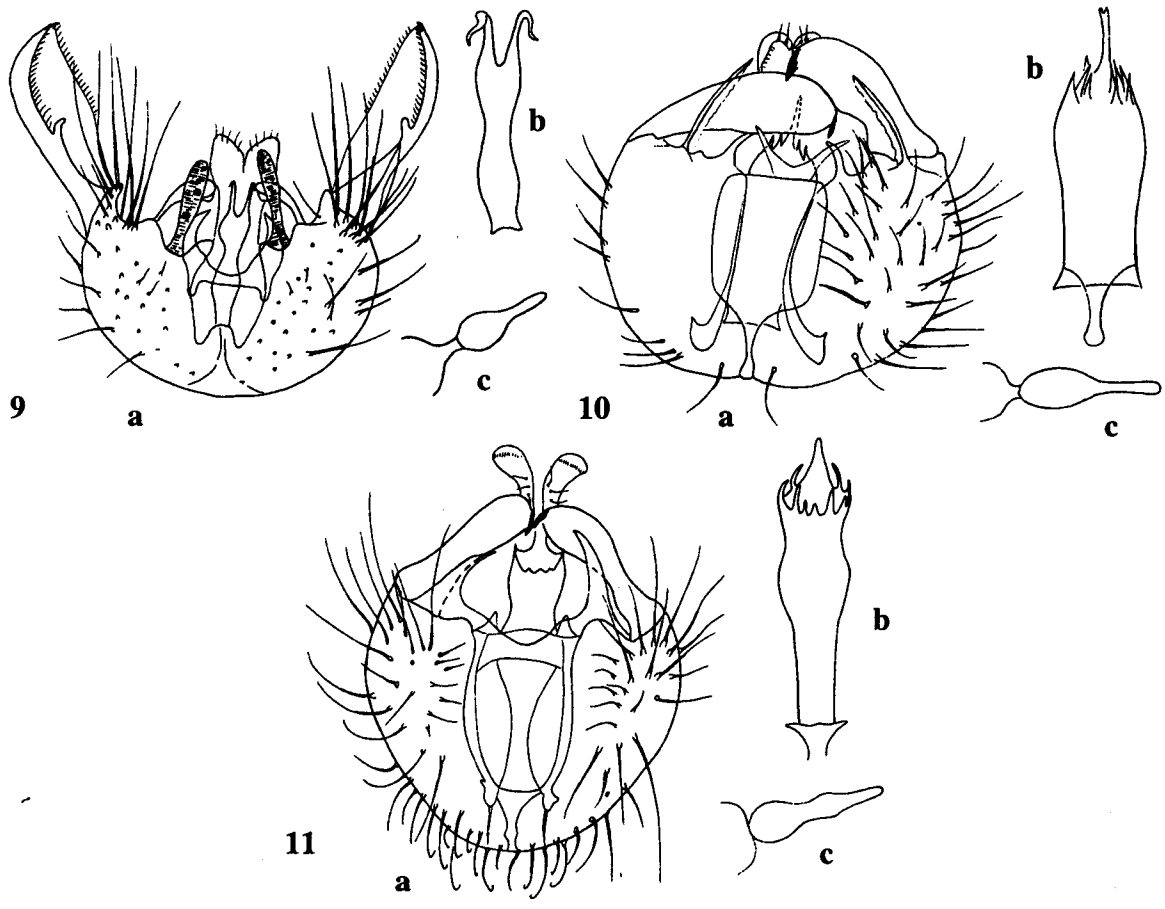
♀ unknown.

BIOLOGY. Unknown.

Karschomyia (Hiastatus) producta Mamaev et M.Krivosheina, **sp.n.**

Fig. 8.

MATERIAL. Holotype ♂, [Russia] Moscow Area, Pavlovskaya Sloboda, decidious forest, 10.VI.1963 (Kh.P. Mamaeva). Paratypes: 2 ♂♂, same label as in holotype, 5.VII.1962; 4 ♂♂., same label, 11.VIII.1962 (Kh.P. Mamaeva); 1 ♂, Voronezh Area, Tellerman, bottom of ravine, netting, 18.IX.1960; 1 ♂, Ukraine, Carpatian Mts., Kvasy, Minchul, 17.VI.1963; 2 ♂♂, same label, 22.VI.1963



Figs 9–11. *Karschomyia* spp.: 9 — *K. setosa* sp.n., 10 — *K. spinulifera* sp.n., 11 — *K. xylogena* sp.n.; a — male genitalia, dorsal view, b — aedeagus, dorsal view, c — appendage of male terminal antennal segment.

Рис. 9–11. *Karschomyia* spp.: 9 — *K. setosa* sp.n., 10 — *K. spinulifera* sp.n., 11 — *K. xylogena* sp.n.; a — гениталии самца, вид сверху, b — эдеагус, вид сверху, c — придаток последнего членика антенн самца.

(B.M. Mamaev); 2 ♂♂, Latvia, Moritsala Reserve, oak forest, 6.VII.1976; 1 ♂, same label, 5.VIII.1977; 2 ♂♂, Darsini, 479-3a, pine forest, 30.VIII.1977; Brozeni, spruce forest, 474-2a, 18.VIII. 1977, Saka, oak forest, 478-5b, 25.VIII.1977 (V.V. Spungis); 2 ♂♂, Far East, Kedrovaya Pad Reserve 31.VIII–1.IX.1964 (B.M. Mamaev) (BMM).

DESCRIPTION. ♂. Brown, length of wing 2,6 mm. Antennae slightly longer than wing. Head: eyes large. Antennae brown; flagellar segments with deep constriction of the distal node and look like trinodose; distal stem of flagellar segments as long as proximal one. Appendage of terminal antennal segment round, with long finger-shaped apical part. Thorax: brown, with dark brown notum. Hind legs 2,0 times as long as wing. Claws of fore legs toothed, middle and hind legs simple. Abdomen: segments with 2 complete dorsal and 2 complete ventral brown streaks. Genitalia: gonocoxites broad, with 2 dorsolateral appendages. Gonostyles broadened and slightly narrowed apically, with apical tooth. Aedeagus dilated in middle, with 2 apical spinules, subdivided into two parts.

♀ unknown.

BIOLOGY. Unknown.

Karschomyia (Hiastatus) setosa Mamaev et M.Krivosheina, **sp.n.**

Fig. 9.

MATERIAL. Holotype ♂, [Russia] Moscow Area, Pavlovskaya Sloboda, 21.VII.1962 (B.M. Mamaev). Paratypes: 1 ♂, Udelnaya, Moscow Area, VI.1961 (D.Usachev); 3 ♂♂, [Russia] Caucasus, Krasnaya Polyana, 10.IX.1966 (Kh.P. Mamaeva); 1 ♂, [Russia] Far East, Kedrovaya Pad' Reserve, 18.VIII.1962 (O.V. Kovalev) (BMM).

DESCRIPTION. ♂. Brown; length of wing 2,8 mm, antennae slightly longer than wing (3,1 mm). Head: eyes very large. Antennae brown; distal stem of flagellar segment distinctly longer than the proximal one. Penultimate segment with long distal stem; terminal antennal segment oval in base, cylindrical at apex. Terminal appendage round with long finger-shaped terminal part. Thorax: brown, with dark brown notum. Hind legs 1,8 times as long as wing. Tarsal claws of forelegs toothed, of middle and hind legs simple. Abdomen: segments with one complete and one incomplete brown dorsal streaks and two complete brown ventral streaks. Genitalia: gonocoxites 3-lobed with 2 projections and

clusters of strong setae. Gonostyles broad with small median lobe, pointed apically, with terminal tooth and dorsolateral finger-shaped appendage. Aedeagus narrow, forked apically, with 2 curved apical projections.

♀ unknown.

BIOLOGY. Unknown.

Karschomyia (Hiastatus) spinulifera Mamaev et M.Krivosheina, **sp.n.**

Fig.10.

MATERIAL. Holotype ♂, [Russia] Far East, Kedrovaya Pad' Reserve, KK 6, along stream, 6.IX.1964 (B.M. Mamaev). Paratypes: 1 ♂, [Russia] Caucasus, Krasnaya Polyana, 10.IX.1966 (Kh.P. Mamaeva); 1 ♂, [Russia] Kunashir Is., sweeping, 19.IX.1972 (B.M. Mamaev)

DESCRIPTION. ♂. Brown; length of wing 2,8 mm; antennae slightly longer than wing (3,0 mm). Head: eyes very large. Antennae brown; distal stem of flagellar segments slightly longer than the proximal one. Appendage of terminal antennal segment oval, with long cylindric apical part. Thorax: light brown, with 3 brown dorsal streaks. Hind legs 1,8 times as long as wing. Tarsal claws of the forelegs toothed, middle and hind legs – simple. Genitalia: gonocoxites broad, each with 1 large spur and 1 short dorso-lateral projection. Gonostyles broadened and rounded apically, with apical tooth. Aedeagus strongly narrowed and bifurcated apically, with many papillae in the base of narrow part.

♀ unknown.

BIOLOGY. Unknown.

Karschomyia (Hiastatus) xylogena Mamaev et M. Krivosheina, **sp.n.**

Fig. 11.

MATERIAL. Holotype ♂, [Russia] Far East, Kedrovaya Pad' Reserve, X.1964, from wood (B.M. Mamaev) (BMM).

DESCRIPTION. ♂. Brown; length of wing 2,0 mm. Antennae slightly longer than wing. Head: eyes extremely large, eye bridge dilated. Antennae brown, distal stem of flagellar segments slightly longer than the proximal one. Thorax: light brown with darker notum. Hind legs 2,0 times as long as wing. Tarsal claws of forelegs toothed, of middle and hind legs simple. Abdomen: segments with one complete and one incomplete brown dorsal streaks and two complete brown ventral streaks. Genitalia: gonocoxites broad with 1 spur. Gonostyles broadened and rounded apically, with apical tooth. Aedeagus thick, with narrowed apex and at least 8 preapical papillae.

♀ unknown.

BIOLOGY. Larvae develop in decaying wood.

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