

New Species of the Gall Midge Genus *Winnertzia* from Far East Russia, with Remarks on Synonymy (Diptera, Cecidomyiidae)

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Нові види галіць роду *Winnertzia* з Далекого Сходу Росії з нотатками про синонімію (Diptera, Cecidomyiidae). Мамаєв Б. М. — Опис 5 нових видів галіць: *Winnertzia amoena* sp. n., *W. peramoena* sp. n., *W. palpina* sp. n., *W. diversicornis* sp. n., *W. subglobifera* sp. n. Наводяться відмінності *W. plagiata* Mam., *W. maxima* Mam. і *W. ussurica* Mam. на доказ їх видової самостійності.

Новые виды галлиц рода *Winnertzia* с Дальнего Востока России с заметками о синонимии (Diptera, Cecidomyiidae). Мамаев Б. М. — Описание 5 новых видов галлиц: *Winnertzia amoena* sp. n., *W. peramoena* sp. n., *W. palpina* sp. n., *W. diversicornis* sp. n., *W. subglobifera* sp. n. Приводятся отличия *W. plagiata* Mam., *W. maxima* Mam. и *W. ussurica* Mam. в доказательство их видовой самостоятельности.

New Species of the Gall Midge Genus *Winnertzia* from Far East Russia, with Remarks on Synonymy (Diptera, Cecidomyiidae). Mamaev B. M. — 5 gall midge species are described as new: *Winnertzia amoena* sp. n., *W. peramoena* sp. n., *W. palpina* sp. n., *W. diversicornis* sp. n., *W. subglobifera* sp. n. The differences of *W. plagiata* Mam., *W. maxima* Mam. and *W. ussurica* Mam. are given in evidence of their specific distinctness.

Key words: Diptera, Cecidomyiidae, *Winnertzia*, new species, synonymy, Far East Russia.

In connection with a revision of gall midges of Far East Russia it is important to describe new species and to define more exactly the number of *Winnertzia* Rondani species occurring in this region. 54 Palaearctic species were described in the genus *Winnertzia*, including 8 from Far East (Skuhrava, 1986; Spungis, 1992). In 1964–1975, we reared from dead wood 5 species described below as new and 3 species formerly known only from the European part of Russia.

An updated key to *Winnertzia* species is to be published in the planned volume of "Keys to Insects of Far East Russia" (Vladivostok, in prep.).

Winnertzia amoena, sp. n.

(fig. 1, a–c)

Material. Holotype ♂, Russia, Amur Region, Khingansky nature reserve, larvae under bark of decayed oak wood, 25.V.1975, B. Mamaev leg. (coll. B. Mamaev).

Male. Brown, wing length 2.2 mm. Eye bridge 7 ommatidia broad. Antennae with 2+11 segments, basal enlargement of segments brown, stem pale, transparent; stem of middle antennal segments 0.8 times as long as basal enlargement, basal enlargement of first flagellar segment 2.0 times as long as broad, ultimate segment somewhat constricted near midlength, because of fusion of 11th and 12th flagellar segments; basal bristles of the segments in

single, sometimes in double whorls, median bristles and horse-shoe-shaped sockets in 1–4 whorls, 4–5 distal bristles nearly parallel to stem; 2 sesoriae on the segment: one ribbon-, other V-shaped. Pulpi long, 4-segmented. Tarsal claws with strong basal tooth; empodium rudimentary. Gonocoxites thick, with V-shaped median incision; gonostyles short, with round apex and claw of dark bristles; 9th tergite with lateral dilations and broad median invagination; tegmen triangular; roots of gonocoxites bifurcated; genital road well sclerotized, needle-shaped.

Female. Strongly damaged, not included in type series, undescribed.

Diagnosis. In contrast to other species of the genus (roots of gonocoxites simple) new species with bifurcated gonocoxite roots, 9th tergite with lateral dilations.

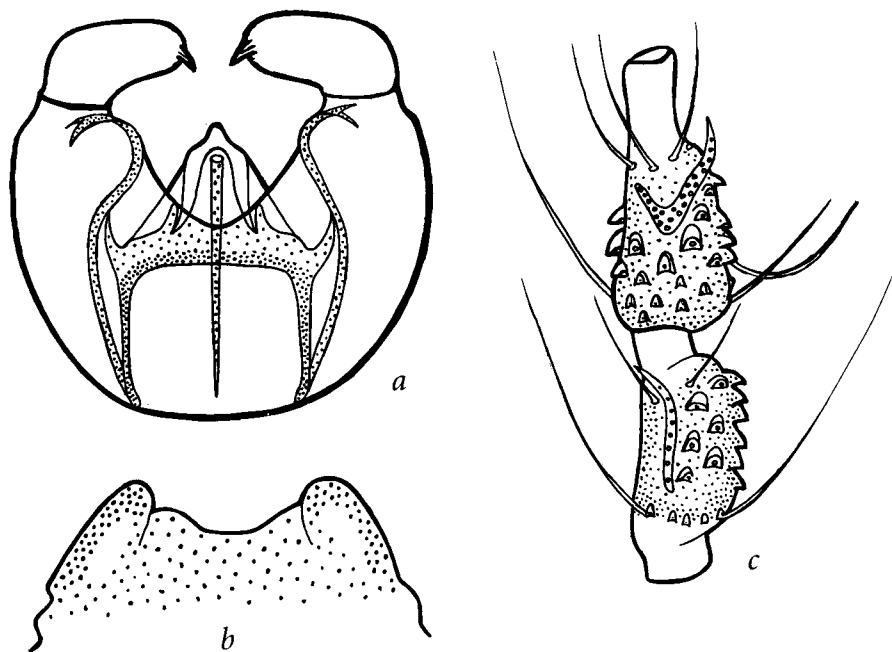


Fig. 1. *Winnertzia amoena* sp. n.: a — male genitalia (9th tergite removed), b — 9th tergite, c — two basal segments of male flagellum.

Winnertzia peramoena, sp. n.

(fig. 2, a–c)

Material. Holotype ♂, Russia, Ussuri Region, Ussuriysky nature reserve, larvae under bark of decayed ash, 9.V.1969, B. Mamaev leg; Paratypes ♂, 2♀, same label data; 2♂, ♀, Primorskiy Kray, Kedrovaya Pad' reserve, larvae under bark of decayed Japanese elder; 3♂, ♀, Amur Region, Khingansky reserve, larvae under bark of decayed birch, 26.VI.1975 and in decayed linden wood, 20.VI.1975, B. Mamaev leg. (coll. B. Mamaev).

Male. Brown, wing length 2.2. Very similar to species described above, but basal enlargement of first flagellar segment nearly as long as broad, stem of middle antennal segments nearly as long as basal enlargement; 9th tergite without lateral dilations; gonostyle without dark apical bristles.

Female. Eye bridge 4 ommatidia broad. Antennae with 2+12 segments; stem of the segments very short, both sensoriae U-shaped, nearly as long as basal enlargement and comparatively thick. Ovipositor very long, as long as basal part of abdomen; two ring-shaped sclerotized spermathecae; terminal segment of ovipositor lamella with 4 strong dark bristles.

Diagnosis. Similar to *W. amoena*, differs by the shape of 9th tergite and morphology of gonostyle.

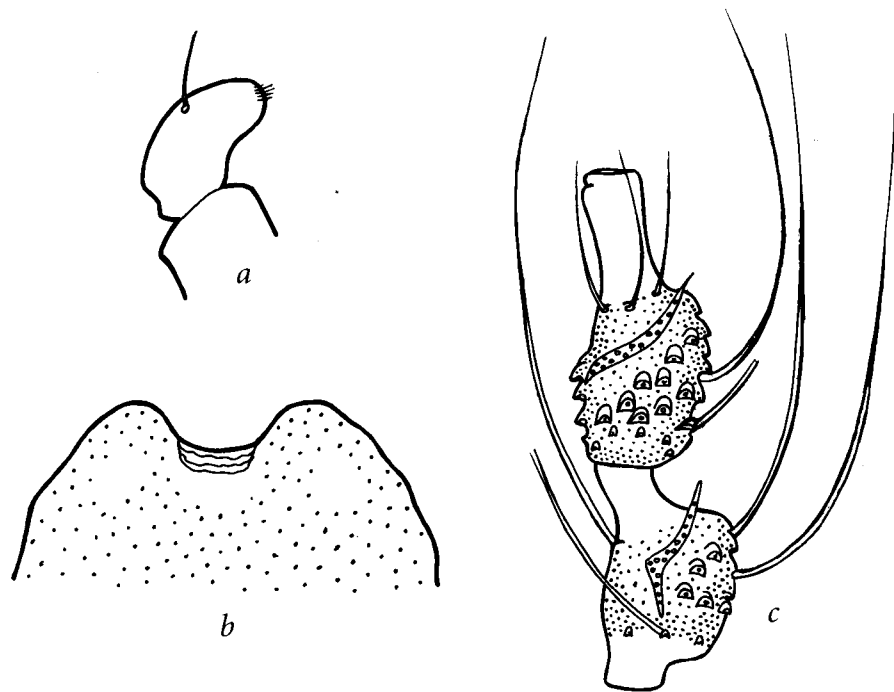


Fig. 2. *Winnertzia peramoena* sp. n.: a — gonostyle, b — 9th tergite, c — two basal segments of male flagellum.

Winnertzia palpina, sp. n.

(fig. 3, a)

Material. Holotype ♂, Russia, Ussuri region, Ussuriysky nature reserve, larvae in white rot of a strongly decayed deciduous tree, 26.IX.1964, B. Mamaev leg. Paratypes 2♂, 2♀, same label data (coll. B. Mamaev).

Male. Light brown, wing length 1.5 mm. Eye bridge 4 ommatidia broad. Antennae with 2+11 segments, basal enlargement of middle antennal segments 2.5 times as long as broad and nearly 3.0 times as long as stem; basal and distal setae in single whorl, median setae numerous, especially on frontal surface of segment; 2 sensoriae on each segment very long, narrow, linear, with distal end free from body surface. Palpi short, reduced, 3-segmented. Tarsal claws with thin basal tooth; empodium rudimentary. Gonocoxites elongated, with obtuse-angled median incision, gonostyles elongated broadly rounded apically, with pale hairs, without black claw, 9th tergite with median emargination, tegmen very long, triangular, without transversal bridge, incision between gonocoxite roots round, genital rod linear.

Female. Antennae with 2+11 segments; stem of antennal segment long, basal enlargement 2.5 times as long as stem; two sensoriae long, U-shaped, with long free apical parts; ovipositor as long as basal part of abdomen; terminal segment of ovipositor lamella with pale bristles; one weakly sclerotized large round spermathecae.

Diagnosis. In contrast with *W. brachypalpa* Mamaev – the species with bifid tarsal claws and 3-segmented palpi, new species with narrow eye bridge (4 rows of facets instead of 8 rows), longer basal enlargement of antennae, thin palpal segments; median incision between gonocoxites of *W. brachypalpa* lyre-shaped, new species with obtuse-angled median incision.

Winnertzia diversicornis, sp. n.

(fig. 3, b)

Material. Holotype ♂, Russia, Khabarovsk region, Bychikha, larvae in decayed maple wood, 20.V.1976, T. Gussakova leg. Paratype ♂, same label data (coll. B. Mamaev).

Male. Brown, length of wing 2.5 mm. Eye bridge 8 ommatidia broad. Antennae with 2+12 segments, basal enlargement of antennal segments dark brown, stem pale, transparent; stem of middle antennal segments nearly as long as basal enlargement, basal and distal bristles in single whorl, horse-shoe-shaped sockets of median bristles present on the surface; sensoriae very thick, V-shaped on basal segments. Palpi long, 4-segmented. Tarsal claws bifid; empodium rudimentary. Gonocoxites with rectangular median incision; gonostyles thick, with round apex, without black claw; 9th tergite with median emargination; tegmen rounded apically; transverse bridge present; roots of gonocoxites long and acute; genital rod linear.

Female. Unknown.

Diagnosis. In contrast to other species with unarmed gonostyle and bifid tarsal claws new species with peculiar morphology of male genitalia (rectangular median incision etc.) and remarkable antennae.

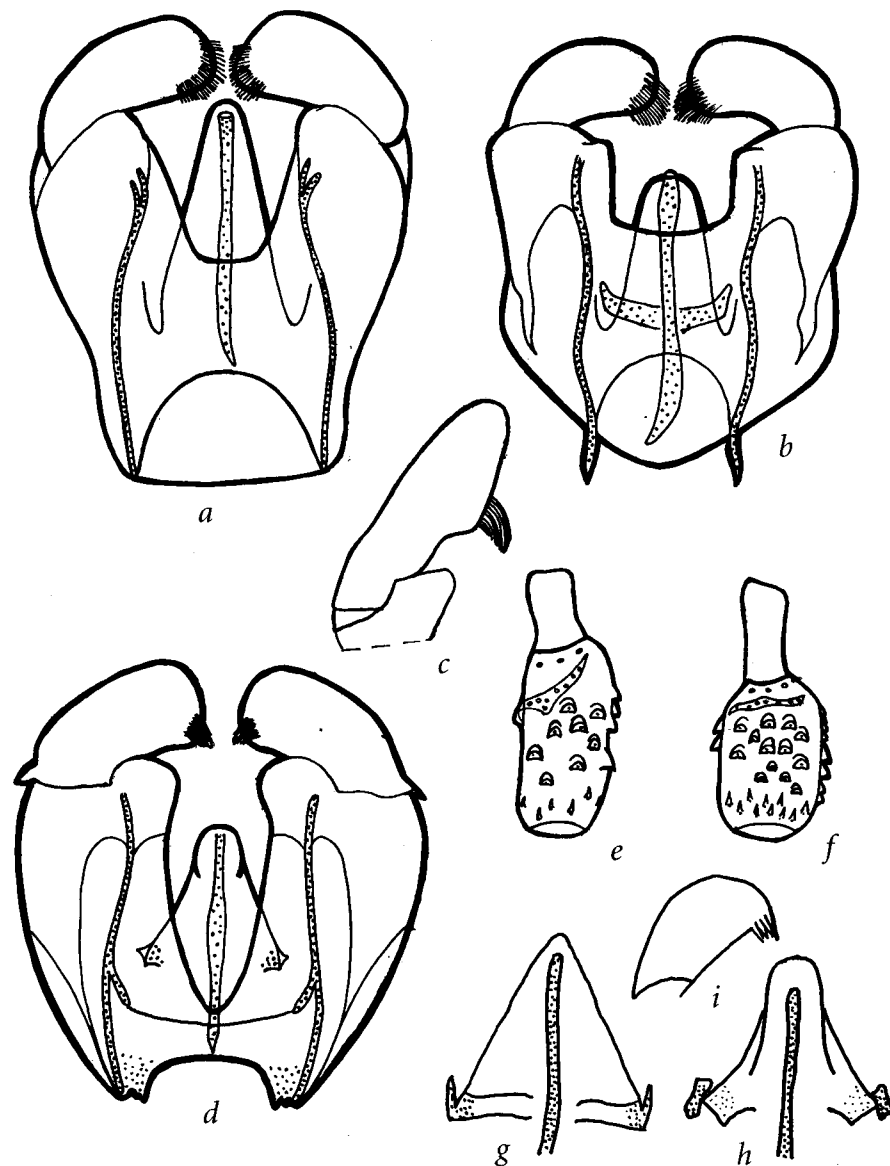


Fig. 3. Morphology of *Winnertzia* gall midges: a — *W. palpina* sp. n. male genitalia; b — *W. diversicornis* sp. n., male genitalia; c — *W. subglobifera* sp. n., gonostyle; d — *W. maxima*, male genitalia; e — *W. maxima*, middle flagellar segment; f — the same of *W. nigra*; g — *W. befulicola*, tegmen; h — the same of *Winnertzia ussurica*; i — *W. ussurica*, gonostyle.

Winnertzia subglobifera, sp. n.

(fig. 3, c)

Material. Holotype ♂, Russia, Kuril Islands, Kunashir, larvae in decayed birch wood, 15.IX.1972, B. Mamaev leg. (coll. B. Mamaev).

Male. Yellowish-brown, wing length 1.4 mm. Antennae with 2+12 segments. Tarsal claws simple; empodium rudimentary. Gonocoxites with apical lobe; gonostyles dilated with dark claw on inner side.

Diagnosis. New species of Kunashir fauna is vicarious. It is very similar to European *W. globifera* Mamaev, but gonostyles of new species elongated and dilated not in apical, but in middle part; claw of gonostyle not pectinate, but consisting of curved bristles.

Remarks on hitherto described species

Winnertzia plagiata Mamaev, 1975a: 39, nom. rev. — Spungis (1992) suggested this species to be identical to Nearctic *W. solidaginis* Felt. This synonymization is not justified. Parnell (1971) redescribed male of this species, but noted that female had 2 strongly sclerotized spermathecae. According to Spungis (*l. c.*), female of European species he identified as *W. solidaginis*, has only one sclerotized spermatheca. These differences indicate that Palaearctic representative of *Winnertzia* belong to another species — *W. plagiata*.

Winnertzia maxima Mamaev, 1963: 568, nom. rev. (fig. 3, d, e). — Spungis (1992) suggested *W. maxima* to be identical to *W. nigra* Mamaev, 1963 in spite of differences in morphology of male antennal segments (fig. 3, e, f). Additional materials from Far East allow to conclude that both species are transpalearctic and that differences in morphology of antennal segments are constant without any intermediate forms. *W. maxima* and *W. nigra* are distinct species.

W. ussurica Mamaev, 1975d: 84, nom. rev. — Morphology of tegmen of male genitalia *W. ussurica* and *W. befulicola* Mamaev is different (fig. 3, g, h). Gonostyle of *W. ussurica* with few subapical spines (fig. 3, i), *W. befulicola* — with brush of hairs. Suggested synonymy (Spungis, 1992) of *W. ussurica* and *W. befulicola* seems is considered incorrect.

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References

- Mamaev B. M. 1963. Gall midges of the USSR. Part 3. New species of the genus *Winnertzia* Rondani, developing in soil, in the films of fungal mycelium and under decaying bark of coniferous trees (Itonididae, Diptera). — *Zool. Zhurn.* 42: 562–573 (In Russian, English summary).
- Mamaev B. M. 1975a. Xylophilous insects developing on *Quercus mongolica* in South Primorye. — *Trudy Biol.-Pochv. Inst.* Vladivostok, N. S. 28: 35–42 (In Russian).
- Mamaev B. M. 1975b. Some regularities of infestation of *Betula costata* and *B. manshurica* by xylophilous insects. — *Trudy Biol.-Pochv. Inst.*, Vladivostok, N. S. 28: 81–88 (in Russian).
- Parnell J. R. 1971. A revision of the Nearctic Porricondylinae (Diptera; Cecidomyiidae) based largely on an examination of the Felt's types. — *Misc. publ. ent. Soc. Amer.* 7: 275–348.
- Spungis V. 1992. A revision of the European gall midges of the tribe Winnertziini. — *Latvijas Entomologs*, Riga, suppl. 5: 1–38.
- Shuhrava M. 1986. Family Cecidomyiidae. — In: Catalogue of Palaearctic Diptera. — Budapest, 4: 72–297.