

# A Morphological and Faunal Study of Flies of the *Temnostoma bombylans* Species-Group (Diptera, Syrphidae)

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**Abstract**—Species of the *Temnostoma bombylans* species-group are found to be rather polymorphous and diversified in the coloration and pubescence of the body, being similar in the structure of the genitalia. A new species, *T. angustistriatum*, related to *T. bombylans* Fabr., is described; *T. nitobei* Matsumura is redescribed. The species mentioned differ in the structure of the frons, pubescence of the face, and coloration of the legs and some genital structures. *T. bombylans bombylans* Fabr. is found to inhabit European Russia and the Ukraine, and *T. bombylans flavifemur* ssp. n., the foothills of the Caucasus. *T. angustistriatum* is distributed from Moscow Province to the Far East, it occurs in the European part together with *T. bombylans bombylans*. *T. nitobei*, characterized by the presence of 3 pale bands on the abdomen, has the distributional range extending from the Altai to the Kunashir Island, some of its characters are variable. Additional differences between *T. nitobei* and *T. bombylans* are revealed. A key to species and subspecies of this group is provided.

*Temnostoma* Le Peletier et Serville is a distinctive genus, which clearly differs from other members of the family in the structure of adults and larvae. All the species examined develop in decaying, rather humidified wood.

Four Palaearctic species of the genus have been known for a long time: *T. apiforme* Fabr., *T. bombylans* Fabr., *T. meridionale* Mam. et Kriv., and *T. vespi-forme* L. *T. bombylans* Fabr. stands apart in the genus, being characterized by the narrow subcylindrical abdomen with 1 yellow stripe in the anterior part of tergites II–IV in male, and tergites II–V in female. The species has long been considered a usual Transpalaearctic habitant distributed from the western to eastern borders of the Palaearctic Region.

The new species *T. takahasii* Violovitsh, closely related to *T. bombylans*, was described from a male collected in Japan (Honshu) (Violovitsh, 1976). Later, Violovitsh (1987) described a female from Primorskii Territory (environs of Spassk and near the Pos'et Gulf) and also assigned it to *T. takahasii*. No female is known from Japanese islands.

In the present paper, the author follows the concept of Mutin and Barkalov (1999), who considered *T. takahasii* a synonym of *T. nitobei* Mats. In Russia, the distributional range of this species extends from Amur Province and southern Khabarovsk Territory as

far as southern Primorskii Territory and the southern Kuril Islands (Kunashir).

A detailed examination of the available material from European and Asian Russia and the Ukraine (Carpathian Mountains) has shown that all the species known in the genus vary rather widely in morphological characters, primarily, in the pubescence of the head and coloration of the body. Data on the structure of the ovipositor are provided for the first time, the structure of the male genitalia is reviewed in detail, and the characters never used previously in descriptions, e.g., the pubescence of the frons and face, are analyzed.

## Genus *TEMNOSTOMA* Le Peletier et Serville

**Description.** Large, similar to wasps in appearance. Body with short dense and long sparser hairs, frons and face with dense silvery or golden pubescence. Anterior part of scutellum with golden-fuscescent pruinosity; long erect sparse hairs present in posterior part of mesoscutum before scutellum, on postalar tubercles, along margin of scutellum, and at base of abdomen. Mesoscutum with yellow spots on humeral tubercles and before transverse suture. Abdominal tergites with 1 or 2 bands. Eyes in male approximate at a single point or separated by narrow parallel-sided stripe, width of which not exceeding diameter of median ocellus. Abdomen with 4 visible segments in male and 5, in female. In male, dense pubescence cov-

ering upper and lower frontal triangles and large part of antennal tubercle. Lunula with characteristic glabrous triangular spot dorsally. In female, frons with pubescent stripes varying in width and adjoining inner margin of eye. Face in both sexes with small, weakly projecting median tubercle and wide pubescent lateral stripes. Terminal abscissa of  $M_{1+2}$  parallel to posterior wing margin, cell  $r_1$  open,  $rm$  situated at the level of posterior half of discoidal cell. Grayish pruinosity forming on mesoscutum indistinct double median stripe. Femora straight, not thickened, without ventral tubercle.

Species of the genus form two distinct groups, *T. bombylans* and *T. vespiforme*, differing in shape of the abdomen (cylindrical or oval) and pattern on the body.

Unfortunately, the author failed to examine the type specimen of *T. bombylans*. The species was described from France, Pyrenées ("in Pyrenaeis Mus. Dom. Lund"). In her paper concerned with Fabricius's type material, Zimsen (1964) indicated that one specimen of this species, labeled "Eur. aust. Hoffman," is deposited in Copenhagen (Denmark). In the present paper, *T. bombylans* Fabr. is represented by the material from the Carpathian Mts. and similar specimens from other regions of eastern Europe.

*Temnostoma angustistriatum* Krivosheina sp. n.

Figs. 1, 1–2; 3, 3, 4; 4, 2; 6)

**Material.** Holotype: ♂, Abramtsevo, Moscow Prov., 9.VI.1958 (E. Smirnov); paratypes: 1 ♂, 1 ♀, same label, 20 and 26.VI.1958; 3 ♂, 1 ♀, same label, 14.VI.1957, 4.VII.1948, and 14.VII.1958 (E. Smirnov); 1 ♀, same locality, 8.VI.1961 (A. Zhelohovtsev); 2 ♀, Chashnikovo, Moscow Prov., 16.VI.1950, 7.VII.1950 (D. Panfilov); 4 ♂, Bashkirian Nature Reserve, 16–24.VI.1948 (M. Nasyrova); 1 ♂, Artybash, coast of Lake Teletskoe, Gornyi Altai, larvae in aspen wood, 30.IV.1982, no. 14 (A. Zaitsev); 1 ♀, Ailyu, Lake Teletskoe, 28.VI.1935 (A. Zhelohovtsev); 1 ♀, Selendzhinsk, Amur Prov., 20.VI.1976 (A. Sviridov); 4 ♂, 1 ♀, Zeya, Amur Prov., 15 and 17.VI.1978, 30.VI.1981 (A. Shatalkin); 17.VII.1981 (A. Ozerov); 29.VI.1981 (O. Gorbunov); environs of Khabarovsk, larvae in birch wood, 24.V.1976 (A. Zaitsev); 1 ♀, same locality, larvae in linden wood, 4.V.1976, no. 263 (A. Zaitsev); 1 ♀, Ussuriiskii Nature Reserve, Primorskii Territory, larvae in ash wood, 22.IV.1969, no. 69 (N. Krivosheina), 3 ♂, same locality, 11 and 14.VI.1984 (A. Shatalkin); 1 ♀, Shkotovo, Primorskii

Territory, 9.VI.1927; 1 ♂, 1 ♀, Spassk, Primorskii Territory, 6 and 8.VI.1961 (A. Zhelohovtsev); 1 ♂, Zanadvorovka, Hasanskii Distr., Primorskii Territory, 5.VI.1972 (A. Rasnitsyn); 1 ♀, Furmanovo, Ol'ginskii Distr., Primorskii Territory, 17.VI.1972 (V. Zherihin); 1 ♂, 3 ♀, upper course of the Maikhe River, Sikhotealin, Primorskii Territory, 16.VI.–30.VI.1929 (N. Filippov).

**Description. Male.** Eyes separated by stripe, which slightly narrower than diameter of median ocellus and 0.5–0.7 times as long as pubescent upper frontal triangle. Lateral side of antennal tubercle pubescent, except in apical quarter. Glabrous area of lunula 1.5–2.0 times as long as pubescent part of lower frontal triangle. Width of glabrous median stripe of face 2.5–3.0 times that of pubescent stripe in middle part of face and equal to, or 1.5 times exceeding it near mouth cavity. Pubescent stripe slightly widened and rounded in lower part. Antenna yellow, arista fuscous in apical half. Mesoscutum and scutellum with short fuscous accumbent setae and singular paler long hairs along posterior margin. Fore leg black; knees rufous; middle femur black, with rufous apex; middle tibia and tarsus rufous, except for black last two segments. Hind femur with narrow rufous stripe at base and rufous spot in apical quarter, hind tibia blackened in middle, two last segments of tarsus black. Pale bands on abdomen parallel-sided, widely rounded at ends. First band interrupted in middle part, half as wide as 3rd band. Genitalia as in Figs. 1, 1–2; 6. Surstyli with distinct tooth at apex, slightly narrowed in apical part. Gonites with elongate apical tooth, inner teeth of hypandrium short.

**Female.** Frons with narrow pale yellow pubescent stripes running along inner margin of eyes and reaching the level of median ocellus. Width of each stripe equal to 1/8–1/10 of width of median grayish pubescent part of frons. Middle part of frons matte, with sparse raised fuscous hairs. Antennal tubercle pubescent laterally in basal half. Lateral pubescent stripes of face cuneiform narrowed and not reaching margin of mouth cavity. Median glabrous facial stripe 3.0–3.5 times as wide as pubescent stripe in middle part of face and near mouth cavity. Mesoscutum with short brownish appressed setae. Scutellum with raised short fuscous-rufous hairs in apical half and 8–10 long pale setae along posterior margin. Fore tibia rufous in basal third. Femora with small rufous spot at base and at apex, hind tibia black in middle part. Middle tarsus with 1 black apical segment, and hind tarsus, with 2. Abdominal tergites II–V with pale band

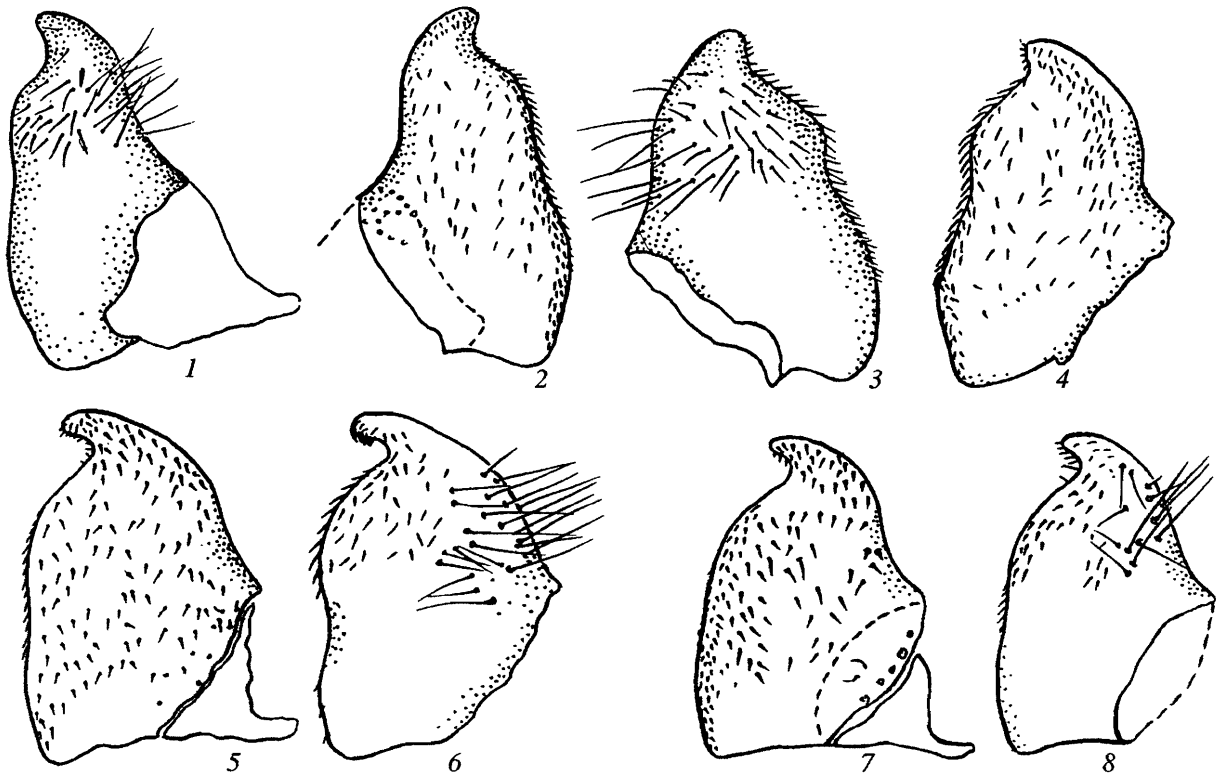


Fig. 1. Surstyli, lateral view. (1, 2) *T. angustistriatum* Krivosheina sp. n.; (3, 4) *T. bombylans bombylans* Fabr.; (5, 6) *T. nitobei* Matsu-mura, Khabarovsk Territory; (7, 8) *T. nitobei* Matsumura, Kunashir Island: (1, 3, 6, 8) outer side; (2, 4, 5, 7) inner side.

each, all bands with smooth posterior margins. First band narrow, 0.67 times as wide as 3rd band. Other 3 bands subequal in width, rather wide. Genitalia as in Figs. 3, 3-4; 4, 2. Dorsal side of segment VIII with pattern of 3 conical sclerotized prominences separated by shallow cavities.

**Differential diagnosis.** Specimens of this species have long been identified as *T. bombylans*. These species are very similar in the appearance, clearly differing in the structure of the frontal stripe in female, coloration of the legs, and structure of the male genitalia. In *T. angustistriatum*, the hind tibia is darkened, face in female bears very narrow pubescent stripes, and male genitalia are characterized by short inner teeth of the hypandrium and a long apical tooth of the gonites.

***Temnostoma bombylans bombylans* Fabricius**

Fig. 1, 3-4; 2; 3, 1-2; 4, 1)

**Material.** 1 ♂, 1 ♀, Tur'ya Polyana, Carpathian Mts., 25.VI.1964 (L. Zimina); 2 ♂, 1 ♀, Luzhki, Moscow Prov., 4.VI.1948, 25-30.VI.1952 (L. Zimina, G. Mazokhin); 1 ♂, 1 ♀, Zvenigorod, Moscow Prov., 11.VII.1976, 19.VI.1985 (G. Dlusskii); 1 ♂, Bukh-

lovka Vill., Kaluga Prov., 4.VII.1975 (A. Grishina); 1 ♂, near Alagir, North Ossetia, 12.VI.1989 (A. Ozerov).

**Description. Male.** Narrow parallel-sided glabrous stripe separating eyes no more than half as wide as diameter of median ocellus and 1.5-2.0 times as long as upper pubescent frontal triangle. Antennal tubercle (along significant length, morphologically corresponding to lunula of other Cyclorrhapha) with yellowish pubescence along lateral 3/4, glabrous at apex. Lunula with triangular glabrous area no less than 1.5-2.0 times as long as pubescent area of lower frontal triangle. Glabrous median facial stripe 2.0-2.5 times as wide as pubescent stripe in middle part of face and about as wide as it near mouth cavity. Mesoscutum and scutellum with short fuscous appressed hairs over entire surface and long sparse pale hairs along posterior margins. Pale stripes along transverse suture widely rounded. Fore leg black, rufescent only at place of femur-tibia articulation; middle femur black, with rufous apical third, tibia and tarsus rufous except 2 black apical segments. Hind femur black, rufous at base and along apical 1/5 at sides; upper side with

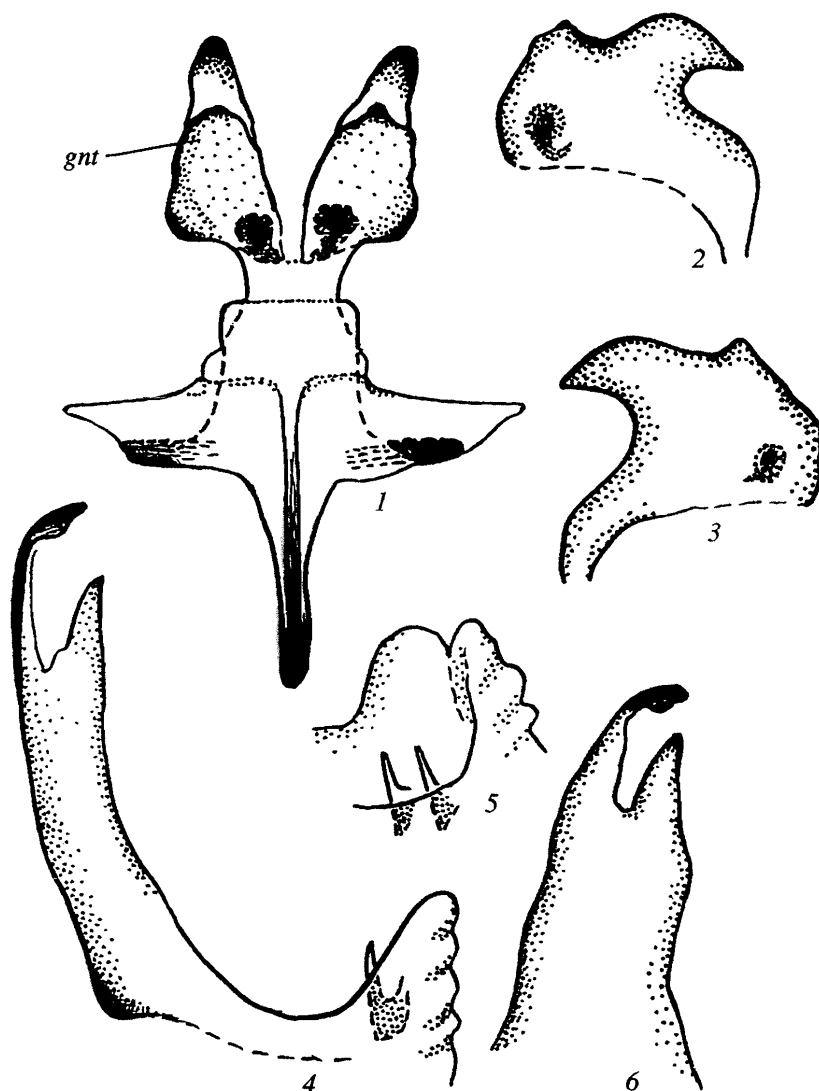


Fig. 2. *T. bombylans bombylans* Fabricius, male: (1) aedeagus structures (gonites and apodema), posterior view; (2, 3) gonites, lateral view; (4) upper part of hypandrium, lateral view; (5) inner teeth of hypandrium; (6) apical part of hypandrial process; *gnt*, gonites.

narrow pale stripe running along almost entire length of femur. Hind tibia rufous, with black lateral spot in apical third; tarsus rufous, except for two apical segments and apex of third segment. Wing with dark longitudinal stripe along anterior margin. Anterior part of abdominal tergites II–IV with pale bands not widened at ends; first band 0.67 times as wide as second, and half as wide as third one. Genitalia as in Figs. 1, 3–4; 2. Gonites rather short, inner teeth on hypandrium long. Surstyli with indistinct apical tooth and rather wide lateral lobe.

In the male from the Carpathian Mts., the hind femur bears a longer rufous apical spot (the rufous apical stripe reaches the middle on the upper side, and occupies the apical third on the lateral side).

**Female.** Wide yellowish lateral pubescent stripes of frons terminating at the level of median ocellus; its width only half that of median grey-pruinose part of frons. Antennal tubercle pubescent laterally along almost 2/3. Median glabrous facial stripe 3.0 times as wide as pubescent stripe in middle part of face and 1.5 times, near mouth cavity. Pubescent stripes of face near mouth cavity wide, not narrowed. Wing with dark fuscous longitudinal stripe occupying its anterior half. Genitalia as in Figs. 3, 1–2; 4, 1. Dorsal side of segment VIII with pattern of 3 conical prominences separated by deep cavities. Genital chamber with 2 small crescent sclerotized plates. Other characters as those in male.

In the female from Zvenigorod, the legs are paler, middle femur is rufous in the apical quarter, and hind

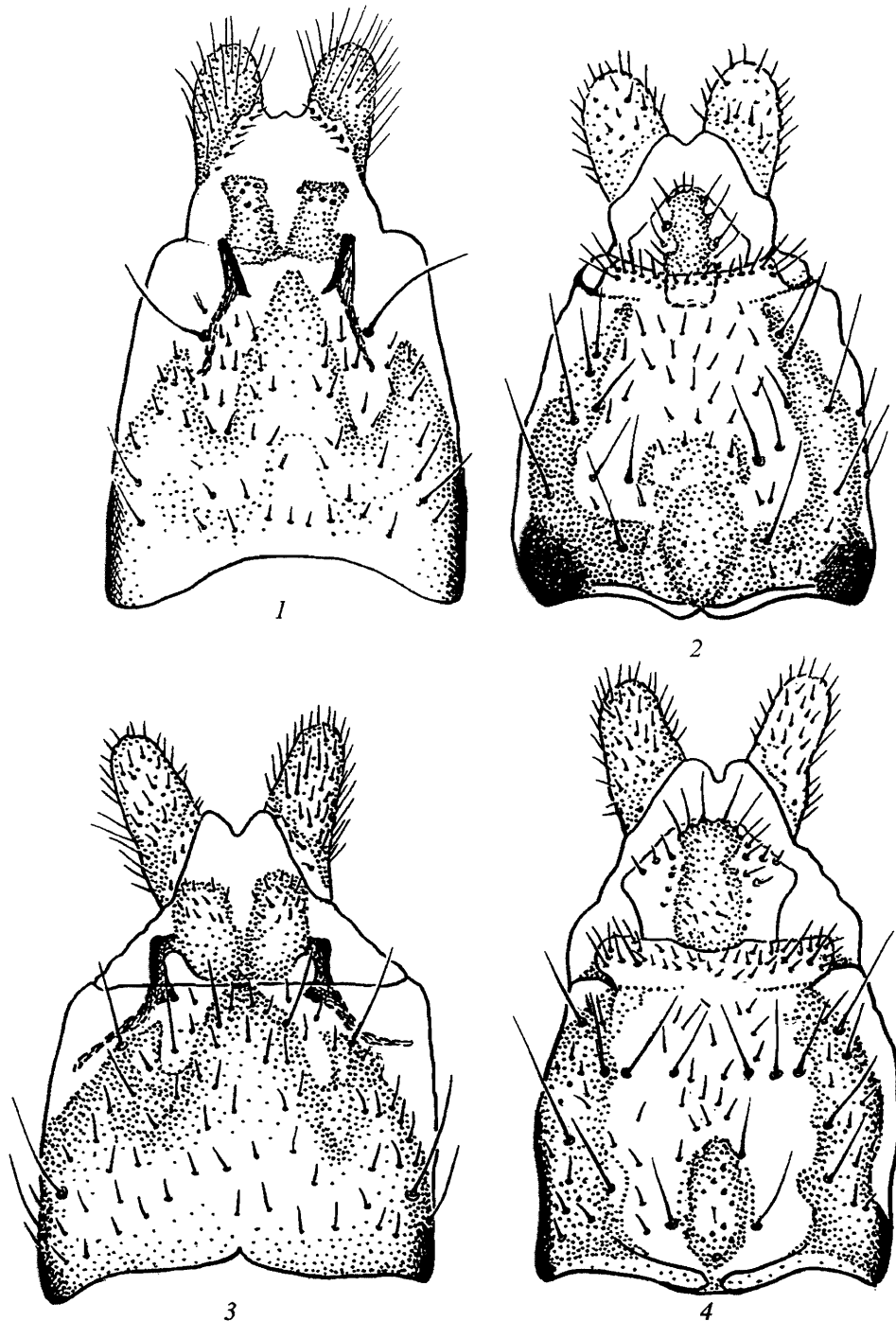


Fig. 3. Apex of female body, dorsal and ventral view: (1, 2) *T. bombylans bombylans* Fabricius; (3, 4) *T. angustistriatum* Krivosheina sp. n.

femur is rufous in the apical third of the lateral side and bears a rufous longitudinal stripe along the entire length on the upper side.

*Temnostoma bombylans flavifemur* Krivosheina  
ssp. n. (Fig. 4, 3; 5).

**Material.** Holotype ♀, "Lvovskii, Krasnodar Territory" [?Daghestan], 23.V.1956 (G. Viktorov).

**Description. Female.** Width of pale pubescent stripes of frons no less than 1/3 of width of middle gray-pruinose part of frons. Stripes of pubescence reaching posterior margin of median ocellus. Antennal tubercle pubescent in lower lateral corners almost up to apex. Pubescent stripes on face not reaching margin of mouth cavity. Median glabrous facial stripe twice as wide as pubescent one in middle part of face and 1.5

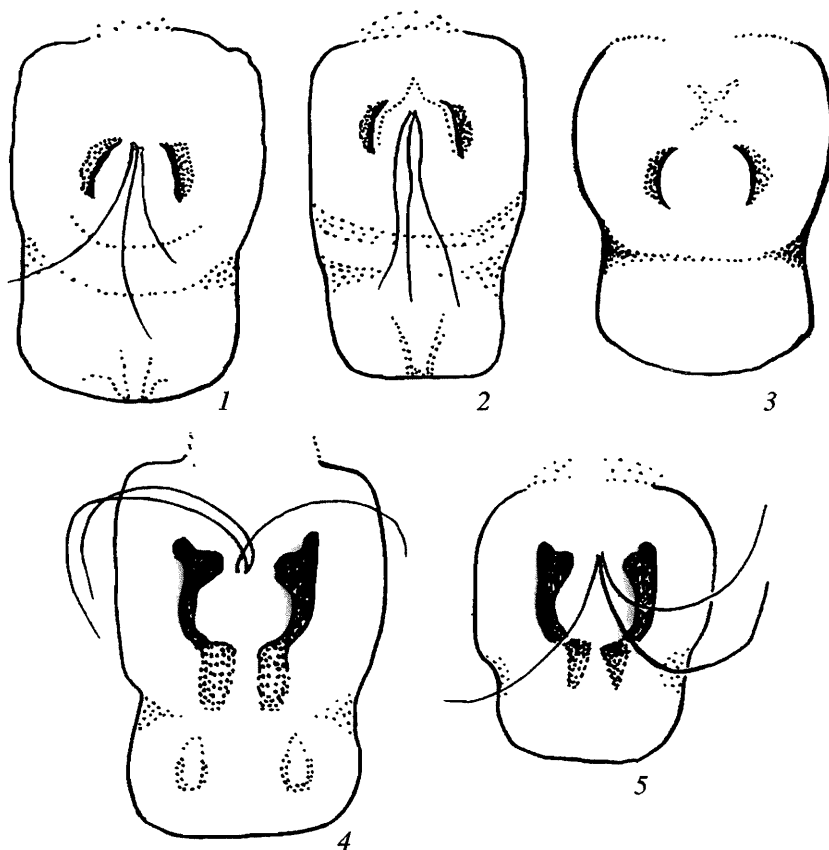


Fig. 4. Female genital chamber: (1) *T. bombylans bombylans* Fabricius; (2) *T. angustistriatum* Krivosheina sp. n.; (3) *T. bombylans lavifemur* Krivosheina ssp. n.; (4, 5) *T. nitobei* Matsumura [(4) Khabarovsk and Primorskii Territories; (5) Kunashir].

times, at margin of mouth. Pubescence of mesoscutum dark, singular long rufescent hairs situated before scutellum on mesoscutum and in basal half of scutellum. Fore leg black, tibia rufous in basal half. Middle and hind legs rufous, hind femur with black longitudinal stripe in middle part of lower surface, middle femur with such stripes on lower and lateral surfaces. Wing with wide dark brown stripe along anterior margin; apical part of cell  $r_5$  lightened. Abdominal tergites II-V with pale bands becoming wider from 1st to 4th. Three first bands slightly prominent in middle of posterior margin. Genitalia as in Figs. 4, 3; 5. Dorsal side of segment VIII with pattern of 3 sclerotized prominences, lateral prominences very small. Genital chamber rather wide, with 2 small crescent sclerotized plates.

**Differential diagnosis.** This subspecies differs from *T. bombylans bombylans* in the paler coloration of the legs and the presence of prominences in the middle of posterior margins of the pale abdominal bands.

***T. nitobei* Matsumura**  
(Figs. 1, 5-8; 4, 4-5; 7; 8)

**Material.** 1 ♂, Bychikha, Khabarovsk Territory, larvae in linden wood, 24.VII.1976, no. 153 (A. Zaitsev). Paratypes: 1 ♂, Artybash, coast of Lake Teletskoe, Gornyi Altai, larvae in aspen wood, 30.IV.1982; no. 14 (A. Zaitsev); 1 ♂, Babushkin, Buryatia, 7.VI.1976, no. 126, larvae in aspen wood (N. Krivosheina); 1 ♂, Kundur, Amur Prov., V.1976, larvae in oak wood (A. Zaitsev); 1 ♀, same locality, 18.VI.1975 (B. Mamaev); 1 ♂, same locality, larvae in alder wood, 29.V.1975, no. 308; 1 ♀, same locality, 3.VI.1975, no. 353; 1 ♂, same locality, larvae in linden wood, 7.VI.1975, no. 383 (A. Zaitsev); 1 ♂, 2 ♀, Ussuriiskii Nature Reserve, Primorskii Territory, larvae in elm wood, 2-5.V.1967, nos. 136, 173; 5 ♂, 4 ♀, same locality 22.IV-21.V.1969, nos. 69, 95, 183, 192, 226, 233 (N. Krivosheina); 1 ♂, 15 km SE of Lazo, Primorskii Territory, 11.VII.1986 (A. Antropov); 1 ♂, 50 km SW of Ussuriisk, 31.VII.1962; 1 ♀,

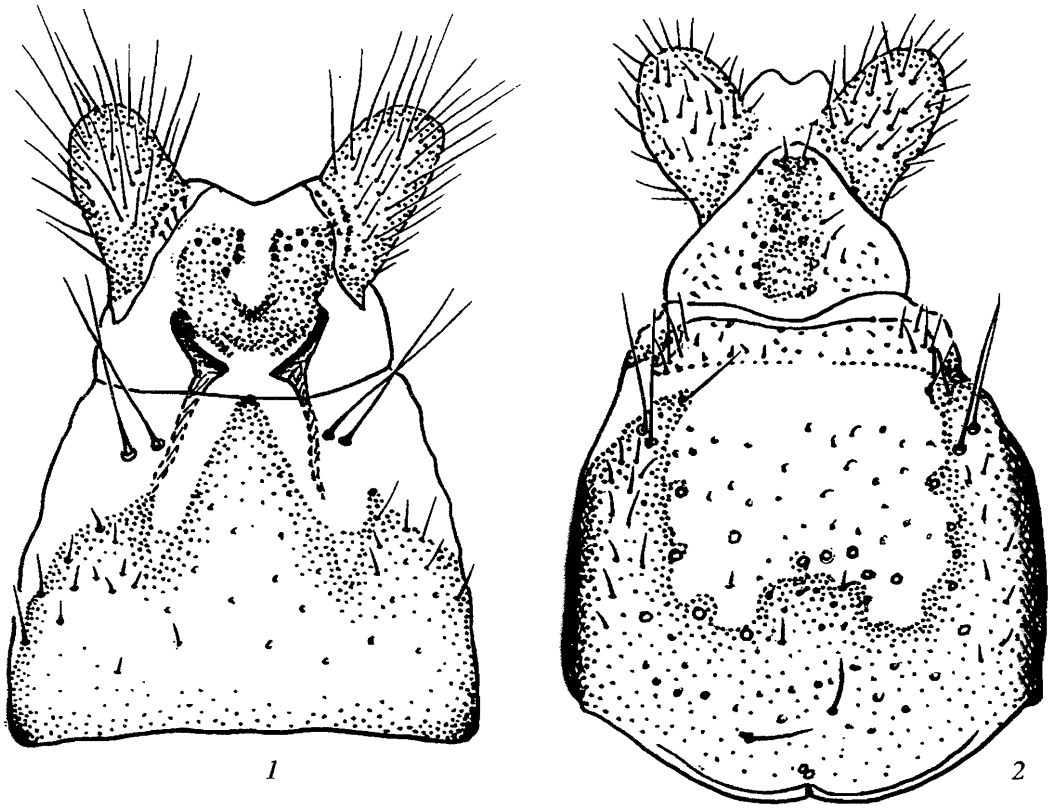


Fig. 5. *T. bombylans flavifemur* Krivosheina ssp. n., female, body apex, dorsal and ventral view.

Yakovlevka, Primorskii Territory, 24.VII.1962 (L. Zimina); 1 ♂, Mendeleevo, Kunashir Island, 15.VI.1977, larvae in birch wood (B. Mamaev); 2 ♂, same locality, 14.V.1977, no. 234, larvae in elm wood, adult emergence 2.VI.1977; 1 ♂, same locality, 29.V.1977, no. 317, larvae in birch wood, adult emergence 12.VI.1977; 1 ♂, same locality, 29.V.1977, larvae in elm wood (A. Zaitsev); 2 ♂, 2 ♀, same locality, 15.VI.1977, larvae in birch wood (A. Zaitsev, B. Mamaev); 1 ♂, Mendeleevo, Kunashir Island, 30.VII.1971 (V. Ermolenko).

**Description. Male.** Eyes approximate at a single point, separated there by distance equal to half diameter of median ocellus. In one male from Kundur, this distance slightly exceeding diameter of median ocellus. Frontal triangle entirely pubescent. Most part of antennal tubercle with golden pubescence. Small shining glabrous triangular area of lunula shorter than, or as long as pubescent area of lower frontal triangle. Sides of antennal tubercle entirely pubescent. Facial pubescent stripes parallel-sided, reaching margin of mouth, extending below its angular tubercle; glabrous median stripe 0.5–0.7 times as wide as pubescent stripe. Antennae and arista rufous. Mesoscutum with

dark appressed setae along entire length and admixture of short rufous hairs before scutellum. Short dense rufous hairs forming transverse median stripe on scutellum. Fore leg black, except pale 1/3 of tibial base. Middle femur with rufous spot in apical third on inner surface. Hind femur black, with rufescent apical quarter; hind tibia and tarsus fuscous on upper side and with dense rufous setae on underside. Middle and hind tibiae with black median spot, or hind one blackened along significant length; tarsi rufous, with 2 blackened apical segments. Wing rather pale, hyaline, pale fuscous in anterior part; cell  $r_5$  pale, except for periphery. Two first pale bands of abdomen narrow; first band continuous, not interrupted, but occasionally narrowed in middle part, its margins noticeably widened and obtusely truncate. Third band twice as wide as second one. Posterior margin of all bands even. Genitalia as in Figs. 1, 5–8; 7. Surstyli with robust apical tooth. Inner teeth of hypandrium rather robust and short; small teeth along hypandrium margin well developed.

**Female.** Wide stripes of golden pubescence on frons reaching posterior margin of median ocellus. Width of stripe constituting 1/3–1/2 of width of middle

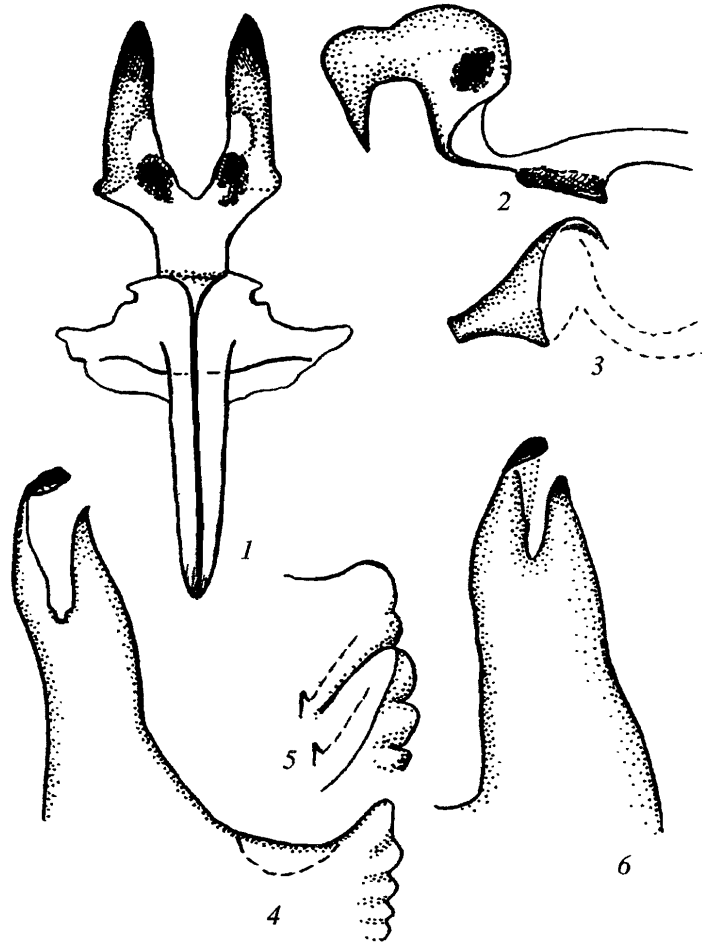


Fig. 6. *T. angmtistriatum* Krivosheina sp. n., male: (1) aedeagus structures (gonites and apodema), posterior view; (2) gonites; (3) apex of aedeagus; (4) upper margin of hypandrium, (5) inner teeth of hypandrium, (6) apex of hypandrial process, inner side.

part of frons. Lunula smooth and shining. Frons entirely, including pale pubescent stripes, covered with rather dense raised pale hairs. Antennal tubercle pubescent laterally in basal half. Lateral margins of face with golden, cuneiform narrowed stripe reaching mouth margin. Median glabrous stripe 2.0–2.5 times as wide along entire length as pubescent stripe. Mesoscutum with dark short appressed setae. Surface of scutellum and mesoscutum before scutellum with golden hairs. Long marginal setae on scutellum ill-defined or absent. 3/4 of femora blackish; apex paler, brownish. Basal half of fore tibia brownish, its apical part and tarsus blackish. Middle and hind tibiae and tarsi rufous; hind tibia and, occasionally, middle one with indistinct blackish spot in apical half. Wing infuscate in anterior half, distinct dark stripe along  $R_{4+5}$  reaching wing apex. Abdomen with distinct pale yellow bands on segments II–IV. In some specimens, rufescent spot present near anterior margin of tergite V. Bands con-

tinuous, without prominence at posterior margin; 2 first bands narrow, first one noticeably widened marginally; 3rd band twice as wide as preceding bands. Genitalia as in Figs. 4, 4, 5; 8. Pattern on dorsal side of segment VIII formed by 1 sclerotized conical prominence. Genital capsule large, bearing C-curved fused cuticular structures with large, subtriangular anterior prominences.

Some specimens from Kunashir Island slightly differ from the continental forms. In male, pubescent facial stripes wide, approximate or adjoining at mouth margin. Third antennal segment and arista darkened, fuscous in apical half. Inner teeth of hypandrium slightly longer and more strongly narrowed at apex. Teeth at hypandrium margin ill-defined, occasionally absent. In female, pubescent stripes of frons terminating before median ocellus. Pubescent facial stripes much wider, similarly to those in male. Median glabrous stripe nearly as wide as pubescent one in middle



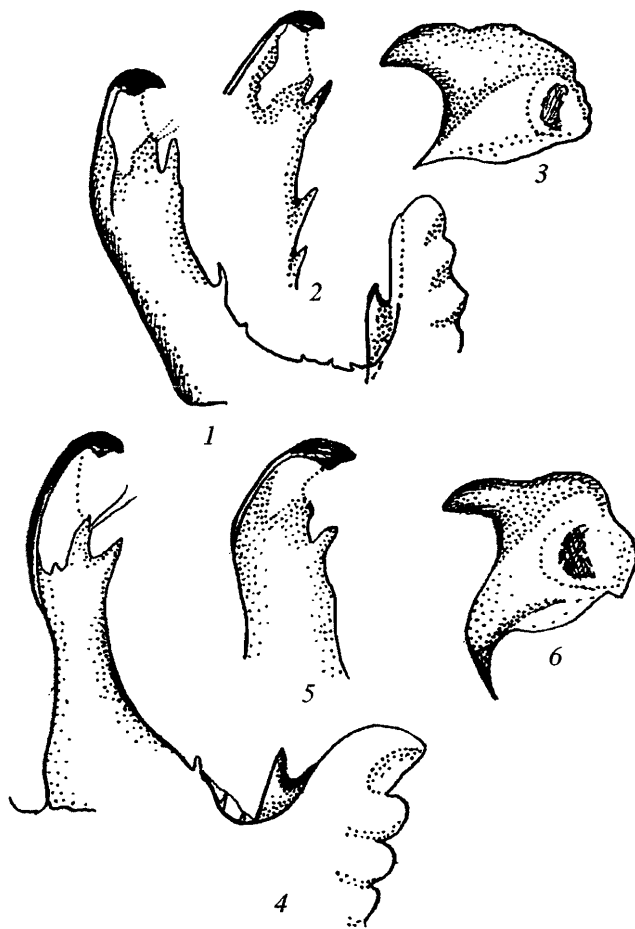


Fig. 7. *T. nitobei* Matsumura, male: (1–3) from Khabarovsk and Primorskii Territories; (4–6) from Kunashir. (1, 4) Upper margin of hypandrium, outer side; (2, 5) hypandrial processes, inner side; (3, 6) gonites.

part of face and 1.5 times as wide as it near mouth cavity. Stripes widely rounded apically. Female tergite V with rufous median band usually not reaching margin of tergite.

Thus, this species shows a certain variability of the characters. Probably, a detailed examination of the type specimen of *T. nitobei* Mats. will allow these variations to be regarded as distinct subspecies. The characters indicated by Violovitsh (1976) in the description of a male from the Honshu Island (antenna is yellow, fore tibia is reddish brown, and width of the median glabrous stripe of the face constitutes 1/4 of its width) distinguish it from specimens from the Kunashir Island (narrower glabrous stripe of the face and fuscous antenna). The characters listed relate the specimen from Honshu to the specimens from the continental part of Russia. However, none of the species

known has the range covering the territory from Altai to the southern Japanese islands.

**Differential diagnosis.** The species is very similar in the appearance to *T. angustistriatum*, well differing in the structure of the pale abdominal bands and the frontal stripe in male. In male, the eyes are approximate at a single point. In female, only 3 pale bands on the abdominal tergites are distinct, a small pale band not reaching the lateral margins is also situated on abdominal tergite V. The pale band on abdominal segment II is widened in both sexes and obtusely truncated at the ends, not rounded or narrowed. The genital chamber in female is provided with well-developed sclerotized rods.

*Key to Species of Temnostoma bombylans Group*

1. Eyes approximate at a single point or adjoining. Males ..... 2.  
—Eyes separated by wide parallel-sided frontal stripe. Females ..... 4.
2. Eyes separated by narrow parallel-sided glabrous shining stripe. Pale abdominal bands not widened toward sides of abdomen. First pale band narrowest, its width nearly uniform along entire length. Glabrous area before antennae 1.5–2.0 times as long as pubescent area. Pubescent stripes of face narrow, at least half as wide as median glabrous stripe. Fore tibia black ..... 3.  
—Eyes approximate at a single point. Upper frontal triangle entirely pubescent. First pale abdominal band noticeably widened and obtusely truncate at sides of abdomen, noticeably wider than 2nd band (in lateral view). Second and third bands narrowed and rounded at the ends. Glabrous area before antennae as long as, or shorter than pubescent area. Pubescent facial stripes wide, several times as wide as median glabrous stripe. Fore tibia rufous in basal third ..... *T. nitobei* Matsumura.
3. Hind tibia rufous, occasionally with a small spot in middle part. Gonites rather short and obtuse. Inner margin of hypandrium with pair of long narrow inner teeth ..... *T. bombylans bombylans* Fabricius.  
—Hind tibia blackened along significant length in middle part. Gonites rather long, tapered. Inner margin of hypandrium with pair of short inner teeth ..... *T. angustistriatum* Krivosheina sp. n.

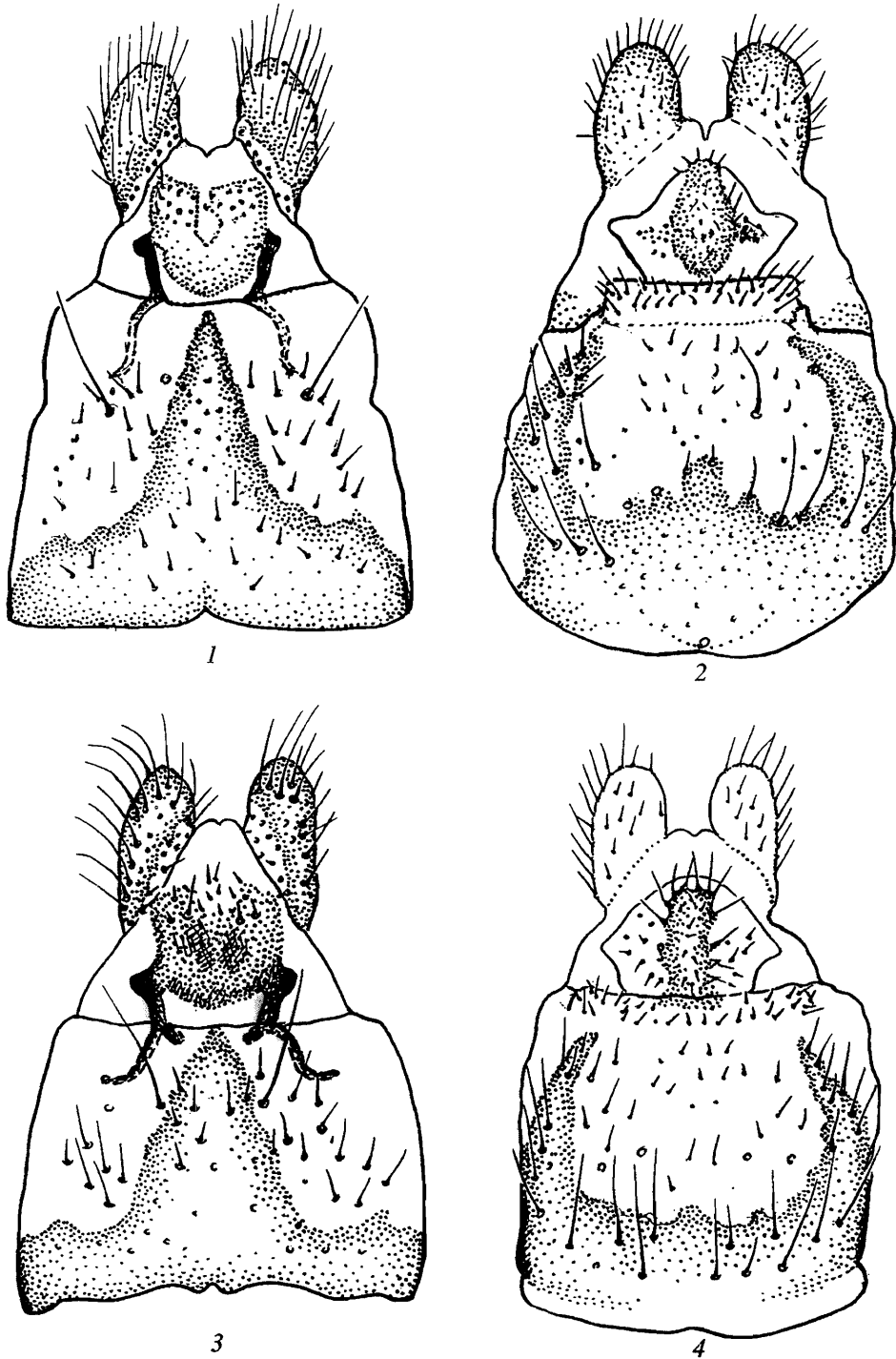


Fig. 8. *T. nitobei* Matsumura, female, body apex, dorsal and ventral view: (1, 2) from Khabarovsk Territory; (3, 4) from Kunashir.

4. Abdomen with 4 pale bands, last of which reaching margin of tergite. Genital chamber with 2 small crescent sclerotized stripes ..... 5.  
 —Abdomen with 3 pale bands; pale band occasionally present in anterior part of tergite V; it short, terminating far before margin of tergite or formed

by small oval median spot. Genital chamber with well-developed sclerotized rods .....  
 ..... *T. nitobei* Matsumura.  
 5. Fore tibia rufous in basal half. Hind femur rufous along significant length, with narrow lateral longitudinal black stripes. Genital chamber rather short

and wide .....

..... *T. bombylans flavifemur* Krivosheina ssp. n.

—Fore tibia black. Hind femur blackened along significant length, rufous in apical third. Genital chamber elongate .....

6. Frons with wide lateral pubescent stripes only half as wide as middle part of frons. Lateral pubescent facial stripes wide, rounded at apex, reaching margin of mouth cavity. Median glabrous stripe 3 times as wide as pubescent stripe in middle part of face. Hind femur rufous laterally in apical third, with rufous stripe on upper side, at least, in apical half of femur .....

..... *T. bombylans bombylans* Fabricius.

—Frons with narrow pruinose stripe 0.10–0.12 times as wide as the dark middle part of frons. Lateral pubescent stripes of face cuneiform narrowed at the end and not reaching margin of mouth. Median glabrous stripe 3.0–3.5 times as wide as pubescent stripe. Hind femur black along entire length, rufous at very apex .....

..... *T. angustistriatum* Krivosheina sp. n.

The Nearctic species of the genus were examined in the middle of the last century (Curran, 1939; Shannon, 1939). Unfortunately, the authors widely used in the diagnoses only the coloration of the body, which makes entirely impossible comparison of the Palaearctic and Nearctic species on the basis of published data. Even though this group of dipterans received much attention of researches, the structure of their terminalia has never been studied.

The terminology used in the present paper follows that recently proposed for some groups of Acalyptrata (Sinclair, 2000).

An examination of the genitalia of the species presented in the paper has shown the following. The group examined exhibits a significant similarity in the structure of the surstyli. In addition, the visual appearance of the surstyli varies with their position. Therefore, this character cannot be used for the species diagnostics, even though the shape of the surstyli is usually an important specific character in dipterans. Specimens of *T. nitobei* collected in various regions show variations in the shape of the genital plate in female (Fig. 4, 4, 5) and in the sclerotization of ab-

dominal segment VIII (Fig. 8). Since no data concerning the structure of the female genitalia in *Temnostoma* and other closely related genera have been published, the taxonomic value of such variations cannot be estimated yet. In the present paper, such characters as the shape and structure of the inner teeth of the hypandrium is considered for the first time. Differences in their structure within *T. nitobei* (Fig. 7) are less significant than those within *T. bombylans* and *T. angustistriatum* and, therefore, seem for the present to be allowable.

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