



Check for updates

<https://www.doi.org/10.33910/2686-9519-2025-17-4-698-701>
<https://www.zoobank.org/References/7E017021-4413-4B80-A877-8B4C403E8592>

UDC 595.773.4

Taxonomic notes on *Phaonia zhelochovtsevi* (Diptera, Muscidae)

 N. E. Vikhrev¹✉, A. S. Savchenko²
¹Zoological Museum of Lomonosov Moscow State University, 2 Bolshaya Nikitskaya, Moscow 125009, Russia

²Lomonosov Moscow State University, Structure 12, 1 Leninskie Gory, Moscow 119234, Russia

Authors

Nikita E. Vikhrev

 E-mail: nikita6510@ya.ru

SPIN: 1266-114

Scopus Author ID: 32467511100

Alexandr S. Savchenko

 E-mail: sasha.heris.savchenko@mail.ru

Abstract. The study discusses little-known Far Eastern species *Phaonia zhelochovtsevi* (Muscidae). Descriptive notes and illustrations of the considered species are given. A new synonym is proposed: *Phaonia zhelochovtsevi* Zinovjev, 1980 = *P. trypetiformis* Shinonaga, 1998, **syn. nov.** New and the northernmost record (Khabarovsk) of *P. zhelochovtsevi* is reported, natural range of the species is discussed. Preliminary results of this study were presented at the meeting of the Moscow Department of the Russian Entomological Society on 31 March 2025.

Copyright: © The Authors (2025).
Published by Herzen State Pedagogical
University of Russia. Open access under
CC BY License 4.0.

Keywords: Diptera, Muscidae, *Phaonia zhelochovtsevi*, synonymy, distribution

Таксономические заметки о *Phaonia zhelochovtsevi* (Diptera, Muscidae)

 Н. Е. Вихрев¹✉, А. С. Савченко²
¹Зоологический музей МГУ им. М. В. Ломоносова, ул. Большая Никитская, д. 2, 125009, г. Москва, Россия

²МГУ им. М. В. Ломоносова, Ленинские горы, д. 1, стр. 12, 119234, г. Москва, Россия

Сведения об авторах

Вихрев Никита Евгеньевич

 E-mail: nikita6510@ya.ru

SPIN-код: 1266-114

Scopus Author ID: 32467511100

Савченко Александр Сергеевич

 E-mail: sasha.heris.savchenko@mail.ru

Аннотация. Работа посвящена малоизвестному дальневосточному виду *Phaonia zhelochovtsevi* (Muscidae). Сделаны переописание и иллюстрации данного вида. Предложен новый синоним: *Phaonia zhelochovtsevi* Zinovjev, 1980 = *P. trypetiformis* Shinonaga, 1998, **syn. nov.** Отмечена новая, самая северная (Хабаровск), точка распространения *P. zhelochovtsevi*, обсуждается ареал вида и предположительное время его проникновения в Японию. Предварительные результаты этой работы были представлены на встрече Московского отделения РЭО 31 марта 2025.

Права: © Авторы (2025). Опубликовано Российским государственным педагогическим университетом им. А. И. Герцена. Открытый доступ на условиях лицензии CC BY 4.0.

Ключевые слова: Diptera, Muscidae, *Phaonia zhelochovtsevi*, синонимия, распространение

Introduction

Almost all Muscidae have hyaline wings, with rare exceptions of patterned wings in some species of the genera *Atherigona* and *Lispe*. The wing pattern was unknown in the genus *Phaonia*, only sometimes the cross veins more or less strongly darkened were described.

However, in 1980, Soviet dipterologist Alexei Zinovjev described *Phaonia zhelochovtsevi* Zinovjev, 1980, with an intricately patterned wing (figs. 1–2) (Zinovjev 1980). The present paper clarifies some points in taxonomy and distribution of this beautiful species.

Note that *Phaonia zhelochovtsevi* was originally described (justifiably or not) in the genus *Dialyta*. *Dialyta* Meigen, 1826 has priority over *Phaonia* Robineau-Desvoidy, 1830. Acceptance of priority would upset the stability of nomenclature of the widely used *Phaonia*. An application to the ICZN to put *Dialyta* into reversed precedence with *Phaonia* seems warranted (Pont 2024).

Materials and methods

The following generally accepted abbreviations for morphological structures are used: *f1*, *t1*, *f2*, *t2*, *f3*, *t3* = fore-, mid-, hind-femur or tibia, respectively; *ac* — acrostichal setae; *dc* — dorsocentral setae; *prst* — presutural; *post* — postsutural; *a*, *p*, *d*, *v* = anterior, posterior, dorsal, ventral seta(e).

Results

Phaonia zhelochovtsevi Zinovjev, 1980

Phaonia maculobambusa Hsue [=Xue] & Wang, 1981. Type-locality: China, Liaoning province (Ma et al. 2002: 183)

Phaonia trypetiformis Shinonaga, 1998. Type locality: Japan, Kaga, Honshu, Ishikawa, Kaga [36.4° N, 136.6° E], **syn. nov.**

Material examined. Type material (Pont 2004; Vikhrev et al. 2017).

Holotype, ♂: Russia, *Primorsky* Reg., Yakovlevka village env., [44.425° N, 133.480° E], sparse oak-lime forest with hazel *Corylus* sp. and *Lespedeza bicolor*, K. Borisova, 15.06.1962), *Dia-*



Figs. 1–2. *Phaonia zhelochovtsevi* Zinovjev, 1980, general view: 1 — male holotype; 2 — female
Рис. 1–2. *Phaonia zhelochovtsevi* Zinovjev, 1980, общий вид: 1 — самец голотип; 2 — самка



Fig. 3. Distribution of *Phaonia zhelochovtsevi*

Рис. 3. Распространение *Phaonia zhelochovtsevi*

lyta zhelochovtsevi (Zoological Institute, Saint Petersburg, hereinafter ZIN).

Paratypes 1♂, 4♀: Russia, *Primorsky* Reg.: Shkotovsky dist., Anisimovka env., [43.17° N, 132.79° E], A. Zinovjev, 22.06.1979, 1♂; Tigrovyi [43.844° N, 132.772° E], A. Zinovjev, 22.07.1979, 2♀; Vladivostok, Sedanka [43.2° N, 132.0° E], A. Zinovjev, 25.07.1979, 1♀ (all ZIN); Spassk-Dalny [44.6° N, 132.8° E], A. Zhelochovtsev, 29.06.1961 (Zoological Museum of Moscow University, hereinafter ZMUM).

Other examined material. Russia: *Primorsky* Reg.: Ryazanovka [42.79° N, 131.26° E], A. Shatalkin, 7–10.06.1989, 1♂, 5♀; Kamenushka: A. Shatalkin, 20.06.1989, 1♀; N. Vikhrev, 22–24.06.2014, 1♀; Kedrovaya Pad' [43.2° N, 131.4° E], T. Galinskaya, 2.07.2016, 1♂, 1♀; Khanka Lake, 44.82° N, 132.02° E, N. Vikhrev, 15–19.07.2018, 1♀; 25 km SE of Lazo [43.3° N, 134.2° E], A. Ozerov, 17.06.1986, 1♀ (all ZMUM).

Khabarovsk Reg., Khabarovsk suburb, N. Vikhrev, 2–6.06.2014, 1♂, 13.06.2014, 2♀, 27–30.06.2022, 1♂, 1♀ (ZMUM).

Descriptive notes

Male body length 5–6 mm.

Head black, with fronto-orbital plates and parafacials whitish dusted. Fronto-orbital plates touching. Lower half of frons with 3–4 pairs of orbital setae, upper half bare. Total width of arisal hairs about as wide as width of postpedicel. Palpi black.

Thorax black with fine greyish dusting. Chaetotaxy: 2+3 *dc*; acrostichal setae should be described as 1(2) + 1 *ac*, both presutural and prescutellar pairs about equally weak; prealar seta absent. Prosternum and meron bare. Wings hyaline with unusual dark pattern. Darkened: both crossveins (*r-m* and *m-cu*), cubital vein (*CuA*), apex of median vein (*M*) and costal margin of wing between veins *R*₁ and *M*. Calyptrae and halteres yellow.

Leg evenly dirty-brown. Chaetotaxy: *t*₁ without setae; *f*₂ with 2 preapical *pd*, *t*₂ with 2 *pd*; *t*₃ with 1–2 *av*, 2 *ad*, 1 *pd*.

Abdomen black, base of abdomen sometimes slightly translucent yellowish. Male genitalia as shown in Shinonaga (Shinonaga 1998: Figs 4 and 5).

Female body length 6–7 mm. Distance between the edges of the eyes about 1/3 of head width; frons with two pairs of reclinate frontal setae and 3–4 pairs of inclinate frontal setae; crossed interfrontals absent. *P. zhelochovtsevi* is a rare example of species with inverted sexual dimorphism: (1) female wing pattern is much more distinct than in male; (2) legs contrastingly bicolour: coxae, trochanters and femora yellow, tibiae and tarsi black(ish).

Synonymy

In Shinonaga (Shinonaga 1998: 265) and Shinonaga (Shinonaga 2003: 176) (both texts match verbatim) the author writes that ‘The present species is easily identified from other *Phaonia*-species known from Japan in having trypetid like wings. Neither in the original description (Shinonaga 1998) nor in his next publication (Shinonaga 2003) did he compare *P. trypetiformis* with *P. zhelochovtsevi* from Russian Far East or *P. maculobambusa* from N-E China. There is no difference between *P. trypetiformis* and previously described

taxa, so *Phaonia zhelochovtsevi* Zinovjev, 1980 = *Phaonia trypetiformis* Shinonaga, 1998, **syn. nov.**

Distribution

Type locality of *P. zhelochovtsevi* is the southern part of Russia’s Primorsky Krai. Our new Russian records from Khabarovsk Krai move natural range of this species 500 km to the north. In China apart from Liaoning province which is the type locality of *P. maculobambusa*, *P. zhelochovtsevi* is reported from provinces Shanxi and Jilin.

New synonymy of *P. trypetiformis* proposed here adds Japanese Honshu Island to the natural range of *P. zhelochovtsevi*. Japan and Asian mainland were connected 10–20 thousand years ago during the last glacial age, when the sea level dropped. There were two land bridges: the northern one via present Tatar (= Tatarsky) and La Perouse (= Soya) Straits and the southern one on the place of the current Korea Strait. We presume that the most probable way and time of appearance of *P. zhelochovtsevi* in Japan is the Korea Strait land bridge about 15 thousand years ago.

The map of presently known distribution of *P. zhelochovtsevi* is shown in Fig. 3.

References

- Ma, Z.-Y., Xue, W.-Q., Feng, Y. (2002) *Fauna Sinica Insecta. Vol. 26. Diptera: Muscidae II, Phaoniinae I*. Beijing: Science Press, 421 p. (In Chinese)
- Pont, A. C. (2004) Notes on types of Fanniidae and Muscidae (Diptera) in the Zoological Institute of the Russian Academy of Sciences, St Petersburg. *International Journal of Dipterological Research*, vol. 15, no. 1, pp. 73–98. (In English)
- Pont, A. C. (2024) *World Muscidae Catalogue*. Manuscript, last updated: 07.2024. (In English)
- Shinonaga, S. (1998) A new *Phaonia*-species from Japan (Diptera, Muscidae). *Japanese Journal of Systematic Entomology*, vol. 4, no. 2, pp. 263–265. (In English)
- Shinonaga, S. (2003) *Monograph of the Muscidae of Japan*. Tokyo: Tokai University Press, 347 p. (In English)
- Vikhrev, N. E., Vikhreva, O. V., Ovtshinnikova, O. G. (2017) Типовой материал *Phaonia* (Diptera: Muscidae) Zoologicheskogo instituta RAN, Sankt-Peterburg, Rossiya [Type material of *Phaonia* (Diptera: Muscidae) in the Zoological Institute RAS, St-Petersburg, Russia]. *Russkij entomologicheskij zhurnal — Russian Entomological Journal*, vol. 26, no. 2, pp. 169–188. <https://doi.org/10.15298/rusentj.26.2.08> (In English)
- Zinovjev, A. G. (1980) Dvukrylye podsem. Phaoniinae (Diptera, Muscidae) Dal’nego Vostoka [Phaoniinae (Diptera, Muscidae) of the Far East]. *Entomologicheskoe obozrenie — Entomological Review*, vol. 59, no. 4, pp. 904–913. (In Russian)

For citation: Vikhrev, N. E., Savchenko, A. S. (2025) Taxonomic notes on *Phaonia zhelochovtsevi* (Diptera, Muscidae). *Amurian Zoological Journal*, vol. XVII, no. 4, pp. 698–701. <https://www.doi.org/10.33910/2686-9519-2025-17-4-698-701>

Received 9 September 2025; reviewed 16 October 2025; accepted 20 October 2025.

Для цитирования: Вихрев, Н. Е., Савченко, А. С. (2025) Таксономические заметки о *Phaonia zhelochovtsevi* (Diptera, Muscidae). *Амурский зоологический журнал*, т. XVII, № 4, с. 698–701. <https://www.doi.org/10.33910/2686-9519-2025-17-4-698-701>

Получена 9 сентября 2025; прошла рецензирование 16 октября 2025; принята 20 октября 2025.