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**AN ANNOTATED LIST OF THE DROSOPHILID FLIES (DIPTERA:  
DROSOPHILIDAE) OF TUVA**

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**Summary.** An annotated list of 29 species in seven genera of the drosophilid flies of Tuva Republic is given. Among them 25 species are recorded from Tuva for the first time. The drosophilid fauna of Tuva is compared with Altai.

**Key words:** Diptera, Drosophilidae, fauna, new records, Tuva, Russia.

**Н. Г. Горностаев, А. М. Куликов. Аннотированный список мух-дрозофилид (Diptera: Drosophilidae) Тувы // Дальневосточный энтомолог. 2019. N 381. С. 9-14.**

**Резюме.** Приведен аннотированный список 29 видов из 7 родов мух-дрозофилид Тувы, из которых 25 видов впервые отмечаются для этого региона. Проведено сравнение фауны дрозофилид Тувы и Алтая.

**INTRODUCTION**

The first very short regional list of the drosophilid flies (Drosophilidae) of Tuva includes four species of the genera *Leucophenga*, *Chymomyza* and *Drosophila* collected by N.P. Krivosheina in Ishtii-Khem (51°19' N, 92°28' E) (Gornostaev, 1997). Here we present new additions to this list after examination of the materials collected by A.M. Kulikov (AK) in Tuva in West Sayan (vicinities of Kyzyl, 51°42' N, 94°22' E) and in the Azas State Reserve (vicinities of Toora-Khem, 52°28' N, 96°07' E). All collected specimens were stored in 70% ethanol and determined by the first author. New to Tuva species are asterisked (\*).

**LIST OF SPECIES**

**Family Drosophilidae**

**Subfamily Steganinae**

**\**Amiota (Amiota) albilabris* (Roth in Zetterstedt, 1860)**

**MATERIAL.** Russia: Tuva, West Sayan, 20.VII–10.VIII 2003, 1 ♂ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 2 ♀ (AK).

**DISTRIBUTION.** Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001).

**\**Amiota (Phortica) chi* Toda et Sidorenko, 1996**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 1 ♂, 2 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 2 ♂, 3 ♀ (AK).

DISTRIBUTION. East Siberia and Far East (Toda *et al.*, 1996; Sidorenko, 2001), Altai (Sidorenko & Ivannikov, 2001a).

**\**Gitona distigma* Meigen, 1830**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 1 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Sidorenko & Ivannikov, 2001a).

***Leucophenga quinque maculata* Strobl, 1893**

DISTRIBUTION. Widespread in Europe (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997).

NOTES. This species was recorded from Tuva (Ishtii-Khem) by Gornostaev (1997).

**\**Leucophenga quinque maculipennis* Okada, 1956**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 1 ♂, 3 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 2 ♂, 2 ♀ (AK).

DISTRIBUTION. China, Korea, Japan, East Siberia and Russian Far East (Sidorenko, 2001), Altai (Sidorenko & Ivannikov, 2001a).

**Subfamily Drosophilinae**

***Chymomyza caudatula* Oldenberg, 1914**

DISTRIBUTION. Widespread in Palearctic (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001).

NOTES. This species was recorded from Tuva (Ishtii-Khem) by Gornostaev (1997).

**\**Chymomyza costata* (Zetterstedt, 1838)**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 11 ♂, 12 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 8 ♂, 14 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001).

**\**Chymomyza distincta* (Egger, 1862)**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 1 ♂, 2 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 1 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Ivannikov *et al.*, 1998).

**\**Chymomyza fuscimana* (Zetterstedt, 1838)**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 1 ♂, 3 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 2 ♂, 3 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001).

**\**Drosophila (Drosophila) ezoana* Takada et Okada, 1957**

MATERIAL. **Russia:** Azas State Reserve, 20.VII–10.VIII 2003, 2 ♂, 1 ♀ (AK).

DISTRIBUTION. North Europe, Japan (Bächli & Rocha Pité, 1984), Russian Far East (Gornostaev, 1997; Sidorenko, 2001), recently found in Northern Yakutia (Nartshuk, 2014), Chukotka and Kamchatka (Gornostaev, 2018; Gornostaev *et al.*, 2018).

NOTES. This new record from Tuva is the westernmost locality in Russia.

**\**Drosophila (Drosophila) funebris* (Fabricius, 1787)**

MATERIAL. **Russia:** Azas State Reserve, 20.VII–10.VIII 2003, 2 ♂, 3 ♀ (AK).

DISTRIBUTION. Cosmopolitan synanthropic species (Bächli & Rocha Pité, 1984), widespread in Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Ivannikov *et al.*, 1998).

**\**Drosophila (Drosophila) histrio* Meigen, 1830**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 3 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 1 ♂, 6 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001).

**\**Drosophila (Drosophila) immigrans* Sturtevant, 1921**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 2 ♂ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 1 ♀ (AK).

DISTRIBUTION. Cosmopolitan synanthropic species (Bächli & Rocha Pité, 1984), widespread in Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Ivannikov *et al.*, 1998).

**\**Drosophila (Drosophila) kuntzei* Duda, 1924**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 1 ♂ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 1 ♂, 2 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Ivannikov *et al.*, 1998).

**\**Drosophila (Drosophila) limbata* von Roser, 1840**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 1 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 1 ♂, 1 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Ivannikov *et al.*, 1998).

**\**Drosophila (Drosophila) subarctica* Hackman, 1969**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 4 ♂, 6 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 5 ♂, 8 ♀ (AK).

DISTRIBUTION. North Europe (Bächli & Rocha Pité, 1984) and North Russia (Gornostaev, 1997; Sidorenko, 2001), recently found in Northern Yakutia (Nartshuk, 2014), Chukotka (Nartshuk, 2014; Gornostaev, 2018) and Kamchatka (Gornostaev *et al.*, 2018).

NOTES. This new record from Tuva is the southernmost locality in Russia.

***Drosophila (Drosophila) testacea* von Roser, 1840**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 14 ♂, 22 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 20 ♂, 25 ♀ (AK).

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DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Ivannikov *et al.*, 1998).

NOTES. This species was recorded from Tuva (Ishtii-Khem) by Gornostaev (1997).

***Drosophila (Drosophila) transversa* Fallén, 1823**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 11 ♂, 18 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 6 ♂, 9 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Ivannikov *et al.*, 1998).

NOTES. This species was recorded from Tuva (Ishtii-Khem) by Gornostaev (1997).

**\**Drosophila (Sophophora) alpina* Burla, 1948**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 3 ♂, 3 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 9 ♂, 11 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Ivannikov *et al.*, 1998).

**\**Drosophila (Sophophora) bifasciata* Pomini, 1940**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 4 ♂, 2 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 1 ♂, 2 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Ivannikov *et al.*, 1998).

**\**Drosophila (Sophophora) helvetica* Burla, 1948**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 3 ♂, 2 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 2 ♂, 4 ♀ (AK).

DISTRIBUTION. Widespread in the south of Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001).

**\**Drosophila (Sophophora) melanogaster* Meigen, 1830**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 2 ♂ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 5 ♂, 6 ♀ (AK).

DISTRIBUTION. Cosmopolitan synanthropic species (Bächli & Rocha Pité, 1984), widespread in Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Ivannikov *et al.*, 1998).

**\**Hirtodrosophila confusa* (Staeger, 1844)**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 1 ♂, 3 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 7 ♂, 11 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Ivannikov *et al.*, 1998).

**\**Hirtodrosophila toyohiokadai* (Sidorenko, 1990)**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 2 ♂ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 1 ♂, 1 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Gornostaev, 1997).

**\**Hirtodrosophila trivittata* (Strobl, 1893)**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 3 ♂, 4 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 1 ♂, 2 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Ivannikov *et al.*, 1998).

**\**Scaptomyza (Hemiscaptomyza) unipunctum* (Zetterstedt, 1847)**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 1 ♂ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 1 ♂ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Sidorenko & Ivannikov, 2001b).

**\**Scaptomyza (Parascaptomyza) pallida* (Zetterstedt, 1847)**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 8 ♂, 4 ♀ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 2 ♂, 6 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001) including Altai (Ivannikov *et al.*, 1998).

**\**Scaptomyza (Scaptomyza) flava* (Fallén, 1823)**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 1 ♂ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001).

**\**Scaptomyza (Scaptomyza) graminum* (Fallén, 1823)**

MATERIAL. **Russia:** Tuva, West Sayan, 20.VII–10.VIII 2003, 1 ♂ (AK); Azas State Reserve, 20.VII–10.VIII 2003, 1 ♂, 1 ♀ (AK).

DISTRIBUTION. Widespread in Palearctic region (Bächli & Rocha Pité, 1984) and Russia (Gornostaev, 1997; Sidorenko, 2001).

## DISCUSSION

Now 29 species in seven genera of Drosophilidae are known from Tuva, 25 of which are recorded here from this region for the first time. Totally 42 species of Drosophilidae are known from Tuva and Altai republics from the south of Siberia: 31 species from Altai (Gornostaev, 1997; Ivannikov *et al.*, 1998; Sidorenko & Ivannikov, 2001a, 2001b) and 29 species from Tuva (Gornostaev, 1997 and present data).

Among them 11 drosophilid species, namely *Amiota albilabris* (Roth in Zetterstedt, 1860), *Leucophenga quinquemaculata* Strobl, 1893, *Chymomyza caudatula* Oldenberg, 1914, *Chymomyza costata* (Zetterstedt, 1838), *Chymomyza fuscimana* (Zetterstedt, 1838), *Drosophila ezoana* Takada et Okada, 1957, *Drosophila histrio* Meigen, 1830, *Drosophila subarctica*

*subarctica* Hackman, 1969, *Drosophila helvetica* Burla, 1948, *Scaptomyza flava* (Fallén, 1823) and *Scaptomyza graminum* (Fallén, 1823), are found in Tuva only; 13 species (*Stegana hypoleuca* Meigen, 1830, *Chymomyza amoena* (Loew, 1862), *Drosophila busckii* Coquillett, 1901, *Drosophila littoralis* Meigen, 1830, *Drosophila lummei* Hackman, 1972, *Drosophila parakuntzei* Okada, 1973, *Drosophila phalerata* Meigen, 1830, *Drosophila unispina* Okada, 1956, *Drosophila obscura* Fallén, 1823, *Drosophila scaptomyzoptera* Duda, 1935, *Hirtodrosophila histrioides* (Okada & Kurokawa, 1957), *Lordiphosa nigricolor* (Strobl, 1898) and *Scaptomyza consimilis* Hackman, 1955) are known from Altai only and 18 species [*Amiota chi* Toda et Sidorenko, 1996, *Gitona distigma* Meigen, 1830, *Leucophenga quinqueaculipennis* Okada, 1956, *Chymomyza distincta* (Egger, 1862), *Drosophila funebris* (Fabricius, 1787), *Drosophila immigrans* Sturtevant, 1921, *Drosophila kuntzei* Duda, 1924, *Drosophila limbata* von Roser, 1840, *Drosophila testacea* von Roser, 1840, *Drosophila transversa* Fallén, 1823, *Drosophila alpina* Burla, 1948, *Drosophila bifasciata* Pomini, 1940, *Drosophila melanogaster* Meigen, 1830, *Hirtodrosophila confusa* (Staeger, 1844), *Hirtodrosophila toyohiokadai* (Sidorenko, 1990), *Hirtodrosophila trivittata* (Strobl, 1893), *Scaptomyza unipunctum* (Zetterstedt, 1847) and *Scaptomyza pallida* (Zetterstedt, 1847)] are recorded in both Tuva and Altai. Thus, the fauna of Drosophilidae of Tuva is rather similar to the fauna of Altai.

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