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ADDITIONAL DATA ON INTEGRIPALPIAN CADDISFLIES (INSECTA: TRICHOPTERA, INTEGRIPALPIA) FROM CHUKOTKA AND MAGADAN REGION

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The caddisflies collected by A.V. Stekolshchikov in Chukotka in 2012 are listed. *Limnephilus diphyes* MacLachlan (Limnephilidae) is firstly recorded from this region. Some additional unpublished data on caddisflies from Chukotka and Magadan Region are given also.

KEY WORDS: Trichoptera, caddisflies, fauna, new records, Russian Far East.

Т. С. Вшивкова. Дополнительные данные по фауне целнощупиковых ручейников (Insecta: Trichoptera, Integrivalpia) Чукотки и Магаданской области // Дальневосточный энтомолог. 2013. N 257. С. 1–9.

Приведен список ручейников, собранных А.В. Стекольщиковым в окрестностях пос. Беринговский в 2012 г. Впервые для Чукотки указан *Limnephilus diphyes* MacLachlan из семейства Limnephilidae. Также даны некоторые дополнительные сведения по ручейникам Чукотки и Магаданской области.

INTRODUCTION

The Trichoptera fauna of the Chukotka after A.V. Martynov (1936) and entomologists from Institute of Biology and Soil Sciences FEB RAS (Levanidov &

Levanidova, 1976; Levanidova, 1976, 1979, 1982, 1986, 1989; Levanidov & Vshivkova, 1978; Levanidova & Schmid, 1981; Levanidova & Vshivkova, 1984; Vshivkova & Makarchenko, 1986; Vshivkova & Zasyrkina, 1994; Levanidova et al., 1995) and from Institute of Biological Problems of the North FEB RAS (Zasyrkina et al., 1996; Zasyrkina & Ryabukhin, 2001; Zasyrkina, 2011) was considered as well-known and included 14 families, 32 genera and 60 species up to now, but the distributional data for the majority species were not well represented.

The list of caddisflies from the vicinity of Beringovsky village is given below. Additional unpublished material from Chukotka and Magadan Region is also included in this list, as well as the brief notes on ecology and distribution.

MATERIAL AND METHODS

The pinned material from the vicinity of Beringovsky village (62°43'275" N, 178°55'800" E), collected during July–August 2012 was kindly provided by Dr. A.V. Stekolshikov (St-Petersburg) for identification. Additional alcohol material previously collected in northern areas of Russian Far East by Dr. S.F. MacLean, Jr. and by Dr. I.A. Zasyrkina is also included in this list. Photography occurred at Clemson University using a Jenoptik Progres Camera. The photos of *Limnephilus diphyes* and ventral view of male genitalia of *Asynarchus lapponicus* were taken from internet resources (Tobias & Tobias, 2010). The original photos are numbered as in the East Russia Trichoptera Data Base. The world distribution is based on literature and The World Trichoptera Checklist Database (Morse, 2013). The information on species distribution in Siberia and Russian Far East is based on my own and literature data. The families are arranged in alphabetical order according to the recent tendency for faunistic papers. In parenthesis after collector name is the abbreviation for the institution where the material is deposited: Institute of Biology and Soil Sciences, Far Eastern Branch of Russian Academy of Sciences, Vladivostok, Russia (IBSS), Zoological Institute of Russian Academy of Sciences, St-Petersburg, Russia (ZIAS).

LIST OF THE SPECIES

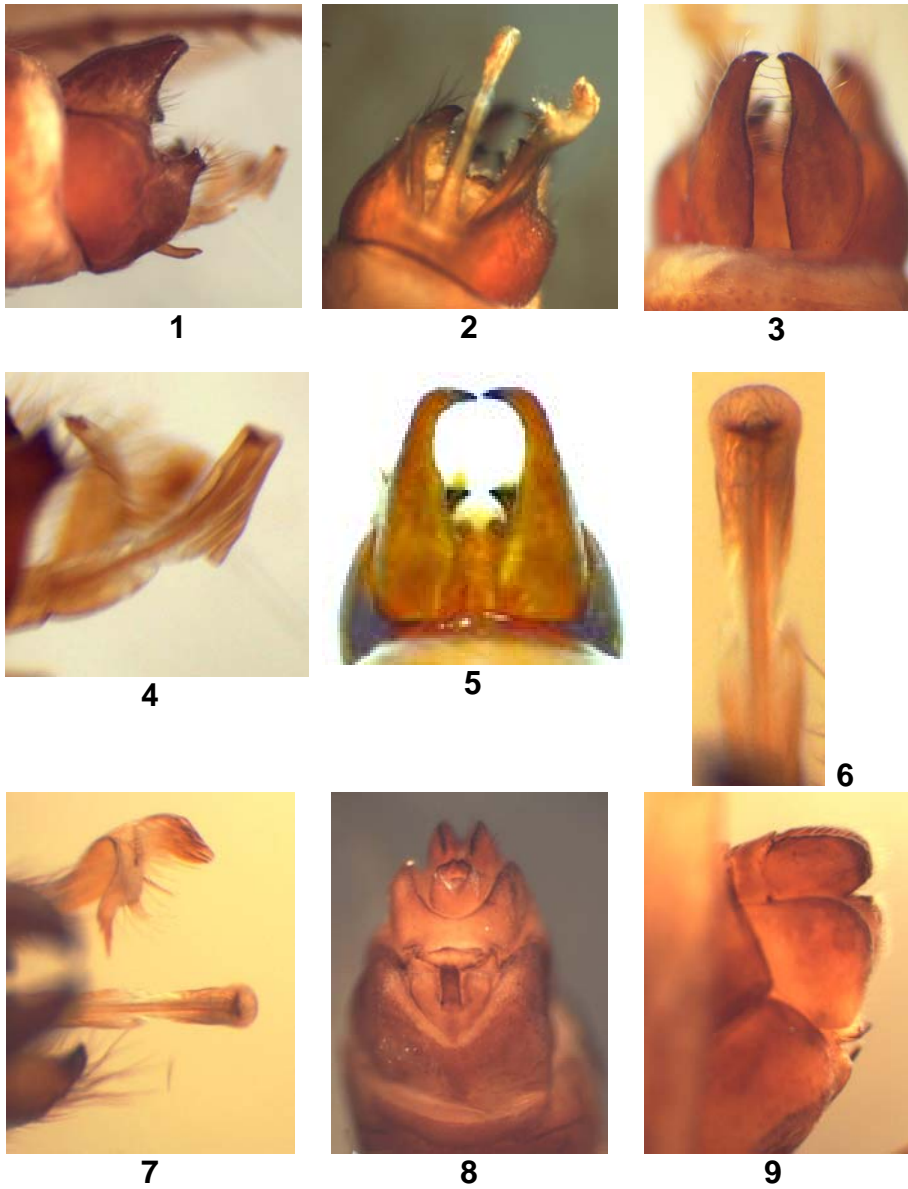
Family Apataniidae

Apatania zonella (Zetterstedt, 1840)

MATERIAL. **Chukotka:** Beringovsky District, 40 km SSW from Beringovsky village, 9, 25-31.VII 2012, 6 ♀, leg. A.V. Stekolshikov (IBSS, ZIAS).

DISTRIBUTION. Widely distributed in Holarctic Region.

ECOLOGY. Spring-fed streams, small rivers, oligotrophic lakes with cool water. Scraper. Populations partially parthenogenetic, with females dominating. Flight period in East Russia is from June until September, rarely in May. Can be used as indicator of natural unpolluted water.



Figs. 1–9. Genitalia of *Asynarchus* spp. 1-4, 6-7 – *A. aff. lapponicus*, male (IBSS000000018): 1 – lateral; 2 – caudo-ventral; 3 – ventral; 4 – phallus, lateral; 6 – endophallus; 7 – apical parts of paramere and phallus; 5 – *A. lapponicus*, male, ventral (after Tobias & Tobias, 2010, from European population); 8-9 – *A. aff. lapponicus*, female (IBSS000000019): 8 – ventral; 9 – lateral.

Family Leptoceridae

Mystacides sepulchralis (Walker, 1852)

MATERIAL. **Chukotka**: Beringovsky District, 40 km SSW from Beringovsky village, 6.VII 2012, 1 ♀, leg. A.V. Stekolshikov (IBSS).

DISTRIBUTION. Holarctic Region.

ECOLOGY. Lotic depositional and stagnant habitats. Collector-Grazer. Inhabit clean or slightly impacted water. Flight period in East Russia is from the end of May until the end of August.

Family Limnephilidae

Asynarchus aff. *lapponicus* (Zetterstedt, 1840)

Figs. 1–4, 6–9

MATERIAL. **Chukotka**: Beringovsky District, 40 km SSW from Beringovsky village, 6, 29-31 VII 2012, 3 ♂, leg. A.V. Stekolshikov (IBSS, ZIAS); Chaunsky District, Chaun Bay, 10 km up riverbank, 4.VIII 1979, 1 ♀, leg. MacLean, S.F, Jr. (IBSS); Tenkinsky District, IBPN FEB RAS Biostation “Aborigen”, 26.VII 1979, 1 ♂, leg. MacLean, S.F, Jr. (IBSS).

DISTRIBUTION. Holarctic Region. Russia (N European Russia, Ural, W Siberia, vicinity of Baikal Lake, Yakutia, Altai, Chukotka and Magadan Region), N Europe, Ukraine, Mongolia, N America.

ECOLOGY. Littoral areas of slow streams, lakes, tundra pools. Feeds on plant detritus. Flight period in East Russia is during July-August.

NOTES. The male and female illustrated are similar morphologically to European specimens of *Asynarchus lapponicus* (Fig. 5). They differ in the configuration of a few genitalic structures. It will be necessary to study the European, North-East Asian and North American populations as well as to conduct DNA research throughout the species area of distribution to evaluate the status of this species. It is possible that *A. lapponicus* is a complex of closely related sister species. If so, past synonymy of the species should be reevaluated.

Lenarchus expansus Martynov, 1914

Figs. 10–16

MATERIAL. **Chukotka**: Chaunsky District, Chaun River Basin, 5-9.VII 1990, 5 ♂, leg. I.A. Zasykina (IBSS).

DISTRIBUTION. Russia (Chukotka, Magadan Region, Yakutia), Alaska. This is an arctic species known only from Beringian refugia in Asia and N America: Yukon, Alaska; Siberia and the Russian Far East (Wiggins & Parker, 1997).

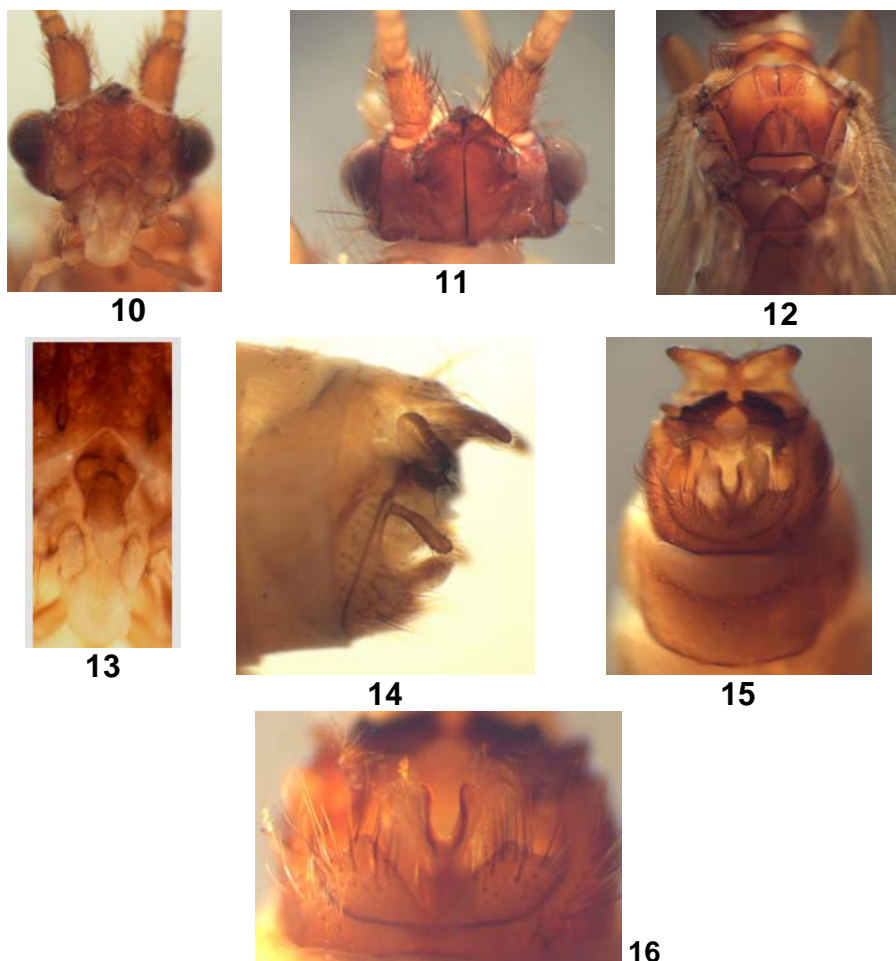
ECOLOGY. Small pools. Flight period – July.

***Limnephilus diphyes* MacLachlan, 1880**

Figs. 17–20

MATERIAL. **Chukotka:** Beringovsky District, 40 km SSW from Beringovsky village, 6-8.VII 2012, 3 ♂, 1 ♀, leg. A.V. Stekolshikov (IBSS, ZIAS).

DISTRIBUTION. Russia (N European Russia, Central Siberia, Chukotka, Magadan Region, Kamchatka, Khabarovsk Territory, Primorye, N Kuriles), N Europe, Mongolia, Japan, N America.



Figs. 10–13. *Lenarchus expansus*, males (10-13, 15-16 – IBSS00000029; 14 – IBSS000000027). 10 – head, frontal; 11 – head, dorsal; 12 – thorax, dorsal; 13 – labrum and paralabral sclerites, frontal; 14 – lateral; 15 – male genitalia, caudo-ventral; 16 – endophallus, ventral.

ECOLOGY. Slow water and swampy areas. Larval morphology, habitat and distribution of *Limnephilus diphyes* have been described by Johansson et al. (1991). The flight period is during July and August.

NOTE: This is the first record for Chukotka.

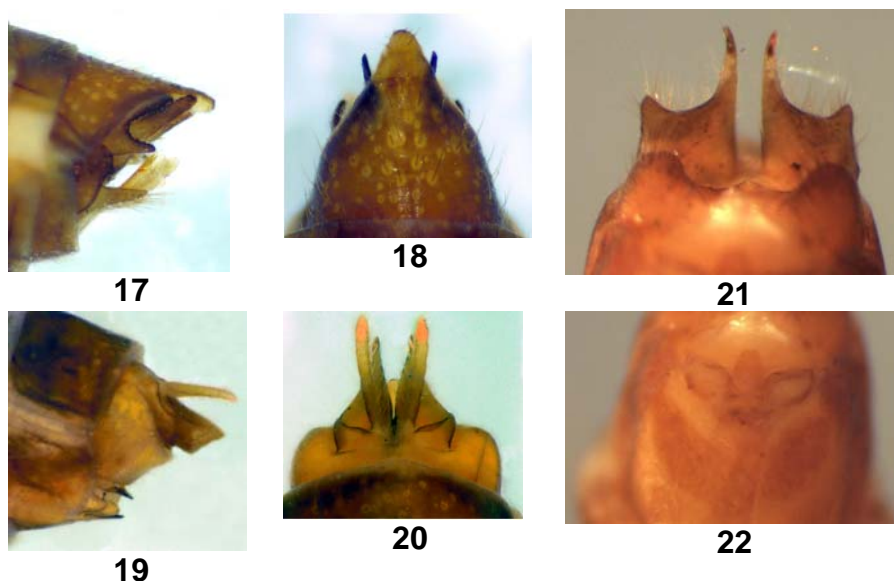
***Limnephilus fenestratus* (Zetterstedt, 1840)**

Figs. 21–22

MATERIAL. **Magadan Region:** Agrobasa village vicinity, 61°39'00" N; 14°84'80" E, 20.VIII 1980, 1 ♀, leg. I.A. Zasyapkina (IBSS).

DISTRIBUTION. Russia (European part, Yakutia, Chukotka, Magadan Region, Kamchatka, N Kuriles), NW Europe, Mongolia.

ECOLOGY. Shallow, stagnant habitats. Flight period July–August.



Figs. 17–22. Genitalia of *Limnephilus* spp. 17–20 – *L. diphyes* (after Tobias & Tobias, 2010): 17 – male, lateral; 18 – male, dorsal; 19 – female, lateral; 20 – female, dorsal; 21–22 – *L. fenestratus*, female (IBSS000000028): 21 – apical part, ventral; 22 – vulva scale.

***Limnephilus nigriceps* Zetterstedt, 1840**

MATERIAL. **Magadan Region:** Chukcha River, mouth, 18.VIII 1992, 2 ♂, leg. I.A. Zasyapkina (IBSS).

DISTRIBUTION. Holarctic Region. Russia (European part, Ural, W Siberia, Altai, Chita Region, Chukotka, Kamchatka, Khabarovsk Region, N Kuriles), W Europe, N America.

ECOLOGY. Lentic-littoral and lotic-depositional habitats. Flight period is during July–August.

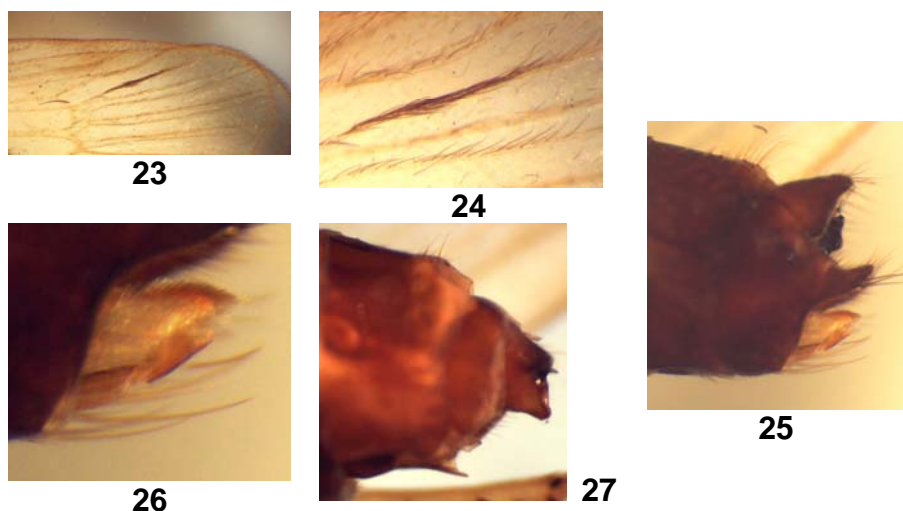
***Limnephilus picturatus* MacLachlan, 1875**

Figs. 23–27

MATERIAL. Chukotka: Beringovsky District, 40 km SSW from Beringovsky village, 31.VII 2012, 1 ♂, leg. A.V. Stekolshikov (IBSS); Chukotsky District, Lavrentiya village vicinity, 11.VII 1992, 1 ♂, 2 ♀, leg. I.A. Zasypkina (IBSS); Chaunsky District, Chaun Bay vicinity, at *Salix pulchra*, 3, 8.VIII 1979, 4 ♀, leg. MacLean, S.F., Jr. (IBSS); Chaun River, lower part, 10 km from mouth, 4.VIII 1979, 3 ♂, 2 ♀, leg. MacLean, S.F., Jr. (IBSS).

DISTRIBUTION. Russia (European part, Ural, Siberia, Baikal vicinity, Chita Region, Yakutia, Chukotka, Magadan Region, Kamchatka, Khabarovsk Region, Primorye, Sakhalin, N Kuriles), Mongolia, N America.

ECOLOGY. Lentic and lotic-depositional habitats. Flight period: July–August.



Figs. 23–27. Male (IBSS00000017a) and female (IBSS00000017b) of *Limnephilus picturatus*: 23 – male, fore wing apical part, 24 – the same, RS setae brush, 25 – male genitalia, lateral, 26 – endophallus, lateral, 27 – female genitalia, lateral.

***Limnephilus samoedus* (McLachlan, 1880)**

MATERIAL. Chukotka: Chaunsky District, Vtoroye Lebedinskoye Lake, 7.VII 1990, 2 ♂, 1 ♀, 2 pupae, 2 larvae, leg. I.A. Zasypkina (IBSS).

DISTRIBUTION. Holarctic Region. Russia (Chukotka, Kamchatka, W and Central Siberia, Yakutia), Mongolia, N America (Alaska).

ECOLOGY. Boggy habitats, lentic. Flight period: July.

***Grammotaulius signatipennis* MacLachlan, 1876**

Fig. 28

MATERIAL. **Chukotka:** Chaun Bay vicinity, 28.VIII 1979, 2 ♂, 3 ♀, leg. MacLean, S.F., Jr. (IBSS).

DISTRIBUTION. Holarctic Region. Russia (European part, W Siberia, Baikal Lake vicinity, Chukotka, Yakutia, Magadan Region, Kamchatka, Khabarovsk Region, Primorye, N Kuriles), Mongolia, N America.

ECOLOGY. Shallow bogs. Flight period: July–August.



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Fig. 28. Female genitalia of *Grammotaulius signatipennis* (IBSS000000021), lateral.

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