

Caddisflies (Insecta: Trichoptera) Collected from the Kamchatka Peninsula and the North Kuril Islands in 1996–1997

Ryoichi B. Kuranishi

Natural History Museum and Institute, Chiba
955–2 Aoba-chō, Chūō-ku, Chiba 260–8682, Japan

Abstract Forty-four species, belonging to nine families of the order Trichoptera, are recorded from the Kamchatka Peninsula and the North Kuril Islands, Russia. Ten species are new records for the Kamchatka Peninsula, seven species for Shumshu Island, and seven species for Paramushir Island in the North Kuril Islands. The female of the *Limnephilus anadyrensis* Martynov is described for the first time.

Key words: Trichoptera, distribution, Kamchatka Peninsula, Kuril Islands (new record).

Martynov (1913; 1925) recorded the first 22 species of caddisflies from the Kamchatka Peninsula based on the material from Rjabushiskij's Kamchatka expedition of 1908–1909. Ulmer (1927) recorded 31 species from the material collected by the Swedish Kamchatka expedition in 1920–1922, adding eleven species to Martynov's list.

I. M. Levanidova, who resided on the Kamchatka Peninsula in 1960–1971, studied several aspects of aquatic insects, including taxonomy, ecology, relationship to resource management of freshwater fish, and biogeography (Levanidova, 1970; 1975; 1982). Levanidova (1975) listed 48 caddisfly species which had been recorded from the Kamchatka Peninsula.

Recently, Levanidova *et al.* (1995) and Lehr (1997) summarized the caddisfly fauna of the Russian Far East, counting 51 species of caddisflies from the Kamchatka Peninsula.

Vshivkova *et al.* (1994) first reported on the caddisfly fauna of the North Kuril Islands after the Second World War. They summarized the early history of research on the caddisfly fauna of the Island and treated material which was collected during the 1930's and 1940's by the Japanese scientists and the 1970's and 1980's by the Russians scientists. They recorded 18 species from Paramushir Island, of which seven were new records and nine species from Shumshu Island, of which

one was a new record.

The Natural History Museum and Institute, Chiba carried out the Biological Expedition to the Kamchatka Peninsula and the North Kuril Islands in 1996 and 1997. It was a part of a project entitled "The Origin and Biogeography of the Northeast Asian Biota", in co-operation with the Institute of Biology and Pedology and the Institute of Marine Biology belonging to the Far Eastern Branch of the Russian Academy of Sciences, Vladivostok.

In this paper, a list of the caddisflies is presented based on the material collected during the expedition.

Materials and Methods

The following list is based on material collected from 21 sites on the Kamchatka Peninsula, during the periods 3rd to 17th July 1996, 7th to 10th July 1997 and 27th July to 5th August 1997. On the North Kuril Islands, caddisflies were collected at seven sites on Paramushir Island and one site from Shumshu Island during 11th to 24th July 1997. The detailed localities are shown in Fig. 1 and 2 and described below.

Kamchatka Peninsula

KP-1: 5 km west of Mt. Vilyuchinsky (52°42' N, 158°10' E), alt. ca. 154 m.

KP-2: Bystraya River (riverside), 11 km

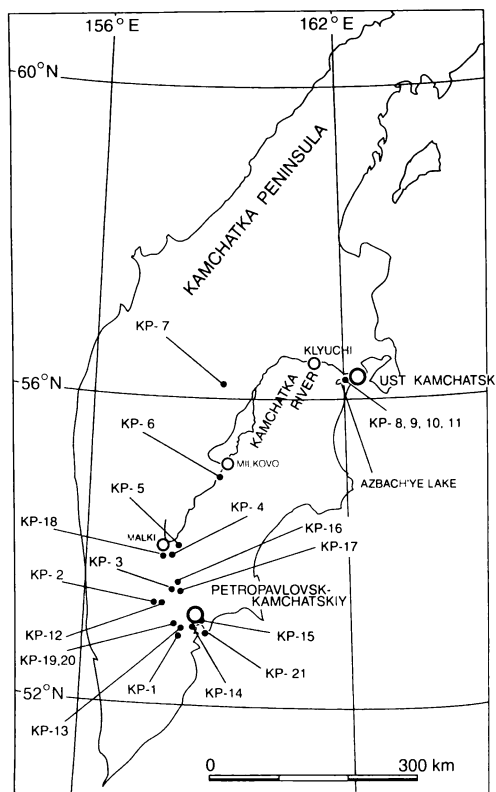


Fig. 1. Map of study sites in the Kamchatka Peninsula. For detailed explanations, see text.

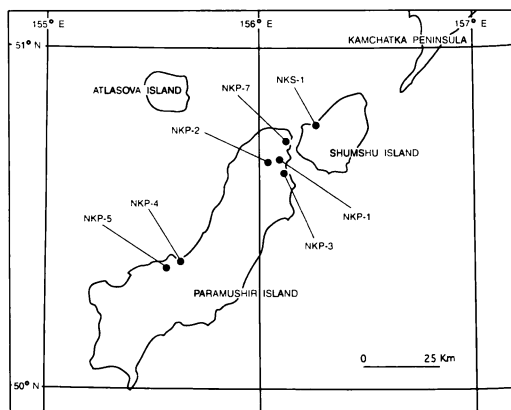


Fig. 2. Map of study sites in the North Kuril Islands. For detailed explanations, see text.

north of Malki (53°26'N, 157°32'E), alt. ca. 220 m.

KP-3: Poperechnaya River (upper part), 25 km from Malki Village (53°05'N, 157°52'E), alt. ca. 450 m.

KP-4: Bystraya River (riverside), 70 km north of Malki (53°58'N, 157°45'E), alt.

ca. 470 m.

KP-5: Pravaya River (upper part), 23 km south of Pushchino (54°01'N, 157°51'E), alt. ca. 540 m.

KP-6: Milkovo Village (54°42'N, 158°36'E), alt. ca. 112 m.

KP-7: Basin of Bystraya river, 10 km south-east of Anavgay (56°02'N, 159°04'E), alt. ca. 310 m.

KP-8: Biological Station near Azhabach'ye Lake (56°11'N, 161°59'E), alt. ca. 20 m.

KP-9: Inlet small stream, Azhabach'ye Lake (left side) (56°09'N, 161°55'E), alt. ca. 20 m.

KP-10: Djakonovskoje Lake near Azhabach'ye Lake (56°10'N, 161°57'E), alt. ca. 20 m.

KP-11: Athal Stream near Azhabach'ye Lake (56°11'N, 161°41'E), alt. ca. 20 m.

KP-12: Hot Spring (Riverside), Malki (52°25'N, 157°30'E), alt. ca. 20 m.

KP-13: 10 km south of Paratunka (52°53'N, 158°11'E), alt. ca. 100 m.

KP-14: Tikhayia River, about 30 km from Petropavlovsk-Kamchatskiy (53°05'N, 158°22'E), alt. ca. 40 m.

KP-15: Nagorniy, near Petropavlovsk-Kamchatskiy (53°07'N, 158°31'E), alt. ca. 150 m.

KP-16: Poperechnaya River, Bystraya River basin, 17 km from main road (53°23'N, 157°41'E), alt. ca. 320 m.

KP-17: Poperechnaya River, Bystraya River basin, 17 km from main road (53°22'N, 157°41'E), alt. ca. 400 m.

KP-18: Bystraya River basin, 30 km north of Ganaly (53°58'N, 157°45'E), alt. ca. 390 m.

KP-19: Mt. Vachkazhets, upper part of Takhkoloch River, Basin of Plotnikova (53°05'N, 157°55'E), alt. ca. 550 m.

KP-20: Mt. Vachkazhets, upper part of Takhkoloch River, Basin of Plotnikova (53°04'N, 157°55'–56'E), alt. ca. 600 m.

KP-21: Lagernaya Bay, 6 km southeast from Petropavlovsk-Kamchatskiy (52°55'N, 158°41'E), alt. ca. 10 m.

North Kuril Islands: Paramushir Island

NKP-1: Matrosskaya River, near Severo-Kuril'sk (50°39'N, 156°05'E), alt. 60 m.

NKP-2: Matrosskaya River, near Severo-Kuril'sk (50°40'N, 156°05'E), alt. 30–128 m.

NKP-3: 3–8 km south of Severo-Kuril'sk (50°38'N, 156°08'E), alt. 5–30 m.

NKP-4: Shelekhovo, (50°22'N, 155°37'E) alt. 10 m.

NKP-5: Shelekhovo to Shimoyur River (50°22'N, 155°37'E–50°22'N, 155°34'E), alt. 0–100 m.

NKP-6: Shelekhovo to Medvezhiy Waterfall (50°22'N, 155°37'E–50°22'N, 155°39'E), alt. 0–10 m.

NKP-7: 4 km north of Severo-Kuril'sk (50°43'N, 156°08'E), alt. 100 m.

North Kuril Islands: Shumshu Island

NKS-1: Lake Bol'shoye (50°46'N, 156°15'E), alt. 15 m.

Specimens were collected by using sweep nets, light trap and malaise trap, and was preserved in paper triangles and/or in ethyl alcohol. Most of the specimens are deposited in the Natural History Museum and Institute, Chiba (CBM, with a code of ZI).

List of collected species

The arrangement of families follows Wiggins (1996) and the genera and species are arranged alphabetically within each family. Where identifications could only be made to the generic level, material was nevertheless treated as an individual species, if the specimen could be separated from all other known species in the genus.

Collection data is formatted as follows: scientific name, abbreviation for 29 collection site, date, number of specimens, collector, registration number of the Museum (CBM-ZI), and known distribution. Collector's names are abbreviated as follows. AS: Akiko Saito; RBK: Ryoichi B. Kuranishi; TK: Tomoyuki Komai of the Natural History Museum and institute, Chiba; SH: Sergei K. Kholin of the Institute of Biology and Pedology, the Far Eastern Branch of Russian Academy of Sciences, Vladivostok.

In the following list, forty-four species are recorded from the Kamchatka Peninsula and the North Kuril Islands, and there are classified into nine families as follows: two species (Glossosomatidae), one sp. (Philopotamidae),

two spp. (Hydropsychidae), four spp. (Phryganeidae), two spp. (Brachycentridae), 24 spp. (Limnephilidae), four spp. (Apataniidae), four spp. (Leptoceridae), and one sp. (Molannidae).

Suborder SPICIPALPIA

Family Glossosomatidae

1. *Agapetus inaequispinosus* Schmid

Material examined. **KP-6:** 16-VII-1996, 1 male, RBK leg., CBM-ZI 83001.

Distribution. Russian Far East: Magadan, Kamchatka Peninsula, Khabarovsk, Primorye, Sakhalin, Kuril Islands (Kunashir); Eastern Siberia, Mongolia.

2. *Glossosoma intermedium* (Klapálek)

Material examined. **KP-2:** 5-VII-1996, 2 males 12 females, RBK leg., CBM-ZI 83002–83011; **KP-3:** 6-VII-1996, 6 females, RBK leg., CBM-ZI 83016–83017; **KP-5:** 8-VII-1996, 8 females, RBK leg., CBM-ZI 83012; **KP-12:** 17-VII-1996, 1 male, RBK leg., CBM-ZI 83018; **NKP-2:** 12-VII-1997, 1 female, AS leg., CBM-ZI 83013; **NKP-3:** 13-VII-1997, 2 males, RBK leg., CBM-ZI 83014; **NKP-5:** 17-VII-1997, 1 male, AS leg., CBM-ZI 83015.

Distribution. Russian Far East: Chukotka, Magadan, Koryak, Kamchatka Peninsula, Khabarovsk, Primorye, Sakhalin, Kuril Islands (Paramushir); Europe, Siberia, Mongolia, North America.

Remarks. Levanidova (1989) recorded this species from the Kuril Islands, but did not mention the collection locality.

Suborder ANNULIPALPIA

Family Philopotamidae

3. *Dolophilodes nomugiensis* Kobayashi

Material examined. **KP-1:** 3-VII-1996, 1 male 1 female, RBK leg., CBM-ZI 83020–21; **KP-15:** 10-VII-1997, 1 female, RBK leg., CBM-ZI 83019.

Distribution. Russian Far East: Kamchatka Peninsula (new record), Sakhalin, Kuril Islands (Kunashir); Japan (Honsyu, Shikoku).

Remarks. This is the first record of a philopotamid species from the Kamchatka Peninsula. The material was collected from mountain streams, but uncommon in the habitat.

Family Hydropsychidae

4. *Arctopsyche ladogensis* (Kolenati)

(Fig. 4: 18)

Material examined. **KP-2:** 5-VII-1996, 3 males 4 females, RBK leg., CBM-ZI 83022-83027; **KP-3:** 6-VII-1996, 2 males, RBK leg., CBM-ZI 83028; **KP-16:** 27-VII-1997, 3 males 5 females, RBK leg., CBM-ZI 83029-83033; **KP-17:** 28-VII-1997, 1 female, RBK leg., CBM-ZI 83034.

Distribution. Russian Far East: Magadan, Kamchatka Peninsula, Khabarovsk; northern Europe, Siberia, North America.

5. *Hydropsyche smetanini* Nimmo

Material examined. **KP-16:** 29-VII-1997, 2 females, RBK leg., CBM-ZI 83035-83036.

Distribution. Russian Far East: Kamchatka Peninsula.

Remarks. This is the second record of the species which was recently described from the Kamchatka Peninsula (Nimmo, 1995).

Suborder INTEGRIPALPIA Family Phryganeidae

6. *Agrypnia picta* Kolenati

Material examined. **KP-14:** 9-VII-1997, 4 males, RBK leg., CBM-ZI 83045-83048; **KP-15:** 10-VII-1997, 1 male 2 females, RBK leg., CBM-ZI 83049-83051; **NKP-3:** 13-VII-1997, 12 males 22 females, RBK leg., CBM-ZI 83052-83054, 83056-83074, 1 male, AS leg., CBM-ZI 83055; **NKP-7:** 24-VII-1997, 1 female, AS leg., CBM-ZI 83075.

Distribution. Russian Far East: Chukotka, Magadan, Kamchatka Peninsula, Khabarovsk, Amur, Primorye, Sakhalin, Kuril Islands (Paramushir: new record, Urup); Europe, Siberia, Tibet, China, Mongolia, Korea, Japan (Hokkaido).

7. *Agrypniz sahlbergi* (MacLachlan)

Material examined. **KP-14:** 9-VII-1997, 1 male, RBK leg., CBM-ZI 83076; **KP-15:** 10-VII-1997, 1 female, RBK leg., CBM-ZI 83077; **KP-20:** 2-VIII-1997, 8 males, RBK leg., CBM-ZI 83097-83101; 3-VIII-1997, 8 males, RBK leg., CBM-ZI 83102, 83105-83111; 4-VIII-1997, 2 males, RBK leg., CBM-ZI 83103-83104; **NKP-**

3: 13-VII-1997, 9 males 12 females, RBK leg., CBM-ZI 83078-83092; **NKP-7:** 24-VII-1997, 4 females, AS leg., CBM-ZI 83093-83096.

Distribution. Russian Far East: Magadan, Kamchatka Peninsula, Khabarovsk, Primorye, Kuril Islands (Paramushir); Europe, North America.

8. *Hagenella sibirica* (Martynov)

(Fig. 4: 17)

Material examined. **KP-12:** 17-VII-1996, 1 male, RBK leg., CBM-ZI 83042; **P-20:** 2-VIII-1997, 4 males 3 females, RBK leg., CBM-ZI 83039-83041; 3-VIII-1997, 3 males 1 female, RBK leg., CBM-ZI 83043-83044; **NKS-1:** 22-VII-1997, 3 females, RBK leg., CBM-ZI 83037-83038.

Distribution. Russian Far East: Kamchatka Peninsula (new record), Khabarovsk, Amur, Primorye, Sakhalin, Kuril Islands (Shumshu: new record; Paramushir); Siberia.

9. *Oligotricha lapponica* (Hagen)

Material examined. **KP-14:** 9-VII-1997, 1 female, RBK leg., CBM-ZI 83112; **KP-15:** 10-VII-1997, 6 males 5 females, RBK leg., CBM-ZI 83113, 83880-83884; **KP-16:** 29-VII-1997, 1 male, RBK leg., CBM-ZI 83114; **KP-20:** 2-VIII-1997, 3 males, RBK leg., CBM-ZI 83115-83117; 3-VIII-1997, 3 males, RBK leg., CBM-ZI 83118-120.

Distribution. Russian Far East: Chukotka, Magadan, Kamchatka Peninsula, Khabarovsk, Amur, Primorye; northern Europe, northwestern North America.

Family Brachycentridae

10. *Brachycentrus americanus* (Banks)

Material examined. **KP-8:** 12-VII-1996, 3 females, RBK leg., CBM-ZI 83143-83145; 14-VII-1996, 1 female, RBK leg., CBM-ZI 83146; **KP-12:** 16-VII-1996, 1 male 2 females, RBK leg., CBM-ZI 83147-83149; 17-VII-1996, 1 male 6 females, RBK leg., CBM-ZI 83150-83153; **KP-16:** 27-VII-1997, 16 females, RBK leg., CBM-ZI 83125-83138; 29-VII-1997, 2 males 3 females, RBK leg., CBM-ZI 83140-83142; **KP-17:** 28-VII-1997, 1 female, RBK leg., CBM-ZI 83139.

Distribution. Russian Far East: Magadan, Kamchatka Peninsula, Khabarovsk, Amur,

Primorye, Sakhalin; Eastern Siberia, Japan (Hokkaido), North America.

11. *Brachycentrus subnubilus* Curtis

Material examined. **KP-8:** 14-VII-1996, 1 female, RBK leg., CBM-ZI 83123; **KP-9:** 13-VII-1996, 1 female, RBK leg., CBM-ZI 83121; **KP-10:** 14-VII-1996, 1 female, RBK leg., CBM-ZI 83122.

Distribution. Russian Far East: Kamchatka Peninsula, Amur, Primorye; Siberia, European part of Russia, Caucasus, Iran, western Europe.

Family Limnephilidae

12. *Arctopora trimaculata* (Zetterstedt)

Material examined. **KP-16:** 29-VII-1997, 3 males, RBK leg., CBM-ZI 83216–83217.

Distribution. Russian Far East: Chukotka, Magadan, Kamchatka Peninsula, Khabarovsk, Sakhalin; Europe, North America.

13. *Chilostigma sieboldi* (MacLachlan)

Material examined. **KP-9:** 13-VII-1996, 1 male, RBK leg., CBM-ZI 83218.

Distribution. Russian Far East: Kamchatka Peninsula (new record), Khabarovsk; north-eastern Siberia, European part of Russia, northwestern Europe.

Remarks. Adults of *C. sieboldi* appear from in late autumn (November) to early spring (May) in Scandinavia and Finland (Schmid 1952) and November to April in Japan (Itou, 1992). *C. itasca* Wiggins, the second species of the genus *Chilostigma*, are also collected during winter (February and March) in Minnesota, United States (Wiggins, 1975). I found a male *C. sieboldi* in the middle of July in the Kamchatka Peninsula on snow at the bottom of a small valley near Lake Azhabach'ye. This is the first collecting record of *C. sieboldi* in the summertime.

14. *Ecclisomyia kamtshatica* (Martynov)
(Fig. 4: 13)

Material examined. **KP-6:** 8-VII-1996, 5 males 1 female, RBK leg., CBM-ZI 83154–83157; 16-VII-1996, 1 male, RBK leg., CBM-ZI 83188; **KP-7:** 9-VII-1996, 2 males, RBK leg., CBM-ZI 83158; **KP-12:** 17-VII-1996, 1 male, RBK leg., CBM-ZI 83159; **KP-16:** 27-VII-1997,

6 males 2 females, RBK leg., CBM-ZI 83160–83166; 29-VII-1997, 14 males 4 females, RBK leg., CBM-ZI 83179–83186; **KP-17:** 28-VII-1997, 16 males 3 females, RBK leg., CBM-ZI 83167–83178; **KP-19:** 31-VII-1997, 5 males, RBK leg., CBM-ZI 83187.

Distribution. Russian Far East: Magadan, Kamchatka Peninsula, Khabarovsk, Amur, Primorye, Sakhalin, Kuril Islands (Shumshu, Paramushir, Iturup); southwestern Siberia, Korea, Japan (Hokkaido).

15. *Grammotaulius signatipennis*
MacLachlan

Material examined. **KP-16:** 29-VII-1997, 2 females, RBK leg., CBM-ZI 83573; **NKP-1:** 11-VII-1997, 1 female, RBK leg., CBM-ZI 83574.

Distribution. Russian Far East: Chukotka, Kamchatka Peninsula, Khabarovsk, Primorye, Kuril Islands (Paramushir: new record); Siberia, European part of Russia, northern Europe, Baltic States, North America.

16. *Grammotaulius* sp.
(Figs. 3: 1–3, 4: 12)

Material examined. **NKP-5:** 17-VII-1997, 1 female, RBK leg., CBM-ZI 83575.

Remarks. This specimen does not have the dark color line on R5 of the hind wings (Fig. 4: 12), one of the characteristics of the genus *Grammotaulius* (cf. Schmid, 1950; 1998). The female genitalia (Fig. 3: 1–3) has the following characters of the genus: (1) tergite and sternite IX broadly touching; (2) segment X with two free, blunt and prominent appendages and a highly sclerotized cylinder with a small indentation; and (3) supragenital plate small. In this paper, I assigned tentatively the specimen to the genus *Grammotaulius*, but for the decision of its taxonomic position, more serious comparison between allied genera will be indispensable.

17. *Lenarchus productus* (Morton)
(Fig. 4: 15)

Material examined. **KP-2:** 5-VII-1996, 1 male, RBK leg., CBM-ZI 83219; **KP-20:** 2-VIII-1997, 12 males 6 females, RBK leg., CBM-ZI 83220–83228; 3-VIII-1997, 18 males 15 females, RBK leg., CBM-ZI 83229–83261.

Distribution. Russian Far East: Magadan, Kamchatka Peninsula, Khabarovsk; eastern

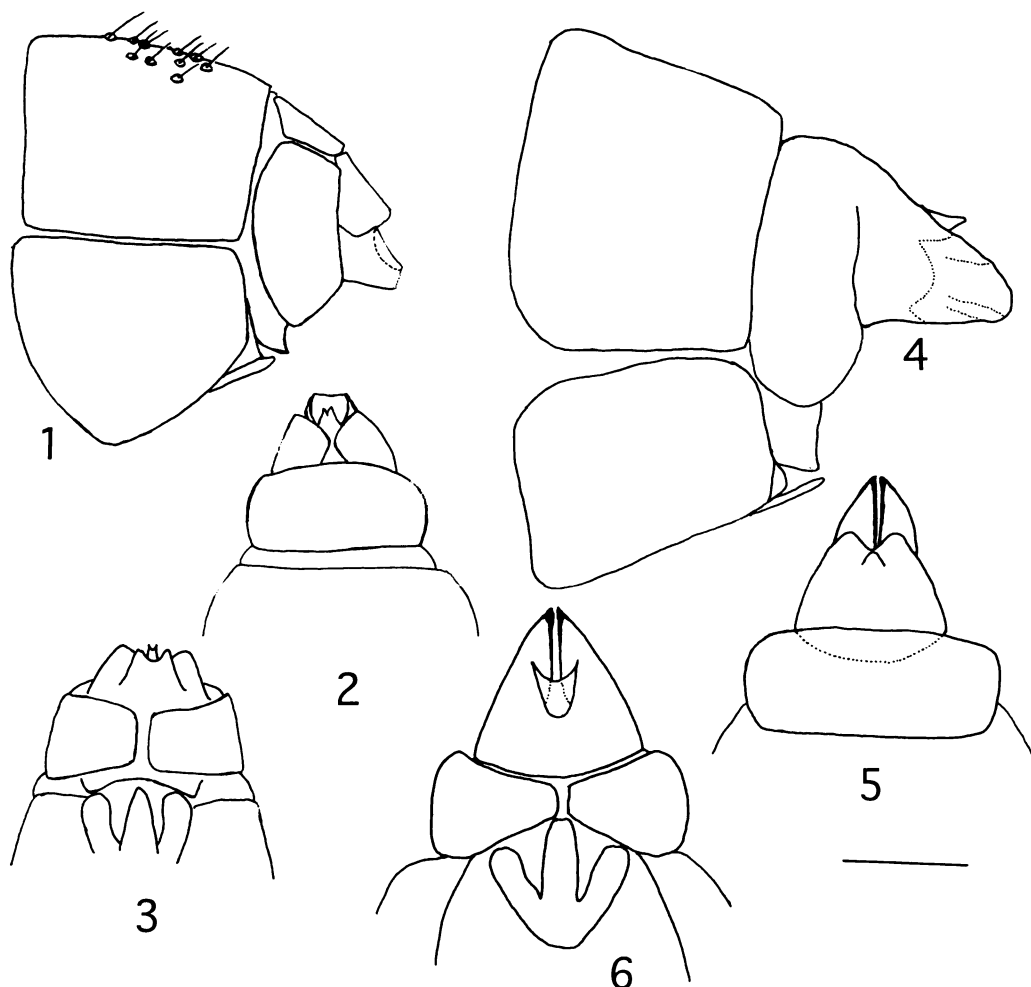


Fig. 3. 1–3: *Grammotaulius* sp., female terminalia. 1, lateral view; 2, dorsal view; 3, ventral view. 4–6: *Limnephilus anadyrensis* Martynov, female terminalia. 4, lateral view; 5, dorsal view; 6, ventral view. Scale 0.5 mm.

Siberia, northern European part of Russia, northern Europe (Scandinavia).

18. *Limnephilus anadyrensis* Martynov
(Figs. 3: 4–6, 4: 11)

Material examined. **KP-4:** 7-VII-1996, 21 males 15 females, RBK leg., CBM-ZI 83262–83286; **KP-5:** 7-VII-1996, 1 male, RBK leg., CBM-ZI 83287.

Distribution. Russian Far East: Chukotka, Kamchatka Peninsula (new record).

Description. Female. General color brown; palps dark brown and legs brown; spur count 1–3–4, spurs brown; spines black; fore wings irregularly irrorate on brown back ground, pale in costal and subcostal cell; stigma ir-

rorate; hind wings paler, with costal margin slightly darker than remainder of wing; length 13.0–14.0 mm from apex of head to apex of wings; 6th sternite without mesal spur; abdominal sternal setae not enlarged; median lobe of subgenital plate tapered to slightly indented apex that extends caudally well past lateral lobes; 9th segment separated laterally and not extended caudally; 10th tergite indistinctly separated from 9th segment, internal portion of 10th segment at apex darkly sclerotized.

Remarks. This species has not been recorded since its original description by Martynov (1936). The female of this species is recorded for the first time. D. E. Ruiter (in litt.) sugge-

sted that *Limnephilus argenteus* Banks is very similar to *L. anadyrensis*. But, for the decision of the taxonomic position of *L. anadyrensis*, a direct comparison between the types of both species will be indispensable.

19. *Limnephilus chereshnevi* Nimmo
(Fig. 4: 2)

Material examined. **KP-15:** 10-VII-1997, 1 male, RBK leg., CBM-ZI 83570.

Distribution. Russian Far East: Chukotka, Kamchatka Peninsula (new record).

Remarks. This species was recently described from the Chukotka region (Nimmo, 1995), and the present specimen represents the second record of the species.

20. *Limnephilus diphys* MacLachlan
(Fig. 4: 4)

Material examined. **NKS-1:** 22-VII-1997, 4 females, RBK leg., CBM-ZI 83290–83292, 1 female, AS leg., CBM-ZI 83289; **NKP-4:** 15-VII-1997, 1 female, RBK leg., CBM-ZI 83288.

Distribution. Russian Far East: Koryak, Kamchatka Peninsula, Khabarovsk, Primorye, Sakhalin, Kuril Islands (Shumshu and Paramushir: new record); northwestern Siberia, northern Europe (Scandinavia), North America (Canada), Japan (Hokkaido).

21. *Limnephilus dispar* MacLachlan
(Fig. 4: 3)

Material examined. **KP-4:** 7-VII-1996, 6 males, RBK leg., CBM-ZI 83292–83295.

Distribution. Russian Far East: Kamchatka Peninsula; Northern Europe.

22. *Limnephilus elegans* Curtis
(Fig. 4: 10)

Material examined. **KP-4:** 7-VII-1996, 2 males, RBK leg., CBM-ZI 83298, **KP-21:** 5-VIII-1997, 1 female, RBK leg., CBM-ZI 83297; **NKS-1:** 22-VII-1997, 1 male, RBK leg., CBM-ZI 83296.

Distribution. Russian Far East: Kamchatka Peninsula, Kuril Islands (Shumshu: new record, Paramushir); Southern Siberia, European part of Russia, western Europe, Baltic States, Caucasus.

23. *Limnephilus femoralis* Kirby
(Fig. 4: 16)

Material examined. **KP-4:** 7-VII-1996, 1 female, RBK leg., CBM-ZI 83299; **NKS-1:** 21-VII-1997, 3 females, RBK leg., CBM-ZI 83310–83312; 22-VII-1997, 1 female, AS leg., CBM-ZI 83313, 1 female, RBK leg., CBM-ZI 83314; **NKP-1:** 11-VII-1997, 1 male, RBK leg., CBM-ZI 83300; **NKP-2:** 12-VII-1997, 1 female, AS leg., CBM-ZI 83301; **NKP-3:** 13-VII-1997, 5 males, RBK leg., CBM-ZI 83302–83305; **NKP-4:** 19-VII-1997, 1 male, RBK leg., CBM-ZI 83309; **NKP-5:** 17-VII-1997, 1 male 2 females, AS leg., CBM-ZI 83306, 1 male, TK leg., CBM-ZI 83307, 1 female, RBK leg., CBM-ZI 83308; **NKP-7:** 24-VII-1997, 1 female, AS leg., CBM-ZI 83315.

Distribution. Russian Far East: Kamchatka Peninsula, Kuril Islands (Shumshu: new record, Paramushir); Northern Europe, Siberia.

24. *Limnephilus fenestratus* Zetterstedt

Material examined. **KP-16:** 27-VII-1997, 1 male, RBK leg., CBM-ZI 83317; **NKP-3:** 13-VII-1997, 1 male, RBK leg., CBM-ZI 83316.

Distribution. Russian Far East: Chukotka, Magadan, Kamchatka Peninsula, Kuril Islands (Paramushir); Siberia, European part of Russia, Mongolia, northwestern Europe.

25. *Limnephilus fuscovittatus* Matsumura
(Fig. 4: 6)

Material examined. **KP-16:** 27-VII-1997, 1 male, RBK leg., CBM-ZI 83571; **NKP-1:** 11-VII-1997, 1 male, RBK leg., CBM-ZI 83318.

Distribution. Russian Far East: Kamchatka Peninsula (new record), Sakhalin, Kuril Islands (Shumshu, Paramushir, Simushir, Urup, Iturup, Kunashir, Shikotan); Southwestern Siberia, Japan (Hokkaido, Honsyu, Shikoku, Kyusyu), Korea, Mongolia, China, northern India (Sikkim).

26. *Limnephilus incisus* Curtis
(Fig. 4: 1)

Material examined. **KP-12:** 16-VII-1996, 1 female, RBK leg., CBM-ZI 83350; **KP-16:** 29-VII-1997, 1 female, RBK leg., CBM-ZI 83342; **KP-17:** 28-VII-1997, 2 females, RBK leg., CBM-ZI 83341; **KP-18:** 30-VII-1997, 3 males 1

female, AS leg., CBM-ZI 83343-83345, 83348, 1 male 1 female, RBK leg., CBM-ZI 83346-83347; **KP-19**: 1-VIII-1997, 1 male, RBK leg., CBM-ZI 83349; **NKP-5**: 17-VII-1997, 12 males 21 females, RBK leg., CBM-ZI 83319-83340.

Distribution. Russian Far East: Chukotka, Magadan, Kamchatka Peninsula, Khabarovsk, Kuril Islands (new record; from Paramushir); Siberia, European part of Russia, Mongolia, western Europe, Caucasus, Turkmen, Pakistan.

27. *Limnephilus picturatus* MacLachlan
(Fig. 4: 5)

Material examined. **NKS-1**: 22-VII-1997, 1 female, RBK leg., CBM-ZI 83355; **NKP-4**: 19-VII-1997, 2 males, RBK leg., CBM-ZI 83353-83354; **NKP-5**: 17-VII-1997, 2 males, AS leg., CBM-ZI 83351, 1 male, RBK leg., CBM-ZI 83352.

Distribution. Russian Far East: Chukotka, Magadan, Kamchatka Peninsula, Khabarovsk, Primorye, Sakhalin, Kuril Islands (Shumshu, Paramushir); Europe, Siberia, North America.

28. *Limnephilus quadratus* Martynov

Material examined. **KP-16**: 29-VII-1997, 1 male, RBK leg., CBM-ZI 83356.

Distribution. Russian Far East: Kamchatka Peninsula (new record), Khabarovsk, Primorye, Sakhalin, Kuril Islands (Kunashir); European part of Russia, northwestern Europe, Japan (Hokkaido).

29. *Limnephilus rhombicus* Linnaeus
(Fig. 4: 8)

Material examined. **KP-5**: 8-VII-1996, 1 male, RBK leg.; **KP-6**: 16-VII-1996, 1 male 1 female, RBK leg.; **NKP-7**: 24-VII-1997, 1 male, AS leg., CBM-ZI 83357.

Distribution. Russian Far East: Magadan, Kamchatka Peninsula, Khabarovsk, Kuril Islands (Paramushir, Kunashir); Europe, North America.

30. *Limnephilus sericeus* (Say)

Material examined. **KP-9**: 13-VII-1996, 1 male, RBK leg., CBM-ZI 83384; **KP-12**: 17-VII-1996, 1 male, RBK leg., CBM-ZI 83385; **KP-15**: 10-VII-1997, 3 males 7 females, RBK leg., CBM-ZI 83358-83363; **KP-16**: 27-VII-1997, 1

male, RBK leg., CBM-ZI 83378; 29-VII-1997, 1 male 1 female, RBK leg., CBM-ZI 83382-83383; **KP-17**: 28-VII-1997, 2 males 1 female, RBK leg., CBM-ZI 83379-83381; **NKS-1**: 21-VII-1997, 1 male, AS leg., CBM-ZI 83371; 22-VII-1997, 2 males, RBK leg., CBM-ZI 83372-83373, 1 male, AS leg., CBM-ZI 83374; **NKP-1**: 11-VII-1997, 1 male, RBK leg., CBM-ZI 83364; **NKP-4**: 19-VII-1997, 1 male, RBK leg., CBM-ZI 83370; **NKP-5**: 17-VII-1997, 2 males, AS leg., CBM-ZI 83365-83368, 3 males, RBK leg., CBM-ZI 83366-83367, 83369; **NKP-7**: 24-VII-1997, 3 males, AS leg., CBM-ZI 83375-83377.

Distribution. Russian Far East: Chukotka, Magadan, Kamchatka Peninsula, Khabarovsk, Primorye, Sakhalin, Kuril Islands (Shumshu, Paramushir, Simushir, Urup, Iturup); Europe, North America, Korea, Japan (Hokkaido, Honsyu).

31. *Limnephilus sparsus* Curtis
(Fig. 4: 9)

Material examined. **KP-2**: 5-VII-1996, 1 male, RBK leg., CBM-ZI 83386; **KP-5**: 7-VII-1996, 1 male, RBK leg., CBM-ZI 83559; **KP-7**: 9-VII-1996, 1 male, RBK leg., CBM-ZI 83387; **KP-15**: 10-VII-1997, 1 female, RBK leg., CBM-ZI 83388, 1 male, AS leg., CBM-ZI 83389. **KP-16**: 27-VII-1997, 1 male 7 females, RBK leg., CBM-ZI 83516-83523; 29-VII-1997, 12 males 19 females, RBK leg., CBM-ZI 83528-83550; **KP-17**: 28-VII-1997, 2 males 2 females, RBK leg., CBM-ZI 83524-83527; **KP-18**: 30-VII-1997, 1 male 1 female, RBK leg., CBM-ZI 83551-83552; **KP-20**: 2-VIII-1997, 1 female, RBK leg., CBM-ZI 83553; 3-VIII-1997, 3 females, RBK leg., CBM-ZI 83554-83558, 2 females, AS leg.; 3-VIII-1997, 3 males, RBK leg., CBM-ZI 83563-83565; **NKS-1**: 21-VII-1997, 8 males 10 females, AS leg., CBM-ZI 83411-83424, 2 females, RBK leg., CBM-ZI 83425-83426; 22-VII-1997, 2 males 4 females, AS leg., CBM-ZI 83427-83432, 13 males 59 females, RBK leg., CBM-ZI 83433-83504; **NKP-1**: 11-VII-1997, 3 males 3 females, RBK leg., CBM-ZI 83390-83391; **NKP-2**: 12-VII-1997, 1 female, TK leg., CBM-ZI 83392, 1 male 1 female, AS leg., CBM-ZI 83393-83394; 14-VII-1997, 4 males, RBK leg., CBM-ZI 83396-83399; **NKP-3**: 13-VII-1997, 1 male, RBK leg., CBM-ZI 83395; **NKP-4**: 15-VII-1997, 2 fe-

males, RBK leg., CBM-ZI 83400–83401; **NKP-5**: 17-VII-1997, 3 males 6 females, RBK leg., CBM-ZI 83402–83407, 83560–83562, 1 male 2 females, AS leg., CBM-ZI 83408–83410; **NKP-7**: 24-VII-1997, 4 males 7 females, AS leg., CBM-ZI 83505–83515.

Distribution. Russian Far East: Kamchatka Peninsula, Kuril Islands (Shumshu: new record, Paramushir, Simushir, Urup, Iturup, Kunashir, Shikotan); Southern Siberia, European part of Russia, western Europe, Baltic States, Caucasus, Japan (Hokkaido, Honsyu).

32. *Limnephilus stigma* Curtis

(Fig. 4: 7)

Material examined. **KP-16**: 29-VII-1997, 2 females, RBK leg., CBM-ZI 83566; **KP-18**: 30-VII-1997, 2 males, RBK leg., CBM-ZI 83567.

Distribution. Russian Far East: Chukotka, Magadan, Kamchatka Peninsula, Khabarovsk, Primorye, Sakhalin, Kuril Islands (Paramushir, Kunashir); Northern Europe, North America, Japan (Hokkaido).

33. *Nemotaulius amurensis* Nimmo

Material examined. **KP-16**: 29-VII-1997, 2 males, RBK leg., CBM-ZI 83572.

Distribution. Russian Far East: Kamchatka Peninsula (new record), Khabarovsk.

34. *Nemotaulius mutatus* MacLachlan

(Fig. 4: 14)

Material examined. **NKP-4**: 19-VII-1997, 1 female, RBK leg.; **NKS-1**: 22-VII-1997, 1 male, RBK leg., CBM-ZI 83576.

Distribution. Russian Far East: Kamchatka Peninsula, Khabarovsk, Primorye, Kuril Islands (new record; from Paramushir and Shumshu); southeastern Siberia, Korea, northeastern China.

35. *Onocosmoecus unicolor* Banks

Material examined. **KP-7**: 9-VII-1996, 1 male, RBK leg., CBM-ZI 83189; **KP-16**: 27-VII-1997, 6 males, RBK leg., CBM-ZI 83190–83195; 29-VII-1997, 13 males 1 female, RBK leg., CBM-ZI 83197–83201; **KP-17**: 28-VII-1997, 3 males 1 female, RBK leg., CBM-ZI 83196; **KP-18**: 30-VII-1997, 3 males, RBK leg., CBM-ZI 83202–83204; **KP-19**: 31-VII-1997, 1 male 1 female, RBK leg., CBM-ZI 83205–83206; 1-VIII-1997, 1 male, RBK leg., CBM-ZI

83207; **KP-20**: 3-VIII-1997, 8 males, RBK leg., CBM-ZI 83208–83215.

Distribution. Russian Far East: Magadan, Kamchatka Peninsula, Kuril Islands (Shumshu, Shikotan); North America (Canada, northwestern and northeastern United States).

Family Apataniidae

36. *Apatania aberrans* (Martynov)

Material examined. **KP-16**: 29-VII-1997, 1 male 1 female, RBK leg., CBM-ZI 83775–83776.

Distribution. Russian Far East: Kamchatka Peninsula (new record), Sakhalin, South Primorye, Kuril Islands (Kunashir); Japan (Hokkaido, Honsyu, Kyusyu), Korea.

37. *Apatania crymophila* MacLachlan

Material examined. **KP-3**: 6-VII-1996, 4 females, RBK leg., CBM-ZI 83577; **KP-8**: 12-VII-1996, 2 males, RBK leg., CBM-ZI 83578–83579.

Distribution. Russian Far East: Chukotka, Magadan, Kamchatka Peninsula, Khabarovsk, Primorye, Sakhalin; North America.

38. *Apatania stigmatella* Zetterstedt

Material examined. **KP-7**: 9-VII-1996, 2 males 1 female, RBK leg., CBM-ZI 83580–83582; **KP-11**: 199607015, 1 female, RBK leg., CBM-ZI 83683; **KP-12**: 16-VII-1996, 1 female, RBK leg., CBM-ZI 83678; 17-VII-1996, 3 males 1 female, RBK leg., CBM-ZI 83679–83682; **KP-13**: 7-VII-1997, 1 female, AS leg., CBM-ZI 83583; **KP-16**: 27-VII-1997, 2 males 2 females, RBK leg., CBM-ZI 83586–83587; 29-VII-1997, 71 males 24 females, RBK leg., CBM-ZI 83590–83664; **KP-17**: 28-VII-1997, 2 males, RBK leg., CBM-ZI 83588–83589; **KP-18**: 30-VII-1997, 2 females, AS leg., CBM-ZI 83665–83666, 6 males 2 females, RBK leg., CBM-ZI 83667–83674; **KP-19**: 31-VII-1997, 2 males, RBK leg., CBM-ZI 83675–83676; **KP-20**: 4-VIII-1997, 1 female, RBK leg., CBM-ZI 83677; **NKP-3**: 13-VII-1997, 1 female, RBK leg., CBM-ZI 83584; **NKP-5**: 17-VII-1997, 1 female, AS leg., CBM-ZI 83585.

Distribution. Russian Far East: Chukotka, Magadan, Kamchatka Peninsula, Khabarovsk, Kuril Islands: (Shumshu, Paramushir)

(new record); Siberia, European part of Russia, northern North America.

39. *Apatania zonella* Zetterstedt

Material examined. **KP-1:** 7-VII-1997, 1 female, RBK leg.; **KP-2:** 5-VII-1996, 2 females, RBK leg., CBM-ZI 83684–83685; **KP-3:** 6-VII-1996, 5 females, RBK leg., CBM-ZI 83754–83755, 83885–83887; **KP-5:** 8-VII-1996, 1 male, RBK leg., CBM-ZI 83686; **KP-7:** 9-VII-1996, 2 females, RBK leg., CBM-ZI 83687–83688; 10-VII-1996, 2 females, RBK leg., CBM-ZI 83756; **KP-8:** 14-VII-1996, 2 males, RBK leg., CBM-ZI 83757–83758; **KP-11:** 15-VII-1996, 4 females, RBK leg., CBM-ZI 83759–83761; **KP-12:** 17-VII-1996, 3 females, RBK leg., CBM-ZI 83762–83764; **KP-13:** 7-VII-1997, 4 females, AS leg., CBM-ZI 83689–83692; **KP-16:** 27-VII-1997, 1 male 21 females, RBK leg., CBM-ZI 83714–83734; 29-VII-1997, 25 females, RBK leg., CBM-ZI 83736; **KP-17:** 28-VII-1997, 1 female, RBK leg., CBM-ZI 83735; **KP-19:** 31-VII-1997, 1 male 10 females, RBK leg., CBM-ZI 83737–83746; 1-VIII-1997, 1 male, AS leg., CBM-ZI 83747, 1 male 2 females, RBK leg., CBM-ZI 83748–83750; **KP-20:** 2-VIII-1997, 1 female, RBK leg., CBM-ZI 83751; 3-VIII-1997, 1 female, RBK leg., CBM-ZI 83752; 4-VIII-1997, 1 female, RBK leg., CBM-ZI 83753; **NKS-1:** 21-VII-1997, 1 female, AS leg., CBM-ZI 83708; 22-VII-1997, 5 females, RBK leg., CBM-ZI 83709–83713; **NKP-2:** 12-VII-1997, 1 female, AS leg., CBM-ZI 83693; **NKP-3:** 13-VII-1997, 1 female, RBK leg., CBM-ZI 83694; **NKP-5:** 17-VII-1997, 1 female, AS leg., CBM-ZI 83695, 14 females, RBK leg., CBM-ZI 83696–83703; **NKP-6:** 18-VII-1997, 4 females, AS leg., CBM-ZI 83704–83707.

Distribution. Russian Far East: Chukotka, Magadan, Kamchatka Peninsula, Khabarovsk, Amur, Primorye, Sakhalin, Kuril Islands (Shumshu, Paramushir, Rasshua, Kunashir); Europe, North America.

Family Leptoceridae

40. *Ceraclea lobulata* (Martynov)

Material examined. **KP-14:** 9-VII-1997, 1 male, RBK leg., CBM-ZI 83777; **KP-20:** 4-VIII-1997, 3 males, RBK leg., CBM-ZI 83778–83779.

Distribution. Russian Far East: Magadan, South Khabarovsk, Amur, Kamchatka Peninsula: (new record), Yakutia, Primorye; Japan (Honsyu, Kyusyu), northeastern China.

41. *Oecetis lacustris* (Pictet)

Material examined. **KP-14:** 9-VII-1997, 4 males 1 female, RBK leg., CBM-ZI 83780–83782; **KP-15:** 10-VII-1997, 1 male, RBK leg., CBM-ZI 83783; **KP-16:** 27-VII-1997, 1 male, RBK leg., CBM-ZI 83784; **KP-20:** 4-VIII-1997, 1 male, RBK leg., CBM-ZI 83785; **KP-21:** 5-VIII-1997, 2 females, RBK leg., CBM-ZI 83786–83787.

Distribution. Russian Far East: Chukotka, Magadan, Kamchatka Peninsula, Khabarovsk, Amur, Primorye, Sakhalin; Siberia, China, Russia, Europe.

42. *Oecetis nigropunctata* Ulmer

Material examined. **NKP-3:** 13-VII-1997, 12 males 8 females, RBK leg., CBM-ZI 83788–83800.

Distribution. Russian Far East: Khabarovsk, Primorye, Kuril Islands (Paramushir: new record, Kunashir); Japan (Hokkaido, Honsyu, Shikoku, Kyusyu).

43. *Oecetis ochracea* (Curtis)

(Fig. 4: 20)

Material examined. **KP-21:** 5-VIII-1997, 7 males 5 females, RBK leg., CBM-ZI 83801–83808.

Distribution. Russian Far East: Chukotka, Magadan, Kamchatka Peninsula, southern Khabarovsk, Amur, Primorye, Sakhalin; Siberia, Asian part of Russia, northeastern China, Mongolia, western Europe, North America.

Family Molannidae

44. *Molanna submarginalis* MacLachlan

(Fig. 4: 19)

Material examined. **NKP-3:** 13-VII-1997, 14 males 5 females, RBK leg., CBM-ZI 83809–83817; **NKP-7:** 24-VII-1997, 22 males 43 females, AS leg., CBM-ZI 83818–83878, 1 female, RBK leg., CBM-ZI 83879.

Distribution. Russian Far East: Khabarovsk, Sakhalin, Kuril Islands (Paramushir); Siberia, European part of Russia, Korea, north-

western Europe (Scandinavia).

Acknowledgments

I express my sincere thanks to Drs. Tatyana S. Vshivkova and Tatyana I. Arefina, Institute of Biology and Pedology, Far Eastern Branch of Russian Academy of Sciences for their useful suggestions concerning the identification of some species, to Dr. Oliver S. Flint, Jr., National Museum of Natural History, Smithsonian Institution, and to Mr. Takao Nozaki, Kanagawa Environmental Research Center for their critical reading of manuscript and their kind advice. I also thanks for Dr. Hiroyuki Nishimoto, Aichi Prefecture, for his identification of some apataniid specimens, and to Mr. David E. Ruiter, Littleton, Colorado, USA, for his kind advice to the manuscript. My thanks are also due to Ms. Tomoko Kuranishi, for her generous assistance in preparation of the material. This paper dedicated to the my late father Mr. Toutarou Kuranishi, who passed away on June 22th, 1998: he always encouraged my work.

References

- Itou, M. 1992. Discovery of a caddisfly species of genus *Chilostigma* which hibernates at adult stage (Trichoptera, Limnephilidae). *Sylvicola* 10: 49–54. (In Japanese)
- Lehr, P. A. (ed.). 1997. Key to the insects of Russian Far East. Vol. V. Trichoptera and Lepidoptera. part 1. 540 pp. Dal'nauka. Vladivostok. (In Russian)
- Levanidova, I. M. 1970. Ecology and zoogeography of stoneflies, mayflies and caddisflies of Kamchatka rivers. *Vladivostok* 3: 100–114. (In Russian)
- Levanidova, I. M. 1975. Caddisflies of Kamchatka Peninsula (ecology and faunistical survey). *Vladivostok* 97: 83–114. (In Russian)
- Levanidova, I. M. 1982. Amphibiotic insects of mountain regions of Far East of USSR. 214 pp. Nauka, Leningrad. (In Russian)
- Levanidova, I. M. 1989. Trichoptera of the USSR Far East. Part II. Families Glossosomatidae and Hydroptilidae. Annotated Catalogue of Trichoptera, Ephemeroptera and Megaloptera of the USSR Far East and adjacent territories. *Vladivostok*: 3–11. (In Russian)
- Levanidova, I. M., T. S. Vshivkova, T. I. Arefina and I. A. Zasyapkina. 1995. A tabular check-list of caddisflies (Insecta: Trichoptera) of the Russian Far East. *Far East. Entomol.* 16: 1–19.
- Martynov, A. B. 1913. Trichoptera of the Kamtschatka Expedition. *Rev. Russe Ent.* 13: 476–481.
- Martynov, A. B. 1925. Trichoptera recueillis au Kamtschatka par l'expedition de Mr Th. Riabuskij en 1908–1909. *Ann. Mus. Zool. Sci. U.R.S.S.* 26: 10–26. (In Russian)
- Martynov, A. B. 1936. Notes to caddisfly fauna (Trichoptera) of Anadyr and Chukotka regions and formation of it. *Arctica* 4: 179–194. (In Russian)
- Nimmo, A. P. 1995. New species of Hydropsychidae and Limnephilidae (Insecta, Trichoptera) from the Far East of Russia, with description of a new genus of Limnephilidae (Limnephilini). *Occasional Papers on Trichoptera Taxonomy* 1: 1–15.
- Schmid, F. 1950. Monographie du genre *Grammotaulius* Kolenati (Trichoptera: Limnephilidae). *Rev. Suisse Zool.* 57: 317–352.
- Schmid, F. 1952. Le groupe de *Chilostigma*. *Arch. Hydrobiol.* 47: 75–163.
- Schmid, F. 1998. Genera of the Trichoptera of Canada and adjoining or adjacent United States. *The Insects and Arachnids of Canada. Part 7.* 319 pp. NRC Research Press, Ottawa.
- Ulmer, G. 1927. Trichoptera and Ephemeroptera. *In Entomol. Ergebnisse Schwed. Kamtschatka-Expedition 1920–1922.* *Arkiv Zool.* 19A: 1–17.
- Vshivkova, S. T., T. Nozaki, R. B. Kuranishi and T. I. Arefina. 1994. Caddisflies (Insecta, Trichoptera) of the Kuril Islands. *Bull. Biogeogr. Soc. Jap.* 49 (2): 129–142.
- Wiggins, G. B. 1975. Contributions to the systematics of the caddisfly family limnephilidae (Trichoptera). II. *Canad. Ento.* 325–336.
- Wiggins, G. B. 1996. Larvae of the North American Caddisfly Genera. 2nd edition. 457 pp. University Toronto Press, Toronto.

1996–1997 年に採集されたカムチャツカ半島と北千島のトビケラ目昆虫

倉西良一

千葉県立中央博物館

〒260-8682 千葉市中央区青葉町 955-2

1996 年と 1997 年にカムチャツカ半島と北千島で千葉県立中央博物館とロシア科学アカデミーの生物学共同調査が行われ、スリーピング法・ライトトラップやマレーズトラップでトビケラ目昆虫が採集された。

カムチャツカ半島からは、8科31種が見出され *Dolophilodes nomugiensis* Kobayashi, *Hagenella sibirica* (Martynov), *Chilostigma sieboldi* (MacLachlan), *Limnephilus anadyrensis* Martynov, *Limnephilus chereshevi* Nimmo, *Limnephilus fuscovittatus* Matsumura, *Limnephilus quadratus* Martynov, *Nemotaulius amurensis* Nimmo, *Apatania aberrans* (Martynov), *Ceraclea lobulata* (Martynov) の10種が初めて記録された。北千島のパラムシル島からは、6科18種が見出され、*Agrypnia picta* Kolenati, *Grammotaulius signatipennis* MacLachlan, *Limnephilus diphyes* MacLachlan, *Limnephilus incisus* Curtis, *Nemotaulius mutatus* MacLachlan, *Apatania stigmatella* Zetterstedt, *Oecetis nigropunctata* Ulmer の7種が初めて記録された。また北千島のシュムシュ島からは、3科9種が見出され、*Hagenella sibirica*, *Limnephilus diphyes*, *Limnephilus elegans* Curtis, *Limnephilus femoralis* Kirby, *Limnephilus sparsus*

Curt, *Nemotaulius mutatus*, *Apatania stigmatella* の7種が初めて記録された。

Chilostigma 属 (ユキエグリトビケラ属) の成虫は、北欧・北米や日本では晩秋から早春にかけて出現・活動することが知られていたが、今回のカムチャツカ半島での調査では、7月に雪渓上に活動する個体が採集され、夏期の採集記録としても初めてであった。今回採集された種で、*Grammotaulius* sp. (アヤトビケラ属の1種) と同定した種は、雌の個体で雌の交尾器の形態に基づき同定した。所属する属の確定には、交尾器以外の形態も含め近縁属と検討することが望まれる。*Limnephilus anadyrensis* は、Martynov (1936) の原記載以降初めて記録され、未記載であった雌を記載した。また D. E. Ruiter 氏の私信によると *L. anadyrensis* は、北米から知られる *L. argenteus* Banks と極めて近縁である。両種の分類学的な位置を確定するためには、模式標本の比較検討が必要である。

Fig. 4. 1–20: Habitus of the caddisflies recorded in this study. Length from apex of head to apex of wings indicated in parentheses. 1, *Limnephilus incisus* Curtis, female (7.7 mm); 2, *Limnephilus chereshevi* Nimmo, male (8.5 mm); 3, *Limnephilus dispar* MacLachlan, male (8.6 mm); 4, *Limnephilus diphyes* MacLachlan, female (16.3 mm); 5, *Limnephilus picturatus* MacLachlan, male (11.0 mm); 6, *Limnephilus fuscovittatus* Matsumura, male (16.7 mm); 7, *Limnephilus stigma* Curtis, male (15.8 mm); 8, *Limnephilus rhombicus* Linnaeus, male (19.0 mm); 9, *Limnephilus sparsus* Curtis, male (11.0 mm); 10, *Limnephilus elegans* Curtis, male (16.0 mm); 11, *Limnephilus anadyrensis* Martynov, male (14.0 mm); 12, *Grammotaulius* sp., female (11.5 mm); 13, *Ecclisomyia kamshatica* (Martynov), male (12.0 mm); 14, *Nemotaulius mutatus* MacLachlan, male (28.2 mm); 15, *Lenarchus productus* (Morton), male (16.0 mm); 16, *Limnephilus fenestratus* Zetterstedt, male (11.2 mm); 17, *Hagenella sibirica* (Martynov), male (13.5 mm); 18, *Arctopsyche ladogensis* (Kolenati), male (14.0 mm); 19, *Molanna submarginalis* MacLachlan, female (13.5 mm); 20, *Oecetis ochracea* (Curtis), male (14.0 mm).

