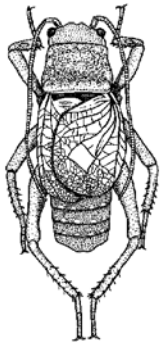

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TWO NEW SPECIES OF CADDISFLIES (INSECTA: TRICHOPTERA) FROM THE RUSSIAN FAR EAST

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Two new species of caddisflies, *Lype zwicki* **sp. n.** (Psychomyiidae) from Khabarovskii krai and *Ceraclea drachevi* **sp. n.** (Leptoceridae) from Primorskii krai, are described.

KEY WORDS: Trichoptera, taxonomy, new species, Russia.

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Описаны два новых вида ручейников: *Lype zwicki* **sp. n.** (Psychomyiidae) из Хабаровского края и *Ceraclea drachevi* **sp. n.** (Leptoceridae) из Приморского края.

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INTRODUCTION

Two new species of caddisflies were collected from Khabarovskii krai and Primorskii krai during an expedition of the Institute of Biology and Soil Science of the Russian Academy of Sciences supported by the Russian Fund of Fundamental Investigations (Grant N 96-04-50388) in 1997 and during a co-operative field survey in 1998 with Prof. P. Zwick (Limnologische Flussstation des Max-Planck-Instituts

für Limnologie, Schlitz, Germany), respectively. Holotypes and paratypes of new species are preserved in alcohol and deposited in the collection of the Institute of Biology and Soil Science (Vladivostok).

FAMILY PSYCHOMYIIDAE

The genus *Lype* McLachlan, 1879 is represented in Russia by four species, two of them are known from the Russian Far East: *L. daurica* Ivanov et Levanidova, 1996 from Primorskii krai and *L. excisa* Mey, 1991 from Sakhalin and Kuril Islands (Arefina et al., 1997). A new species of *Lype* is described below.

***Lype zwicki* Arefina, sp. n.**
Figs 1-6

MATERIAL. Holotype – ♂, Russia: Khabarovskii krai, Alchi Stream, a tributary of Mukhen River (Amur River Basin), 21.VIII 1997 (T. Tiunova). Paratypes – 5 ♂, 2 ♀, with the same data as holotype; 1 ♂, Khabarovskii krai, Khoidur River (Amur River Basin), 18.VIII 1997 (T. Tiunova).

DESCRIPTION. Length of forewing: male – 3.9-4.2 mm; female – 4.6-4.8 mm. Head and thorax yellow-brown, abdomen light brown from above, wings pale.

MALE GENITALIA (Figs 1-4). Sternite IX with triangular anterior projection. Preanal appendages long, flat, broadened medially in dorsal view, gradually tapering to blunt apices; and extending beyond segment X about half of their length. Dorsal projection of tergite IX shorter than segment X, triangular in dorsal view, tapering to nearly rounded apex in dorsal view. Segment X broad, truncate. Distal segments of inferior appendages short and rather wide in lateral view, fused basally in ventral view, with meso-ventral corners protruding caudad; terminal segment of each inferior appendage long, straight, slightly curved dorso-apically, with apex rounded in lateral view, and acute, turned inwards in ventral view. Phallic apparatus massive, constricted medially; aedeagus with triangular subapical projection in lateral view, finger-like in dorsal view, apex of aedeagus without apical excision.

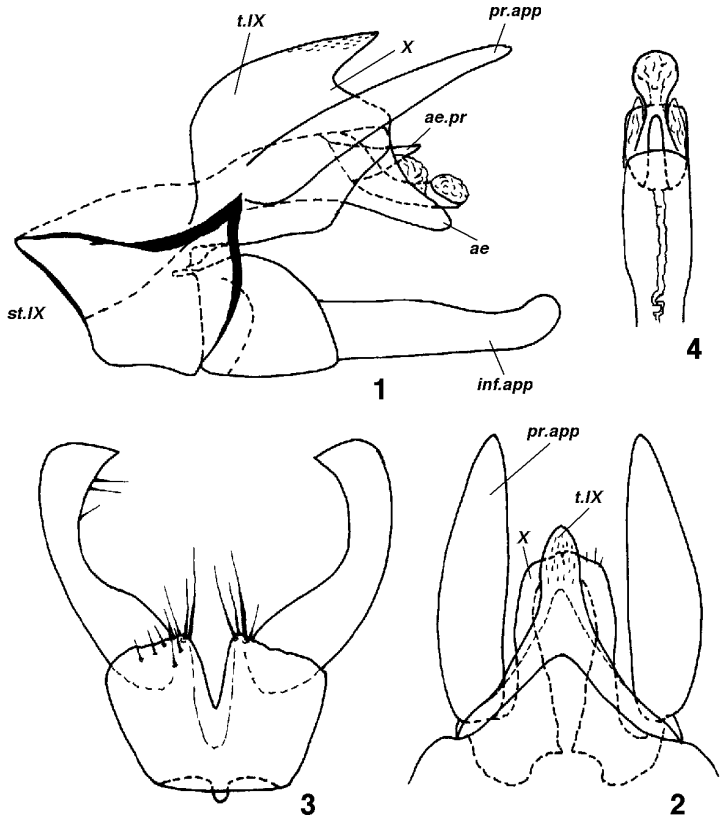
FEMALE GENITALIA (Figs 5-6). Anterior margin of segment VIII with rounded excision medially, posterior margin straight. Segments X and XI considerably extended and gradually tapered. Vulvar scale tiny.

IMMATURE STAGES. Unknown.

DIAGNOSIS. The male of *Lype zwicki* sp. n. resembles that of *L. excisa* in the shape of dorsal projection of tergite IX in lateral view. It resembles those of *L. phaeopa* (Stephens, 1836) and *L. auripilis* McLachlan, 1884 in the shape of distal segment of the inferior appendages. It differs from all of these species by the truncate apex of segment X and by the straight terminal segments of the inferior appendages. Females of *L. excisa* and *L. daurica* remain unknown.

DISTRIBUTION. Russia: Khabarovskii krai (Amur River Basin).

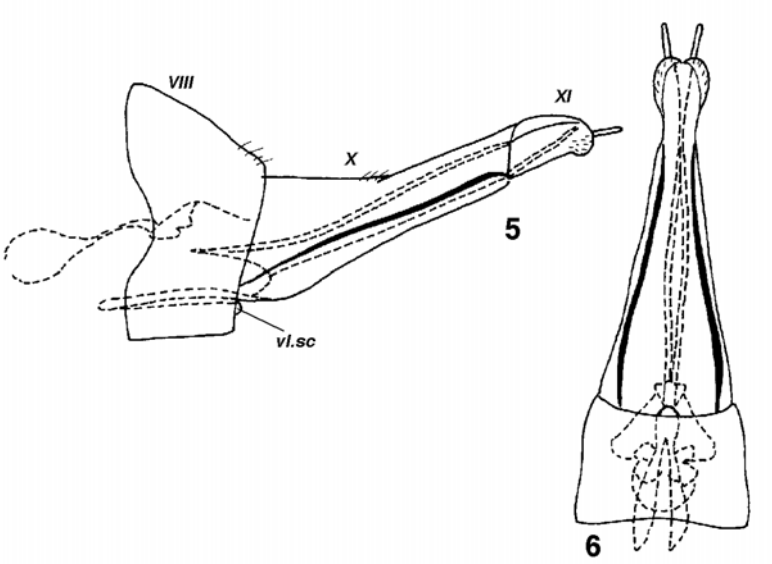
ETYMOLOGY. I take pleasure in naming this species after Prof. P. Zwick.



Figs 1-4. Male genitalia of *Lype zwicki* sp. n.: 1) lateral view; 2) dorsal view; 3) ventral view; 4) phallus, dorsal view. (*ae* - aedeagus, *ae.pr* - subapical projection of aedeagus, *inf.app* - inferior appendage, *pr.app* - preanal appendage, *st.IX* - sternite IX, *t.IX* - tergite IX, *X* - segment X).

FAMILY LEPTOCERIDAE

The genus *Ceraclea* Stephens, 1829 consists of three subgenera. The new species belongs to the subgenus *Athripsodina* Kimmins, 1963. Within eight species groups of the subgenus *Athripsodina* the new species belongs to *C. (A.) annulicornis* group, which is represented in the Russian Far East by six species: *C. annulicornis* (Stephens, 1836) from Magadanskaya oblast and Khabarovskii krai; *C. bilobulata* Arefina et Morse, 2001 from Khabarovskii krai; *C. excisa* (Morton, 1904) from Magadanskaya oblast, Kamchatskaya oblast, Khabarovskii krai, Primorskii krai, Amurskaya oblast and Sakhalin Island; *C. hastata* Botosaneanu, 1970 from Primorskii krai; *C. shuotsuensis* (Tsuda, 1942) from Khabarovskii krai and Primorskii krai; *C. sibirica* (Ulmer, 1906) from Khabarovskii krai, Primorskii krai and Amurskaya oblast (Vshivkova et al., 1997; Arefina et al., 2001).



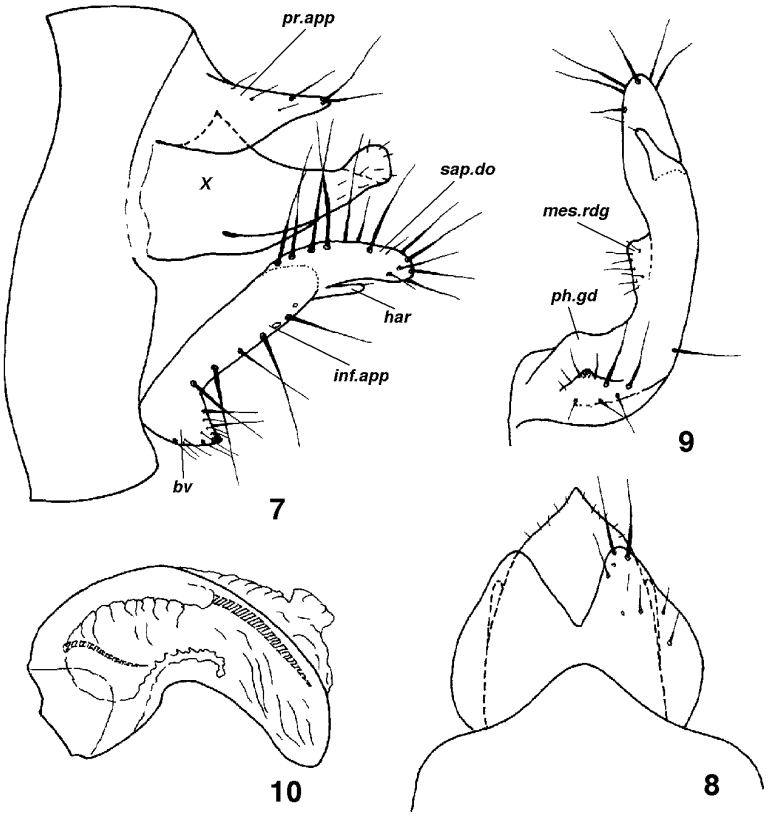
Figs 5-6. Female genitalia of *Lype zwicki* sp. n.: 5) lateral view; 6) ventral view. (*VIII, X, XI* - segments VIII, X, XI, *vl.sc* - vulvar scale).

***Ceraclea (Athripsodina) drachevi* Arefina, sp. n.**
Figs 7-13

MATERIAL. Holotype – ♂, Russia, Primorskii krai, Milogradovka River, 13-14.VI 1998 (T. Arefina). Paratypes – 63 ♂, 36 ♀, with the same data as holotype; 54♂, 2♀, Primorskii krai, Tigrovaya River (Partizanskaya River Basin), 11.VI 1998 (T. Arefina).

DESCRIPTION. Length of forewing: male – 10.5-11.2 mm, female – 8.3-9.2 mm. Head and body with white and brown hairs mixed. Vertex of head and thorax brown, abdomen lighter. Wings brown with setae darker.

MALE GENITALIA (Figs 7-10). Preanal appendages broad, triangular, fused basally one third of their length, each with rounded apex in dorsal view. Tergite X extends beyond preanal appendages, upturned apically, apex acute from dorsal view, rounded from lateral view, laterally with short processes. Main body of each inferior appendage straight in lateral view, with subapicodorsal lobe bent caudad; basoventral lobe of each inferior appendage short, triangular; harpago slender, finger-like; mesal ridge of inferior appendage produced in small, triangular process located mesally; phallic guide slightly projected. Phallus broadly sclerotized, curved ventrad about half distance from base; right paramere spine large, left paramere spine seta-like.

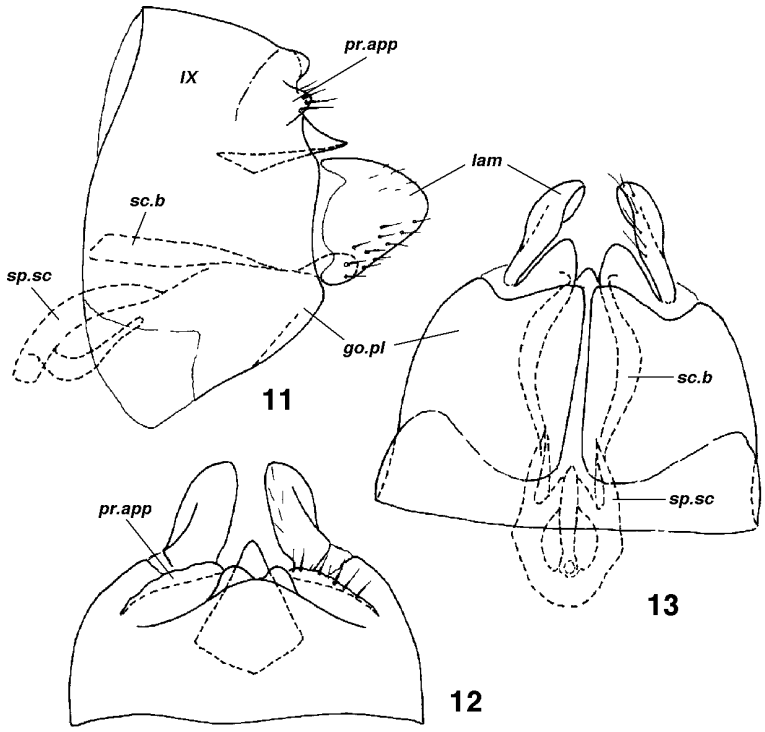


Figs 7-10. Male genitalia of *Ceraclea drachevi* sp. n.: 7) lateral view; 8) dorsal view; 9) left inferior appendage, caudal view; 10) phallus, lateral view. (*bv* - basoventral lobe of inferior appendage, *har* - harpago, *inf.app* - inferior appendage, *mes.rdg* - mesal ridge of inferior appendage, *ph.gd* - phallic guide of inferior appendage, *pr.app* - preanal appendage, *sap.do* - subapical lobe of inferior appendage, *X* - tergite X).

FEMALE GENITALIA (Figs 11-13). Tergite IX rounded apically, with pair of small subdorsal processes. Preanal appendages broad but very short. Lamellae semi-circular in lateral view. Each gonopod plate with subtriangular caudal projection, plates approximate on midline. Spermathecal sclerite rather long, U-shaped, with lateral arms curved mesad; sclerotized bands supporting spermathecal sclerite not extends cephalad beyond tergite IX.

IMMATURE STAGES. Unknown.

DIAGNOSIS. Within the *Ceraclea* (*A*.) *annulicornis* group, *C. drachevi* belongs to the subgroup including *C. annulicornis* (Stephens), *C. excisa* (Morton), *C. maccalmonti* Moulton et Stewart, 1992, *C. globosa* Yang et Morse, 1988, *C. ruthae* (Flint,



Figs 11-13. Female genitalia of *Ceraclea drachevi* sp. n.: 11) lateral view; 12) dorsal view; 13) ventral view. (*go.pl* - gonopod plate, *lam* - lamellae, *pr.app* - preanal appendage, *sc.b* - sclerotized band, *sp.sc* - spermathecal sclerite, *IX* - tergite IX).

1965), *C. shuotsuensis* (Tsuda). All enumerated species have short and slender left paramere spine. The four species *C. annulicornis, C. ruthae, C. shuotsuensis, C. globosa* each have a very large base of the phallus; a character not present in *C. drachevi*, *C. excisa* or *C. maccalmonti.* The new species shares with *C. annulicornis* a short basoventral lobe of the inferior appendages; and with *C. excisa* similarly shaped preanal appendages. The new species and *C. excisa* differs from other East Palaearctic *C. annulicornis* group species by the smaller anterior end of the phallus. The male of *C. drachevi* can be distinguished from that of *C. excisa* by the shorter basoventral lobe and shorter phallic guide of each inferior appendage. The female of *C. drachevi* differs from all known females of the subgroup by the shorter preanal appendages and shorter sclerotized bands supporting the spermathecal sclerite.

DISTRIBUTION. Russia: South part of Primorskii krai (Sea of Japan Basin).

ETYMOLOGY. This species is named in memory of my friend Dr. G. Drachev.

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REFERENCES

Arefina, T. I. & Levanidova, I. M. 1997. Fam. Psychomyiidae. – In: P. A. Lehr (ed.). [Key to the insects of Russian Far East]. Vol. V. Trichoptera and Lepidoptera, pt 1. Vladivostok: Dalnauka: 78-82. (In Russian).

Arefina, T. I. & Morse, J. C. 2001. New species of *Ceraclea* (Trichoptera: Leptoceridae: Athripsodini) and a first record of *Adicella* (Trichoptera: Leptoceridae: Triaenodini) from Far Eastern Russia. – Pan-Pacific Entomologist 77(2): 71-78.

Arefina, T. I., Ivanov, V. D. & Levanidova, I. M. 1996. Six new species and three new records of caddisflies (Trichoptera) from the Far East of Russia, with remarks on the *Hyalopsyche sachalinica* Martynov. – Far Eastern Entomologist 34: 1-12.

Mey, W. 1991. On a small collection of caddisflies (Insecta: Trichoptera) from Sachalin, USSR. – Aquatic Insects 13(4): 193-200.

Vshivkova, T. S., Morse, J.C. & Yang, L. 1997. Fam. Leptoceridae. – In: P.A. Lehr (ed.). [Key to the insects of Russian Far East]. Vol. V. Trichoptera and Lepidoptera, pt 1. Vladivostok: Dalnauka: 154-202. (In Russian).