

## New Data on the Carabid Fauna (Coleoptera, Carabidae) of the Russian Far East

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**Abstract**—Two carabid species, *Trechus nakaguroi* S. Uéno, 1960 and *Agonum chalcomus* Bates, 1873, are recorded for the first time from Russia, and one, *Agonum jurecekianum* Jedlička, 1952, from the Kuril Islands. Some additional data on the distribution of *Parena monostigma* Bates, 1873 in the southern part of Primorskii Territory are given.

Based on the author's collections (Yu.N. Sundukov) made in Primorskii Territory and those made by Yu.M. Marusik (Institute for Biological Problems of the North, Magadan) in the Kunashir Island, two carabid species, *Trechus nakaguroi* S. Uéno, 1960 and *Agonum chalcomus* Bates, 1873 from Russia and one, *Agonum jurecekianum* Jedlička, 1952, from the Kuril Islands are reported for the first time. Additional data on the distribution of a rare species, *Parena monostigma* Bates, 1873 are also given.

In the course of examination of the taxa, additional material deposited at the Institute of Biology and Soil Sciences, Far Eastern Division, Russian Academy of Sciences, Vladivostok (ISB), was used.

### *Trechus nakaguroi* S. Uéno

*Trechus* (s. str.) *nakaguroi* S. Uéno, 1960: 133–137.

Type locality: Japan, Hokkaido, "Daisetsu-zan Mts."

**Material.** 3 ♂, 2 ♀, Kunashir, SE sea-coast, about 10 km N of Yuzhno-Kuril'sk (145°53'70" E, 44°05'20" N), fir forest with moss and sedge, in litter near a brook, 7.IX.1997 (Yu.M. Marusik).

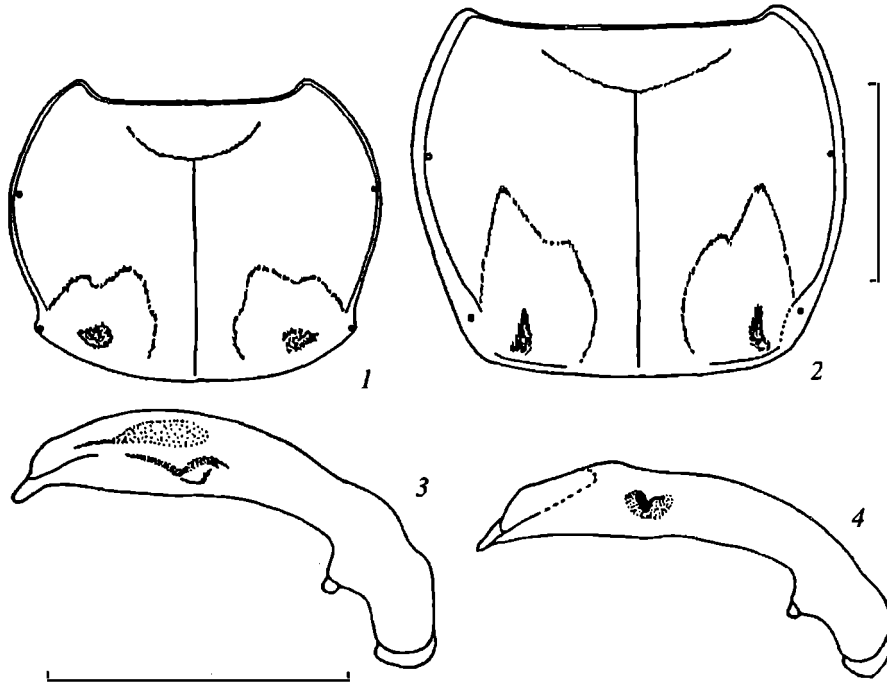
**Distribution.** Russia (Kuril Islands: Kunashir), Japan (Hokkaido).

*Trechus nakaguroi* is a species new for Russia; its range forms in Hokkaido two isolated areas: one, in mountains of the central part of the island, and the other, in mountains of Siretoko Peninsula. In the southern part of Sakhalin, *T. nakaguroi* is substituted by the closely related *T. sachalinensis* Lafer, 1989. The other related species, *T. sikhotealinus* S. Uéno et Lafer, 1994, inhabits mountains of Sikhote-Alin.

Previously, the name *T. nakaguroi* was used by Kryzhanovskij (Kryzhanovskij and Molodova, 1973) for a *Trechus* population from S Sakhalin and repeated in the papers concerning the fauna of Sakhalin (Lafer, 1984, 1989) and Sikhote-Alin (Lafer, 1977, 1989). Later (Uéno and Lafer, 1994), *Trechus* populations from Sikhote-Alin were described as a new species, *T. sikhotealinus* S. Uéno et Lafer; and populations from Sakhalin, as a distinct species, *T. sachalinensis* Lafer, initially described as a subspecies of *T. nakaguroi*. Thus, *T. nakaguroi* was excluded from the list of species of the fauna of Russia. In this connection, the couplets given in Lafer's key (1989) for *T. nakaguroi* and *T. sachalinensis* cannot be used, since the external morphological characters of *T. nakaguroi nakaguroi* were indicated by Lafer based on the specimens collected in Sikhote-Alin, and the true *T. nakaguroi* was, apparently, not examined by him at that time. Only *T. sikhotealinus* has strongly smoothed outer elytral striae; in species from the islands, these are well developed.

A checklist of the ground-beetles of Russia (Kryzhanovskij *et al.*, 1995) provides outdated data on *T. nakaguroi*, without taking into consideration the above-mentioned paper on *Trechus* from the Far East (Uéno and Lafer, 1994).

In the latter paper, the authors indicated only insignificant distinctions (primarily in the structure of endophallus) between *T. sachalinensis* and *T. nakaguroi* and attributed to these the sister state of differentiation, considering, nevertheless, the population from Sakhalin a distinct species on the basis of the morphological differences and disjunction of the ranges.



(1, 3) *Agonum chalconum* Bat.; (2, 4) *A. fallax* Mor.: (1, 3) pronotum; (2, 4) penis, left view. Scale 1 mm.

A thorough examination of specimens collected in Kunashir, Japan (♂, "C Hokkaido, NE Japan, 9.VII.1993, S. Uéno leg.," "Mt. Asahi-dake, Susoai-daira, 1.730 m alt., Daisetsu Mts.," "*Trechus* (s. str.) *nakaguroi* S. Uéno, 1960, det. S. Uéno, 1994"), and Sakhalin (12 specimens, including 2 topotypes from the Anna River mouth, labeled "South Sakhalin, Mouth Anna River, 27.VII.1977, G. Lafer leg.," "No. 4a," "*Trechus sachalinensis* Lafer, G. Lafer det. 94;" ♀, same locality, "No. 7," same label) led me to conclude that distinctions between populations from these islands are insignificant and they should be considered subspecies of a single species. However, taking into account the great experience and authority of Dr. Uéno, a leading expert in Trechinae of E Asia, I consider it possible to accept the population from the Sakhalin Island as a distinct species and that from Kunashir, as one conspecific with *T. nakaguroi* populations.

***Agonum (Agonum) chalconum* (Bates)**

*Anchomenus (Agonum) chalconus* Bates, 1873: 280.

Type locality: Japan, "Hiogo, Nagasaki."

Krivolutskaya, 1973: 67 (Kunashir); Habu, 1978: 80–81, Pl. X–fig. 4, figs. 106, 118, 123 (Japan, Kuril Islands).

**Material.** 1 ♂, Kunashir, Sukachev Cape, 5 km NE of Yuzhno-Kuril'sk, bank of a small brook—tributary of the Petrovka River, 8.IX.1997 (Marusik).

**Distribution.** Russia (Kuril Islands: Kunashir); Japan (Hokkaido, Honshu, Shikoku, Kyushu).

The species was reported by Krivolutszkaya (1973) from the Kunashir Island on the basis of a single specimen identified at her request by Lafer. In "A Review of Carabid Beetles of the Kuril Islands," Kryzhanovskij and co-authors (1975) referred, regarding *A. chalconum*, to her record and also indicated for Kunashir the closely related species *A. fallax* A. Mor., 1862. Later, Lafer (1992: 612, footnote) introduced a correction that "Our record (Kryzhanovskij *et al.*, 1975) of *A. chalconum* Bat. (!) from the Kunashir Island actually refers to *A. fallax*" and did not include *A. chalconum* in his key to the Far Eastern species. Apparently, this was the reason why *A. chalconum* was not included in a catalogue of carabid beetles of Russia (Kryzhanovskij *et al.*, 1995).

After looking through a preliminary copy of this paper, Lafer informed me that the Kunashir collection of ISB includes 2 specimens of *A. chalconum*: 1 ♂ labeled "Kunashir, near Kosmodem'yansk Vill., 26.VIII.1964 (G. Krivolutszkaya)," "floodland forest in the Prozrachnyi Brook valley," "*Agonum* sp. 1," "*Agonum*

*num chalconum* Bat., Lafer det.” and “*Agonum chalconum* (Bates), G. Lafer det. 99” and 1 ♂ labeled “Kunashir, Mendeleev Vill., mixed forest, under deciduous trees, 2.IX.1975 (V. Kuznetsov)” and “*Agonum chalconum* (Bates). G. Lafer det. 99”); and 1 female of *A. fallax*. He also pointed that indication in the footnote should be considered erroneous.

The male collected by Marusik from the Kunashir Island entirely fits, judging from the external characters and the structure of aedeagus, the descriptions and figures given by Habu (1954, 1978) for *A. chalconum*. It differs from the closely related species *A. fallax* in the following characters:

- 1(2) Third elytral interval with 3 discal setiferous pores. Second antennal segment with 1 seta at apex. Posterior corners of pronotum angular at the level of basal seta; line of lateral margin abruptly refracted at the level of posterior setae (figure, 1). Base of pronotum wider ( $PA / PB$  0.80). Aedeagus as in figure, 3 .....  
..... *A. chalconum* Bat.
- 2(1) Third elytral interval with 4–6 discal setiferous pores. Second antennal segment with several setae at apex. Posterior corners of pronotum regularly rounded; line of lateral margin gently rounded at the level of posterior setae, gradually passing into line of base (figure, 2). Base of pronotum narrower ( $PA / PB$  0.83–0.95, 0.83 on the average). Aedeagus as in figure, 4 .....  
..... *A. fallax* Mor.

These facts confirm that *A. chalconum* actually occurs in Kunashir, being sympatric there (as also in Hokkaido) with *A. fallax*.

***Parena (Parena) monostigma* (Bates)**

*Crossoglossa monostigma* Bates, 1873: 316.

Type locality: Japan, “Nagasaki, Hiogo.”

Habu, 1976: 158–159, Pl. XVI–fig. 3, figs. 275, 286, 294 (Japan); Solodovnikov, 1999: 108 (Primorskii Territory).

**Material.** 1 ♀, Primorskii Territory, Lazo-raitsentr Vill. (133°54'01" E, 43°22'43" N), at light, 5–12.VII.1994 (Sundukov).

**Distribution.** Russia (S Primorskii Territory), Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea (Kwon and Lee, 1986).

For the fauna of Russia, the species have been known only from localities neighboring the Ussuriiskii Nature Reserve (Solodovnikov, 1999).

The specimen from Primorskii Territory differs from those collected in Japan (Ohkura, 1985) and Korea (Lafer's personal communication) in darker coloration of the body and less distinct spot on the elytra. In the other characters, it entirely fits the morphological characteristic given by Habu (1967) for specimens from Japan. This is a full-winged species.

In a personal communication, Lafer indicated that the collection of ISB included 1 young, underdeveloped specimen of *P. monostigma*, collected by A.B. Egorov on 14.VI.1985 in hawthorn (Khasanskii District of Primorskii Territory, middle course of the Ryazanovka River). One more specimen of this species was collected in Primorskii Territory by D.N. Fedorenko (personal communication).

My record essentially supplements these data. I assume that *P. monostigma* is rather widespread over the southern part of Primorskii Territory.

***Agonum (Europhilus) jurecekianum* Jedlička**

*Agonum jurecekianum* Jedlička, 1952: 80.

Type locality: Russia, Primorskii Territory, “Wladiwostok.”

**Material.** 1 ♂, Russia, Kunashir, Kyugli Cape, high-grass meadow, 23.IX.1997 (Marusik).

**Distribution.** Russia (Primorskii Territory, Kuril Islands: Kunashir), Japan (Hokkaido, Honshu), NE China, ?Korea.

The species is new for the fauna of the Kuril Islands.

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