

REVIEW OF THE LEAF BEETLES GENERA *APTEROCURIS* JACOBSON, 1901 AND *CLYTRA* LAICHARTING, 1871 (COLEOPTERA: CHRYSOMELIDAE) FROM THE RUSSIAN FAR EAST

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Summary. The description of hitherto unknown male of *Apterocuris brinevi* Mikhailov, 2023 is given and a key to species of the genus *Apterocuris* Jacobson, 1901 is provided. New data on distribution of four species of the genus *Clytra* Laicharting, 1871 are presented. *Clytra laeviuscula* (Ratzeburg, 1837) is recorded from the Russian Far East for the first time, *C. quadripunctata* (Linnaeus, 1758) is new for Khabarovsky Krai and Primorsky Krai, and *C. atraphaxidis asiatica* Chûjô, 1941 newly recorded from Primorsky Krai. A key to Far Eastern taxa of the genus *Clytra* is given.

Key words: Cryptocephalinae, Chrysomelinae, taxonomy, hitherto unknown male, fauna, new records, East Palaearctic.

М. Е. Сергеев. Обзор жуков-листоедов родов *Apterocuris* Jacobson, 1901 и *Clytra* Laicharting, 1871 (Coleoptera: Chrysomelidae) Дальнего Востока России // Дальневосточный энтомолог. 2024. N 511. С. 13-19.

Резюме. Описан ранее неизвестный самец *Apterocuris brinevi* Mihailov, 2023 и приведена определительная таблица видов рода *Apterocuris* Jacobson, 1901. Представлены новые данные по распространению четырех видов рода *Clytra* Laicharting, 1871. *Clytra laeviuscula* (Ratzeburg, 1837) впервые указывается с Дальнего Востока России, *C. quadripunctata* (Linnaeus, 1758) является новым для Хабаровского и Приморского краев, а *C. atraphaxidis asiatica* Chûjô, 1941 впервые приводится для Приморского края. Дана определительная таблица дальневосточных таксонов рода *Clytra*.

INTRODUCTION

The leaf beetles of the Russian Far East are currently relatively well studied. However, every year the list of species is updated with new records.

Up to now, two species the genus *Apterocuris* Jacobson, 1901 (Mikhailov, 2023) are known from Russia. Of them, *A. sibirica* (Gebler, 1830) occurs in mountain forest and tundra in the Altai, Sayan Mountains and South Kazakhstan (Medvedev & Dubeshko, 1992; Lopatin, 2010), and *A. brinevi* Mikhailov, 2023 is described recently from mountains of Khabarovsky Krai by female only. The genus *Clytra* Laicharting, 1871 was represented in the fauna of the Russian Far East by three species. *Clytra arida* Weise, 1889 is widespread

in the southern part of the region while *C. quadripunctata* (Linnaeus, 1758) and *C. atraphaxidis asiatica* Chûjô, 1941 are known from the Amurskaya Oblast (Medvedev, 1961, 1992). The new data on composition and distribution of *Apterocuris* and *Clytra* in the Russian Far East are given below.

MATERIAL AND METHODS

The present paper is based mainly on specimens collected by author (MS) in 2015–2023 as well as on materials from the Federal Scientific Center of the East Asia Terrestrial Biodiversity FEB RAS (Vladivostok) (FSCV) and material kindly provided for processing by entomologist S.N. Ivanov (Vladivostok).

Photographs were taken with the stereomicroscope Olympus SZX16 and digital camera Olympus DP74 and stacked using Helicon Focus software. The final illustrations were postprocessed for contrast and brightness using Adobe Photoshop® software.

RESULTS

Family Chrysomelidae Latreille, 1802

Subfamily Chrysomelinae Latreille, 1802

Genus *Apterocuris* Jacobson, 1901

Type species: *Chrysomela sibirica* Gebler, 1830, by original designation.

REMARKS. Two species of this genus are known from Siberia and the Russian Far East (Mikhailov, 2023).

Apterocuris brinevi Mikhailov, 2023

Figs 1, 4

MATERIAL EXAMINED. **Russia:** Primorsky Krai, 50 km on NW from Plastun, upper reaches of the Dzhigitovka River, Kabany streamlet, 28.V 2015, 1♂, 4♀, leg. MS (FSCV).

DESCRIPTION. Male (hitherto unknown). Similar to female but body shorter and stockier; body length 4 mm, width 2.3 mm. Dorsum shining; elytra with lacquer shine; head, pronotum and elytra blackish blue (Fig. 1). Elytra at base broader than pronotum, with obtuse basilateral angles, elongate, distinctly broadened before middle, humeral callus absent. Primary punctures dense, medium-sized, not deepened, form short scutellar row from 7–8 punctures, striae 1, 2 and 9 almost regular, 3 and 4 irregular and hardly traced because of doubled punctures; rest of punctures completely confused; stria 9 near lateral margin complete, reaching apex of elytra. Interspaces between traceable elytral striae subequal in width and apically tapering; flat, lacquer smooth, impunctate, but each bearing thin longitudinal wrinkle. Underside, legs and antennomere 1 black with metallic luster; tarsi and antennomeres 7–11 reddish brown. Aedeagus weakly widened from above to the middle, narrows to truncated and the apex is flattened; when viewed from the side, it is bent in the middle; the flagellum is visible, thin, tubular, slightly curved upward at the apex (Figs 2, 3).

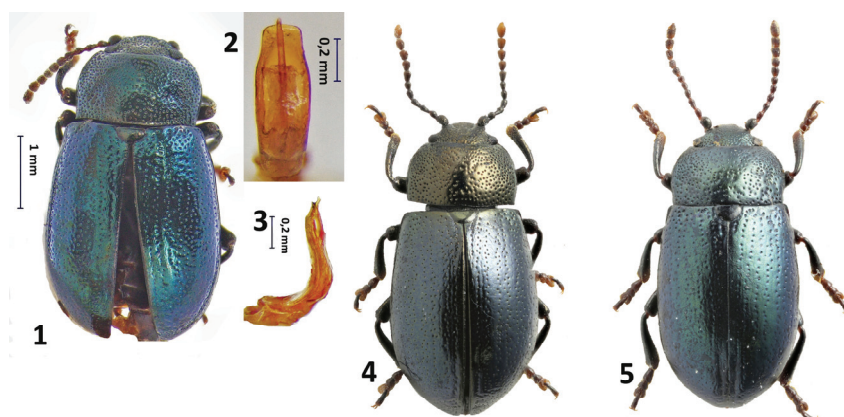
HABITAT. In Khabarovsk Krai this species was recorded from mountain forests, sub-alpine meadows, and alpine tundra (Mikhailov, 2023). In Primorsky Krai the imago were found on *Aconitum* sp. (Ranunculaceae) in mountain area.

REMARKS. The previous records of *Colaphellus alpicola* (Warchałowski, 2004) (Sergeev, 2016, 2020) are incorrect and belong to *Apterocuris brinevi*.

DISTRIBUTION. Russia: Khabarovsk Krai (Mikhailov, 2023), Primorsky Krai (first record).

Key to species of *Apterocuris*

- 1(2) The punctuation of the elytra forms 4 or 5 almost regular rows, the rest (on the sides) is confused (Fig. 5). Body in lateral view is slightly convex or almost flattened, almost parallel-sided, only slightly expanded in front of the middle. The base of the elytra is noticeably wider than the base of the pronotum, which is clearly visible due to the rectangularly projecting humeral angles. Color is metallic, blue-green, underside is darker. Body length 3.7–4 (♂), 4–4.8 mm (♀) *A. sibirica*
- 2(1) The punctuation of the elytra forms only 2 or 3 almost regular rows, mostly confused (Figs. 1, 4). Female body in lateral view is noticeably convex and widened in front of the middle. The base of the elytra is slightly wider than the base of the pronotum, the humeral angles are obtuse. The color of the body is variable: the head and pronotum are bronze, the elytra are blackish blue, or the entire upper side is metallic, blue-green. Body length 4 (♂), 4.7–5 mm (♀) *A. brinevi*



Figs. 1–5. Imago *Apterocuris* spp.: 1–3 – *Apterocuris brinevi*, male: 1 – habitus, dorsal view, 2–3 – aedeagus, 4 – *A. brinevi*, female; 5 – *Apterocuris sibirica*, female. (Figs 4, 5 from Mikhailov, 2023).

Subfamily Cryptocephalinae Gyllenhal, 1813

Genus *Clytra* Laicharting, 1871

Type species: *Chrysomela quadripunctata* Linnaeus, 1758, by subsequent designation by Latrelle, 1810.

REMARKS. Genus *Clytra* is represented in the Far Eastern fauna by four Palaearctic species. Of them the most widespread species is *Clytra arida* Weise, 1899. The localities of *C. quadripunctata* (Linnaeus, 1758) and *C. laeviuscula* (Ratzeburg, 1837) delimited the extreme east of their range. The species *C. atraphaxidis* (Pallas, 1773) is divided into a few subspecies, of them *C. a. asiatica* Chûjô, 1941 occurs in the Russian Far East but Mongolian *C. a. punctata* Weise, 1890 may be found here, as a result of further research (Medvedev, 1961, 1982). The adults of all species are oligophagous and the larvae developing in the nests of various species of ants. Two species, *C. arida* and *C. quadripunctata*, occupies humid habitat such as sparse broad-leaved and valley forests, forest edges, and hillsides. On the contrary, *C. laeviuscula* and *C. atraphaxidis* prefer more arid habitat conditions (steppes, dry meadows, and cleared mixed forests). A key to the Far Eastern taxa of *Clytra* is given below.

Key to the Far Eastern subgenera, species and subspecies of *Clytra*

(modified from Medvedev, 1992; Wang & Zhou, 2011)

- 1(2) Pronotum is red, with five separate black variable spots, or merged into one spot (subgenus *Clytraria* Sem.). Tibiae are red in ♂, in ♀ black, less often reddish-brown with black base and apex. Pronotum is red, at the base with one large black oval spot occupying more than 2/3 of the pronotum, with distinct punctation at the posterior corners (Fig. 6). Head is black. Each elytra has two black bands. Body length 5.3–9.7 mm *C. (Clytraria) atraphaxidis asiatica*
- 2(1) Pronotum and legs black (subgenus *Clytra*). The elytra are yellow or yellow-red with three black spots (1,2), with the rear spots merged into the transverse band or absent. Scutellum is not raised above the surface of the elytra.
- 3(4) Lateral margin of the pronotum is widely bent, not curved upward, with dense wrinkled punctures; disk in dense distinct points. Pygidium evenly convex. Elytra with a well-developed band behind the middle. Aedeagus (Fig. 8). Body length 7.5–11.5 mm *C. (Clytra) quadripunctata quadripunctata*
- 4(3) Lateral margin of the pronotum is narrowly bent and curved upward, equal in width everywhere, smooth. Pygidium is tuberculately swollen.
- 5(6) Pronotum with fine, rather dense, distinct punctures. The apex of the scutellum is slightly raised above the surface of the elytra. The band on the elytra varies from well developed to reduced, often disappearing altogether. Aedeagus (Fig. 10). Body length 7.7–11 mm *C. (Clytra) arida*
- 6(5) Pronotum without distinct punctures, highly shiny. The apex of the scutellum is not raised above the surface of the elytra. The band on the elytra is large, wide, and narrowly interrupted at the suture. Aedeagus (Figs. 12). Body length 8.3–12 mm *C. (Clytra) laeviuscula*

List of the species

Clytra (Clytraria) atraphaxidis asiatica Chûjô, 1941

Fig. 6

MATERIAL EXAMINED. **Russia:** Primorsky Krai: env. Pokrovka, Sinelovka mountain, 12.VII 2022, 1♀, leg. S. Shabalin (FSCV).

HABITAT. Imago occur on *Lespedeza* (Fabaceae) and other shrubs, larvae in the nets of *Cataglyphis* spp. (Medvedev & Roginskaya, 1988).

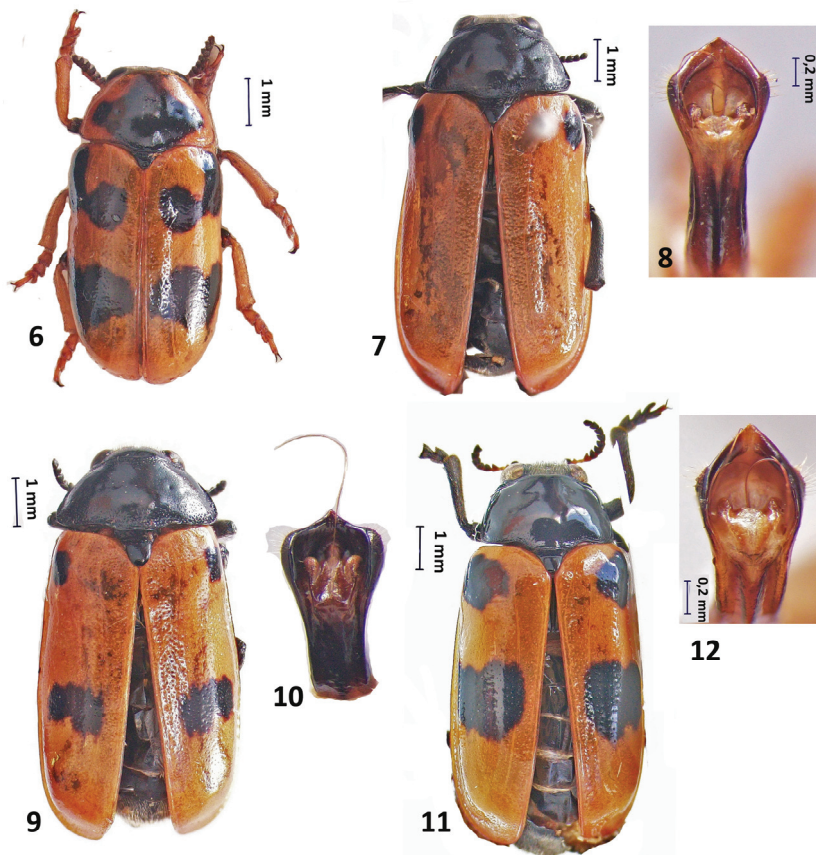
DISTRIBUTION. **Russia:** Amurskaya Oblast. North and South Korea, China (Beijing, Gansu, Hebei, Jiangsu, Jiangxi, Jilin, Liaoning, Qinghai, Shaanxi, Shandong) (Medvedev, 1992; Wang & Zhou, 2011; Cho & An, 2020). Here this species is recorded from Primorsky Krai for the first time.

Clytra (Clytra) arida Weise, 1889

Figs 7–8

MATERIAL EXAMINED. **Russia:** Primorsky Krai: env. Golubovka (=3,5 km NE from Nakhodka), 'Sukhoy streamlet', 20.VI 1925, 1 ex., leg. T. Samoylov (FSCV); Lanchikhe (=Bogataya River, env. Vladivostok), riverside plantings, on *Salix*, 2.VII 1965, 2 ex., leg. A. Kupyan-skaya (FSCV); Tarasovka, 23.VII 1973, 1 ex., leg. L. Kulikova (FSCV); 20 km NW Kamen-Rybolov, 30.VI 1974, 3 ex. leg. A. Lelej (FSCV); Novaya Moskva village, upper reaches of the Levy Tigrovy streamlet, 28.VII 1979, 1 ex., leg. G. Lafer (FSCV); env. Barabash-Levada, 2.VIII

1980, 1 ex., leg. A. Plutenko (FSCV); env. Arsenyev, Shiklyavskoye Reservoir, 16.VI 1996, 1 ex., leg. I. Seredkin (FSCV); env. Zimmiki, 12.VII 2011, 1 ex., leg. S. Shabalin (FSCV); floodplain of the Iman River (=Bolshaya Ussurka River), env. Dersu village, 1.VII 2014, 1 ex., leg. MS (FSCV); env. Pokrovka, Sinelovka Mountain, 30.V 2015, 1 ex., leg. S. Ivanov (FSCV); Lazovskaya Mountain, h=1300 m., 9.VII 2015, 1 ex., leg. S. Ivanov (FSCV); env. Pavlo-Fedorovka, 12.VII 2016, 3 ex., leg. MS (FSCV); Kolumbe basin, upper reaches of the Serokamenka River, on *Salix*, along the road, 21.VII 2016, 2 ex., leg. MS (FSCV); upper stream of the Dzhigitovka River, Kabany streamlet, 4.VII 2017, 1 ex., leg. MS (FSCV); middle stream of the Serebryanka River, Serebryanny streamlet, 27.VI 2018, 1 ex., leg. MS (FSCV); env. Barabash, floodplain of the Barabashevka River, 8.VI 2019, 3 ex., leg. MS (FSCV). Khabarovsk Krai: Komsomolsk-on-Amur, Silinsky Park, on *Sorbaria*, 29.VI 1976, 1 ex., leg. V. Mutin (FSCV). Zabaikalsky Krai: env. Kubuhay villege, forest-steppe, pine forests, 11.VII 1955, 1 ex., leg. D. Kononov (FSCV). **Japan**: Niigata-ken, Suginosawa 1000 m, Myoko-Kogen, 26.VII 1993 1 ex., leg. Kurzenko (FSCV).



Figs 6–12. Imago *Clytra* spp.: 6 – *C. atraphaxidis asiatica*, male, habitus dorsal view; 7–8 – *C. arida*, male: 7 – habitus, dorsal view, 8 – aedeagus; 9–10 – *C. q. quadripunctata*, male: 9 – habitus, dorsal view, 10 – aedeagus; 11–12 – *C. laeviuscula*, male: 11 – habitus, dorsal view, 12 – aedeagus.

HABITAT. Imago occur on deciduous trees and shrubs (*Salix*, *Corylus*, *Betula*), larvae in *Formica* nets (Medvedev & Rogynskaya, 1988).

DISTRIBUTION. Russia: south of Western and Eastern Siberia, Amurskaya Oblast, Jewish Autonomous Oblast, Khabarovsk Krai, Primorsky Krai. Japan, North and South Korea, China (Beijing, Gansu, Hebei, Heilongjiang, Hubei, Inner Mongolia, Jilin, Liaoning, Ningxia, Qinghai, Shaanxi, Shandong, Shanxi, Sichuan), Mongolia (Medvedev, 1961, 1992; Medvedev & Skomorochov, 2009; Regalin & Medvedev, 2010; Wang & Zhou, 2011; Guskova, 2012; Cho & An, 2020; Sergeev, 2020; Dubatolov, 2024).

***Clytra (Clytra) quadripunctata quadripunctata* (Linnaeus, 1758)**

Figs 9–10

MATERIAL EXAMINED. **Russia:** Primorsky Krai, 25 km to E from Melnichnoe, Columbe River, Venera rivulet, 3.VII 2019, 2 ex., leg. MS (FSCV). Khabarovsk Krai: env. Nelkan village (=200 km NW from Ayan), 11.VIII 1972, 1 ex., leg. L. Ivliev & D. Kononov (FSCV); env. Nikolaevsk (=Nikolaevsk-on-Amur), 12–18.VII 1972, upset birch forests with an admixture of aspen, 9 ex., leg. L. Ivliev & D. Kononov (FSCV); same locality, 13–19.VIII 1972, 6 ex., leg. L. Ivliev & D. Kononov (FSCV).

HABITAT. Beetles occur on various *Salix* species, larvae in the nets of *Formica* sp. (Medvedev & Rogynskaya, 1988).

DISTRIBUTION. Russia: European part (including Donbass), Middle and Southern Urals, Western and Eastern Siberia, Krasnoyarsky Krai, Tuva, Irkutskaya Oblast, Buryatia, Zabaikalsky Krai, Amurskaya Oblast. Europe, Asia Minor, Iran, Kazakhstan, Mongolian Altai, Mongolia (Medvedev, 1961, 1992; Bieńkowski, 2004; Guskova, 2016; Sergeev, 2018). Here this species is recorded from Primorsky and Khabarovsk Krai for the first time.

***Clytra (Clytra) laeviuscula* (Ratzeburg, 1837)**

Figs 11–12

MATERIAL EXAMINED. **Russia:** Primorsky Krai: env. Pokrovka, Sinelovka mountain, 21.VI 2015, 1 ex., leg. S. Ivanov (FSCV); same locality, 4.VII 2015, 3 ex., leg. S. Ivanov (FSCV).

HABITAT. Beetles are found on various deciduous shrubs and trees: *Salix*, *Crataegus*, *Prunus*, *Cerasus*, *Rosa*, *Fraxinus*, *Quercus*, *Ulmus*, *Betula*, *Corylus*, *Rhamnus*, less often on herbaceous plants. Larvae occur in nets of *Formica* sp., rare in nets of *Lasius* sp. and *Camponotus* sp. (Medvedev & Roginskaya, 1988).

DISTRIBUTION. Russia: European part (including Donbass and Crimea), south Ural, south of western Siberia, Altaisky Krai. Europe, North Caucasus, Transcaucasia, Asia Minor, Kazakhstan, Kyrgyzstan, Tajikistan, Afghanistan, Mongolia, China (Xinjiang) (Medvedev, 1961, 1982; Medvedev & Dubeshko, 1992; Bieńkowski, 2004; Lopatin, 2010; Wang & Zhou, 2011). Here this species is recorded from the Russian Far East for the first time.

CONCLUSION

The representatives of the genera *Apterocuris* and *Clytra* known from the Russian Far East are reviewed. The hitherto unknown male of *Apterocuris brinevi* is described. *Clytra laeviuscula* is recorded from the Russian Far East for the first time; *C. quadripunctata* is new for Khabarovsk Krai and Primorsky Krai; *C. atraphaxidis asiatica* is newly recorded from Primorsky Krai, and *C. arida* is most widespread species in south part of the Russian Far East.

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