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Jewel Beetles (Coleoptera, Buprestidae) of the Central Sikhote-Alin Range, Primorskii Territory, Russia

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Abstract—The first annotated check-list of fifty species of jewel beetles (Buprestidae) belonging to 13 genera of 9 tribes in three subfamilies from the central Sikhote-Alin Range (Primorskii Territory, Russia) is presented. Of these, 44 species from 12 genera are first recorded for the Sikhote-Alin State Nature Biosphere Reserve, and 18 species from 9 genera, for the Udegeiskaya Legenda National Park. *Trachys pseudoscrobiculatus* Obenberger, 1940 is for the first time recorded for the Russian fauna. New data on the distribution and host plants of some species are given.

Keywords: Buprestidae, Coleoptera, biodiversity, new record, central Sikhote-Alin, Primorskii Territory, Russia

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Xylophagous insects have been one of the principal research objects in the Sikhote-Alin State Nature Biosphere Reserve (SANR) since its foundation. Special studies were carried out under the leadership and with the direct participation of Alexey Ivanovich Kurentsov (1896–1975), the famous entomologist who made a valuable contribution to the knowledge of the Far Eastern insect fauna. Some other well-known Soviet entomologists also collected there xylophagous insects, including Buprestidae, in 1920–1970th: V.G. Dolin, K.Ya. Grunin, L.A. Ivliev, D.G. Kononov, S.N. Nesmerchuk, E.M. Sinchilina, V.N. Stepanov, as well as the famous theriologist G.F. Bromlei; in the last decade (2015–2022), special collecting of buprestids was made by M.Ye. Sergeev. However, no results of collecting buprestids have ever been published; lists of identified species were deposited as manuscript reports in the archives of SANR, and numerous materials were scattered across institutional and private collections, and are mostly to be found at the Federal Scientific Center of the East Asia Terrestrial Biodiversity, Far East Branch of the Russian Academy of Sciences (Vladivostok) and at the Zoological Institute, Russian Academy of Sciences (St. Petersburg).

The boundaries of the SANR (Fig. 1) have been repeatedly changed since its foundation; the drastic change occurred in 1951 when the SANR area was reduced almost tenfold. Later, part of the former SANR territories was withdrawn from economic use and regained the status of a protected area but the significant part of the former protected area on the western macroslope of the Sikhote-Alin Range remained under economic use. This process lasted till the 1990th. In 2007 the status of protected area was regained for these territories and they were included in the newly established Udegeiskaya Legenda National Park (ULNP). Obviously, the newly protected areas included in ULNP were subjected to significant anthropogenic impact such as construction of roads and portages. Primary (virgin) forests are preserved only in very few areas. Of course, all these transformations of the natural vegetation influenced the faunal composition of xylophagous insects. Since 2015, the targeted collection of xylophagous insects and, in particular, Buprestidae in the SANR was resumed and it became necessary to summarize the results accumulated for this economically important group over the years of the reserve's existence.

Fig. 1. Geographic positions of the Sikhote-Alin Nature Biosphere Reserve and Udegeiskaya Legenda National Park.

Jewel beetles (Buprestidae) are one of the largest coleopterous families, counting more than 15 000 species worldwide (Bellamy, 2008; updated); in Russia, 423 buprestid species from 31 genera, 15 tribes, and 5 subfamilies are recorded so far (Volkovitsh, 2013; updated), of which 101 species from 16 genera, 12 tribes, and 3 subfamilies are known from the Far East (Alexeev, 1989; Jendek and Grebennikov, 2011; Kubáň et al., 2016, updated). Thus, the buprestid fauna of the Far East makes up about a quarter of the Russian fauna.

MATERIALS AND METHODS

The material for this paper was collected mainly by M.Ye. Sergeev during 2015–2022 field seasons from 25 sites in 21 natural localities of the Sikhote-Alin Nature Reserve (Fig. 2) and in the adjacent areas (the environs of Terney Vill., the flood plains of Cheryomukhovaya and the Tayozhnaya rivers), and the Udegeiskaya Legenda National Park. Part of buprestid species was collected in SANR by the expedition of Polish entomologists (R. Dobosz, R. Królik, A. Lasoń,

J. Ługowoj, and J. Mendzikowski) in 2018; this material is mostly deposited in their private collections and in the Upper Silesian Museum (R. Dobosz). Additionally, the materials from the studied area deposited in the Federal Scientific Center (Vladivostok) and in the Zoological Institute RAS (St. Petersburg), and rather limited literature data were also included. Most of the material besides that deposited in FSCV or collected by the Polish team was identified or revised by the senior author; some collection specimens had been previously identified by the buprestid experts V.N. Stepanov, A.V. Alexeev, and other coleopterists mentioned in the text.

Abbreviations throughout the text are as follows:

AL – Andrzej Lasoń (collector);

FSCV – Federal Scientific Center of terrestrial biota biodiversity of East Asia, Far East Division of the Russian Academy of Sciences, Vladivostok, Russia;

JL – Jerzy Ługowoj (collector);

JM – Janusz Mendzikowski (collector);

MS – Maksim Sergeev (collector);

RD – Roland Dobosz (collector);

RK – Roman Królik (collector);

SANR – Sikhote-Alin State Nature Biosphere Reserve;

ULNP – Udegeiskaya Legenda National Park;

USMB – Upper Silesian Museum, Bytom, Poland;

ZIN – Zoological Institute, Russian Academy of Sciences, Saint Petersburg, Russia.

LIST OF LOCALITIES IN THE SIKHOTE-ALIN STATE NATURE BIOSPHERE RESERVE AND UDEGEISKAYA LEGENDA NATIONAL PARK

All the names of the localities are those traditionally accepted in the SANR, anchored to stations and including parts of the basins of the main rivers or larger streams (Pimenova, 2016).

Sikhote-Alin State Nature Biosphere Reserve

1. Abrek: flood plain of the Upolnomochennyi Stream (45.1589ºN, 136.7775ºE).

2. Abrek: flood plain of the Skrytaya River (45.0982ºN, 136.6908ºE).

3. Terney: village vicinity, flood plain of the Serebryanka River (45.0597ºN, 136.6258ºE), including lower section of the Sankhobe River (part of Serebryanka River from the mouth to the Serebryanyi Spring; collection by K.Ya. Grunin in 1936–1937).

4. Terney: village vicinity, oak forests on the hills (45.0489ºN, 136.6206ºE).

5. Blagodatnoye: upper section of Sukhoi Stream, slopes of the Mount Lysaya (44.9825ºN, 136.5192ºE).

6. Blagodatnoye: natural boundary of the Lake Blagodatnoye (44.9539ºN, 136.5472ºE).

7. Golubichnoye: vicinity of the Lake Golubichnoye 44.9083ºN, 136.5267ºE).

8. Kunaleika: flood plain of the Khanov Stream (44.8969ºN, 136.3371ºE).

9. Kuruma: flood plain of the Kuruma River (44.9163ºN, 136.2129ºE).

9.1. Synancha: flood plain of the Cheryomukhovaya (Synancha) River (44.8334ºN, 136.1118ºE).

10. Kabanii: upper part of the Dzhigitovka River, flood plain of the Kabanii Stream (45.1102ºN, 135.8672ºE).

11. Spornyi: upper part of the Serebryanka River, flood plain of the Spornyi Stream (45.1656ºN, 135.9528ºE).

12. Podnebesnyi: flood plain of the Serebryanka River, Podnebesnyi Stream (45.1572ºN, 136.2757ºE).

13. Zimoveinyi: flood plain of the Serebryanka River, Zimoveinyi Stream (45.1454ºN, 136.3194ºE).

14. Ust-Serebryanyi: the Serebryanka River valley, glade near cordon Ust-Serebryanyi (45.1389ºN, 136.3807ºE).

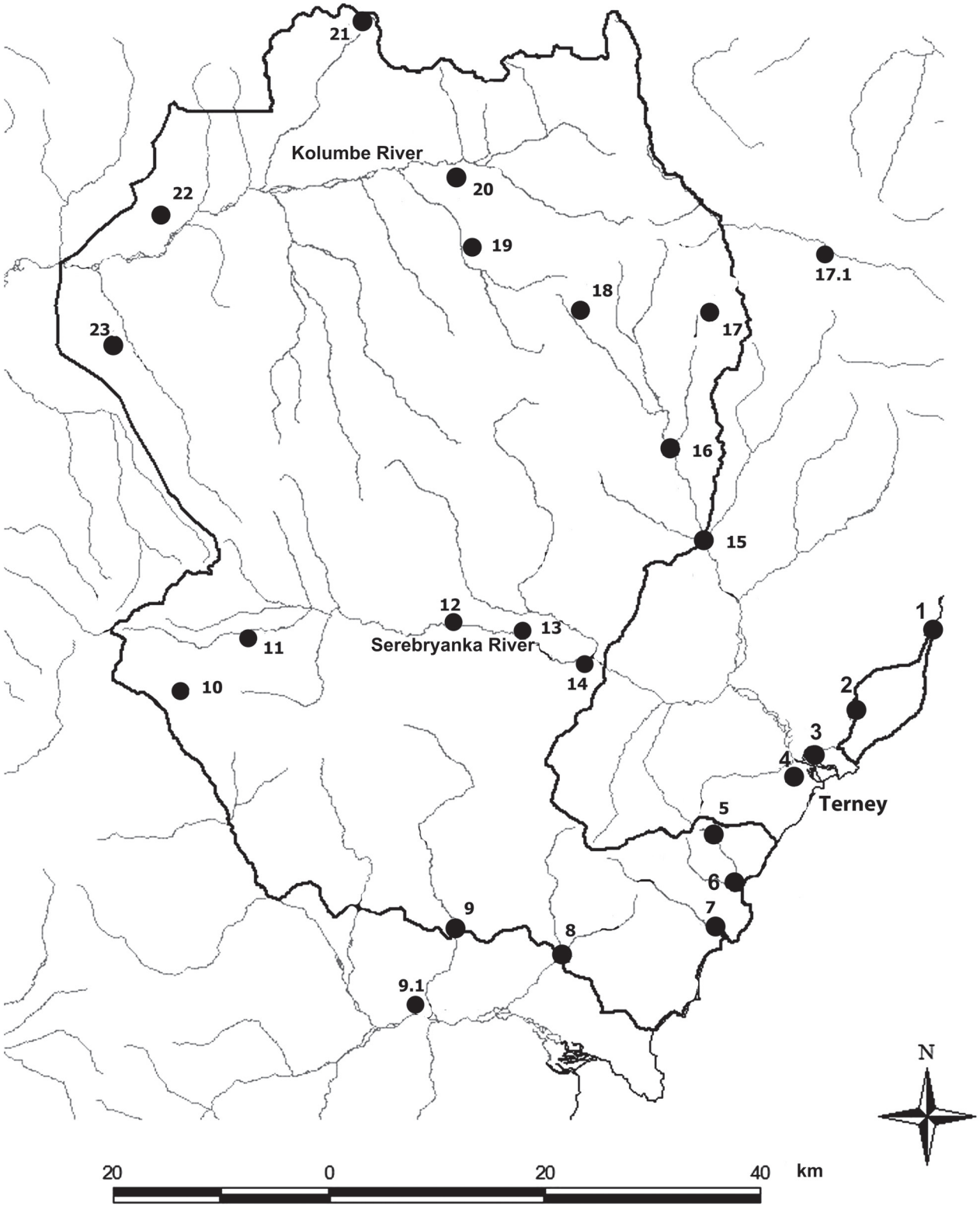

Fig. 2. Map of collection localities in the Sikhote-Alin Nature Biosphere Reserve and adjacent areas.

15. Yasnaya: flood plain of the Zabolochennaya River (45.2358ºN, 136.51167ºE).

16. Solontsovyi: flood plain of the Zabolochennaya river, Solontsovyi Stream (45.3113ºN, 136.4777ºE).

17. Shandui lakes: Lake Izyubrinoye, upper part of the Solontsovyi Stream (45.4259ºN, 136.5114ºE).

17.1. Belembe: flood plain of the Tayozhnaya (Belembe) River (45.4750ºN, 136.6816ºE).

18. Sakhalinskii: flood plain of the Sakhalinskii Stream (45.4364ºN, 136.3502ºE).

19. Rezvushka: flood plain of the Rezvushka River (45.5489ºN, 136.1587ºE).

20. Ust-Prokhodnaya, upper reaches of the Kolumbe River, Kaplanovskii saltmarsh (45.5567ºN, 136.2167ºE).

21. Snezhnaya: upper section of the Serokamenka River (45.5389ºN, 135.9850ºE).

22. Yupiter: flood plain of the Yupiter Stream (45.5765ºN, 135.8928ºE).

23. Venera: flood plain of the Venera Stream (45.4286ºN, 135.7630ºE).

Udegeiskaya Legenda National Park

24. Near mouth of the Armu River, flood-plain broad-leaf forest with elm (45.7628ºN, 135.4685ºE).

25. Middle section of the Armu River, food-plain forest (45.7644ºN, 135.5713ºE).

26. Roshchinskii forestry, Zimoveinyi Spring, pine-broadleaf forest (45.6415ºN, 136.5067ºE).

27. Roshchinskii forestry, Pereval'naya (Sinancha) River, mixed forest (45.8220ºN, 135.2720ºE).

28. Sibichi (= Golubinoye) Village, right bank of the Golubitsa River, 0.5 km from joint with the Dalnyaya River (46.0666ºN, 135.3914ºE).

General distribution in the species list follows Alexeev (1989), Volkovitsh (2013), and Kubáň et al. (2016). The terminology of the biogeographic units and distribution types follows Emelyanov (1974).

LIST OF THE SPECIES

Family **BUPRESTIDAE**

Subfamily CHRYSOCHROINAE Laporte, 1835

Tribe **Poecilonotini** Jakobson, 1913

1. *Lamprodila* (*Lamprodila*) *nobilissima bellula*
(Lewis, 1893)

Material. SANR: 8: ex larva from *Ulmus* sp., 19.VII.2018, imago emerged 27.XII.2018–2.I.2019 (4 ex.) leg. JŁ. **13:** 01.VII.2018 (1 ex.) leg. MS (ZIN). **ULNP: 24:** 29.VIII.1946 (2 ex.) leg. S. Nesmerchuk (ZIN). **26:** 03.VII.1970 (3 ex.) leg. L.A. Ivliev (FSCV); 19.VI.1968 (18 ex.) leg. D.G. Kononov (ZIN, identified by V.N. Stepanov as *Lampra suvorovi* Obenb.). **28:** 1 ex. [no date / collector] (ZIN).

Host plants. *Ulmus* spp. (Zykov, 1999).

Distribution. Russia: the southern Far East (Amurskaya Province, Primorskii Territory, Sakhalin); China, "Korea," Japan. Stenopean species.

2. *Lamprodila* (*Lamprodila*) *tschitcherini*
(Semenov, 1895)

Material. SANR: 15: on leaves of *Ulmus* sp., 12.VII.2018 (1 ex.) leg. JM.

Host plants. Unknown.

Distribution. Russia: the southern Far East (Primorskii Territory). Stenopean species.

3. *Lamprodila* (*Palmar*) *virgata*
Motschulsky, 1860

Material. SANR: 1: 29.VI.2020 (1 ex.) leg. MS (ZIN). **5:** 09.VII.2015 (1 ex.) leg. MS (ZIN). **6:** 08.VIII.2016, 16.VI.2017 (2 ex.) leg. MS (ZIN); 12.VII.2018 (10 ex.) leg. JM. **15:** 08–13.VII.2018 (22 ex.) leg. AL. **6:** 12.VII.2018 (10 ex.) leg. JM; 15.VII.2018 (1 ex.) leg. RK. **7:** 02.VI.2018 (1 ex.) leg. MS (ZIN). **8:** 19.VII.2018 (3 ex.) leg. JŁ, (2 ex.) leg. RK. **15:** 08–13.VII.2018 (4 ex.) leg. AL, (1 ex.) leg. RD (USMB), (12 ex.) leg. RK.

Host plants. *Quercus mongolica* Fisch. (Richter, 1952; Zykov, 1999).

Distribution. Russia: the southern Far East (Jewish Autonomous Region, Amurskaya Province, Khabarovsk and Primorskii territories, Sakhalin, Kurile Islands); Mongolia, China, North and South Korea, Japan. Stenopean species.

4. *Poecilonota variolosa dicercoides* Reitter, 1888

Material. SANR: 15: 11.VII.2018 (3 ex.) leg. RK. **ULNP: 26:** 1 ex. [no date / collector] (FSCV).

Host plants. *Populus* spp. (Richter, 1952).

Distribution. Russia: the southern Far East (Amurskaya Province, Khabarovsk and Primorskii territories); China, North Korea, Japan. Stenopean subspecies of the Trans-Palaearctic species.

Tribe **Dicercini** Gistel, 1848

5. *Dicerca aino* Lewis, 1893

Material. SANR: 3: birch forest, fire site, 21.VII.2018 (1 ex.) leg. JL, (5 ex.) leg. RK; burnt Alnus sp., 21.VII.2018 (2 ex.) leg. JM. **6:** 08.VIII.2016 (1 ex.) leg. MS (ZIN). **ULNP: 26:** 22.VI.1968 (1 ex.) leg. E.M. Sinchilina (FSCV); light trap, 30.VII.1968 (1 ex.) leg. E.M. Sinchilina (FSCV), 03.VII.1970 (6 ex.) leg. L.A. Ivliev (FSCV).

Host plants. *Betula* spp. (Richter, 1952; as *D. acuminata*).

Distribution. Russia: West and East Siberia, the Far East (northward to the distribution border of arboreous vegetation); Kazakhstan, Mongolia, China, Japan. East-Palaearctic species.

Note. This widely distributed species has been known for a long time as *D. acuminata* (Pallas, 1787) (Richter, 1952) or *D. furcata* (Thunberg, 1787) (Alexeev, 1989; Volkovitsh, 2009), but recently it was found that at least the specimens from Siberia and the Russian Far East actually belong to *D. aino* Lewis, 1893 which had been described from Japan (Hokkaido) (Hass and Kubach, 2015).

Subfamily BUPRESTINAE Leach, 1815

Tribe **Buprestini** Leach, 1815

6. *Buprestis* (*Ancylocheira*) *haemorrhoidalis sibirica* Fleischer, 1887

Material. SANR: 6: 20.VIII.2017 (1 ex.) leg. M.N. Gromyko (ZIN). **11:** 02.VIII.2020 (1 ex.) leg. MS (ZIN). **13:** 20.VIII.1955 (6 ex.) [collector unknown] (FSCV). **ULNP: 25:** 27.VII.2015 (1 ex.) leg. MS (ZIN). **26:** 19.VI.1968 (1 ex.) leg. D.G. Kononov (FSCV).

Host plants. *Abies* spp., *Picea* spp., *Pinus* spp. (Richter, 1952).

Distribution. Russia: West and East Siberia, the Far East (northward to the northern distribution border of coniferous trees); Kazakhstan, Kyrgyzstan, Mongolia, China, North Korea. East-Palaearctic subspecies of the Trans-Palaearctic species.

7. *Eurythyrea eoa* Semenov, 1895

Material. SANR: 9: 01–05.VII.2021 (1 ex.) leg. MS (ZIN).

Host plants. *Populus maximoviczii* A. Henry (Richter, 1952).

Distribution. Russia: the southern Far East (Primorskii Territory); China, Japan. Stenopean species.

Tribe **Anthaxiini** Gory et Laporte, 1837

8. *Anthaxia* (*Haplanthaxia*) *psittacina psittacina* Heyden, 1887

Material. SANR: 1: 06.VII.2017 (3 ex.) leg. MS (ZIN). **3:** on the flowers of *Angelica* (Apiaceae) and *Sorbaria* (Rosaceae), 02.VII.1952 (36 ex.) leg. G.F. Bromley (ZIN). **4:** on Apiaceae flowers, 10.VIII.2018 (41 ex.) leg. MS (ZIN). **6:** 02.VI.2018 (1 ex.) leg. MS (ZIN). **11:** 29.VII–02.VIII.2020 (4 ex.) leg. MS (ZIN). **14:** on *Spiraea* flowers, 06.VIII.1937 (3 ex.) leg. K.Ya. Grunin (ZIN); on Apiaceae, 08.VIII.1948 (3 ex.) leg. A.I. Kurentsov (ZIN); 05–08.VII.1952 (4 ex.) leg. V.N. Stepanov (ZIN). **15:** 12.VII.2017 (6 ex.) leg. MS (ZIN); 12.VII.2018 (1 ex.) leg. JM. **20:** 27.VIII.2016 (2 ex.) leg. MS (ZIN).

Host plants. Alexeev (1989) reports *Pinus densiflora* Siebold et Zucc. as a host but this species does not occur in SANR, and the beetle possibly is associated with some other *Pinus* sp.

Distribution. Russia: the southern Far East (Primorskii Territory); China, North Korea, South Korea. Stenopean species.

9. *Anthaxia* (*Haplanthaxia*) *rubromarginata* Miwa et Chûjô, 1935

Material. SANR: 8: 15.VII.2018 (1 ex.) leg. JŁ. **15:** 9–11.VII.2018 (1 ex.) leg. AL, (1 ex.) leg. RK.

Host plants. Unknown.

Distribution. Russia: the southern Far East (Primorskii Territory); North-Eastern China, North Korea, Japan. Stenopean species.

10. *Anthaxia* (*Melanthaxia*) *quadripunctata quadriimpressa* Motschulsky, 1859

Material. SANR: 3: 07.VII.2018 (2 ex.) leg. AL, (1 ex.) leg. JŁ, (4 ex.) leg. RK; 15.VII.2018 (4 ex.) leg. AL, (1 ex.) leg. RD (USMB).

Host plants. *Picea* spp., *Abies* spp., *Larix* spp., *Pinus* spp. (Richter, 1949).

Distribution. Russia: West and East Siberia, the Far East; South-Western, Southern, North-Eastern, and Eastern China. East-Palaearctic subspecies of the Trans-Palaearctic species.

11. *Anthaxia* (*Melanthaxia*) *reticulata reticulata* Motschulsky, 1860

Material. SANR: 1: 29.VI.2020 (1 ex.) leg. MS (ZIN). **3:** 15.VI.2018 (4 ex.) leg. MS (ZIN). **6:** 19.VII.2018 (3 ex.) leg. RK. **9:** 05–10.VI.2020 (12 ex), 01–05.VII.2021 (1 ex.) leg. MS (ZIN); Merike traps, 05.VII.2021 (10 ex.) leg. MS (ZIN). **10:** 27.V.2015 (13 ex.), 03.VII.2017 (4 ex.), 25.VI.2019 (11 ex.) leg MS (ZIN). **12:** 26.VI.1936 (4 ex.) leg. K.Ya. Grunin (ZIN). **13:** 28.V.2016 (12 ex.) leg. MS (ZIN). **15:** 20.VI.1979 (1 ex.) leg. D.G. Kononov (FSCV); valley mixed forest, 02.VII.2015 (3 ex.) leg. MS (ZIN), 8–13.VII.2018 (1 ex.) leg. AL, (6 ex.) leg. JŁ, (20 ex.) leg. RK, (3 ex.) leg. MS (ZIN). **16:** 01.VI.2017 (3 ex.) leg. MS (ZIN). **17:** on *Rhododendron*, 14.VI.1936 (4 ex.) leg. K.Ya. Grunin (ZIN). **18:** 30.V.2020 (2 ex.) leg. MS (ZIN). **19:** 28.V.2020 (6 ex.) leg. MS (ZIN). **20:** 18.VI.2015 (7 ex.), 15.VI.2016 (14 ex.), 17.V.2017 (4 ex.), 27.VIII.2016 (2 ex.) leg. MS (ZIN). **21:** 01.V.2021 (2 ex.) leg. MS (ZIN). **22:** 14.VI.2017 (6 ex.) leg. MS (ZIN). **23:** 22.VI.2017 (4 ex.) leg. MS (ZIN). **ULNP: 26:** 19.VI.1968 (1 ex.) leg. D.G. Kononov (FSCV). **28:** on *Rosa* flowers, 15.VI.1951 (76 ex.) leg. V.N. Stepanov (ZIN); on yellow flowers of *Ranunculus*, 13–20.VI.1951 (45 ex.) leg. V.N. Stepanov (ZIN); 02.VII.1951 (3 ex.) leg. V.N. Stepanov (ZIN); on flowering *Viburnum* and *Jasminum*, 26.VI–01.VII.1951 (4 ex.), leg. G.F. Bromley (ZIN).

Host plants. *Pinus* spp. (Alexeev, 1989).

Distribution. Russia: East Siberia, the Far East (northward to the northern distribution border of coniferous trees); Mongolia, China, North Korea. East-Palaearctic species and subspecies.

12. *Anthaxia* (*Melanthaxia*) *quadrifoveolata* Solsky, 1871

Material. SANR: 3: 26.VI.2017 (1 ex.) leg. MS (ZIN). **ULNP: 27:** 20–22.VII.1967 (1 ex.) [collector unknown] (FSCV).

Host plants. Unknown, most probably conifers.

Distribution. Russia: East Siberia, southern Far East (Khabarovsk and Primorskii territories); Mongolia, China, North Korea. East-Palaearctic species.

Tribe **Melanophilini** Bedel, 1921

13. *Melanophila acuminata* (De Geer, 1774)

Material. ULNP: 27: 17–20.VIII.1969 (1 ex.) leg. E.M. Sinchilina (FSCV).

Host plants. Polyphagous species, prefers conifers.

Distribution. Holarctic species. In Russia almost everywhere south of the northern border of arboreous vegetation.

14. *Phaenops guttulata* (Gebler, 1830)

Material. SANR: 15: 10.VII.2018 (2 ex.) leg. RK.

Host plants. *Larix* and other conifers (Alexeev, 1989).

Distribution. Russia: North-East of the European part, West and East Siberia, the Far East; Mongolia, Northern China. Euro-Siberian species.

Tribe **Chrysobothrini** Gory et Laporte, 1838

15. *Chrysobothris* (*Chrysobothris*) *amurensis amurensis* Pic, 1904

Material. ULNP: 26: in flight, 14.VII.1969 (1 ex.) leg. E.M. Sinchilina (FSCV).

Host plants. *Quercus mongolica* Fisch. (Richter, 1952).

Distribution. Russia: the southern Far East (Amurskaya Province, Primorskii Territory); China, North Korea. Stenopean species.

16. *Chrysobothris* (*Chrysobothris*) *chrysostigma kerremansi* Abeille de Perrin, 1894

Material. ULNP: 26: 14.VI.1968 (1 ex.) leg. D.G. Kononov (FSCV). **28:** on *Abies* timber, 7–9.VII.1951 (10 ex.) leg. G.F. Bromley (ZIN).

Host plants. Various conifers.

Distribution. Russia: East Siberia, the Far East (northward to the northern distribution border of coniferous trees); Mongolia, China, North Korea, South Korea. East-Palaearctic subspecies of the Trans-Palaearctic species.

17. *Chrysobothris* (*Chrysobothris*) *pulchripes* Fairmaire, 1887

Material. SANR: 17.1: on felled oak, 13.VIII.1937 (1 ex.) leg. K.Ya. Grunin (ZIN). **ULNP: 26:** 14.VI.1968 (1 ex.) leg. D.G. Kononov (ZIN, identified by A.V. Alexeev as *Chrysobothris succedanea* Saund.).

Host plants. *Quercus mongolica* Fisch. (Richter, 1952; Alexeev, 1989).

Distribution. Russia: the southern Far East (Amurskaya Province, Primorskii Territory); China, North and South Korea, Japan. Stenopean species.

Subfamily AGRILINAE Laporte, 1835

Tribe **Agrilini** Laporte, 1835

18. *Agrilus* (*Uragrilus*) *sachalinicola* Obenberger, 1940

Material. SANR: 11: 29.VI.2017 (1 ex.) leg. MS (ZIN). **23:** 03.VII.2019 (2 ex.) leg. MS (ZIN).

Host plants. *Alnus hirsuta* (Spach) Rupr., *Salix caprea* L. (Jendek and Poláková, 2014).

Distribution. Russia: East Siberia, southern Far East (Primorskii Territory, Sakhalin); China, Japan. East-Palaearctic species.

19. *Agrilus* (*Uragrilus*) *fleischeri fleischeri* Obenberger, 1925

Material. SANR: 15: on *Populus* sp., 10–13.VII.2018 (3 ex.) leg. AL, (1 ex.) leg. JL, (2 ex.) leg. JM.

Host plants. *Populus* spp., *Salix* spp. (Jendek and Poláková, 2014).

Distribution. Russia: East Siberia, southern Far East (Amurskaya Province, Primorskii Territory). Mongolia, North-Eastern and Eastern China, Korea. East-Palaearctic species.

20. *Agrilus* (*Agrilus*) *cuprescens cuprescens* (Ménétriés, 1832)

Material. SANR: 3: 15.VI.2018 (5 ex.) leg. MS (ZIN). **15:** 08.VII.2018 (1 ex.) leg. RK. **22:** 14.VI.2017 (1 ex.) leg. MS (ZIN).

Host plants. *Rosa* spp., *Rubus* spp. (Jendek and Grebennikov, 2011; Jendek and Poláková, 2014).

Distribution. Russia: southward of the mixted forest belt. Trans-Palaearctic species, introduced to North America.

21. *Agrilus* (*Agrilus*) *viridis viridis* (Linnaeus, 1758)

Material. SANR: 3: 07.VII.2018 (1 ex.) leg. RK, 20.VII.2018 (1 ex.) leg. JM. **6:** 15.VII.2018 (1 ex.) leg. RK. **14:** 17.VI.1979 (1 ex.) leg. V.G. Dolin (ZIN). **15:** 12.VII.2017 (3 ex.) leg. MS (ZIN). **ULNP: 25:**

16.VI.1967 (1 ex.) leg. D.G. Kononov (FSCV, identified by A.V. Alexeev as *A. vernadskii* Obenb.). **27:** on *Ulmus laciniata*, 11.IX.1968 (1 ex.) leg. D.G. Kononov (FSCV, identified by A.V. Alexeev as *A. vernadskii* Obenb.). **28:** sweeping *Tilia*, 13.VI.1951 (2 ex.) leg. V.N. Stepanov (ZIN); sweeping *Ulmus japonica*, 20.VI.1951 (10 ex.) leg. V.N. Stepanov (ZIN); on flowering *Viburnum* and *Jasminum*, 26.VI–1.VII.1951 (1 ex.) leg. G.F. Bromley (ZIN).

Host plants. Widely polyphagous species, on arboreous vegetation.

Distribution. Russia: almost everywhere southward of the northern border of deciduous forests. Trans-Palaearctic species, introduced to North America.

22. *Agrilus* (*Agrilus*) *suvorovi* Obenberger, 1935

Material. SANR: 8: 17.VII.2018 (1 ex.) leg. JM. **15:** 10–11.VII.2018 (2 ex.) leg. JM.

Host plants. *Populus* spp. (Volkovitsh, 2009).

Distribution. Russia: the southern Far East. North-eastern, Eastern, South-Eastern and Southern China, Japan. Trans-Palaearctic species.

23. *Agrilus* (*Quercuagrilus*) *friebi friebi* Obenberger, 1922

Material. SANR: 7: 15.VII.2017 (1 ex.) leg. MS (ZIN). **15:** 02.VII.2015 (1 ex.) leg. MS (ZIN). **ULNP: 28:** sweeping young *Quercus mongolica* trees, 18.VI.1951 (4 ex.) leg. V.N. Stepanov (ZIN).

Host plants. *Quercus* spp., ?*Rhamnus* sp., ?*Vitis* sp. (Alexeev, 1989; Jendek and Grebennikov, 2011; Jendek and Poláková, 2014).

Distribution. Russia: East Siberia, southern Far East (Primorskii Territory, Kuril Islands); Mongolia, China, North Korea, South Korea, Japan. East-Palaearctic species.

24. *Agrilus* (*Quercuagrilus*) *ribbei* Kiesenwetter, 1879

Jendek and Grebennikov, 2011 : 174 (SANR, Serebryanka env.).

Material. SANR: 1: 06.VII.2017 (2 ex.), 29.VI.2020 (7 ex.) leg. MS (ZIN); Merike traps, 29.VI–01.VII.2020 (6 ex.) leg. MS (ZIN). **2:** 03.VII.2020 (1 ex.) leg. MS (ZIN). **3:** 19.VI.1936 (1 ex.) leg. K.Ya. Grunin (ZIN); orchard, 15.VI.1937 (1 ex.) leg. K.Ya. Grunin (ZIN); 20.VII.2018 (1 ex.) leg. JM; 21.VII.2018 (2 ex.) leg. RK. **4:** 14.VI.2015 (1 ex.) leg. MS (ZIN). **6:** 02.VI.2016 (10 ex.), 21.VI.2016 (4 ex.), 01–08.VIII.2016 (6 ex.) leg. MS (ZIN); coastal oak forest, 28.V.2017 (10 ex.), 16.VI.2017 (6 ex.), 02.VI 2018 (34 ex.), 02.VIII.2018 (2 ex.) leg. MS (ZIN); 15–19.VII.2018 (2 ex.) leg. AL, (9 ex.) leg. JL, (20 ex.) leg. JM, (35 ex.) leg. RK. **7:** 29.VI.2016 (1 ex.) leg. MS (ZIN); coastal oak forest, 15.VII.2017 (1 ex.), 14.VI.2018 (10 ex.) leg. MS (ZIN). **8:** 16.VII.2018 (5 ex.) leg. RD (USMB); 16–19.VII.2018 (1 ex.) leg. AL, (2 ex.) leg. JM, (2 ex.) leg. RD (USMB). **9:** 05–10.VI.2020 (2 ex.) leg. MS (ZIN); Merike traps, 05.VII.2021 (4 ex.) leg. MS (ZIN). **13:** 28.V.2016 (2 ex.), 1.VII.2018 (4 ex.) leg. MS (ZIN). **15:** 21.V.2016 (4 ex.), leg. MS (ZIN); window trap, 08–13.VII.2018 (3 ex.) leg. MS (ZIN); 8–13.VII.2018 (19 ex.) leg. AL, (8 ex.) leg. JL, (36 ex.) leg. JM, (13 ex.) leg. MS (ZIN), (2 ex.) leg. RD (USMB), (74 ex.) leg. RK. **17.1:** on leaves of *Corylus*, 25.VI.1936 (1 ex.) leg. K.Ya. Grunin (ZIN).

Host plants. *Quercus* spp., *Carpinus* sp. (Alexeev, 1979, 1989; Jendek and Poláková, 2014).

Distribution. Russia: East Siberia, southern Far East (Jewish Autonomous Region, Amurskaya Province, Khabarovsk and Primorskii territories, Sakhalin and Kurile Islands); China, North Korea, South Korea, Japan. East-Palaearctic species.

Note. In the Russian literature this species is commonly known as *A. tibialis* Lewis, 1893; *A. tibialis asiaticus*: auct. (misidentification, not *A. asiaticus* Kerremans, 1898); *A. ignoratus* Obenberger, 1924; *A. iturupicus* Alexeev, 1979 (Alexeev, 1979, 1989).

25. *Agrilus* (*Quercuagrilus*) *ussuricola* Obenberger, 1924

Material. SANR: 6: 28.V.2017 (1 ex.), 02.VIII.2018 (1 ex.) leg. MS (ZIN).

Host plants. *Quercus* spp. (Alexeev, 1989; Jendek and Poláková, 2014).

Distribution. Russia: the southern Far East (Amurskaya Province, Khabarovsk and Primorskii territories); China, North Korea, South Korea, Japan. Stenopean species.

26. *Agrilus* (*Quercuagrilus*) *fissus* Obenberger, 1917

Material. SANR: 15: 02.VII.2015 (1 ex.) leg. MS (ZIN).

Host plants. Unknown.

Distribution. Russia: the southern Far East (Khabarovsk and Primorskii territories); China, South Korea. Stenopean species.

27. *Agrilus* (*Orientagrilus*) *tempestivus* Lewis, 1893

Material. SANR: 1: 06.VII.2017 (1 ex.) leg. MS (ZIN). **15:** 12.VII.2017 (1 ex.) leg. MS (ZIN). **23:** 03.VII.2019 (1 ex.) leg. MS (ZIN).

Host plants. *Carpinus* sp., *Quercus* spp., *Machilus thunbergi* Siebold et Zucc. (Jendek and Poláková, 2014).

Distribution. Russia: the southern Far East (Khabarovsk and Primorskii territories); China, South Korea, Japan. Stenopean species.

28. *Agrilus* (*Dentagrilus*) *cyanescens cyanescens* (Ratzeburg, 1837)

Material. SANR: 21: 11.VIII.2017 (1 ex.) leg. MS (ZIN). **22:** 14.VI.2017 (1 ex.) leg. MS (ZIN). **23:** 03.VII.2019 (1 ex.) leg. MS (ZIN).

Host plants. *Lonicera* spp., *Rhamnus* sp. (Jendek and Grebennikov, 2011; Jendek and Poláková, 2014).

Distribution. Russia: southward of the mixed forest belt. Trans-Palaearctic species, introduced to North America.

29. *Agrilus* (*Robertius*) *alutaceicollis* Obenberger, 1930

Material. SANR: 15: 21.V.2016 (1 ex.) leg. MS (ZIN).

Host plants. Unknown

Distribution. Russia: the southern Far East (Primorskii Territory); China. Stenopean species.

Note. This species is frequently misidentified as *A. soudeki* Obenberger, 1926 (Alexeev, 1979, 1989).

30. *Agrilus* (*Robertius*) *betuleti* (Ratzeburg, 1837)

Material. SANR: 3: 15.VI.2018 (1 ex.) leg. MS (ZIN); birch forest, fire site, 21.VII.2018 (1 ex.) leg. RK. **8:** 21.VI.2018 (1 ex.) leg. MS (ZIN), 18.VII.2018 (1 ex.) leg. JM. **15:** 9.VII.2018 (1 ex.) leg. RD (USMB). **ULNP: 26:** 11.VI.1968 (1 ex.) leg. D.G. Kononov (FSCV). **28:** sweeping bushes, 14.VI.1951 (2 ex.) leg. V.N. Stepanov (ZIN).

Host plants. *Betula* spp. (Jendek and Poláková, 2014).

Distribution. Russia: southward of the mixed forest belt. Trans-Palaearctic species.

31. *Agrilus* (*Robertius*) *delphinensis* Abeille de Perrin, 1897

Material. ULNP: 28: on *Lonicera maackii*, 14.VI.1951 (1 ex.) leg. V.N. Stepanov (ZIN), 20.VI.1951 (1 ex.) leg. V.N. Stepanov (ZIN).

Host plants. *Salix* spp. (Jendek and Grebennikov, 2011; Jendek and Poláková, 2014).

Distribution. Europe, Russia: European part, West and East Siberia, southern Far East (Jewish Autonomous Region, Amurskaya Province, Khabarovsk and Primorskii territories); Kazakhstan, Mongolia, China, North Korea. Euro-Siberian species.

Note. Most probably, the ecological label is erroneous because larvae of *A. delphinensis* are known to feed on *Salix* (Salicaceae). *Lonicera maackii* (this species does not occur in the area studied) is the host plant of a similar species, *A*. (*Dentagrilus*) *stepanovi* Alexeev, 1979 (= *A. asahinai* Kurosawa, 1956), described based on the series collected by V.N. Stepanov on *Lonicera maackii* in Lazovsky Reserve (southern Primorskii Territory) in late May – early June 1951, just before he visited ULNP. He must have misidentified this species and probably stuck on the wrong ecological label. In Stepanov's collection specimens from ULNP

were labelled as "*Agrilus sichotealinicus* m. n. sp." (nomen nudum).

32. *Agrilus* (*Robertius*) *moerens* E. Saunders, 1873

Material. SANR: 6: 15.VII.2018 (1 ex.) leg. AL.

Distribution. Russia: the southern Far East. North-Eastern, Eastern and South-Eastern China, North and South Korea, Japan. Stenopean species.

33. *Agrilus* (*Robertius*) *nicolanus*
Obenberger, 1924

Material. SANR: 6: 08.VII.2015 (1 ex.) leg. MS (ZIN). **7:** 29.VI.2016 (1 ex.) leg. MS (ZIN). **ULNP: 28:** 17.VI.1951 (1 ex.) leg. V.N. Stepanov (ZIN); sweeping *Rhamnus dahurica*, 18–20.VI.1951 (25 ex.) leg. V.N. Stepanov (ZIN); sweeping *Lonicera*, 20.VI.1951 (1 ex.) leg. V.N. Stepanov (ZIN); sweeping bushes, 23.VI.1951 (1 ex.) leg. A.E. Zhuchenko (ZIN).

Host plants. *Quercus* spp., *Ulmus* spp. (Jendek and Poláková, 2014).

Distribution. East Europe (Poland), Russia: European part (Lipetsk), West Siberia (Kemerovo), southern Far East (Primorskii Territory); China, North and South Korea, Japan. Euro-Siberian species.

Note. In East Europe and West Siberia this species is known only from a few distant localities; the westward introduction from the East Siberia or Far East is quite possible.

34. *Agrilus* (*Robertius*) *sibiricus sibiricus*
Obenberger, 1912

Jendek and Grebennikov, 2011: 174 (SANR: Serebryanka env.).

Material. SANR: 3: 28.VI.2018 (1 ex.) leg. MS (ZIN). **9.1:** on *Betula costata*, emerging 18.IV.1968 (1 ex.) [collector unknown] (FSCV). **ULNP: 26:** 14.VI.1968 (1 ex.) leg. D.G. Kononov (FSCV).

Host plants. *Acer* spp. (Jendek and Poláková, 2014); *Betula costata* Trautv. (first record).

Distribution. Russia: the southern Far East (Primorskii Territory); China, North Korea, South Korea. Stenopean species.

35. *Agrilus* (*Sinuatiagrilus*) ?"*sinuatus sachalinensis*" Obenberger, 1935
[? *zhelochovtsevi* Alexeev, 1979]

Material. SANR: 8: ex larva from *Crataegus* sp., 18.VII.2018, imago emerged 28.XII.2018 (1 ex.) leg. JL.

Host plants. *Crataegus* sp. (*C. maximowiczii* C.K. Schneid.: Alexeev, 1989, for *A. zhelochovtsevi*).

Distribution. *Agrilus sachalinensis* is distributed from East Siberia to Japan, whereas *A. zhelochovtsevi* is recorded from East Siberia and the Russian Far East. Most probably, Stenopean species.

Note. As noted earlier (Volkovitsh et al., 2020: 5), *A. sinuatus sachalinensis* sensu Jendek, 2011 is an assemblage of several species: *A. sinuatus* is a European species, not occurring in the Far East; *A. zhelochovtsevi* Alexeev is not a synonym of *A.* "*sinuatus sachalinensis*" but a distinct species, while *A. sachalinensis* Obenberger (host unknown) is most probably an eastern subspecies of *A. mendax* Mannerheim, 1837 which is associated with *Sorbus*. The fact that the larva was reared from *Crataegus* casts questions on the correctness of identification of this species because *Crataegus* is known as a host plant of *A. zhelochovtsevi* (Alexeev, 1979, 1989).

36. *Agrilus* (*Xeragrilus*) *ecarinatus* Marseul, 1866

Material. SANR: 6: 08.VIII.2015 (1 ex.) leg. MS (ZIN). **9:** 05.VII.2021 (1 ex.) leg. MS (ZIN).

Host plants. *Artemisia* spp., ?*Nitraria* sp. (Jendek and Grebennikov, 2011; Jendek and Poláková, 2014).

Distribution. Russia: West Siberia, East Siberia, southern Far East (Amurskaya Province, Khabarovsk and Primorskii territories); Kazakhstan, Kyrgyzstan, Mongolia, China, North Korea, South Korea. East-Palaearctic species.

37. *Agrilus* (incertae sedis) ***cyaneoniger***
Saunders, 1873

Material. SANR: 3: 21.VII.2018 (1 ex.) leg. JM. **6:** 19.VII.2018 (1 ex.) leg. RK. **8:** 19.VII.2018 (1 ex.) leg. RD (USMB). **15:** 10–13.VII.2018 (2 ex.) leg. AL, (5 ex.) leg. JL, (5 ex.) leg. JM, (3 ex.) leg. RK. **ULNP: 27:** 02–16.VI.1967 (1 ex.) [collector unknown] (FSCV).

Host plants. *Quercus* spp. (Jendek and Grebennikov, 2011; Jendek and Poláková, 2014).

Distribution. Russia: the southern Far East (Amurskaya Province, Khabarovsk and Primorskii territories); China, North Korea, South Korea, Japan. Stenopean species.

38. *Agrilus* (incertae sedis) *planipennis* Fairmaire, 1888

Alexeev, 1979: 127 (SANR, no exact locality; as *A*. (*Anambus*) *markopoli* Obenberger).

Host plants. *Fraxinus* spp. (Jendek and Grebennikov, 2011; Jendek and Poláková, 2014).

Distribution. Southern Far East (Khabarovsk and Primorskii territories); China, North Korea, South Korea, ?Japan; introduced to European Russia, East Ukraine and North America. Originally Stenopean species.

Note. This previously very rare and poorly known species at the beginning of the 21st century became a notorious invasive pest of cultivated and wild ashes in North America and European Russia being widely known under the name Emerald ash borer. The locality in SANR is one of the northernmost points of its native range.

39. *Agrilus* (incertae sedis) *peregrinus* Kiesenwetter, 1879

Material. SANR: 2: 03.VII.2020 (1 ex.) leg. MS (ZIN).

Host plants. *Alnus japonica* (Thunb.) Steud., *Ulmus* sp. (Jendek and Grebennikov, 2011; Jendek and Poláková, 2014).

Distribution. Russia: the southern Far East (Amurskaya Province, Khabarovsk and Primorskii territories); China, North Korea, South Korea. Stenopean species.

40. *Agrilus* (incertae sedis) *quadrisignatus* Marseul, 1866

Material. SANR: 8: ex larvae from *Ulmus* sp., 19.VII.2018, imago emerged 27–30.XII.2018 (5 ex.) leg. JL. **15:** ex larvae from *Ulmus* sp., 09–11.VII.2018, imago emerged 3–14.XII.2018 (7 ex.) leg. JM, 11.VII.2018 (1 ex.) leg. RK. **ULNP: 27:** emerged from *Ulmus laciniata*, 18–20.IX.1967 (3 ex.) leg. D.G. Kononov (FSCV).

Host plants. *Ulmus* spp. (Jendek and Grebennikov, 2011; Jendek and Poláková, 2014).

Distribution. Russia: East Siberia, southern Far East (Primorskii Territory); Mongolia, China, North Korea, South Korea. Stenopean species.

41. *Agrilus* (incertae sedis) *smaragdinus smaragdinus* Solsky, 1876

Material. SANR: 2: 03.VII.2020 (3 ex.) leg. MS (ZIN). **3:** 28.VI.2018 (1 ex.) leg. MS (ZIN), 19.VII.2018 (4 ex.) leg. JŁ, 08.VII.2020 (2 ex.) leg. MS (ZIN). **6:** 08.VIII.2016 (1 ex.), 16.VI.2017 (2 ex.) leg. MS (ZIN), 19.VII.2018 (1 ex.) leg. JL, (3 ex.) leg. RK. **9:** 05.VII.2021 (3 ex.) leg. MS (ZIN). **14:** 27.VI.2018 (1 ex.) leg. MS (ZIN). **15:** 02.VII.2015 (1 ex.) leg. MS (ZIN), 11–13.VII.2018 (1 ex.) leg. AL, (3 ex.) leg. JM, (1 ex.) leg. RK.

Host plants. ?*Betula costata* Trautv., ?*Quercus mongolica* Fisch. ex Ledeb. (Alexeev, 1979, 1989; Jendek and Poláková, 2014: supported larval host records missing).

Distribution. Russia: the southern Far East (Khabarovsk and Primorskii territories); China, North Korea, South Korea. Stenopean species.

42. *Agrilus* sp. 1.

Material. SANR: 15: 08.VII.2018 (1 ♀) leg. MS (ZIN).

43. *Agrilus* sp. 2.

Material. SANR: 15: 10.VII.2018, (1 ♀) leg. RK.

Tribe **Aphanisticini** Jacquelin du Val, 1863

44. *Paracylindromorphus richteri* Théry, 1937

Material. SANR: 6: 18.VIII.2015 (2 ex.) leg. MS (ZIN). **11:** 02.VIII.2020 (2 ex.) leg. MS (ZIN).

Distribution. Russia: the southern Far East (Primorskii Territory); China, "Korea," Japan. Stenopean species.

Tribe **Tracheini** Laporte, 1835

45. *Habroloma* (*Habroloma*) *bifrons* Kiesenwetter, 1879

Material. SANR: 2: 03.VII.2020 (1 ex.) leg. MS (ZIN). **6:** 18.VIII.2015 (2 ex.), 01.VIII.2016 (1 ex.), 02.VIII.2018 (1 ex.) leg. MS (ZIN). **8:** 18.VII.2018 (2 ex.) leg. RK.

Host plants. ? *Geranium* (Alexeev, 1989).

Distribution. Russia: the southern Far East (Primorskii Territory); South Korea, Japan. Stenopean species.

46. *Trachys aurifluus* Solsky, 1876

Material. SANR: 1: 06.VII.2017 (1 ex.) leg. MS (ZIN).

Host plants. *Tilia maximowicziana*, *T. japonica* (Japan: Kurosawa, 1959).

Distribution. Russia: the southern Far East (Primorskii Territory); North-Eastern China, North Korea, Japan. Stenopean species.

47. *Trachys pecirkai* Obenberger, 1925

Material. SANR: 8: 25.V.2017 (1 ex.) leg. MS (ZIN), 15–19.VII.2018 (1 ex.) leg. RK. **9:** 01–05.VII.2021 (1 ex.) leg. MS (ZIN). **ULNP: 28:** on *Ulmus japonica*, 20.VI.1951 (1 ex.) V.N. Stepanov (ZIN); sweeping flowering *Viburnum* and *Jasminum*, 26.VI.1951 (1 ex.) leg. G.F. Bromley (ZIN).

Host plants. *Ulmus davidiana* var. *japonica* (Japan: Ohmomo and Fukutomi, 2013).

Distribution. Russia: East Siberia, southern Far East (Primorskii Territory); China, "Korea," Japan. Stenopean species.

Note. This species is usually confused with the very similar but larger Stenopean *T. aurifluus*.

48. *Trachys minutus minutus* (Linnaeus, 1758)

Material. SANR: 1: oak forests, 06.VII.2017 (1 ex.) leg. MS (ZIN). **2:** 25.VI.2015 (3 ex.) leg. MS (ZIN). **3:** 26.VI.2017 (1 ex.), 23.VI.2016 (5 ex.) leg. MS (ZIN). **4:** oak forests on the hills, 14.VI.2015 (1 ex.) leg. MS (ZIN). **5:** 19.IV.2015 (1 ex.) leg. MS (ZIN), 10.VII.2018 (2 ex.) leg. AL. **6:** 18.VIII.2015 (3 ex.), 01.VIII.2016 (1 ex.) leg. MS (ZIN); oak forests, 20.VIII.2016 (1 ex.), 02.VI.2016 (2 ex.), 16.VI.2017 (1 ex.), 02.VI.2018 (2 ex.), 02.VIII.2018 (2 ex.) leg. MS (ZIN), 15.VII.2018 (1 ex.) leg. AL. **9:** 05–10.VI.2020 (2 ex.) leg. MS (ZIN). **10:** 27.V.2015, 29.V.2015 (3 ex.) leg. MS (ZIN). **15:** 19.IV.2015 (1 ex.) leg. MS (ZIN), 10–12.VII.2018 (1 ex.) leg. AL, (1 ex.) leg. MS. **18:** 01.IX.2015 (2 ex.) leg. MS (ZIN). **22:** 14.VI.2017 (2 ex.) leg. MS (ZIN). **23:** 03.VII.2019 (12 ex.) leg. MS (ZIN). **ULNP: 28:** on *Corylus heterophylla*, 13–20.VI.1951 (7 ex.) leg. V.N. Stepanov (ZIN); sweeping bushes, 15.VI.1951 (1 ex.) leg. V.N. Stepanov (ZIN).

Host plants. Polyphagous species.

Distribution. Russia: almost everywhere southward of the northern border of deciduous forests. Trans-Palaearctic species, introduced to North America.

49. *Trachys pseudoscrobiculatus* Obenberger, 1940

Material. SANR: 8: 18.VII.2018 (1 ex.) leg. AL, (1 ex.) leg. RK. **23:** 03.VII.2019 (1 ex.) leg. MS (ZIN).

Host plants. Unknown.

Distribution. Russia: the southern Far East (Primorskii Territory); China, Japan (Hokkaido). Stenopean species.

Note. First record for Russia.

50. *Trachys reitteri* Obenberger, 1930

Material. SANR: 2: 25.VI.2015 (3 ex.) leg. MS (ZIN).

Host plants. *Glycine*, *Pueraria*, *Rhynchosia* spp. (Fabaceae) (Japan: Ohmomo and Fukutomi, 2013).

Distribution. Russia: the southern Far East (Primorskii Territory); China, South Korea, Japan. Stenopean species.

DISCUSSION

Fifty species which belong to 13 genera, 9 tribes, and 3 subfamilies of jewel beetles are recorded from the central Sikhote-Aline Range and adjacent areas. In general, the composition of the buprestid fauna of the central Sikhote-Alin range is typical of the coastal conif-

erous-deciduous forests, but is noticeably impoverished as compared with that of the Lazovsky Reserve located to the south, in which 70 species from 14 genera are recorded (Volkovitsh, 2009). It can probably be explained by colder climate and stronger anthropogenic pressure. At the same time, findings of species which occur in the south of the Primorskii Territory but have been so far unknown from SANR are quite possible.

Agrilus species are clearly predominating in the buprestid fauna of SANR (26 species, more than a half of the species composition), followed by *Anthaxia* and *Trachys* (5 species each); all the other genera are represented by only 1–3 species. From the biogeographic viewpoint, the core of the buprestid fauna is formed by Stenopean elements (27 species and subspecies, 56% of the faunal composition) including some species reaching west East Siberia, together with representatives of the nemoral flora (e.g. *Agrilus quadrisignatus* associated with *Ulmus pumila*). The second largest group is formed by East-Palaearctic elements (11 species, 23%) to which we attribute some species distributed westward up to West Siberia, as well as Kazakhstan and Kyrgyzstan (e.g. *Agrilus ecarinatus* feeding on *Artemisia* spp.). Other biogeographic elements are represented by widely distributed species: Trans-Palaearctic (6 species, 13%), Euro-Siberian (3 species, 6%) and by a single Holarctic species, *Melanophila acuminata* (2%).

Analysis of the buprestid fauna of the studied region demonstrates that the vast majority of species are forest elements with an insignificant admixture of steppe elements (e.g. *Agrilus ecarinatus*), which is determined by its location near the border between the Euro-Siberian taiga and Stenopean nemoral biogeographic regions (according to Emelyanov, 1974). The proximity of the latter results in the presence in the south of Primorskii Territory of numerous Chinese and Japanese elements, in particular, the North Japanese and Chinese species *Trachys pseudoscrobiculatus* first recorded for the Russian fauna in this paper.

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COMPLIANCE WITH ETHICAL STANDARDS

Conflict of interest. The authors declare that they have no conflict of interest.

Statement on the welfare of animals. All the applicable international, national, and institutional guidelines for the care and use of animals were followed. All the procedures performed in studies involving animals were in accordance with the ethical standards of the institution or practice at which the studies were conducted.

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