

Review of leaf beetles of the family Megalopodidae (Coleoptera: Chrysomeloidea) from Siberia and the Russian Far East

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Abstract

Fifteen species in three genera of the subfamilies Zeugophorinae and Megalopodinae are reviewed from the fauna of Siberia and the Russian Far East. *Zeugophora chujoi* Ohno, 1961 are excluded from the Russian fauna as misidentified. The distribution maps and keys to the Zeugophorinae and Megalopodinae species from Siberia and the Russian Far East are given.

Key words: Biodiversity, Megalopodinae, Zeugophorinae, leaf beetles, *Poecilomorpha*, *Temnaspis*, *Zeugophora*, distribution, Asian Russia.

Introduction

Megalopodidae is a small family of leaf beetles distributed worldwide. This family is presented by 589 species from 29 genera and 3 subfamilies: Zeugophorinae, Megalopodinae and Palophaginae (Li, Liang 2018, 2020; Rodríguez-Mirón 2018; Takemoto 2019). The subfamily Megalopodinae includes 480 species from 24 genera, Zeugophorinae – 105 species from two genera, and the Relict Palophaginae – four species from three genera (Li, Liang 2018, 2020; Rodríguez-Mirón 2018; Takemoto 2019). Fifteen Megalopodidae species from three genera were known from the fauna of Russia (Vasiliev 1964; Medvedev, Shapiro 1965; Medvedev 1992; Medvedev, Dubeshko 1992; Bieńkowski 2004; Lopatin et al. 2004; Gus'kova 2006; Mikhailov 2009; Dolgin, Bieńkowski 2011; Bieńkowski, Orlova-Beńkovskaya 2017; Egorov et al. 2020; Ivanov, Legalov 2022; Sergeev 2022). Species of the family Megalopodidae are distributed mainly in the south of the Russian Far East. The taxonomic and faunistic studies of the Megalopodidae fauna have been published in recent decades (Medvedev 2010; Silfverberg 2010; Heining, Schöller 2012; Sekerka, Vives 2013; Li et al. 2013; Li, Liang 2018, 2020; Takemoto, 2019), in connection with which it became necessary to prepare a review of the family for the fauna of Siberia and the Russian Far East.

Material and methods

This study is based on the collection of the Zoological Institute of the Russian Academy of Sciences (St Petersburg, Russia), material collected by the authors in 2005, 2015–2022 in Primorsky Krai and Sakhalin Island, and other scientific collections.

Materials from the following collections are studied: EATB – Federal Scientific Center of the East Asia Terrestrial Biodiversity, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok, Russia; ZIN – Zoological Institute of the Russian Academy of Sciences, St Petersburg, Russia; ISEA – Institute of Systematics and Ecology of Animals, SB RAS (Novosibirsk, Russia); AKC – collection of A.V. Korshunov (Novosibirsk, Russia); KB – collection of A.O. Bieńkowski (Severtsov Institute of Ecology and Evolution of the Russian Academy of Sciences, Moscow, Russia); MSGU – Moscow State Pedagogical University (Moscow, Russia); SIC – collection of S.N. Ivanov (Vladivostok, Russia).

Photographs (figs. 1A–1N, 1P) were taken with the stereomicroscope Olympus SZX16 and digital camera Olympus DP74 and stacked using Helicon Focus software. The final illustrations were post-processed for contrast and brightness using Adobe Photoshop® software.

Annotated list of the species of the family Megalopodidae from Siberia and the Russian Far East

Family: Megalopodidae Latreille, 1802

Subfamily: Megalopodinae Latreille, 1802

Remarks. The subfamilies Megalopodinae include four species from two genera (*Poecilomorpha* Hoppe, 1840 and *Temnaspis* Lacordaire, 1845) in the fauna of Russia, the distribution of which is limited to the south of the Russian Far East. They live mainly in broad-leaved and cedar-broad-leaved forests; adults and larvae feed and develop on woody plants and bushy from the families Fabaceae and Oleaceae, and perennial lianas from the family Dioscoreaceae (Medvedev, Roginskaya 1988; Dubeshko, Medvedev 1989; Jolivet, Hawkeswood 1995; Li, Liang 2013; An 2015; Rodriguez-Miron, 2018). The Species of the genus *Aprostocetus* Westwood, 1813 (Eulophidae) parasitize on them (Li, Liang 2013).

Key to Megalopodinae species of the Russian Far East

1. Metafemora with single stout tooth at right angle to middle of underside and without any subapical tooth. Elytron blue or blue-green.	<i>Poecilomorpha cyanipennis</i>
- Metafemora with one or two subapical teeth, sometimes one in middle of underside. Body without metallic coloration (<i>Temnaspis</i>).	2
2. Body coloration one color. Head, pronotum, elytron, metasternum, abdomen and most of ventral surface of metafemora generally brownish red. Other portions of body including antennae black. Metafemora with tooth in middle only in males	<i>T. bonneuili</i>
- Body coloration two-tone.	3
3. Head, antenna and pronotum black, elytron generally muddy fulvous. Metafemora in both sexes with tooth in middle.	<i>T. nankinea</i>
- Head black; pronotum reddish-brown or yellowish-brown.	4
4. All tibiae partially yellow. Metafemora with yellow apex.	<i>T. japonica</i>
- All legs black. Metafemora brownish on outside.	<i>T. syringa</i>

Genus: *Poecilomorpha* Hope, 1840

Poecilomorpha Hope 1840: 178; type species *Poecilomorpha passerini* Hope, 1840, by monotypy.

Clythroxeloma Kraatz 1879: 143; type species *Clythroxeloma cyanipennis* Kraatz, 1878, by monotypy.

Clythroxeloma: Clavareau 1913: 13.

Paecilomorpha: Hope 1840: 178.

Poecilomorpha cyanipennis (Kraatz, 1879)

Clythroxeloma cyanipennis Kraatz 1879: 143 [type locality: Amur (?Jewish Autonomous Oblast, Radde)].

Poecilomorpha cyanipennis: Medvedev 1992: 550 [Amur Oblast, Primorsky Krai, Korea, China]; Mikhailov 2009: 171 [Primorsky Krai, Korea, China]; An 2015: [Korea: North, Central, South, China (Manchuria, North, Central, South)]; Sergeev 2020: 80–88 [Primorsky Krai], Legalov et al. 2022: 55 [Amur Oblast, Jewish Autonomous Oblast, Khabarovsk Krai, Primorsky Krai, Korea, NE, E, C China]; Ivanov, Legalov 2022: 92–93 [Primorsky Krai].

Material. RUSSIA: 2 ex. (ZIN), **Jewish Autonomous Oblast**, Obluchensky District, Pashkovo, 31.V.-7.VI.1978; 1 ex. (ISEA), **Khabarovsk Krai**, Bolshehekhtsyrsky Nature Reserve, env. Bychikha, 19.V.2018, V. Dubatolov; 1 ex. (ISEA), Khabarovsk, Yasnaya Str., 8.VI. 2019, V. Dubatolov; 2 ex. (ZIN), **Primorsky Krai**, env. Vladivostok, 10–11.VI.1900, G. Suvorov; 1 ex. (ZIN), idem, 8.VI.1910, Berger; 2 ex. (ZIN), idem, 3.VII.1910, Berger; 2 ex. (ZIN), idem, 2.VI.1913, Kotel'nikov; 1 ex. (ZIN), idem, Sedanka, 9.VI.1927, Berger; 1 ex. (EATB), idem, 19.V.1948; 1 ex. (EATB), idem, floodplain of Lyanchikhe (=Bogataya) River, 31.V.1952; 1 ex. (EATB), idem, Sedanka, 9.V.1993, A. Egorov; 4 ex. (EATB), idem, 16.V.2002, G. Lafer; 5 ex. (ISEA), idem, on *Maackia amurensis*, 7.VI.2005, A. Legalov; 6 ex. (SIC), idem, Botanical garden, 24.V.2009, S. Ivanov; 1 ex. (ZIN), Peter Great Bay, Russky Island, VII.1920, Kordakov; 1 ex. (EATB), idem, 24.VI.1977, N. Azarova; 2 ex. (EATB), env. Artem, 22.V.1981, A. Plutenko; 1 ex. (EATB), Lazovsky District, env. Svobodnoe, 3.VI.1980, T. Oliger; 4 ex. (ISEA), Lazovsky Reserve, cordon Korpada, on *Maackia amurensis*, 16–18.VI.2005, A. Legalov; 1 ex. (ISEA), Lazovsky Reserve, cordon America, 18–19.VI.2005, V. Shokhrin; 1 ex. (ZIN), Spassky District, Evseevka (Yuzhno-Ussuriyskiy krai), 2.VI.1910, N. Shinkarev; 11 ex. (ZIN), idem, 21–23.V.1910, N. Shinkarev; 5 ex (ZIN), Chernigovsky District, env. Chernigovka vill., 18.V.-1.VI.1912, A. Emel'yanov; 2 ex. (ZIN), Monastyrshche, 13.V.1907, A. Emel'yanov; 1 ex. (ZIN), Partizansky District, Tigrovaya River, 11.VI.1927, Martynov; 3 ex. (ZIN), Suchan (=Partizansk), 14.VI.1927, A. Stackelberg; 1 ex. (ZIN), Ussuriysky District, Suputinka (=Komarovka) River, 21.VI.1935, T. Samoilov; 1 ex. (EATB), env. Nikolsk-Ussuriyskiy (=Ussuriysk), 21.V.1923, T. Samoilov; 1 ex. (EATB), idem, Lokhmataya mountain, 29.V.1925, T. Samoilov; 1 ex. (EATB), idem, Krivoy stream, 24.VI.1928, T. Samoilov; 1 ex. (EATB), Suputinsky (=Ussuriyskiy) nature reserve, 4.VI.1960, Kabanov; 1 ex. (EATB), idem, 7.VI.1970, A. Kupyanskaya; 1 ex. (EATB), Kamenushka, VI.1975, V. Skurikhina; 1 ex. (EATB), 1 ex. (ZIN), 25 km SE Ussuriysk, Gornotayezhnaya stantsiya, 9.V.1983, S. Sinev; 2 ex. (SIC), idem, 18.V.-11.VI.2014, S. Ivanov; 1 ex. (ZIN), Maikhe (=Artemovka River), 6.VI.1927, A. Stakelberg; 6 ex. (ZIN), Yakovlevsky District, Yakovlevka, 19.V.-13.VI.1926, Filip'ev; 1 ex. (ZIN), idem, 26.VI.1927, A. Stakelberg; 3 ex. (ZIN), idem, 27.V.1929; 1 ex. (ZIN), Anuchinsky District, "Ussuri reg.", (=Primorsky Krai), Vinogradovka vill., 27.V.1929, D'jakonov, Phylip'yev; 1 ex. (SIC), env. Orlovka, 8.VI.2012, S. Ivanov; 2 ex. (SIC), env. Starovarvarovka, 10.V.2019, S. Ivanov; 3 ex. (SIC), Oktyabrsky District, env. Pokrovka, 1.V.-6.VI.2015, S. Ivanov; 3 ex. (SIC), idem, 21.V.-26.VI.2016, S. Ivanov; 1 ex. (SIC), Chernigovsky District, env. Merkushevka, 3–6.VI.2013, S. Ivanov; 1 ex. (EATB), Khankaisky District, Dvoryanka, 20.VI.2017, K. Ostapenko; 1 ex. (EATB), Khasansky District, 11 km N of Khasan, natural landmark «Golubyniy utes», 30.V.1974, P. Lehr; 1 ex. (EATB), 40 km N Kraskino, 23.VI.1974, A. Lelej; 1 ex. (EATB), cape "ostrovok Fal'shivyy", 18.VI.2021, M. Sergeev; 1 ex. (SIC), env. Vityaz, 20.VI.2017, S. Ivanov; 1 ex. (SIC), env. Znadvorovka, 6.VI.2009, S. Ivanov.

Distribution. Russia (Amur Oblast, Jewish Autonomous Oblast, Khabarovsk Krai, Primorsky Krai) (fig. 3), Korea, China.

Host plants. *Maackia amurensis* Rupr. et Maxim., *Sophora flavescens* Solander ex Aiton (Medvedev, Roginskaya 1988; An 2015).

Genus: *Temnaspis* Lacordaire, 1845

Temnaspis Lacordaire 1845: 716; type species: *Megalopus javanus* Guérin-Meneville 1844, designed by Jacoby and Clavareau 1905

Colobaspis Fairmaire, 1894: 225; type species: *Colobaspis flavonigra* Fairmaire, 1894, by monotypy.

***Temnaspis bonneuili* Pic, 1947**

Temnaspis bonneuili Pic 1947: 15 [type locality: "Siberia"]

Temnaspis bonneuili: Medvedev 1992: 550 [Amur Oblast, Primorsky Krai]; Mikhailov 2009: 171 [Primorsky Krai]; Medvedev 2010b: 336 [North-eastern China]; An 2015: 316 [Central Korea]; Rodríguez-Mirón 2018: 288 [China, South Korea], Legalov et al. 2022: 55 [Amur Oblast, Khabarovsk Krai, Primorsky Krai, South Korea, NE China]; Ivanov, Legalov 2022: 91 [Primorsky Krai].

Temnaspis rubripennis Baly, nom. nud.: Kraatz 1879: 143; Heyden 1886: 274 [Primorsky Krai: Suyfun =Razdolnaya River]; Jacobson 1911: tab. 61, fig. 25 [Russia].

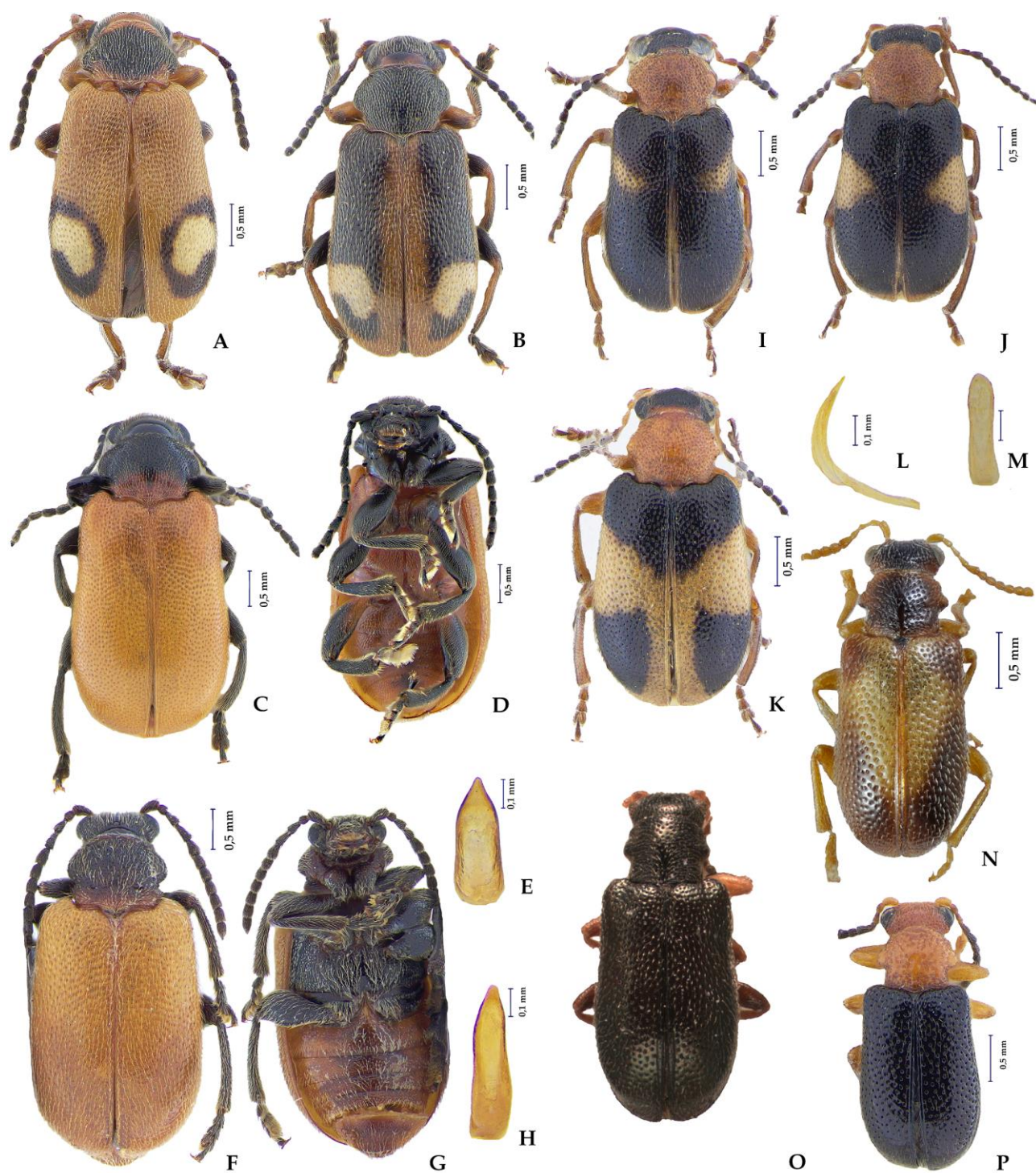


Figure 1. *Zeugophora* spp.: A–B. *Z. annulata*, habitus, dorsal view; C. *Z. bicolor*, habitus, dorsal view; D. *Z. bicolor*, habitus, ventral view; E. *Z. bicolor*, aedeagus, apex of median lobe, dorsal view; F. *Z. nigricollis*, habitus, dorsal view; G. *Z. nigricollis*, habitus, ventral view; H. *Z. nigricollis*, aedeagus, apex of median lobe, dorsal view; I, J, K. *Z. bimaculata*, habitus, dorsal view; L. *Z. bimaculata*, aedeagus, lateral view; M. *Z. bimaculata*, aedeagus, apex of median lobe, dorsal view; N. *Z. cupka*, habitus, dorsal view; O. *Z. hozumii*, dorsal view; P. *Z. subspinosa*, dorsal view.

Material. RUSSIA: 1 ex. (ZIN), **Amur Oblast**, Arkharinsky District, Kundur, 12.VI.1920, Zaitsev; 1 ex. (ISEA), **Khabarovsk Krai**, Bolshekhokhtsky Nature Reserve, env. Bychikha, 13.V.2008, V. Dubatolov; 1 ex. (ZIN), **Primorsky Krai**, western spurs of Sikhote-Alin, “Iman” (=Bol'shaya Ussurka)

River, 20.VI.1911, N. Shinkarev; 1 ex. (ZIN), Spassky District, upper course of Odarka River, Khanka Lake, Chersky; 1 ex. (EATB), Shkotovsky District, Peyshula River, bird cherry, 5.VI.1971, V. Kuznetsov; 1 ex. (EATB), Vladivostok, Botanical Garden, oak forest, 20.V.1993, M. Kashcheev; 1 ex. (ISEA), idem, 8.V.1994, V. Dubatolov; 1 ex. (EATB), env. Arseniev, 18.VI.1996, I. Seredkin; 1 ex. (EATB), Sikhote-Alin State Reserve, Kuruma River floodplain, 6.VI.2020, M. Sergeev; 1 ex. (ZIN), Yakovlevsky District, 6.VI.1963; 1 ex. (ZIN), Yakovlevka, 15.V.1926; 1 ex. (SIC), Khasansky District, Kedrovaya Pad' Nat. Res., env. Kedrovka, 6.VI.2017, A. Shamaev; 1 ex. (ZIN), "Ussuri, Korokem".

Distribution. Russia (Amur Oblast, Khabarovsk Krai, Primorsky Krai) (fig. 4), North-eastern China, Korea.

Host plants. *Dioscorea nipponica* Makino (Medvedev, Roginskaya 1988; An 2015; Rodríguez-Mirón 2018).

Remarks. We were unable to find the description of *Temnaspis rubripennis* in the papers of J.S. Baly. Possibly Baly studied the unique specimen collected from "südlichsten Amur-Gebiet vom Suyfun-Flufs, an dessen Mündung, in der Bai Peters des Grofsen, die Stadt Vladivostok liegt" (=Razdolnaya River near Vladivostok) which he received from O. Staudinger, and identified it as *T. rubripennis* and return it to G. Kraatz (Kraatz 1879), who mentioned this unique specimen of species *T. rubripennis* under description of his new genus *Clythraeloma* (synonym of *Poecilomorpha*). Later this species was cited by L. von Heyden (Heyden 1886) without description. G. Jacobson brought a picture of *Temnaspis rubripennis* in his book (Jacobson 1911: tab. 61, fig. 25).

***Temnaspis japonica* (Baly, 1873)**

Colobaspis japonica Baly 1873: 73 [type locality: Japan]

Temnaspis japonica: Vasiliev 1964: 10 [Primorsky Krai]; Kimoto, Takizawa 1994: 266 [Japan (Honshu, Kyushu)]; Rodríguez-Mirón 2018: 288 [China (Shaanxi, Huanglung, Yunnan, Lijiang), Japan (Nagasaki)].

Material. RUSSIA: 1 ex. (ZIN), **Primorsky Krai**, "Spassk" (=Spassk-Dalny), 29.V.1931, D. Ogloblin.

Distribution. Russia (Primorsky Krai) (fig. 5), China, Japan.

Host plants. Host plants in Japan: *Fraxinus sieboldiana* Koidz., *Ligustrum japonicum* Siebold et Zucc., *L. obtusifolium* Thunb. (Li et al. 2013).

***Temnaspis nankinea* (Pic, 1914)**

Colobaspis nankinea Pic 1914: 20 [type locality: Zhejiang (China)]

Temnaspis nankinea: Gressit, Kimoto 1961: 35 [China (Jiangxi, Zhejiang), Korea]; An 2015: 316 [Korea (North, Central), China (North, Central)]; Legalov, Ivanov 2022 [Primorsky Krai]; Ivanov, Legalov 2022: 91 [Primorsky Krai].

Temnaspis coreana: Chûjô 1934: 34 [Korea]; Gressit, Kimoto 1961: 35 [China (Jiangxi, Zhejiang), Korea].

Material. RUSSIA: 1 ex. (SIC), **Primorsky Krai**, Khasansky District, env. Gousevka vill., 6-7.VI.2009, S. Ivanov; 1 ex. (ZIN), Kedrovaya Pad' Nat. Res., 21.VI.1982, A. Lelej.

Distribution. Russia (Primorsky Krai) (fig. 6), China (Jiangxi, Zhejiang, Taiwan, Hen, Shandong, Shanxi), North and South Korea (Yu, Liang 2002; Medvedev 2010b; An 2015; Ivanov, Legalov 2022).

Host plants. *Fraxinus rhynchophylla* Hance., *F. chinensis* Roxb. (An 2015).

***Temnaspis syringa* Li et Liang, 2013**

Temnaspis syringa Li et Liang 2013: 389 [type locality Beijing (China)]

Remarks. Possible finding of this species in the south of the Russian Far East.

Distribution. China (Beijing, Shaanxi, Ningxia).

Host plants. *Syringa pubescens* Turcz. (Li, Liang 2013).

Subfamily: Zeugophorinae Boving et Craighead, 1931

Remarks. The subfamily Zeugophorinae is represented by the genus *Zeugophora* Kunze, 1818, with included two subgenera, nominotypic *Zeugophora* Kunze, 1818 and *Pedrillia* Westwood, 1864 (Monrós 1959; Gressitt, Kimoto 1961; Kimoto, Gressitt 1979; Medvedev 1997; Reid 1995; Schöller 2009; Silfverberg 2010; Warchałowski 2010; Li, Liang 2018) in the world fauna. *Pedrillia* was recently synonymized by Sekerka and Vives (2013) under *Zeugophora*.

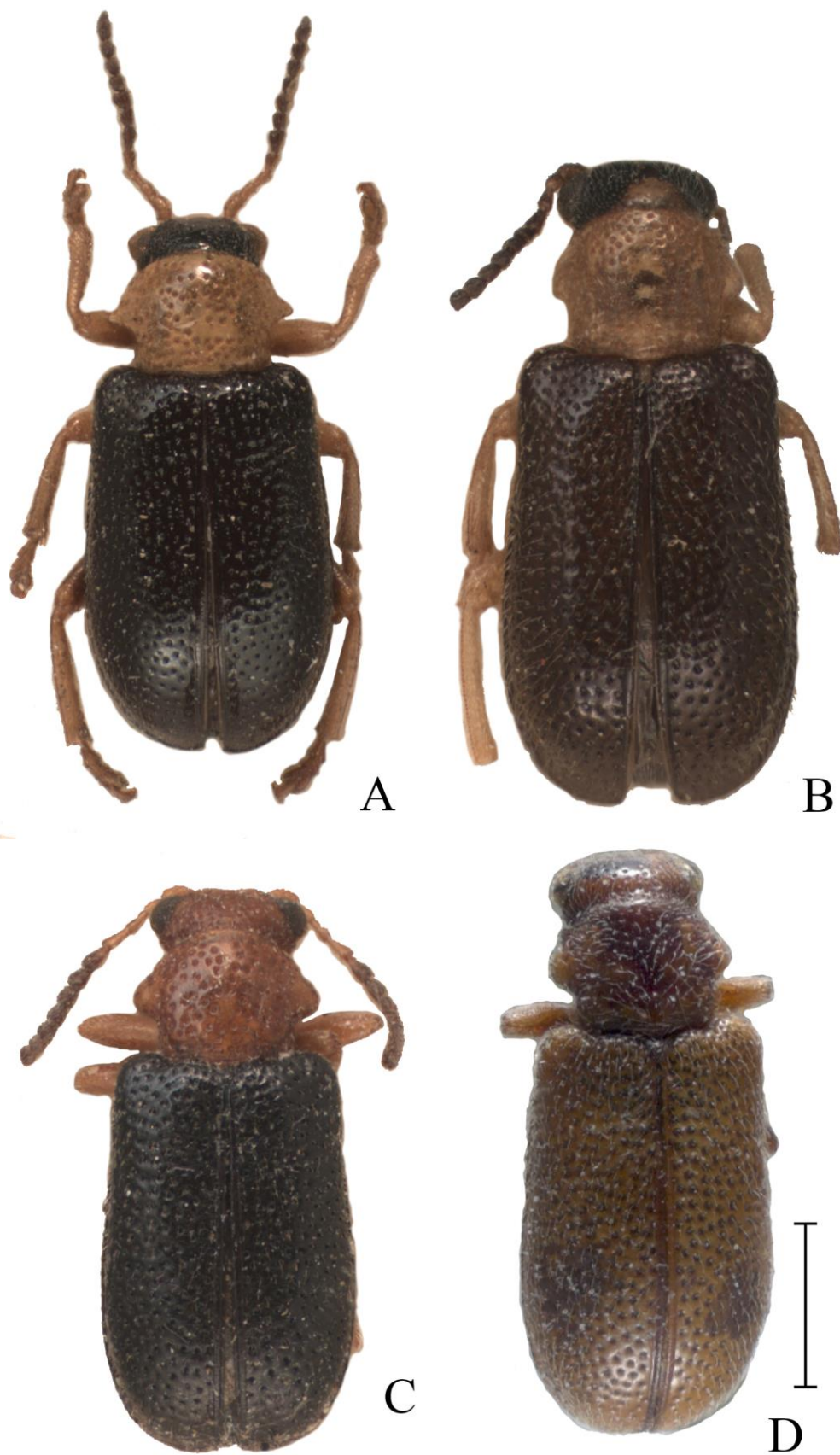


Figure 2. *Zeugophora* spp., habitus, dorsal view: A – *Z. flavicollis*; B – *Z. frontalis*; C – *Z. subspinoso*; D – *Z. turneri*. Scale bar = 0.5 mm for D.

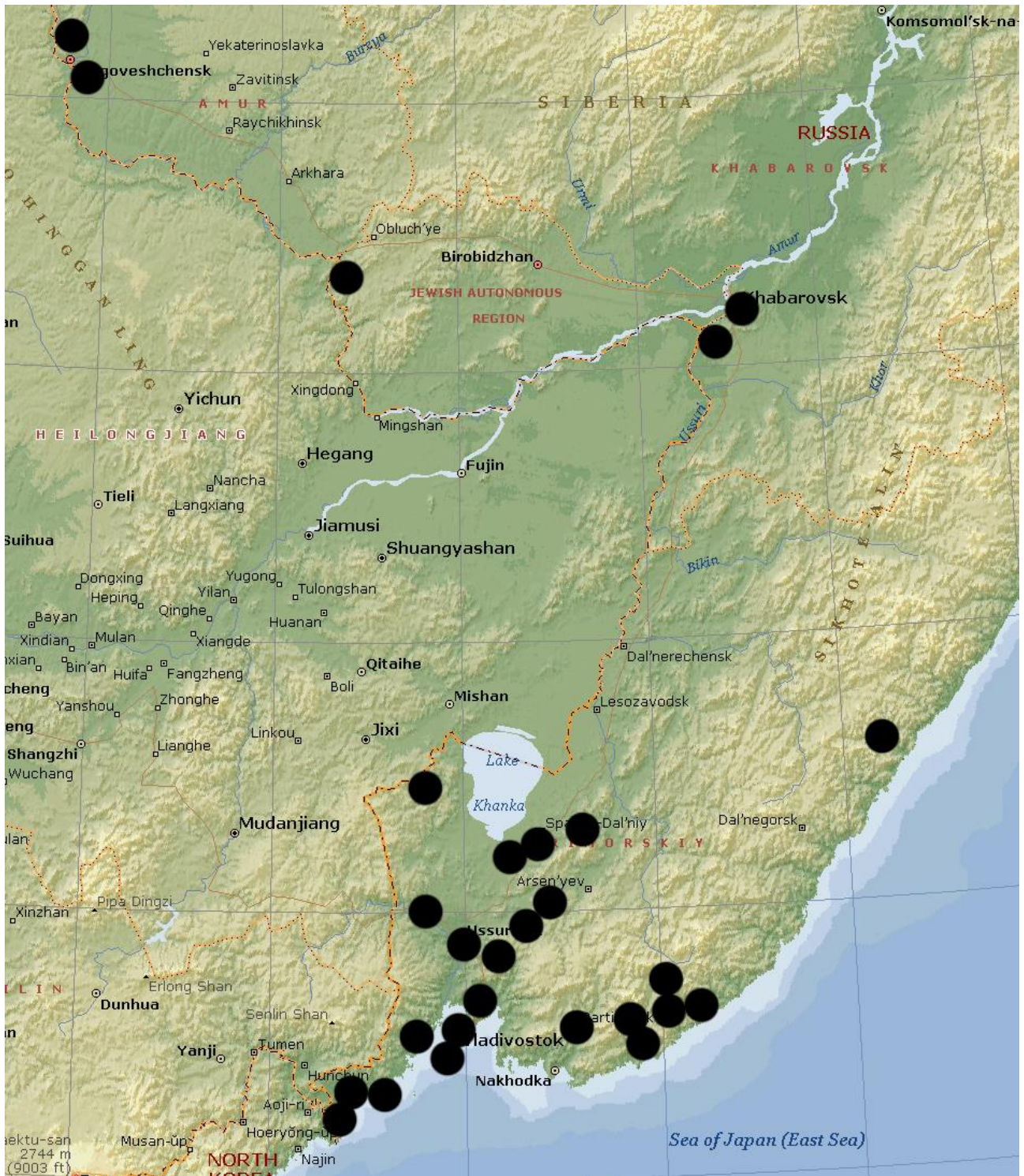


Figure 3. Distribution of *Poecilomorpha cyanipennis* in Russia.

The Zeugophorinae are associated with tree and bushy; their larvae are miners and develop in the thickness of leaf tissues of host plants and pupate in the soil (Zaitsev, Medvedev 2009). The Russian Zeugophorinae is trophically associated mainly with two families, Salicaceae (mainly *Populus*, less often *Salix*) and Celastraceae (different species of *Euonimus*) (Medvedev, Roginskaya 1988; Dubeshko, Medvedev 1989). The beetles of this subfamily feed and develop on plants of other families: Juglandaceae, Corylaceae, Betulaceae, Sapindaceae and Symplocaceae (Jolivet, Hawkeswood 1995; Santiago Blay 2004; Li, Liang 2018; Rodriguez-Miron 2018; Takemoto 2019) in the tropics and subtropics.

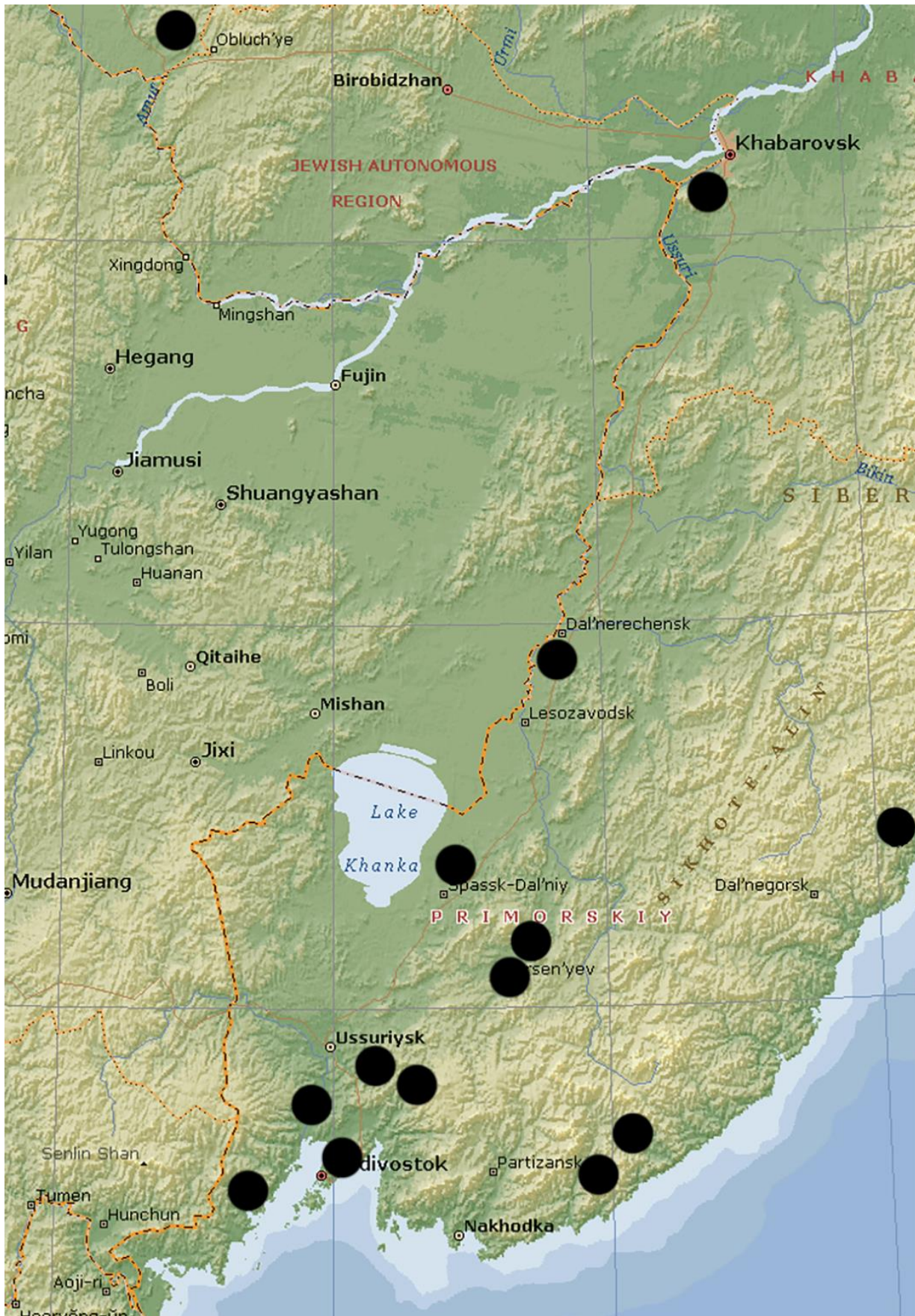


Figure 4. Distribution of *Temnaspis bonneuili* in Russia.



Figure 5. Distribution of *Temnaspis japonica* in Russia.

The parasites of *Zeugophora* include the families Mymaridae, Braconidae, and Ichneumonidae of Hymenoptera (Warchałowski 1985; Lopatin, Nesterova 2005, <https://www.ukbeetles.co.uk/>).

Genus: *Zeugophora* Kunze, 1818

Zeugophora Kunze 1818: 71; type species: *Crioceris subspinosus* Fabricius, 1781, by subsequent designation (Westwood 1838).

Auchenia Thunberg 1792: 95; type species *Crioceris subspinosus* Fabricius, 1781, by subsequent designation (Duponchel et Chevrolat in d'Orbigny 1842).

Taraxis LeConte 1850: 237; type species: *Crioceris subspinosus* Fabricius, 1781, by subsequent designation (Duponchel et Chevrolat in d'Orbigny 1842).

Pedrillia Westwood 1864: 280; type species: *Pedrillia longicornis* Westwood, 1864 by monotypy.

Macrozeugophora Achard 1914: 288; type species: *Macrozeugophora ornata* Achard, 1914 by monotypy.

Bruchommima Achard 1916: 47, type species: *Bruchommima chloropelta* Achard, 1916 by monotypy.
Pedrilliomorpha Pic 1917: 9, type species: *Pedrilliomorpha atosuturalis* Pic, 1917 by monotypy.
Austrolema Oke 1932: 164, type species: *Austrolema vitinea* Oke, 1932 by monotypy.
Pedrillimorpha: Papp 1946: 25
Pedrinella: Papp 1946: 26
Pedrilonga: Papp 1946: 26
Papuleptura Gressit 1959: 81; type species: *Papuleptura alticola* Gressit, 1959 by original designation.

Key to the species of *Zeugophora* of Siberia and the Russian Far East

1.	Eyes with broad, slight notch; forehead with depression between eyes; pronotum with protruding lateral tubercle; its posterior angles simple. Elytra mostly black, rarely light or bicolor.	2
-	Eyes with narrow but deep notch; forehead without depression; pronotum more or less heart-shaped, with slightly protruding lateral tubercle. Elytra pale or bicolour; abdomen rufous, or rufous with black middle of abdominal ventrites, or completely black.	9
2.	Abdomen rufous or red.	3
-	Abdomen black.	4
3.	All body rufous (fig. 2D).	<i>Z. turneri</i>
-	Elytra black, with yellow-rufous apex, suture and triangular spot in front of middle; often light pattern increases, connects (figs. 1I, 1J, 1K). Aedeagus (fig. 1L).	<i>Z. bimaculata</i>
4.	Elytra yellow (fig. 1N), with brown lateral stripe widened at base (covering humeral tubercle) and in apical half (reaching suture).	<i>Z. cupka</i>
-	Elytra black (figs. 1P, 1O).	5
5.	Head and pronotum are dark green (black-green), sometimes its edges are reddish. Elytra with weak metallic (bluish or bronze) sheen (fig. 1P).	<i>Z. hozumii</i>
-	Pronotum reddish (figs. 1).	6
6.	Head completely red (figs. 1P, 2C). Pronotum on disc with hairs.	7
-	Head red with black vertex (figs. 1A-B).	8
7.	Pronotum densely punctuate; punctures large and dense; distance between punctures less than their diameter. Scutellum black, rarely rufous. Temples shorter than half of eye diameter.	<i>Z. subspinosus</i>
-	Pronotum punctures smaller and less frequent; distance between punctures greater than their diameter. Scutellum rufous, rarely black. Temples almost as long as eye diameter.	<i>Z. scutellaris</i>
8.	Lateral tubercle of pronotum pointed (fig. 2A). Head red with black forehead and vertex. Pronotum glabrous on disc, with sparse deep punctures. Scutellum black, almost square. Metafemora usually darkened	<i>Z. flavicollis</i>
-	Lateral tubercle of pronotum obtuse (fig. 2B). Head red with black forehead. Pronotum on disc with hairs. Mesoventrite yellow, including epimeres. Hind legs yellow.	<i>Z. frontalis</i>
9.	Head and pronotum black to rufous. Legs are rufous or with dark apices of femora. Elytra white-yellow, brownish or black with yellow-white spot behind middle, bordered by black ring, sometimes with dark longitudinal stripe from humeri. Pattern may vary up to complete disappearance of brown spots and stripes, with exception of dark edging of white-yellow spots on elytra (figs 1A, 1B).	<i>Z. annulata</i>
-	Head and pronotum uniformly black. If the coloration different, then only posterior margin of pronotum rufous (figs. 1C, 1F).	10
10.	Elytra red-brown or rufous; prosternum, meso- and metaventrites black; abdomen completely black or rufous with black middle of abdominal ventrites. Head, antennae and legs black. Posterior margin of pronotum sometimes with narrow rufous margin (figs. 1F, 1G).	<i>Z. nigricollis</i>
-	Elytra, abdominal ventrites, mes- and metaventrites monochromatic orange-red or red-brown. Head, antennae, prosternum and legs black, only base of metafemora rufous on inside. Posterior margin of pronotum with wide rufous margin (figs. 1C, 1D).	<i>Z. bicolor</i>



Figure 6. Distribution of *Temnaspis nankinea* in Russia.

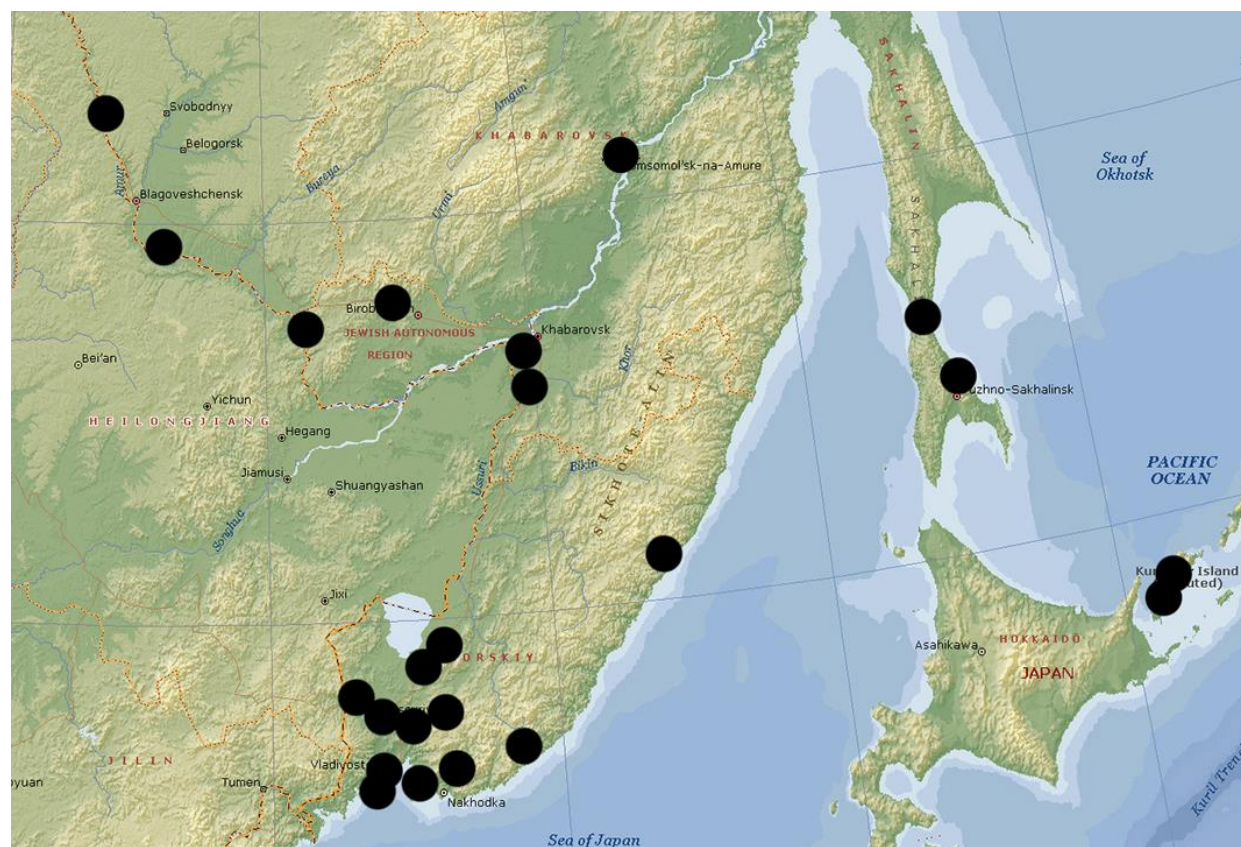


Figure 7. Distribution of *Zeugophora annulata* in Russia

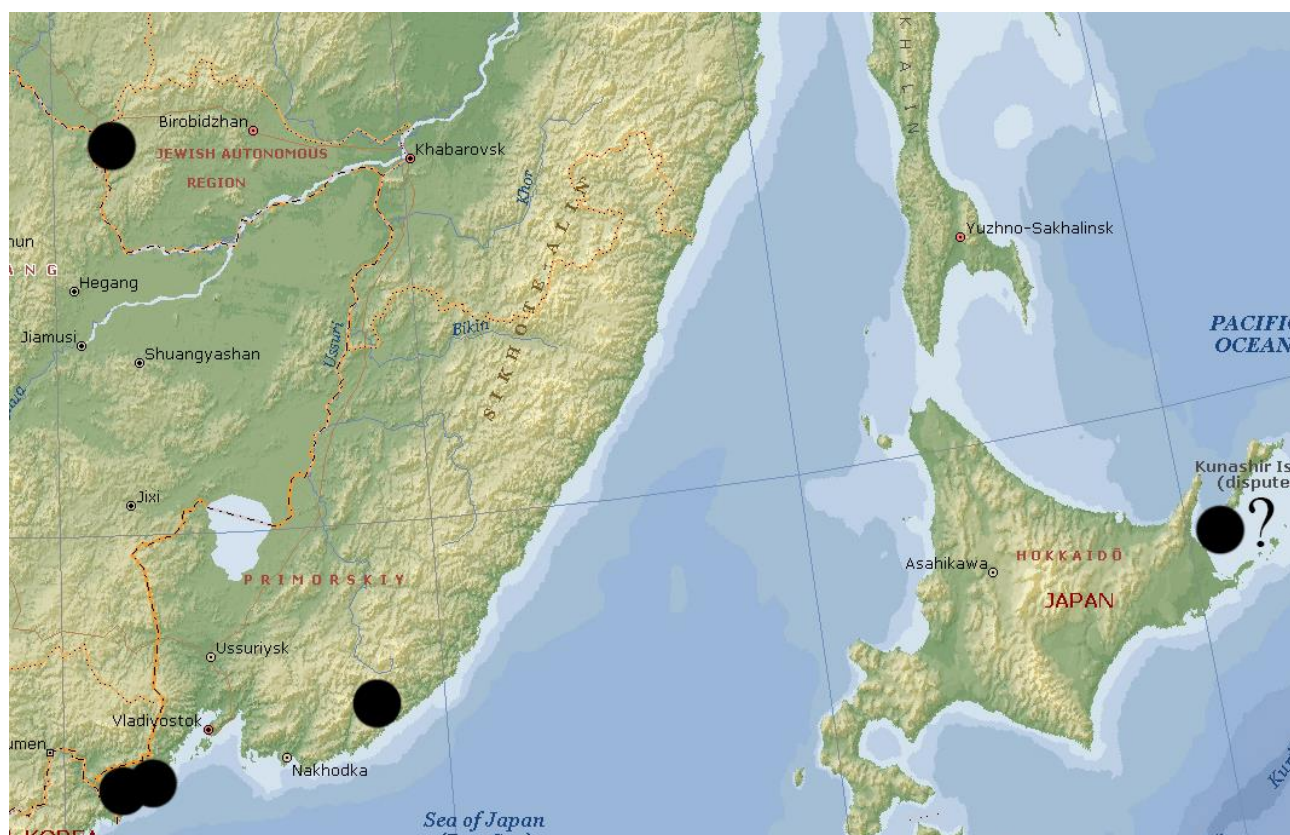


Figure 8. Distribution of *Zeugophora bicolor* in Russia.

***Zeugophora annulata* (Baly, 1873) (figs. 1A–B)**

Pedrillia annulata Baly 1873: 79 [type locality: Japan].

Pedrillia annulata: Jacoby 1885: 195 [Japan: Nikkō]; Kraatz 1879: 120 [Amur (?Jewish Autonomous Oblast, Radde)]; Heyden 1880-1881: 198 [Amur]; Chûjô 1932: 339 [Japan]; Jolivet 1957: 12.

Pedrillia annulata var. *disconotata* Pic 1906: 27 [type locality: Japan], Chûjô 1932: 340 [Japan].

Pedrillia annulata ab. *theresae* Pic 1945: 13 [type locality: Siberia].

Zeugophora annulata: Gressit, Kimoto 1961: 25 [Eastern Siberia]; Chûjô, Kimoto 1961: 119 [Eastern Siberia]; Kimoto 1964: 109 [Eastern Siberia]; Krivolutskaya, Medvedev 1966: 27 [Kuril Isl. (Kunashir)]; Krivolutskaya 1973: 117 [Kuril Isl., Kunashir]; Medvedev 1992: 550 [Amur Oblast, Khabarovsk Krai, Primorsky Krai, Sakhalin, Kuril Isl. (Kunashir), Japan, Korea]; An, Kwon 2002: 272 [Russia]; Mikhailov, Hayashi 2002: 32 [Sakhalin]; Lopatin et al. 2004: 26 [Amur Oblast, Khabarovsk Krai, Primorsky Krai, Korea]; Mikhailov 2009: 171 [Primorsky Krai]; Li, Liang 2018: 133 [China]; Sergeev 2020: 80–88 [Primorsky Krai]; Ivanov, Legalov 2022: 93 [Primorsky Krai].

Zeugophora annulata f. *inannulata* Chûjô 1959: 1 [type locality: Japan, Aomori Pref. Mt. Ozaki].

Zeugophora annulata f. *melanaria* Chûjô 1959: 1 [type locality: Japan, Aomori Pref. Mt. Ozaki].

Pedrillia biguttata Kraatz 1879: 119 [type locality: Amur (? Jewish Autonomous Oblast, Radde)]; Heyden 1880-1881: 198 [Amur].

Pedrillia annulata f. *biguttata*: Ohno 1961: 37.

Material. RUSSIA: 1 ex. (EATB), **Amur Oblast**, Mikhailovsky District, env. Poyarkovo vill., 7.VII.1977, Z. Konovalova; 1 ex. (ZIN), Shimanovsky District, Korsakovo, 7.VII.1959, I. Kerzhner; 1 ex. (EATB), Arkharinsky District, 7 km to SE from Uril, Dyrovatka floodplain, 4-6.VIII.2022, M. Sergeev; 2 ex. (ZIN), **Khabarovsk Krai**, Khekhtsy, 31.VII.1945, V. Sergeeva; 1 ex. (ZIN), 80 km N of Khabarovsk, Rybnoe Lake, 17-19.V.1911, Soldatov; 3 ex. (KB), Komsomolsk-on-Amur, foothills of Miao-Chang, ski base “Snezhinka”, mixed forest, 50.617203N, 137.027827E, 17.VII.2022, A. Bieńkowski and M. Orlova-Bieńkowski; 2 ex. (ZIN), **Primorsky Krai**, Anuchinsky District, “Ussuri reg.”, (=Primorsky Krai), Vinogradovka vill., 22.V.1929, D’jakonov, Philip’yev; 8 ex. (EATB), env. “Nikolsk-Ussuriysky” (=Ussuriysk), 16.VI.1933, T. Samoilov; 1 ex. (EATB), “Suputinsky” (=Ussuriysk) Nature Reserve, 18.V.1947; 6 ex. (ZIN), Ussuriysky District, Gornotaezhnoe, 26.V.1939, Monchadsky; 24 ex. (SIC), idem, on *Euonymus*, 2-3.VII.2015, S. Ivanov; 2 ex. (SIC), Kaimanovka, 20.VI.2010, S. Ivanov; 3 ex. (EATB),

Partizansky District, env. Nikolaevka vill., 17.VI.1949; 1 ex. (EATB), env. Vladivostok, 8.X.1971, V. Kuznetsov; 1 ex. (EATB), idem, 7.V.1974, A. Lelej; 1 ex. (EATB), idem, 20.VI.1982, V. Mutin; 1 ex. (EATB), Vladivostok, Botanical Garden, 22.V.2010, S. Shabalin; 3 ex. (EATB), idem, 12.VI.2019, M. Sergeev; 5 ex. (SIC), idem, 5.V.2019, S. Ivanov; 1 ex. (EATB), Peter Great Bay, Popov Isl., on *Euonymus sacrosancta*, 3.V.2019, M. Sergeev; 1 ex. (EATB), Shkotovsky District, Khualaza (=Krinichnaya) Mt., 1200 m, 26.VIII.1974, V. Kuznetsov; 2 ex. (EATB), Shkotovsky District, Anisimovka, 1.VII.1976, A. Berezantsev; 1 ex. (EATB), idem, 24.IV.2019, K. Prokopenko; 1 ex. (EATB), Lazovsky District, Lazovsky State Reserve, 20.V.1975, T. Oliger; 6 ex. (ISEA), Lazovsky State Reserve, cordon Ostrov Petrova, on *Euonymus*, 21-23.VI.2005, A. Legalov; 1 ex. (EATB), Partizansk, 20.V.1986, V. Kuznetsov; 1 ex. (SIC), Oktyabrsky District, env. Pokrovka, 9-10.V.2015, S. Ivanov; 1 ex. (EATB), Sikhote-Alin State Reserve, 15.IV.2015, M. Sergeev; 10 ex. (EATB), idem, 17-21.V.2016, M. Sergeev; 20 ex. (EATB), idem, 28.V.2015, M. Sergeev; 4 ex. (EATB), Sikhote-Alin Biosphere Reserve, Serebryanka River (Sitsa), 24.IX.1975, Storozheva; 1 ex. (ZIN), Terneysky District, Terney, 18.V.1974, M. Gromyko; 1 ex. (EATB), Chernigovsky District, Merkushevka, 20.VI.2017, K. Ostapenko; 1 ex. (ZIN), **Sakhalin Region**: Sakhalin Island, Chekhov Mt., 7.VIII.1992, S. Saluk; 9 ex. (ZIN), Novo-Aleksandrovsk, 9.VI.1967, I. Lopaton; 1 ex. (EATB), Makarovsky District, Pugachevo, 27.IX.2000, Zheleznova; 1 ex. (ZIN), Kunashir Is., Sernovodsk, 6.VI.1973.

Distribution. Russia (Amur Oblast, Jewish Autonomous Oblast, Khabarovsk Krai, Primorsky Krai, Sakhalin Oblast) (fig. 7), China (Inner Mongolia, Jilin, Jiangxi, Liaoning, Heilongjiang), North and South Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

Host plants. *Euonymus maacki* Rupr. and *E. sacrosancta* Koidz. (Medvedev, Roginskaya 1988; Takemoto 2019).

***Zeugophora bicolor* (Kraatz, 1879) (figs. 1C–E)**

Pedrillia bicolor Kraatz 1879: 120 [type locality: Amur (? Jewish Autonomous Oblast, Radde)].

Pedrillia bicolor: Heyden 1880-1881: 198 [Amur].

Zeugophora bicolor: Krivolutskaya, Medvedev 1966: 27 [Kuril Isl., Kunashir]; Krivolutskaya 1973: 117 [Kuril Isl., Kunashir]; Medvedev 1992: 549 [Amur Oblast, Primorsky Krai, Kuril Isl., Kunashir, China]; Lopatin et al. 2004: 26 [Primorsky Krai]; Mikhailov 2009: 171; Li, Liang 2018: 133 [China, Korea, Japan]; Ivanov, Legalov 2022: 93-94 [Primorsky Krai].

Material. RUSSIA: 1 ex. (ZIN), **Primorsky Krai**, Khasansky District, «Golubinyy utes», 27.VIII.1988, S. Belokobylsky; 1 ex. (SIC), idem, on *Crataegus*, 17-19.VII.2016, S. Ivanov; 5 ex. (EATB), Khasansky District, env. Vityaz, 14.IX.2019, M. Sergeev; 1 ex. (SIC), Tsukanovo, on *Crataegus*, 24.VII.2014, S. Ivanov.

Distribution. Russia (? Amur Oblast, Jewish Autonomous Oblast, Primorsky Krai, ? Sakhalin Oblast) (fig. 8), North-eastern China (Liaoning, Fujian, Gansu), North and South Korea, Japan (Hokkaido, Honshu, Kyushu).

Remarks. The specimen from Kunashir given by Krivolutskaya (1973) needs to be checked because this species is absent in Japan but a closely related species, *Zeugophora nigricollis*, lives in Hokkaido (Takemoto 2019).

Host plants. *Crataegus* sp. (Ivanov, Legalov 2022).

***Zeugophora bimaculata* Kraatz, 1879 (Figs. 1I, 1J, 1K, 1L, 1M)**

Zeugophora bimaculata Kraatz 1879b: 129, tab. 2, fig. 6, [type locality: Amur (? Jewish Autonomous Oblast, Radde)].

Zeugophora bimaculata: Heyden 1880-1881: 198 [Amur]; Medvedev 1992: 549 [Amur Oblast, Primorsky Krai]; Lopatin et al. 2004: 26 [Amur Oblast, Primorsky Krai, Kuril Isl.]; Mikhailov 2009: 171 [Primorsky Krai]; Silfverberg 2010: 335 [Far East]; Li, Liang 2018: 130 [Russian Far East, China]; Ivanov, Legalov 2022: 93 [Primorsky Krai].

Material. RUSSIA: 1 ex. (EATB), **Primorsky Krai**, Lazovsky reserve, T. Oliger; 1 ex. (ZIN), Vladivostok, 5-6.VII.1933, N. Filippov; 2 ex. (EATB), idem, 18.V.1973, on bird cherry, V. Kuznetsov; 1 ex. (EATB), Vladivostok, Botanical garden, 21.V.2015, M. Sergeev; 12 ex. (EATB), Peter Great Bay, Popov Island, 3.V.2019, on *Euonymus sacrosancta* Koidz., M. Sergeev; 1 ex. (ZIN), “Voroshilov” (=Ussuriisk), 20.V.1931; 1 ex. (ZIN), Ussuriisk District, Suputinka (=Komarovka) River, 31.V.1936; 1 ex. (ZIN), idem, 8.VI.1960, Kabakov; 1 ex. (ZIN), Krivoi Kluch, Suputinka (=Komarovka) River, 9.VII.1938, T. Samoilov; 2 ex. (SIC), Gornotaezhnoe, 15-16.V.2021, S. Ivanov; 3 ex. (EATB), idem, 29.IV.2022, M. Sergeev; 6 ex.

(EATB), Chernigovsky District, 10 km East of Chernigovka, 17.V.1974, A. Lelej; 1 ex. (MSGU), Khasansky District, 8.5 km SE of Barabash vill., 23-30.V.2015, K. Makarov.

Distribution. Russia (?Amur Oblast, Jewish Autonomous Oblast, Primorsky Krai, ?Sakhalin Oblast) (fig. 9), China (Heilongjiang).

Remarks. The records of this species for Amur Oblast (Medvedev 1992) and Kuril Isl. (Lopatin et al. 2004) need to be confirmed.

Host plants. *Euonimus sacrosancta* Koidz., males and females, fed and copulated (original data).

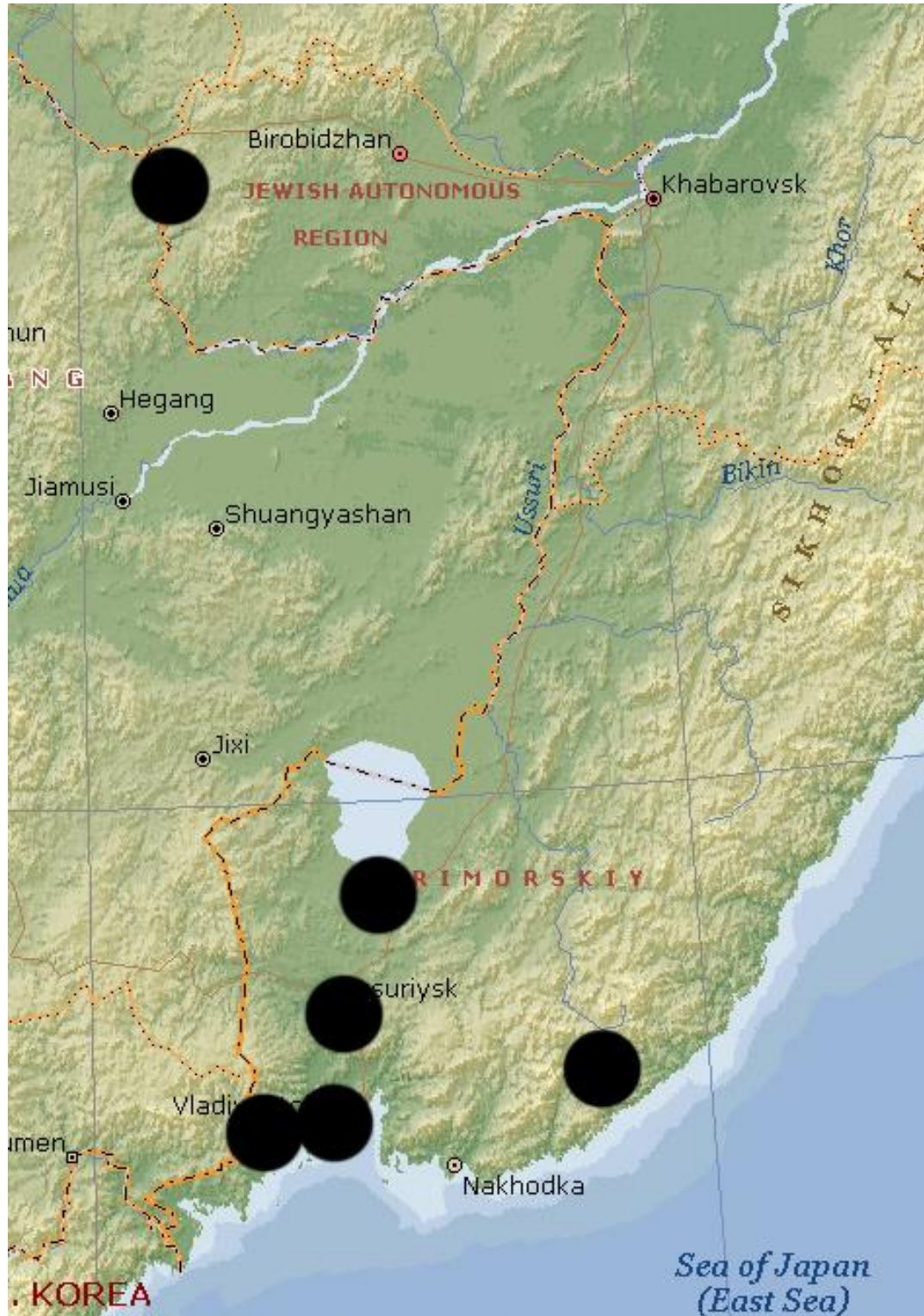


Figure 9. Distribution of *Zeugophora bimaculata* in Russia.



Figure 10. Distribution of *Zeugophora cupka*.

Zeugophora cupka Takemoto, 2019 (fig. 1N)

Zeugophora cupka Takemoto 2019: 55 [type locality: Hokkaido].

Zeugophora cupka: Sergeev 2022: 13 [Sakhalin].

Zeugophora (Zeugophora) chujoi: Kimoto 1986 [Japan: Hokkaido, Honshu].

Material. RUSSIA: 1 ex. (KB), **Sakhalin Region**, Sakhalin Island, 40 km north of Yuzhno-Sakhalinsk, env Dolinsk, 7.VI.1981, V. Kuznetsov.

Remarks. A. Bieńkowski identified the specimen above as *Zeugophora chujoi* and under this name it was recorded from Russia. Recently the latter species was revised (Takemoto 2019) and divided in two species: *Z. chujoi* Ohno, 1961 (Japan: Hokkaido, Honshu) and *Z. cupka* Takemoto, 2019 (Japan, Hokkaido).

Distribution. Russia (Sakhalin Oblast), Japan (Hokkaido) (fig. 10) (Takemoto 2019).

Host plants. *Populus suaveolens* Fisch. (Takemoto 2019).

***Zeugophora flavicollis* (Marsham, 1802) (fig. 2A)**

Auchenia flavicollis Marsham 1802: 217 [type locality: “Britannia” = United Kingdom).

Zeugophora flavicollis: Medvedev, Korotyaev 1975: 179 [Tuva]; Matis et al.: 1980: 53 [Magadan Oblast]; Guselnikov, Medvedev 1984: 18 [env. Srednyaya Shush']; Matis 1986: 190 [Magadan Oblast]; Lopatin et al. 2004: 26 [Western Siberia, Tuva, Yakutia]; Lopatin, Nesterova 2005: 169 [Western and Central Europe, Western Siberia, Yakutia]; Bukejs 2009: [Latvia]; Silfverberg 2010: 335 [Europe, Western and Eastern Siberia]; Heinig, Schöller 2012: 76.

Material. RUSSIA: 1 ex. (ZIN), **Tuva Republic**, env. Kyzyl, Ust-Elegest, 2.VI.1971, B. Korotyaev; 1 ex. (ZIN), **Zabaikalsky Krai**, Ingoda Riv, “Pad’ Argalei”, 6.VI.1898, G. Suvorov; 2 ex. (ZIN), **Magadan Oblast**, 20 km N of Seimchan, 21.VII.1974; 3 ex. (ZIN), **Primorsky Krai**, Spassky District, “Yuzho-Ussuriiskii krai, Evgen’evka” (=near Spassk-Dalny), 21-30.V.1910.

Distribution. Russia: Western and Eastern Siberia (Tuva, Yakutia), Far East (Magadan Oblast) (fig. 11), Northern, Western, Central and Eastern Europe.

Host plants. *Populus tremula* L., *Populus nigra* L., *P. alba* L. (Matis 1986; Medvedev, Rogynskaya 1988).

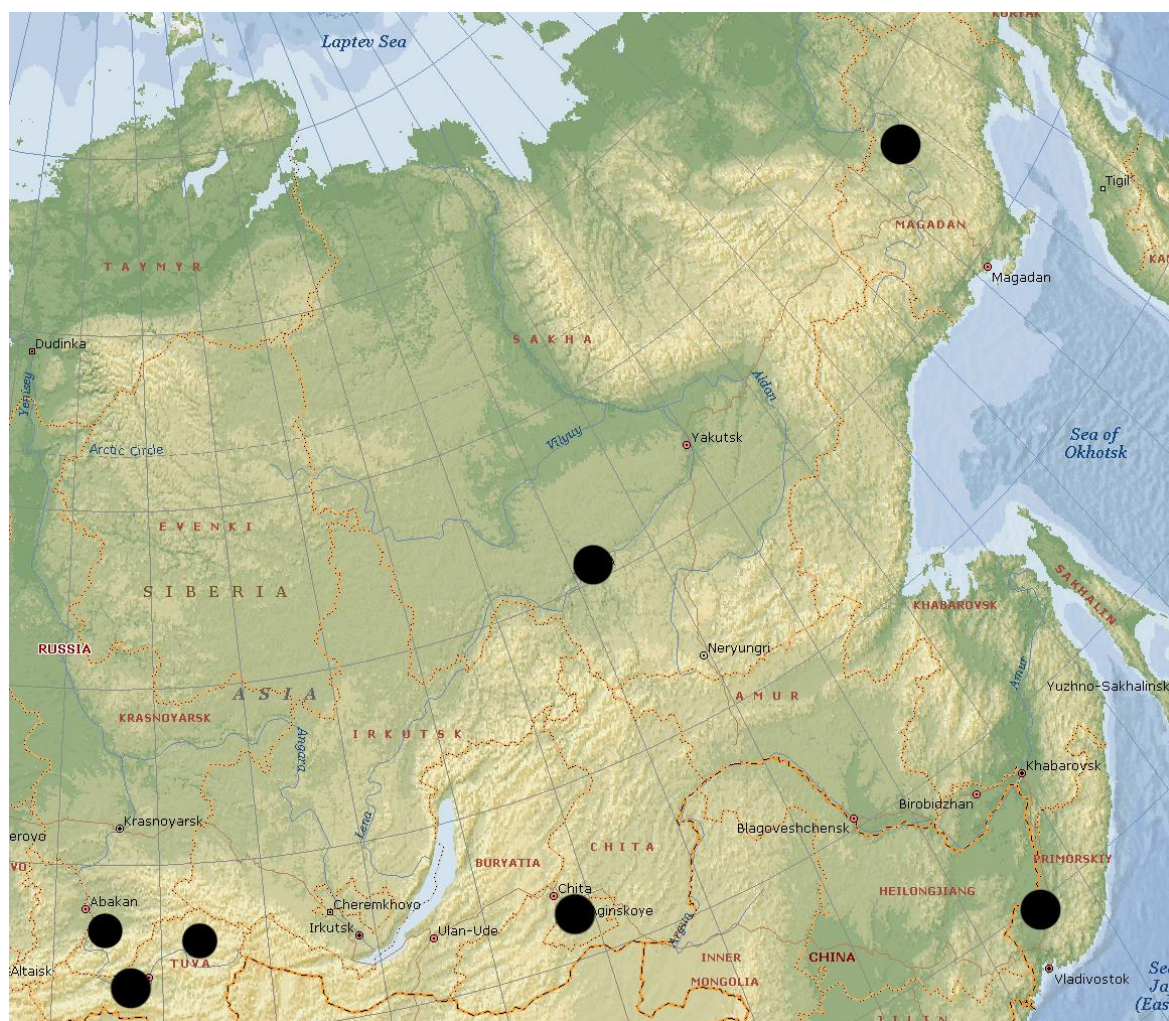


Figure 11. Distribution of *Zeugophora flavicollis* in Siberia and the Russian Far East.

***Zeugophora frontalis* Suffrian, 1840** (fig. 2B)

Zeugophora frontalis Suffrian 1840: 100 [type locality: “Deutschland” = Germany].

Zeugophora frontalis: Lopatin et al. 2004: 26 [Russia, Tuva, Sakhalin]; Lopatin, Nesterova 2005: 169 [Europe, Belarus]; Heinig, Schöller 2012: 76 [Europe].

Material. RUSSIA: 1 ex. (KB), **Irkutsk Oblast**, Sljudyanka, pad; Uluntui, 51.640798N, 103.720578E, on *Populus tremula*, 4.VI.2022, A. Bieńkowski and M. Orlova- Bieńkowski; 1 ex. (EATB), **Amur Oblast**, Arkharinsky District, env. Arkhara, 31.VII.2022, M. Sergeev; 1 ex. (ZIN), **Sakhalin Oblast**, “Naibutinsky forestry” (Dolinsk), on *Populus*, 10.VI.1963.

Distribution. Russia: European part, South of Eastern Siberia (Tuva), Sakhalin (fig. 12), Europe: Austria, Belgium, Czech Republic, Denmark, Estonia, Germany, Italy, Latvia, Lithuania, Poland, Sweden, and United Kingdom.

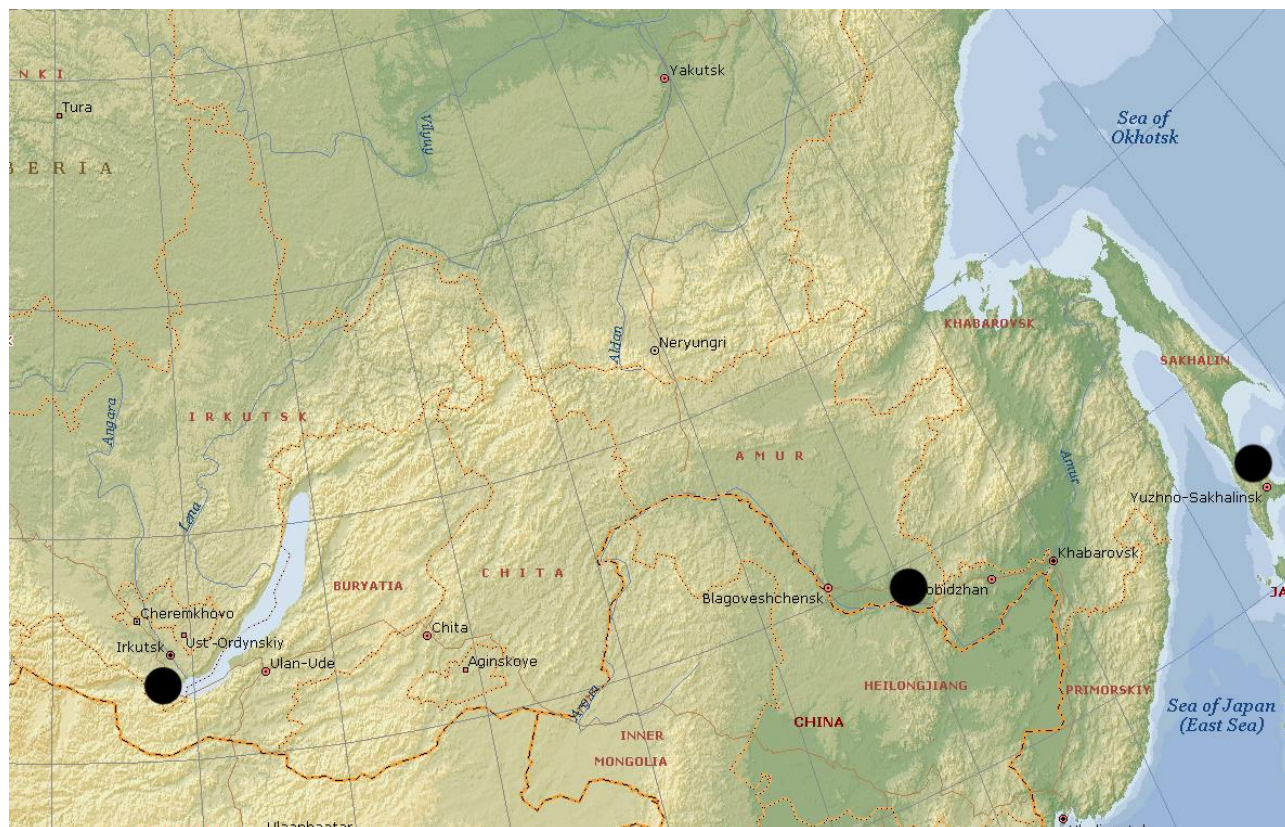


Figure 12. Distribution of *Zeugophora frontalis* in Siberia and the Russian Far East.

***Zeugophora nigricollis* (Jacoby, 1885)** (figs. 1F–H)

Pedrellia nigricollis Jacoby 1885: 195 [type locality: Japan, Wada-tôge].

Zeugophora nigricollis: Doi 1927: 326; Crowson 1946: 95 [Japan]; Gressitt, Kimoto 1961: 24, 27 [Korea, Japan]; Chûjô 1954: 51 [Japan]; Chûjô, Kimoto 1961: 119 [Japan, Korea]; Kimoto 1964: 108 [Japan, Korea]; Takemoto 2019: 19 [Japan]; Li, Liang 2020: 66–69 [China]; Sergeev 2022: 12–13 [Primorsky Krai, Japan].

Zeugophora bicolor: Gressitt 1945: 139; Kimoto 1986a: 309 [Eastern Siberia, Japan, Korea]; Jolivet 1957: 12; Kimoto, Takizawa 1994: 6, 99, 267; An, Kwon 1995: 91–92; An, Kwon 2002: 272 [Russia, Korea, Japan, China]; Takizawa 2006: 2; Silfverberg 2010: 334; Li, Liang 2018: 133 [Russia, China, Korea, Japan]; Rodríguez-Mirón 2018: 291.

Material. RUSSIA: 2 ex. (EATB), **Primorsky Krai**, env. Nikolsk-Ussuriysk (=Ussuriysk), mountain «Suifunskaya sopka», 19.V.1925, T. Samoilov; 1 ex. (ZIN), “Ussuri region” (=Primorsky Krai), Maykhe (=Artemovka) River, 7.VI.1927; 4 ex. (ZIN), “Voroshilov” (=Ussuriysk), 20.V.1931, T. Samoilov; 1 ex. (ZIN), Gornotayezhnaya stantsiya, 19.VII.1958, Skripnikov; 1 ex. (ZIN), Nadezhdinsky District, env. Volno-Nadezhdinskoe, 20.V.1950; 1 ex. (EATB), Shkotovsky District, southern spurs of Sikhote-Alin, Peyshula River, 7.VI.1950; 1 ex. (KB), env. Vladivostok, 1.VI.1963, Kabakov; JAPAN: 1 ex. (ZIN), Honshu, Shinshu, Shirouma-dake Mt., 17.VII.1957, M. Ohno.

Distribution. Russia (Primorsky Krai) (fig. 13), Japan (Hokkaido, Honshu, Shikoku, Kyusyu), Korea, China (Ningxia).

Host plants. *Euonymus sieboldiana* Blum., *E. alatus* (Thunb) (Takemoto 2019; Li, Liang 2020).

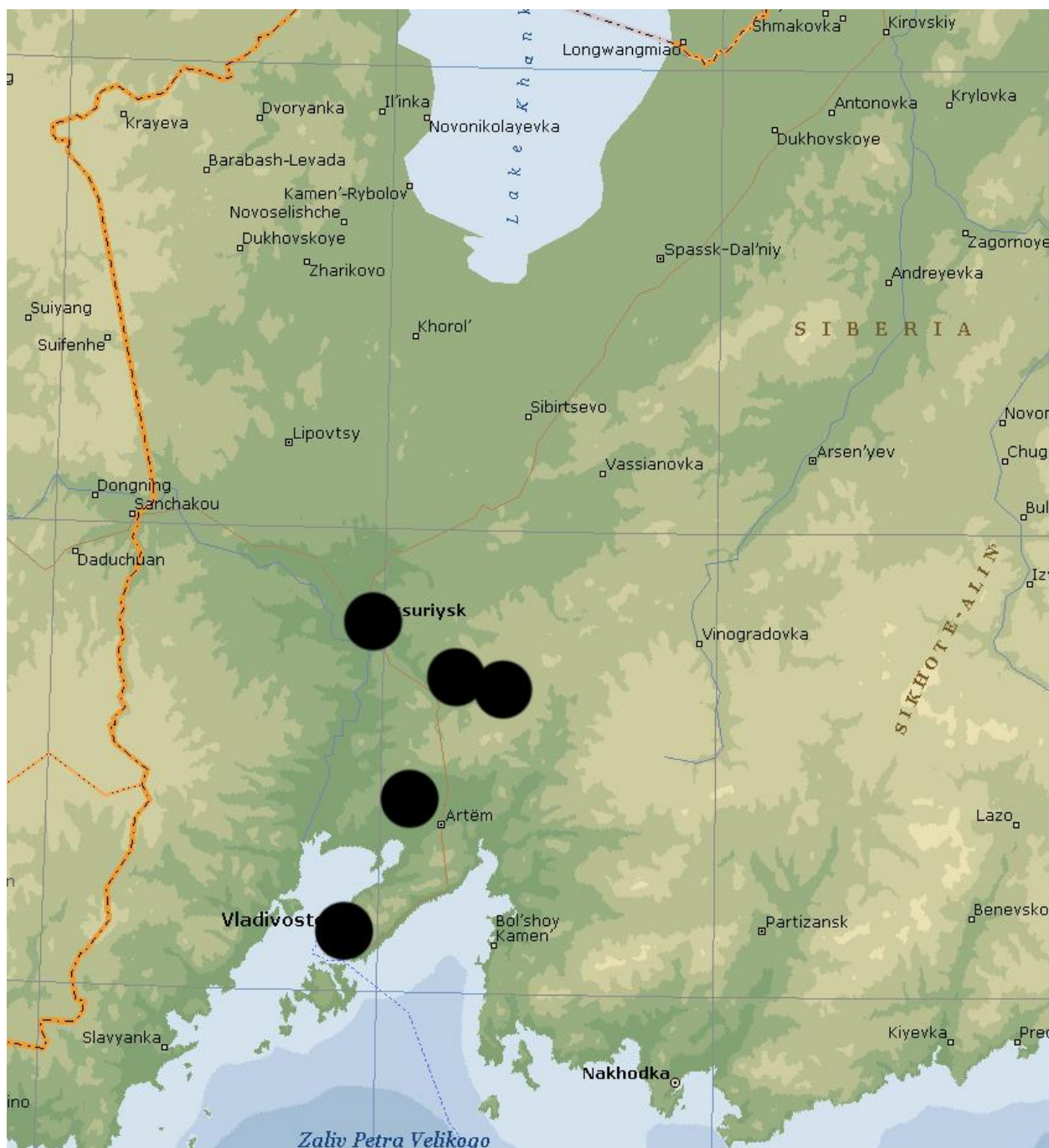


Figure 13. Distribution of *Zeugophora nigricollis* in Russia.

***Zeugophora hozumii* Chûjô, 1953 (fig. 10)**

Zeugophora hozumii Chûjô, 1953: 1 [type locality: Japan, Honshu, Nagano pref., Mt. Ôtaki-san].

Zeugophora hozumii: Chûjô, Kimoto 1961: 120 [Japan]; Matis 1986: 190 [Magadan Oblast]; Lopatin et al. 2004: 26; Silfverberg 2010: 334–335; Rodríguez-Mirón 2018: 292; Takemoto 2019: 25 [Russia, Japan: Hokkaido, Honshu].

Material. RUSSIA: 1 ex. (ZIN), **Magadan Oblast**, “Magadanskaya oblast, 1961, D. Kononov”.

Distribution. Russia (Magadan Oblast) (fig. 14), Japan (Hokkaido, Honshu).

Host plants. *Salix* sp. (Matis 1986); *Salix caprea* L. (Takemoto 2019).



Figure 14. Distribution of *Zeugophora hozumii*.

***Zeugophora subspinoso* (Fabricius, 1781) (figs. 1P, 2C)**

Crioceris subspinoso Fabricius 1781: 155 [type locality: "Habitat in Anglia"].

Zeugophora subspinoso: Medvedev, Korotyaev 1975: 179 [Tuva]; Medvedev 1982: 145 [Mongolia]; Guselnikov, Medvedev 1984: 18 [env. Srednyaya Shush']; Medvedev 1992: 549 [Primorsky Krai]; Gus'kova 2006: 203 [Mongolia], Lopatin, Nesterova 2005: 169 [Europe, including Belarus, Western Siberia, Transbaikalia, Primorsky Krai]; Özdikmen, Turgut 2008: 287 [Turkey]; Gus'kova 2010: 177 [Ural]; Lopatin 2010: 26 [Central and South-East Kazakhstan]; Dolgin, Bieńkowski 2011: 60 [northeast of the European part of Russia]; Sergeev, Sheshurak 2014: 20 [northern Ukraine]; Moseyko et al. 2018: 1065 [Omsky District]; Sergeev 2018: 19 [south-eastern Ukraine]; Sergeev 2020: 80–88 [Primorsky Krai], Legalov et al. 2022: 55 [Amur Oblast, Khabarovsk Krai, Primorsky Krai]; Ivanov, Legalov 2022: 93 [Primorsky Krai].

Material. RUSSIA: 2 ex. (EATB), **Novosibirsk Oblast**, Kochenevsky District, Tropino village, 8-11.VII.1978, V. Kuznetsov; 1 ex. (ISEA), Novosibirsk, on *Populus*, 1.IX.1956, Kurmashev; 2 ex. (ISEA), idem, on *Populus*, 12.VII-1.VIII.1957, Kurmashev; 1 ex. (ISEA), idem, Stalina garden, on *Populus*, 4.VIII.1962, Kurmashev; 1 ex. (ISEA), idem, on *Populus*, 1.VIII.1972; 3 ex. (ISEA), **Altaysky Krai**, Barnaul, 1-15.VII.1912, E. Rodd; 1 ex. (ISEA), idem, 12.V.1899, E. Rodd; 1 ex. (ZIN), **Krasnoyarsky Krai**, env. Minussinsk, 27.VIII.1933, Kozhanchikov; 1 ex. (ZIN), env. Nazarovo, Chulym River, 23.VI.1987; 1 ex. (ZIN), **Tyva Republic**, Dzun-Khemchiksky District, Chadan, 12.VII.1971, B. Korotyaev; 1 ex. (ZIN), idem, 12.VII.1972, B. Korotyaev; 1 ex. (ISEA), Torgalyk, 21.VII.1949, A. Cherepanov; 1 ex. (ZIN), **Irkutsk Oblast**, Tayshetsky District, Yurty, 29.V.1912, Mishin; 2 ex. (ZIN), Irkutsk, 28.V.-1.VI.1910, S. Rodionoff; 1 ex. (ZIN), **Amur Oblast**, env. Blagoveshenks, 14.VII.1991; 1 ex. (ZIN), Svobodnensky District, Klimoutsy, 10.VIII.1958, Zinovjev; 1 ex. (ZIN), **Khabarovsk Krai**, Khabarovsk District, Vyatskoye, 2.VII.1975; 1 ex. (ZIN), Khabarovsk, 23.VII.1927, Martynov; 1 ex. (ISEA), Bolshehekhtskysky Nature Reserve, env. Chirki, Ussuri River, 13.VII.2018, V. Dubatolov; 1 ex. (EATB), **Primorsky Krai**, Sikhote-Alin State Reserve, 21.V.2017, M. Sergeev; 8 ex. (SIC), Oktyabrsky District, env. Pokrovka, *Salix*, 25.VI.-07.VII.2018, S. Ivanov; 1 ex. (ZIN), Khasansky District, Barabash-Levada, 31.V.1980, S. Konovalov; KAZAKHSTAN, 1 ex. (ZIN), **Kostanay Region**, Borovskoe forestry (=env. Borovskoi), 2.VII.1932, V. Popov.

Distribution: Russia: European part, Western and Eastern Siberia, Far East (Khabarovsk Krai, Primorsky Krai), (fig. 15) Europe, Turkey, Kazakhstan, Mongolia (Khovd and Khövsgöl prov.).

Host plants. *Populus tremula* L., *Corylus* sp. (Medvedev, Roginskaya 1988).

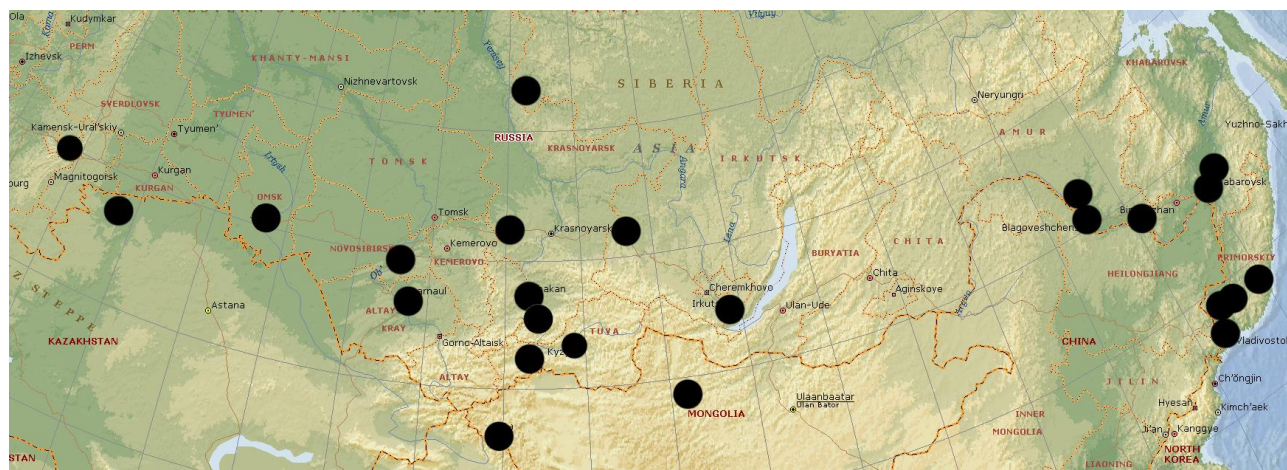


Figure 15. Distribution of *Zeugophora subspinoso* in Asia

***Zeugophora scutellaris* Suffrian, 1840**

Zeugophora scutellaris Suffrian 1840: 99 [type locality: "Aschersleben, Magdeburg"].

Zeugophora scutellaris: Heyden 1880-1881: 198 [Salair, Barnaul]; Medvedev, Shapiro 1965: 428 (European part of Russia); Guselnikov, Medvedev 1984: 18 [env. Srednyaya Shush']; Medvedev, Dubeshko 1992: 46 (Western Siberia, Altai, Sayany, Kazakhstan); Riley et al. 2003: 8 (North America); Lopatin, Nesterova 2005: 169 [Altai]; Lopatin 2010: 26 (Kazakhstan, Kyrgyzstan, mountainous Tajikistan); Dolgin, Bieńkowski 2011: 59 (northeast of European part of Russia); Sergeev, Sheshurak 2014: 20 [northern Ukraine]; Li, Liang 2018: 130 (China: Hebei, Inner Mongolia, Liaoning, Jilin, Heilongjiang, Shaanxi, Qinghai, Xinjiang).

Material. RUSSIA: 1 ex. (ISEA), **Altai Krai**, Barnaul, 11.VI.1920, E. Rodd; 1 ex. (ZIN), **Tyva Republic**, Dzun-Khemchiksky District, Chadan, 21.VI; 1 ex. (ZIN), **Amur Oblast**, Mikhailovsky District, 10-20.VII.1928, V. Vereschagin; 1 ex. (ZIN), **Khabarovsk Krai**, 245 km N of Khabarovsk, 26.V.1911, V.K. Soldatov; 1 ex. (ZIN), **Primorsky Krai**, Yakovlevsky District, Yakovlevka, 23.V.1926, Filip'ev; KAZAKHSTAN: 1 ex. (ZIN), **West Kazakhstan Region**, Bayterek District, Yanvartsevo, Ural River, 29.VI.1950, Shteiberg; KIRGIZISTAN: 1 ex. (ZIN), **Issyk-Kul Region**, Ak-Terek, on *Populus*, 16-22.VII.1961, Ibragimova; 1 ex. (ZIN), **Batken Region**, Alay Range, Isfayramsay River, 17.VII.1928; TAJIKISTAN: 1 ex. (ZIN), **Gorno-Badakhshan Autonomous Region**, Badakhshan, Vanj River, 5.VII.1965, Zaslavskij; 1 ex. (ZIN), Muk (near Kandou), Muksu River, 2000 m, on *Populus*, 11.VII.1954; 1 ex. (ZIN), Obichingou River, Argochun, on *Populus*, 20.VII.1954, I. Lopatin.

Distribution. Russia: European part, Western and South Eastern Siberia (Altai, Sayan Mountains) (fig. 16), Europe, Kazakhstan, China (Hebei, Inner Mongolia, Liaoning, Jilin, Heilongjiang, Shaanxi, Qinghai, Xinjiang), North America.

Host plants. *Populus acuminata* Rydberg, *P. alba* L., *P. deltoides* Marshall, *P. grandidentata* Michaux, *P. nigra* L., *P. tremula* L., *Salix* sp. (Medvedev, Rogynskaya 1988; Rodríguez-Mirón, 2018).

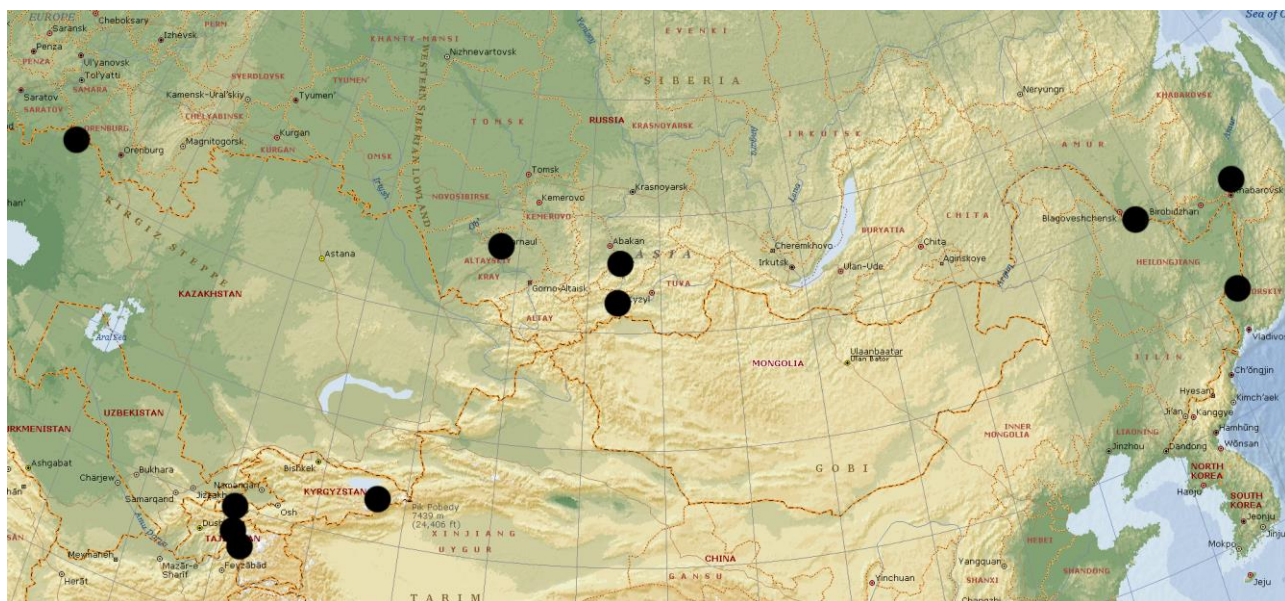


Figure 16. Distribution of *Zeugophora scutellaris* in Asia.

Zeugophora turneri (Power, 1863) (fig. 2D)

Zeugophora turneri Power 1863: 8735 [type locality: "British"]

Zeugophora rufotestacea Kraatz 1871: 162 [type locality: "S Deuschald"]

Zeugophora turneri: Medvedev 1982: 208 [Mongolia], 2003: 80 [Yugansky Nature Reserve]; Dubeshko, Medvedev 1989: 70; Medvedev, Dubeshko 1992: 46; Bieńkowski 2004: 22; Zaitsev, Medvedev 2009: 47; Gus'kova 2010: 177 [Ural]; Bukhkalov et al. 2011: 219 [Tyumen Region]; Alekseev, Bukejs 2014: 220; Dedyukhin 2018: 61; Rodríguez-Mirón 2018: 295.

Material. RUSSIA: 2 ex. (ZIN), **Khanty-Mansi Autonomous Okrug**, Surgut, 6.VIII.2002; 1 ex. (ISEA), **Novosibirsk Oblast**, Novosibirsk, Akademgorodok, 22.V.2004, V. Zinchenko; 1 ex. (ZIN), **Altai Krai**, Barnaul, 29.V.1905, V. Khvorov; 1 ex. (AKC), **Kemerovo Oblast**, Kemerovo, Centralny District, 29.V.2003, A.V. Korshunov; 1 ex. (ZIN), **Krasnoyarsk Krai**, SE of Minussinsk, Sukhaya Gora, V.-VI.1921, Gerasimov, Tsygankov; 1 ex. (ZIN), **Irkutsk Region**, Irkutsk, 27.VII.1913, S. Rodionoff; MONGOLIA: 2 ex. (ZIN), **Uvs Province**, N shore of Üüreg Lake, 15.VII.1968, Emeljanov; KAZAKHSTAN: 1 ex. (ZIN), Almaty, 24.VI.1937.

Distribution: Russia: European part, Western and Eastern Siberia; Europe, Mongolia (Uvs and Selenge Prov.) (fig. 17), Europe.

Host plants. On *Populus* sp. (Bukejs 2009; Alekseev, Bukejs 2014).

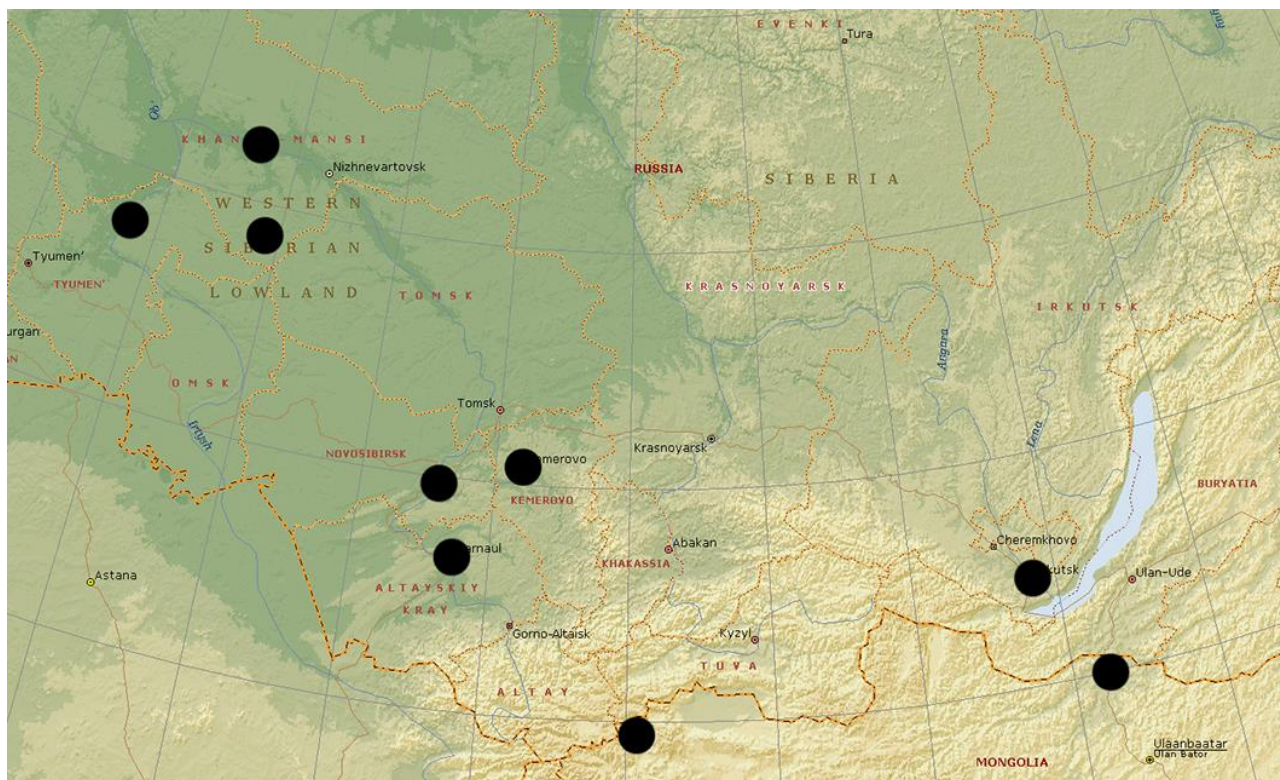


Figure 17. Distribution of *Zeugopora turneri* in Northern Asia.

Discussion

Currently, the fauna of the family Megalopodidae from Siberia and the Russian Far East includes 15 species belonging to three genera of two subfamilies. Record of *Temnaspis syringa* is possible in the Far East of Russia, which is known in adjacent territories. *Zeugophora cupka* in Russia known from Magadan Oblast is one of the rarest Megalopodidae species in the Russian fauna. The Far East is characterized by the richest and the most diverse Megalopodidae fauna among other regions of Russia. Megalopodidae is represented by five species from one genus of the subfamily Zeugophorinae in the European part of Russia and Siberia, while 13 species from three genera of two subfamilies are found in the Russian Far East. At the same time, the fauna of Megalopodidae of the Russian Far East is significantly inferior in species richness to the fauna of China where 43 species are known (Li et al. 2013; Li, Liang 2018; Li, Liang 2020).

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