

A contribution to the wasp fauna (Hymenoptera, Vespoidea) of the Komsomolsky State Nature Reserve, Khabarovskii Krai, Russia

К фауне ос (Hymenoptera, Vespoidea) Комсомольского заповедника в Хабаровском крае России

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Ключевые слова: Hymenoptera, Vespoidea, осы, Комсомольский заповедник, фауна.

Abstract. An annotated list of 90 wasp species from 45 genera of 8 families from Komsomolsky State Nature Reserve is given. Three species, *Chrysis iris* Christ, 1791, *C. frivaldszkyi* Mocsáry, 1882 and *C. longula*, Abeille de Perrin, 1879 (Chrysidae) are new to the Far East of Russia, two genera *Cleptes* Latreille, 1802 (Chrysidae) and *Gymnomerus* Blüthgen, 1938 (Vespidae), and 19 species: *Tiphia ovidorsalis* Allen et Jaynes, 1930 (Tiphidae), *Deuteragenia romankovae* (Lelej, 1986), *Agenioideus pacificus* Lelej, 1994, *Arachnospila eoabnormis* Lelej, 1995, *A. mongolopinata* Wolf, 1981, *A. mongolospissa* (Wolf et Móczár, 1972), *A. spissa* (Schiödte, 1838) (Pompilidae), *Gymnomerus laevipes* (Shuckard, 1837), *Symmorphus fuscipes* (Herrich-Schaeffer, 1838) (Vespidae), *Nysson amurensis* Nemkov, 1990, *N. dimidiatus* Jurine, 1807, *Crossocerus denticoxa* (Bischoff, 1932), *Ectemnius borealis* (Zetterstedt, 1838), *E. chrysites* (Kohl, 1892), *Oxybelus uniglumis* (Linnaeus, 1758), *Trypoxylon exiguum* gussakovskiji Tsuneki, 1974, *T. figulus* (Linnaeus, 1758), *T. regium* (Gussakovskij, 1932) and *Mimumesa beaumonti* (Van Lith, 1949) (Crabronidae) — newly recorded for Khabarovskii Krai of Russia.

Резюме. Приведён аннотированный список 90 видов ос из 45 родов 8 семейств из государственного природного заповедника «Комсомольский». *Chrysis iris* Christ, 1791, *C. frivaldszkyi* Mocsáry, 1882 и *C. longula* Abeille de Perrin, 1879 (Chrysidae) впервые указываются для Дальнего Востока России. Рода *Cleptes* Latreille, 1802 (Chrysidae) и *Gymnomerus* Blüthgen 1939 (Vespidae) и 19 видов: *Tiphia ovidorsalis* Allen et Jaynes, 1930 (Tiphidae), *Deuteragenia romankovae* (Lelej, 1986), *Agenioideus pacificus* Lelej, 1994, *Arachnospila eoabnormis* Lelej, 1995, *A. mongolopinata* Wolf, 1981, *A. mongolospissa* (Wolf et Móczár, 1972), *A. spissa* (Schiödte, 1838) (Pompilidae), *Gymnomerus laevipes* (Shuckard, 1837), *Symmorphus fuscipes* (Herrich-Schaeffer, 1838) (Vespidae), *Nysson amurensis* Nemkov, 1990, *N. dimidiatus* Jurine, 1807, *Crossocerus denticoxa* (Bischoff, 1932), *Ectemnius borealis* (Zetterstedt, 1838), *E. chrysites* (Kohl,

1892), *Oxybelus uniglumis* (Linnaeus, 1758), *Trypoxylon exiguum* gussakovskiji Tsuneki, 1974, *T. figulus* (Linnaeus, 1758), *T. regium* (Gussakovskij, 1932) и *Mimumesa beaumonti* (Van Lith, 1949) (Crabronidae) — впервые приведены для фауны Хабаровского края.

Introduction

Komsomolsky State Nature Reserve covers an area of 64.4 hectares and is located in Khabarovskii Krai on the left bank of Amur River in the Gorin Basin. The reserve is dominated by medium- and low-altitude forest landscapes with the participation of spruce, cedar, larch and oak forests. Large areas are occupied by secondary fine-leaved forests of different ages, formed on the site of burnt forest areas. There are fragments of vegetation of the under bare mountains belt on the Chockety mountain (the highest point of the reserve — 789 m a.s.l.) on the open rocky peak, between small areas of stone birch and mountain spruce forests. Steep bank cliffs on the left bank of the river Gorin are covered with a peculiar xerophytic vegetation. Large areas are occupied by floodplain vegetation groups: meadows, grass swamps, willow trees on the plains of estuarine extension of Gorin valley [Van, Sheenko, 2016].

The wasp fauna of Khabarovskii Krai comprises 255 species from 88 genera of 11 families: Dryinidae (2/2) [Lelej, Loktionov, 2017], Bethylidae (2/2) [Lelej, Fadeev, 2017], Chrysidae (16/9) [Rosa et al., 2017], Sapygidae (1/1) [Lelej, Kurzenko, 2017], Scoliidae (4/2) [Mokrousov, Lelej, 2017a], Tiphidae (3/2) [Mokrousov, Lelej, 2017b], Mutillidae (5/5) [Lelej, 2017], Pompilidae (55/14) [Loktionov, Lelej, 2017], Vespidae (54/12) [Antropov, Fateryga, 2017], Sphecidae (6/4) [Danilov, 2017], Crabronidae (107/35) [Nemkov et al., 2017]. During the existence of Komsomolsky State Nature

Reserve, no work has been carried out to identify the fauna of Hymenoptera in general and wasps in particular [Kuberskaya, Novomodny, 2019]. There are literary information about 14 species wasps collected in the area [Loktionov, Lelej, 2014; Rosa et al, 2019]. Natural History of the Reserve for 2017 and 2019 mentioned four species wasps: *Deuteragenia romankovae* (Lelej, 1986), *Eopompilus internalis* (Matsumura, 1911), *Priocnemis japonica* Gussakovskij, 1930 and *Polistes riparius* Ishikawa, Sk. Yamane et S. Yamane, 1987.

Materials and methods

This paper is based on the material collected by the authors at the Komsomolsky State Nature Reserve (Fig. 1) in June 2016, May–September 2019, and from 20 to 30 July 2020 in the following locations: **T1** — 0.4-hectare wasteland located near the Bichi cordon (Figs 1, 2) on a hill with residential wooden buildings. The area is surrounded by shrubs of *Spiraea salicifolia* L., 1753, *Rosa davurica* Pall., 1788, and *Sorbaria sorbifolia* (L.) A.Braun, 1860, as well as birch-aspen and oak forest. It is bordered on the south side by the Gorin River. 44 km NE from Komsomolsk-on-Amur, coordinates $50^{\circ}44'51''$ N, $137^{\circ}39'16''$ E. **T2** — Cape First Bull on Gorin River (Figs 1, 3). The site of the collection of insects is a steep coastal cliff on the left bank of Gorin River, on which grow succulent-s (Sedum spp., *Orostachys spinose* (L.) C.A. Mey., species

Poaceae and *Carex*). Frequent *Allium maackii*. At the foot of the cliff, there is sparse tree and shrubbery vegetation (*Quercus mongolica* Fisch. ex Ledeb., *Acer mono* Maxim., *Maackia amurensis* Rupr., *Rosa davurica* Pall.). 40 km NE from Komsomolsk-on-Amur, coordinates: $50^{\circ}45'07''$ N, $137^{\circ}35'39''$ E; **T3** — Sand and pebble beach located in the Chyonki tract on the Amur River (Fig. 1, 4). The background vegetation is comprised of groupings of *Salicaceae*, *Phragmites australis* (Cav.) Trin. ex Steud., *Silene foliosa* Maxim. and *Acetosella vulgaris* (W.D.J. Koch) Fourr. On the terrace above the floodplain, there are *Poaceae* spp. and *Carex* spp. 35 km NE from Komsomolsk-on-Amur, coordinates: $50^{\circ}41'31''$ N, $137^{\circ}34'05''$ E; **T4** — Top of Mount Chokkety (Figs 1, 5). This habitat is almost devoid of forest due to catastrophic fires in 1976 that destroyed the cedar-broad-leaved forest. Currently, the area is covered with mosses and lichens, as well as stone runs. In some places in addition to stone birch and mountain spruce forests, there are also separate specimens of *Pinus pumila* (Pall.) Regel, thickets *Rhododendron dauricum* L., *Lonicera chamissoi* Bunge, *Empetrum stenopetalum* V.N. Vassil., *Rhodococcum vitis-idaea* L. and *Arctostaphylos alpina* (L.) Spreng. 35 km from NE Komsomolsk-on-Amur, coordinates: $50^{\circ}50'28''$ N, $137^{\circ}21'51''$ E; **T5** — Wasteland adjacent to Kamennaya Pad' cordon (Figs 1, 6). This is a 0.5 hectare wetland area that has been cleared of forest near the cordon. There is a small artificial stagnant water body located here. From the side of the forest, the waste-



Fig. 1. T1–T5 locality map of wasps in the Komsomolsky State Nature Reserve. The map was obtained from the site <https://nakarte.me/>.
Рис. 1. Карта-схема Комсомольского заповедника. Т1–Т5 — точки сбора ос. Карта получена с сайта <https://nakarte.me/>.

land overgrows *Betula platyphylla* Sukaczev, *Populus tremula* L. and *Larix cajanderi* Mayr. The undergrowth does not exceed 3–4m in height and the grass cover is formed by *Equisetum sylvaticum* L., *Geum aleppicum* Jacq., *Plantago media* L., *Trifolium pratense* L., *Ostericum maximowiczii* (F. Schmidt ex Maxim.) Kitag., *Achillea millefolium* L., *Artemisia maximovicziana* Krasch. ex Poljakov, *Bidens radiata* Thuill. and *Carex vesicaria* L. 25 km NE from Komsomolsk-on-Amur, coordinates: 50°43'42.5" N, 137°3'34.6" E. The material for this study was collected by use of standard sweeping, yellow pan trap methods and Malaise

trap. In total, approximately 350 wasp specimens were examined. Information on each species is given in the Annotated list [Supplement]. For species that are known from literary sources, provided relevant links. The taxon sequence and spelling conform to the catalog of Hymenoptera of Russia [Annotated catalog..., 2017]. Taxa within subfamilies are listed alphabetically. Abbreviations for collectors are as follows: DK — D. Kochetkov and OK — O. Kuberskaya. The new records fo Khabarovskii Krai are asterisked (*), and for the Far East of Russia with two (**).

The annotated check-list of wasp species (Hymenoptera, Vespomorpha) of the Komsomolsky State Nature

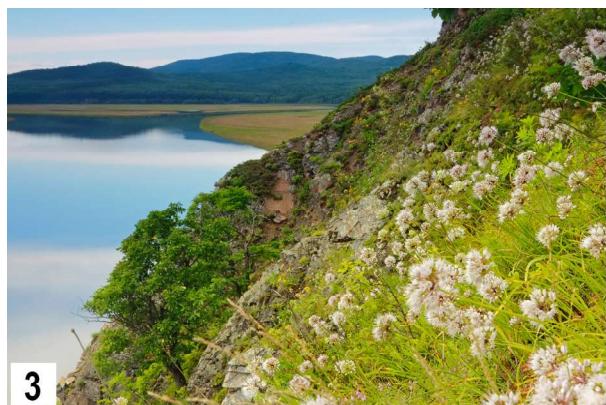


Fig. 2. Beechi cordon (T1). Photo by D.N. Kochetkov.
Рис. 2. Кордон Бичи (Т1). Фото Д.Н. Кочеткова.

Reserve, Khabarovskii Krai, Russia is presented in the Appendix (p. 1–3).

Results

The Komsomolsky Nature Reserve has identified a total of 90 wasp species from 45 genera across eight families, which accounts for 32 % of the Khabarovskii Krai fauna, which, taking into account new data, has 278 species from 90 genera of 11 family. Three species of wasps are newly recorded in the Khabarovskii



3



4



5



6

Figs 3–6. Habitats points in the Komsomolsky Nature Reserve. 3 — Cape Pervyi Byk on the Gorin River (T2), 4 — sand and pebble beach in the hole Chyonki on the Amur River (T3), 5 — Chokkety mountain point (T4), 6 — wasteland near the cordon «Kamenennaya pad'» (T5). Photo by D.N. Kochetkov (3–5) and O.V. Kuberskaya (6).

Рис. 3–6. Местообитания ос Комсомольского заповедника. 3 — мыс Первый Бык на р. Горин (T2), 4 — песчано-галечниковый пляж в урочище Чёнки на р. Амур, 5 — вершина горы Чоккеты (T4), 6 — пустырь у кордона «Каменная падь» (T5). Фото Д.Н. Кочеткова (3–5) и О.В. Куберской (6).

Krai, and three in the Far East of Russia. Crabronidae and Pompilidae families each have 31 species, while Vespidae has 14 and Chrysidae has 7. The remaining families contain 1 to 3 species. Nine paper wasps species, *Polistes snelleni* de Saussure, 1862, *P. nimpha* (Christ, 1791), *P. chinensis* Pérez, 1905, *Vespa analis* Fabricius, 1775, *V. dybowskii* André, 1884, *V. simillima* Smith, 1868, *Vespa koreensis* (Radoszkowski, 1887), *V. vulgaris* (Linnaeus, 1758) and *Dolichovespula media* (Retzius, 1783) are known in the lower Amur region and the surrounding areas of Komsomolsk-on-Amur [Dubatolov, Dolgikh, 2009]. It is highly likely that these species can be found in the reserve. Further research is expected to significantly expand the existing list. We expect that representatives of the families Bethylidae, Dryinidae and Sapygidae will also be found on the Komsomolsky Reserve.

The list of wasps species (Hymenoptera, Vespoidea) collected from the Komsomolsky State Nature Reserve, Khabarovskii Krai, Russia is presented in the Appendix (p. 1–3).

The present work is registered in ZooBank (www.zoobank.org) under LSID urn:lsid:zoobank.org:p:pub:2DE53EF6-0FBC-44F5-8DE4-02B475282EDC.

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Appendix to the article: D.N. Kochetkov, O.V. Kuberskaya. A contribution to the wasp fauna (Hymenoptera, Vespoidea) of the Komsomolsky State Nature Reserve, Khabarovskii Krai, Russia. (Euroasian Entomological Journal. 2024. Vol.23. No.1. P.31–34)

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Chrysididae

Cleptinae
**Cleptes* sp.

Material. 1♀ — T3, 26.VII.2020, DK.

Chrysidinae

***Chrysis iris* Christ, 1791

Material. 3♀♀ — T1, 22, 24–25.VII.2020, DK.

***Chrysis frivaldszkyi* Mocsáry, 1882

Material. 1♀ — T1, 20.VII.2020, DK; 1♀ — T2, 22–23.VII.2020, DK; 4♀♀ — T3, 26.VII.2020, DK.

***Chrysis longula* Abeille de Perrin, 1879

Material. 2♀♀ — T1, 24–25.VII.2020, DK.

Omalus aeneus (Fabricius, 1878)

Material. 1♀ — T2, 22–23.VII.2020, DK.

Pseudomalus auratus nigridorsus (Tsuneki, 1953)

Rosa et al, 2019: 87 (Gorin).

Trichrysis cyanea (Linnaeus, 1758)

Material. 1♀ — T3, 26.VII.2020, DK.

Mutillidae

Mutillinae

Smicromyrme (Smicromyrme) lewisi (Mickel, 1935)

Material. 1♂ — T1, 20.VII.2020, DK.

Scoliidae

Scoliinae

Scolia (Discolia) oculata (Matsumura, 1911)

Material. 2♂♂ — T2, 22–23.VII.2020, DK.

Tiphidae

Tiphinae

Tiphia (Tiphia) agilis Smith, 1873

Material. 4♀♀, 4♂♂ — T1, 22, 24–25.VII.2020, DK.

**Tiphia (Tiphia) ovidorsalis* Allen et Jaynes, 1930

Material. 3♀♀ — T3, 26.VII.2020, DK.

Tiphia (Tiphia) ovinigris Allen et Jaynes, 1930

Material. 1♀ — T1, 24–25.VII.2020, DK.

Pompilidae

Ceropalinae

Ceropales (Ceropales) maculata (Fabricius, 1775)

Loktionov, Lelej, 2014: 70 (Gorin, Zolotoy klyuch).

Pepsinae

Auplopus carbonarius carbonarius
(Scopoli, 1763)

Loktionov, Lelej, 2014: 166 (Bichi).

Material. 1♀ — T1, 24–25.VII.2020, DK; 1♀ — T2, 22–23.VII.2020, DK.

Auplopus pacificus Lelej, 1990

Material. 1♀, 3♂♂ — T2, 22–23.VII.2020, DK; 1♂ — T4, 29–30.VII.2020, DK.

Auplopus (Auplopus) pygialis (Pérez, 1905)

Loktionov, Lelej, 2014: 172 (Bichi, Gorin).

Deuteragenia bifasciata (Geoffroy, 1785)

Loktionov, Lelej, 2014: 134 (Bichi).

Material. 1♂ — T4, 29–30.VII.2020, DK.

Deuteragenia nipponica Yasumatsu, 1939

Loktionov, Lelej, 2014: 143 (Bichi).

Material. 1♀ — T2, 22–23.VII.2020, DK.

**Deuteragenia romankovae* (Lelej, 1986)

Material. 1♀ — T5, V–IX.2019, OK.

Deuteragenia vechti (Day, 1979)

Loktionov, Lelej, 2014: 145 (estuary Gorin, Bichi).

Eopompilus internalis (Matsumura, 1911)

Material. 1♀ — T5, V–IX.2019, OK; 1♀, 1♂ — T1, 20.VII.2020, DK; 1♂ — T2, 22–23.VII.2020, DK.

Priocnemis (Priocnemis) belokobylskii Lelej, 1988

Material. 1♀, 7♂♂ — T1, 20, 22, 24–25.VII.2020, DK; 1♂ — T1, 22–23.VII.2020, DK.

Priocnemis (Priocnemis) fenestrata

(Gussakovskij, 1926)

Material. 1♂ — T2, 22–23.VII.2020, DK.

Priocnemis (Umbripennis) japonica

Gussakovskij, 1930

Loktionov, Lelej, 2014: 127 (estuary Gorin).

Material. 2♀♀ — T5, V–IX.2019, OK.

Pompilinae

Agenioideus (Agenioideus) amurensis
(Gussakovskij, 1932)

Loktionov, Lelej, 2014: 218 (Bichi).

Material. 1♂ — T1, 24–25.VII.2020, DK.

**Agenioideus (Agenioideus) pacificus*

Lelej, 1994

Material. 1♂ — T2, 22–23.VII.2020, DK.

Anoplius (Anoplius) nigerrimus

(Scopoli, 1763)

Loktionov, Lelej, 2014: 306 (Bichi).

Material. 1♀, 1♂ — T4, 29–30.VII.2020, DK.

Anoplius (Anoplius) ryukyuensis Tsuneki, 1990

Loktionov, Lelej, 2014: 319 (Bichi).

Anoplius (Anoplius) sachalinensis Lelej, 1994

Material. 1♀ — T1, 24–25.VII.2020, DK.

Anoplius (Anoplius) tenuicornis (Tournier, 1889)

Material. 1♂ — T3, 26.VII.2020, DK.

Anoplius (Arachnophroctonus) viaticus
(Linnaeus, 1758)

Loktionov, Lelej, 2014: 328 (Bichi).

Material. 1♀ — T1, 20.VII.2020, DK; 3♂♂ — T3, 26.VII.2020, DK.

**Arachnospila (Ammosphex) eoabnormis* Lelej, 1995

Material. 4♀♀ — T2, 22–23.VII.2020, DK.

Arachnospila (Ammosphex) kurentzovi
Lelej, 1995

Material. 2♂♂ — T3, 26.VII.2020, DK; 1♀, 3♂♂ — T4, 29–30.VII.2020, DK.

**Arachnospila (Ammosphex) mongolopinata*
Wolf, 1981

Material. 1♀, 1♂ — T2, 22–23.VII.2020, DK.

Arachnospila (Ammosphex) subvittata
(F. Morawitz, 1889)

Material. 1♂ — T4, 29–30.VII.2020, DK.

Arachnospila (Anoplochares) minutula
(Dahlbom, 1842)

Material. 1♂ — T4, 29–30.VII.2020, DK.

**Arachnospila (Anoplochares) mongolospissa*
(Wolf et Móczár, 1972)

Material. 1♀ — T4, 29–30.VII.2020, DK.

**Arachnospila (Anoplochares) spissa*
(Schiödte, 1838)

Material. 1♀ — T1, 20.VII.2020, DK; 1♀ — T3, 26.VII.2020, DK.

Arachnospila (Anoplochares) ussuriensis
(Gussakovskij, 1932)

Material. 2♂♂ — T4, 29–30.VII.2020, DK.

Arachnospila (Arachnospila) fumipennis
(Zetterstedt, 1838)

Loktionov, Lelej, 2014: 268 (Bichi).

Arachnospila (Arachnospila) sogdianoides
(Wolf, 1964)

Material. 1♂ — T4, 29–30.VII.2020, DK.

Episyron arrogans (Smith, 1873)

Material. 1♀ — T1, 24–25.VII.2020, DK.

Evagetes sikhotealinensis (Lelej, 1990)

Loktionov, Lelej, 2014: 291 (Gorin).

Material. 1♂ — T4, 29–30.VII.2020, DK.

Vespidae
Eumeninae

Ancistrocerus densepilosellus Cameron, 1911

Material. 1♀ — T1, 22.VII.2020, DK.

Ancistrocerus oviventris (Wesmael, 1836)

Material. 1♀ — T1, 25.VII.2020, DK; 1♂ — T4, 29–30.VII.2020,

DK.

Ancistrocerus trifasciatus (Müller, 1776)

Material. 2♀♀ — T1, 22, 24–25.VII.2020, DK.

Euodynerus (Pareuodynerus) quadrifasciatus
(Fabricius, 1793)

Material. 3♀♀ — T1, 20, 25.VII.2020, DK; 1♀ — T3, 26.VII.2020, DK.

**Gymnomerus laevipes* (Shuckard, 1837)

Material. 2♀♀ — T1, 24–25.VII.2020, DK.

Stenodynerus picticrus (Thomson, 1874)

Material. 1♀ — T3, 26.VII.2020, DK.

Symmorphus (Symmorphus) foveolatus
(Gussakovskij, 1932)

Material. 4♀♀ — T1, 22, 24–25.VII.2020, DK.

**Symmorphus (Symmorphus) fuscipes*
(Herrich-Schaeffer, 1838)

Material. 1♀ — T1, 24–25.VII.2020, DK.

Symmorphus (Symmorphus) mizuhonis Tsuneki, 1977

Material. 3♀♀ — T1, 22, 24–25.VII.2020, DK.

Polistinae

Polistes (Polistes) riparius

Ishikawa, Sk. Yamane et S. Yamane, 1987

Material. 2P — T5, VI.2016, OK; 4 workers. — T1, 24–25.VII.2020, DK.

Vespinae

Dolichovespula saxonica (Fabricius, 1793)

Material. 1 worker. — T3, 26.VII.2020, DK; 1♂ — T4, 29–30.VII.2020, DK.

Vespa crabro Linnaeus, 1758

Material. 1 worker. — T1, 20.VII.2020, DK.

Vespa rufa Linnaeus, 1758

Material. 1 worker. — T3, 26.VII.2020, DK.

Vespa shidai

Ishikawa, Sk. Yamane et Wagner, 1980

Material. 1 worker. — T1, 24–25.VII.2020, DK; 1 worker. — T4, 29–30.VII.2020, DK.

Sphecidae

Ammophilinae

Ammophila pubescens Curtis, 1836

Material. 1♀, 1♂ — T1, 20.VII.2020, DK.

Ammophila vagabunda F. Smith, 1856

Material. 1♀, 1♂, T1, 20, 22.VII.2020, DK; 1♂ — T2, 22–23.VII.2020, DK.

Crabronidae

Bembicinae

Alysson pertheesi pertheesi Gorski, 1852

Material. 1♀ — T1, 20.VII.2020, DK; 6♀♀, 9♂♂ — T3, 26.VII.2020, DK.

Bembix niponica F. Smith, 1873

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Material. 1♀ — T3, 26.VII.2020, DK.

Gorytes neglectus Handlirsch, 1888

Material. 1♀ — T4, 29–30.VII.2020, DK.

**Nysson amurensis* Nemkov, 1990

Material. 1♂ — T1, 24–25.VII.2020, DK.

**Nysson dimidiatus* Jurine, 1807

Material. 1♀, 1♂ — T1, 20.VII.2020, DK; 1♀ — T2, 22–23.VII.2020, DK; 1♀, 1♂ — T3, 26.VII.2020, DK.

Nysson maculosus (Gmelin, 1790)

Material. 10♀♀, 8♂♂ — T1, 20, 24–25.VII.2020, DK; 6♀♀, 18♂♂ — T2, 22–23.VII.2020, DK; 4♀♀, 4♂♂ — T3, 26.VII.2020, DK.

Crabroninae

Crabro (Crabro) scutellatus (von Scheven, 1781)

Material. 1♀ — T1, 24–25.VII.2020, DK.

Crabro (Crabro) peltarius (Schreber, 1784)

Material. 1♀ — T3, 26.VII.2020, DK.

**Crossocerus (Crossocerus) denticoxa*
(Bischoff, 1932)

Material. 1♀ — T2, 22–23.VII.2020, DK.

**Ectemnius (Ectemnius) borealis*
(Zetterstedt, 1838)

Material. 1♂ — T3, 26.VII.2020, DK; 1♀ — T4, 29–30.VII.2020, DK.

Ectemnius (Hypocrabro) continuus
(Fabricius, 1804)

Material. 1♀, 1♂ — T1, 22, 24–25.VII.2020, DK; 5♀♀, 5♂♂ — T3, 26.VII.2020, DK; 1♀, 1♂ — T4, 29–30.VII.2020, DK.

**Ectemnius (Metacrabro) chrysites* (Kohl, 1892)

Material. 1♀ — T1, 24–25.VII.2020, DK.

Ectemnius (Metacrabro) fossorius (Linnaeus, 1758)

Material. 1♀ — T1, 24–25.VII.2020, DK; 1♀ — T2, 22–23.VII.2020, DK.

Ectemnius (Yanonius) martjanowi (F. Morawitz, 1892)

Material. 1♀ — T4, 29–30.VII.2020, DK.

Entomognathus brevis (Vander Linden, 1829)

Material. 1♀ — T1, 24–25.VII.2020, DK.

Lestica camelus (Eversmann, 1849)

Material. 1♀ — T2, 22–23.VII.2020, DK.

Miscophus bicolor Jurine, 1807

Material. 1♀ — T2, 22–23.VII.2020, DK.

Oxybelus trispinosus (Fabricius, 1787)

Material. 2♂♂ — T1, 24–25.VII.2020, DK; 1♀ — T3, 26.VII.2020, DK.

**Oxybelus uniglumis* (Linnaeus, 1758)

Material. 1♀ — T3, 26.VII.2020, DK.

Rhopalum (Corynopus) coarctatum
(Scopoli, 1763)

Material. 1♂ — T3, 26.VII.2020, DK.

Rhopalum (Corynopus) gracile Wesmael, 1852

Material. 3♀♀, 1♂ — T1, 22, 24–25.VII.2020, DK; 2♀♀, 3♂♂ — T3, 26.VII.2020, DK.

Tachysphex nigricolor (de Dalla Torre, 1897)

Material. 12♀♀, 1♂ — T1, 24–25.VII.2020, DK; 2♀♀ — T2, 22–23.VII.2020, DK; 39♀♀, 10♂♂ — T3, 26.VII.2020, DK.

**Trypoxylon (Trypoxylon) exiguum* gassakovskiji
Tsuneki, 1974

Material. 2♂♂ — T1, 22, 24–25.VII.2020, DK.

**Trypoxylon (Trypoxylon) figulus* (Linnaeus, 1758)

Material. 2♀♀ — T1, 24–25.VII.2020, DK; 3♀♀ — T3, 26.VII.2020, DK.

Trypoxylon (Trypoxylon) frigidum cornutum
Gussakovskij, 1932

Material. 7♀♀, 2♂♂ — T1, 20, 24–25.VII.2020, DK; 1♀, 4♂♂ — T2, 22–23.VII.2020, DK; 1♀, 1♂ — T3, 26.VII.2020, DK; 1♂ — T4, 29–30.VII.2020, DK.

**Trypoxylon (Trypoxylon) regium regium*
(Gussakovskij, 1932)

Material. 1♀ — T1, 22.VII.2020, DK.

Pemphredoninae

**Mimumesa beaumonti* (Van Lith, 1949)

Material. 1♂ — T2, 22–23.VII.2020, DK.

Mimumesa dahlbomi (Wesmael, 1852)

Material. 1♀ — T1, 24–25.VII.2020, DK; 1♀ — T3, 26.VII.2020, DK.

Pemphredon inornata Say, 1824

Material. 1♀ — T4, 29–30.VII.2020, DK.

Pemphredon montana Dahlbom, 1844

Material. 2♀♀ — T1, 24–25.VII.2020, DK.

Stigmus eurasiatricus Mokrousov, 2017

Material. 1♀ — T1, 24–25.VII.2020, DK.