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THE BEES (HYMENOPTERA, APOIDEA) OF THE NORTHERN PART OF THE RUSSIAN FAR EAST

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The list of eighty-five species in seventeen genera of five families from the northern part of the Russian Far East is given. New synonymy have been proposed for *Bombus balteatus lysholmi* Friese, 1905 = *Alpinobombus kirbyellus* var. *subbalteatus* Skorikov, 1914, **syn. n.**; *B. consobrinus wittenburgi* Vogt, 1911 = *Hortobombus consobrinus* var. *albociliatus* Skorikov, 1914, **syn. n.**; = *H. consobrinus* var. *bianchii* Skorikov, 1914, **syn. n.**; *B. consobrinus ochroleucus* Skorikov, 1914 = *H. consobrinus* var. *submonochromos* Skorikov, 1914, **syn. n.**; = *H. consobrinus* var. *derzhavini* Skorikov, 1914, **syn. n.**; *B. lapponicus* (Fabricius, 1793) = *B. lapponicus* var. *kamtshaticus* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *obscurus* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *occultodistinctus* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *rarior* Skorikov, 1912, **syn. n.**; *B. karaginus* Skorikov, 1912 = *B. lapponicus* var. *commutabilis* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *virgatus* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *korjak* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *ceciliae* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *pallidocaudatus* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *cecilioides* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *simius* Skorikov, 1912, **syn. n.** *Osmia parietina* Curtis is newly recorded from the Russian Far East. *Colletes impunctatus* Nylander, *C. pseudocinerascens* Noskiewicz, *Hylaeus paulus* Bridwell, *Andrena aino* Tadauchi, Hirashima et Matsumura, *Chelostoma foveolatum* (Morawitz), *Megachile alpicola* Alfken, *M. centuncularis* (Linnaeus), *M. versicolor* Smith, *Nomada issikii* Yasumatsu, *N. panzeri* Lepeletier, *Anthophora arctica* Morawitz are newly recorded from the northern part of the Russian Far East. Patterns of distribution and biogeography are discussed.

KEY WORDS. Hymenoptera, Apoidea, Colletidae, Andrenidae, Halictidae, Megachilidae, Apidae, bees, taxonomy, faunistic, Russian Far East.

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Приведен список 85 видов пчёл из 17 родов и 5 семейств севера Дальнего Востока России. Установлена новая синонимия для *Bombus balteatus lysholmi* Friese, 1905 = *Alpinobombus kirbyellus* var. *subbalteatus* Skorikov, 1914, **syn. n.**; *B. consobrinus wittenburgi* Vogt, 1911 = *Hortobombus consobrinus* var. *albociliatus* Skorikov, 1914, **syn. n.**; = *H. consobrinus* var. *bianchii* Skorikov, 1914, **syn. n.**; *B. consobrinus ochroleucus* Skorikov, 1914 = *H. consobrinus* var. *submonochromos* Skorikov, 1914, **syn. n.**; = *H. consobrinus* var. *derzhavini* Skorikov, 1914, **syn. n.**; *B. lapponicus* (Fabricius, 1793) = *B. lapponicus* var. *kamtshaticus* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *obscurus* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *occultodistinctus* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *rarior* Skorikov, 1912, **syn. n.**; *B. karaginus* Skorikov, 1912 = *B. lapponicus* var. *commutabilis* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *virgatus* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *korjak* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *ceciliae* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *pallidocaudatus* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *cecilioides* Skorikov, 1912, **syn. n.**; = *B. lapponicus* var. *simius* Skorikov, 1912, **syn. n.** *Osmia parietina* Curtis впервые указывается для фауны Дальнего Востока России. *Colletes impunctatus* Nylander, *C. pseudocinerascens* Noskiewicz, *Hylaeus paulus* Bridwell, *Andrena aino* Tadauchi, Hirashima et Matsumura, *Chelostoma foveolatum* (Morawitz), *Megachile alpicola* Alfken, *M. centuncularis* (Linnaeus), *M. versicolor* Smith, *Nomada issikii* Yasumatsu, *N. panzeri* Lepeletier, *Anthophora arctica* Morawitz впервые указываются для севера Дальнего Востока России. Обсуждаются особенности распространения и биогеографии.

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INTRODUCTION

The northern part of the Russian Far East (NRFE) consists of four administrative regions (Fig. 1): Magadanskaya oblast', Chukotskii avtonomnyi okrug [AO], Koryakskii AO and Kamchatskaya oblast' (Sever Dal'nego Vostoka, 1970). *Bombus albocinctus* Smith, 1854 was the first bee species, which have been recorded to the NRFE (Kamchatka) (Smith, 1854). Thirty-nine species and infraspecific forms have been described from the NRFE but fourteen species and subspecies are valid now. There is no special paper on the bees of the NRFE. The distribution data on bee species from the NRFE have been published in next papers.

Magadanskaya oblast': Matis & Glushkova, 1973 (*Bombus*); Berman & Tikhmenev, 1979 (*Bombus*); Romankova, 1983 (*Megachile*), 1984 (*Osmia*); Dathe, 1994 (*Hylaeus*); Banaszak & Romasenko, 1998 (Megachilidae); Kuhlmann & Dorn, 2002 (*Colletes*); Pesenko & Davydova, 2004 (*Seladonia*).

Chukotskii AO (Wrangel Island): Shamurin & Tikhmenev, 1971 (*Bombus*); Khruleva, 1987, 1989, 1991 (*Bombus*); Berezin, 1989a, b, 1991, 1994a, b, 1995 (*Bombus*).

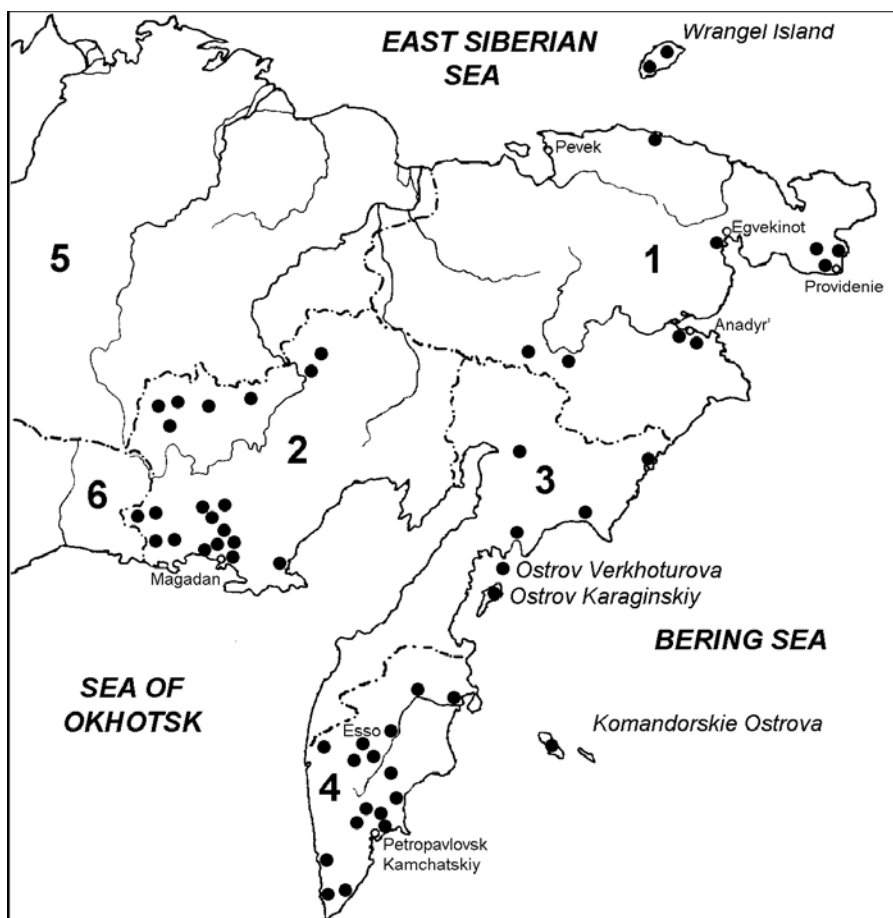


Fig. 1. Collecting places of the bees. Northern part of the Russian Far East: 1 – Chukotskii AO, 2 – Magadanskaya oblast', 3 – Koryakskii AO, 4 – Kamchatskaya oblast'; neighbouring territories: 5 – Yakutia, 6 – Khabarovskii krai.

Koryakskii AO (Karaginskii Island): Skorikov, 1914a, b, 1926 (*Bombus*); Popov, 1931 (*Bombus*); Podbolotskaya, 1988 (*Bombus*); Ito & Kuranishi, 2000 (*Bombus*); Lelej & Kupianskaya, 2000 (*Bombus*); Pesenko, 2000 (*Bombus*).

Kamchatskaya oblast': Radoszkowski, 1860 (*Bombus*); Friese, 1908 (*Bombus*); Skorikov, 1908, 1910, 1912, 1913, 1914a, b, 1915, 1922, 1926, 1931, 1937 (*Bombus*); Vogt, 1911 (*Bombus*); Friese, 1914 (*Andrena*); Popov, 1927 (*Bombus*); Alfken, 1929 (*Apoidea*); Bischoff, 1930 (*Bombus*); Gussakovskij, 1932 (*Apoidea*); Blüthgen, 1935 (*Sphecodes*); Yasumatsu, 1938 (*Megachile*), 1939a (*Hylaeus*); Romankova, 1983 (*Megachile*), 1984 (*Osmia*); Tkalců, 1967, 1974 (*Bombus*); Lobkova, 1986, 1987 (*Bombus*); Banaszak & Romasenko, 1998 (*Megachilidae*); Ito & Kuranishi, 2000 (*Bombus*); Lelej & Kupianskaya, 2000 (*Bombus*); Pesenko, 2005 (*Halictus*).

Now the fullest source on bee fauna of the NRFE is the Key to the insects of Russian Far East (Osytshnjuk & Romankova, 1995; Osytshnjuk, 1995; Romankova, 1995; Kupianskaya, 1995). Forty-six species of bees were recorded for the NRFE mainly for Magadanskaya oblast' and Kamchatka. The data published in Smetnin's (1999) paper based on references only, contain many mistakes and errors and not included in current paper.

This study is based on material (total more than 1150 specimens, mainly bumblebees) from the collections deposited in the Institute of Biology and Soil Science, Russian Academy of Sciences, Vladivostok [IBSV], Zoological Institute, Russian Academy of Sciences, St. Petersburg [ZISP] and Zoological Museum of the Moscow State University [ZMM]. The classification of bees follows C. Michener (2000), the classification of family Halictidae follows Yu.A. Pesenko (1986, 2004). Next acronyms are used for the collectors: AK – A.I. Kurentsov, CH – Yu.A. Chistyakov, DK – D.G. Kononov, KH – S.S. Kharkevich, KU – A.N. Kupianskaya, LI – L.A. Ivliev, MP – M.Yu. Proshchalykin, SB – S.A. Belokobylskij, VK – V.N. Kuznetsov, VM – V.G. Marshakov, ZH – A.N. Zhelokhovtsev. New records in the distribution section are asterisked (*). The symbol “♀” is used for the workers in the material.

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LIST OF THE SPECIES

Family Colletidae

1. *Colletes impunctatus* Nylander, 1852

Colletes impunctatus Nylander, 1852: 249.

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: Kozyrevsk, 22.VII 1978, 1 ♂ (VK).

DISTRIBUTION. *Kamchatskaya oblast', Khabarovskii krai (Proshchalykin, 2003a), Amurskaya oblast' (Proshchalykin, 2004), Primorskii krai, Sakhalin, Kuril Islands (Kunashir), Yakutia (Osytshnjuk & Romankova, 1995), European part (Osytshnjuk et al., 1978). – Mongolia, Europe (Kuhlmann, 2000; Kuhlmann & Dorn, 2002).

2. *Colletes pseudocinerascens* Noskiewicz, 1936

Colletes pseudocinerascens Noskiewicz, 1936: 424 (lectotype: ♂, Jakutsk, 16.VII 1927, Moskvina leg.) [ZISP], designated by Kuhlmann, 2000: 181; Osytshnjuk & Romankova, 1995: 483.

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: Kozyrevsk, 12-15.VII 1985, 1 ♂ (SB); Esso, 20, 25.VII 2005, 5 ♀, 5 ♂ (MP); 20 km E Esso, 21.VII-6.VIII 2005, 20 ♀, 8 ♂ (MP).

DISTRIBUTION. Russia: *Kamchatskaya oblast', Yakutia (Noskiewicz, 1936).

3. *Colletes ulrikae* Kuhlmann et Dorn, 2002

Colletes ulrikae Kuhlmann & Dorn, 2002: 106 (holotype: ♂, Magadanskaya oblast', okrestnosti Susuman, stepnoi sklon, VII.1980) [IBSV].

Colletes pseudocinerascens: Osytshnjuk & Romankova, 1995: 483.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Holotype: ♂, okrestnosti Susuman, stepnoi sklon, VII.1980; paratypes, ♂, the same place.

DISTRIBUTION. Russia: Magadanskaya oblast' (Kuhlmann & Dorn, 2002).

4. *Hylaeus (Hylaeus) aborigensis* Dathe, 1994

Hylaeus aborigensis Dathe, 1994: 442 (holotype: ♂, Magadanskaya oblast', Pik Aborigen, 25 km SW Kolyma river, Bishop leg.) [Deutsches Entomologisches Institut, Eberswalde].

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 15-25 km SW Kolyma river, Aborigen, 17-18.VII 1992, 1 ♀ (Bishop).

DISTRIBUTION. Russia: Magadanskaya oblast' (Dathe, 1994).

5. *Hylaeus (Hylaeus) annulatus* (Linnaeus, 1758)

Apis annulata Linnaeus, 1758: 578.

Prosopis tamanukii Yasumatsu, 1939a: 69 (holotype: ♀, "Konuma" [Novoaleksandrovsk], South Sakhalin, 12.VII 1929, Tamanuki leg., possibly lost). Synonymized by Proshchalykin et al., 2004: 155.

Prosopis annulata: Alfken, 1929: 4; Yasumatsu, 1939a: 68; Osytshnjuk & Romankova, 1995: 486.

Hylaeus annulatus: Proshchalykin, 2003b: 2; Proshchalykin et al., 2004: 155; Ignatenko, 2004: 110.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 20 km E Kulu, 26.VII 1983, 2 ♀ (Makarkin); 15-25 km SW Kolyma river, Aborigen, 3-26.VII 1992, 2 ♀, 2 ♂ (Bishop).

DISTRIBUTION. Russia: Magadanskaya oblast', Sakhalin (Osytsnjuk & Romankova, 1995), Kamchatskaya oblast' (Yasumatsu, 1939a), Amurskaya oblast' (Ignatenko, 2004), Khabarovskii krai (Proshchalykin, 2003a), Kuril Islands (Kunashir) (Proshchalykin, 2003b), Irkutsk (Kokuev, 1927), North Ural (Fridolin, 1936), Western Siberia (Tomsk) (Wnukowsky, 1936), European part (Osytsnjuk et al., 1978). – Mongolia, Europe (Dathe, 1980, 1986), North America (Dathe, 1994).

6. *Hylaeus (Hylaeus) gracilicornis* (Morawitz, 1867)

Prosopis gracilicornis Morawitz, 1867: 56; Alfken, 1929: 4; Gussakovskij, 1932: 64; Osytshnjuk & Romankova, 1995: 487.

Hylaeus gracilicornis: Proshchalykin, 2003b: 3; Proshchalykin et al., 2004: 155; Ignatenko, 2004: 111.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 15-25 km SW Kolyma river, Aborigen, 5-18.VII 1992, 1 ♂ (Bishop).

DISTRIBUTION. Russia: Magadanskaya oblast' (Dathe, 1994), Kamchatskaya oblast' (Gussakovskij, 1932), Primorskii krai (Dathe, 1986), Khabarovskii krai (Osytsnjuk & Romankova, 1995), Sakhalin (Proshchalykin et al., 2004), Kuril Islands (Kunashir) (Proshchalykin, 2003b), Yakutia (Davydova & Pesenko, 2002), Siberia (Cockerell, 1924), European part (Osytsnjuk et al., 1978). – Mongolia, Europe (Dathe, 1980, 1986).

7. *Hylaeus (Hylaeus) miyakei* (Matsumura, 1911)

Prosopis miyakei Matsumura, 1911: 108 (holotype: ♀, Korsakov, South Sakhalin).

Hylaeus miyakei: Proshchalykin et al., 2004: 155.

Hylaeus cardioscapus Cockerell, 1924: 276 (holotype: ♀, "Kudia-river", Primorskii krai) [United States National Museum, Washington]. Synonymized by Proshchalykin et al., 2004: 155.

Prosopis cardioscapus: Gussakovskij, 1932: 64; Osytsnjuk & Romankova, 1995: 486.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 150 km W Magadan, Tolon, 7.VII 1975, 7 ♀, 12 ♂ (VM); Snezhnaya dolina, 2.VIII 1975, 2 ♀ (VM); Aborigen, 1.VII 1977, 3 ♀, 5 ♂ (Zhil'tsova). **Kamchatskaya oblast'**: Tsentral'nyi, 7.VIII 1958, 1 ♀ (DK); Kozyrevsk, 12-15.VII 1985, 4 ♂ (SB); 20 km N Kozyrevska, 2 ♀, 2 ♂ (SB); Esso, 20, 25.VII 2005, 4 ♀, 8 ♂ (MP); Klyuchi, 10.VIII 2005, 1 ♀ (MP).

DISTRIBUTION. Russia: *Magadanskaya oblast', Kamchatskaya oblast' (Gussakovskij, 1932), Khabarovskii krai, Amurskaya oblast' (Osytsnjuk & Romankova, 1995), Primorskii krai (Cockerell, 1924), Sakhalin (Matsumura, 1911), Siberia (Cockerell, 1937), European part (Osytsnjuk et al., 1978). – Mongolia, Europe (Dathe, 1980, 1986).

8. *Hylaeus (Hylaeus) paulus* Bridwell, 1919

Hylaeus paulus Bridwell, 1919: 154.

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: Mil'kovo, 6.VII 1985, 1 ♂ (SB); Kozyrevsk, 12-15.VII 1985, 15 ♀, 3 ♂ (SB), 8.VIII 2005, 1 ♀ (MP); 20 km N Kozyrevska, 1 ♂ (SB); Petropavlovsk-Kamchatskii, Petrovskaya sopka, 16.VII 2005, 7 ♀, 3 ♂ (MP); Esso, 20, 25.VII 2005, 2 ♀, 3 ♂ (MP); 20 km E Esso, 21-24.VII 2005, 4 ♀, 5 ♂ (MP).

DISTRIBUTION. Russia: *Kamchatskaya oblast', Khabarovskii krai, Amurskaya oblast', Primorskii krai, Kuril Islands (Kunashir) (Osytsnjuk & Romankova, 1995), Sakhalin (Proshchalykin et al., 2004), Yakutia (Davydova & Pesenko, 2002), Siberia (Schwarz et al., 1996). – Japan (Hokkaido, Honshu, Kyushu) (Ikudome, 1989), Mongolia, Eastern and Western Europe (Heide et al., 1996).

Family Andrenidae

9. *Andrena (Andrena) aino* Tadauchi, Hirashima et Matsumura, 1987

Andrena apicata aino Tadauchi, Hirashima & Matsumura, 1987: 14.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 150 km W Magadan, Tolon, 7.VII 1975, 3 ♀ (VM).

DISTRIBUTION. Russia: *Magadanskaya oblast', Khabarovskii krai, Amurskaya oblast', Primorskii krai, Sakhalin, Buryatia, Chitinskaya oblast' (Osytshnjuk, 1995), Yakutia (Davydova & Pesenko, 2002). – Japan (Hokkaido) (Hirashima, 1989).

10. *Andrena (Andrena) apicata* Smith, 1847

Andrena apicatus Smith, 1847: 1748.

Andrena apicata var. *kamtschatica* Alfken, 1929: 4 (holotype: ♀, Klyuchi, Kamchatka, 1.VI 1921); Yasumatsu, 1941: 275.

Andrena apicata: Gusenleitner & Schwarz, 2002: 89

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: Semyachik, 1.VII 1985, 1 ♀ (Lobkova).

DISTRIBUTION. Russia: Kamchatskaya oblast' (Alfken, 1929), European part (Osytshnjuk et al., 1978). – Europe (Gusenleitner & Schwarz, 2002).

11. *Andrena (Andrena) clarkella* (Kirby, 1802)

Melitta clarkella Kirby, 1802: 130.

Andrena clarkella: Osytshnjuk, 1995: 514; Proshchalykin et al., 2004: 161.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Magadanskaya oblast', Khabarovskii krai, Amurskaya oblast', Sakhalin, Chitinskaya oblast', Yakutia (Osytshnjuk, 1995), Tomsk (Wnukowsky, 1936), North Ural (Fridolin, 1936), European part (Osytshnjuk et al., 1978). – Europe (Gusenleitner & Schwarz, 2002).

12. *Andrena (Andrena) kamtschatkaensis* Friese, 1914

Andrena kamtschatkaensis Friese, 1914: 222 (holotype: ♀, Kamchatka) [Museum für Naturkunde an der Humboldt Universität zu Berlin]; Yasumatsu, 1941: 275; Osytshnjuk, 1995: 512; Gusenleitner & Schwarz, 2002: 381.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kamchatskaya oblast' (Friese, 1914).

13. *Andrena (Andrena) lapponica* Zetterstedt, 1838

Andrena lapponica Zetterstedt, 1838: 460.

Andrena lapponica shirozui Hirashima, 1962: 143; Osytshnjuk, 1995: 514; Proshchalykin et al., 2004: 162. Synonymized by Gusenleitner & Schwarz, 2002: 414.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Magadanskaya oblast', Kamchatskaya oblast', Primorskii krai, Sakhalin, Kuril Islands (Kunashir) (Osytshnjuk, 1995), Yakutia (Davydova & Pesenko, 2002), European part (Osytshnjuk et al., 1978). – Japan (Hokkaido, Honshu) (Hirashima, 1989), Europe (Gusenleitner & Schwarz, 2002).

14. *Andrena (Andrena) maukensis* Matsumura, 1911

Andrena maukensis Matsumura, 1911: 107 (holotype: ♀, "Mauka" [Kholmsk], Sakhalin); Yasumatsu, 1941: 277; Osytshnjuk, 1995: 514; Proshchalykin, 2003b: 8; Proshchalykin et al., 2004: 162.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kamchatskaya oblast', Khabarovskii krai, Primorskii krai, Sakhalin, Kuril Islands (Shikotan, Kunashir, Iturup), Chitinskaya oblast', Yakutia (Osytshnjuk, 1995). – Japan (Hokkaido, Honshu, Kyushu) (Kuwayama, 1967; Hirashima, 1989).

15. *Andrena (Euandrena) orientaliella* Osytshnjuk, 1986

Andrena orientaliella Osytshnjuk, 1986: 111 (holotype: ♀, Yakutsk, 13.VI 1962, Zhelokhovtsev leg.) [ZMM]; Osytshnjuk, 1995: 501; Gusenleitner & Schwarz, 2000: 413.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Magadanskaya oblast', Khabarovskii krai, Amurskaya oblast', Primorskii krai, Buryatia, Chitinskaya oblast', Yakutia. – Mongolia (Osytshnjuk, 1986, 1995).

16. *Andrena (Leucandrena) barbilabris* (Kirby, 1802)

Melitta barbilabris Kirby, 1802: 151.

Andrena barbilabris: Osytshnjuk, 1995: 509.

Andrena sericea var. *malasei* Alfken, 1929: 5 (holotype: ♀, Klyuchi, Kamchatka, 5-8.VI 1921); Yasumatsu, 1941: 280.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Yakutia (Davydova & Pesenko, 2002), Kamchatskaya oblast', Primorskii krai, Chitinskaya oblast', South Siberia, European part (Osytshnjuk, 1995). – Europe (Gusenleitner & Schwarz, 2002).

17. *Andrena (Melandrena) thoracica* (Fabricius, 1775)

Apis thoracica Fabricius, 1775: 383.

Andrena thoracica: Osytshnjuk, 1995: 504; Proshchalykin et al., 2004: 163.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Magadanskaya oblast', Kamchatskaya oblast', Khabarovskii krai, Amurskaya oblast', Primorskii krai, Sakhalin (Osytshnjuk, 1995), Irkutskaya oblast' (Cockerell, 1928). – South Korea (Radoszkowski, 1887), China (Gansu, Heilongjiang, Hebei, Liaoning) (Cockerell, 1911; Wu, 1965), Europe (Gusenleitner & Schwarz, 2002).

18. *Andrena (Micrandrena) subopaca* Nylander, 1848

Andrena subopaca Nylander, 1848: 221; Alfken, 1929: 7; Gussakovskij, 1932: 63; Yasumatsu, 1941: 280; Osytshnjuk, 1995: 499; Proshchalykin, 2003b: 10; Proshchalykin et al., 2004: 164.

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: Esso, 25-31.VII 2005, 6 ♀, 15 ♂ (MP).

DISTRIBUTION. Russia: Kamchatskaya oblast' (Alfken, 1929), Khabarovskii krai (Proshchalykin, 2003a), Primorskii krai, Sakhalin, Irkutskaya oblast', European part (Osytshnjuk, 1995; Osytshnjuk et al., 1978), Kuril Islands (Shikotan, Kunashir). – Japan (Hokkaido, Honshu, Shikoku, Kyushu) (Hirashima, 1989), Europe (Gusenleitner & Schwarz, 2002).

19. *Andrena (Oreomelissa) coitana* (Kirby, 1802)

Melitta coitana Kirby, 1802: 147.

Andrena coitana: Osytshnjuk, 1995: 494; Tadauchi & Xu, 1999: 17; Xu et al., 2000: 58.

Andrena coitana var. *pilosodorsata* Alfken, 1929: 6 (holotype: ♀, Avacha Bay; Kamchatka, 24-27.VII 1920); Yasumatsu, 1941: 275; Hirashima & Tadauchi, 1975: 183; Osytshnjuk, 1995: 494; Xu & Tadauchi, 1996: 2; Xu et al., 2000: 58; Proshchalykin, 2003b: 10; Proshchalykin et al., 2004: 164.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 150 km W Magadan, Tolon, 7.VII 1975, 1 ♂ (VM).

DISTRIBUTION. Russia: *Magadanskaya oblast', Kamchatskaya oblast' (Alfken, 1929), Amurskaya oblast', Primorskii krai, Sakhalin, Kuril Islands (Shikotan, Kunashir, Iturup, Urup, Simushir, Ketoi, Paramushir), Buryatia, Irkutskaya oblast', Chitinskaya oblast', Yakutia, European part (Osytshnjuk, 1995; Xu et al., 2000; Proshchalykin, 2003b), Altai (Cockerell, 1928). – Japan (Hokkaido, Honshu, Shikoku, Kyushu) (Hirashima, 1989), Kazakhstan, Kirgystan, Europe (Osytshnjuk, 1995).

20. *Andrena (Simandrena) combinata* (Christ, 1791)

Apis combinata Christ, 1791: 187.

Andrena combinata: Osytshnjuk, 1995: 508.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Magadanskaya oblast', Buryatia, Irkutskaya oblast', Chitinskaya oblast', Yakutia, European part. – North-eastern China, Mongolia, Kazakhstan, Western Europe (Osytshnjuk, 1995; Gusenleitner & Schwarz, 2002).

21. *Andrena (Tarsandrena) tarsata* Nylander, 1848

Andrena tarsata Nylander, 1848: 223; Osytshnjuk, 1995: 512.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Magadanskaya oblast', Irkutskaya oblast', European part. – Middle Asia, Western Europe, North Afrika (Osytshnjuk, 1995; Gusenleitner & Schwarz, 2002).

22. *Andrena (Trachandrena) haemorrhoea* (Fabricius, 1781)

Apis haemorrhoea Fabricius, 1781: 481.

Andrena haemorrhoea: Popov, 1958: 157; Osytshnjuk, 1995: 494.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Khabarovskii krai (Proshchalykin, 2003a), Kamchatskaya oblast', Amurskaya oblast', Primorskii krai, Sakhalin, Irkutskaya oblast', Chitinskaya oblast' (Popov, 1958), Yakutia (Davydova & Pesenko, 2002). – Europe (Gusenleitner & Schwarz, 2002), North Afrika (Warncke, 1966).

23. *Panurginus romani* Aurivillius, 1914

Panurginus romani Aurivillius, 1914: 96; Osytshnjuk, 1995: 527; Proshchalykin et al., 2004: 165.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Debin, 15.VII 1963, 2 ♀ (ZH); 150 km W Magadan, Tolon, 7.VII 1975, 3 ♂ (VM). **Kamchatskaya oblast'**: Mil'kovo, 6.VII 1985, 1 ♂ (SB).

DISTRIBUTION. Russia: *Kamchatskaya oblast', Magadanskaya oblast', Sakhalin, Komi (Osytsnjuk, 1995), Khabarovskii krai, Amurskaya oblast', Primorskii krai (Proshchalykin, 2003a, 2004). – Finland (Elfving, 1968), Sweden (Osytsnjuk, 1995).

Family Halictidae

24. *Halictus (Protohalictus) rubicundus* (Christ, 1791)

Apis rubicundus Christ, 1791: 190.

Halictus rubicundus: Ebmer, 1996: 268; Pesenko, 2005: 16.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 150 km W Magadan, Tolon, 7.VII 1975, 2 ♀, 1 ♂ (VM). **Kamchatskaya oblast'**: Mil'kovo, 20.VI 1958, 1 ♀ (LD); Klyuchi, 23.VIII 1958, 1 ♀ (AK), 25.VIII 1976, 4 ♀, 21 ♂ (KU); Nachiki, 14-27.VIII 1959, 5 ♀, 3 ♂ (AK, DK); Kozyrevsk, 22-31.VII 1976, 2 ♀ (VK), 30.V 1978, 4 ♀ (VK); Pauzhetka, 21.VII 1976, 2 ♀, 4 ♂ (Konovalova); Vestnik Bay, 27.VII 1999, 2 ♀ (Lelej, Storozhenko); Ezzo, 25-31.VII 2005, 15 ♀, 20 ♀ (MP).

DISTRIBUTION. Russia: *Magadanskaya oblast', Kamchatskaya oblast', Primorskii krai, Sakhalin (Ebmer, 1996), Khabarovskii krai, Kuril Islands (Urup) (Proshchalykin, 2004), Amurskaya oblast', Tuva, Krasnoyarskiy krai, Irkutskaya oblast', Buryatia, Chitinskaya oblast', Yakutia (Pesenko, 2005). – Japan (Hokkaido) (Hirashima, 1989), Mongolia (Blüthgen, 1936), North Korea (Ebmer, 1978), China (Gansu, Heilongjiang, Neimenggu, Ningxia, Jilin) (Morawitz, 1890, Pesenko, 2005).

25. *Seladonia confusa pelagia* (Ebmer, 1996)

Halictus confusus pelagijs Ebmer, 1996: 269 (holotype: ♂, Ryazanovka, Slavyanka, Primorskii krai, 17-23.VII 1992, Snizek leg.) [coll. Ebmer].

Seladonia confusa pelagia: Pesenko & Davydova, 2004: 686.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 12 km N Seimchana, 27.VIII 1975, 1 ♂ (VM).

DISTRIBUTION. Russia: Primorskii krai (Ebmer, 1996), Kuril Islands (Kunashir) (Proshchalykin, 2003b), Magadanskaya oblast', Khabarovskii krai, Amurskaya oblast', Buryatia, Khakasiya, Altai, Yakutia. – Mongolia (Pesenko & Davydova, 2004).

26. *Seladonia mondaensis* (Blüthgen, 1923)

Halictus mondaensis Blüthgen, 1923: 285.

Seladonia mondaensis: Pesenko & Davydova, 2004: 688.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 12 km N Seimchana, 27. VIII 1975, 1 ♂ (VM).

DISTRIBUTION. Russia: Magadanskaya oblast', Tuva, Yakutia (Pesenko & Davydova, 2004), Buryatia (Blüthgen, 1923). – Mongolia (Ebmer, 1982).

27. *Seladonia tumulorum higashi* (Sakagami et Ebmer, 1979)

Halictus tumulorum higashi Sakagami & Ebmer, 1979: 548.

Seladonia tumulorum higashi: Pesenko & Davydova, 2004: 691.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 12 km N Seimchana, 27. VIII 1975, 1 ♂ (VM).

DISTRIBUTION. Russia: Primorskii krai (Gussakovskij, 1932), Magadanskaya oblast', Khabarovskii krai, Amurskaya oblast', Sakhalin, Kuril Islands (Kunashir), Altai, Krasnoyarskii krai, Chitinskaya oblast', Irkutskaya oblast' (Pesenko & Davydova, 2004). – Japan (Hokkaido, Honshu) (Sakagami & Ebmer, 1979; Hirashima, 1989), Korea (Ebmer, 1978), South-Eastern China (Dawut & Tadauchi, 2003).

28. *Evyllaenus calceatus* (Scopoli, 1763)

Apis calceata Scopoli, 1763: 301.

Evyllaenus calceatus: Pesenko & Davydova, 2004: 694.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Primorskii krai (Gussakovskij, 1932), Kamchatskaya oblast', Yakutia (Pesenko & Davydova, 2004). – Japan (Hokkaido) (Hirashima, 1989), Europe (Ebmer, 1996).

29. *Evyllaenus fratellus betulae* (Ebmer, 1978)

Lasioglossum fratellum betulae Ebmer, 1978: 314; 1995: 573; 1996: 280.

Halictus fratellus: Alfken, 1929: 7; Blüthgen, 1935: 1.

Halictus freygessneri: Gussakovskij, 1932: 64.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kamchatskaya oblast' (Blüthgen, 1935), Primorskii krai. – North Korea, Europe (Ebmer, 1978, 1996).

30. *Evyllaenus nupricola* (Sakagami, 1988)

Lasioglossum nupricola Sakagami, 1988: 337; Hirashima, 1989: 681; Proshchalykin, 2003b: 2;

Proshchalykin et al., 2004: 160.

Halictus laevis: Gussakovskij, 1932: 64.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kamchatskaya oblast', Sakhalin, Kuril Islands (Urup). – Japan (Hokkaido, Honshu) (Sakagami, 1988; Hirashima, 1989).

31. *Evyllaenus rufitarsis* (Zetterstedt, 1838)

Halictus rufitarsis Zetterstedt, 1838: 462; Alfken, 1929: 7.

Lasioglossum rufitarse: Ebmer, 1996: 286; Proshchalykin, 2003b: 7.

Halictus rufitarsis: Blüthgen, 1935: 1.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kamchatskaya oblast' (Blüthgen, 1935), Kuril Islands (Konakov, 1956), Primorskii krai. – North Korea, East China, Mongolia Europe (Ebmer, 1996).

32. *Sphecodes crassus* Thompson, 1870

Sphecodes crassus Thompson, 1870: 100; Alfken, 1929: 7.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kamchatskaya oblast' (Alfken, 1929), European part (Osytshnjuk et al., 1978). – Europe (Dalla Torre, 1896).

33. *Sphecodes geoffrellus* (Kirby, 1802)

Melitta geoffrella Kirby, 1802: 45.

Sphecodes fasciatus: Blüthgen, 1935: 1.

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: Petropavlovsk-Kamchatskiy, Petrovskaya sopka, 6.VII 1981, 1 ♀ (Egorov), 16.VII 2005, 1 ♂ (MP), 10 km E Esso, 24.VII 2005, 1 ♀ (MP); 20 km NE Kozyrevska, Kamchatka river, 9.VIII 2005, 1 ♀ (MP).

DISTRIBUTION. Russia: Kamchatskaya oblast' (Blüthgen, 1935), European part (Osytshnjuk et al., 1978). – Europe (Dalla Torre, 1896).

34. *Sphecodes hyalinatus* Hagens, 1882

Sphecodes hyalinatus Hagens, 1882: 222; Blüthgen, 1935: 1.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kamchatskaya oblast' (Blüthgen, 1935), European part (Osytshnjuk et al., 1978). – Europe (Dalla Torre, 1896).

Family Megachilidae

35. *Chelostoma (Foveosmia) foveolatum* (Morawitz, 1868)

Heriades foveolata Morawitz, 1868: 152.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 150 km W Magadan, Tolon, 7.VII 1975, 1 ♂ (VM).

DISTRIBUTION. Russia: *Magadanskaya oblast', Amurskaya oblast' (Proshchalykin, 2004), European part (Osytshnjuk et al., 1978). – Europe (Warncke, 1991).

36. *Hoplitis (Formicapis) robusta* (Nylander, 1848)

Heriades robusta Nylander, 1848: 270.

Formicapis robusta: Romankova, 1995: 534.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 12 km N Seimchana, 27. VIII 1975, 1 ♀ (VM).

DISTRIBUTION. Russia: Magadanskaya oblast' (Romankova, 1995), Amurskaya oblast' (Proshchalykin, 2004), Irkutskaya oblast', Yakutia, European part. – Mongolia, Europe, North America (Popov, 1960).

37. *Hoplitis (Monumetha) tuberculata* (Nylander, 1848)

Osmia tuberculata Nylander, 1848: 263.

Hoplitis tuberculata: Romankova, 1995: 535.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Ust'-Omchug, 1.VII 1963, 1 ♀, 1 ♂ (ZH); Debin, 20.VII 1963, 1 ♀, 1 ♂ (ZH); 150 km W Magadan, Tolon, 7.VII 1975, 2 ♀ (VM).

DISTRIBUTION. Russia: Khabarovskii krai (Proshchalykin, 2003a), Magadanskaya oblast', Amurskaya oblast', Altai, Irkutskaya oblast', Yakutia (Romankova, 1995), Omskaya oblast' (Lavrov, 1927), European part (Osytshnjuk et al., 1978). – Europe (Dalla Torre, 1896).

38. *Osmia (Melanosmia) nigriventris* (Zetterstedt, 1838)

Anthophora nigriventris Zetterstedt, 1838: 465.

Osmia nigriventris: Alfken, 1929: 7; 1995: 537; Banaszak & Romasenko, 1998: 121; Proshchalykin et al., 2004: 166.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Ust'-Omchug, 1.VII 1963, 1 ♀, 1 ♂ (ZH); Magadan, 15.VI 1963, 1 ♀, 1 ♂ (ZH); Debin, 22.VII 1963, 1 ♀ (ZH); 150 km W Magadan, Tolon, 7.VII 1975, 1 ♀ (VM); Arkagala, 15-20.VIII 1978, 2 ♀ (Zherikhin). **Kamchatskaya oblast'**: Mil'kovo, 6.VII 1985, 2 ♀ (SB); Esso, 20.VII, 6.VIII 2005, 2 ♀ (MP); 20 km E Esso, 21-24.VII 2005, 10 ♀ (MP).

DISTRIBUTION. Russia: Kamchatskaya oblast' (Alfken, 1929), Khabarovskii krai (Proshchalykin, 2004), Magadanskaya oblast', Amurskaya oblast', Primorskii krai (Romankova, 1984, 1995), Sakhalin (Proshchalykin et al., 2004), Yakutia (Friese, 1908), North Ural (Fridolin, 1936), European part (Osytshnjuk et al., 1978). – Europe (Dalla Torre, 1896).

39. *Osmia (Melanosmia) parietina* Curtis, 1828

Osmia parietina Curtis, 1828: 222.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Magadan, 16.VI 1963, 2 ♀, 2 ♂ (ZH).

DISTRIBUTION. Russia: *Magadanskaya oblast', European part (Osytshnjuk et al., 1978). – Europe (Dalla Torre, 1896).

40. *Osmia (Melanosmia) uncinata* Gerstaecker, 1869

Osmia uncinata Gerstaecker, 1869: 336; Romankova, 1984: 362; 1995: 537.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Magadan, 16.VI 1963, 1 ♂ (ZH); 12 km N Seimchana, 29.VII 1975, 1 ♀ (VM); Ust'-Omchug, 2.VII 1978, 1 ♀ (Zherikhin).

DISTRIBUTION. Russia: Khabarovskii krai, Amurskaya oblast' (Proshchalykin, 2003a, 2004), Magadanskaya oblast', Primorskii krai, Irkutskaya oblast', Yakutia (Romankova, 1984, 1995), European part (Osytshnjuk et al., 1978). – Europe (Dalla Torre, 1896).

41. *Coelioxys (Coelioxys) lanceolata* Nylander, 1852

Coelioxys lanceolata Nylander, 1852: 279; Banaszak & Romasenko, 1998: 165.

Coelioxys lanceolatus: Alfken, 1929: 8.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kamchatskaya oblast' (Alfken, 1929), Amurskaya oblast', Irkutskaya oblast' (Romankova, 2003), Yakutia (Davydova & Pesenko, 2002), European part (Osytshnjuk et al., 1978). – Western Europe (Cockerell, 1928).

42. *Coelioxys (Coelioxys) quadridentata* (Linnaeus, 1758)

Apis quadridentata Linnaeus, 1758: 577.

Coelioxys quadridentata: Romankova, 1995: 547; Banaszak & Romasenko, 1998: 166; Proshchalykin et al., 2004: 168.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Debin, 16.VII 1963, 4 ♀ (ZH); Susuman, 13.VII 1963, 2 ♀ (ZH); 150 km W Magadan, Tolon, 7.VII 1975, 2 ♀ (VM); Bulun river, 28.VI 1982, 1 ♀ (Lerh). **Kamchatskaya oblast'**: Mil'kovo, 6.VII 1985, 1 ♀ (SB); Kozyrevsk, 12-15.VII 1985, 1 ♀ (SB); 20 km E Esso, 21-24.VII 2005, 11 ♀ (MP).

DISTRIBUTION. Russia: *Kamchatskaya oblast', Khabarovskii krai (Proshchalykin, 2003a), Magadanskaya oblast', Amurskaya oblast', Primorskii krai, Irkutskaya oblast', Buryatia (Romankova, 1995), Sakhalin (Proshchalykin et al., 2004), European part (Osytshnjuk et al., 1978). – Europe (Dalla Torre, 1896).

43. *Megachile (Megachile) alpicola* Alfken, 1924

Megachile alpicola Alfken, 1924: 357.

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: Esso, 20.VII 2005, 1 ♂ (MP).

DISTRIBUTION. Russia: *Kamchatskaya oblast', Khabarovskii krai (Proshchalykin, 2003a), Amurskaya oblast', Primorskii krai, Sakhalin, Yakutia (Romankova, 1983, 1995), Irkutskaya oblast' (Cockerell, 1924), European part (Osytshnjuk et al., 1978). – Korea (Yasumatsu, 1939b), Europe (Dalla Torre, 1896).

44. *Megachile (Megachile) centuncularis* (Linnaeus, 1758)

Apis centuncularis Linnaeus, 1758: 575.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Susuman, 6.VIII 1961, 1 ♂ (DK).

DISTRIBUTION. Russia: *Magadanskaya oblast', Khabarovskii krai (Proshchalykin, 2003a), Amurskaya oblast' (Proshchalykin, 2004), Primorskii krai, Irkutskaya oblast' (Romankova, 1983), Omsk (Wnukowsky, 1930), Altai (Shumakova et al., 1982), European part (Osytshnjuk et al., 1978). – Europe (Dalla Torre, 1896), North America (Romankova, 1995), North Afrika (Cockerell, 1931).

45. *Megachile (Megachile) fulvimana* Eversmann, 1852

Megachile fulvimana Eversmann, 1852: 71; Romankova, 1983: 145; 1995: 542; Banaszak & Romasenko, 1998: 148; Proshchalykin et al., 2004: 166.

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: Kozyrevsk 17.VII 1958, 1 ♀ (AK); Elizovo, 29.VIII 1958, 1 ♀ (DK).

DISTRIBUTION. Russia: Khabarovskii krai (Proshchalykin, 2003a), Kamchatskaya oblast', Amurskaya oblast', Primorskii krai, Sakhalin, Yakutia, Krasnoyarskii krai (Romankova, 1983), Ural (Eversmann, 1852), European part (Osytshnjuk et al., 1978). – Mongolia (Alfken, 1936), Europe (Dalla Torre, 1896).

46. *Megachile (Megachile) lapponica* Thomson, 1872

Megachile lapponica Thomson, 1872: 227; Alfken, 1929: 7; Gussakovskij, 1932: 61; Yasumatsu, 1938: 161; Romankova, 1983: 74; 1995: 542; Banaszak & Romasenko, 1998: 150; Proshchalykin, 2003b: 12; Proshchalykin et al., 2004: 166.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Seimchan, 29.VII 1962, 1 ♀ (DK); Madaun, 14.VIII 1962, 1 ♀ (DK); Magadan, 30.VII 1963, 1 ♂ (ZH). **Kamchatskaya oblast'**: Elizovo, 23.VII 1958, 1 ♀ (LI); Shchapino, 5.IX 1958, 1 ♀ (Safronov); Kozyrevsk, 8.VIII 2005, 1 ♂ (MP).

DISTRIBUTION. Russia: Kamchatskaya oblast' (Alfken, 1929), Sakhalin (Yasumatsu, 1938), Magadanskaya oblast', Khabarovskii krai, Amurskaya oblast', Primorskii krai, Kuril Islands (Kunashir), Yakutia (Romankova, 1995), Irkutskaya oblast' (Cockerell, 1928), North Ural (Fridolin, 1936), European part (Osytshnjuk et al., 1978). – Korea (Romankova, 1995), Europe (Dalla Torre, 1896).

47. *Megachile (Megachile) ligniseca* (Kirby, 1802)

Apis ligniseca Kirby, 1802: 243.

Megachile ligniseca: Alfken, 1929: 8; Romankova, 1983: 145; 1993: 75; 1995: 541; Banaszak & Romasenko, 1998: 150; Proshchalykin, 2003b: 12; Proshchalykin et al., 2004: 167.

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: Elizovo, 21.VIII 1958, 1 ♀ (AK, Konakov); Mil'kovo, 19.VII 1985, 1 ♂ (MP); 20 km E Esso, 21-24.VII 2005, 4 ♀, 1 ♂ (MP).

DISTRIBUTION. Russia: Kamchatskaya oblast' (Alfken, 1929), Amurskaya oblast', Primorskii krai, Kuril Islands (Kunashir) (Romankova, 1983), Sakhalin (Yasumatsu, 1938), Yakutia (Davydova & Pesenko, 2002), Irkutskaya oblast' (Cockerell, 1928), European part (Osytshnjuk et al., 1978). – Japan (Hokkaido, Honshu) (Hirashima, 1989), North-eastern China (Romankova, 1995), Europe (Dalla Torre, 1896).

48. *Megachile (Megachile) maackii* Radoszkowski, 1874

Megachile maackii Radoszkowski, 1874: 135.

Megachile macki (!): Romankova, 1983: 145.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Debin, 15-23.VII 1963, 2 ♀, 3 ♂ (ZH); Bulun river, 28.VI 1982, 1 ♀ (Lerh).

DISTRIBUTION. Russia: Magadanskaya oblast', Khabarovskii krai, Amurskaya oblast', Primorskii krai, Yakutia (Romankova, 1983, 1995), European part (Osytshnjuk et al., 1978). – Middle Asia (Romankova, 1995).

49. *Megachile (Megachile) versicolor* Smith, 1844

Megachile versicolor Smith, 1844: 697.

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: Kozyrevsk, 12-15.VII 1985, 2 ♂ (SB).

DISTRIBUTION. Russia: *Kamchatskaya oblast', Amurskaya oblast' (Proshchalykin, 2004), Khabarovskii krai, Primorskii krai, Irkutskaya oblast', Yakutia (Romankova, 1983), Altai (Shumakova et al., 1982), European part (Osytshnjuk et al., 1978). – Europe (Dalla Torre, 1896).

50. *Megachile (Xanthosarus) analis* Nylander, 1852

Megachile analis Nylander, 1852: 257; Romankova, 1983: 144; 1993: 74; 1995: 539; Banaszak & Romasenko, 1998: 145; Proshchalykin et al., 2004: 168.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Bulun river, 28.VI 1982, 1 ♀ (Lerh).

DISTRIBUTION. Russia: Magadanskaya oblast', Kamchatskaya oblast', Khabarovskii krai, Amurskaya oblast', Primorskii krai, Yakutia (Romankova, 1983), Sakhalin (Proshchalykin et al., 2004), Irkutskaya oblast' (Cockerell, 1924), European part (Osytshnjuk et al., 1978). – North Korea (Yasumatsu, 1939b), Turkmenistan (Romankova, 1995), Europe (Dalla Torre, 1896).

51. *Megachile (Xanthosarus) circumcincta* (Kirby, 1802)

Apis circumcincta Kirby, 1802: 246.

Megachile circumcincta var. *griseohirta* Alfken, 1929: 7 (holotype: ♀, Petropavlovsk, Kamchatka, 25.VIII 1922).

Megachile circumcincta: Gussakovskij, 1932: 61; Romankova, 1983: 145; 1993: 74; 1995: 542; Banaszak & Romasenko, 1998: 148; Proshchalykin, 2003b: 11; Proshchalykin et al., 2004: 167.

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: 11.VII 1958, 1 ♂ (DK); 10 km E Esso, 31.VII 2005, 1 ♀, 2 ♂ (MP).

DISTRIBUTION. Russia: Kamchatskaya oblast' (Alfken, 1929), Magadanskaya oblast', Primorskii krai, Sakhalin, Yakutia (Romankova, 1983), Kuril Islands (Kunashir) (Proshchalykin, 2003b), Irkutskaya oblast' (Cockerell, 1928), European part (Osytshnjuk et al., 1978). – Europe (Dalla Torre, 1896).

52. *Megachile (Xanthosarus) willoughbiella* (Kirby, 1802)

Apis willoughbiella Kirby, 1802: 233.

Megachile tarsalis Matsumura, 1911: 107 (holotype: ♂, "Todoroki" [Il'inskii], Sakhalin).

Synonymized by Romankova, 1983: 144.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 2 km N of the mouth of Seimchan river, 20.VII 1997, 1 ♀ (Mutin).

DISTRIBUTION. Russia: *Magadanskaya oblast', Sakhalin (Yasumatsu, 1938), Khabarovskii krai, Amurskaya oblast', Primorskii krai, Kuril Islands (Kunashir), Yakutia (Romankova, 1983), Irkutskaya oblast' (Cockerell, 1928). – Japan (Hokkaido, Honshu) (Hirashima, 1989), Europe (Dalla Torre, 1896).

Family Apidae

53. *Nomada alboguttata* Herrich-Schäffer, 1839

Nomada alboguttata Herrich-Schäffer, 1839: 282; Alfken, 1929: 7.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kamchatskaya oblast' (Alfken, 1929), European part (Osytshnjuk et al., 1978). – Palearctic (Alexander & Schwarz, 1994).

54. *Nomada issikii* Yasumatsu, 1939

Nomada issikii Yasumatsu, 1939c: 5 (holotype: ♂, "Otani" [Sokol], Sakhalin) [Hokkaido University Museum, Sapporo].

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Snezhnaya dolina, 2.VIII 1977, 1 ♀ (Zhil'tsova).

DISTRIBUTION. Russia: *Magadanskaya oblast', Sakhalin (Yasumatsu, 1939c), Kuril Islands (Shikotan, Kunashir, Iturup, Urup) (Kuwayama, 1967; Proshchalykin, 2003b). – Japan (Hokkaido, Honshu, Shikoku) (Yasumatsu & Hirasima, 1951; Kuwayama, 1967; Tsuneki, 1973).

55. *Nomada leucophthalma* (Kirby, 1802)

Apis leucophthalma Kirby, 1802: 197.

Nomada borealis: Gussakovskij, 1932: 59.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kamchatskaya oblast', Primorskii krai (Gussakovskij, 1932), European part (Osytshnjuk et al., 1978). – Northern and Central Europe (Alexander & Schwarz, 1994).

56. *Nomada panzeri* Lepeletier, 1841

Nomada panzeri Lepeletier, 1841: 501.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 150 km W Magadan, Tolon, 7.VII 1975, 13 ♀ (VM). **Kamchatskaya oblast'**: Koryakskii volcano, 26.VII 1985, 1 ♀ (SB); 10 km E Esso, 24.VII 2005, 2 ♀ (MP).

DISTRIBUTION. Russia: *Kamchatskaya oblast', *Magadanskaya oblast', Kuril Islands (Iturup), Yakutia (Davydova & Pesenko, 2002). – Europe (Alexander & Schwarz, 1994).

57. *Anthophora (Anthomegilla) arctica* Morawitz, 1883

Anthophora arctica Morawitz, 1883: 33 (holotype: ♀, "Olenek river valley", Yakutia) [ZISP].

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Debin, 18.VII 1963, 2 ♂ (ZH); Susuman, 6.VII 1963, 1 ♀ (ZH); Bulun river, 27.VI 1982, 1 ♂ (Lerh).

DISTRIBUTION. Russia: *Magadanskaya oblast', Amurskaya oblast' (Proshchalykin, 2004), Far East (Romankova, 1995), Yakutia (Morawitz, 1883). – Middle Asia (Marikovskaya, 1975), North-eastern China (Wu, 2000).

58a. *Bombus (Alpinobombus) balteatus balteatus* Dahlbom, 1832

Bombus balteatus Dahlbom, 1832: 36. Kupianskaya, 1995: 561.

Bombus kirbyellus var. *friesei* Skorikov, 1908: 111 (holotype: ♀, Anadyr', Mechigmen Bay, 24.VII 1900) [ZISP]. Synonymized by Hurd, 1979: 2202.

Alpinobombus kirbyellus var. *gmelini* Skorikov, 1914a: 124 (syntypes: ♀ and ♂, Kamchatka, Anadyr', Norway) [ZISP]. Synonymized by Hurd, 1979: 2202.

Alpinobombus balteatus mod. *gmelini*: Skorikov, 1937: 59.

SPECIMENS EXAMINED. **Koryakskii AO**: Verkhoturova Island, 2-3.VIII 1975, 3 ♀, 4 ♂, 12 ♀ (KH); Karaginskii Island, 31.VII 1976, 1 ♀ (KH). **Kamchatskaya oblast'**: 60 km NW Esso, Ichinskii volcano, 1-3.VIII 2005, 2 ♀, 8 ♂ (MP).

DISTRIBUTION. Russia: Magadanskaya oblast', Koryakskii AO, Kamchatskaya oblast', Arctic Siberia, Novaya Zemlya, Kol'skii Peninsula. – Alaska, Arctic Canada, Greenland (Skorikov, 1937; Løken, 1973).

REMARKS. The specimens from Kamchatka and Anadyr' characterized by strong melanism (Skorikov, 1914a) and form transitional varieties from *gmelini* (less differs from typical one) to *lysholmi* (totally black). Skorikov described (1914a) several transitional forms of *B. balteatus* from this area. We examined twenty-eight ♀ and one ♂ from type locality (Karaginskii Island), ten of them belong to ssp. *lysholmi*, seven to var. *subcollaris*, eight to var. *appropinquans*, and four to var. *subbalteatus*. We regard all of them as the synonyms of ssp. *lysholmi* Friese.

58b. *Bombus (Alpinobombus) balteatus lysholmi* Friese, 1905

Bombus kirbyellus var. *lysholmi* Friese, 1905: 519.

Alpinobombus kirbyellus var. *subbalteatus* Skorikov, 1914a: 123 (type locality: ? Karaginskii Island), **syn. n.**

Alpinobombus kirbyellus var. *subcollaris* Skorikov, 1914a: 123 (syntypes: ♀, Kamchatka, Karaginskii Island, Tikhenko leg.) [ZISP]. Synonymized by Kupianskaya, 1995: 561.
Alpinobombus kirbyellus var. *appropinquans* Skorikov, 1914a: 123 (syntypes: ♀, Kamchatka, Karaginskii Island, Tikhenko leg.) [ZISP]. Synonymized by Kupianskaya, 1995: 561.
Alpinobombus balteatus mod. *lysholmi*, mod. *subbalteatus*, mod. *subcollaris*, mod. *appropinquans*: Skorikov, 1937: 59.
Bombus balteatus lysholmi: Kupianskaya, 1995: 561.

SPECIMENS EXAMINED. **Koryakskii AO**: Karaginskii Island, 31.VII- 16.VIII 1976, 1 ♂, 22 ♀ (KH).

DISTRIBUTION. Koryakskii AO (Karaginskii Island) (Kupianskaya, 1995).

59. *Bombus (Alpinobombus) hyperboreus* Schönherr, 1809

Bombus hyperboreus Schönherr, 1809: 57; Skorikov, 1914a: 122; 1922: 151; 1937: 57; Berezin, 1989b: 103; Kupianskaya, 1995: 561.

SPECIMENS EXAMINED. **Chukotskii AO**: Wrangel Island, 30.VI 1965, 1 ♀ (Kazachenko); Chukotka, Uelen, 27.VII 1926, 2 ♀ (Scheneberg); 80 km N Egvekinot, 17.VII 1986, 1 ♀ (CH); 45 km NE Providenia Bay, 20.VII 1991, 1 ♀, 1 ♂ (CH); 30 km N Providenia Bay, 9-14.VII 1991, 2 ♀, 1 ♂, 2 ♀ (CH); Chaplino, Goryachii Klyuchi, 2-31.VIII 1960, 12 ♀, 26 ♂, 14 ♀ (DK), 6.VIII 1960, 5 ♂ (AK); 24.VII 1991, 1 ♀, 1 ♂, 3 ♀ (CH); 120 km E Markovo, 12.VII 1989, 2 ♀, 2 ♀ (CH). **Koryakskii AO**: Natalii Bay, 30.VII 1976, 4 ♀ (KH); Verkhoturova Island, 4.VIII 1995, 1 ♂ (Smetanin).

DISTRIBUTION. Russia: Chukotskii AO, North of Magadanskaya oblast', Koryakskii AO, Northern Siberia, North of European part (Pechora). – Arctic regions of Europe, Alyaska, Canada (Løken, 1973; Kupianskaya, 1995).

60. *Bombus (Alpinobombus) polaris* Curtis, 1835

Bombus polaris Curtis, 1835: LXIII; Berezin, 1989b: 103; Kupianskaya, 1995: 561; Ito & Kuranishi, 2000: 287.

Alpinobombus arcticus pleuralis: Skorikov, 1937: 56.

SPECIMENS EXAMINED. **Chukotskii AO**: Wrangel Island, 30.VI, 10.VIII 1965, 2 ♀ (Kazachenko); Chukotka, Uelen, 27.VII 1926, 1 ♂ (Scheneberg); Chaplino, Goryachii Klyuchi, 23-31.VII, 2-8.VIII 1960, 1 ♀, 4 ♂, 10 ♀ (DK), 24.VII 1991, 1 ♂ (CH); 30 km N Providenia, Pestsovaya river, 11.VII 1991, 1 ♀ (CH).

DISTRIBUTION. Russia: Chukotskii AO, North of Kamchatskaya oblast', North Siberia, Novaya Zemlya. – Fennoscandia, Greenland, Arctic America (Skorikov, 1937).

61. *Bombus (Bombus) lucorum albocinctus* Smith, 1854

Bombus albocinctus Smith, 1854: 397 (type locality: Kamchatka); Friese, 1905: 517; Matis & Glushkova, 1973: 121; Kupianskaya, 1995: 559.

Bombus lucorum albocinctus: Vogt, 1911: 56; Tkalců, 1974: 31; Lelej & Kupianskaya, 2000: 4; Ito & Kuranishi, 2000: 284; Davydova, 2001: 688.

Bombus lucorum albocinctus var. *subaldens* Skorikov, 1913: 173 (type locality: Middle part of Kamchatka).

Terrestribombus albocinctus: Skorikov, 1922: 154.

Terrestribombus lucorum albocinctus: Bischoff, 1930: 4.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Bulun river, 27-29.VI 1982, 2 ♀ (Lehr); Magodoven, 23.VII 1961, 1 ♀ (DK); 20 km N Seimchan, 6.VI 1965, 1 ♀ (DK); Madaun, 23.VII 1962, 1 ♀ (DK); Krestovaya river, 2.VIII 1963, 1 ♀ (LI); Ola river, 30.VII 1961, 1 ♀ (LI). **Koryakskii AO**: Natalii Bay, 30.VI 1976, 1 ♀ (KH); Verkhoturova Island, 5.VIII 1995, 2 ♂, 3 ♀, 31.VIII 1995, 1 ♀, 6 ♂, 2 ♀ (Smetanin); Karaginskii Island, 31.VII 1976, 15 ♀, 16.VIII 1976, 1 ♀, 1 ♂, 9 ♀ (KH); Karaginskii mountains, 4.IX 1930, 1 ♂ (Pereleshina); Kamenskoe, 14.VIII 1960, 2 ♀ (KU). **Kamchatskaya oblast'**: Klyuchi, 23.VIII 1958, 1 ♀ (AK); Kozyrevsk, 8.VIII 1958, 2 ♀ (AK, DK); 29.VII 1973, 1 ♂, 1 ♀ (Khomentovskii), 22.VII 1976, 4 ♀ (VK); Esso, Uxichan river, 13-14.VII 1989, 1 ♀, 1 ♀ (Pavlenko); Ust'-Kamchatsk, Azhabachye lake, 15-18.VII 1976, 2 ♀, 10 ♀ (VK), 6.VIII 1977, 2 ♀ (KU); Shchapino, 20-23.VIII 1960, 3 ♀, 38 ♀ (KU, Safronova); Milkovo, 21.VI 1958, 1 ♀, 1 ♀ (DK); Nikolka, 9-11.VII 1958, 4 ♀ (LI, DK); Lazo, 9-12.VII 1958, 2 ♀, 8 ♀ (LI); Zhupanovo, 6-7.IX 1958, 1 ♀, 4 ♂, 3 ♀ (AK, DK, LI); Elizovo, 18.VI 1958, 1 ♀ (LI); 26-28.VI 1958, 3 ♀, 22 ♀ (DK, LI); 20.VII 1960, 1 ♀ (KU); Nachiki, 1.VIII 1959, 1 ♀ (DK); Ust'-Bolsheretsk, 16-17.VII 1976, 1 ♀, 1 ♀ (KU); Beringa Island, 21.VIII 2003, 2 ♀ (Yakubov).

DISTRIBUTION. Russia: Magadanskaya oblast', Koryakskii AO, Kamchatskaya oblast', Khabarovskii krai (Bischoff, 1930; Kupianskaya, 1995), Sakhalin (Skorikov, 1933), Kuril Islands (Polonskogo, Iturup, Simushir, Ketoi, Rasshua, Matua, Shiashkotan, Ekarma, Kharimkotan, Onekotan, Makanrushu, Antsiferova, Paramushir, Shumshu, Atlasova) (Lelej & Kupianskaya, 2000). – North Korea (Kim & Ito, 1987).

62. *Bombus (Bombus) patagiatus* Nylander, 1848

Bombus patagiatus Nylander, 1848: 234; Kupianskaya, 1995: 559.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Kava river, 30 km W Tolona, 7.VII 1983, 1 ♀ (Makarkin).

DISTRIBUTION. Russia: Magadanskaya oblast', Primorskii krai, Sakhalin, Siberia, forests regions of European part (Kupianskaya, 1995). – Korea, North-eastern China, Mongolia (Tkalčů, 1967).

63a. *Bombus (Bombus) sporadicus czerskianus* Vogt, 1911

Bombus terrestris var. *czerskianus* Vogt, 1911: 56.

Bombus sporadicus czerskianus: Tkalčů, 1967: 46; Kupianskaya, 1995: 559.

Bombus sporadicus sachalinensis Krüger, 1956: 96 (type locality: Sakhalin). Synonymized by Tkalčů, 1967: 46.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Magodoven, 24.VII 1961, 3 ♀ (DK); Yamsk, 27.VIII 1964, 1 ♀, 1 ♂ (LI); Aborigen, 20.VII 1981, 1 ♀ (Lehr); Snezhnaya dolina, 3.VIII 1983, 1 ♀ (Makarkin).

DISTRIBUTION. Russia: Magadanskaya oblast', Khabarovskii krai, Amurskaya oblast', Primorskii krai, Sakhalin, Siberia. – Korea, North-eastern China, Mongolia (Matsumura, 1911; Tkalčů, 1967; Kupianskaya, 1995).

63b. *Bombus (Bombus) sporadicus malaisei* (Bischoff, 1930)

Terrestribombus terrestris malaisei Bischoff, 1930: 4 (holotype: ♀, Kamtshatka, Klyuchi) [Riksmuseum, Stockholm].

Bombus malaisei fulvofacialis, postcollaris, latocollaris: Krüger, 1956: 105. Synonymized by Tkalcù, 1967: 48.

Bombus sporadicus malaisei: Tkalcù, 1967: 47; Kupianskaya, 1995: 559.

Bombus audax infuscatus Skorikov, 1913: 173. Synonymized by Tkalcù, 1967: 47.

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: Shchapino, 6.IX 1960, 1 ♀ (KU); Uzon, 30.VIII 1985, 1 ♀ (Lobkova); Beringa Island, Nikolskoe, 23.VII 1991, 2 ♀ (Nebaikin).

DISTRIBUTION. Russia: South of Magadanskaya oblast', Kamchatskaya oblast' (Bischoff, 1930).

64a. *Bombus (Megabombus) consobrinus wittenburgi* Vogt, 1911

Bombus consobrinus var. *wittenburgi* Vogt, 1911: 56 (syntypes: ♀, Kamchatka).

Hortobombus consobrinus var. *albociliatus* Skorikov, 1914b: 283 (syntypes: ♀, Altai [Ongudai], Kamchatka [Tauiskaya guba], Primorskii krai), **syn. n.**

Hortobombus consobrinus var. *bianchii* Skorikov, 1914b: 286 (syntypes: Yakutia, Sakhalin, Kamchatka [Klyuchi]), **syn. n.**

Megabombus consobrinus wittenburgi: Tkalcù, 1965: 8; Matis & Glushkova, 1973: 121.

Bombus consobrinus wittenburgi: Kupianskaya, 1995: 565.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Madaun, 24.VI 1965, 1 ♂ (DK). **Kamchatskaya oblast'**: Ezzo, 25.VII-6.VIII 2005, 2 ♀ (MP); Kamenka river, mountain Nikolka, 12.VII 1958, 1 ♂ (LI); Shchapino, 27.VIII 1959, 1 ♀ (DK); Elisovo, 12.VIII 2005, 2 ♀ (MP); Petropavlovsk, Sinichkino lake, 17.VII 2005, 1 ♂ (MP).

DISTRIBUTION. Russia: Magadanskaya oblast', Kamchatskaya oblast', Khabarovskii krai, Amurskaya oblast, Primorskii krai, Siberia. – Northern China, Korea, Mongolia (Tkalcù, 1974; Kupianskaya, 1995).

64b. *Bombus (Megabombus) consobrinus ochroleucus* (Skorikov, 1914)

Hortobombus consobrinus ochroleucus Skorikov, 1914b: 284 (syntypes: Kamchatka); Bischoff, 1930: 1.

Hortobombus consobrinus var. *submonochromos* Skorikov, 1914b: 284 (syntypes: 2 ♀, Petropavlovsk, Kamchatka), **syn. n.**

Hortobombus consobrinus var. *derzhavini* Skorikov, 1914b: 284 (syntypes: Kamchatka), **syn. n.**

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: 10 km N Ozernovskogo, 28.VII 1999, 9 ♀, 8 ♀ (Lelej, Storozhenko).

DISTRIBUTION. Russia: South of Kamchatskaya oblast' (Skorikov, 1914b).

REMARKS. The width of dark apical fringe on metasomal tergum 3 is varied in the examined specimens from South Kamchatka and we regard described transitional forms (Skorikov, 1914b) as the synonyms of ssp. *ochroleucus* Skorikov.

65. *Bombus (Megabombus) pseudoligusticus* (Skorikov, 1926)

Hortobombus tichenkoi var. *pseudoligusticus* Skorikov, 1926: 116 (holotype: ♀, Lozhnykh vestei Bay, Karaginskii Island, Kamchatka, 28.VI 1910) [ZISP].

Bombus hortorum pseudoligusticus: Podbolotskaya, 1988: 113; Kupianskaya, 1995: 565.

Bombus pseudoligusticus: Lelej & Kupianskaya, 2000: 9.

Bombus tichenkoi: Ito & Kuranishi, 2000: 286.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kamchatskaya oblast' (Karaginskii Island), Kuril Islands (Paramushir, Shumshu, Atlasova) (Lelej & Kupianskaya, 2000).

66. *Bombus (Megabombus) saltuarius* (Skorikov, 1922)

Hortobombus saltuarius Skorikov, 1922: 156, published without description, genit. ♂ – fig. 39; Tkalcú, 1974: 51; Kupianskaya, 1995: 568.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Arman' river, 24.VII 1961, 1 ♀ (DK); Madaun, 24.VI 1965, 2 ♀ (DK); Budun river, 29.VI 1982, 1 ♂ (Lehr).

DISTRIBUTION. Russia: Magadanskaya oblast', Siberia, North of European part. – North China, Tibet (Skorikov, 1922).

67. *Bombus (Megabombus) tichenkoi* (Skorikov, 1926)

Hortobombus tichenkoi Skorikov, 1926: 115 (syntypes: 2 ♀, East of Kamchatka, the mouth of Kichiga river, Koryakskii AO, Tikhenko leg.).

Bombus tichenkoi: Kupianskaya, 1995: 565.

SPECIMENS EXAMINED. **Koryakskii AO**: Source Apukvayam, 12.VII 1976, 1 ♀ (KH); Verkhoturova Island, 31.VIII 1995, 1 ♀ (Smetanin).

DISTRIBUTION. Russia: Koryakskii AO (Skorikov, 1926).

68. *Bombus (Melanobombus) sichelii* Radoszkowski, 1860

Bombus sichelii Radoszkowski, 1860: 489 (syntypes: ♂, Kamchatka, Amurskaya oblast');

Matis & Glushkova, 1973: 121; Tkalcú, 1974: 34; Berman & Tichmenev, 1980: 143;

Kupianskaya, 1995: 555; Ito & Kuranishi, 2000: 285.

Lapidariobombus sichelii (!): Bishoff, 1930: 2.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Bulun river, 29.VI 1962, 1.VII 1962, 1 ♀, 1 ♀ (Lehr); Seimchan, 8.VI 1965, 1 ♀ (DK); Magadan, 13.VIII 1961, 4 ♀ (DK), 14.VIII 1964, 1 ♀ (Ammosov); Aborigen, 1.VII 1977, 1 ♀ (Zhiltsova). **Kamchatskaya oblast'**: Ust'-Kamchatsk, 18.VII 1976, 1 ♀ (VK); Esso, 20-30.VII, 6.VIII 2005, 9 ♀ (MP); 10 km E Esso, 24-27.VII 2005, 2 ♀ (MP); 20km NE Kozyrevsk, 9.VIII 2005, 2 ♀ (MP); Elizovo, 26-29.VII 1957, 3 ♀ (KU); 12.VIII 2005, 1 ♂ (MP); Nachiki, 1.VIII 1959, 1 ♀ (DK); Ust'-Bolsheretsk, 17.VIII 1976, 1 ♀ (KU); Petropavlovsk, 29.VIII 1960, 1 ♀ (DK), Petrovskaya sopka, 16.VII 2005, 1 ♀ (MP); Vestnik Bay, 27.VII 1999, 14 ♀, 2 ♀ (Lelej, Storozhenko); 10 km N Ozerovskogo, 28.VII 1999, 9 ♀, 2 ♀ (Lelej, Storozhenko).

DISTRIBUTION. Russia: Magadanskaya oblast', Kamchatskaya oblast', Khabarovskii krai, Amurskaya oblast, North of Primorskii krai, Sakhalin, Kuril Islands (Shumshu), Transbaicalia, Siberia, Caucasus, forest zone of European part (Kupianskaya, 1995). – North Korea, North-eastern China, Mongolia, mountains of Middle and South Europe (Ito & Kuranishi, 2000).

69. *Bombus (Mendacibombus) altaicus* Skorikov, 1910

Bombus mendax altaicus Skorikov, 1910: 329.

Mendacibombus mendax: Bischoff, 1930: 1.

Mendacibombus altaicus: Skorikov, 1931: 215.

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: foot of volcanics Koryakskii and Avachinskii, 26.VII 1985, 1 ♀ (SB).

DISTRIBUTION. Russia: Kamchatskaya oblast', Transbaicalien, Altai (Skorikov, 1931).

REMARKS. In spite of that Williams (1998) treated *B. altaicus* Skorikov as a junior synonym of *B. defector* Skorikov described from West China we regard the former as a separate species.

70. *Bombus (Psithyrus) bohemicus* Seidl, 1838

Bombus bohemicus Seidl, 1838: 73.

Psithyrus bohemicus: Bishoff, 1930: 6; Kupianskaya, 1995: 576.

Psithyrus distinctus: Popov, 1927: 130.

Psithyrus distinctus skorikoviellus Popov, 1927: 130. Synonymized by Pesenko, 2000: 19.

SPECIMENS EXAMINED. **Chukotskii AO**: Krestovaya river, 2.VIII 1963, 1 ♀ (DK). **Magadanskaya oblast'**: Nagaeva Bay, 13.VIII 1964, 1 ♂ (LI); Ayan-Yuryakh, 16.VIII 1965, 1 ♀ (LI). **Kamchatskaya oblast'**: Ezzo, 27.VI, 1 ♀, 13.VII, 3 ♀, 11-14.VIII 1989 (Pavlenko); Kamenskoe, 14.VIII 1960, 1 ♀, 1 ♂ (KU); Elizovo, 12-18.VI 1958, 3 ♀ (LI, DK); 28.VII, 3.VIII 1958, 1 ♀, 4 ♂ (AK, DK).

DISTRIBUTION. Russia: Chukotskii AO, Magadanskaya oblast', Kamchatskaya oblast', Khabarovskii krai, Amurskaya oblast, Primorskii krai, Sakhalin, South Siberia, European part. – North-eastern China, Mongolia, Tyan-Shan, Pamir, Kashmir, Turkey, Europe (Williams, 1991).

71. *Bombus (Psithyrus) flavidus frissoni* (Popov, 1931)

Psithyrus flavidus frissoni Popov, 1931: 199 (lectotype: ♀, Lozhnykh vestei Bay, Karaginskii Island, Kamchatka) [ZISP], designated by Pesenko, 2000: 11.

Psithyrus flavidus: Kupianskaya, 1995: 578.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Susuman, 2-4.VIII 1961, 5 ♂ (DK); Yamsk, 27.VIII 1964, 1 ♂ (LI); 50 km W Tolona, 7.VIII 1983, 2 ♂ (Makarkin); 20 km E Kulu, 23.VII, 27.VIII 1983, 3 ♂ (Makarkin). **Koryakskii AO**: Verkhoturova Island, 5, 31.VIII 1995, 2 ♀ (Smetanin). **Kamchatskaya oblast'**: Zhupanovo, 5.IX 1958, 1 ♂ (AK, DK); Elizovo, 28-31.VIII 1958, 2 ♂ (AK, DK).

DISTRIBUTION. Russia: Magadanskaya oblast', Koryakskii AO, Kamchatskaya oblast', Sakhalin, Kuril Islands (Paramushir, Shumshu) (Kupianskaya, 1995).

72. *Bombus (Psithyrus) norvegicus* (Sparre-Schneider, 1918)

Psithyrus norvegicus Sparre-Schneider, 1918: 40; Bischoff, 1930: 6; Popov, 1931: 200.

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kamchatskaya oblast', Khabarovskii krai, Primorskii krai, Siberia, North and Middle of European part. – Mongolia, Europe (Popov, 1931; Kupianskaya, 1995).

73. *Bombus (Psithyrus) rupestris buyssoni* (Vogt, 1911)

Psithyrus rupestris buyssoni Vogt, 1911: 64; Kupianskaya, 1995: 578.

Psithyrus rupestris orientalis Reinig, 1931: 276. Synonymized by Tkalců, 1974: 30.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Korkodon river, 4.VII 1982, 2♂ (Lehr); Bulun river, 27.VI, 1.VII 1982, 3♀ (Lehr); Yamsk, 27.VIII 1964, 1♀ (LI).

DISTRIBUTION. Russia: Magadanskaya oblast', Khabarovskii krai, Amurskaya oblast', Primorskii krai, Siberia. – Eastern China, Mongolia (Tkalců, 1974; Kupianskaya, 1995).

74. *Bombus (Psithyrus) sylvestris* (Lepeletier, 1832)

Psithyrus sylvestris Lepeletier, 1832: 377; Popov, 1931: 192; Kupianskaya, 1995: 578.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 20 km E Kulu, 23.VII 1983, 2♂ (Makarkin); 50 km W Tolona, Kava river, 7.VIII 1983, 1♂ (Makarkin). **Kamchatskaya oblast'**: Kozyrevsk, 8.VIII 2005, 1♂ (MP); 20 km E Esso, 21.VII 2005, 1♂ (MP); Shchapino, 5.IX 1960, 1♂ (KU); Milkovo, 17.VII 2005, 1♂ (MP).

DISTRIBUTION. Russia: Magadanskaya oblast', Kamchatskaya oblast', Khabarovskii krai, Amurskaya oblast, Primorskii krai, South Siberia, South and Middle European part. – North Korea, Mongolia, Europe (Popov, 1931).

75. *Bombus (Pyrobombus) cingulatus tilingi* Morawitz, 1881

Bombus hypnorum tilingi Morawitz, 1881: 217 (syntypes: ♀, ♂, Kamchatka) [ZISP].

Bombus tilingi: Bischoff, 1930: 2.

Bombus cingulatus tilingi: Reinig, 1936: 133.

SPECIMENS EXAMINED. **Chukotskii AO**: 120 km E Markovo, 12.VII 1989, 1♀, 1♂ (CH). **Magadanskaya oblast'**: Magodoven, 24.VII 1961, 1♂ (DK); Madaun, 24.VII 1961, 1♂, 2.VI 1965, 1♀ (DK), 26.VI 1965, 1♀ (LI); Magadan, 23.VI 1962, 1♀ (KU); 20 km E Kulu, 31.VII 1983, 1♂ (Makarkin); Ola river, 30.VII 1961, 1♂ (LI); Aborigen, 28.VI 1981, 1♀ (Lehr); 13-17.VII 1981, 1♂, 2♂ (Lehr). **Koryakskii AO**: Tilichiki, 14.VIII 1959, 1♀ (AK). **Kamchatskaya oblast'**: Ust'-Kamchatsk, Azhabache lake, 18.VI 1976, 2♂ (VK); Ust'-Bolsheretsk, 16-17.VII 1976, 3♂ (KU); Vestnik Bay, 27.VII 1999, 6♀, 14♂ (Lelej, Storozhenko); 10 km N Ozernovska, 27.VII 1999, 3♀, 4♂ (Lelej, Storozhenko); Karaginskii Island, 31.VII 1976, 2♂, 3♂ (KH).

DISTRIBUTION. Russia: *Chukotskii AO, Magadanskaya oblast', Koryakskii AO, Kamchatskaya oblast' (Bischoff, 1930; Reinig, 1936).

76. *Bombus (Pyrobombus) hypnorum calidus* Erichson, 1851

Bombus calidus Erichson, 1851: 65.

Bombus hypnorum calidus: Lelej & Kupianskaya, 2000: 7.

Pratobombus hypnorum klutschianus Bischoff, 1930: 2 (holotype: ♀, Klyuchi, Kamchatka, 11.VI 1921) [Riksmuseet, Stockholm].

Bombus hypnorum klutschianus: Kupianskaya, 1995: 560; Ito & Kuranishi, 2000: 285.

SPECIMENS EXAMINED. **Koryakskii AO**: Tilichiki, 17.VIII 1959, 1 ♂ (AK). **Kamchatskaya oblast'**: Klyuchi, 11.VIII 1976, 1 ♀ (VK); 10.VIII 2005, 1 ♀ (MP); Kozyrevsk, 18.VIII 1958, 1 ♀ (AK, DK); 20 km NE Kozyrevska, 9.VIII 2005, 1 ♀ (MP); Esso, 20-30.VII 2005, 4 ♂, 6 ♀, 6.VIII 2005 (MP); 10 km E Esso, 24-27.VII 2005, 3 ♀, 4 ♀ (MP); 20 km E Esso, 21.VII 2005, 3 ♀ (MP); 60 km NW Esso, Ichinskii volcano, 1-3.VIII 2005, 4 ♀ (MP); Shchapino, 28.VII, 20.VIII 1960, 2 ♀ (KU); Milkovo, Nikolka, 9.VIII 1958, 1 ♂ (DK); Kronotskii zapovednik, 6.VII 1985, 1 ♀ (Lobkova); Zhupanovo, 6.IX 1958, 1 ♀ (AK, DK); 6.VII 1985, 1 ♀ (Lobkova); Elizovo, 26-27.VII, 3 ♀ (LI), 3-4.VIII, 1 ♂, 1 ♀ (AK, DK); 29-31.VIII 1958, 1 ♀, 1 ♂, 1 ♀ (AK, DK); Elizovo, Avacha river, 12.VIII 2005, 4 ♀ (MP); Ust'-Bolsheretsk, 27.VIII 1958, 1 ♀ (LI); Petropavlovsk, Petrovskaya sopka, 16-17.VII 2005, 15 ♀ (MP).

DISTRIBUTION. Russia: Magadanskaya oblast', Koryakskii AO, Kamchatskaya oblast', Khabarovskii krai, Amurskaya oblast', Primorskii krai, Sakhalin, Kuril Islands (Kharimkotan, Onkotan, Makanrushi, Paramushir, Shumshu), Buryatia, middle of European part (Bischoff, 1930; Kupianskaya, 1995; Lelej & Kupianskaya, 2000). – North Korea (Ito, 1985).

77. *Bombus (Pyrobombus) jonellus* (Kirby, 1802)

Apis jonella Kirby, 1802: 338.

Bombus jonellus: Panfilov et al., 1961: 103; Matis & Glushkova, 1973: 121; Kupianskaya, 1995: 561; Ito & Kuranishi, 2000: 284.

SPECIMENS EXAMINED. **Chukotskii AO**: Anadyr, 23.VII 1989, 4 ♀ (Kononenko); 120 km W Markovo, Kolonok, 20.VII 1989, 1 ♀ (CH). **Magadanskaya oblast'**: Seimchan, 3.VI 1965, 1 ♀ (DK); Susuman, 2-13.VIII 1961, 14 ♂, 3 ♀ (DK); 20 km E Kulu, 27.VII 1983, 1 ♂ (Makarkin); 27 km E Udarnik, 8.VIII 1961, 1 ♂ (LI). **Koryakskii AO**: Verkhoturova Island, 31.VIII 1995, 1 ♀ (Smetanin). **Kamchatskaya oblast'**: Esso, 6.VIII 2005, 1 ♀ (MP); Shchapino, 20.VII, 30.VIII 1960, 3 ♂, 2 ♀ (KU); Uzon, 30.VIII 1985, 1 ♀ (Lobkova); Vestnik Bay, 27.VII 1999, 2 ♀, 1 ♀ (Lelej, Storozhenko); 10 km N Ozernovska, 28.VII 1999, 1 ♂, 6 ♀ (Lelej, Storozhenko); Karaginskii Island, 31.VIII 1976, 25 ♀ (KH); Beringa Island, Nikolskoe, 23.VII 1991, 1 ♀ (Nebaikin).

DISTRIBUTION. Russia: Chukotskii AO, Magadanskaya oblast', Koryakskii AO, Kamchatskaya oblast', Khabarovskii krai, Siberia, European part. – North and mountains of Europe (Panfilov, 1982).

78. *Bombus (Pyrobombus) lapponicus* (Fabricius, 1793)

Apis lapponica Fabricius, 1793: 318.

Bombus lapponicus: Skorikov, 1912: 95; Shamurin & Tikhmenev, 1971: 407; Matis & Glushkova, 1973: 121; Kupianskaya, 1995: 561.

Bombus lapponicus kamtshaticus Skorikov, 1912: 100 (syntypes: Karaginskii Island), **syn. n.**

Bombus lapponicus var. *obscurus* Skorikov, 1912: 100 (syntypes: Chukotka and Karaginskii Island), **syn. n.**

Bombus lapponicus var. *occultodistinctus* Skorikov, 1912: 100 (syntypes: W coast of Kamchatka), **syn. n.**

Bombus lapponicus var. *rarior* Skorikov, 1912: 101 (syntypes: ♀, Kamchatka, Pankara river), **syn. n.**

SPECIMENS EXAMINED. **Chukotskii AO:** Uelen, 27.VII 1988, 1♂ (Nebaikin); Shmidt Cape, 20.VII 1988, 1♀ (Nebaikin); Goryachii Klyuchi, 10.VII 1958, 1♀ (DK); 29.VII 1960, 3♂, 2♀ (AK); 2-8.VIII 1960, 5♂, 2♀ (DK); 87 km N Egvekinota, 17.VII 1986, 1♂, 1♀ (CH); 120 km E Markovo, 18.VII 1989, 2♀ (CH); Chaplino, 24.VII 1991, 2♀ (CH); Anadyr, 23.VII 1989, 1♀ (Kononenko). **Magadanskaya oblast:** Magodoven, 21.VII 1961, 1♀ (DK); Susuman, 2-4.VIII 1961, 1♂, 1♀ (DK); Madaun, 24.VI 1961, 1♀ (DK). **Koryakskii AO:** Natalii Bay, 30.VI 1976, 2♀, 1♀ (KH).

DISTRIBUTION. Russia: Chukotskii AO, Magadanskaya oblast', Koryakskii AO, North of Siberia, European part. – North-eastern Europe (Skorikov, 1937; Løken, 1973).

REMARKS. The variety of *B. lapponicus* coloration in Scandinavia (Løken, 1973) and Siberia (Skorikov, 1912) is clinal. Kamchatka specimens have the same variety and we regard the forms described from here (Skorikov, 1912) as the synonyms of *B. lapponicus* (Fabricius).

79. *Bombus (Pyrobombus) karaginus* Skorikov, 1912

Bombus lapponicus karaginus Skorikov, 1912: 101 (syntypes: Karaginskii Island and the mouth of Kichiga river); Ito & Kuranishi, 2000: 284.

Pratobombus lapponicus karaginus: Bischoff, 1930: 4.

Bombus karaginus: Kupianskaya, 1995: 561.

Bombus lapponicus var. *commutabilis* Skorikov, 1912: 101 (syntypes: the mouth of Ozernaya river, Kamchatka), **syn. n.**

Bombus lapponicus var. *virgatus* Skorikov, 1912: 101 (syntypes: Karaginskii Island and the mouth of Pankara river), **syn. n.**

Bombus lapponicus var. *korjak* Skorikov, 1912: 101 (syntypes: NE and W coast of Kamchatka), **syn. n.**

Bombus lapponicus var. *ceciliae* Skorikov, 1912: 101 (holotype: ♀, the mouth of Kichiga river, Kamchatka), **syn. n.**

Bombus lapponicus var. *pallidocaudatus* Skorikov, 1912: 102 (syntypes: W coast of Kamchatka), **syn. n.**

Bombus lapponicus var. *cecilioides* Skorikov, 1912: 102 (syntypes: ♀, W coast of Kamchatka), **syn. n.**

Bombus lapponicus var. *simius* Skorikov, 1912: 102 (syntypes: the mouth of Kichiga river, Kamchatka), **syn. n.**

SPECIMENS EXAMINED. **Chukotskii AO**: Chaplino, Goryachii Klyuchi, 2.VIII 1960, 1 ♀ (DK); Markovo, 19.VII 1982, 1 ♀ (Kononenko).

DISTRIBUTION. *Chukotskii AO, Koryakskii AO (Karaginskii Island) (Skorikov, 1912).

REMARKS. According to Skorikov (1937) the melanism in *B. lapponicus* coloration became stronger to the East. Melanistic form from Karaginskii Island has been described as ssp. *karaginus*. We regard it as a separate species and other varieties described from this territory (*pallidocaudatus*, *virgatus*, *korjak*, *ceciliae*, *simius*, *cecilioides*, *commutabilis*) as the synonyms of *B. karaginus* Skorikov.

80. *Bombus (Pyrobombus) glacialis* Sparre-Schneider, 1909

Bombus lapponicus glacialis Sparre-Schneider, 1909: 81; Friese, 1905: 523; Kupianskaya, 1995: 561.

Bombus glacialis: Osytshnjuk et al., 1978: 512.

SPECIMENS EXAMINED. **Chukotskii AO**: Wrangel Island, 16, 20. VI 1965, 1 ♂, 2 ♀, 10.VII 1965, 1 ♀ (Kazachenko).

DISTRIBUTION. Chukotskii AO (Wrangel Island) (Kupianskaya, 1995), Novaya Zemlya (Osytsnjuk et al., 1978).

81. *Bombus (Pyrobombus) modestus* Eversmann, 1852

Bombus modestus Eversmann, 1852: 134.

Bombus nymphae Skorikov, 1910: 409. Synonymized by Tkalců, 1974: 32.

Pratobombus modestus krylovi Skorikov, 1915: 404. Synonymized by Tkalců, 1974: 32.

Pyrobombus modestus: Tkalců, 1974: 32.

Bombus modestus: Proshchalykin et al., 2004: 177.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Magadan, 14.VIII 1964, 1 ♀ (Ammosov). **Kamchatskaya oblast'**: Elizovo, 29.VIII 1958, 1 ♀ (LI, DK); Kronotskii zapovednik, 25.VIII 1977, 1 ♂ (Stenchina).

DISTRIBUTION. Russia: Magadanskaya oblast', Kamchatskaya oblast', Khabarovskii krai, Primorskii krai, Sakhalin, Siberia, European part (Panfilov et al., 1961). – Mongolia, Korea (Peters & Panfilov, 1968; Kim & Ito, 1987).

82. *Bombus (Subterraneobombus) distinguendus* Morawitz, 1869

Bombus subterraneus distinguendus Morawitz, 1869: 32.

Subterraneobombus distinguendus: Skorikov, 1922: 40.

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: 20 NE Kozyrevska, 9.VIII 2005, 1 ♀ (MP); Elizovo, Avacha river, 12.VIII 2005, 2 ♀ (MP).

DISTRIBUTION. Russia: Kamchatskaya oblast', Sakhalin, Siberia, Northern and Middle regions of European part. – Mongolia, Europe (Tkalců, 1974, Kupianskaya, 1995).

83. *Bombus (Thoracobombus) pascuorum flavobarbatus* Morawitz, 1883

Bombus flavobarbatus Morawitz, 1883: 242 (holotype: ♂, "Amur-Gebiete") [ZISP].

Bombus flavobarbatus: Panfilov, 1956: 1332; Kupianskaya, 1995: 563.

Bombus pascuorum flavobarbatus: Ito & Kuranishi, 2000: 287; Proshchalykin et al., 2004: 178.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: 20 km Seimchan, 6.VI 1965, 1 ♂, 1 ♀ (DK). **Kamchatskaya oblast'**: Kozyrevsk, VII 1978, 3 ♀ (Kirpichnikova); Lazo, 9.VII 1958, 1 ♂ (LI); Shchapino, 20-29.VII 1960, 3 ♀ (KU); Elizovo, 29-31.VIII 1958, 1 ♀ (DK); Golets, 25.VIII 1959, 1 ♀ (AK).

DISTRIBUTION. Russia: Magadanskaya oblast', Kamchatskaya oblast', Khabarovskii krai, Amurskaya oblast, Primorskii krai, Sakhalin (Panfilov, 1956; Kupianskaya, 1995). – Korea, Western and North-eastern China (Kim & Ito, 1987; Ito & Kuranishi, 2000).

84. *Bombus (Thoracobombus) schrencki* Morawitz, 1881

Bombus schrencki Morawitz, 1881: 123 (syntypes: ♀, ♂, "Amur river valley, Padun, Oleneck river valley") [ZISP].

Agrobombus schrencki: Bischoff, 1930: 1.

Bombus schrencki: Matis & Glushkova, 1973: 121.

Bombus schrencki albidopleuralis: Sakagami & Ishikawa, 1969: 165.

SPECIMENS EXAMINED. **Magadanskaya oblast'**: Seimchan, 3.VI 1965, 1 ♀ (DK); Madaun, 13.VIII 1962, 1 ♂ (AK); 30.VII 1965, 1 ♂ (DK). **Kamchatskaya oblast'**: Klyuchi, 9.VIII 1958, 1 ♀ (AK); Kozyrevsk, 29.VII 1975, 1 ♂ (Khomentovskii); 8.VIII 2005, 1 ♂, 2 ♀ (MP); 20 km NE Kozyrevsk, 21.VII 1985, 1 ♀ (SB); 9.VIII 2005, 1 ♂ (MP); Esso, 20,25,30.VII 2005, 5 ♀; 6.VIII 2005, 1 ♂, 1 ♀ (MP); 10 km E Esso, 27, 31.VII 2005, 1 ♀ (MP); Milkovo, 20.VI 1958, 2 ♂ (DK); 19.VII 2005, 1 ♀ (MP); Zhupanovo, 7.IX 1958, 1 ♀ (AK); Elizovo, 12.VI 1958, 7.VII 1958, 1 ♀, 2 ♂; 26-31.VIII 1958, 1 ♂, 3 ♀ (AK, DK); Petropavlovsk, Sinichkino lake, 17.VII 2005, 1 ♀ (MP); Vestnik Bay, 27.VII 1999, 5 ♀, 2 ♀ (Lelej, Storozhenko); 10 km N Ozernovska, 28.VII 1999, 1 ♀ (Lelej, Storozhenko).

DISTRIBUTION. Russia: Magadanskaya oblast', Kamchatskaya oblast', Khabarovskii krai, Amurskaya oblast, Sakhalin, Siberia, European part. – North-eastern China, Mongolia (Panfilov et al., 1961; Tkalců, 1974).

85. *Apis (Apis) mellifera* Linnaeus, 1758

Apis mellifera Linnaeus, 1758: 576; Alfken, 1929: 8.

SPECIMENS EXAMINED. **Kamchatskaya oblast'**: Esso, 20.VII 2005, 5 ♀ (MP); 20 km NE Kozyrevsk, 9.VIII 2005, 3 ♀ (MP).

REMARKS. Introduced species, distributed worldwide by human activity.

PATTERNS OF THE DISTRIBUTION AND BIOGEOGRAPHY

The distribution of most species are limited by relatively well studied Magadanskaya oblast' and Kamchatskaya oblast' (Fig. 2). The bee fauna of Chukotkii AO and Koryakskii AO represented by *Bombus* species only (collected mainly on Wrangel and Karaginskii Islands).

Table

Number of species and genera of bees found in the regions of the Russian Far East

Family	Regions								
	CH	MG	KO	KM	KU	SH	PR	KH	AM
Colletidae	–	5/2	–	6/2	15/2	14/2	24/2	18/2	20/2
Andrenidae	–	9/2	–	10/2	13/1	20/2	68/3	33/2	31/3
Halictidae	–	4/2	–	8/2	16/4	11/4	58/8	19/6	19/7
Melittidae	–	–	–	–	–	–	8/3	4/3	1/1
Megachilidae	–	13/5	–	10/3	6/2	16/4	52/10	48/11	44/9
Apidae	9/2	21/4	11/2	22/3	21/3	29/5	62/16	34/10	37/13
Total:	9/2	52/15	11/2	56/12	71/12	90/17	271/41	155/34	151/36

Remarks. Regions: CH – Chukotskii AO, MG – Magadanskaya oblast', KO – Koryakskii AO, KM – Kamchatskaya oblast', KU – Kuril Islands, SH – Sakhalin, PR – Primorskii krai, KH – Khabarovskii krai, AM – Amurskaya oblast'.

The distribution of most bee species and genera is limited by its southern part in the Russian Far East (two hundreds and sixty-six species in forty-five genera of six families) (Fig. 2, Table). The bee fauna of the northern part is poorest and represented by eighty-five species in seventeen genera of five families, from them twenty-four species distributed here only. *Colletes ulrikae* Kuhlmann et Dorn, *Hylaeus aborigensis* Dathe, *Andrena kamtschatkaensis* Friese, *Bombus balteatus lysholmi* Friese; *B. cingulatus tilingi* Morawitz, *B. consobrinus ochroleucus* Skorikov, *B. karaginus* Skorikov, *B. sporadicus malaisei* (Bischoff) are endemics for this region.

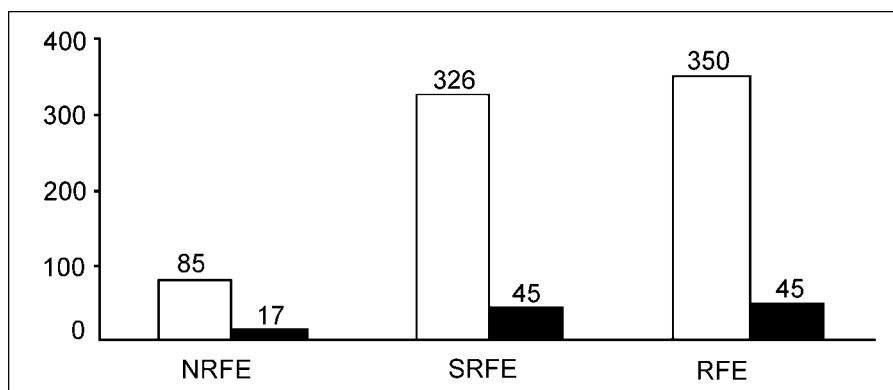


Fig. 2. Number of bee species and genera distributed in the northern (NRFE) and southern (SRFE) parts of the Russian Far East (RFE).

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