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THE BEES (HYMENOPTERA, APOIDEA) OF THE KURIL ISLANDS

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The list of sixty-nine species of nine genera on the Kuril Islands is given. *Hylaeus pectoralis* Förster, *H. niger* Bridwell, *Lasioglossum agelastum* Ebmer are newly recorded to Russia. *H. annulatus* (Linnaeus), *H. chasanensis* Romankova, *H. gracilicornis* (Morawitz), *H. rinki* (Gorski), *Colletes floralis* Eversmann, *C. perforator* Smith, *Halictus confusus pelagius* Ebmer, *H. tsingtouensis* Strand, *L. dybowskii* (Radoszkowski), *Andrena miyamotoi* Hirashima, *Megachile circumcincta* (Kirby), *Coelioxys rufescens* Lepeletier et Serville are newly recorded to the Kuril Islands. Patterns of distribution and biogeography are discussed.

KEY WORDS. Hymenoptera, Apoidea, Colletidae, Andrenidae, Halictidae, Megachilidae, Apidae, Kuril Islands.

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Приведен список 69 видов пчёл из 9 родов для Курильских островов. *Hylaeus pectoralis* Förster, *H. niger* Bridwell, *Lasioglossum agelastum* Ebmer впервые указываются для фауны России. *H. annulatus* (Linnaeus), *H. chasanensis* Romankova, *H. gracilicornis* (Morawitz), *H. rinki* (Gorski), *Colletes floralis* Eversmann, *C. perforator* Smith, *Halictus confusus pelagius* Ebmer, *H. tsingtouensis* Strand, *L. dybowskii* (Radoszkowski), *Andrena miyamotoi* Hirashima, *Megachile circumcincta* (Kirby), *Coelioxys rufescens* Lepeletier et Serville впервые указываются для фауны Курильских островов. Обсуждаются особенности распространения и биогеографии.

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INTRODUCTION

Nomada kurilensis, *N. ruficornis* and *N. maculifrons* were the first bee species which have been recorded to the Kuril Islands (Yasumatsu, 1939a). Later two *Bombus* species (Sakagami, 1950), four *Halictus* species (including one unidentified) and one *Bombus* species (Konakov, 1956) were added. Sixteen identified and fourteen unidentified bee species have been listed for the Southern Kurils by Kuwayama (1967).

Based on the material collected on seven main islands in 1961-1964 by Russian entomologists seventeen *Bombus* species (really eleven ones) and one *Psithyrus* species were recorded for the Kuril Islands (Krivolutskaya, 1973). Based on the material collected by Japanese entomologists in 1925-1940 eleven *Bombus* species were recorded for thirteen Kuril Islands (Ito & Sakagami, 1980). Yu. Pesenko (1986) recorded six species of Halictidae for Kunashir Island.

In the Key to the insects of Russian Far East (Osytshnjuk & Romankova, 1995; Osytshnjuk, 1995; Romankova, 1995; Kupianskaya, 1995) thirty-one species of bees were recorded for Kurul Islands mostly for Kunashir and Shikotan. The distribution of sixteen *Bombus* species throughout 26 Kuril Islands are given in Lelej & Kupianskaya (2002) and Pietsch et al. (2003). The classification of bees here follows C. Michener (2000).

This paper based on material collected by D.R. Kasparyan, Yu.A. Pesenko, S.A. Belokobylskij and by the participants of International Kuril Island Project (IKIP) in 1996-2000 (A.S. Lelej, S.Yu. Storozhenko). This material (total more than 400 specimens, except *Bombus*) deposited in the Institute of Biology and Soil Sciences, Russian Academy of Sciences (Vladivostok) and Zoological Institute, Russian Academy of Sciences (St. Petersburg). The complete data including material of *Bombus* species collected on Kuril Islands see: Lelej & Kupianskaya (2000), therefore sixteen species of bumble-bees listed below without material. New records in the distribution section are asterisked (*).

LIST OF THE SPECIES
FAMILY COLLETIDAE

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

SPECIMENS EXAMINED. KUNASHIR: Sernovodsk, 15.VIII 1973, ♂ (Kasparyan).

DISTRIBUTION. Russia: Magadanskaya oblast' (Osytshnjuk & Romankova, 1995), Khabarovskii krai (Proshchalykin, 2003), Sakhalin, Kamchatka (Yasumatsu, 1939b), *Kuril Islands (Kunashir), Irkutsk (Kokujev, 1927), North Ural (Fridolin, 1936), Tomsk (Wnukowsky, 1936). – Mongolia (Yasumatsu, 1939b; Dathe, 1986), Europe (Osytshnjuk et al., 1978).

2. *Hylaeus* (*Hylaeus*) *chasanensis* Romankova, 1995

= *Hylaeus chasanensis* Romankova in Osytshnjuk & Romankova, 1995: 486, ♀♂ (holotype, ♂, Kraskino, Primorskii krai, deposited in Zoological Institute, St. Petersburg).

SPECIMENS EXAMINED. KUNASHIR: Yuzhno-Kurilsk, 25.VIII 1989, ♂ (Lelej).

DISTRIBUTION. Russia: Yakutia (Davydova & Pesenko, 2002), Primorskii krai (Osytshnjuk & Romankova, 1995), *Kuril Islands (Kunashir).

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

SPECIMENS EXAMINED. KUNASHIR: Golovnino, 25.VII 1981, ♂ (Pesenko); Tret'yakovo, 8.VIII 1989, ♂ (Lelej).

DISTRIBUTION. Russia: Kamchatka (Gussakovskij, 1932), Primorskii krai (Dathe, 1986; Osytshnjuk & Romankova, 1995), Khabarovskii krai (Osytshnjuk & Romankova, 1995), *Kuril Islands (Kunashir), Siberia (Cockerell, 1924). – Europe (Osytshnjuk et al., 1978).

4. *Hylaeus* (*Hylaeus*) *niger* Bridwell, 1919

SPECIMENS EXAMINED. KUNASHIR: 10 km W Yuzhno-Kurilsk, 12.VII 1973, 3♂ (Kasparyan); Tret'yakovo, 30.VII 1973, ♂ (Kasparyan).

DISTRIBUTION. Russia: *Kuril Islands (Kunashir). – Japan (Hokkaido, Honshu) (Ikudome, 1989).

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

= *Hylaeus paulus*: Osytshnjuk & Romankova, 1995: 487 (Kuril Islands).

SPECIMENS EXAMINED. KUNASHIR: Sernovodsk, 15.VII 1973, ♂ (Kasparyan); 5 km N Golovnino, 25.VII 1981, 2♂ (Belokobylskij); Goryachee Lake, 28.VII 1981, ♂ (Pesenko).

DISTRIBUTION. Russia: Khabarovskii krai, Amurskaya oblast', Primorskii krai, Kuril Islands (Kunashir) (Osytshnjuk & Romankova, 1995), Siberia (Schwarz et al., 1999). – Japan (Hokkaido, Honshu, Kyushu) (Ikudome, 1989), Mongolia, Europe (Heide et al., 1996).

6. *Hylaeus* (*Lambdopsis*) *nipponicus* Bridwell, 1919

= *Hylaeus nipponicus* Bridwell, 1919: 151, ♀ ♂ (type locality: Honshu); Ikudome, 1989: 157.

= *Hylaeus japonicus* (!) Bridwell, 1919: Kuwayama, 1967: 208 (Kunashir, Shikotan, Iturup).

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kuril Islands (Kunashir, Shikotan, Iturup) (Kuwayama, 1967). – Japan (Hokkaido, Honshu, Kyushu) (Kuwayama, 1967; Ikudome, 1989).

REMARKS. Original spelling of the species is *nipponicus*. The spelling *japonicus* in Kuwayama's (1967) paper is incorrect subsuquent spelling and invalid (International Code of Zoological Nomenclature, 1999, article 33.3).

7. *Hylaeus* (*Lambdopsis*) *pfankuchi* (Alfken, 1919)
= *Hylaeus pfankuchi*: Osytshnjuk & Romankova, 1995: 486 (Kuril Islands).

SPECIMENS EXAMINED. SHIKOTAN: Tserkovnaya Bay, 16.VIII 1973, 2♀ (Kasparyan); Malokuril'skoye, 21.VIII 1973, ♀ (Kasparyan); Delfin Bay, 15.VIII 1998, ♂ (Lelej). KUNASHIR: 5 km S Sernovodsk, 17.VII 1973, ♂ (Kasparyan); Dubovoye, 8.VIII 1980, ♂ (Lelej); Golovnino, 25.VII 1981, ♀ (Pesenko); 5 km N Golovnino, 25.VII 1981, ♂ (Belokobylskij); Goryachee Lake, 28.VII 1981, ♂ (Pesenko); Alyokhino, 30.VII 1981, 4♂ (Pesenko); 11 km N Golovnino, 1.VIII 1989, 2♀, 2♂ (Lelej); Yuzhno-Kurilsk, 25.VIII 1989, ♀ (Lelej). ITURUP: Kuibyshevskij Bay, 13.VIII 1999, ♀ (Lelej, Storozhenko); Odesskii Cape, 17.VIII 1999, ♂ (Lelej, Storozhenko).

DISTRIBUTION. Russia: Primorskii krai, Kuril Islands (Osytshnjuk & Romankova, 1995) (Shikotan, Kunashir, Iturup), Khabarovskii krai (Proshchalykin, 2003). – Europe (Osytshnjuk et al., 1978).

8. *Hylaeus* (*Lambdopsis*) *rinki* (Gorski, 1852)

SPECIMENS EXAMINED. KUNASHIR: Golovnino, 11.VIII 1975, ♀ (Berezantsev); Dubovoye, 8.VIII 1980, 3♀ (Lelej). ITURUP: 8 km N Kuibyshevo, 22.VII 1961, ♀, 2♂ (Krivolutskaya).

DISTRIBUTION. Russia: South of Primorskii krai, Siberia (Osytshnjuk & Romankova, 1995), Khabarovskii krai (Proshchalykin, 2003), *Kuril Islands (Kunashir, Iturup). – Mongolia (Osytshnjuk & Romankova, 1995), Europe (Dathe, 1980; Schwarz et al., 1996).

9. *Hylaeus* (*Nesohylaeus*) *transversalis* Gussakovskij, 1932
= *Hylaeus transversalis*: Osytshnjuk & Romankova, 1995: 487 (Kuril Islands).

SPECIMENS EXAMINED. KUNASHIR: Golovnino, 25.VII 1981, 3♂ (Pesenko); Goryachee Lake, 28.VII 1981, ♀ (Pesenko).

DISTRIBUTION. Russia: Primorskii krai, (Gussakovskij, 1932), Kuril Islands (Kunashir) (Osytshnjuk & Romankova, 1995). – Japan (Osytshnjuk & Romankova, 1995).

10. *Hylaeus* (*Nesoprosopis*) *pectoralis* Förster, 1871

SPECIMENS EXAMINED. KUNASHIR: Alyokhino, 30.VII 1981, 2♂ (Pesenko).

DISTRIBUTION. Russia: *Kuril Islands (Kunashir). – Japan (Hokkaido, Honshu) (Ikudome, 1989), Europe (Dathe, 1980; Schwarz et al., 1996).

11. *Hylaeus (Prosopis) confusus* Nylander, 1852
= *Hylaeus confusa*: Osytshnjuk & Romankova, 1995: 487 (Kunashir).

SPECIMENS EXAMINED. KUNASHIR: 10 km W Yuzhno-Kurilsk, 12.VII 1973, 2♂ (Kasparyan); Dubovoye, 31.VIII 1973, ♀(Kasparyan); 8.VIII 1980, ♂ (Lelej); Tret'yakovo, 4.VIII 1973, ♀ (Kasparyan); 20.VIII 1980, ♀, ♂ (Lelej); Alyokhino, 30.VII 1981, ♀ (Pesenko); Goryachee Lake, 28.VII 1981, 3♂ (Pesenko); Lagunnoe Lake, 9.VIII 1988, ♀ (Basarukin); Yuzhno-Kurilsk, 15-25.VIII 1989, 2♀, ♂ (Lelej).

DISTRIBUTION. Russia: Sikhote-Alin, Primorskii krai (Cockerell, 1924; Dathe, 1986) Khabarovskii krai, Amurskaya oblast', Sakhalin, Kuril Islands (Kunashir), Middle Asia, Caucasus. – North-Eastern China, Asia Minor, Europe (Osytshnjuk & Romankova, 1995).

12. *Hylaeus* (*Prosopis*) *monticola* Bridwell, 1919

= *Hylaeus monticola*: Kuwayama, 1967: 208 (Kunashir).

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kuril Islands (Kunashir) (Kuwayama, 1967). – Japan (Hokkaido, Honshu) (Kuwayama, 1967), Tsushima (Ikudome, 1989).

13. *Colletes* (*Albocolletes*) *floralis* Eversmann, 1852

SPECIMENS EXAMINED. KUNASHIR: Dubovoye, 29.VII 1980, ♂ (Lelej); 11 km N Golovnino, 1.VIII 1989, ♂ (Lelej); Yuzhno-Kurilsk, 25.VIII 1989, ♀ (Lelej); Aliger Lake, 11.VIII 1998, ♂ (Lelej). ITURUP: Blagodatnoe Lake, 1.VIII 1998, ♀ (Lelej).

DISTRIBUTION. Russia: Primorskii krai, Sakhalin, Yakutia, Transbaicalia (Osytshnjuk & Romankova, 1995), Khabarovskii krai (Proshchalykin, 2003), *Kuril Islands (Kunashir, Iturup), Siberia (Cockerell, 1927; Kuhlmann, 1999). – Mongolia (Kuhlmann & Dorn, 2002), Europe (Osytshnjuk et al., 1978).

14. *Colletes* (*Albocolletes*) *impunctatus* Nylander, 1852

= *Colletes impunctatus*: Osytshnjuk & Romankova, 1995: 483 (Kuril Islands).

SPECIMENS EXAMINED. KUNASHIR: Dubovoye, 7.VII 1980, ♀ (Lelej); Peschanoe Lake, 17.VIII 1980, ♂ (Lelej); 25.VII 1989, ♂ (Nemkov); Yuzhno-Kurilsk, 3.VIII 1989, ♀ (Lelej); 7 km S Lagunnoe Lake, 12.VIII 1989, ♀ (Lelej).

DISTRIBUTION. Russia: Primorskii krai, Sakhalin, Kuril Islands (Kunashir), Yakutia (Osytshnjuk & Romankova, 1995), Khabarovskii krai (Proshchalykin, 2003). – Mongolia (Kuhlmann & Dorn, 2002), Europe (Osytshnjuk et al., 1978).

15. *Colletes* (*Colletes*) *perforator* Smith, 1869

SPECIMENS EXAMINED. KUNASHIR: 5 km S Sernovodsk, 17.VII 1973, 2♂ (Kasparyan); 5 km N Golovnino, 25.VII 1981, 2♀, ♂ (Belokobylskij); Goryachee Lake, 28.VII 1981, ♂ (Pesenko); Alyokhino, 30.VII 1981, 2♂ (Pesenko).

DISTRIBUTION. Russia: South of Primorskii krai, Chitinskaya oblast' (Osytshnjuk & Romankova, 1995), *Kuril Islands (Kunashir), Yakutia (Davydova & Pesenko, 2002). – Japan (Honshu, Kyushu, Tsushima) (Ikudome, 1989).

FAMILY HALICTIDAE

1. *Halictus* (*Halictus*) *hedini* Blüthgen, 1934

= *Halictus hedini*: Pesenko, 1984: 471 (Kunashir, Iturup).

SPECIMENS EXAMINED. KUNASHIR: Sernovodsk, 23.VII 1962, ♂ (Safronova). ITURUP: Lesozavodsk, 19.VII 1963, 5♀ (Azarova).

DISTRIBUTION. Russia: Khabarovskii krai, Primorskii krai, Sakhalin, Kuril Islands (Kunashir, Iturup) (Pesenko, 1984). – North-Western and North-Eastern China (Pesenko, 1984) Mongolia (Ebmer, 1996).

2. *Halictus* (*Halictus*) *tsingtouensis* Strand, 1910

SPECIMENS EXAMINED. ITURUP: Lesozavodsk, 19.VII 1963, ♀ (Azarova).

DISTRIBUTION. Russia: Khabarovskii krai (Ebmer, 1996), Primorskii krai (Pesenko, 1985), *Kuril Islands (Iturup). – Japan (Hokkaido, Honshu) (Hirashima, 1989; Ebmer, 1996), China (Shandong, Heilongjiang) (Ebmer, 1978), Korea (Ebmer, 1996; Pesenko, 1985).

3. *Halictus* (*Seladonia*) *confusus pelagius* Ebmer, 1996

= *Halictus confusus pelagius* Ebmer, 1996: 269, ♂ (holotype, Ryazanovka, Primorskii krai, deposited in Ebmer's collection).

SPECIMENS EXAMINED. KUNASHIR: Alyokhino, 14.VIII 1980, ♀ (Lelej).

DISTRIBUTION. Russia: Primorskii krai (Ebmer, 1996), *Kuril Islands (Kunashir).

4. *Lasioglossum (Evylaeus) albipes* (Fabricius, 1781)

= *Halictus albipes*: Konakov, 1956: 166 (Southern Kurils).

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Southern Kurils (Konakov, 1956), Primorskii krai (Ebmer, 1996). – Japan (Hokkaido, Honshu) (Hirashima, 1989; Ebmer, 1996), Europe (Schwarz et al., 1996).

5. *Lasioglossum (Evylaeus) dybowskii* (Radoszkowski, 1876)

SPECIMENS EXAMINED. KUNASHIR: Dubovoye, 29.VII 1980, 2♀, ♂ (Lelej).

DISTRIBUTION. Russia: Siberia (Cockerell, 1924), Amur, Ussuri (Ebmer, 1978), *Kuril Islands (Kunashir). – North-Eastern China (Ebmer, 1978).

6. *Lasioglossum (Evylaeus) nipponense* (Hirashima, 1953)
= *Lasioglossum nipponense*: Pesenko, 1986: 141 (Kunashir).

SPECIMENS EXAMINED. KUNASHIR: Lagunnoe Lake, 14.VII 1975, ♀ (Kupianskaya).

DISTRIBUTION. Russia: Primorskii krai (Ebmer, 1996), Kuril Islands (Kunashir) (Pesenko, 1986). – Japan (Hokkaido, Honshu, Shikoku, Kyushu) (Hirashima, 1989).

7. *Lasioglossum (Evylaeus) nupricola* Sakagami, 1988
= *Lasioglossum nupricola*: Sakagami, 1988: 337 (Urup); Hirashima, 1989: 681 (Kuril Islands).

SPECIMENS EXAMINED. No specimens examined.

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

REMARKS. *Halictus fratellus* Pérez, 1903 recorded for the South Kurils (Konakov, 1956) probably belongs to *L. nupricola* also.

8. *Lasioglossum (Evylaeus) rufitarse* (Zetterstedt, 1838)
= *Halictus rufitarsis*: Konakov, 1956: 166 (Southern Kurils).

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kamchatka (Gussakovskij, 1932), Southern Kurils (Konakov, 1956), Primorskii krai (Ebmer, 1996). – North-Eastern China, North Korea (Ebmer, 1996), Europe (Schwarz et al., 1996).

9. *Lasioglossum* (*Lasioglossum*) *acuticrista* Pesenko, 1986
= *Lasioglossum acuticrista*: Pesenko, 1986: 144 (Kunashir).

SPECIMENS EXAMINED. KUNASHIR: "Kotankesi", 3.VII 1946, ♀ (Konakov).

DISTRIBUTION. Russia: Primorskii krai, Kuril Islands (Kunashir) (Pesenko, 1986).

10. *Lasioglossum* (*Lasioglossum*) *agelastum* Ebmer, 1992

SPECIMENS EXAMINED. KUNASHIR: Alyokhino, 4.VII 1962, ♀ (Krivolutskaya).

DISTRIBUTION. Russia: *Kuril Islands (Kunashir). – China (Zhejiang) (Fan & Ebmer, 1992).

11. *Lasioglossum* (*Lasioglossum*) *leviventre* Pérez, 1905
= *Lasioglossum leviventre*: Pesenko, 1986: 132 (Kunashir); Ebmer, 1996: 273 (Iturup, Urup).

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kuril Islands (Kunashir) (Pesenko, 1986), (Iturup, Urup) (Ebmer, 1996). – Japan (Hokkaido, Honshu, Shikoku, Kyushu) (Hirashima, 1989).

12. *Lasioglossum* (*Lasioglossum*) *kansuense* (Blüthgen, 1934)
= *Lasioglossum kansuense*: Pesenko, 1986: 141 (Kunashir); Ebmer, 1996: 276 (Kunashir).

SPECIMENS EXAMINED. No specimens examined.
DISTRIBUTION. Russia: Khabarovskii krai, Primorskii krai, Kuril Islands (Kunashir), Irkutsk, Transbaicalia (Pesenko, 1986; Ebmer, 1996). – Japan (Hokkaido, Honshu) (Hirashima, 1989), Korea, North-Western, East and North-Eastern China (Pesenko, 1986; Ebmer, 1996).

13. *Lasioglossum* (*Lasioglossum*) *koreanum* Ebmer, 1978
= *Lasioglossum koreanum*: Pesenko, 1986: 141 (Kunashir); Ebmer, 1996: 276 (Kunashir).

SPECIMENS EXAMINED. No specimens examined.
DISTRIBUTION. Russia: Primorskii krai, Kuril Islands (Kunashir) (Pesenko, 1986; Ebmer, 1996). – Korea (Pesenko, 1986), China (Fujian, Guangdong, Guangxi) (Ebmer, 1996).

14. *Lasioglossum* (*Lasioglossum*) *scitulum* (Smith, 1837)
= *Lasioglossum scitulum*: Pesenko, 1986: 138 (Kunashir).

SPECIMENS EXAMINED. KUNASHIR: Mendeleevo, 1.IX 1975, ♂ (Kuznetsov).
DISTRIBUTION. Russia: Siberia (Cockerell, 1924), Khabarovskii krai, Primorskii krai, Sakhalin, Kuril Islands (Kunashir) (Pesenko, 1986). – Japan (Hokkaido, Honshu, Shikoku, Kyushu) (Hirashima, 1989), Korea, North-Eastern China (Pesenko, 1986; Ebmer, 1978).

FAMILY ANDRENIDAE

1. *Andrena* (*Andrena*) *lapponica shirozui* Hirashima, 1962
= *Andrena lapponica shirozui*: Osytshnjuk, 1995: 514 (Kuril Islands).

SPECIMENS EXAMINED. No specimens examined.
DISTRIBUTION. Russia: Magadanskaya oblast', Kamchatka, Primorskii krai, Sakhalin, Kuril Islands (Osytshnjuk, 1995). – Japan (Hokkaido, Honshu) (Hirashima, 1989).

2. *Andrena* (*Andrena*) *maukensis* Matsumura, 1911
= *Andrena maukensis*: Kuwayama, 1967: 208 (Shikotan, Iturup); Osytshnjuk, 1995: 514 (Kuril Islands).

SPECIMENS EXAMINED. KUNASHIR: Alyokhino, 14.VII 1973, ♀ (Kasparyan); 30.VII 1981, 9♀, ♂ (Pesenko); Sernovodsk, 23.VII 1981, 25♀, 3♂ (Pesenko); Aniva, 13.VII 1981, ♂ (Pesenko).

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

3. *Andrena* (*Cnemidandrena*) *denticulata seneciorum* Hirashima, 1964

= *Andrena denticulata seneciorum*: Osytshnjuk, 1995: 510 (Kuril Islands).

SPECIMENS EXAMINED. SHIKOTAN: Anama Bay, 30.VIII.1949, 60♀, 4♂ (Strelkov); Malokurilsk, 22.VIII 1971, ♂ (Tanasiichuk); 22.VIII 1973, ♀ (Azarova); 16.VIII 1973, 2♂ (Kasparyan). KUNASHIR: Alyokhino, 21.VIII 1973, ♂ (Kasparyan); 14.VIII 1980, ♀ (Lelej); Sernovodsk, 26.VIII 1973, ♀ (Kasparyan); Golovnino, 9.VIII 1975, ♀ (Berezantsev); Dubovoe, 8.VIII 1980, ♀ (Lelej); Yuzhno-Kurilsk, 28.VIII 1980, ♂ (Lelej).

DISTRIBUTION. Russia: South of Primorskii krai, Sakhalin, Kuril Islands (Shikotan, Kunashir) (Osytshnjuk, 1995). – Japan (Hokkaido, Honshu, Shikoku) (Hirashima, 1989), China (Shaanxi) (Tadauchi & Xu, 2002).

4. *Andrena* (*Gymnandrena*) *parathoracica* Hirashima, 1957

= *Andrena parathoracica*: Osytshnjuk, 1995: 504 (Kunashir).

SPECIMENS EXAMINED. KUNASHIR: Tret'yakovo, 17. VIII 1971, ♂ (Ermolenko); 20.VIII 1980, 2♀ (Lelej).

DISTRIBUTION. Russia: Primorskii krai, Kuril Islands (Kunashir) (Osytshnjuk, 1995). – Japan (Hokkaido, Honshu, Shikoku, Kyushu) (Hirashima, 1989).

5. *Andrena* (*Hoplandrena*) *dentata* Smith, 1879

= *Andrena dentata*: Osytshnjuk, 1995: 501 (Kuril Islands).

SPECIMENS EXAMINED. KUNASHIR: Yuzhno-Kurilsk, 23.VII 1962, ♀ (Krivolutskaya); Sernovodsk, 27.VII 1975, ♀ (Kupianskaya); 23.VII 1981, 53♀, 17♂ (Pesenko).

DISTRIBUTION. Russia: Khabarovskii krai (Proshchalykin, 2003), South of Primorskii krai, Kuril Islands (Kunashir) (Osytshnjuk, 1995). – Japan (Hokkaido, Honshu, Shikoku, Kyushu) (Hirashima, 1989).

6. *Andrena* (*Hoplandrena*) *miyamotoi* Hirashima, 1964

SPECIMENS EXAMINED. KUNASHIR: Sernovodsk, 16.VI 1976, ♂ (Anufriev).

DISTRIBUTION. Russia: South of Primorskii krai (Osytshnjuk, 1995), *Kuril Islands (Kunashir). – Japan (Hokkaido, Honshu, Shikoku, Kyushu) (Hirashima, 1989).

7. *Andrena* (*Hoplandrena*) *rosae alfkeni* Friese, 1914
= *Andrena rosae alfkeni*: Osytshnjuk, 1995: 504 (Kuril Islands).

SPECIMENS EXAMINED. KUNASHIR: Yuzhno-Kurilsk, 13.VII 1980, ♂ (Basarukin).

DISTRIBUTION. Russia: Khabarovskii krai, Amurskaya oblast', Primorskii krai, Sakhalin, Kuril Islands (Kunashir), Yakutia, Transbaicalia, Irkutsk (Osytshnjuk, 1995). – Japan (Hokkaido) (Hirashima, 1989), Mongolia (Osytshnjuk, 1995).

8. *Andrena* (*Micrandrena*) *brassicae* Hirashima, 1957
= *Andrena brassicae*: Osytshnjuk, 1995: 499 (Kuril Islands).

SPECIMENS EXAMINED. KUNASHIR: Dubovoye, 1.IX 1973, ♀ (Kasparyan).

DISTRIBUTION. Russia: Khabarovskii krai, South of Primorskii krai, Sakhalin, Kuril Islands (Kunashir) (Osytshnjuk, 1995). – Japan (Hokkaido, Honshu, Shikoku, Kyushu) (Hirashima, 1989), Korea (Osytshnjuk, 1995).

9. *Andrena* (*Micrandrena*) *subopaca* Nylander, 1848
= *Andrena subopaca*: Hirashima, 1989: 684 (Kuril Islands); Osytshnjuk, 1995: 499 (Kuril Islands).

SPECIMENS EXAMINED. SHIKOTAN: Krabozavodsk, 17.VI 1978, ♂ (Ermolenko). KUNASHIR: Lagunnoe Lake, 14.VII 1975, ♀, 2♂ (Kupianskaya); Tret'yakovo, 17.VI 1978, ♂ (Ermolenko); Sernovodsk, 23.VII 1981, 2♀ (Pesenko); Dubovoe, 25.VII 1981, 3♀, 5♂ (Belokobylskij).

DISTRIBUTION. Russia: Kamchatka, Primorskii krai, Sakhalin, Irkutskaya oblast' (Osytshnjuk, 1995), Kuril Islands (Shikotan, Kunashir) (Hirashima, 1989; Osytshnjuk, 1995). – Japan (Hokkaido, Honshu, Shikoku, Kyushu) (Hirashima, 1989), Europe (Osytshnjuk et al., 1978).

10. *Andrena* (*Oreomelissa*) *coitana pilosodorsata* Alfken, 1929
= *Andrena coitana pilosodorsata*: Hirashima, 1989: 684 (Kunashir); Osytshnjuk, 1995: 494 (Kuril Islands).

SPECIMENS EXAMINED. SHIKOTAN: Anama Bay, 30.VIII 1949, 15♂ (Strelkov); Tserkovnaya Bay, 16.VIII 1973, ♂ (Kasparyan); Malokurilsk, 21.VIII 1973, ♂ (Kasparyan). KUNASHIR: Sernovodsk, 18.VIII 1973, ♂ (Kasparyan); Dubovoe, 1.IX 1973, ♂ (Kasparyan); Golovnino, 9-10.VIII 1975, 4♂ (Berezantsev); Lagunnoe Lake, 26.VIII 1975, ♀ (Berezantsev); 3.VIII 1980, ♀ (Kupianskaya); 15-25.VIII 1989, 9♂ (Lelej); Dubki, 6-8.VIII 1980, ♀ (Storozhenko); Yuzhno-Kurilsk, 26.VIII 1980, ♀ (Lelej); Tret'yakovo, 8.VIII 1989, ♂ (Lelej). ITURUP: Blagodatnoye Lake, 1.VIII 1998, 5♂ (Lelej, Storozhenko); Evgeniya Cape, 2.VIII 1998, 9♂ (Lelej, Storozhenko); Kuibyshevskii Bay, 13.VIII 1999, 4♂ (Lelej, Storozhenko). URUP: Ukromnaya Bay, 20.VIII 1996, ♀ (Lelej, Storozhenko); Kama River, 21.VIII

1996, 2♂ (Lelej, Storozhenko); Aleutka Bay, 7.VIII 2000, 3♂ (Lelej, Storozhenko). SIMUSHIR: Broutona Bay, 8.VIII 1999, 3♂ (Lelej, Storozhenko); 2.VIII 2000, 2♂ (Lelej, Storozhenko); Dushnaya Bay, 9.VIII 1999, ♂ (Lelej, Storozhenko). KETOI: Diana Bay, 6.VIII 1999, ♂ (Lelej, Storozhenko). PARAMUSHIR: Ebeko volcano, 14.VII 1997, ♂ (Kholin).

DISTRIBUTION. Russia: Kamchatka, Primorskii krai, Sakhalin (Osytshnjuk, 1995), Kuril Islands (Shikotan, Kunashir, Iturup, *Urup, *Simushir, *Ketoi, *Paramushir) (Hirashima, 1989; Osytshnjuk, 1995; Xu et al., 2000). – Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea (Hirashima, 1989).

11. *Andrena* (*Oreomelissa*) *mitakensis* Hirashima, 1963

= *Andrena mitakensis*: Kuwayama, 1967: 208 (Shikotan, Kunashir, Iturup); Osytshnjuk, 1995: 495 (Kuril Islands).

SPECIMENS EXAMINED. KUNASHIR: Yuzhno-Kurilsk, 26.VIII 1980, ♀ (Lelej).

DISTRIBUTION. Russia: Sakhalin (Osytshnjuk, 1995), Kuril Islands (Shikotan, Kunashir, Iturup). (Kuwayama, 1967). – Japan (Hokkaido) (Kuwayama, 1967), (Honshu) (Hirashima, 1989), China (Shaanxi) (Xu et al., 2000).

12. *Andrena* (*Simandrena*) *opacifovea* Hirashima, 1952

= *Andrena opacifovea*: Osytshnjuk, 1995: 508 (Kunashir).

SPECIMENS EXAMINED. KUNASHIR: Tret'yakovo, 8-17. VIII 1971, 2♀, ♂ (Ermolenko); 8.VIII 1971, ♂ (Savchenko); 20.VIII 1980, ♀ (Lelej); Sernovodsk, 14.VII 1973, ♂ (Kasparyan).

DISTRIBUTION. Russia: Kuril Islands (Kunashir) (Osytshnjuk, 1995). – Japan (Hokkaido, Honshu, Shikoku, Kyushu) (Hirashima, 1989).

13. *Andrena* (*Taeniandrena*) *ezoensis* Hirashima, 1965

= *Andrena ezoensis*: Kuwayama, 1967: 208 (Kunashir); Osytshnjuk, 1995: 508 (Kuril Islands).

SPECIMENS EXAMINED. SHIKOTAN: Tserkovnaya Bay, 16.VIII 1973, ♀ (Kasparyan). KUNASHIR: Sernovodsk, 16.VII 1973, 2♂ (Kasparyan); Alyokhino, 30.VIII 1973, ♀ (Kasparyan).

DISTRIBUTION. Russia: Kuril Islands (Kunashir, *Shikotan) (Kuwayama, 1967; Osytshnjuk, 1995), Yakutia (Davydova & Pesenko, 2002). – Japan (Hokkaido, Honshu) (Kuwayama, 1967; Hirashima, 1989).

FAMILY MEGACHILIDAE

1. *Megachile* (*Macromegachile*) *circumcincta* (Kirby, 1802)

SPECIMENS EXAMINED. KUNASHIR: Goryachee Lake, 28.VII 1981, 2♀, 2♂ (Pesenko).

DISTRIBUTION. Russia: Magadanskaya oblast', Sakhalin, Primorskii krai (Romankova, 1995), *Kuril Islands (Kunashir). – Europe (Romankova, 1995).

2. *Megachile* (*Macromegachile*) *willoughbiella* (Kirby, 1802)
= *Megachile willoughbiella*: Romankova, 1995: 542 (Kuril Islands).

SPECIMENS EXAMINED. KUNASHIR: Alyokhino, 27.VII 1962, ♀ (Safronova); 14.VIII 1980, 2♀ (Lelej); Goryachee Lake, 10.VIII 1980, ♀(Lelej).

DISTRIBUTION. Russia: Sakhalin (Yasumatsu, 1938), Khabarovskii krai, Amurskaya oblast', Primorskii krai, Kuril Islands (Kunashir), Yakutia. – Japan (Hokkaido, Honshu) (Hirashima, 1989), Europe (Romankova, 1995).

3. *Megachile* (*Megachile*) *lapponica* Thomson, 1872
= *Megachile lapponica*: Romankova, 1995: 542 (Kuril Islands).

SPECIMENS EXAMINED. KUNASHIR: Tret'yakovo, 3.VIII 1976, ♂ (Danilovich); Dubovoe, 8.VIII 1980, ♀ (Lelej).

DISTRIBUTION. Russia: Sakhalin (Yasumatsu, 1938), Khabarovskii krai, Amurskaya oblast', Primorskii krai, Kuril Islands (Kunashir), Yakutia. – Korea, North Europe (Romankova, 1995).

4. *Megachile* (*Megachile*) *ligniseca* (Kirby, 1802)
= *Megachile ligniseca*: Romankova, 1995: 541 (Kuril Islands).

SPECIMENS EXAMINED. KUNASHIR: Mendeleevo, 27.VIII 1974, ♀ (Kirpichnikova); 17 km S Yuzhno-Kurilsk, 26.VIII 1980, ♀ (Lelej); Dubovoe, 30.VII 1989, ♂ (Lelej); Tret'yakovo, 17.VIII 1999, ♀ (Lelej).

DISTRIBUTION. Russia: Sakhalin (Yasumatsu, 1938), Khabarovskii krai, Amurskaya oblast', Primorskii krai, Kuril Islands (Kunashir) (Romankova, 1995), Yakutia (Davydova & Pesenko, 2002). – Japan (Hokkaido, Honshu) (Hirashima, 1989), North-Eastern China, Europe (Romankova, 1995).

5. *Coelioxys* (*Coelioxys*) *mandibularis* Nylander, 1848
= *Coelioxys mandibularis*: Romankova, 1995: 545 (Kuril Islands).

SPECIMENS EXAMINED. KUNASHIR: Stolbchatyi Cape, 10.VIII 1989, ♀ (Lelej).

DISTRIBUTION. Russia: Khabarovskii krai, Amurskaya oblast', Primorskii krai, Sakhalin, Kuril Islands (Kunashir) (Romankova, 1995), Yakutia (Davydova & Pesenko, 2002). – Europe (Romankova, 1995).

6. *Coelioxys* (*Coelioxys*) *rufescens* Lepeletier et Serville, 1825

SPECIMENS EXAMINED. KUNASHIR: Goryachee Lake, 28.VII 1981, ♂ (Pesenko).

DISTRIBUTION. Russia: Khabarovskii krai, Amurskaya oblast', Primorskii krai, Yakutia (Romankova, 1995), *Kuril Islands (Kunashir). – China, Asia Minor, Europe (Romankova, 1995).

FAMILY APIDAE

1. *Nomada issikii* Yasumatsu, 1939

= *Nomada issikii*Yasumatsu, 1939a: 5, ♂ (holotype, "Otani" [Sokol], Sakhalin, deposited in Hokkaido University Museum, Sapporo); Kuwayama, 1967: 210 (Kunashir).

SPECIMENS EXAMINED. SHIKOTAN: Tserkovnaya Bay, 16.VIII 1973, 3♀ (Kasparyan); Malokuril'skoe, 21.VIII 1973, ♂ (Kasparyan). KUNASHIR: Sernovodsk, 26.VIII 1973, ♀ (Kasparyan); Dubovoe, 31.VIII 1973, 2♀ (Kasparyan); 30.VII 1980, ♀ (Lelej); Golovnino, 9.VIII 1975, ♂ (Berezantsev); Yuzhno-Kurilsk, 19.VIII 1980, 2♂ (Lelej); 17 km S Yuzhno-Kurilsk, 17.VIII 1999, 2♀, ♂ (Lelej, Storozhenko). ITURUP: Blagodatnoye Lake, 1.VIII 1998, 6♂ (Lelej, Storozhenko); Burevestnik, 30.VIII 1998, ♂ (Lelej, Storozhenko); Kuibyshevskii Bay, 13.VIII 1999, 2♀ (Lelej, Storozhenko). URUP: Kama River, 21.VIII 1996, ♀ (Lelej, Storozhenko). Aleutka Bay, 7.VIII 2000, ♂ (Lelej, Storozhenko).

DISTRIBUTION. Russia: Sakhalin (Yasumatsu, 1939a; Yasumatsu & Hirashima, 1951), Kuril Islands (Kunashir, *Shikotan, *Iturup, *Urup) (Kuwayama, 1967). – Japan (Shikoku) (Yasumatsu & Hirasima, 1951), (Hokkaido, Honshu) (Kuwayama, 1967; Tsuneki, 1973; Alexander & Schwarz, 1994).

2. *Nomada maculifrons* Smith, 1869

= *Nomada maculifrons*: Yasumatsu, 1939a: 5 (Kunashir); Kuwayama, 1967: 219 (Kunashir); Hirashima, 1989: 688 (Kuril Islands).

SPECIMENS EXAMINED. KUNASHIR: 17 km S Yuzhno-Kurilsk, 17.VIII 1999, 2♀, ♂ (Lelej, Storozhenko).

DISTRIBUTION. Russia: Sakhalin, Kuril Islands (Kunashir) (Kuwayama, 1967). – Japan (Hokkaido, Honshu) (Kuwayama, 1967; Tsuneki, 1973; Alexander & Schwarz, 1994).

3. *Nomada panzeri* Lepeletier, 1841

= *Nomada panzeri*: Davydova & Pesenko, 2002: 286 (Iturup).

SPECIMENS EXAMINED. No specimens from Kurils examined. 2♀, 2♂ from European part of Russia are studied.

DISTRIBUTION. Russia: Kuril Islands (Iturup), Yakutia (Davydova & Pesenko, 2002). – Palearctic (Alexander & Schwarz, 1994).

4. *Nomada ruficornis* (Linnaeus, 1758)

= *Nomada ruficornis*: Yasumatsu, 1939a: 5 (Iturup); Kuwayama, 1967: 219 (Iturup).

SPECIMENS EXAMINED. KUNASHIR: Dubovoe, 30.VII 1980, ♀ (Lelej); 17 km S Yuzhno-Kurilsk, 17.VIII 1999, 2♀, ♂ (Lelej, Storozhenko).

DISTRIBUTION. Russia: Sakhalin, Kuril Islands (Iturup, *Kunashir) (Kuwayama, 1967), Yakutia (Davydova & Pesenko, 2002). – Japan (Hokkaido, Honshu) (Kuwayama, 1967; Tsuneki, 1973; Alexander & Schwarz, 1994).

5. *Nomada kurilensis* Yasumatsu, 1939

= *Nomada kurilensis* Yasumatsu, 1939a: 6, ♀ (holotype, "Syamanbe" [Konservnyi Village], Iturup, 19-20.VII 1936, Sugihara leg., deposited in Hokkaido University Museum, Sapporo); Kuwayama, 1967: 210 (Iturup).

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Kuril Islands (Iturup) (Yasumatsu, 1939a; Kuwayama, 1967).

REMARKS. Alexander & Schwarz (1994) treate this species as questionable because this is not accompanied by a definition and indication. In spite that fourty-one *Nomada* specimens from the Southern Kurils (including ten ones from Iturup – type locality of *N. kurilensis*) have been identified as five *Nomada* species (including one undescribed species) enigmatic *N. kurilensis* has not been found. Probably the true type locality of this species is outside of Kuril Islands (quite possibly it was described from Sakhalin or Hokkaido).

6. *Bombus* (*Alpinobombus*) *balteatus balteatus* Dalhbom, 1832

= *Bombus* (*Alpinobombus*) *balteatus balteatus*: Lelej & Kupianskaya, 2000: 11 (Shumshu).

DISTRIBUTION. Circumpolar Holarctic species. Russia: Chukotka including Wrangel Il., Kamchatka, Kuril Islands, Magadanskaya oblast', Khabarovskii krai, mountains of Siberia.

7. *Bombus* (*Bombus*) *florilegus* Panfilov, 1956

= *Bombus* (*Bombus*) *florilegus*: Lelej & Kupianskaya, 2000: 2 (Anuchina, Tanfil'eva, Iurii, Zelenyi, Shikotan, Kunashir, Iturup, Urup, Brat Chirpoev, Chirpoi, Simushir, Ketoi, Yankicha, Ryponkicha, Rasshua, Matua).

DISTRIBUTION. Russia: Kuril Islands. – Japan (eastern Hokkaido).

8. *Bombus* (*Bombus*) *hypocrita sapporoensis* Cockerell, 1911

= *Bombus* (*Bombus*) *hypocrita sapporoensis*: Lelej & Kupianskaya, 2000: 5 (Shikotan, Kunashir, Iturup).

DISTRIBUTION. Russia: South of Primorskii krai, South Sakhalin, Kuril Islands. – Japan (Hokkaido), Korea, North-East China.

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

= *Bombus* (*Bombus*) *lucorum albocinctus*: Lelej & Kupianskaya, 2000: 4 (Polonskogo, Iturup, Simushir, Ketoi, Rasshua, Matua, Shiashkotan, Ekarma, Kharimkotan, Onekotan, Makanrushi, Antsiferova, Paramushir, Shumshu, Atlasova).

DISTRIBUTION. Russia: Khabarovskii krai, Magadanskaya oblast, Kamchatka including Koryakskii okrug, Sakhalin, Kuril Islands. – North Korea.

10. *Bombus* (*Diversobombus*) *diversus tersatus* Smith, 1869
= *Bombus* (*Diversobombus*) *diversus tersatus*: Lelej & Kupianskaya, 2000: 8 (Kunashir).

DISTRIBUTION. Russia: South Sakhalin, Kuril Islands. – Japan (Hokkaido).

11. *Bombus* (*Megabombus*) *pseudoligusticus* Skorikov, 1925
= *Bombus* (*Megabombus*) *pseudoligusticus*: Lelej & Kupianskaya, 2000: 9 (Paramushir, Shumshu, Atlasova).

DISTRIBUTION. Russia: Kamchatka (Karaginskii Il.), Kuril Islands.

12. *Bombus* (*Megabombus*) *yezoensis* Matsumura, 1932
= *Bombus* (*Megabombus*) *yezoensis*: Lelej & Kupianskaya, 2000: 8 (?Shikotan, Kunashir).

DISTRIBUTION. Russia: Kuril Islands. – North-East China, Japan (Hokkaido).

13. *Bombus* (*Melanobombus*) *sichelii sichelii* Radoszkowski, 1859
= *Bombus* (*Melanobombus*) *sichelii sichelii*: Lelej & Kupianskaya, 2000: 11 (Shumshu).

DISTRIBUTION. Russia: Magadanskaya oblast', Kamchatka, Khabarovskii krai, Amurskaya oblast', North of Primorskii krai, Sakhalin, Kuril Islands, Transbaicalia, Siberia, Caucasus, forest zone of European part. – North Korea, North-East China, Mongolia, mountains of Middle and South Europe.

14. *Bombus* (*Psithyrus*) *bohemicus* Seidl, 1837
= *Psithyrus* (*Ashtonipsithyrus*) *bohemicus*: Lelej & Kupianskaya, 2000: 12 (Urup, Paramushir, Shumshu).

DISTRIBUTION. Russia: Magadanskaya oblast', Kamchatka, Khabarovskii krai, Amurskaya oblast', Primorskii krai, Sakhalin, Kuril Islands, Transbaicalia, South Siberia, Altai, Caucasus, European part. – North-East China, Mongolia, Tian-Shan, Pamir, Kashmir, Turkey, Europe.

15. *Bombus* (*Psithyrus*) *flavidus frisoni* Popov, 1931
= *Psithyrus* (*Fernaldaepsithyrus*) *flavidus frisoni*: Lelej & Kupianskaya, 2000: 11 (Paramushir, Shumshu).

DISTRIBUTION. Russia: Kamchatka including Karaginskii Il., Kuril Islands.

16a. *Bombus* (*Pyrobombus*) *beaticola moshkarareppus* Sakagami et Ishikawa, 1969
= *Bombus* (*Pyrobombus*) *beaticola moshkarareppus*: Lelej & Kupianskaya, 2000: 5 (Kunashir).

DISTRIBUTION. Russia: Kuril Islands. – Japan (Hokkaido).

16b. *Bombus* (*Pyrobombus*) *beaticola shikotanensis* Ito et Sakagami, 1980
= *Bombus* (*Pyrobombus*) *beaticola shikotanensis*: Lelej & Kupianskaya, 2000: 6 (Shikotan).

DISTRIBUTION. Russia: Kuril Islands.

17. *Bombus* (*Pyrobombus*) *ardens sakagamii* Tkalcú, 1962
= *Bombus* (*Pyrobombus*) *ardens sakagamii*: Lelej & Kupianskaya, 2000: 6 (Kunashir).

DISTRIBUTION. Russia: Kuril Islands. – Japan (Hokkaido).

18a. *Bombus* (*Pyrobombus*) *hypnorum calidus* Erichson, 1851
= *Bombus* (*Pyrobombus*) *hypnorum calidus*: Lelej & Kupianskaya, 2000: 7 (Kharimkotan, Onekotan, Makanrushi, Paramushir, Shumshu).

DISTRIBUTION. Russia: middle of European part, Ural, Buryatiya, Amurskaya oblast, Khabarovskii krai, Primorskii krai, Magadanskaya oblast, Kamchatka, Sakhalin, Kuril Islands. – North Korea.

18b. *Bombus* (*Pyrobombus*) *hypnorum koropokkrus* Sakagami et Ishikawa, 1972
= *Bombus* (*Pyrobombus*) *hypnorum koropokkrus*: Lelej & Kupianskaya, 2000: 7 (Kunashir).

DISTRIBUTION. Russia: Kuril Islands. – Japan (Hokkaido).

19. *Bombus* (*Pyrobombus*) *oceanicus* Friese, 1909
= *Bombus* (*Pyrobombus*) *oceanicus*: Lelej & Kupianskaya, 2000: 6 (Iturup, Urup, Brat Chirpoev, Chirpoi, Ryponkicha, Antsiferova, Paramushir, Shumshu, Atlasova).

DISTRIBUTION. Russia: Kuril Islands. – Japan (Hokkaido).

20. *Bombus* (*Thoracobombus*) *pseudobaicalensis* Vogt, 1911
= *Bombus* (*Thoracobombus*) *pseudobaicalensis*: Lelej & Kupianskaya, 2000: 11 (Kunashir).

DISTRIBUTION. Russia: South Siberia, Amurskaya oblast', Primorskii krai, Sakhalin, Kuril Islands. – Japan (Hokkaido, North Honshu), North Korea, North China, Mongolia.

21a. *Bombus* (*Thoracobombus*) *schrencki konakovi* Panfilov, 1956
= *Bombus* (*Thoracobombus*) *schrencki konakovi*: Lelej & Kupianskaya, 2000: 10 (Iurii, Tanfil'eva, Zelenyi, Polonskogo, Shikotan, Iturup, Urup).

DISTRIBUTION. Russia: Kuril Islands.

21b. *Bombus* (*Thoracobombus*) *schrencki kuwayamai* Sakagami et Ishikawa, 1969
= *Bombus* (*Thoracobombus*) *schrencki kuwayamai*: Lelej & Kupianskaya, 2000: 9 (Kunashir).

DISTRIBUTION. Russia: Kuril Islands.

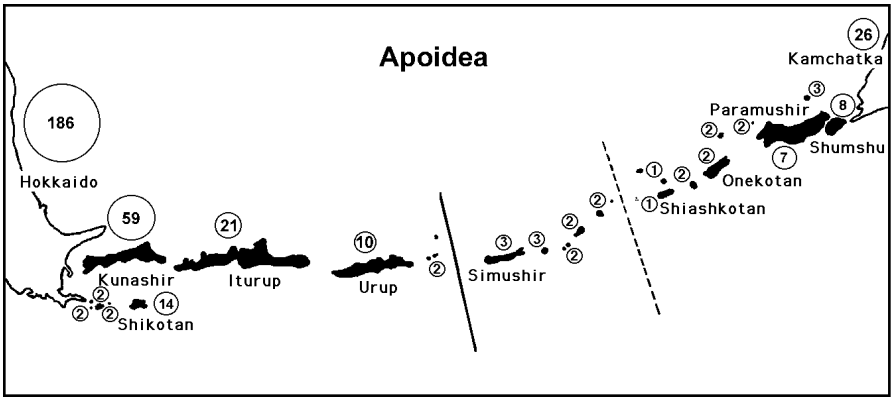

Fig. 1. Numbers of species of bees on the islands of the Kuril Archipelago. Bold line – boundary between Palaearctic subregions, dash line – boundary between Northern and Middle Kurils.

PATTERNS OF DISTRIBUTION AND BIOGEOGRAPHY

Bee fauna of the Kuril Islands consists of sixty-nine species in nine genera of five families (Table). The distribution of most species is limited by the Southern Kurils only (sixty-one species); the fauna of Middle and Northern Kurils represented by two and eight *Bombus* species correspondently and by *Andrena coitana pilosodorsata* distributed throughout Kuril Archipelago (Fig. 1). Three subspecies of bumble-bees: *B. beaticola shikotanensis*, *B. schrencki kuwayamai* and *B. schrencki konakovi* are the endemic of Kurils. Expected number of Kuril bee species will be increased by spring ones (in the genera *Osmia* Panzer, 1806 and *Andrena* Fabricius, 1775) and additional identified species (in the genera *Halictus* Latreille, 1804; *Lasioglossum* Curtis, 1833; *Sphecodes* Latreille, 1804 and *Nomada* Scopoli, 1770) as well.

Table

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

Family	Hokkaido	Kuril Islands				Kamchatka
		Total	Southern	Middle	Northern	
Colletidae	17/2	15/2	15/2	-	-	3/1
Halictidae	45/1	14/2	14/2	-	-	2/1
Andrenidae	28/4	13/1	13/1	1/1	1/1	6/1
Melittidae	4/2	-	-	-	-	-
Megachilidae	16/4	6/2	6/2	-	-	2/1
Apidae	51/6	21/2	13/2	2/1	8/1	13/2
Total:	186/19	69/9	61/9	3/2	9/2	26/6

Most insect species are restricted in distribution to the southern Kurils (Lelej et al., 2002). In spite that bees are found throughout the Archipelago but ca. 90% of the species are southern; by far most are found on Kunashir Island (Fig. 1).

Kuril Islands was colonized from two adjacent source biotas: a southern source, the Asian mainland by the way of Sakhalin and Hokkaido and a northern source by way of Kamchatka (Pietsch et al., 2003). The contribution of the southern source fauna to the present day bee species diversity of the Kuril Islands was considerably greater than the northern source (Fig. 1, Table).

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