



The bee family Halictidae (Hymenoptera, Apoidea) from Central Asia collected by the Kyushu and Shimane Universities Expeditions

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Academic editor: Matthew Yoder

Received: 13 Jul 2017 | Accepted: 09 Oct 2017 | Published: 20 Oct 2017

Citation: Murao R, Tadauchi O, Miyanaga R (2017) The bee family Halictidae (Hymenoptera, Apoidea) from Central Asia collected by the Kyushu and Shimane Universities Expeditions. Biodiversity Data Journal 5: e15050. <https://doi.org/10.3897/BDJ.5.e15050>

Abstract

Background

Central Asia is one of the important centers of bee diversity in the Palearctic Region. However, there is insufficient information for many taxa in the central Asian bee fauna. The Kyushu and Shimane Universities (Japan) Expeditions to Kazakhstan, Kyrgyzstan, Uzbekistan, and Xinjiang Uyghur of China were conducted in the years 2000 to 2004 and 2012 to 2014.

New information

Eighty-eight species of the bee family Halictidae Thomson, 1869 are enumerated including new localities in central Asia. *Halictus tibialis* Walker, 1871, *H. persephone* Ebmer, 1976, *Lasioglossum denislucum* (Strand, 1909), *L. griseolum* (Morawitz, 1872), *L. melanopus* (Dalla Torre, 1896), *L. nitidiusculum* (Kirby, 1802), *L. sexnotatum* (Nylander, 1852), *L.*

subequestre (Blüthgen, 1931), *L. sublaterale* (Blüthgen, 1931), and *L. zonulum* (Smith, 1848) are recorded from central Asia for the first time. Thirty-two species are newly recorded from Kazakhstan, 19 spp. from Kyrgyzstan, 2 spp. from Uzbekistan, and 11 spp. from Xinjiang Uyghur of China. The genus *Lasioglossum* dominated the number of species and individuals in the collection. The halictid fauna mostly composed of western to central Asian elements in our surveyed area.

Keywords

Hymenoptera, Apoidea, Halictidae, Central Asia, Kazakhstan, Kyrgyzstan, Uzbekistan, Xinjiang Uyghur of China

Introduction

Central Asia is a warm-temperate arid region located in the central part of the Eurasia Continent. It is sometimes referred to as Turkestan. In modern contexts, Central Asia includes the countries such as Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan. Bees are generally considered to have higher diversity in the warm-temperate arid region than those in the tropics (Michener 1979). According to Michener (2007), the bee fauna is particularly rich in the Mediterranean basin and thence eastward to Central Asia in the Palearctic Region.

In central Asia and the western part of China, we conducted field surveys from 2000 to 2004 and 2012 to 2014, for the purpose of both taxonomic and biological studies of central Asian bees (Tadauchi 2005). A total of approximately 30,000 bee specimens were collected through this central Asian expedition. The present paper is the eleventh one of the series treating the result of this expedition (Tadauchi et al. 2005; Tadauchi 2006, Tadauchi 2008; Miyanaga et al. 2006; Mitai and Tadauchi 2008; Kuhlmann 2009; Shebl and Tadauchi 2009; Williams 2011; Mitai 2012; Murao et al. 2015). In the present paper, we report the collection data of the family Halictidae Thomson, 1869 except for the cleptoparasitic genus *Sphecodes* Latreille, 1804, with new locality data. We also discuss the faunal features of central Asian halictid bees in our surveyed area.

Halictidae is the second largest group of bees, with approximately 4,400 recognized species worldwide (Ascher and Pickering 2017). This family is found on all continents except for Antarctica. Four subfamilies are recognized (Michener 2007): Rophitinae Schenck, 1866, Nomiinae Robertson, 1904, Nomioidinae Börner, 1919, and Halictinae Thomson, 1869. Both morphological and molecular data support the monophyly of these four subfamilies (Pesenko 1999; Danforth et al. 2004). Halictid bees nest in the soil or rarely in rotting wood. They have a diverse social structure such as solitary, communal, semisocial, and eusocial (e.g., Michener 1974; Schwarz et al. 2007). Several genera and species are cleptoparasites or social parasites in nests of halictid or other bees. Most halictid species are known to be host-plant generalists except for some host-plant specialist

taxa (e.g., the subfamily Rophitinae and *Lipotriches* Gerstaecker, 1858). In the temperate area of the world, halictid bees are common, often dominating other bees in number of individuals and species (Michener 2007).

The halictid bees from central Asia are mainly recorded by the following various researchers: Astafurova (2004), Astafurova and Pesenko (2005), Blüthgen (1923c), Blüthgen (1923a), Blüthgen (1923b), Blüthgen (1924), Blüthgen (1925), Blüthgen (1929), Blüthgen (1931), Blüthgen (1933a), Blüthgen (1933b), Blüthgen (1934b), Blüthgen (1934a), Blüthgen (1936), Blüthgen (1955), Ebmer (1972), Ebmer (1980), Ebmer (1995), Handlirsch (1888), Mitai (2012), Morawitz (1876), Morawitz (1880), Morawitz (1893), Morawitz (1894), Pallas (1773), Pérez (1903), Pesenko (1979), Pesenko (1983), Pesenko (1984a), Pesenko (1984b), Pesenko (1984c), Pesenko (1985), Pesenko (1986), Pesenko (2005b), Pesenko (2005a), Pesenko (2006), Pesenko and Astafurova (2006), Pesenko and Wu (1997), Popov (1934), Popov (1935), Popov (1949), Popov (1952), Popov (1956), Popov (1958), Radoszkowski (1893), Strand (1909), Vachal (1902), Warncke (1976), Wu (1985). According to the database of Ascher and Pickering (2017), 219 species are listed from central Asia: 107 spp. from Kazakhstan, 66 spp. from Kyrgyzstan, 85 spp. from Tajikistan, 96 spp. from Turkmenistan, and 76 spp. from Uzbekistan.

Materials and methods

The field survey was conducted in Kazakhstan (late May, 2000; late August to early September, 2002; late May to middle June, 2003; late April to late May, 2004), Kyrgyzstan (late May, 2000; middle to late August, 2003; early to late May, 2013; late August to early September, 2013; early to late June, 2014), Uzbekistan (late August to early September, 2012), and Xinjiang Uyghur Autonomous Region of China (late August, 2002). The collecting data and locality code are listed as follows:

China

CN1: East of Jeminay, alt. 1,080–1,300 m, Altay Prov., Xinjiang Uyghur Aut. Reg., N47° 16'59.999", E86°00'59.999", 28. viii. 2002

CN2: Jeminay County, alt. 800–1,050 m, Altay Prov., Xinjiang Uyghur Aut. Reg., 27. viii. 2002

CN3: Fukang, alt. 520 m, Changji Prov., Xinjiang Uyghur Aut. Reg., 22. viii. 2002

CN4: Gaoquan, Kuitun city, Ili Prov., Xinjiang Uyghur Aut. Reg., 26. viii. 2002

CN5: Guozigou, alt. 1,230 m, Ili Prov., Xinjiang Uyghur Aut. Reg., 25. viii. 2002

CN6: Jinghe, alt. 540 m, Ili Prov., Xinjiang Uyghur Aut. Reg., 24. viii. 2002

CN7: Kuitun City, alt. 530 m, Ili Prov., Xinjiang Uyghur Aut. Reg., 24. viii. 2002



Figure 1.
Collecting sites.

a: CN8: near Sayram Lake, Ili Prov., China [doi](#)

b: CN8: near Sayram Lake, Ili Prov., China [doi](#)

c: KZ13: Big Almaty Lake, Almaty Prov., Kazakhstan [doi](#)

d: KZ37: Aksu Jabagly, South Kazakhstan Prov., Kazakhstan [doi](#)

e: KZ37: Aksu Jabagly, South Kazakhstan Prov., Kazakhstan [doi](#)

f: KZ38: Aksu valley, Jabagly, South Kazakhstan Prov., Kazakhstan [doi](#)

CN8: near Sayram Lake, alt. 1,970 m, Ili Prov., Xinjiang Uyghur Aut. Reg., 25. viii. 2002 (Fig. 1a, b)

CN9: Northwest of Kuitun, alt. 450 m, Ili Prov., Xinjiang Uyghur Aut. Reg., 26. viii. 2002

CN10: Qingshuihe, alt. 780 m, Ili Prov., Xinjiang Uyghur Aut. Reg., 25. viii. 2002

CN11: West of Kuitun, alt. 560 m, Ili Prov., Xinjiang Uyghur Aut. Reg., N44°25'59.999", E83°57'59.999", 26. viii. 2002

CN12: Yining city, Ili Prov., Xinjiang Uyghur Aut. Reg., 25. viii. 2002

CN13: Sugongta, Turpan Prov., Xinjiang Uyghur Aut. Reg., 23. viii. 2002

Kazakhstan

KZ1: Almaty city, 24. v. 2000, 29. v. 2000, 31. viii. 2002

KZ2: Botanical garden, Almaty, 25. v. 2003

KZ3: Degeres, alt. 850 m, Almaty, 28. v. 2000

KZ4: Fabrichini, alt. 850 m, Almaty, 26. v. 2000

KZ5: Kemertogan, Almaty, 26. v. 2000

KZ6: Koktobe, Almaty, 21. v. 2004

KZ7: Kurday, alt. 800–880 m, Almaty, 26–28. v. 2000

KZ8: Medew, Almaty, 24. v. 2000, 21. v. 2004

KZ9: National Museum, Almaty, 25. v. 2003

KZ10: Nogaibay, alt. 780 m, Almaty, 28. v. 2000

KZ11: Panpilof PK., Almaty, 25. v. 2000

KZ12: Uzenagash, Almaty, 28. v. 2000

KZ13: Big Almaty Lake, alt. 1,230–2,050 m, Almaty Prov., 31. viii–1. ix. 2002, 19. vi. 2003, 22. v. 2004, 28. viii. 2004 (Fig. 1c)

KZ14: Chilik riverside, East of Almaty, Almaty Prov., 2–3. ix. 2002

KZ15: East of Almaty, Almaty Prov., 2. ix. 2002

KZ16: Riverside Ili river, Northwest of Kapchagay, Almaty Prov., 18–19. v. 2004

KZ17: South of Almaty, alt. 1,580 m, Almaty Prov., 31. viii. 2002

KZ18: Akkol-Talas, Jambyl Prov., 14. v. 2004

KZ19: Alga, near Koradai, Jambyl Prov., 18. vi. 2003

KZ20: Berkaza Valley, 60km, Southwest of Karatau City, Jambyl Prov., 12. v. 2004

KZ21: East of Taraz, alt. 570–600 m, Jambyl Prov., N42°58'59.999", E73°24'59.999", 3. ix. 2002, 8. ix. 2002

- KZ22: Jambyl Prov., alt. 703 m, N43°06'54.699", E74°42'22.299", 5. v. 2013
- KZ23: Karatau City, alt. 600 m, Jambyl Prov., 13. v. 2004
- KZ24: Karatau-Janatas, alt. 680 m, Jambyl Prov., 13. v. 2004
- KZ25: Kenen, near Otar, Jambyl Prov., 20. viii. 2003
- KZ26: Kordai, alt. 540–1,080 m, Jambyl Prov., 3. ix. 2002, 17. v. 2004, 27. viii. 2004
- KZ27: Moyenkum-Chu, Jambyl Prov., 17. v. 2004
- KZ28: Muyunkum-Kumozek, alt. 325 m, Muyunkum desert, Jambyl Prov., 16. v. 2004
- KZ29: near Taraz, alt. 540–600 m, Jambyl Prov., 3. ix. 2002
- KZ30: North of Janatas, alt. 420 m, Jambyl Prov., 13. v. 2004
- KZ31: Northwest of Akkol, Muyunkum desert, Jambyl Prov., 14. v. 2004
- KZ32: Northwest of Tatti, alt. 325–562 m, Muyunkum desert, Jambyl Prov., 15. v. 2004
- KZ33: Riverside Chu river, Moyenkum, alt. 480 m, Jambyl Prov., 17. v. 2004
- KZ34: South of Muyunkum, alt. 406 m, Muyunkum desert, Jambyl Prov., 15. v. 2004
- KZ35: Achisai, alt. 500–700 m, Mts. Karatau, South Kazakhstan Prov., 3–6. vi. 2003
- KZ36: Akbasutau, South Kazakhstan Prov., 10. vi. 2003
- KZ37: Aksu Jabagly, alt. 1,080–1,830 m, South Kazakhstan Prov., 1–3. v. 2004, 3. ix. 2002, 4. ix. 2002, 7. ix. 2002, 8. v. 2004, 11. v. 2004, 11. vi. 2003, 13. vi. 2003, 14. vi. 2003, 27. v. 2003, 28. v. 2003 (Fig. 1d, e)
- KZ38: Aksu valley, Jabagly, alt. 130–560 m, South Kazakhstan Prov., 6. ix. 2002, 16. vi. 2003 (Fig. 1f)
- KZ39: Baijansai, alt. 660–1,030 m, Mts. Karatau, South Kazakhstan Prov., 9. vi. 2003
- KZ40: Boskhog village, alt. 226 m, North of Chordara, South Kazakhstan Prov., 1. v. 2004
- KZ41: Chordara, alt. 200 m, West of Tashkent, South Kazakhstan Prov., 30. iv. 2004
- KZ42: Daubaba, alt. 700–800 m, South Kazakhstan Prov., 13. vi. 2003
- KZ43: East of Boroldy village, Mts. Karatau, South Kazakhstan Prov., 10. v. 2004
- KZ44: East of Chimkent, alt. 570m, South Kazakhstan Prov., 30. v. 2003
- KZ45: Eskara, East of Syrdarya river, South Kazakhstan Prov., 9. v. 2004

- KZ46: Hot spring, West of Kamsomolskoe, Kyzylkum desert, South Kazakhstan Prov., 1–3. v. 2004
- KZ47: Janatas, South Kazakhstan Prov., 7. vi. 2003
- KZ48: Jarekbas, near Shayan, South Kazakhstan Prov., 8–10. vi. 2003
- KZ49: Kamsomolskoe, North of Chordara, South Kazakhstan Prov., 1. v. 2003, 1. v. 2004
- KZ50: Kantagi, alt. 550–700 m, near Kentau, Mts. Karatau, South Kazakhstan Prov., 1–2. vi. 2003
- KZ51: Karaalma alt. 1,210 m, near Jabagly, South Kazakhstan Prov., 7. ix. 2002, 17. vi. 2003
- KZ52: Karamola, Kyzylkum desert, South Kazakhstan Prov., 6. v. 2004
- KZ53: Kenestobe, near Shayan, South Kazakhstan Prov., 8. vi. 2003
- KZ54: Kogam, alt. 250 m, near Otrar, South Kazakhstan Prov., 31. v. 2003
- KZ55: Kyzylkum desert, South Kazakhstan Prov., 2. v. 2004
- KZ56: Lake Charbarinskoe, Chordara, alt. 180 m, West of Tashkent, South Kazakhstan Prov., 30. iv. 2004
- KZ57: National border, Chernjaevka, South Kazakhstan Prov., 26. v. 2003
- KZ58: North of Boroldy village, Mts. Karatau, South Kazakhstan Prov., 10. v. 2004
- KZ59: North of Chimkent, alt. 400 m, South Kazakhstan Prov., 30. v. 2003
- KZ60: Plain North of Karamola, Kyzylkum desert, South Kazakhstan Prov., 4. v. 2004 (Fig. 2a)
- KZ61: Polevod, riverside Syrdarya river, South Kazakhstan Prov., 7–9. v. 2004
- KZ62: Seslavino, alt. 960 m, Daubaba river, South Kazakhstan Prov., 11–13. vi. 2003
- KZ63: Shayan-Birlik, South Kazakhstan Prov., 8. vi. 2003
- KZ64: Sutkent village, North of Kamsomolskoe, South Kazakhstan Prov., 3. v. 2004
- KZ65: Togusken, semi-desert, near Janatas, South Kazakhstan Prov., 7. vi. 2003
- KZ66: Ulken-Kaindy, Jabagly, alt. 1,090–2,000 m, South Kazakhstan Prov., 4–5. ix. 2002, 15. vi. 2003
- KZ67: West of Chimkent, South Kazakhstan Prov., 29. iv. 2004



Figure 2.

Collecting sites.

a: KZ60: Plain North of Karamola, Kyzylkum desert, South Kazakhstan Prov., Kazakhstan [doi](#)

b: KG3: Ara Archa, Chuy Prov., Kyrgyzstan [doi](#)

c: KG5: Issyk-Ata, Chuy Prov., Kyrgyzstan [doi](#)

d: KG6: Koi Tash, Chuy Prov., Kyrgyzstan [doi](#)

e: KG29: near San Tash, Issyk-Kul Prov., Kyrgyzstan [doi](#)

f: KG39: Ak-Kiya, Naryn Prov., Kyrgyzstan [doi](#)

KZ68: West of Kamsomolskoe, Kyzylkum desert, South Kazakhstan Prov., 1–2. v. 2004

KZ69: Nurly village, 3. ix. 2002

Kyrgyzstan

KG1: Bishkek City, 27–28. v. 2000

KG2: Kemin, alt. 1,000 m, near Bishkek, 23. viii. 2003

KG3: Ara Archa, Chuy Prov., alt. 1,700–2,152 m, N42°58'59.999", E73°24'59.999", 21. viii. 2003, 6. v. 2013, 22. v. 2013, 31. viii. 2013, 5. v. 2014, 5. vi. 2014, 21. vi. 2014 (Fig. 2b)

KG4: Don-Aryk, Chuy Prov., alt. 1,027 m, N42°44'29.199", E75°12'00.799", 23. vi. 2014

KG5: Issyk-Ata, Chuy Prov., alt. 950–1,875 m, N42°35'58.099", E74°54'24.599", 27. v. 2000, 22. viii. 2003, 14–15. v. 2013, 27. viii. 2013 (Fig. 2c)

KG6: Koi Tash, Chuy Prov., alt. 1,256–2,091 m, N42°41'16.899", E74°40'23.899", 23. v. 2013, 25. viii. 2013, 6. vi. 2014, 22. vi. 2014 (Fig. 2d)

KG7: Krasnaya Rechka, Chuy Prov., alt. 782–827 m, N42°51'27.099", E74°59'21.999", 13. v. 2013, 16. v. 2013

KG8: near Dzhar-Bashy, Chuy Prov., alt. 936m, N42°45'51.899", E75°00'22.099", 27. viii. 2013

KG9: near Issyk-Ata, Chuy Prov., alt. 1,167–1,339 m, N42°41'19.999", E75°03'06.899", 13. v. 2013

KG10: near Jany-Alysh, Chuy Prov., alt. 1,000–1,018 m, N42°49'15.899", E75°33'57.899", 28. viii. 2013, 1. ix. 2013

KG11: near Jil-Aryk, Chuy Prov., alt. 1,055 m, N42°45'22.199", E75°48'25.299", 1. ix. 2013

KG12: near Kageti, Chuy Prov., alt. 1,100–1,313 m, N42°42'41.999", E75°07'59.599", 23. vi. 2014

KG13: near Kemin, Chuy Prov., alt. 1,263–1,348 m, N42°41'20.999", E75°52'48.099", 17. v. 2013

KG14: near Tagetan National Park, Chuy Prov., alt. 1,515 m, N42°37'11.399", E75°08'11.199", 23. vi. 2014

KG15: Tagetan National Park, Chuy Prov., alt. 1,756 m, N42°33'53.999", E75°07'13.999", 23. vi. 2014

KG16: Aksuu, alt. 2,000 m, near Karakol, East of Lake Issyk-Kul, Issyk-Kul Prov., 25. viii. 2004

KG17: Arashan, alt. 1,850–1,900 m, near Karakol, East of Lake Issyk-Kul, Issyk-Kul Prov., 25. viii. 2004

KG18: Barskoon, Issyk-Kul Prov., alt. 1,864 m, N42°07'12.399", E77°35'11.599", 10. v. 2013

KG19: Chon Ak Suu, Issyk-Kul Prov., alt. 1,700–1,991 m, N42°46'06.199", E77°28'30.199", 8. v. 2013, 21. v. 2013, 24. viii. 2004, 28. viii. 2013

KG20: Jele Tobe, Issyk-Kul Prov., alt. 1,730 m, N42°26'53.199", E78°12'31.999", 17. vi. 2014

KG21: Jeti Oguz, Issyk-Kul Prov., alt. 2,048 m, N42°04'41.999", E77°35'43.699", 17. vi. 2014

KG22: Konstanchinofuka, Issyk-Kul Prov., alt. 1,784 m, N42°32'38.499", E78°39'44.699", 18. vi. 2014, 18. ix. 2014

KG23: near Balykchy, Issyk-Kul Prov., alt. 1,754 m, N42°20'31.299", E76°05'00.899", 20. v. 2013

KG24: near Balykchy, Issyk-Kul Prov., alt. 1,632m, N42°29'25.099", E76°22'18.399", 7. v. 2013

KG25: near Barskoon, Issyk-Kul Prov., alt. 2,048 m, N42°04'41.999", E77°35'43.699", 17. vi. 2014

KG26: near Barskoon, Issyk-Kul Prov., alt. 2,387m, N41°59'47.699", E77°37'18.399", 10. v. 2013

KG27: near Bokonbayevo, Issyk-Kul Prov., alt. 1,798–1,841 m, N42°08'20.599", E77°00'59.999", 11. v. 2013

KG28: near Chychkan, Issyk-Kul Prov., alt. 1,656 m, N42°17'29.399", E77°49'18.399", 19. vi. 2014

KG29: near San Tash, Issyk-Kul Prov., alt. 1,862 m, N42°44'24.900", E78°48'24.599", 9. v. 2013 (Fig. 2e)

KG30: near Semenovskoye, National Park., Issyk-Kul Prov., alt. 1,818–1,860 m, N42°44'46.799", E77°32'43.599", 29. viii. 2013

KG31: near Tilekmat, Issyk-Kul Prov., alt. 1,707 m, N42°24'34.799", E78°06'53.899", 17. vi. 2014

KG32: Novovoznesenovka, Issyk-Kul Prov., alt. 1,798 m, N42°36'20.299", E78°46'44.299", 18. vi. 2014

KG33: Semenovka, alt. 1,700 m, North of Lake Issyk-Kul, Issyk-Kul Prov., 24. viii. 2004

KG34: Skiing ground, Karakol, Issyk-Kul Prov., alt. 2,240 m, N42°36'20.299", E78°46'44.299", 16. vi. 2014

- KG35: Teploklyuchenka, Issyk-Kul Prov., alt. 1,802 m, N42°30'07.799", E78°30'17.599", 18. vi. 2014
- KG36: Tilekmat, Issyk-Kul Prov., alt. 1,698 m, N42°25'44.499", E78°09'14.699", 17. vi. 2014
- KG37: Tongu, Issyk-Kul Prov., alt. 1,677 m, N42°08'52.899", E77°01'48.499", 19. vi. 2014
- KG38: West of Kajji-Say, Issyk-Kul Prov., alt. 1,619 m, N42°09'26.299", E77°07'08.599", 19. vi. 2014
- KG39: Ak-Kiya, Naryn Prov., alt. 1,850–1,879 m, N42°11'08.699", E75°42'26.499", 15. vi. 2014 (Fig. 2f)
- KG40: Ak-Tal, Naryn Prov., alt. 1,635 m, N41°25'13.499", E75°01'58.299", 12. vi. 2014
- KG41: Doron Pass, Naryn Prov., alt. 2,887 m, N41°49'59.499", E75°45'36.099", 15. vi. 2014
- KG42: East of Naryn, Naryn Prov., alt. 2,280–2,333 m, N41°27'14.499", E76°21'33.199", 9. vi. 2014
- KG43: Jangy-Talap, Naryn Prov., alt. 1,710–1,989 m, N42°32'55.599", E75°01'47.599", 12. vi. 2014, 14. vi. 2014
- KG44: Kala Bulung, Naryn Prov., alt. 2,288 m, N41°05'02.499", E75°33'48.199", 13. vi. 2014
- KG45: Kara-Suu, Naryn Prov., alt. 2,101–2,153 m, N41°07'58.899", E75°40'36.199", 2. ix. 2013, 13. vi. 2014
- KG46: Kochikoru, Naryn Prov., alt. 1,849 m, N42°12'24.699", E75°47'07.399", 7. vi. 2014
- KG47: Moldo-Ashuu Pass, Naryn Prov., alt. 2,218–2,947 m, N41°39'52.499", E75°01'27.799", 4. ix. 2013, 10–11. vi. 2014 (Fig. 3a)
- KG48: Naryn, Naryn Prov., alt. 1,991–2,008 m, N41°25'58.099", E75°52'28.599", 19. v. 2013
- KG49: Naryn, Naryn Prov., alt. 2,153–2,280 m, N41°26'52.099", E76°16'32.599", 18. v. 2013 (Fig. 3b)
- KG50: near Alysh Park, Naryn Prov., alt. 2,227 m, N41°26'50.599", E76°15'09.599", 9. vi. 2014
- KG51: near At-Bashi, Naryn Prov., alt. 2,117 m, N41°11'43.399", E75°49'38.099", 13. vi. 2014

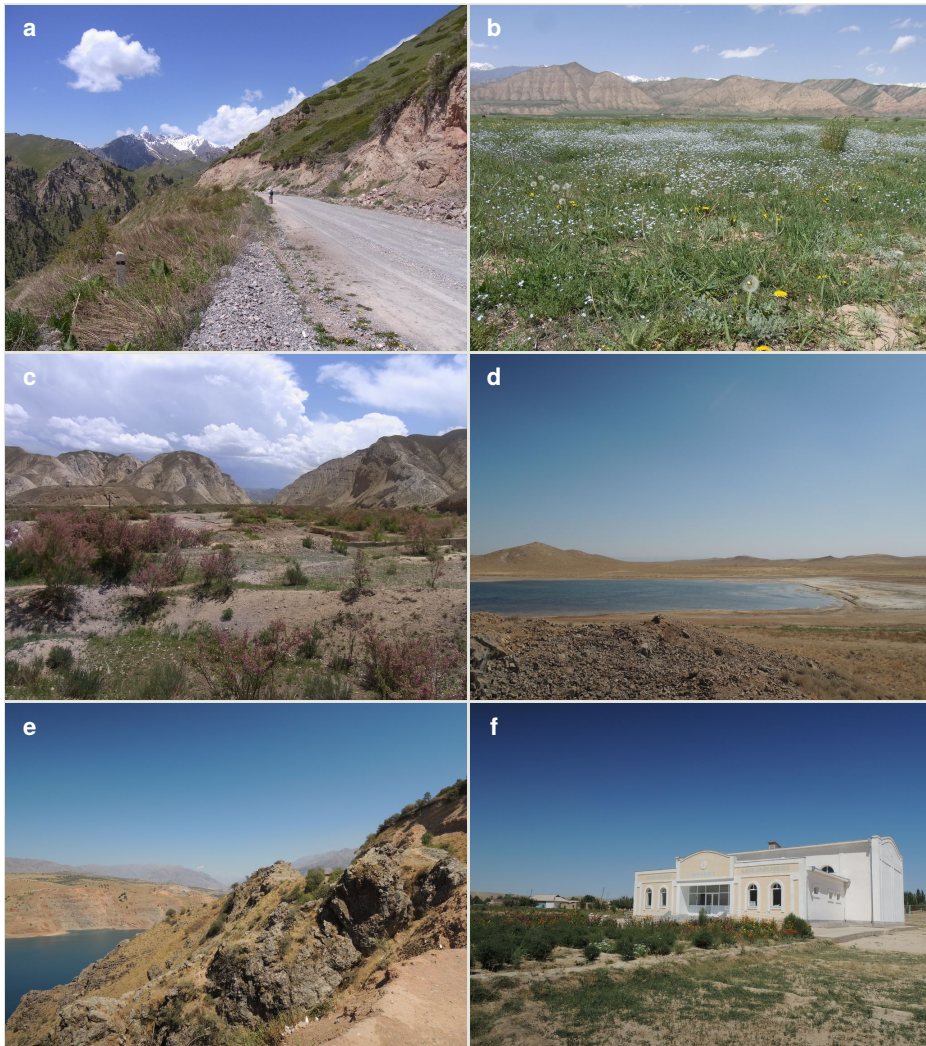


Figure 3.

Collecting sites.

a: KG47: Moldo-Ashuu Pass, Naryn Prov. [doi](#)

b: KG49: Naryn, Naryn Prov. [doi](#)

c: KG52: West of Naryn, Naryn Prov. [doi](#)

d: UZ1: Aydar Lake, Uzbekistan [doi](#)

e: UZ3: Dalla Hovli, Northeast of Chirchik, Uzbekistan [doi](#)

f: UZ7: Gushrabot, South of Aydar Lake, Uzbekistan [doi](#)

KG52: West of Naryn, Naryn Prov., alt. 1,736–1,742 m, N41°23'42.999", E75°10'02.699", 12. vi. 2014 (Fig. 3c)

KG53: Krasnayarichika, alt. 800 m, 27. v. 2000

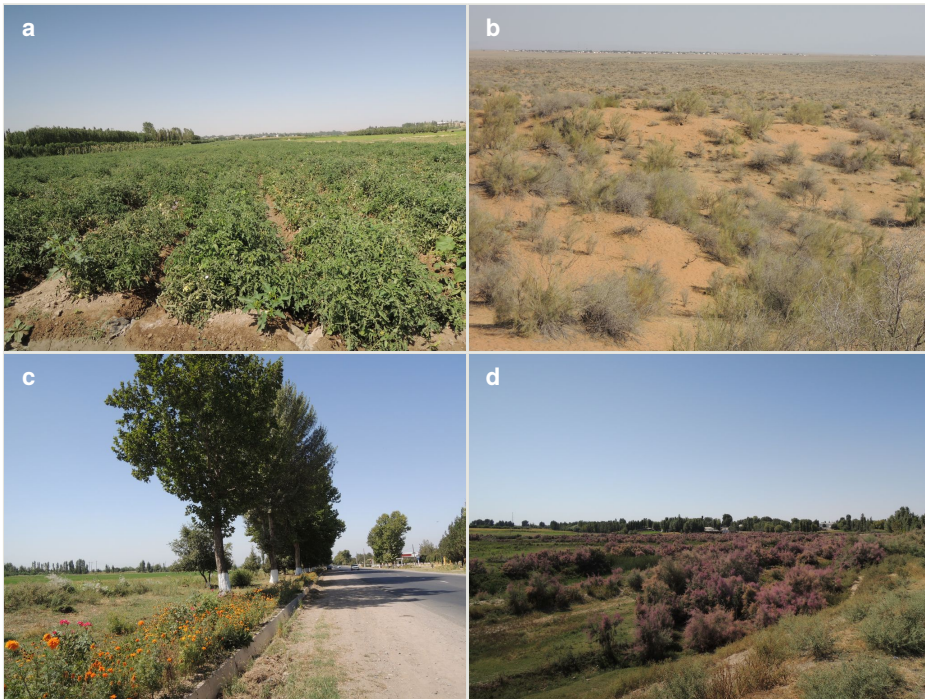


Figure 4.

Collecting sites.

a: UZ8: Madaniyat village, East of Samarkand, Uzbekistan [doi](#)

b: UZ12: South of Aydar Lake, Uzbekistan [doi](#)

c: UZ13: Samarkand ~ Tashkent, Uzbekistan [doi](#)

d: UZ15: Southwest of Yangiyo'l, South of Tashkent, Uzbekistan [doi](#)

Uzbekistan

UZ1: Aydar Lake, 28. viii. 2012 (Fig. 3d)

UZ2: Botanical Garden, Tashkent, 1–4. ix. 2012

UZ3: Dalla Hovli, Northeast of Chirchik, 2. ix. 2012 (Fig. 3e)

UZ4: Dalla Hovli, West of Parkent, 1. ix. 2012

UZ5: Gijduvon, North of Bukhara, 28. viii. 2012

UZ6: Golbog, West of Parkent, 1. ix. 2012

UZ7: Gushrabot, South of Aydar Lake, 29. viii. 2012 (Fig. 3f)

UZ8: Madaniyat village, East of Samarkand, 31. viii. 2012 (Fig. 4a)

UZ9: Nurota, South of Aydar Lake, 29. viii. 2012



Figure 5.

Lateral habitus of central Asian halictine bees.

a: *Dufourea paradoxa atrocoerulea* (Morawitz, 1876) [doi](#)

b: *Rophites (Rophitoides) canus* Eversmann, 1852 [doi](#)

c: *Systropha (Systropha) curvicornis* (Scopoli, 1770) [doi](#)

d: *Pseudapis (Nomia) diversipes* (Latreille, 1806) [doi](#)

UZ10: Parkent, 1. ix. 2012

UZ11: Qorodaro river side, Samarkand, 30. viii. 2012

UZ12: South of Aydar Lake, 29. viii. 2012 (Fig. 4b)

UZ13: Samarkand ~ Tashkent, 1. ix. 2012 (Fig. 4c)

UZ14: Sardoba, West of Guliston, 31. viii. 2012

UZ15: Southwest of Yangiyo'l, South of Tashkent, 3. ix. 2012 (Fig. 4d)

All specimens are preserved in the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka, Japan. The specimens data are also accessible from Tadauchi and Muraio (2009).

Identification of halictid bee specimens is based on the collection both Biologiezentrum/ Oberösterreichisches Landesmuseum (Linz, Austria) and Zoological Institute, Russian Academy of Sciences (St. Petersburg, Russia), and the following keys: Astafurova and Pesenko (2005), Pesenko (2005b), Pesenko (2005c), Pesenko (2006), and Pesenko and Astafurova (2006).

Information on distribution for each species in the present paper is based on Astafurova and Pesenko (2005), Ebmer (1995), Ebmer (1997), Ebmer (2005), Ebmer and Sakagami (1985), Niu et al. (2005), Niu et al. (2007), Pesenko (2005b), Pesenko (2005a), Pesenko (2006), Pesenko and Astafurova (2006), Pesenko and Wu (1997), Pesenko et al. (2000), and Ascher and Pickering (2017).

A list of halictid species collected by Central Asian Expeditions

Subfamily Rophitinae Schenck, 1866

Dufourea paradoxa subsp. *atrocoerulea* (Morawitz, 1875)

Host of: *Asteraceae* sp.

Distribution: This subspecies is endemic in the Pamir Mountain area in central Asia.

Rophites (Rophitoides) canus Eversmann, 1852

Host of: *Apiaceae* sp., *Brassica* sp., *Echium vulgare*, *Vicia villosa*

Distribution: Europe to eastern Asia. This species has been recorded from Kyrgyzstan, Turkmenistan, Uzbekistan, and Xinjiang Uyghur of China in central Asia.

Systropha (Systropha) curvicornis (Scopoli, 1770)

Host of: *Asteraceae* sp.

Distribution: Europe to northwestern China.

Subfamily Nomiinae Robertson, 1904

Pseudapis (Nomiapis) diversipes (Latreille, 1806)

Host of: *Achillea* sp., *Brassica* sp., *Cruciferae* sp., *Lamiaceae* sp., *Leguminosae* sp., *Melilotus officinalis* subsp. *suaveolens*, *Mentha asiatica*, *Solidago* sp., *Tamarix* sp., *Vicia villosa*.

Distribution: Europe, north Africa to eastern Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, Turkmenistan, Uzbekistan, and Xinjiang Uyghur of China in central Asia.

***Pseudapis (Nomiapis) femoralis* (Pallas, 1773)**

Host of: *Brassica* sp., *Echinops* sp.

Distribution: Europe to eastern Asia. This species has been recorded from Kazakhstan and Xinjiang Uyghur of China in central Asia.

Notes: New record for Kyrgyzstan.

***Pseudapis (Nomiapis) fugax* (Morawitz, 1877)**

Host of: *Cirsium* sp., Lamiaceae sp., *Tamarix* sp.

Distribution: Europe and north Africa to eastern Asia. This species has been recorded from Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan, and Xinjiang Uyghur of China in central Asia.

Subfamily Nomioidinae Börner, 1919***Ceylalictus (Ceylalictus) variegatus* (Olivier, 1789)**

Host of: *Peganum harmala*, *Tamarix* sp.

Distribution: Palearctic to the northern Oriental Region. This species has been recorded from Kazakhstan and Kyrgyzstan in central Asia.

Notes: New records for Uzbekistan and Xinjiang Uyghur of China.

***Nomioides gussakovskiji* Blüthgen, 1933**

Host of: *Tamarix* sp.

Distribution: Western to eastern Asia. This species has been recorded from Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan, and Xinjiang Uyghur of China in central Asia.

***Nomioides ino* (Nurse, 1904)**

Host of: *Chondrilla* sp., *Tamarix* sp.

Distribution: Western to eastern Asia. This species is recorded from Kazakhstan, Tajikistan, Turkmenistan, and Uzbekistan in central Asia.

Notes: New record for Xinjiang Uyghur of China.

***Nomioides minutissimus* subsp. *minutissimus* (Rossi, 1790)**

Host of: *Asteraceae* sp., *Chondrilla* sp., *Lamiaceae* sp., *Leguminosae* sp., *Peganum harmala*, *Tamarix* sp.

Distribution: Europe to eastern Asia. The nominotypical subspecies has been recorded from Kazakhstan, Tajikistan, and Uzbekistan in central Asia.

Notes: New records for Kyrgyzstan and Xinjiang Uyghur of China.

Subfamily Halictinae Thomson, 1869***Halictus (Argalictus) senilis* (Eversmann, 1852)**

Host of: *Tamarix* sp.

Distribution: Europe, north Africa to eastern Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, Turkmenista, Uzbekistan, and Xinjiang Uyghur of China in central Asia.

***Halictus (Argalictus) tibialis* Walker, 1871**

Host of: *Mentha asiatica*.

Distribution: Middle East.

Notes: New record for central Asia (Kazakhstan).

***Halictus (Halictus) brunnescens* (Eversmann, 1852)**

Host of: *Achillea biebersteinii*, *Achillea* sp., *Allium sativum*, *Althaea rosea*, *Apiaceae* sp., *Aster canescens*, *Asteraceae* sp., *Brassica* sp., *Caprifoliaceae* sp., *Chondrilla* sp., *Cichorium intybus*, *Cirsium* sp., *Cruciferae* sp., *Echinops ritro*, *Echinops* sp., *Fabaceae* sp., *Ferula tenuisecta*, *Geranium* sp., *Hibiscus* sp., *Lamiaceae* sp., *Leguminosae* sp., *Mentha asiatica*, *Origanum tyttanthum*, *Polygonaceae* sp., *Rosaceae* sp., *Salix* sp., *Schrenkia golickeana*, *Tamarix ramosissima*, *Tamarix* sp., *Taraxacum* sp., *Trifolium repens*, *Umbelliferae* sp., *Vicia* sp., *Vicia villosa*.

Distribution: Europe, north Africa to eastern Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, Turkmenista, Uzbekistan, and Xinjiang Uyghur of Chia in central Asia.

***Halictus (Halictus) duplocinctus* Vachal, 1902**

Host of: *Asteraceae* sp., *Gentianaceae* sp., *Mentha asiatica*, *Tamarix* sp., *Taraxacum* sp.

Distribution: Middle East to central Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenista, Uzbekistan, and Xinjiang Uyghur of China in central Asia.

***Halictus (Halictus) quadricinctus* (Fabricius, 1776)**

Host of: *Achillea* sp., *Asteraceae* sp., *Brassica* sp., *Cirsium* sp., *Fabaceae* sp., *Rosaceae* sp., *Trifolium repens*, *Vicia villosa*.

Distribution: Europe to eastern Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, and Xinjiang Uyghur of China in central Asia.

***Halictus (Hexataenites) resurgens* Nurse, 1903**

Host of: *Achillea biebersteinii*, *Achillea* sp., *Aster canescens*, *Asteraceae* sp., *Brassica* sp., *Breea setosa*, *Chondrilla* sp., *Chrysanthemum* sp., *Cichorium intybus*, *Cirsium* sp., *Dahlia* sp., *Geraniaceae* sp., *Lamiaceae* sp., *Mentha asiatica*, *Origanum tyttanthum*, *Papaver pavoninum*, *Rosa kokanica*, *Sysimbrium* sp., *Tagetes* sp., *Tamarix ramosissima*, *Tamarix* sp., *Taraxacum* sp., *Trifolium repens*.

Distribution: Southern Europe, northeastern Africa to central Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, and Xinjiang Uyghur of China.

***Halictus (Monilapis) compressus* subsp. *transvolgensis* Pesenko, 1985**

Host of: *Achillea biebersteinii*, *Achillea* sp., *Apiaceae* sp., *Aster canescens*, *Asteraceae* sp., *Brassica juncea*, *Brassica* sp., *Breea setosa*, *Chondrilla* sp., *Cicerbita azurea*, *Cichorium intybus*, *Cirsium* sp., *Eremurus cristatus*, *Fabaceae* sp., *Ferula tenuisecta*, *Melilotus officinalis* subsp. *suaveolens*, *Mentha asiatica*, *Origanum tyttanthum*, *Rhamnus cathartica*, *Rosa kokanica*, *Rosaceae* sp., *Taraxacum* sp., *Trifolium repens*, *Trollius altaicus*, *Vicia villosa*.

Distribution: Central to eastern Asia. This subspecies has been recorded from Kazakhstan, Kyrgyzstan, and Xinjiang Uyghur of China in central Asia.

***Halictus (Mucoreohalictus) indefinitus* Blüthgen, 1923**

Host of: *Achillea biebersteinii*, *Chondrilla* sp.

Distribution: North Africa to eastern Asia. This species has been recorded Kazakhstan, Tajikistan, and Turkmenistan in central Asia.

Notes: New record for Xinjiang Uyghur of China.

***Halictus (Mucoreohalictus) mucidus* Blüthgen, 1923**

Host of: *Achillea biebersteinii*, *Aster canescens*, *Asteraceae* sp., *Chondrilla* sp., *Cichorium intybus*, *Cirsium* sp., *Ferula tenuisecta*, *Mentha asiatica*, *Taraxacum* sp.

Distribution: Afghanistan and Tajikistan.

Notes: New record for Kazakhstan.

***Halictus (Mucoreohalictus) mucoreus* Eversmann, 1852**

Host of: *Achillea biebersteinii*, *Achillea* sp., *Apiaceae* sp., *Asteraceae* sp., *Brassica juncea*, *Brassica* sp., *Fabaceae* sp., *Halimodendron holodendron*, *Leguminosae* sp., *Melilotus officinalis* subsp. *suaveolens*, *Peganum harmala*, *Tamarix* sp., *Trifolium pretense*, *Trifolium repens*, *Vicia villosa*.

Distribution: South Europe to central Asia. This species has been recorded from Turkmenistan and Xinjiang Uyghur of China in central Asia.

Notes: New records for Kazakhstan, Kyrgyzstan, and Uzbekistan.

***Halictus (Mucoreohalictus) pollinosus* subsp. *cariniventris* Morawitz, 1876**

Host of: *Brassica* sp., *Mentha asiatica*.

Distribution: Europe, north Africa to eastern Asia. This subspecies has been recorded from Kyrgyzstan, Tajikistan, Uzbekistan, and Xinjiang Uyghur of China in central Asia.

Notes: New record for Kazakhstan.

***Halictus (Mucoreohalictus) pseudomucoreus* Ebmer, 1975**

Distribution: Western to central Asia. This species has been recorded from Turkmenistan and Xinjiang Uyghur of China in central Asia.

Notes: New record for Kyrgyzstan.

***Halictus (Placidohalictus) bulbiceps* Blüthgen, 1929**

Host of: *Tamarix* sp.

Distribution: Central Asia. This species has been recorded from Kazakhstan.

Notes: New record for Xinjiang Uyghur of Chia.

***Halictus (Placidohalictus) fuscicollis* Morawitz, 1876**

Distribution: Middle East to central Asia (Turkestan).

Notes: New record for Xinjiang Uyghur of China.

***Halictus (Platyhalictus) alfenellus* subsp. *cedens* Blüthgen, 1931**

Host of: *Brassica* sp., *Vicia villosa*.

Distribution: Europe to central Asia. This subspecies has been recorded from Kazakhstan and Turkmenistan in central Asia.

Notes: New record for Kyrgyzstan.

***Halictus (Platyhalictus) minor* Morawitz, 1876**

Host of: *Aster canescens*, *Cichorium intybus*, *Cirsium* sp., *Cruciferae* sp., *Ferula tenuisecta*, *Melilotus officinalis* subsp. *suaveolens*, *Mentha asiatica*, *Serophularia* sp., *Tamarix* sp., *Taraxacum* sp.

Distribution: Western to eastern Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenista, Uzbekistan, and Xinjiang Uyghur of China in central Asia.

***Halictus (Platyhalictus) takuiricus* Blüthgen, 1936**

Host of: *Melilotus officinalis* subsp. *suaveolens*.

Distribution: Middle East to central Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenista, and Xinjiang Uyghur of China in central Asia.

***Halictus (Protohalictus) bucharicus* Blüthgen, 1936**

Host of: *Ferula tenuisecta*.

Distribution: Central Asia (Kazakhstan and Tajikistan).

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

Host of: Fabaceae sp., *Spiraea* sp.

Distribution: Holarctic. This species has been recorded from Kazakhstan, Kyrgyzstan, and Xinjiang Uyghur of China in central Asia.

***Halictus (Seladonia) leucaheneus* subsp. *leucaheneus* Ebmer, 1972**

Distribution: Europe to eastern Asia. This nominotypical subspecies has been recorded from Kazakhstan, Kyrgyzstan, and Xinjiang Uyghur of China in central Asia.

***Halictus (Seladonia) pjalmensis* subsp. *pjalmensis* Strand, 1909**

Host of: *Achillea biebersteinii*, *Achillea* sp., *Allium sativum*, *Apiaceae* sp., *Aster canescens*, *Asteraceae* sp., *Brassica juncea*, *Brassica* sp., *Brassicaceae* sp., *Breea setosa*, *Chondrilla* sp., *Cichorium intybus*, *Erigeron* sp., *Halimodendron holodendron*, *Leguminosae* sp., *Lythraceae* sp., *Mentha asiatica*, *Potentilla* sp., *Rosaceae* sp., *Tamarix* sp., *Taraxacum* sp., *Trifolium repens*, *Umbelliferae* sp., *Vicia villosa*.

Distribution: Central to eastern Asia. This nominotypical subspecies has been recorded from Kazakhstan and Xinjiang Uyghur of China in central Asia.

Notes: This subspecies is newly recorded from Kyrgyzstan in this study.

***Halictus (Seladonia) seladonius* (Fabricius, 1794)**

Host of: *Achillea biebersteinii*, *Achillea* sp., *Apiaceae* sp., *Aster canescens*, *Aster* sp., *Asteraceae* sp., *Brassica* sp., *Chondrilla* sp., *Chrysanthemum* sp., *Cicerbita azurea*, *Cosmos bipinnatus*, *Cruciferae* sp., *Echium vulgare*, *Melilotus officinalis* subsp. *suaveolens*, *Mentha asiatica*, *Schrenkia golickeana*, *Tamarix* sp., *Trifolium repens*, *Umbelliferae* sp.

Distribution: Europe, north Africa to central Asia. This species has been recorded from Kyrgyzstan, Tajikistan, and Uzbekistan in central Asia.

Horizon: New record for Kazakhstan.

***Halictus (Seladonia) transbaikalensis* Blüthgen, 1933**

Distribution: Eastern Asia.

Notes: New record for central Asia (Kazakhstan).

***Halictus (Tythhalictus) maculatus* subsp. *maculatus* Smith, 1848**

Host of: *Brassica* sp., Convolvulaceae sp.

Distribution: Europe to eastern Siberia. The nominotypical subspecies has been recorded from Kazakhstan, Turkmenistan, and Xinjiang Uyghur of China in central Asia.

Notes: New record for Kyrgyzstan.

***Halictus (Tythhalictus) palustris* Morawitz, 1876**

Host of: *Achillea* sp., *Allium sativum*, *Aster canescens*, *Asteraceae* sp., *Brassica* sp., *Cichorium intybus*, *Cirsium* sp., *Ferula tenuisecta*, *Labiatae* sp., *Melilotus officinalis* subsp. *suaveolens*, *Mentha asiatica*, *Potentilla* sp., *Rosaceae* sp., *Taraxacum* sp. *Umbelliferae* sp.

Distribution: Central Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, and Xinjiang Uyghur of China.

***Halictus (Vestitohalictus) nasica* Morawitz, 1876**

Host of: *Tamarix* sp.

Distribution: North Africa to central Asia. This species has been recorded from Turkmenistan in central Asia.

Notes: New record for Kazakhstan.

***Halictus (Vestitohalictus) persephone* Ebmer, 1976**

Distribution: Europe to north Africa.

Notes: New record for central Asia (Kazakhstan).

***Halictus (Vestitohalictus) pulvereus* Morawitz, 1874**

Host of: *Achillea biebersteinii*, *Asteraceae* sp., *Chondrilla* sp., *Tamarix* sp., *Trifolium repens*.

Distribution: Southern Europe, north Africa to eastern Asia. This species has been recorded from Turkmenistan, Uzbekistan, and Xinjiang Uyghur of China in central Asia.

Notes: New record for Kazakhstan.

***Lasioglossum (Dialictus) alanum* (Blüthgen, 1929)**

Host of: *Taraxacum* sp.

Distribution: Middle East to central Asia.

Notes: New records for Kazakhstan and Kyrgyzstan.

***Lasioglossum (Dialictus) fedtschenkoi* (Blüthgen, 1937)**

Distribution: Western to central Asia. This species has been recorded from Kyrgyzstan in central Asia.

Notes: New record for Kazakhstan.

***Lasioglossum (Dialictus) smeathmanellum* (Kirby, 1802)**

Host of: *Mentha asiatica*, *Taraxacum* sp.

Distribution: Europe.

Notes: New record for central Asia (Kazakhstan and Kyrgyzstan).

***Lasioglossum (Hemihalictus) buccale* (Pérez, 1903)**

Host of: *Chondrilla* sp.

Distribution: Europe to central Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan in central Asia.

***Lasioglossum (Hemihalictus) ciscapum* (Blüthgen, 1931)**

Distribution: Western to central Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, and Uzbekistan in central Asia.

***Lasioglossum (Hemihalictus) clypeare* (Schenck, 1853)**

Distribution: Europe, north Africa to central Asia. This species has been recorded from Kyrgyzstan in central Asia.

Notes: New record for Kazakhstan.

***Lasioglossum (Hemihalictus) clypeiferellum* (Strand, 1909)**

Host of: *Achillea* sp.

Distribution: Europe, north Africa to eastern Asia. This species has been recorded from Tajikistan in central Asia.

Notes: New record for Kyrgyzstan.

***Lasioglossum (Hemihalictus) croceipes* (Morawitz, 1876)**

Host of: *Achillea biebersteinii*, *Achillea* sp., *Cirsium* sp., *Convolvulus arvensis*, *Ferula tenuisecta*, *Ixioliron tataricum*, *Schrenkia golickeana*.

Distribution: Central Asia (Turkestan).

Notes: New records for Kazakhstan and Kyrgyzstan.

***Lasioglossum (Hemihalictus) denislucum* (Strand, 1909)**

Host of: *Achillea biebersteinii*, *Brassica* sp., Brassicaceae sp., *Trifolium repens*.

Distribution: Europe to western Asia.

Notes: New record for central Asia (Kazakhstan and Kyrgyzstan).

***Lasioglossum (Hemihalictus) griseolum* (Morawitz, 1872)**

Host of: *Achillea* sp., *Bidens* sp., *Brassica* sp.

Distribution: Europe, north Africa to western Asia.

Notes: New record for central Asia (Kazakhstan and Kyrgyzstan).

***Lasioglossum (Hemihalictus) laevinode* (Morawitz, 1876)**

Host of: *Aster canescens*, *Ferula tenuisecta*.

Distribution: Middle East to central Asia. This species has been recorded from Kyrgyzstan in central Asia.

Notes: New record for Kazakhstan.

***Lasioglossum (Hemihalictus) limbellum* (Morawitz, 1876)**

Distribution: Europe, north Africa to eastern Asia. This species has been recorded from Uzbekistan in central Asia. It is newly recorded from Kazakhstan.

Notes: New record for Kazakhstan.

***Lasioglossum (Hemihalictus) longirostre* (Morawitz, 1876)**

Host of: *Cirsium* sp., *Ferula tenuisecta*, *Ixioliron tataricum*, *Origanum tyttanthum*, *Taraxacum* sp.

Distribution: Middle East to central Asia. This species has been recorded from Kazakhstan and Kyrgyzstan in central Asia.

***Lasioglossum (Hemihalictus) lucidulum* (Schenck, 1861)**

Host of: *Achillea* sp., *Brassica* sp.

Distribution: Europe, north Africa to eastern Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, and Turkmenistan in central Asia.

***Lasioglossum (Hemihalictus) matianense* subsp. *pluto* Ebmer, 1980**

Host of: *Aconitum* sp., Caprifoliaceae sp., *Eremurus cristatus*, Fabaceae sp., *Potentilla* sp., Rosaceae sp., *Salix* sp., *Spiraea* sp., *Taraxacum* sp.

Distribution: Central to eastern Asia. This subspecies has been recorded from Kazakhstan, Kyrgyzstan, and Uzbekistan in central Asia.

***Lasioglossum (Hemihalictus) melanopus* (Dalla Torre, 1896)**

Distribution: Middle East.

Notes: New record for central Asia (Kazakhstan and Kyrgyzstan).

***Lasioglossum (Hemihalictus) nitidiusculum* (Kirby, 1802)**

Distribution: Europe, north Africa to Middle East.

Notes: New record for central Asia (Kazakhstan).

***Lasioglossum (Hemihalictus) persicum* (Cockerell, 1919)**

Distribution: Western to central Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, Turkmenistan, and Uzbekistan in central Asia.

***Lasioglossum (Hemihalictus) popovi* (Blütkahegen, 1931)**

Distribution: Central Asia (Kyrgyzstan and Uzbekistan).

***Lasioglossum (Hemihalictus) pseudonigripes* (Blüthgen, 1934)**

Host of: *Apiaceae* sp., *Boraginaceae* sp., *Brassica* sp., *Brassicaceae* sp., *Fabaceae* sp., *Rosaceae* sp., *Spiraea* sp., *Tamarix* sp., *Taraxacum* sp.

Distribution: Western to eastern Asia. This species has been recorded from Kyrgyzstan in central Asia.

Notes: New record for Kazakhstan.

***Lasioglossum (Hemihalictus) subaenescens* subsp. *asiaticum* (Dalla Torre, 1896)**

Host of: *Umbelliferae* sp.

Distribution: Western to eastern Asia. This subspecies has been recorded from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, and Xinjiang Uyghur of China in central Asia.

***Lasioglossum (Hemihalictus) tschardschuicum* (Blüthgen, 1931)**

Distribution: Central Asia (Uzbekistan).

Notes: New record for Kazakhstan.

***Lasioglossum (Hemihalictus) villosulum* (Kirby, 1802)**

Host of: *Tamarix* sp.

Distribution: Widely distributed from Plearctic to Oriental Region. This species has been recorded from Kyrgyzstan in central Asia.

Notes: New record for Kazakhstan.

***Lasioglossum (Lasioglossum) acephalum* (Blüthgen, 1923)**

Distribution: Central Asia (Turkestan).

Notes: This species may be newly recorded from Kazakhstan in this study.

***Lasioglossum (Lasioglossum) costulatum* (Kriechbaumer, 1873)**

Host of: *Asteraceae* sp., *Brassica juncea*, *Ferula tenuisecta*, *Geranium* sp., *Mentha asiatica*, *Trifolium repens*.

Distribution: Europe, north Africa to central Asia. This species has been recorded from Kazakhstan in central Asia.

Notes: New record for Kyrgyzstan.

Lasioglossum (Lasioglossum) equestre (Morawitz, 1876)

Host of: *Achillea* sp., *Brassica* sp., *Echinops* sp., Fabaceae sp., Leguminosae sp., *Rhamnus cathartica*, *Taraxacum* sp., *Trifolium repens*, Umbelliferae sp.

Distribution: Central Asia (Kazakhstan and Kyrgyzstan).

Lasioglossum (Lasioglossum) fulvitarse (Morawitz, 1876)

Host of: *Salix* sp., *Spiraea* sp., *Taraxacum* sp.

Distribution: Middle East to central Asia (Turkestan).

Notes: This species may be newly recorded from Kazakhstan and Kyrgyzstan in this study.

Lasioglossum (Lasioglossum) lebedevi Ebmer, 1972

Distribution: Western to central Asia (Turkestan).

Notes: This species may be newly recorded from Kazakhstan in this study.

Lasioglossum (Lasioglossum) quadrinotatiforme Ebmer, 1980

Host of: *Brassica* sp., Brassicaceae sp., *Halimodendron holodendron*, Leguminosae sp., *Rosa kokanica*, *Taraxacum* sp.

Distribution: Central Asia (Tajikistan).

Notes: New records for Kazakhstan and Kyrgyzstan.

Lasioglossum (Lasioglossum) sexnotatum (Nylander, 1852)

Host of: *Spiraea* sp., *Taraxacum* sp.

Distribution: Europe.

Notes: New record for central Asia (Kyrgyzstan).

***Lasioglossum (Lasioglossum) subequestre* (Blüthgen, 1931)**

Host of: *Papaver rhoeas*.

Distribution: Middle East.

Notes: New record for central Asia (Kazakhstan).

***Lasioglossum (Lasioglossum) sublaterale* (Blüthgen, 1931)**

Distribution: Southern Asia.

Notes: New record for central Asia (Kazakhstan).

***Lasioglossum (Lasioglossum) verae* Pesenko, 1986**

Host of: *Asteraceae* sp., *Melilotus suaveolens*.

Distribution: Central Asia (Kazakhstan).

Notes: New record for Xinjiang Uyghur of China.

***Lasioglossum (Lasioglossum) xanthopus* (Kirby, 1802)**

Host of: *Achillea biebersteinii*, *Achillea* sp., *Aconitum* sp., *Brassica* sp., *Brassicaceae* sp., *Cirsium* sp., *Eremurus cristatus*, *Ferula tenuisecta*, *Ixioliron tataricum*, *Leguminosae* sp., *Melilotus officinalis* subsp. *suaveolens*, *Potentilla* sp., *Rosa kokanica*, *Rosaceae* sp., *Taraxacum* sp., *Trifolium pretense*, *Trifolium repens*, *Vicia villosa*.

Distribution: Europe, north Africa to eastern Asia. This species has been recorded from Kazakhstan and Kyrgyzstan in central Asia.

***Lasioglossum (Leuchalictus) discum* (Smith, 1853)**

Host of: *Achillea biebersteinii*, *Achillea* sp., *Asteraceae* sp., *Brassica juncea*, *Brassica* sp., *Brassicaceae* sp., *Chondrilla* sp., *Chrysanthemum* sp., *Cichorium intybus*, *Cirsium* sp., *Cruciferae* sp., *Dahlia* sp., *Ferula tenuisecta*, *Halimodendron holodendron*, *Lamiaceae* sp., *Leguminosae* sp., *Melilotus officinalis* subsp. *suaveolens*, *Mentha asiatica*, *Tamarix* sp., *Trifolium repens*, *Umbelliferae* sp., *Vicia villosa*.

Distribution: Europe, north Africa to central Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, and Xinjiang Uyghur of China in central Asia.

***Lasioglossum (Leuchalictus) leucozonium* (Schrank, 1781)**

Host of: *Achillea* sp., *Apiaceae* sp., *Asteraceae* sp., *Brassica* sp., *Brassicaceae* sp., *Chondrilla* sp., *Cichorium intybus*, *Tamarix* sp., *Taraxacum* sp., *Trifolium repens*.

Distribution: Holarctic. This species has been recorded from Kyrgyastan and Uzbekistan in central Asia.

Notes: New records for Kazakhstan and Xinjiang Uyghur of China.

***Lasioglossum (Leuchalictus) niveocinctum* (Blüthgen, 1923)**

Distribution: Western to eastern Asia. This species has been recorded from Kazakhstan, Turkmenistan, and Uzbekistan in central Asia.

Notes: New record for Xinjiang Uyghur of China.

***Lasioglossum (Leuchalictus) scutellare* (Morawitz, 1876)**

Host of: *Asteraceae* sp., *Chondrilla* sp., *Convolvulus arvensis*, *Halimodendron holodendron*, *Tamarix* sp., *Taraxacum* sp., *Trifolium repens*.

Distribution: Central Asia (Kazakhstan, Tajikistan, Turkmenistan, and Uzbekistan).

Notes: New records for Kyrgyzstan and Xinjiang Uyghur of China.

***Lasioglossum (Leuchalictus) zonulum* (Smith, 1848)**

Host of: *Halimodendron holodendron*.

Distribution: Holarctic.

Notes: New record for central Asia (Kazakhstan).

***Lasioglossum (Sphecodogastra) albipes* subsp. *albipes* (Fabricius, 1781)**

Host of: *Taraxacum* sp.

Distribution: Europe to eastern Asia. This nominotypical subspecies has been recorded from Uzbekistan in central Asia.

Notes: New records for Kazakhstan and Kyrgyzstan.

***Lasioglossum (Sphecodogastra) aprilinum* (Morawitz, 1876)**

Host of: *Apiaceae* sp., *Fabaceae* sp., *Tamarix* sp.

Distribution: Central to eastern Asia. This species has been recorded from Kazakhstan and Uzbekistan in central Asia.

Notes: New records for Kyrgyzstan and Xinjiang Uyghur of China.

***Lasioglossum (Sphecodogastra) calceatum* (Scopoli, 1763)**

Host of: *Aster canescens*, *Asteraceae* sp., *Brassica* sp., *Brassicaceae* sp., *Chondrilla* sp., *Cicerbita azurea*, *Cichorium intybus*, *Cirsium* sp., *Crataegus* sp., *Fabaceae* sp., *Mentha asiatica*, *Origanum tyttanthum*, *Potentilla* sp., *Ranunculaceae* sp., *Salix* sp., *Spiraea* sp., *Tamarix* sp., *Taraxacum* sp., *Trifolium repens*, *Vicia villosa*.

Distribution: Europe to eastern Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, Uzbekistan, and Xinjiang Uyghur of China in central Asia.

***Lasioglossum (Sphecodogastra) cingulatum* (Morawitz, 1876)**

Host of: *Brassica* sp., *Leguminosae* sp., *Umbelliferae* sp.

Distribution: Central Asia. This species has been recorded from Kazakhstan, Tajikistan, and Turkmenistan in central Asia.

Notes: New record for Kyrgyzstan.

***Lasioglossum (Sphecodogastra) hyalinipenne* (Morawitz, 1876)**

Host of: *Cruciferae* sp., *Spiraea* sp., *Taraxacum* sp.

Distribution: Middle East to central Asia. This species has been recorded from Kyrgyzstan, Tajikistan, and Uzbekistan in central Asia.

Notes: New record for Kazakhstan.

***Lasioglossum (Sphecodogastra) obscuratum* (Morawitz, 1876)**

Host of: *Aster canescens*, *Brassica juncea*, *Chondrilla* sp., *Mentha asiatica*, *Rosa kokanica*, *Taraxacum* sp.

Distribution: Europe to central Asia. This species has been recorded from Turkmenistan in central Asia.

Notes: New record for Kazakhstan.

***Lasioglossum (Sphecodogastra) rhynchites* (Morawitz, 1876)**

Host of: *Aconitum* sp., *Apiaceae* sp., *Aster canescens*, *Asteraceae* sp., *Brassicaceae* sp., *Breea setosa*, *Caprifoliaceae* sp., *Chondrilla* sp., *Cichorium intybus*, *Cirsium* sp., *Mentha asiatica*, *Spiraea* sp., *Sysimbrium* sp., *Taraxacum* sp., *Trifolium repens*, *Vicia villosa*.

Distribution: Western to central Asia. This species has been recorded from Kazakhstan, Kyrgyzstan, Turkmenistan, and Uzbekistan in central Asia.

***Lasioglossum kozlovi* (Friese, 1914)**

Host of: *Tamarix* sp.

Distribution: Central to eastern Asia. This species has been recorded from Turkestan and Xinjiang Uyghur of China in central Asia.

***Lasioglossum mandibulare* (Morawitz, 1866)**

Host of: *Halimodendron holodendron*, *Tamarix* sp.

Distribution: Europe to western Asia. This species has been recorded from central Asia (Kazakhstan and Xinjiang Uyghur of China).

***Lasioglossum marginatum* (Brullé, 1832)**

Host of: *Achillea biebersteinii*, *Achillea millefolium*, *Brassica juncea*, *Brassica* sp., *Brassicaceae* sp., *Caprifoliaceae* sp., *Cirsium* sp., *Cruciferae* sp., *Eremurus cristatus*, *Ferula tenuisecta*, *Hypericum scabrum*, *Ixioliron tataricum*, *Leguminosae* sp., *Medicago lupulina*, *Rhamnus cathartica*, *Rosa kokanica*, *Rosaceae* sp., *Salix* sp., *Schrenkia golickeana*, *Taraxacum* sp., *Trifolium pretense*, *Trifolium repens*, *Trollius altaicus*, *Umbelliferae* sp.

Distribution: Europe, north Africa to southern Asia. This species has been recorded Kazakhstan, Kyrgyzstan, and Uzbekistan in central Asia.

***Lasioglossum salinaecola* (Friese, 1916)**

Distribution: Middle East to central Asia (Turkestan).

Notes: New record for Kazakhstan.

Discussion

A total of 88 species belonging to eight genera in four subfamilies were collected during our survey. We found 10 new records for Central Asia, 32 new records for Kazakhstan, 19 new records for Kyrgyzstan, two new records for Uzbekistan, and 11 new records for Xinjiang Uyghur of China. The subfamily Halictinae dominated the bee fauna both in the number of species (78 / 88 spp.) and individuals (15968 / 16384 exs.) (Table 1; Suppl. material 1). Particularly, the genus *Lasioglossum* was the most common group (50 / 88 spp.; 13220 / 16384 exs.). This genus is known to dominate both in the number of species and individuals in warm-temperate regions (Sakagami and Fukuda 1973; Maeta et al. 2003). This tendency is similar in our surveyed area of central Asia.

Table 1.

List of halictid bee species collected by Central Asian Expedition during 2000 to 2004 and 2012 to 2014.

Subfamily	Species	Country				Total
		Xinjiang Uyghur of China	Kazakhstan	Kyrgyzstan	Uzbekistan	
Rophitinae	<i>Dufourea paradoxa atrocoerulea</i>		2			2
Rophitinae	<i>Rophites (Rophitoides) canus</i>			13		13
Rophitinae	<i>Systropha (Systropha) curvicornis</i>	2				2
Nomiinae	<i>Pseudapis (Nomiapis) diversipes</i>	5	44	17	11	77
Nomiinae	<i>Pseudapis (Nomiapis) femoralis</i>	1		5		6
Nomiinae	<i>Pseudapis (Nomiapis) fugax</i>	11			21	32
Nomioidinae	<i>Ceylalictus (Ceylalictus) variegatus</i>	4	44	2	14	64
Nomioidinae	<i>Nomioides gussakouskiji</i>	7	3			10
Nomioidinae	<i>Nomioides ino</i>	7				7
Nomioidinae	<i>Nomioides minutissimus minutissimus</i>	187	4	9	3	203
Halictinae	<i>Halictus (Argalictus) senilis</i>	3	50			53
Halictinae	<i>Halictus (Argalictus) tibialis</i>		2			2
Halictinae	<i>Halictus (Halictus) brunnescens</i>	17	486	14	6	523
Halictinae	<i>Halictus (Halictus) duplocinctus</i>		19	1		20
Halictinae	<i>Halictus (Halictus) quadricinctus</i>	4	6	44		54
Halictinae	<i>Halictus (Hexataenites) resurgens</i>	1	167	9	51	228

Halictinae	<i>Halictus (Monilapis) compressus transvolgensis</i>	1	201	159		361
Halictinae	<i>Halictus (Mucoreohalictus) indefinitus</i>	1	21			22
Halictinae	<i>Halictus (Mucoreohalictus) mucidus</i>		133			133
Halictinae	<i>Halictus (Mucoreohalictus) mucoreus</i>	4	217	83	2	306
Halictinae	<i>Halictus (Mucoreohalictus) pollinosus cariniventris</i>	1	3			4
Halictinae	<i>Halictus (Mucoreohalictus) pseudomucoreus</i>			1		1
Halictinae	<i>Halictus (Placidohalictus) bulbiceps</i>	2				2
Halictinae	<i>Halictus (Placidohalictus) fuscicollis</i>	1				1
Halictinae	<i>Halictus (Platyhalictus) alfenellus cedens</i>			2		2
Halictinae	<i>Halictus (Platyhalictus) minor</i>		74	1		75
Halictinae	<i>Halictus (Platyhalictus) takuiricus</i>			2		2
Halictinae	<i>Halictus (Protohalictus) bucharicus</i>		31			31
Halictinae	<i>Halictus (Protohalictus) rubicundus</i>		1	7		8
Halictinae	<i>Halictus (Seladonia) leucaheneus leucaheneus</i>	1	4			5
Halictinae	<i>Halictus (Seladonia) pjalmensis pjalmensis</i>	2	305	45		352
Halictinae	<i>Halictus (Seladonia) seladonius</i>		137	63		200
Halictinae	<i>Halictus (Seladonia) transbaikalensis</i>		2			2
Halictinae	<i>Halictus (Tytthalictus) maculatus maculatus</i>			2		2
Halictinae	<i>Halictus (Tytthalictus) palustris</i>	4	65	117		186
Halictinae	<i>Halictus (Vestitohalictus) nasica</i>		11			11
Halictinae	<i>Halictus (Vestitohalictus) persephone</i>		2			2
Halictinae	<i>Halictus (Vestitohalictus) pulvereus</i>	144	16			160
Halictinae	<i>Lasioglossum (Dialictus) alanum</i>		9	1		10
Halictinae	<i>Lasioglossum (Dialictus) fedtschenkoi</i>		4			4
Halictinae	<i>Lasioglossum (Dialictus) smeathmanellum</i>		6	1		7
Halictinae	<i>Lasioglossum (Hemihalictus) buccale</i>		3			3

Halictinae	<i>Lasioglossum (Hemihalictus) ciscapum</i>	4		4
Halictinae	<i>Lasioglossum (Hemihalictus) clypeare</i>	1		1
Halictinae	<i>Lasioglossum (Hemihalictus) clypeiferellum</i>	78	7	85
Halictinae	<i>Lasioglossum (Hemihalictus) croceipes</i>	141	1	142
Halictinae	<i>Lasioglossum (Hemihalictus) denislucum</i>	4	4	8
Halictinae	<i>Lasioglossum (Hemihalictus) griseolum</i>	4	1	5
Halictinae	<i>Lasioglossum (Hemihalictus) laevinode</i>	28		28
Halictinae	<i>Lasioglossum (Hemihalictus) limbellum limbellum</i>	4		4
Halictinae	<i>Lasioglossum (Hemihalictus) longirostre</i>	32	15	47
Halictinae	<i>Lasioglossum (Hemihalictus) lucidulum</i>		20	20
Halictinae	<i>Lasioglossum (Hemihalictus) matianense pluto</i>	54	170	224
Halictinae	<i>Lasioglossum (Hemihalictus) melanopus</i>	2	28	30
Halictinae	<i>Lasioglossum (Hemihalictus) nitidiusculum</i>	1		1
Halictinae	<i>Lasioglossum (Hemihalictus) persicum</i>	2		2
Halictinae	<i>Lasioglossum (Hemihalictus) popovi</i>	11		11
Halictinae	<i>Lasioglossum (Hemihalictus) pseudonigripes</i>	81	92	173
Halictinae	<i>Lasioglossum (Hemihalictus) subaenescens asiaticum</i>	26	1	27
Halictinae	<i>Lasioglossum (Hemihalictus) tschardschuicum</i>	1		1
Halictinae	<i>Lasioglossum (Hemihalictus) villosulum</i>	2		2
Halictinae	<i>Lasioglossum (Lasioglossum) acephalum</i>	16		16
Halictinae	<i>Lasioglossum (Lasioglossum) costulatum</i>	25	1	26
Halictinae	<i>Lasioglossum (Lasioglossum) equestre</i>	42	14	56
Halictinae	<i>Lasioglossum (Lasioglossum) fulvitarse</i>	2	34	36

Halictinae	<i>Lasioglossum (Lasioglossum) lebedevi</i>		1			1
Halictinae	<i>Lasioglossum (Lasioglossum) quadrinotatiforme</i>		217	5		222
Halictinae	<i>Lasioglossum (Lasioglossum) sexnotatulum</i>			21		21
Halictinae	<i>Lasioglossum (Lasioglossum) subequestre</i>		22			22
Halictinae	<i>Lasioglossum (Lasioglossum) sublaterale</i>		2			2
Halictinae	<i>Lasioglossum (Lasioglossum) verae</i>	2				2
Halictinae	<i>Lasioglossum (Lasioglossum) xanthopus</i>		204	74		278
Halictinae	<i>Lasioglossum (Leuchalictus) discum</i>	1	155	44	18	218
Halictinae	<i>Lasioglossum (Leuchalictus) leucozonium</i>	5	42	15	1	63
Halictinae	<i>Lasioglossum (Leuchalictus) niveocinctum</i>	2				2
Halictinae	<i>Lasioglossum (Leuchalictus) scutellare</i>	2	82	1		85
Halictinae	<i>Lasioglossum (Leuchalictus) zonulum</i>		7			7
Halictinae	<i>Lasioglossum (Sphecodogastra) albipes albipes</i>		7	2		9
Halictinae	<i>Lasioglossum (Sphecodogastra) aprilinum</i>	1	205			206
Halictinae	<i>Lasioglossum (Sphecodogastra) calceatum</i>	3	132	394		529
Halictinae	<i>Lasioglossum (Sphecodogastra) cingulatum</i>		7	1		8
Halictinae	<i>Lasioglossum (Sphecodogastra) hyalinipennis</i>		15	79		94
Halictinae	<i>Lasioglossum (Sphecodogastra) obscuratum</i>		30	1		31
Halictinae	<i>Lasioglossum (Sphecodogastra) rhynchites</i>		34	115		149
Halictinae	<i>Lasioglossum kozlovi</i>	9				9
Halictinae	<i>Lasioglossum mandibulare</i>	1	30			31

Halictinae	<i>Lasioglossum marginatum</i>		9799	458		10257
Halictinae	<i>Lasioglossum salinaecola</i>		1			1
Total	88 spp.	436	13625	2196	127	16384

Based on Pesenko et al. (2000), the relative abundance of halictid bees in our surveyed area are shown as follows.

1) Common and mass species (over 1,800 exs.), 1 sp.: *Lasioglossum marginatum* (10,257 exs.).

2) Common species (251–1,800 exs.), 6 spp.: *Halictus brunnescens*, *H. compressus transvolgensis*, *H. mucoreus*, *H. pjalmensis pjalmensis* (Fig. 6c), *Lasioglossum calceatum*, and *L. xanthopus*.

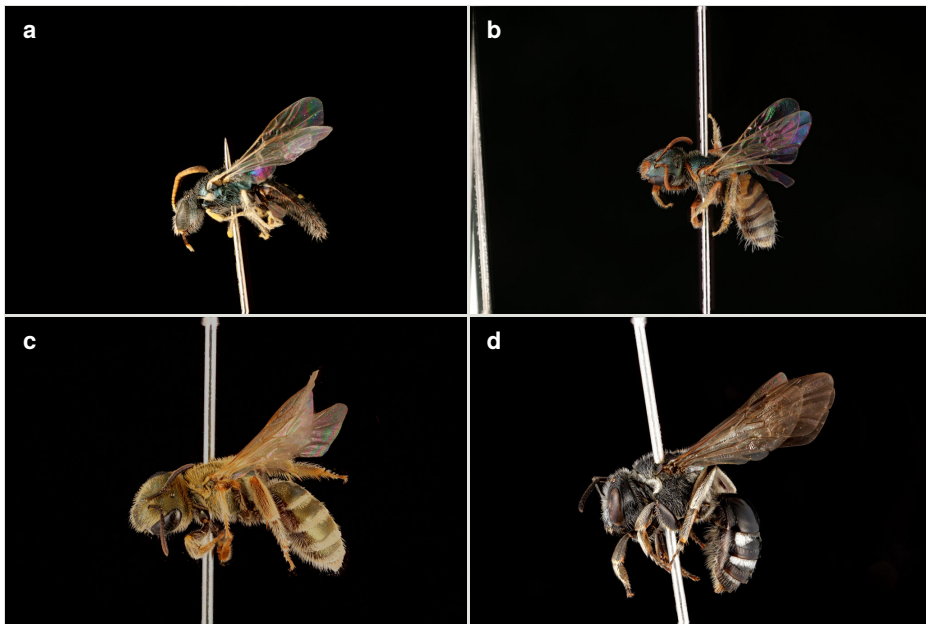


Figure 6.

Lateral habitus of central Asian halictine bees.

a: *Ceylalictus (Ceylalictus) variegatus* (Olivier, 1789) [doi](#)

b: *Nomioides minutissimus minutissimus* (Rossi, 1790) [doi](#)

c: *Halictus (Seladonia) pjalmensis pjalmensis* Strand, 1909 [doi](#)

d: *Lasioglossum (Lasioglossum) costulatum* (Kriechbaumer, 1873). [doi](#)

3) Relatively common species (41–250 exs.), 24 spp.: *Pseudapis diversipes* (Fig. 5d), *Ceylalictus variegatus* (Fig. 6a), *Nomioides minutissimus minutissimus* (Fig. 6b), *Halictus mucidus*, *H. minor*, *H. palustris*, *H. pulvereus*, *H. quadricinctus*, *H. resurgens*, *H. seladonius*, *H. senilis*, *Lasioglossum aprilinum*, *L. clypeiferellum*, *L. croceipes*, *L. discum*, *L.*

equestre, *L. hyalinipennis*, *L. leucozonium*, *L. longirostre*, *L. matianense pluto*, *L. pseudonigripes*, *L. quadrinotiforme*, *L. rhynchites*, and *L. scutellare*.

4) Relatively rare and uncommon species (8–40 exs.), 25 spp.: *Rophites canus* (Fig. 5b), *Pseudapis fugax*, *Nomioides gussakovskiji*, *Halictus bucharicus*, *H. duplocinctus*, *H. indefinitus*, *H. nasica*, *H. rubicundus*, *Lasioglossum acephalum*, *L. alanum*, *L. albipes albipes*, *L. cingulatum*, *L. costulatum* (Fig. 6d), *L. denislucum*, *L. fulvitarse*, *L. kozlovi*, *L. laevinode*, *L. lucidulum*, *L. mandibulare*, *L. melanopus*, *L. obscuratm*, *L. popovi*, *L. sexnotatum*, *L. subaenescens asiaticum*, and *L. subequestre*.

5) Rare species (1–7 exs.), 32 spp.: *Dufourea paradoxa atrocoerulea* (Fig. 5a), *Systropha curvicornis* (Fig. 5c), *Pseudapis femoralis*, *Nomioides ino*, *Halictus alfenellus cedens*, *H. bulbiceps*, *H. fuscicollis*, *H. leucahenus leucahenus*, *H. maculatus maculatus*, *H. persephone*, *H. pollinosa cariniventris*, *H. pseudomucoreus*, *H. takuiricus*, *H. tibialis*, *H. transbaikalensis*, *Lasioglossum buccale*, *L. ciscapum*, *L. clypeale*, *L. fedtschenkoi*, *L. griseolum*, *L. lebedevi*, *L. limbellum limbellum*, *L. nitidiusculum*, *L. niveocinctum*, *L. persicum*, *L. salinaecola*, *L. smeathmanellum*, *L. sublaterale*, *L. tschardschuicum*, *L. verae*, *L. villosulum*, and *L. zonulum*.

The most dominant species in individuals was *Lasioglossum marginatum* occurring mainly in the Western Palearctic Region. One of the reasons, it seems that *L. marginatum* is known as a eusocial species having the largest colony-size (worker number exceeds 400 individuals for per colony) in the eusocial *Lasioglossum* (Plateaux-Quénu 1962; Michener 1974).

The distribution of each species was roughly classified into seven elements as follows:

1) Holarctic, widely distributed from Palearctic to Nearctic Region (3 spp.): *Halictus rubicundus*, *Lasioglossum leucozonium*, and *L. zonulum*.

2) Transpalearctic, widely distributed from Europe to Far East (5 spp.): *Rophites canus*, *Halictus leucahenus leucahenus*, *H. quadricinctus*, *Lasioglossum albipes albipes*, and *L. calceatum*.

3) Transpalearctic-Oriental, widely distributed from Europe to Far East and southeastern Asia (2 spp.): *Ceylalictus variegatus* and *Lasioglossum villosulum*.

4) Europe to central Asia (33 spp.): *Systropha curvicornis*, *Pseudapis diversipes*, *P. femoralis*, *P. fugax*, *Nomioides minutissimus minutissimus*, *Halictus alfenellus cedens*, *H. brunnescens*, *H. indefinitus*, *H. maculatus maculatus*, *H. mucoreus*, *H. nasica*, *L. obscuratum*, *H. pollinosa cariniventris*, *H. pulvereus*, *H. resurgens*, *H. seladonius*, *H. senilis*, *Lasioglossum buccale*, *L. clypeale*, *L. clypeiferellum*, *L. costulatum*, *L. denislucum*, *L. discum*, *L. griseolum*, *L. limbellum*, *L. lucidulum*, *L. mandibulare*, *L. marginatum*, *L. nitidiusculum*, *L. sexnotatum*, *L. smeathmanellum*, and *L. xanthopus*.

5) Western to central Asia, nearly endemic in central Asia (42 spp.): *Dufourea paradoxa atrocoerulea*, *Nomioides gussakovskiji*, *N. ino*, *Halictus bucharicus*, *H. bulbiceps*, *H.*

compressus transvolgensis, *H. duplocinctus*, *H. fuscicollis*, *H. mucidus*, *Lasioglossum niveocinctum*, *H. palustris*, *H. pjalmensis pjalmensis*, *H. pseudomucoreus*, *H. takuiricus*, *H. tibialis*, *H. transbaikalensis*, *L. acephalum*, *L. alanum*, *L. aprilinum*, *L. cingulatum*, *L. ciscapum*, *L. croceipes*, *L. equestre*, *L. fedtschenkoi*, *L. fulvitarse*, *L. hyalinipenne*, *L. kozlovi*, *L. laevinode*, *L. lebedevi*, *L. longirostre*, *L. melanopus*, *L. persicum*, *L. popovi*, *L. pseudonigripes*, *L. quadrinotatiforme*, *L. rhynchites*, *L. salinaecola*, *L. scutellare*, *L. subaenescens asiaticum*, *L. subequestre*, *L. tschardschuicum*, and *L. verae*.

6) Central Asia to Far East (2 spp.): *Halictus minor* and *Lasioglossum matianense pluto*.

7) Southern to central Asia. (1 sp.): *Lasioglossum sublaterale*.

The halictid fauna were mostly composed of Western to Central Asian elements (47.7 %), followed by the European to central Asian elements (37.5 %) in our surveyed area.

Many specimens belonging to *Halictus* (*Seladonia*), *H.* (*Vestitohalictus*), *Lasioglossum* (*Dialictus*), and *L.* (*Hemihalictus*) remain unidentified.

Acknowledgements

We are grateful to late Dr. Vitaly Kastcheev (Almaty, Kazakhstan), Dr. Roman Jaschenko (Zoological Institute, Kazakhstan Academy of Sciences, Almaty, Kazakhstan), Mr. Nabijan (Bishkek, Kyrgyzstan), Mr. Askhat (Bishkek, Kyrgyzstan), Dr. Ahmatjan Dawut (Fukuoka, Japan), Dr. Shuichi Ikudome (Kagoshima Women's College, Kagoshima, Japan), and Dr. Katsushi Mitai (Fukuoka, Japan) for their kind support in the field survey in Central Asia. We also express our thanks to Dr. Layne Westover (Kyushu Univ., Fukuoka, Japan) for his kindness in brushing up an early draft. Murao wishes express to special thanks to Mr. Fritz Gusenleitner (Oberösterreichischen Landesmuseum, Linz, Austria), Mr. Maximilian Schwarz (Linz, Austria), and Dr. Yulia Astafurova (Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia) for their help in examining the Palaearctic Halictidae in their collections. This research was supported in part by the Grant-in-Aid for Scientific Research (B) from the Japan Society for the Promotion of Science (Nos. 14405025, 24405016) (Head investigator: Tadauchi), the JSPS Institutional Program for Young Researcher Overseas Visits (to Murao), and the Environment Research and Technology Development Fund (S-9-2 (8)) of the Ministry of the Environment, Japan (to Tadauchi).

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Supplementary material

Suppl. material 1: Specimens data [doi](#)

Authors: Murao R., Tadauchi O.

Data type: Occurrences

Brief description: The specimens data of halictid bees collected by Central Asian Expedition during 2000 to 2004 and 2012 to 2014.

Filename: Specimens data.xlsx - [Download file](#) (1.80 MB)