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https://doi.org/10.5109/12494

出版情報：ESAKIA. 48, pp.25-35, 2008-11-10. Entomological Laboratory, Faculty of Agriculture, Kyushu University
バージョン：
権利関係：

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ESAKIA, (48): 25-35. November 10, 2008

The Genus *Nomada* (Hymenoptera, Apidae) from Kazakhstan and Kyrgyzstan Collected by the Kyushu University Expedition (1)

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Abstract. Twenty-five species of the genus *Nomada* collected by the Kyushu University Expedition in Central Asia from 2000 to 2004 are reported. Twelve species are recorded from Kazakhstan and one from Kyrgyzstan for the first time, respectively.

Key words: taxonomy, Hymenoptera, Apidae, *Nomada*, Kazakhstan, Kyrgyzstan.

Introduction

We have carried out five surveys of the ecology and the fauna of wild bees in Central Asia from 2000 to 2004 to assist planting campaigns in Central Asia and northwestern China under the project titled "Field Studies of Wild Bee Fauna and Pollination Biology for Combating Desertification and Planting Campaign in Asian Arid Areas". Based on the bee specimens collected during the surveys, the results of taxonomic studies have been published about Halictidae by Dawut & Tadauchi (e.g., 2001) and Andrenidae by Tadauchi *et al* (2005), Tadauchi (e.g., 2006) etc. This short report presents the fauna of the cleptoparasitic bee genus *Nomada* in Kazakhstan and Kyrgyzstan revealed by the surveys.

From the Central Asia, Morawitz (1875) recorded 27 species of the genus *Nomada* for the first time, based on the bee collection by Fedtschenko's expedition in Uzbekistan, Tajikistan, Kyrgyzstan, Kazakhstan from 1869 to 1871, and 14 species of them were new to science. After Morawitz (1875), although Schwarz (1987) and Schwarz & Gusenleitner (2002) published the detailed taxonomic studies, the fauna of the genus *Nomada* are poorly investigated both in taxonomy and ecology.

In the present study we identified 25 species as listed below, based on about 150 dried pinned specimens of the genus *Nomada* collected at the five surveys. Some specimens which remain unidentified at present are under investigation for the future article. Information about distributions in the list are summarized mainly from Alexander & Schwarz (1994), Celary (1995), and Schwarz & Gusenleitner (2002).

At present the examined specimens are kept in the collection of the Entomological Laboratory, Faculty of Agriculture, Kyushu University. In the future half of them will be returned to the Zoological Institute of the Kazakhstan Academy of Science (Almaty).

Family Apidae
Genus *Nomada*

integra species group

Nomada integra Brullé, 1832
(Fig. 1)

Nomada integra Brullé, 1832, Expédition Scientifique de Morée, Zool. II, 3(2): 347; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 240.

Nomada germanica Fabricius, 1804, Systema Piezatorum: 394 (nec *Nomada germanica* Panzer, 1799).

Nomada ferruginata var. *cinctiventris* Friese, 1921, Deuts. Entomol. Zeitschr., 1920: 253.

Specimens examined. [KAZAKHSTAN] 3♀, W of Kamsomolskoe, Kyzylkum desert, S. Kazakhstan Prov., 1. v. 2004 (O. Tadauchi); 4♀, Polevod, riverside Syrdarya

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R., S. Kazakhstan Prov., 8. v. 2004 (O. Tadauchi); 1♂, NW of Akkol, Muyunkum desert, Jambul Prov., 14. v. 2004 (R. Murao).

Distribution. Europe, Mediterranean area, western Asia, Kazakhstan (new record).

Nomada stigma Fabricius, 1804
(Figs. 2, 3)

Nomada stigma Fabricius, 1804, Systema Piezatorum: 393; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 240.

Nomada austriaca Schmiedeknecht, 1882, Apidae Europaeae, 1: 238.

Nomada cinnaberina Morawitz, 1871, Hor. Soc. Entomol. Ross., 7: 330.

Nomada cinnabarina Morawitz, 1872, Verh. Zool. Bot. Ges. Wien, 22: 384 (misspelling).

Nomada cinnabarina var. *slovakica* Mavromoustakis, 1955, Ann. Mag. Nat. Hist., (12)8: 97.

Specimens examined. [KAZAHKSTAN] 1♂, Jarekbas, near Shayan, S. Kazakhstan Prov., 10. vi. 2003 (O. Tadauchi); 1♀, Karaalma, 1210m, near Jabagly, S. Kazakhstan Prov., 17. vi. 2003 (O. Tadauchi); 1♀, the same data (K. Mitai).

Distribution. Europe, Mediterranean area, Kazakhstan (new record).

Nomada thersites Schmiedeknecht, 1882
(Figs. 4, 5)

Nomada thersites Schmiedeknecht, 1882, Apidae Europaeae, 1: 227; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 240.

Nomada maculiscapa Pérez, 1902, Proc.-Verb. Soc. Linn. Bordeaux, 57: lxiii.

Specimens examined. [KAZAKHSTAN] 1♀1♂, Kemertogan, Almaty Prov., 26. v. 2000 (O. Tadauchi); 2♀, Uzenagash, Almaty Prov., 28. v. 2000 (O. Tadauchi); 1♂, Jabagly, 1180-1250m, S. Kazakhstan Prov., 28. v. 2003 (O. Tadauchi); 1♂, the same data (K. Mitai); 1♂, Baijiansai, Mts. Karatau, S. Kazakhstan Prov., 9. vi. 2003 (K. Mitai).

Distribution. Czechoslovakia, Russia, Cyprus, Israel, Kyrgyzstan, Kazakhstan (new record).

ruficornis species group

Nomada amurensis Radoszkowski, 1876
(Fig. 6)

Nomada amurensis Radoszkowski, 1876, Hor. Soc. Entomol. Ross., 12: 91; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 244; Mitai & Tadauchi, 2007, Esakia, 47: 36.

Nomada esakii Yasumatsu et Hirashima, 1953, Kontyû, 20: 31; Tsuneki, 1973, Etizenia, 66: 92, 120.

Nomada sudai Tsuneki, 1976, Kontyû, 44: 152.

Specimen examined. [KAZAKHSTAN] 1♀, Jabagly, 1180-1250m, S. Kazakhstan Prov., 11. v. 2004 (O. Tadauchi).

Distribution. Kazakhstan (new record), Far East Russia to Japan.

Nomada aswensis Tsuneki, 1973
(Fig. 7)

Nomada aswensis Tsuneki, 1973, Etizenia, 66: 100; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 245; Mitai & Tadauchi, 2007, Esakia, 47: 45.

Specimen examined. [KAZAKHSTAN] 1♂, Nat. border, Chernjaevka, S. Kazakhstan Prov., 26. v. 2003 (O. Tadauchi).

Distribution. Kazakhstan (new record), Japan.

Nomada castellana Dusmet, 1913
(Fig. 8)

Nomada castellana Dusmet, 1913, Mem. R. Soc. Española Hist. Nat., 9: 309; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 245.

Nomada baeri Stöckhert, 1930, In: Schmiedeknecht, *Hymenop. Nord- und Mitteleuropas*: 1008, 1044.

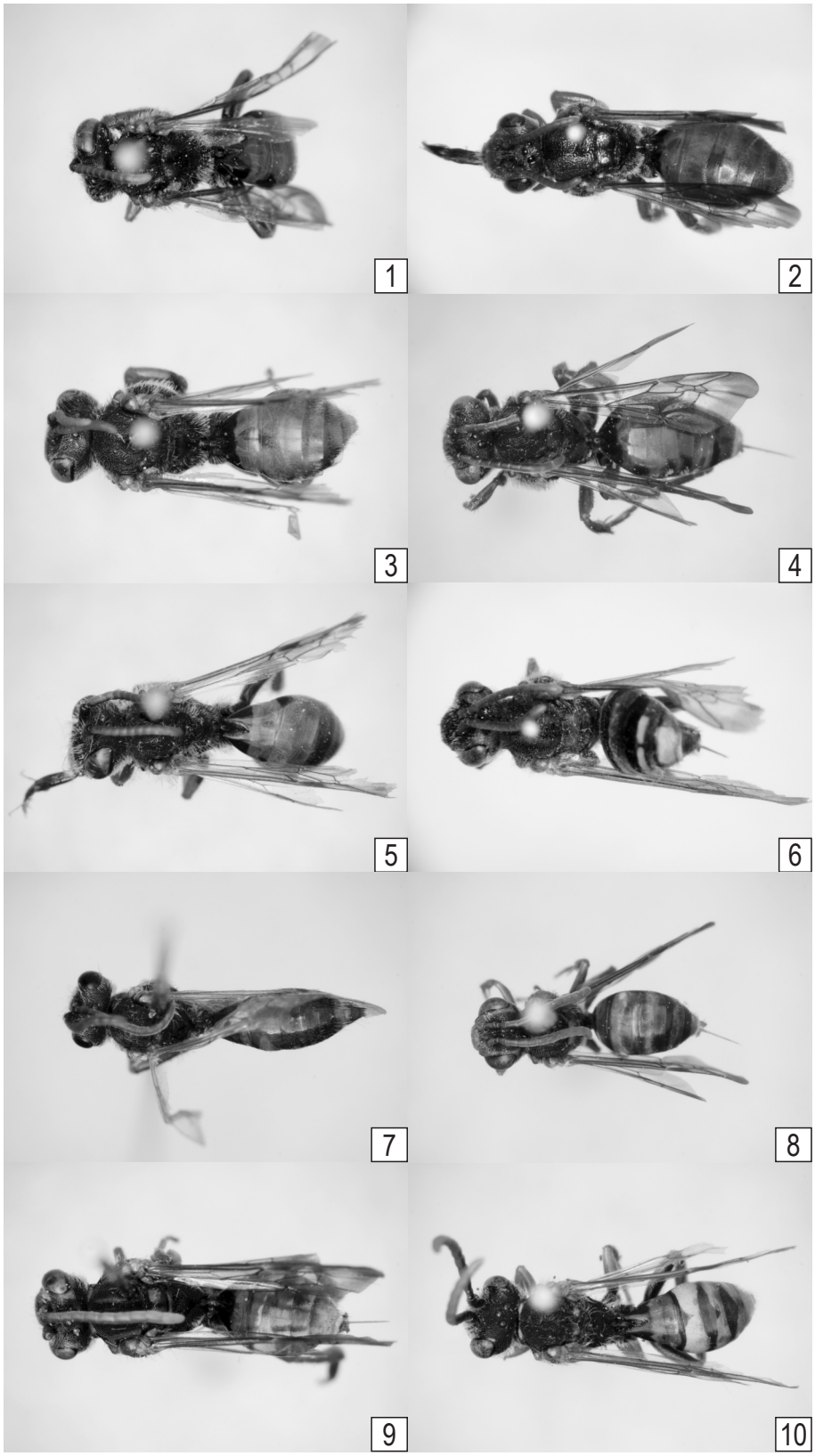
Specimen examined. [KAZAKHSTAN] 1♀, Jabagly 1080-1200m, S. Kazakhstan Prov., 27. v. 2003 (O. Tadauchi).

Distribution. South to central Europe, Kazakhstan (new record).

Nomada conjungens Herrich-Schaffer, 1839
(Figs. 9, 10)

Nomada conjungens Herrich-Schäffer, 1839, Zeitschr. Entomol., 1: 279; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 246.

Nomada bipunctis Pérez, 1902, Proc.-Verb. Soc. Linn. Bordeaux, 57: lxi.



Figs. 1-10. Dorsal aspects of the *Nomada* spp. collected from Kazakhstan and Kyrgyzstan. 1, *Nomada integra* (female). 2-3, *N. stigma* (2: female. 3: male). 4-5, *N. thersites* (4: female. 5: male). 6, *N. amurensis* (female). 7, *N. aswensis* (male). 8, *N. castellana* (female). 9-10. *N. conjungensis* (9: female. 10: male).

Nomada dallatorreana Schmiedeknecht, 1882, Apidae Europaeae, 1: 194.

Specimens examined. [KAZAKHSTAN] 1♂, Jabagly, 1080-1200m, S. Kazakhstan Prov., 27. v. 2003 (K. Mitai); 1♂, Jabagly, 1180-1250m, S. Kazakhstan Prov., 28. v. 2003 (O. Tadauchi); 1♀, Baijansai, 800m, Mts. Karatau, S. Kazakhstan Prov., 9. vi. 2003 (O. Tadauchi); 1♂, Baijansai, 1030m, Mts. Karatau, S. Kazakhstan Prov. (O. Tadauchi); 3♀, Jabagly, 1180-1250m, S. Kazakhstan Prov., 14. vi. 2003 (O. Tadauchi); 2♂, Kashi-Ulken-Kaindy, 1700-2000m, Jabagly, S. Kazakhstan Prov., 15. vi. 2003 (K. Mitai); 1♂, Aksu Valley, S. Kazakhstan Prov., 16. vi. 2003 (K. Mitai).

Distribution. Southern to Central Europe, England, Northern Africa, Asia Minor, Kazakhstan (new record).

Nomada flavilabris Morawitz, 1875
(Fig. 11)

Nomada flavilabris Morawitz, 1875, Izv. Imp. Obshch. Ljubrit. Estest. Antrop. Etnogr., 19(2): 158; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 247.

Nomada nuptialis Noskiewicz, 1930, Polskie Pismo Entomol., 9: 261.

Nomada varipes Pérez, 1913, Bol. R. Soc. Española Hist. Nat., 13: 332.

Specimen examined. [KAZAKHSTAN] 1♀, Baijansai, 750m, Mts. Karatau, S. Kazakhstan Prov., 9. vi. 2003 (O. Tadauchi).

Distribution. Uzbekistan, Tajikistan, Kazakhstan (new record).

Nomada flavopicta (Kirby, 1802)
(Fig. 12)

Apis flavopicta (Kirby, 1802), Monographia Apum Angliae, 2: 202; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 247.

Nomada jacobaeae var. *haematodes* Schmiedeknecht, 1882, Apidae Europaeae, 1: 91.

Nomada jacobaeae var. *miranda* Schmiedeknecht, 1882, Apidae Europaeae, 1: 91.

Nomada jasnitskii Cockerell, 1928, Ann. Mag. Nat. Hist., (10)1: 348.

Specimen examined. [KAZAKHSTAN] 1♀, Near Sternjak, Kokchetav District, N. Kazakhstan Prov., 25. vii. 2002 (V. Kazenas, A. Jdanko & V. Rascheev).

Distribution. Widely distributed in the Palearctic Region.

Nomada guttulata Schenck, 1861
(Figs. 13, 14)

Nomada guttulata Schenck, 1861, Jahrb. Ver. Naturk. Nassau, 14: 391; Tsuneki, 1973, Etizenia, 66: 109; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 248; Mitai & Tadauchi, 2007, Esakia, 47: 77.

Nomada rufilabris Thomson, 1870, Opuscula Entomol., 2: 95.

Nomada mishimana Tsuneki, 1976, Kontyû, 44: 154.

Specimens examined. [KAZAKHSTAN] 1♂, Jabagly, 1080-1200m, S. Kazakhstan Prov., 27. v. 2003 (K. Mitai); 1♀, Jabagly, 1180-1250m, S. Kazakhstan Prov., 28. v. 2003 (O. Tadauchi); 1♀, Karaalma, 1210m, near Jabagly, S. Kazakhstan Prov., 17. vi. 2003 (K. Mitai).

Distribution. Widely distributed in the Palearctic Region.

Nomada italica Morawitz, 1875
(Fig. 15)

Nomada italica Dalla Torre & Friese, 1894, Entomol. Nachr., 20: 40; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 249.

Nomada festiva Schmiedeknecht, 1882, Apidae Europaeae, 1: 77 (nec *Nomada festiva* Cresson, 1863).

Specimen examined. [KAZAKHSTAN] 1♀, Jabagly, 1080-1200m, S. Kazakhstan Prov., 27. v. 2003 (K. Mitai).

Distribution. Southern and central Europe, Azerbaijan, Kazakhstan.

Nomada lathburiana (Kirby, 1802)
(Fig. 16)

Apis lathburiana Kirby, 1802, Monographia Apum Angliae, 2: 183; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 249.

Apis rufiventris Kirby, 1802, Monographia Apum Angliae, 2: 187.

Specimens examined. [KAZAKHSTAN] 1♂, Jabagly, 1080-1200m, S. Kazakhstan Prov., 27. v. 2003 (O. Tadauchi); 1♂, Jabagly, 1180-1250m, S. Kazakhstan Prov., 11. v. 2004 (R. Murao).

Distribution. Widely distributed in the Palearctic Region.

Nomada ruficollis Morawitz, 1875
(Fig. 17)

Nomada ruficollis Morawitz, 1875, Izv. Imp. Obshch. Ljubrit. Estest. Antrop. Etnogr., 19(2): 156; Alexander

& Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 251.

Specimen examined. [KAZAKHSTAN] 1♀, Janatas, S. Kazakhstan Prov., 7. vi. 2003 (K. Mitai).

Distribution. Uzbekistan, Afghanistan, Pakistan, Kazakhstan (new record).

Nomada sarta Morawitz, 1875
(Fig. 18)

Nomada sarta Morawitz, 1875, Izv. Imp. Obshch. Ljubrit. Estest. Antrop. Etnogr., 19(2): 154; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 252.

Specimens examined. [KAZAKHSTAN] 1♂, Kantagi, 550-700m, near Kenta, Mts. Karatau, S. Kazakhstan Prov., 2. vi. 2003 (K. Mitai); ♀, Achisai, 670-700m, Mts. Karatau, S. Kazakhstan Prov., 4. vi. 2003 (K. Mitai).

Distribution. Uzbekistan, Kazakhstan (new record).

Nomada striata Fabricius, 1793
(Fig. 19)

Nomada striata Fabricius, 1793, Entomologia Systematica, v. 2: 348; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 252.

Nomada dzieduszyckii Noskiewicz, 1924, Polskie Pismo Entomol., 3: 34.

Apis hillana Kirby, 1802, Monographia Apum Angliae, 2: 208.

Apis ochrostoma Kirby, 1802, Monographia Apum Angliae, 2: 209.

Nomada punctiscuta Thomson, 1870, Opuscula Entomol., 2: 96.

Nomada simillima Pérez, 1913, Bol. R. Soc. Española Hist. Nat., 13: 334.

Nomada vidua Smith, 1844, Zoologist, 2: 602.

Specimen examined. [KAZAKHSTAN] 1♀, Kantagi, 550-700m, near Kenta, Mts. Karatau, S. Kazakhstan Prov., 2. vi. 2003 (O. Tadauchi).

Distribution. Widely distributed in the Palearctic Region.

Nomada zonata Panzer, 1798
(Fig.20)

Nomada zonata Panzer, 1798, Fauna Insectorum Germanicae, Heft 53: 20; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 253.

Nomada banatica Kiss, 1930, Rovart. Lap., 22: 85.

Nomada bofillana Pérez, 1913, Bol. R. Soc. Española Hist. Nat., 13: 331.

Specimen examined. [KAZAKHSTAN] 1♀, Almaty-Big Almaty Lake, 1560-1360m, Almaty Prov., 22. v. 2004 (O. Tadauchi).

Distribution. Europe, North Africa, Central Asia.

armata species group

Nomada mutabilis Morawitz, 1870
(Figs. 21, 22)

Nomada mutabilis Morawitz, 1870, Hor. Soc. Entomol. Ross., 7: 328; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 253.

Nomada antigana Pérez, 1895, Espèces Nouv. Mellifères Barbarie: 31.

Nomada mutabilis var. *lucifera* Schmiedeknecht, 1882, Apidae Europaeae, 1: 214.

Specimens examined. [KAZAKHSTAN] 1♀, Uzenagash, Almaty Prov., 28. v. 2000 (O. Tadauchi); 1♂, Shayan-Birlik, S. Kazakhstan Prov., 8. vi. 2003 (K. Mitai); 2♀, Lake Charbarinskoe, Chordara, 180m, W of Tashkent, S. Kazakhstan Prov., 30. iv. 2004 (O. Tadauchi); 1♀, W of Kamsomolskoe, Kyzylkum desert, S. Kazakhstan Prov., 1. v. 2004 (O. Tadauchi). [KYRGYZSTAN] 1♀, Krasnayarichika, 800m, 27. v. 2000 (O.Tadauchi); 1♀, Bishkek, 28. v. 2000 (O. Tadauchi).

Distribution. Europe, North Africa, western to central Asia, Nepal.

superba species group

Nomada sexfasciata Panzer, 1799
(Figs. 23, 24)

Nomada sexfasciata Panzer, 1799, Fauna Insectorum Germanicae, Heft 62: 18; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 254.

Apis connexa Kirby, 1802, Monographia Apum Angliae, 2: 199.

Apis schaefferella Kirby, 1802, Monographia Apum Angliae, 2: 199.

Specimens examined. [KAZAKHSTAN] 1♀, Achisai, 670-700m, Mts. Karatau, S. Kazakhstan Prov., 5. vi. 2003 (K. Mitai); 1♂, Almaty-Big Almaty Lake, 1560-1360m, Almaty Prov., 22. v. 2004 (O. Tadauchi).

Distribution. North Africa, Europe, western to central Asia.

Figs. 11-20. Dorsal aspects of the *Nomada* spp. collected from Kazakhstan and Kyrgyzstan. 11, *N. flavilabris* (female). 12, *N. flavopicta* (female). 13-14, *N. guttulata* (13: female. 14: male). 15, *N. italica* (female). 16, *N. lathburiana* (male). 17, *N. ruficollis* (female), 18, *N. sarta* (male). 19, *N. striata* (female). 20, *N. zonata* (female).

basalis species group

Nomada basalis Herrich-Schäffer, 1839
(Figs. 25, 26)

Nomada basalis Herrich-Schäffer, 1839, Zeitschr. Entomol., 1: 282; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 255.
Nomada andalusica Schmiedeknecht, 1882, Apidae Europaeae, 1: 124.
Nomada astarte Pérez, 1895, Espèces Nouv. Mellifères Barbarie: 29.
Nomada bimaculata Eversmann, 1852, Bull. Soc. Imp. Nat. Moscou, 25: 99 (nec *Nomada bimaculata* Schilling, 1849).
Nomada emendate Schulz, 1906, Spolia Hymenopterologica: 259.
Nomada flavomaculata Lucas, 1849, Exploration Scientifique de l'Algerie, Zoologie, v. 3: 216.
Nomada flavomaculata var. *carnea* Friese, 1921, Deuts. Entomol. Zeitschr., 1920: 253.
Nomada grossa Friese, 1921, Deuts. Entomol. Zeitschr., 1920: 258.
Nomada regalis Morawitz, 1870, Hor. Soc. Entomol. Ross., 7: 332.
Nomada regalis var. *inderskiana* Lozinski, 1922, Bull. Int. Acad. Polonaise Sci. Let. Cl. Sci. Math. Nat. Ser. B, 1921: 110.
Nomada rubra Smith, 1849, Zoologist, 7: App. p. xli.
Nomada tricolor Brullé, 1832, Expédition Scientifique de Morée, Zoologie, 3(2): 345.
Nomada tripunctata Morawitz, 1872, Hor. Soc. Entomol. Ross., 8: 229.

Specimens examined. [KAZAKHSTAN] 1♀, Kemertogan, Almaty Prov., 26. v. 2000 (O. Tadauchi); 1♀, Kemertogan, Almaty Prov., 26. v. 2000 (A. Dawut); 1♀, Kurday, 800m, Almaty Prov., 26. v. 2000 (A. Dawut); 2♂, Uzenagash, Almaty Prov., 28. v. 2000 (A. Dawut); 3♀, Uzenagash, Almaty Prov., 28. v. 2000 (O. Tadauchi); 1♂, Jarekbas, near Shayan, S. Kazakhstan Prov., 10. vi. 2003 (O. Tadauchi); 1♂, Jabagly, 1180-1250m, S. Kazakhstan Prov., 14. vi. 2003 (K. Mitai); 1♀4♂, Kashi-Ulken-Kaindy, 1700-2000m, Jabagly, S. Kazakhstan Prov., 15. vi. 2003 (K. Mitai); 2♀1♂, Aksu Valley, S. Kazakhstan Prov., 16. vi. 2003 (K. Mitai); 1♂, Karaalma, 1210m, near Jabagly, S. Kazakhstan Prov., 17. vi. 2003 (O. Tadauchi); 1♂, the same data (K. Mitai).

Distribution. Eurasia, North Africa.

Nomada fedtschenkoi Morawitiz, 1875
(Fig. 27)

Nomada fedtschenkoi Morawitz, 1875, Izv. Imp. Obshch. Ljubrit. Estest. Antrop. Etnogr., 19(2): 149; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 247.

Specimens examined. [KAZAKHSTAN] 1♂, Janatas, S. Kazakhstan Prov., 7. vi. 2003 (O. Tadauchi); 1♂, Jabagly, 1180-1250m, S. Kazakhstan Prov., 14. vi. 2003 (O. Tadauchi); 5♂, Karaalma, 1210m, near Jabagly, S. Kazakhstan Prov., 17. vi. 2003 (O. Tadauchi); 3♂, the same data (K. Mitai); 1♂, Jabagly, 1150-1250m, S. Kazakhstan Prov., 11. v. 2004 (O. Tadauchi).

Distribution. Uzbekistan, Kazakhstan.

Nomada subvirescens Morawitz, 1875
(Fig. 28)

Nomada subvirescens Morawitz, 1875, Izv. Imp. Obshch. Ljubrit. Estest. Antrop. Etnogr., 19(2): 149; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 255.
Nomada desertorum Morawtiz, 1875, Izv. Imp. Obshch. Ljubrit. Estest. Antrop. Etnogr., 19(2): 152.

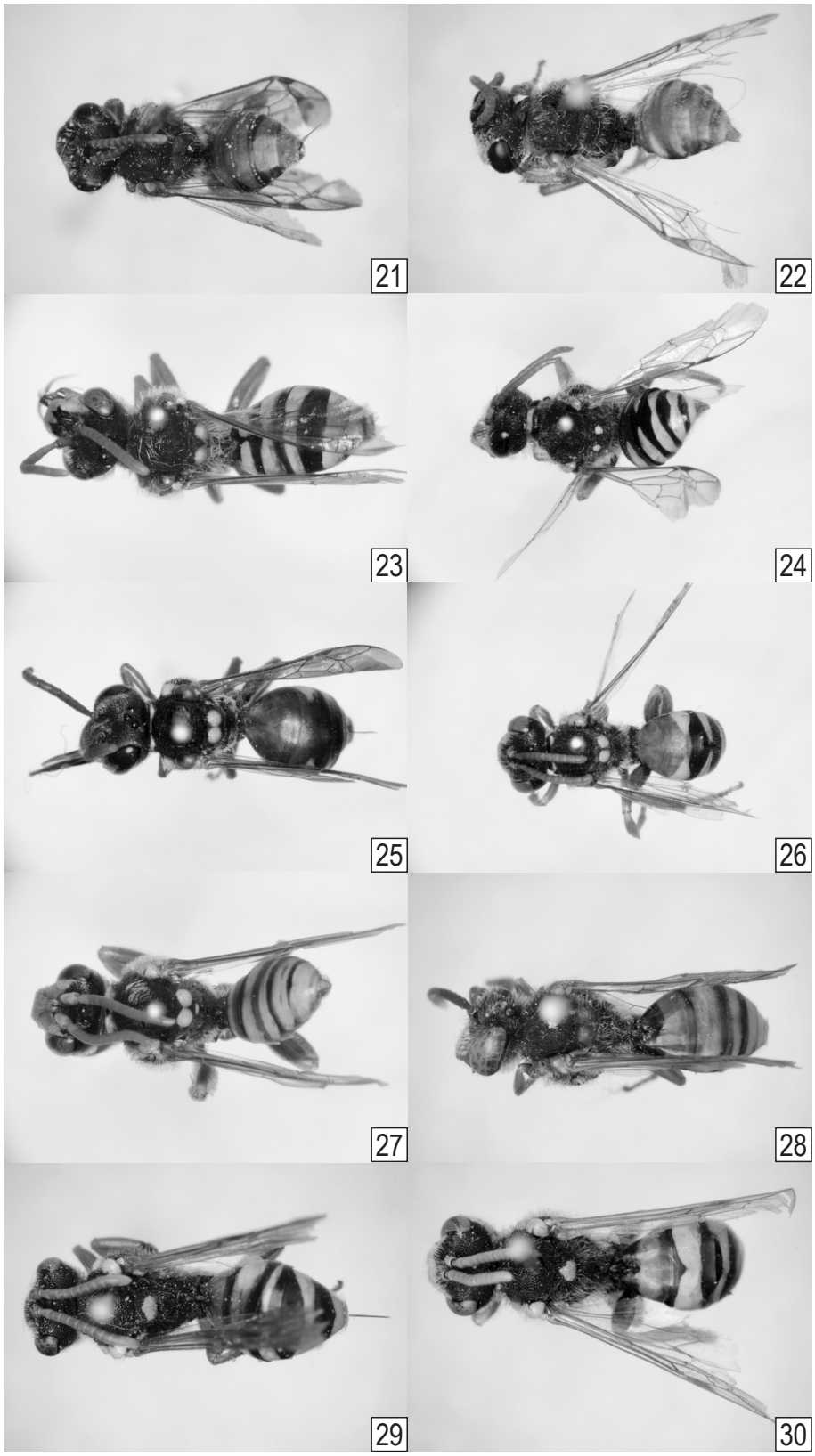
Specimens examined. [KAZAKHSTAN] 3♂, Chordara, 200m, W of Tashkent, S. Kazakhstan Prov., 30. iv. 2004 (R. Murao); 1♀, Polevod, riverside Syrdarya R., S. Kazakhstan Prov., 8. v. 2004 (O. Tadauchi); 2♀, the same data (R. Murao).

Distribution. Uzbekistan, Kazakhstan.

bifasciata species group

Nomada fucata Panzer, 1798
(Figs. 29, 30)

Nomada fucata Panzer, 1798, Fauna Insectorum Germanicae, Heft 55: 19; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 255.
Nomada fucata var. *caucasica* Lozinski, 1922, Bull. Int. Acad. Polonaise Sci. Let. Cl. Sci. Math. Nat. Ser. B, 1921: 103.
Nomada fucata var. *flavescens* Friese, 1921, Deuts. Entomol. Zeitschr., 1920: 254 (nec *Nomada pampicola* var. *flavescens* Friese, 1916).
Nomada fucata var. *iberica* Dalla Torre & Friese, 1894, Entomol. Nachr., 20: 39.
Nomada fucata var. *pretiosa* Friese, 1921, Deuts. Entomol. Zeitschr., 1920: 253.
Nomada fucata var. *taeniata* Gribodo, 1894, Bull. Soc. Entomol. Italiana, 26: 79.
Nomada varia Panzer, 1798, Fauna Insectorum



Figs. 21-30. Dorsal aspects of the *Nomada* spp. collected from Kazakhstan and Kyrgyzstan. 21-22, *N. mutabilis* (21: female. 22: male). 23-24, *N. sexfasciata* (23: female. 24: male). 25-26, *N. basalis* (25: female. 26: male). 27, *N. fedtschenkoi* (male). 28, *N. subvirescens* (female). 29-30, *N. fucata* (29: female. 30: male).

Germanicae, Heft 55: 20.

Specimens examined. [KAZAHKSTAN] 1♂, Jabagly, 1080-1200m, S. Kazakhstan Prov., 27. v. 2003 (O. Tadauchi); 1♀, Kantagi, 550-700m, near Kenta, Mts. Karatau, S. Kazakhstan Prov., 1. vi. 2003 (K. Mitai); 1♂, Kashi-Ulken-Kaindy, 1700-2000m, Jabagly, S. Kazakhstan Prov., 15. vi. 2003 (K. Mitai); 1♂, Jabagly, 1150-1250m, S. Kazakhstan Prov., 1. v. 2004 (V. Lina); 3♂, Jabagly, 1150-1250m, S. Kazakhstan Prov., 3. v. 2004 (V. Lina); 1♀1♂, Polevod, riverside Syrdarya R., S. Kazakhstan Prov., 8. v. 2004 (O. Tadauchi); 1♀, E of Boroldy village, Mts. Karatau, S. Kazakhstan Prov., 10. v. 2004 (R. Murao); 4♀, N of Boroldy village, Mts. Karatau, S. Kazakhstan Prov., 10. v. 2004 (O. Tadauchi); 3♀, Cordai, 680m, Jambul Prov., 17. v. 2004 (R. Murao); 1♀, the same data (O. Tadauchi); 1♂, Riverside, Chu R., Moyenkum, Jambul Prov., 17. v. 2004 (O. Tadauchi); 1♀, Arashan, 1850-1900m, near Karakol, E of Lake Issik-Kol., 25. viii. 2004 (O. Tadauchi). [KYRGYZSTAN] 2♀, Issyk-ata, 1800m, 27. v. 2000 (A. Dawut); 1♂, Bishkek, 28. v. 2000 (A. Dawut).

Distribution. Europe, Eurasia.

Nomada goodeniana (Kirby, 1802)
(Figs. 31, 32)

Apis goodeniana Kirby, 1802, Monographia Apum Angliae, 2: 180; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 256.

Apis alternate Kirby, 1802, Monographia Apum Angliae, 2: 182.

Nomada batava Vollenhoven, 1858, Herklots Bouwstoffen, II, P. 3: 283.

Nomada cincta Herrich-Schäffer, 1839, Zeitschr. Entomol., 1: 288 (nec *Nomada cincta* Rossi, 1792 and nec *Nomada cincta* Lepeletier, 1841).

Nomada goodeniana danuvia Pittioni, 1951, Entomol. Nachrichtenbl. Österr. Schweizer Entom., 3: 155.

Nomada integra Imhoff, 1834, Isis, 1834: 374 (nec *Nomada integra* Brullé, 1832 and nec *Nomada integra* Robertson, 1893).

Nomada scheviakovi Cockerell, 1928, Ann. Mag. Nat. Hist., (10)1: 349.

Nomada succincta var. *lineolata* Friese, 1921, Deuts. Entomol. Zeitschr., 1920: 254.

Specimens examined. [KAZAKHSTAN] 3♀2♂, Jabagly, 1180-1250m, S. Kazakhstan Prov., 14. vi. 2003 (K. Mitai); 4♀, Kashi-Ulken-Kaindy, 1700-2000m, Jabagly, S. Kazakhstan Prov., 15. vi. 2003 (K. Mitai); 4♀, Aksu Valley, S. Kazakhstan Prov., 16. vi. 2003 (K. Mitai); 3♀, Karaalma, 1210m, near Jabagly, S. Kazakhstan Prov., 17. vi. 2003 (O. Tadauchi); 4♀, the same data (K. Mitai); 1♀1♂, Jabagly, 1180-1250m, S. Kazakhstan Prov., 11. v. 2004 (R. Murao); 1♂, Almaty-Big Almaty Lake, 1560-1360m, Almaty Prov., 22. v. 2004 (O. Tadauchi). [KYRGYZSTAN] 3♂, Issyk-ata, 1800m, 27. v. 2000 (O. Tadauchi).

Distribution. Northern and central Europe to Siberia.

furva species group

Nomada blepharipes Schmiedeknecht, 1882
(Fig. 33)

Nomada blepharipes Schmiedeknecht, 1882, Apidae Europaeae, 1: 127; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 256.

Nomada helvetica Schmiedeknecht, 1882, Apidae Europaeae, 1: 225.

Specimen examined. [KAZAKHSTAN] 1♀, Baijansai, 1030m, Mts. Karatau, S. Kazakhstan Prov., 9. vi. 2003 (O. Tadauchi).

Distribution. Southern to middle Europe, Kazakhstan (new record).

Nomada glaucopis Pérez, 1890
(Fig. 34)

Nomada glaucopis Pérez, 1890, Act. Soc. Linn. Bordeaux, 44: 194; Alexander & Schwarz, 1994, Univ. Kansas Sci. Bull., 55: 257.

Nomada ferroviaria Dusmet, 1913, Mem. R. Soc. Española Hist. Nat., 9: 34.

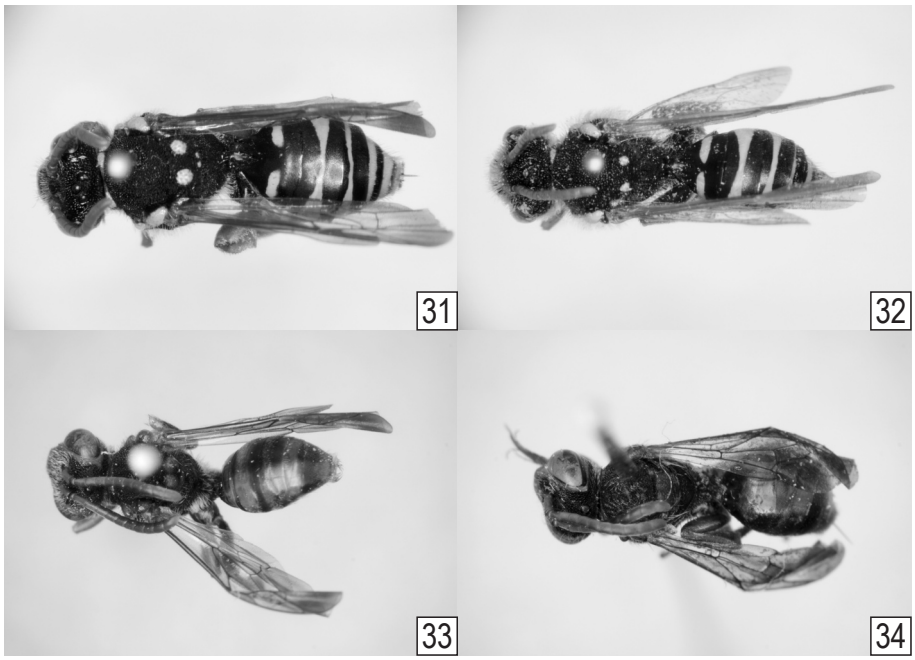
Specimen examined. [KAZAKHSTAN] 1♀, Uzenagash, Almaty Prov., 28. v. 2000 (O. Tadauchi).

Distribution. Mediterranean area, Canary Islands, Kazakhstan (new record).

Acknowledgments

Particular thanks are due to Mr. M. Schwarz (Linz) for valuable advice and encouragement, and for the opportunity of examining his collections of bees.

The authors are also indebted to Prof. V. Kastcheev and Dr. R. Jaschenko of the Zoological Institute, Kazakhstan Academy of Sciences (Almaty), Dr. R. Miyanaga of Shimane Univ., Assoc. Prov. S. Kamitani of Kyushu Univ., Mr. D. Yamaguchi of Kyushu University, Dr. A. Dawut (Fukuoka), Dr. R. Murao (Hyogo) for their help in the field survey, and to Mr. F. Gusenleitner of Oberösterreichischen Landesuseum, Linz for his help in examining the bee collection. This is a Contribution from



Figs. 31-34. Dorsal aspects of the *Nomada* spp. collected from Kazakhstan and Kyrgyzstan. 31-32, *N. goodeniana* (31: female. 32: male). 33, *N. blepharipes* (female). 34, *N. glaucopis* (female).

the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka (Ser. 6, No. 56). This work was supported by a Grant-in-Aid for Scientific Research (B) (2) from the Japan Society for the Promotion of Science (No. 14405025) (Head Investigator: O. Tadauchi).

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