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Shebl, Mohamed A.

Graduate School of Bioresource and Bioenvironmental Sciences, Kyushu University

Tadauchi, Osamu

Entomological Laboratory, Faculty of Agriculture, Kyushu University

<https://doi.org/10.5109/19396>

出版情報 : ESAKIA. 50, pp.37-70, 2011-02-28. 九州大学大学院農学研究院昆虫学教室
バージョン :
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New Species and New Records of the Genus *Andrena* from Kazakhstan and Kyrgyzstan (Hymenoptera, Andrenidae)

Mohamed A. SHEBL¹⁾ and Osamu TADAUCHI²⁾

1) Graduate School of Bioresource and Bioenvironmental Sciences, Kyushu University, Fukuoka, 812-8581 Japan

2) Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka, 812-8581 Japan

Abstract. This is the fourth paper of a taxonomic study of the genus *Andrena* collected during a Kyushu University Expedition to Kazakhstan and Kyrgyzstan from 2000 to 20004. Collection data obtained from Central Asia in Oberösterreichischen Landesmuseum, Linz and the American Museum of Natural History, New York are added. In this paper two new species, *Andrena* (*Simandrena*) *kazakhstanensis* and *A.* (*Simandrena*) *iliana*, are described and 17 species and 1 subspecies belonging to 12 subgenera are redescribed including 15 species newly recorded from Kazakhstan and Kyrgyzstan.

Key words: taxonomy, Hymenoptera, Andrenidae, *Andrena*, new species, new records, Kazakhstan, Kyrgyzstan.

Introduction

Morawitz (1876) first recorded *Andrena* from Central Asia mainly from Uzbekistan. He recorded 68 species of *Andrena* (51 species were new to science). Gusenleitner & Schwarz (2002) recognized 1443 species world wide. Many species of *Andrena* have yet to be described (especially those from the dry regions of Central Asia and from Mesoamerica). The real number of species of *Andrena* might approach 2000 (Dubitzky, 2006). Published information from Central Asia is not enough, Osytshnjuk (1977, 1995, 2005, 2008) and Osytshnjuk *et al.*, (2005, 2008); Tadauchi (2005, 2006, 2008) and Shebl & Tadauchi (2009). This paper is the fourth paper on the genus *Andrena* from Kazakhstan and Kyrgyzstan. Two new species are described and 17 species and 1 subspecies collected from this area are redescribed.

Material and Methods

This study is based on material collected by the Kyushu University Expedition from Kazakhstan and

Kyrgyzstan from 2000 to 2004. Some specimens were borrowed from foreign museums, Linz (Austria), New York (USA) and St. Petersburg (Russia). External structures of specimens are examined and described using stereoscopic microscope (OLYMPUS SZX9). Photos of specimens were taken by using Nikon COOLPIX 995 Digital Camera, and illustrated by using ADOBE PHOTOSHOP software. Examination of male genitalia were carried out. The male terminalia were macerated with 10% KOH (potassium hydroxide) for at least half a day, and transferred to distilled water for dissection.

The morphological terminology in the description follows Tadauch (2006, 2008). The terms and their abbreviations used are as follows: **T**: tergum, **S**: sternum, **HL**: head length, **HW**: head width, **MsW**: mesoscutum width, **MtW**: metasomal width, **IS**: interspace punctures, **OOD**: **POD**: **OCD**: ocellocular distance: post ocellocular distance: ocellocciptial distance, **FL1**: first flagellum length, **FL2**: second flagellum length, **FL3**: third flagellum length, **FVL**: facial fovea length, **FVW**: facial fovea width, **PP**: punctures, **CPL**: clypeus length, **GW**: **EW**: genal width: eye width. Floral association means that

specimens of the species collected from flowers of the plant species.

52. *Andrena (Larandrena) ventralis* Imhoff, 1932
(Fig. 1)

?*Apis tenella* Christ, 1791, Naturg. der Insect., 197.

Andrena analis Fabricius, 1804, Syst. Piez., 326.

Andrena ventralis Imhoff, 1832, Isis (Oken) Jena., 1206.

Andrena rufiventris Eversmann, 1852 (nec *Andrena rufiventris* Lepeletier 1841), Bull. Soc., Nat. Moscou, 25: 32.

Andrena mutabilis Morawitz, 1866 (nec *Andrena mutabilis* Pérez, 1895), Hor. Soc. ent. Ross, 4: 18, nom. nov. for *A. rufiventris* Eversmann, 1852.

Andrena (Larandrena) fukuiana Hirashima & Haneda, 1973, Mushi, 47: 72.

Andrena (Larandrena) ventralis: Gusenleitner &

Schwarz, 2002, Entomofauna, Suupl., 12: 810-811.

Redescription.

Female. BL 7.3 mm, WL 6.3 mm.

Color. Flagellum brownish beneath; mandible reddened apically; wing membranes subhyaline, yellowish, veins and pterostigma yellow brownish; tibial spur yellowish; posterior depressions of metasomal terga reddish brown.

Pubescence. Hairs on head moderately dense except clypeus, whitish; those on clypeus sparse, short 100-200 μ m, whitish, with lateral fringes; those on vertex long 300-450 μ m, whitish, those on genal area dense, long 250-400 μ m, whitish; facial fovea brownish above, whitish below. Hairs on mesoscutum sparse, slightly long 200-400 μ m, whitish; those on scutellum slightly dense, long 100-300 μ m, whitish; those on mesepisternum dense, long 400-600 μ m, whitish;

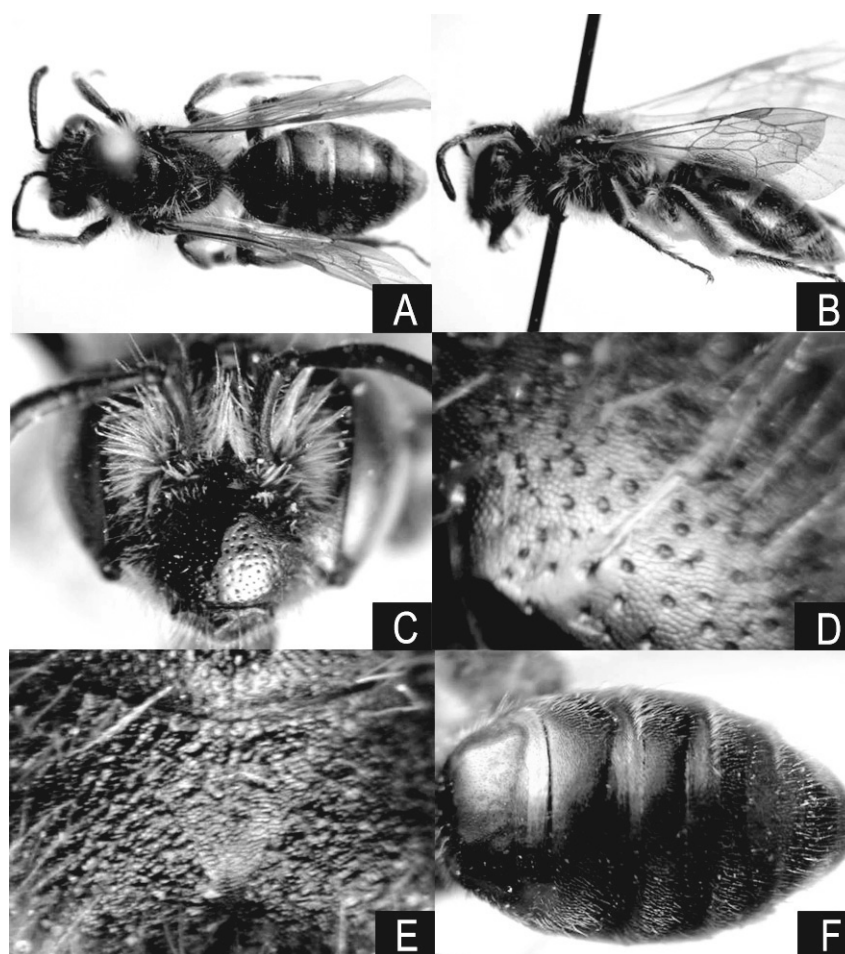


Fig. 1. *Andrena (Larandrena) ventralis* Imhoff, female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

propodeal corbícula developed with well arranged dorsal fringes, whitish, with internal simple, sparse hairs; trochanteral floccus perfect, dense, whitish; femoral floccus dense, long, yellowish, tibial scopa developed, simple, whitish hairs. Hairs on metasomal tergum T₁ medially with sparse, short 150-250 µm, whitish, T₂₋₄ with slightly dense, short, suberect hairs, T₂₋₄ with interrupted whitish hair bands; caudal fimbria golden; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 2.0mm, head width 2.4mm, HL/HW = 0.83. HW: MsW: MtW: 2.4: 1.8: 2.5. Vertex flat in frontal view, tessellate surface, shiny, with fine, sparse PP 20 µm, IS = 1. OOD: POD: OCD: = 0.4: 0.4: 0.1. FL₁ < FL₂+FL₃, FL₂ = FL₃ which are longer than broad. Eyes with inner margins subparallel. Supraclypeal area convex, shiny, with small PP. Facial fovea narrow, extending to a line at lower margins of antennal fossae, FVL = 1.1 mm, FVW = 0.25 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening surface. Facial quadrangle broader than long (2.4:2.0). Clypeus convex, weakly tessellate, punctate with dense, distinct PP 25 µm, IS = 1-2, without longitudinal median impunctate space, CPL = 0.8 mm. Lower paraocular area shiny, smooth, punctate with dense, minute PP 20 µm, IS = 1. Malar space linear, small. Genal area slightly broader than eye, GW: EW = 0.56:0.5, surface weakly tessellate and shiny with minute PP 20 µm, IS = 1. Mesosoma: Pronotum without lateral suture, with humeral angle and ridge, pronotum tessellate surface, punctate, shiny with fine, sparse PP 20 µm. Mesoscutum tessellate, with fine, scattered, irregular, small PP 30µm, IS=1. Scutellum weakly tessellate, shiny with fine, dense, small PP 25 µm, IS = 1. Propodeal enclosure well indicated, weakly rugulose basally, tessellate apically; dorsal face of propodeum tessellate with fine, small PP 25µm. Mesepisternum tessellate, with fine, small PP 25 µm. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga tessellate, shiny, T₁₋₄ with finely sparse, small, minute PP > 15 µm; posterior depressions of terga well indicated; pygidial plate U shaped with raised internal triangular area. S₂₋₅ strongly tessellate and shiny with dense, minute PP 20 µm.

Specimens examined. [KAZAKHSTAN] 10 females, Ili riv. area, Bakanas distr. iv. v. 2001, (Gurko); 1 female, Jabagly, 1180-1250 m, S. Kazakhstan Prov., 11. v. 2004 (O. Tadauchi); 1 female, Jabagly, 1180-1250 m, S. Kazakhstan Prov., 28. v. 2003 (O. Tadauchi); 1 female, Jabagly, 1180-1250 m, S. Kazakhstan Prov., 28. v. 2003 (K. Mitai); 1 female, Novovaskresonovka, 40 km, E

Merke, 4. v. 1994 (J. Halada).

Floral record. Not available.

Distribution. South of Siberia to Baical, Japan, China, Kazakhstan, Middle Asia, Caucasus, Turkey, Europe except northern part.

53. *Andrena (Melandrena) assimilis*

Radoszkowski, 1876

(Fig. 2)

Andrena assimilis Radoszkowski, 1876, Hor. Soc. ent., Ross., 12: 84.

Andrena barnei Cockerell, 1931, Ann. Mag. nat. Hist., (10) 7: 344.

Andrena (Melandrena) assimilis: Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 100-101.

Female. BL 13.5 mm; WL 11.5 mm.

Color: Flagellum brownish beneath; mandible black with apical third reddened; wing membranes subhyaline, brownish, veins and pterostigma brownish; tibial spur brownish; posterior depressions of metasomal terga brownish.

Pubescence: Hairs on head dense except on clypeus, brownish; those on clypeus sparse, long 400-500 µm, brownish, with lateral fringes; those on vertex long 600-800 µm, brownish; those on genal area dense, long 700-800 µm, brownish; facial fovea brownish. Hairs on mesoscutum dense, long 400-500 µm, yellowish; those on scutellum dense, long 450-500 µm, yellowish; those on mesepisternum dense, long 750-900 µm, yellowish; propodeal corbícula well developed, long, with internal simple, sparse hairs; trochanteral floccus imperfect, sparse, yellowish; femoral floccus dense, long, brownish; tibial scopa long, simple, brownish hairs. Hairs on metasomal terga T₁₋₄ dense, long 400-500 µm, brownish hairs; T₂₋₄ without hair bands; caudal fimbria brownish; S₂₋₅ with long, sparse, brownish subapical fimbriae.

Structure: Head length 3.6 mm, head width 4.3 mm, HL/HW = 0.84. HW: MsW: MtW: 4.3: 3.2: 4.9. Vertex broad, tessellate, shiny, with PP 30 µm, IS = 1. OOD: POD: OCD: = 0.9: 0.6: 0.5. FL₁ < FL₂+FL₃, FL₂ < FL₃ which are as broad as long. Eyes with inner margins parallel. Supraclypeal area convex, shiny, with small PP. Facial fovea long, broad, occupying full space between eye and lateral ocellus, much extending to a line at lower margins of antennal fossae, FVL = 1.9 mm, FVW = 0.6 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (4.3:3.6). Clypeus convex, tessellate basally, punctate, with dense, distinct PP 40

μm , IS = 1, with longitudinal median impunctate space, CPL = 1.6 mm. Process of labrum broad, trapezoidal. Lower paraocular area smooth, shiny with minute PP 30 μm , IS = 1. Malar space linear. Genal area broader than eye, GW: EW = 1.2 : 0.9, tessellate, shiny with minute PP 30 μm , IS = 1. Mesosoma: Pronotum with lateral suture and without humeral angle, tessellate, shiny with sparse, fine PP 30 μm . Mesoscutum densely tessellate, shiny with fine, distinct, small PP 30 μm , IS = 1. Scutellum tessellate, distinct, shiny with PP 30 μm , IS = 1. Propodeal enclosure triangular, well indicated, rugose, densely tessellate apically; dorsal face of propodeum wrinkled, with fine PP 30 μm . Mesepisternum densely tessellate, with fine, small PP 30 μm . Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga smooth, shiny, T₁₋₄ with finely dense, small PP 25 μm , IS = 1-2; posterior depressions of terga weakly indicated; pygidial plate V shaped without raised internal

triangular area. S₂₋₅ strongly tessellate and shiny with dense, minute PP 25 μm .

Specimens examined. [KAZAKHSTAN] 2 females, Achisai, 670-700 m, Mts. Karatau, S. Kazakhstan Prov., 4. vi. 2003 (O. Tadauchi); 4 females, Achisai, 670-700 m, Mts. Karatau, S. Kazakhstan Prov., 5. vi. 2003 (O. Tadauchi).

Floral record. Not available.

Distribution. Kazakhstan, Caucasus, Turkey, Greece, North Africa.

**54. *Andrena (Micrandrena) mirzojani*
Osytsnjuk, 1993
(Fig. 3)**

Andrena (Micrandrena) mirzojani Osytsnjuk, 1993, Ent. Obozr., 72 (2): 406.

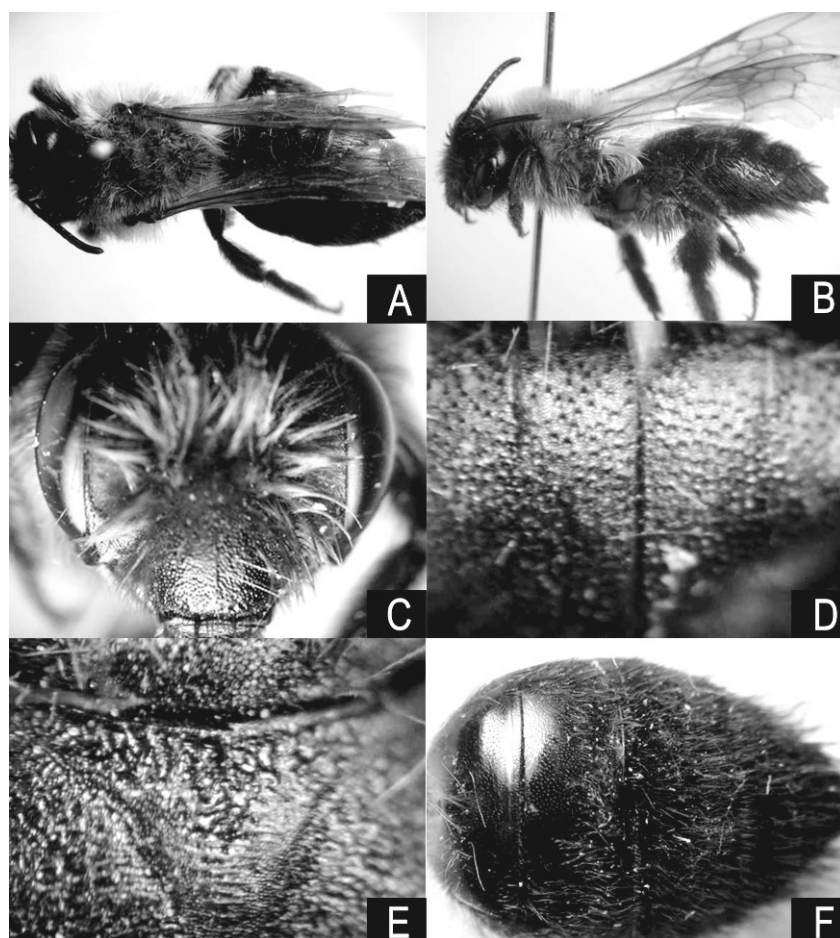


Fig. 2. *Andrena (Melandrena) assimilis* Radoszkowski, female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

Andrena (Micrandrena) mirzozani: Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 485.

Female. BL 6.3 mm; WL 4.8 mm.

Color: Flagellum brownish beneath; mandible black with apical half reddened; wing membranes subhyaline, yellowish, veins and pterostigma yellowish brown; tibial spur yellowish; posterior depressions of metasomal terga brownish.

Pubescence: Hairs on head sparse except antennal area, whitish; those on clypeus sparse, short 150-250 μ m, whitish, with lateral fringes; those on vertex long 300-350 μ m, whitish, those on genal area sparse, short 50-100 μ m, whitish; facial fovea whitish, separated from eye by shiny, black space. Hairs on mesoscutum scanty, short 50-100 μ m, whitish; those on scutellum slightly dense, long 250-300 μ m, whitish; those on mesepisternum slightly dense, whitish, long 350-400 μ m; propodeal corbicula

poorly developed, whitish, with internal simple, sparse hairs; trochanteral floccus imperfect, whitish; femoral floccus dense, long, pale brownish; tibial scopa developed, simple, whitish hairs. Hairs on metasomal terga short, suberect, sparse, whitish; metasomal terga T₂₋₄ with interrupted hair bands; caudal fimbria pale brownish; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 1.7 mm, head width 2.1 mm, HL/HW = 0.81. HW: MsW: MtW: 2.1: 1.6: 2.0. Vertex rounded in frontal view, shagreening, shiny, with fine PP 25 μ m, IS = 1. OOD: POD: OCD: = 0.40: 0.35: 0.10. FL1 = FL2 + FL3, FL2 = FL3 which are broader than long. Eyes with inner margins subparallel. Supraclypeal area convex, shiny, with small PP. Facial fovea long, narrow, much extending to a line at lower margins of antennal fossae, FVL = 0.85 mm, FVW = 0.15 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader

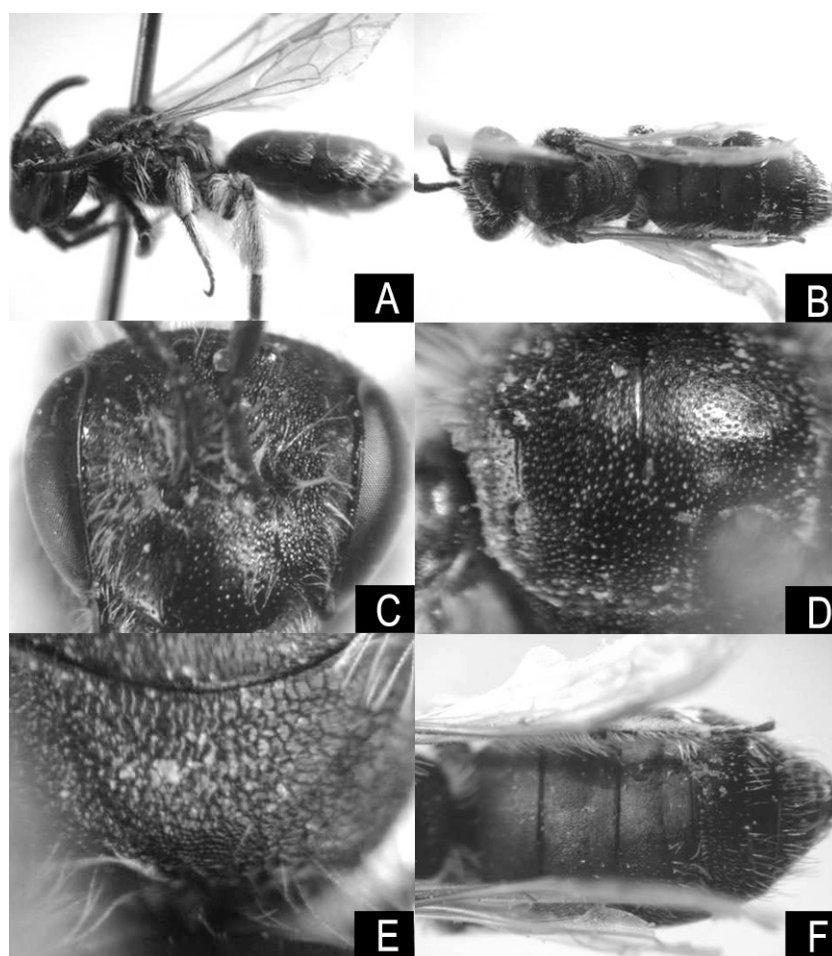


Fig. 3. *Andrena (Micrandrena) mirzozani* Osytshnjuk, female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

than long (2.1:1.7). Clypeus convex, shagreening basally, smooth apically, punctate with fine, sparse, distinct PP 25 μ m, IS = 1-2, without longitudinal median impunctate space, CPL = 0.65 mm. Process of labrum small, semi-circular. Lower paraocular area shiny, punctate with dense, minute PP 25 μ m, IS = 1. Malar space linear. Genal area broader than eye, GW: EW = 0.6:0.45, tessellate and shiny with minute PP 25 μ m, IS = 1. Mesosoma: Pronotum with weak lateral suture and without humeral angle, tessellate, punctate, shiny with fine PP 25 μ m. Mesoscutum tessellate, punctate, shiny with fine, distinct, small PP 25 μ m, IS = 1. Scutellum smooth, punctate, shiny with fine, distinct, small PP 25-30 μ m, IS = 1. Propodeal enclosure large, triangular, weakly indicated, rugose, tessellate at apex; dorsal face of propodeum rugulose, with roughened PP. Mesepisternum shagreened, with roughened PP 30 μ m. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal

terga T₃₋₄ depressed anteriorly, metasomal terga densely shagreened, impunctate; posterior depressions of terga weakly indicated; pygidial plate V shaped with raised internal triangular area. S₂₋₅ strongly tessellate and shiny with dense, minute PP 25 μ m.

Specimens examined. [KAZAKHSTAN] 1 female, Cordai, Jambul Prov., 17. v. 2004 (O. Tadauchi); 1 female, Karatau City 600 m, Jambul Prov., 13. v. 2004 (O. Tadauchi).

Floral record. Not available.

Distribution. Kazakhstan (new record), Armenia.

**55. *Andrena (Micrandrena) nanaeformis*
Noskiewicz, 1925**
(Figs. 4-5)

Andrena nanaeformis Noskiewicz, 1925, Polskie Pismo

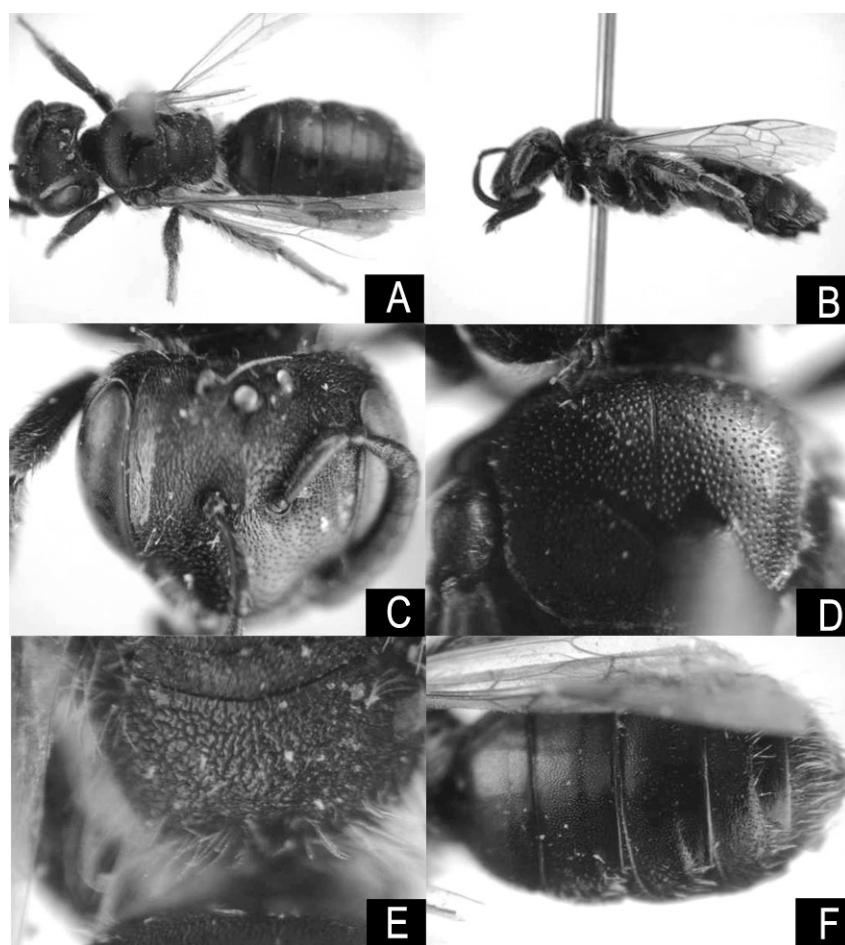


Fig. 4. *Andrena (Micrandrena) nanaeformis* Noskiewicz, female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

ent., 3 (1924): 138.

Andrena (Micrandrena) nanaeformis: Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 509-510.

Female. BL 6.8 mm; WL 4.9mm.

Color: Flagellum brownish beneath; mandible black, reddened apically; wing membranes subhyaline, yellow brownish, veins and pterostigma yellowish brown; tibial spur yellowish; posterior depressions of metasomal terga brownish.

Pubescence: Hairs on head sparse, whitish; those on clypeus sparse, short 50-100 μ m, whitish, with lateral fringes; those on vertex long 50-100 μ m, whitish; those on genal area sparse, short 50-100 μ m, whitish; facial fovea whitish, separated from eye by shiny, black space. Hairs on mesoscutum scanty, short 50 μ m, whitish; those on scutellum scanty, short 50 μ m, whitish; those on mesepisternum slightly dense, whitish, long 300-350 μ m;

propodeal corbicula poorly developed, whitish, with internal simple, sparse hairs; trochanteral floccus imperfect, whitish; femoral floccus dense, long, brownish; tibial scopa developed, simple, whitish hairs. Hairs on metasomal terga with short, suberect, sparse, whitish hairs; metasomal terga T₂₋₄ with interrupted hair bands; caudal fimbria brownish; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 1.7 mm, head width 2.0 mm, HL/HW = 0.85. HW: MsW: MtW: 2.0: 1.6: 2.2. Vertex rounded in frontal view, shagreening, shiny, with fine PP 25 μ m, IS = 1. OOD: POD: OCD: =0.40: 0.35: 0.10. FL1 < FL2+FL3, FL2 = FL3 which are broader than long. Eyes with inner margins subparallel. Supraclypeal area convex, shiny, with small PP. Facial fovea long, narrow, much extending to a line at lower margins of antennal fossae, FVL = 0.85 mm, FVW = 0.15 mm. Face above antennal fossae with fine longitudinal rugulae and weak

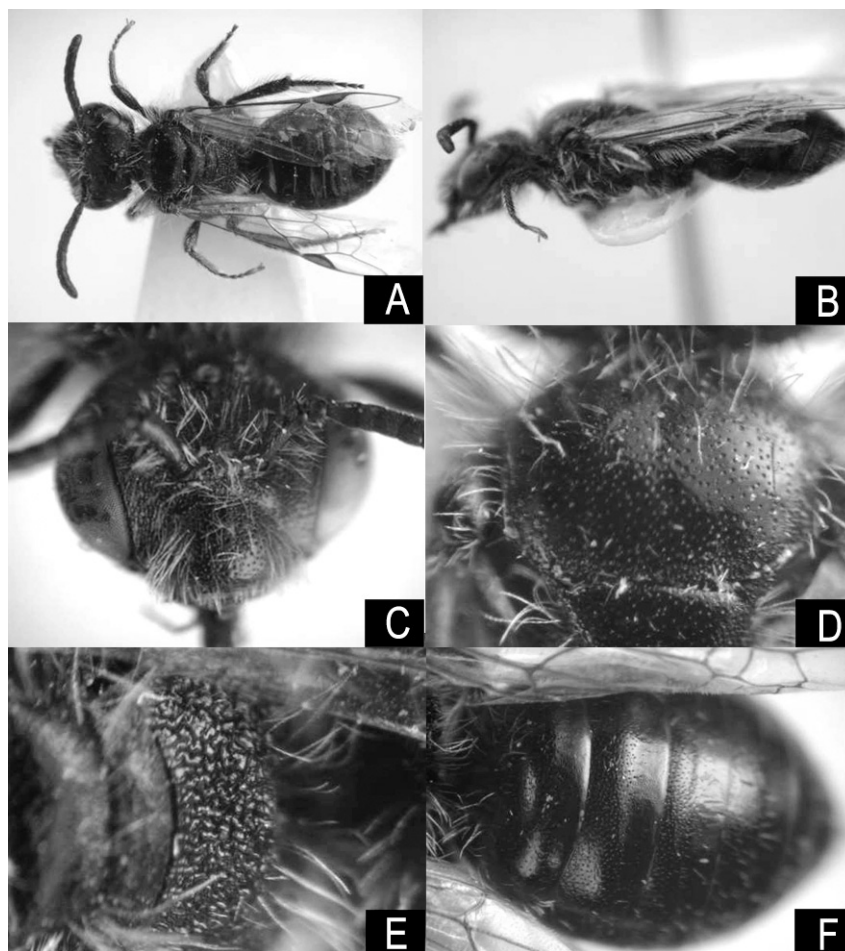


Fig. 5. *Andrena (Micrandrena) nanaeformis* Noskiewicz, male. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

interrugal PP, shagreening. Facial quadrangle broader than long (2.0:1.7). Clypeus convex, smooth, punctate with fine, dense, distinct PP 30 μm , IS = 1, without longitudinal median impunctate space, CPL = 0.7 mm. Process of labrum small, trapezoidal. Lower paraocular area shiny, punctate with dense, distinct, fine PP 30 μm , IS = 1. Malar space linear. Genal area broader than eye, GW: EW = 0.6:0.5, finely tessellate and shiny with minute PP 25 μm , IS = 1. Mesosoma: Pronotum without lateral suture and humeral angle, tessellate, punctate, shiny with fine PP 20 μm . Mesoscutum finely tessellate, punctate, shiny with fine, distinct, small PP 25-30 μm , IS = 1. Scutellum smooth, punctate, shiny with fine, distinct, small PP 25-30 μm , IS = 1. Propodeal enclosure large, triangular, weakly indicated, rugose all over; dorsal face of propodeum rugose, with roughened PP. Mesepisternum tessellate, with roughened PP 30 μm . Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga T₂₋₄ depressed anteriorly, metasomal terga smooth, densely punctate, shiny, T₁₋₄ with fine, dense, distinct, fine PP 25 μm , IS = 1; posterior depressions of terga weakly indicated; pygidial plate V shaped without raised internal triangular area. S₂₋₅ strongly tessellate and shiny with dense, minute PP 20 μm .

Male. BL 6.0 mm; WL 4.8 mm.

Color: Flagellum brownish beneath; mandible black; wing membranes subhyaline, yellowish brown, veins and pterostigma brownish; tibial spur yellowish; posterior depressions of metasomal terga brownish.

Pubescence: Hairs on head slightly dense, whitish; those on clypeus slightly dense, slightly long short 200-250 μm , whitish, with lateral fringes; those on vertex long 450-500 μm , whitish; those on genal area dense, slightly long 200-250 μm , whitish. Hairs on mesoscutum slightly dense, slightly long 250-300 μm , whitish; those on scutellum slightly dense, slightly long 200-300 μm , whitish; those on mesepisternum dense, long 450-500 μm , whitish. Hairs on metasomal terga short, suberect, sparse, whitish; metasomal terga without hair bands; caudal fimbria whitish; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 1.65 mm, head width 2.15 mm, HL/HW = 0.77. HW: MsW: MtW: 2.15: 1.6: 2.1. Vertex rounded in frontal view, shagreening, shiny, with fine PP 25 μm , IS = 1. OOD: POD: OCD: = 0.45: 0.35: 0.10. FL₁ < FL₂+FL₃, FL₂ < FL₃ which are broader than long. Eyes with inner margins subparallel. Supraclypeal area convex, shiny, with small PP. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long

(2.15:1.65). Clypeus convex, smooth, punctate with fine, dense, distinct PP 30 μm , IS = 1, without longitudinal median impunctate space, CPL = 0.7 mm. Process of labrum small, rectangular, slightly emarginated apically. Lower paraocular area shiny, punctate with dense, distinct, fine PP 30 μm , IS = 1. Malar space linear. Genal area smaller than eye, GW: EW = 0.55:0.65, finely tessellate and shiny with minute PP 25 μm , IS = 1. Mesosoma: Pronotum without lateral suture and humeral angle, tessellate, punctate, shiny with fine PP 20 μm . Mesoscutum finely tessellate, punctate, shiny with fine, distinct, small PP 25 μm , IS = 1. Scutellum smooth, punctate, shiny with fine, distinct, small PP 25 μm , IS = 1. Propodeal enclosure large, triangular, weakly indicated, wrinkled all over; dorsal face of propodeum rugose, with roughened PP. Mesepisternum tessellate, with roughened PP 30 μm . Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga T₂₋₄ depressed anteriorly, metasomal terga smooth, punctate, shiny, T₁₋₄ with fine, slightly dense, fine PP 20 μm , IS = 1-2; posterior depressions of terga weakly indicated. S₂₋₅ strongly tessellate and shiny with dense, minute PP 20 μm .

Specimens examined. [KAZAKHSTAN] 1 female, Near Sternjak, Kokchetav District, N. Kazakhstan Prov., 19. vi. 2002 (V. Kazenas, A. Jashenko & V. Kastcheev); 1 male, Near Sternjak, Kokchetav District, N. Kazakhstan Prov., 23. vi. 2002 (V. Kazenas, A. Jashenko & V. Kastcheev).

Floral record. Not available.

Distribution. Kazakhstan (new record), Ukraine.

56. *Andrena (Parandrenella) dentiventris* Morawitz, 1874 (Fig. 6)

Andrena dentiventris Morawitz, 1874, Hor. Soc. ent. Ross., 10: 160.

Andrena (Parandrenella) dentiventris: Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 224-225.

Female. BL 6.6 mm; WL 5.4 mm.

Color: Flagellum ferruginous beneath; mandible black, reddened apically; wing membranes subhyaline, brownish, veins and pterostigma yellow brownish; tibial spur yellowish; posterior depressions of metasomal terga brownish.

Pubescence: Hairs on head sparse except antennal area, whitish; those on clypeus sparse, short 100-150 μm , whitish, with lateral fringes; those on vertex slightly long 200-250 μm , whitish; those on genal area sparse, short

100-150 μm , whitish; facial fovea whitish. Hairs on mesoscutum sparse, short 100 μm , whitish; those on scutellum sparse, short 100 μm , whitish; those on mesepisternum slightly dense, long 300-400 μm , whitish; propodeal corbicula developed, long, with internal simple, sparse hairs; trochanteral floccus imperfect, sparse, whitish; femoral floccus dense, long, whitish brown; tibial scopa long, simple, whitish hairs. Hairs on metasomal terga T₁₋₄ sparse, short 80-200 μm , whitish; T₂₋₄ without hair bands; caudal fimbria golden; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 1.7 mm, head width 2.0 mm, HL/HW = 0.85. HW: MsW: MtW: 2.0: 1.5: 1.9. Vertex tessellate, shiny, with PP 30 μm , IS = 1-2. OOD: POD: OCD: =0.40: 0.35: 0.10. FL₁< FL₂+FL₃, FL₂ = FL₃ which are broader than long. Eyes with inner margins subparallel. Supraclypeal area convex, shiny, with small PP. Facial fovea long, narrowing toward below,

much extending to a line at lower margins of antennal fossae, FVL = 0.9 mm, FVW = 0.15 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (2.0:1.7). Clypeus convex, tessellate, punctate, with sparse, distinct PP 25 μm , IS = 1-2, without longitudinal median impunctate space, CPL = 0.75 mm. Process of labrum small, trapezoidal. Lower paraocular area tessellate, shiny with minute PP 25 μm , IS = 1. Malar space small, linear. Genal area as broad as eye, GW: EW = 0.5, tessellate, shiny with minute PP 250 μm , IS = 1. Mesosoma: Pronotum without lateral suture and humeral angle, pronotum, shiny with dense, fine PP 20 μm . Mesoscutum tessellate, shiny with fine, irregular, distinct, small PP 25 μm , IS = 1. Scutellum tessellate, with irregular, distinct, shiny PP 25 μm , IS = 1. Propodeal enclosure triangular, well indicated, rugose, densely tessellate apically; dorsal face of propodeum tessellate, with

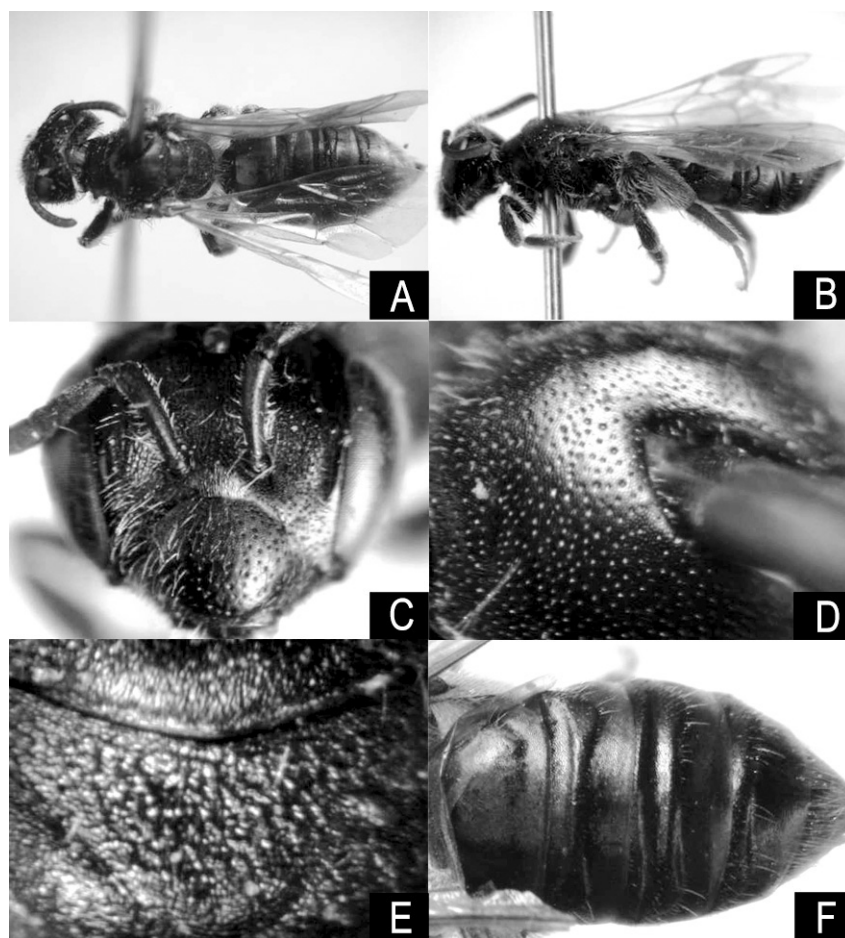


Fig. 6. *Andrena (Parandrenella) dentiventris* Morawitz, female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

fine PP 25 μ m. Mesepisternum densely tessellate, with fine, small PP 25 μ m. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga densely shagreened, shiny, T₁ without PP, metasomal tergum T₁ with lateral distinct carina, nearly impunctate, T₂₋₄ strongly depressed anteriorly, with finely scattered, small PP 20 μ m, IS = 2; posterior depressions of terga strongly indicated; pygidial plate V shaped without raised internal triangular area. S₂₋₅ strongly tessellate and shiny with dense, minute PP 20 μ m.

Specimens examined. [KAZAKHSTAN] 1 female, Cordai, 680 m, Jambul Prov., 17. v. 2004 (O. Tadauchi); 2 females, W of Kamsomolskoe, Kyzylkum desert, S. Kazakhstan Prov., 1. v. 2004 (O. Tadauchi).

Floral record. Not available.

Distribution. Kazakhstan (new record), Caucasus.

**57. *Andrena (Planiandrena) planirostris*
Morawitz, 1876**
(Fig. 7)

Andrena planirostris Morawitz, 1876, in Fedtschenko, Izv. imp. Obshch. Ljubit. Estest. Antrop. Etnog., 174.
Andrena (Planiandrena) planirostris: Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 598-599.

Female. BL 8.2 mm; WL 7.1 mm.

Color: Flagellum brownish beneath; mandible reddened; wing membranes subhyaline, moderately brownish, veins and pterostigma reddish brown; tibial spur yellowish; posterior depressions of metasomal terga brownish.

Pubescence: Hairs on head dense, dull whitish; those on clypeus dense, long 200-350 μ m, dull whitish, with lateral fringes; those on vertex long 400-500 μ m, dull

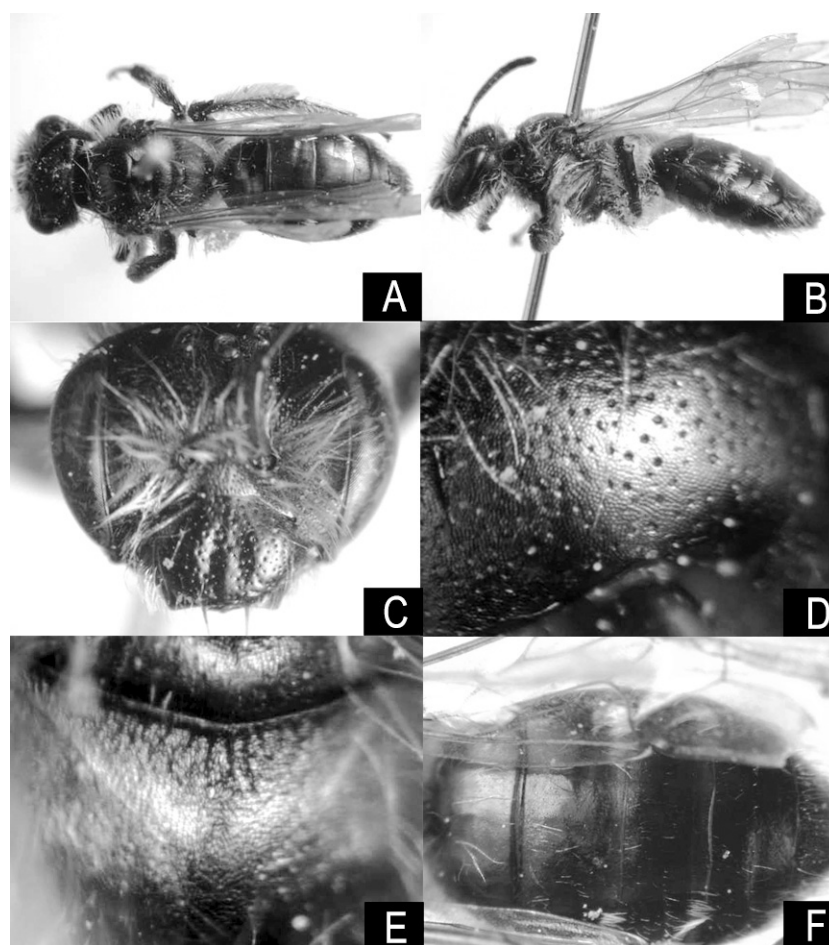


Fig. 7. *Andrena (Planiandrena) planirostris* Morawitz, female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

whitish; those on genal area dense, long 450-500 μm , dull whitish; facial fovea brownish above, whitish below. Hairs on mesoscutum slightly dense, long 300-400 μm , dull whitish; those on scutellum slightly dense, long 300-400 μm , dull whitish; those on mesepisternum dense, long 650-800 μm , whitish; propodeal corbícula developed, whitish, with internal simple, sparse hairs; trochanteral floccus perfect, whitish; femoral floccus dense, long, whitish; tibial scopa developed, simple, whitish hairs. Hairs on metasomal terga sparse, short, 100 μm ; T₁ with dense, long, 400 μm , whitish; T₂₋₄ with interrupted whitish hair bands; caudal fimbria pale brownish; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 2.4 mm, head width 2.9 mm, HL/HW = 0.82. HW: MsW: MtW: 2.9: 2.2: 2.9. Vertex flat in frontal view, tessellate, shiny, with fine PP 25 μm , IS = 1. OOD: POD: OCD: = 0.60: 0.45: 0.15. FL₁ > FL₂ + FL₃, FL₂ < FL₃ which are as broad as long. Eyes with inner margins subparallel. Supraclypeal area slightly convex rather flat, shiny, with small PP. Facial fovea long, narrow, much extending to a line at lower margins of antennal fossae, FVL = 1.1 mm, FVW = 0.2 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (2.9:2.4). Clypeus slightly convex rather flat with a large mid-concavity, densely tessellate, punctate with sparse, distinct PP 30 μm , IS = 1, without longitudinal median impunctate space, CPL = 0.9 mm. Process of labrum broad, transverse. Lower paraocular area shiny, punctate with dense, minute PP 25 μm , IS = 0.5. Malar space linear, small. Genal area smaller than eye, GW: EW = 0.62:0.56, tessellate and shiny with minute PP 25 μm , IS = 1. Mesosoma: Pronotum without lateral suture and humeral angle, tessellate, shiny with fine PP 25 μm . Mesoscutum tessellate, punctate, shiny with fine, irregular, distinct, small PP 30 μm , IS = 1. Scutellum weakly tessellate, punctate, shiny with irregular, distinct, fine, small PP 25-30 μm , IS = 1. Propodeal enclosure large, triangular, weakly indicated, tessellate, rugulose basally; dorsal face of propodeum tessellate with fine, small PP 25 μm . Mesepisternum tessellate, roughened, with fine, small PP 30 μm . Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga tessellate, punctate, shiny, T₁₋₄ with finely scattered, small PP 20 μm , IS = 3-4; posterior depressions of terga well indicated; pygidial plate U shaped with raised internal triangular area. S₂₋₅ strongly tessellate and shiny with dense, minute PP 20 μm .

Specimens examined. [KAZAKHSTAN] 1 female, Jabagly, 1150-1250m, S. Kazakhstan Prov. 3. v. 2004 (V.

Lina); [RUSSIA] 1 female, TamkøHTb, (K. Φ Mopaδyua).

Floral record. Not available.

Distribution. Kazakhstan (new record), Uzbekistan.

58. *Andrena (Poecilandrena) labiata* (Fabricius, 1781) (Fig. 8)

Andrena labiata Fabricius, 1781, Spec. Insect. 1: 472.

Apis fusciventris Gmelin, 1790, Linné, Syst. Nat., (Ed. 13) 1 (5): 2789.

Apis maculosa Gmelin, 1790, Linné, Syst. Nat., (Ed. 13) 1 (5): 2793.

Apis albilabris Panzer, 1798, Faun. Insect. German., 56: 23.

Apis divisa Imhoff, 1834, Isis (Oken) Jena: 371.

Apis ferruginata Schenck, 1853, Jb. Ver. Naturk. Nassau, 9: 110.

Apis regina Friese, 1921, Arch. Naturgesch. 87A (3): 173.

Andrena (Poecilandrena) labiata: Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 407-408.

Female. BL 7.8 mm; WL 6.2 mm.

Color: Flagellum ferruginous beneath; mandible black, reddened apically; wing membranes subhyaline, brownish, veins and pterostigma brownish; tibial spur yellowish; posterior depressions of metasomal terga T₁₋₂ reddish, T₃₋₄ bronze, second and third metasomal terga reddish brown.

Pubescence: Hairs on head dense, dull whitish; those on clypeus dense, long 200-300 μm , dull whitish, with lateral fringes; those on vertex long 350-450 μm , dull whitish; those on genal area dense, long 200-250 μm , whitish; facial fovea whitish. Hairs on mesoscutum sparse, short 150 μm , dull whitish; those on scutellum scanty, short 80-120 μm , dull whitish; those on mesepisternum dense, whitish, long 500-600 μm ; propodeal corbícula moderately developed, whitish, with internal simple, sparse hairs; trochanteral floccus imperfect, whitish; femoral floccus dense, long, brownish; tibial scopa developed, simple, whitish hairs. Hairs on metasomal T₁₋₂ with sparse, short hairs 100 μm , whitish; T₃₋₄ with short, suberect, sparse, dull brownish hairs; T₁₋₂ without hair bands; T₃ with weak, interrupted hair band; T₄ with complete hair band; caudal fimbria brownish; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 2.1 mm, head width 2.5 mm, HL/HW = 0.84. HW: MsW: MtW: 2.5: 1.7: 2.4. Vertex flat in frontal view, narrow, tessellate, shiny, with fine PP 30 μm , IS = 1. OOD: POD: OCD: = 0.50: 0.40: 0.13. FL₁ >

FL2+FL3, FL2 < FL3 which are longer than broad. Eyes with inner margins subparallel. Supraclypeal area convex, shagreened, with small PP. Facial fovea long, narrow, occupying 1/3 space between eye and lateral ocellus, attaining to a line at lower margins of antennal fossae, FVL = 0.85 mm, FVW = 0.16 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (2.5:2.1). Clypeus convex, tessellate, punctate with slightly dense, distinct PP 30 μ m, IS = 1, with longitudinal median impunctate space, CPL = 0.8 mm. Process of labrum broad, semicircular. Lower paraocular area weakly tessellate, punctate with dense, minute PP 30 μ m, IS = 1. Malar space linear, small. Genal area smaller than eye, GW: EW = 0.55:0.65, tessellate and shiny with distinct PP 25 μ m, IS = 1. Mesosoma: Pronotum with lateral suture and without humeral angle, tessellate, punctate, shiny with fine, distinct PP 25 μ m. Mesoscutum

weakly tessellate, punctate, shiny with fine, distinct, small PP 30 μ m, IS = 1. Scutellum weakly tessellate, punctate, shiny with fine, distinct, small PP 30 μ m, IS = 1. Propodeal enclosure large, triangular, well indicated, rugulose at base, tessellate apically; dorsal face of propodeum tessellate, with roughened PP 30 μ m. Mesepisternum tessellate, with fine, minute PP 30 μ m. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga weakly tessellate, densely punctate, with fine, dense, distinct PP 25 μ m, IS = 0.5-1; posterior depressions of terga well indicated; pygidial plate V shaped with raised internal triangular area. S₂₋₅ strongly tessellate and shiny with dense, minute PP 25 μ m.

Specimens examined. [KYRGYZSTAN] 1 female, Chuy, Suusamyrl Valley, W side, Kichi-Korumdy R., 14. vi. 1999 (J. G. Rozen, J. K. Bouseman); [GERMANY] 1

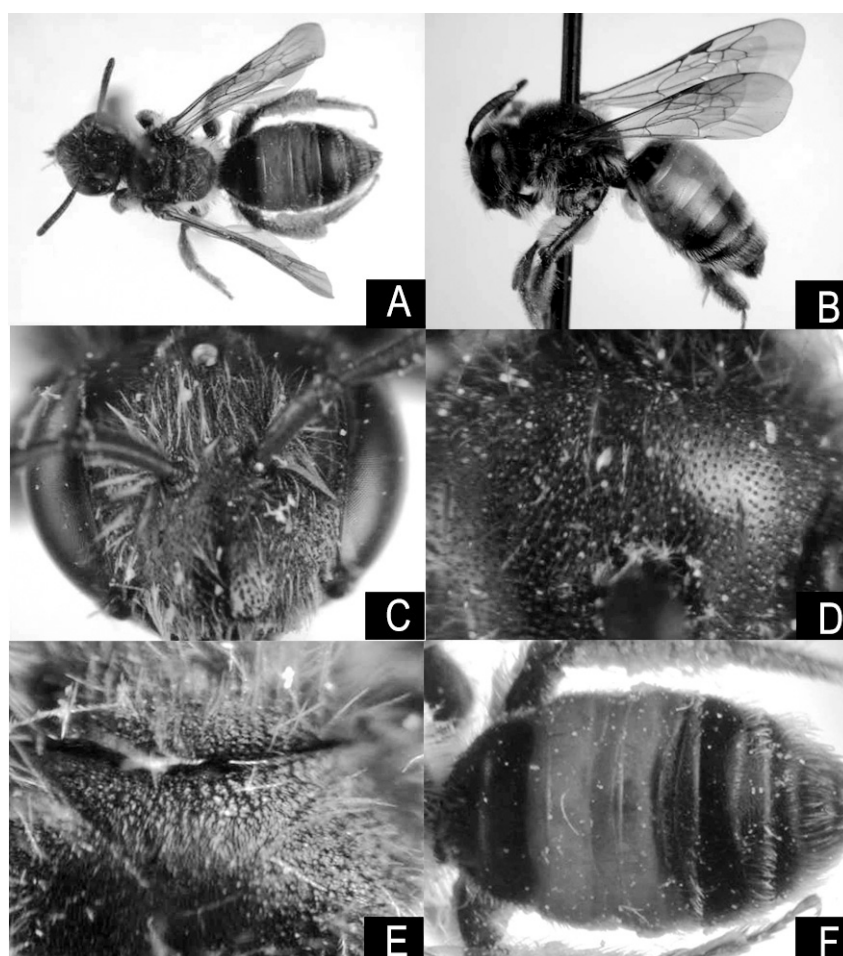


Fig. 8. *Andrena (Poecilandrena) labiata* (Fabricius), female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

female, Oberösterreich, Summerau, W. Rainbach/Mks. 18. v. 1997 (A. Gusenleitner).

Floral record. Not available.

Distribution. Kyrgyzstan (new record), Czech Republic, Slovenia, Germany, Denmark, Sweden, UK, Spain.

**59. *Andrena (Poecilandrena) mucorea*
Morawitz, 1876
(Fig. 9)**

Andrena mucorea Morawitz, 1876, in Fedtschenko, Izv. imp. Obshch. Ljubit. Estest. Antrop. Etnog., 212.

Andrena (Poecilandrena) mucorea: Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 499-500; Tadauchi, 2006, Esakia, 46: 17-18.

Female. BL 8.7 mm; WL 5.3 mm.

Color: Head and thorax with metallic blue reflection; Flagellum ferruginous beneath; mandible black, reddened apically; clypeus with lower part and process of labrum ferruginous; wing membranes subhyaline, pale yellow brownish, veins and pterostigma yellowish; tarsi ferruginous; tibial spur yellowish; posterior depressions of metasomal terga T₁₋₄ reddish bronze.

Pubescence: Hairs on head sparse except antennal area, whitish; those on clypeus sparse, short 50-150 µm, whitish, with lateral fringes; those on vertex slightly long 200-300 µm, whitish; those on genal area dense, short 150-200 µm, whitish; facial fovea whitish. Hairs on mesoscutum dense, velutinous, short 50-100 µm, whitish; those on scutellum dense, short 50-100 µm, whitish; those on mesepisternum dense, whitish, long 350-400 µm; propodeal corbicle moderately developed, whitish, with internal simple, sparse hairs; trochanteral floccus imperfect, whitish, femoral floccus dense, long, whitish; tibial

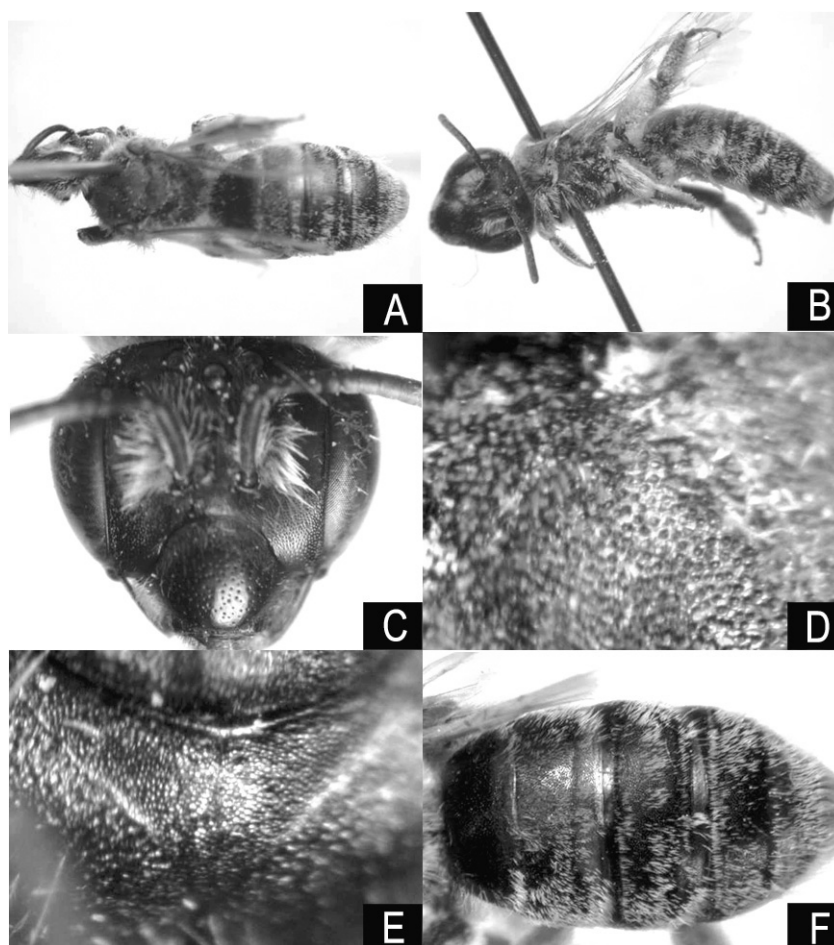


Fig. 9. *Andrena (Poecilandrena) mucorea* Morawitz, female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

scopa developed, simple, whitish hairs. Hairs on metasomal tergum T₁ with scanty, short hairs 50 µm, whitish; T₂₋₄ with dense, velutinous, short 50-100 µm, whitish; metasomal terga without hair bands; caudal fimbria whitish; S₂₋₅ with short, dense, whitish subapical fimbriae.

Structure: Head length 2.2 mm, head width 2.6 mm, HL/HW = 0.85. HW: MsW: MtW: 2.6: 2.1: 2.7. Vertex round in frontal view, narrow, tessellate, shiny, with shallow, fine PP 25 µm, IS = 1. OOD: POD: OCD: = 0.40: 0.40: 0.15. FL₁ = FL₂ + FL₃, FL₂ = FL₃ which are longer than broad. Eyes with inner margins subparallel. Supraclypeal area convex, shagreened, with small PP. Facial fovea long, occupying 1/2 space between eye and lateral ocellus, attaining to a line at lower margins of antennal fossae, FVL = 0.95 mm, FVW = 0.25 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (2.6:2.2). Clypeus strongly convex, finely tessellate basally, smooth apically, punctate with sparse, distinct PP 20-25 µm, IS = 1-2, without longitudinal median impunctate space, CPL = 1.0 mm. Process of labrum small, triangular. Lower paraocular area smooth, punctate with dense, minute PP 20 µm, IS = 0.5-1. Malar space linear, small. Genal area smaller than eye, GW: EW = 0.60:0.65, tessellate and shiny with distinct PP 20 µm, IS = 1. Mesosoma: Pronotum with lateral suture and without humeral angle, tessellate, punctate, shiny with fine, minute PP 20 µm. Mesoscutum smooth, punctate, shiny with fine, dense, distinct, small PP 20-25 µm, IS < 0.5. Scutellum smooth, punctate, shiny with fine, dense, distinct, small PP 20-25 µm, IS < 0.5. Propodeal enclosure large, triangular, well indicated, tessellate; dorsal face of propodeum tessellate, with roughened PP 30 µm. Mesepisternum tessellate, with fine, minute PP 30 µm. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga smooth, shiny, densely punctate, with fine, dense, distinct PP 25 µm, IS = 1-2; posterior depressions of terga weakly indicated; pygidial plate V shaped with weak raised internal triangular area. S₂₋₅ tessellate and shiny with dense, minute PP 20 µm.

Specimen examined. [KAZAKHSTAN] 1 female, Polevod, riverside Syrdarya River, S Kazakhstan Prov., 9. v. 2004 (O. Tadauchi).

Floral record. Not available.

Distribution. Kazakhstan, Uzbekistan.

60. *Andrena (Proxiandrena) proxima* (Kirby 1802) (Figs. 10-12)

Melitta proxima Kirby, 1802 (nec *Andrena proxima* Smith 1847), Monogr. apum Angl., 2: 146.

Melitta digitalis Kirby, 1802, Monogr. apum Angl., 2: 159.

Andrena aspericollis Pérez, 1895, Espec. nouv. Mellif. Barbarie: 37.

Andrena alutacea E. Stoeckert, 1942, Mitt. münch. ent. Ges., 32: 237.

Andrena (?*Micrandrena*) *proxima*, Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 610-612.

Andrena (Proxiandrena) proxima, Schmid-Egger, 2005, Rev. Suisse. Zool., 112 (4): 1029-1044.

Female. BL 8.7 mm; WL 7.6 mm.

Color: Flagellum brownish beneath; mandible black with apical half reddened; wing membranes subhyaline, brownish, veins and pterostigma brownish; tibial spur yellowish; posterior depressions of metasomal terga shiny, black.

Pubescence: Hairs on head dense, whitish; those on clypeus dense, long 250-300 µm, whitish, with lateral fringes; those on vertex long 400-550 µm, whitish; those on genal area dense, long 300-350 µm, whitish; facial fovea brownish. Hairs on mesoscutum slightly dense, long 250-400 µm, whitish; those on scutellum slightly dense, long 250-300 µm, whitish; those on mesepisternum dense, long 600-700 µm, whitish; propodeal corbícula moderately developed, whitish, with internal simple, sparse hairs; trochanteral floccus imperfect, whitish; femoral floccus dense, long, brownish; tibial scopa developed, simple, whitish hairs. Hairs on metasomal terga T₁₋₂ laterally dense long 250 µm, whitish; T₃₋₄ with short, suberect, sparse, dull brownish hairs; metasomal terga T₂₋₃ with interrupted hair bands; T₄ with complete hair band; caudal fimbria brownish; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 2.5 mm, head width 3.0 mm, HL/HW = 0.83. HW: MsW: MtW: 3.0: 2.2: 2.9. Vertex flat in frontal view, shagreening, shiny, with fine PP 30 µm, IS = 1. OOD: POD: OCD: = 0.7: 0.5: 0.3. FL₁ > FL₂ + FL₃, FL₂ < FL₃ which are longer than broad. Eyes with inner margins subparallel. Supraclypeal area convex, shiny, with small PP. Facial fovea long, narrow, much extending to a line at lower margins of antennal fossae, FVL = 1.2 mm, FVW = 0.3 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader

than long (3.0:2.5). Clypeus convex, densely and coarsely wrinkled transversely, punctate with dense, distinct PP 30 μm , IS = 1, without longitudinal median impunctate space, CPL = 0.95 mm. Process of labrum broad, transverse. Lower paraocular area shiny, punctate with dense, minute PP 30 μm , IS = 1. Malar space linear, small. Genal area slightly broader than eye, GW: EW = 0.75:0.70, smooth and shiny with minute PP 25 μm , IS = 1. Mesosoma: Pronotum with lateral suture and without humeral angle, tessellate, punctate, shiny with fine PP 30 μm . Mesoscutum smooth, punctate, shiny with fine, distinct, small PP 40-50 μm , IS = 0.5-1. Scutellum smooth, punctate, shiny with fine, distinct, small PP 40 μm , IS = 1. Propodeal enclosure large, triangular, weakly indicated, rugose; dorsal face of propodeum roughened, with roughened PP. Mesepisternum shagreened, with roughened PP 40 μm . Vein 1st *m-cu* meeting second

submarginal cell at middle of cell. Metasoma: Metasomal terga tessellate, shiny, T₁ with fine, scattered, distinct PP 25 μm , IS = 1-2, T₂₋₄ with finely scattered, small PP 25 μm , IS = 2-3; posterior depressions of terga well indicated; pygidial plate V shaped without raised internal triangular area. S₂₋₅ strongly tessellate and shiny with dense, minute PP 25 μm .

Male. BL 8.2 mm; WL 6.9 mm.

Color: Flagellum brownish beneath; mandible black with apical half reddened; wing membranes subhyaline, brownish, veins and pterostigma brownish; tibial spur yellowish; posterior depressions of metasomal terga shiny, black.

Pubescence: Hairs on head dense, whitish; those on clypeus dense, long 350-450 μm , whitish, with lateral fringes; those on vertex long 600-750 μm , whitish; those

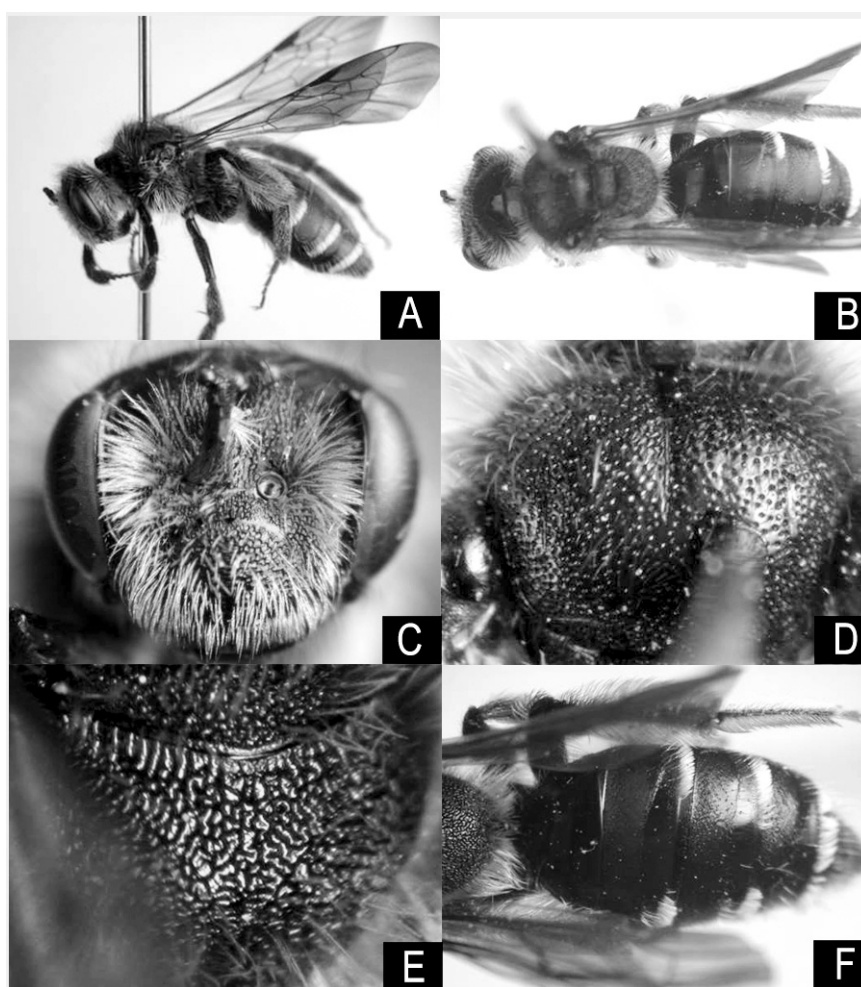


Fig. 10. *Andrena (Proxiandrena) proxima* (Kirby), female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

on genal area dense, long 550-650 μm , whitish. Hairs on mesoscutum slightly dense, long 400-500 μm , whitish; those on scutellum slightly dense, long 300-500 μm , whitish; those on mesepisternum dense, long 550-700 μm , whitish. Hairs on metasomal terga T_{1-4} with sparse, short 100-200 μm , whitish; T_{2-4} with interrupted hair bands; caudal fimbria yellowish; S_{2-5} with long, sparse, whitish subapical fimbriae.

Structure: Head length 2.3 mm, head width 2.9 mm, HL/HW = 0.79. HW: MsW: MtW: 2.9: 1.9: 2.5. Vertex rounded in frontal view, shagreening, shiny, with roughened PP 40 μm , IS = 1. OOD: POD: OCD: = 0.7: 0.5: 0.3. FL1 < FL2+FL3, FL2 < FL3 which are longer than broad. Eyes with inner margins subparallel. Supraclypeal area convex, shiny, with small PP. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long

(2.9:2.3). Clypeus convex, densely and coarsely wrinkled transversely, punctate with dense, distinct PP 40 μm , IS = 1, without longitudinal median impunctate space, CPL = 0.9 mm. Process of labrum broad, rectangular. Lower paraocular area rugulose, punctate with dense, minute PP 30 μm , IS = 1. Malar space linear, small. Genal area smaller than eye, GW: EW = 0.56:0.70, rugulose and shiny with distinct PP 25 μm , IS = 1-2. Mesosoma: Pronotum with lateral suture and without humeral angle, pronotum smooth, densely punctate, shiny with fine, distinct PP 30-40 μm . Mesoscutum smooth, densely punctate, shiny with fine, distinct, small PP 50 μm , IS = 0.5-1. Scutellum smooth, punctate, shiny with fine, distinct, small PP 50 μm , IS = 0.5. Propodeal enclosure large, triangular, well indicated, rugose; dorsal face of propodeum roughened, with roughened PP. Mesepisternum shagreened, with roughened PP 40 μm . Vein 1st *m-cu*

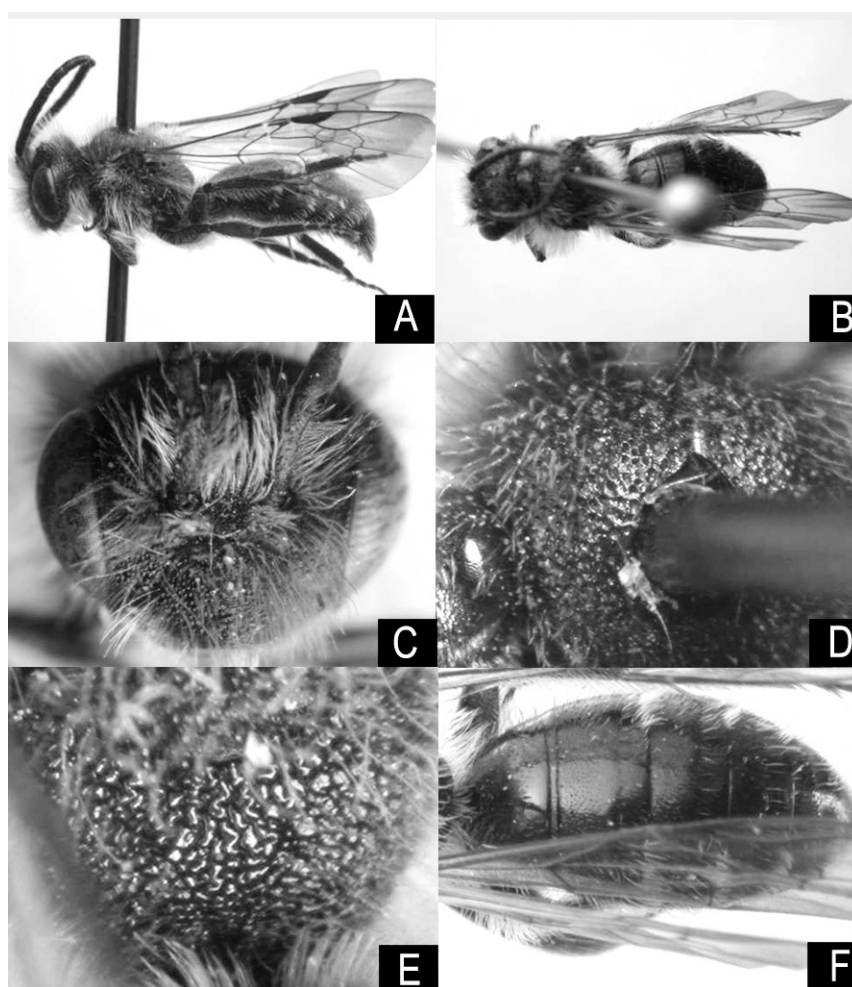


Fig. 11. *Andrena (Proxiandrena) proxima* (Kirby), male. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

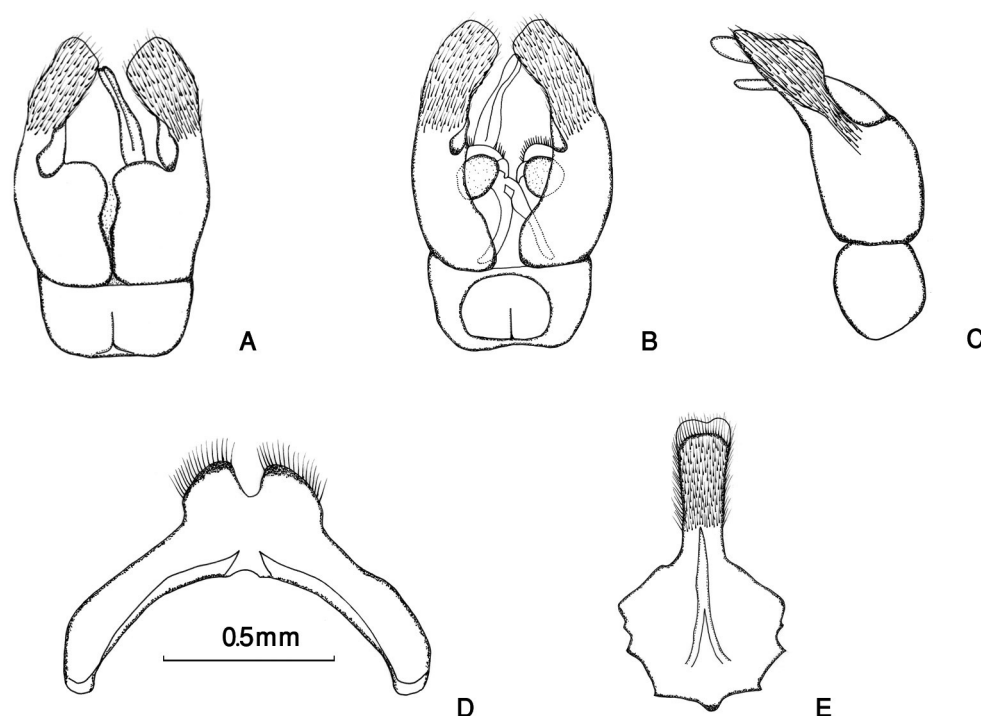


Fig. 12. *Andrena (Proxiandrena) proxima* (Kirby), male. Genital capsule and subgenital sterna. A: dorsal view of genital capsule; B: ventral view of genital capsule; C: lateral view of genital capsule; D: metasomal sternum 7; E: metasomal sternum 8.

meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga tessellate, shiny, T₁ with fine, sparse, distinct PP 25 µm, IS = 1-2, T₂₋₄ with slightly dense, small PP 30 µm, IS = 1; posterior depressions of terga well indicated. S₂₋₅ strongly tessellate and shiny with dense, minute PP 25 µm.

Specimens examined. [KAZAKHSTAN] 3 females, Jabagly 1180-1250 m, S. Kazakhstan Prov., 28. v. 2003 (O. Tadauchi); 2 females, Jabagly 1180-1250 m, S. Kazakhstan Prov., 14. v. 2003 (O. Tadauchi); 1 female, Baijansai, 750 m, Mts. Karatau, S. Kazakhstan Prov., 9. vi. 2003 (O. Tadauchi); 1 male, mer-west, Alma-Arasen 43.2N 76.8E, 15 km S Alma-Ata, 27. 5. 2004 (K. Denes). [KYRGYZSTAN] 2 males, Dzhahalabad, ca. jct. Kara Kysmak and Chatkal R., 2240 m, 19. vi. 1999 (J. G. Rozen, J. K. Bouseman); 1 male, Issyk-ata, 1300 m, 27. v. 2000 (D. Ahmatjan).

Floral record. Not available.

Distribution. Kazakhstan (new record), Kyrgyzstan (new record), Germany, Spain, England, Algeria.

61. *Andrena (Simandrena) dorsata* (Kirby 1802) (Fig. 13)

Apis transfuga Christ, 1791, Naturg. der Insect.: 169.

Melitta dorsata Kirby, 1802, Monogr. apum Angl., 2: 144.

Melitta Lewinella Kirby, 1802, Monogr. apum Angl., 2: 149.

Melitta Collinsonana Kirby, 1802, Monogr. apum Angl., 2: 153.

Melitta nudiuscula Kirby, 1802, Monogr. apum Angl., 2: 155.

Melitta subincana Kirby, 1802, Monogr. apum Angl., 2: 158.

Andrena propinqua Schenck, 1853, Jb. Ver. Naturk. Nassau, 9: 134, 228, 281.

Andrena Cognata Schenck, 1853, Jb. Ver. Naturk. Nassau, 9: 230, 236, 287.

Andrena griseola Schenck, 1861, Jb. Ver. Naturk. Nassau, 14 (1859): 260.

Andrena dubitata Schenck, 1870, Stettin. ent. Ztg., 31: 409.

Andrena connexa Pérez, 1895, Espec. nouv. Mellif. Barbarie: 41.

Andrena alliaria Pérez, 1903, P.-v., Soc. linn. Bordeaux 58: LXXXIV.

Andrena thomsoni Aurivillius, 1903 (nec *Andrena thomsoni* Duce 1898), Ent. Tidskr., 24: 204.

Andrena (Simandrena) dorsata: Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 234-237.

Female. BL 8.4 mm; WL 6.2 mm.

Color: Flagellum brownish beneath; mandible black, reddened apically; wing membranes subhyaline, moderately brownish, veins and pterostigma reddish brown; tibial spur yellowish; posterior depressions of metasomal terga brownish.

Pubescence: Hairs on head dense, dull whitish; those on clypeus dense, short 100-150 μ m, dull whitish, with lateral fringes; those on vertex long 250-350 μ m, dull whitish; those on genal area dense, long 250-300 μ m, dull whitish; facial fovea brownish above, whitish below. Hairs on mesoscutum sparse, short 100-150 μ m, pale

yellowish; those on scutellum sparse, short 100-200 μ m, pale yellowish; those on mesepisternum dense, long 350-400 μ m, whitish; propodeal corbicula completely developed, dull whitish, without internal hairs; trochantal floccus perfect, whitish; femoral floccus dense, long, pale brownish; tibial scopa not developed, simple, short, silver whitish hairs. Hairs on metasomal terga T₁₋₄ scanty, suberect, short; T₁ without hair band; T₂ with interrupted hair band; T₃₋₄ with complete hair bands; caudal fimbria brownish; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 2.2 mm, head width 2.8 mm, HL/HW = 0.79. HW: MsW: MtW: 2.8: 2.0: 2.8. Vertex flat in frontal view, shagreening, shiny, with fine PP 30 μ m, IS = 0.5. OOD: POD: OCD: = 0.5: 0.4: 0.2. FL₁ < FL₂+FL₃, FL₂ = FL₃ which are broader than long. Eyes with inner margins subparallel. Supraclypeal area convex, shiny, with small PP. Facial fovea long, broad, occupying 3/4 space between eye and lateral ocellus,

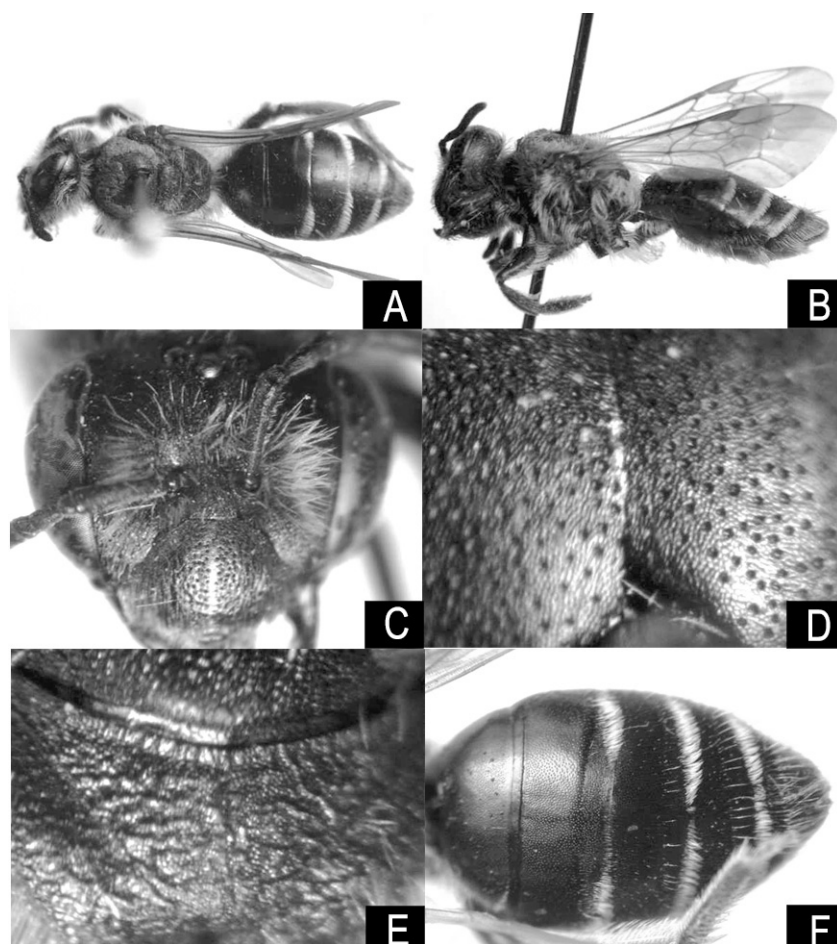


Fig. 13. *Andrena (Simandrena) dorsata* (Kirby), female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

much extending to a line at lower margins of antennal fossae, FVL = 1.2 mm, FVW = 0.35 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (2.8:2.2). Clypeus convex, tessellate, punctate with dense, distinct PP 25-30 μ m, IS = 1, with longitudinal median impunctate space, CPL = 0.9 mm. Process of labrum trapezoidal. Lower paraocular area finely tessellate, shiny, punctate with dense, minute PP 25 μ m, IS = 1. Malar space linear. Genal area broader than eye, GW: EW = 0.85:0.65, tessellate and shiny with minute PP 25 μ m, IS = 1. Mesosoma: Pronotum with lateral suture and without humeral angle, densely tessellate, shiny with fine, sparse PP 20 μ m. Mesoscutum densely tessellate, punctate, shiny with fine, distinct, small PP 25-30 μ m, IS = 1-2. Scutellum tessellate, punctate, shiny with dense, distinct, fine, small PP 25-30 μ m, IS = 1. Propodeal enclosure large, triangular, weakly indicated, rugulose-tessellate; dorsal face of propodeum roughened with fine, small PP 25 μ m. Mesepisternum tessellate, with roughened, small PP 30 μ m. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga weakly tessellate, punctate, shiny, T₁₋₄ with finely dense, distinct, small PP 20-25 μ m, IS = 1; posterior depressions of terga well indicated; pygidial plate V shaped with raised internal triangular area. S₂₋₅ strongly tessellate and shiny with dense, minute PP 20 μ m.

Specimen examined. [KAZAKHSTAN] 1 female, Dzhanibek, SW Kazakhstan, 21-27. vi. 1996 (J. Miatleuski).

Floral record. Not available.

Distribution. Kazakhstan (new record), Germany, Switzerland, England.

62. *Andrena (Simandrena) quadrifasciata* Morawtiz, 1876 (Fig. 14)

Andrena quadrifasciata Morawtiz, 1876, in Fedtschenko, Izv. imp. Obshch. Ljubit. Estest. Antrop. Etnog., 168.
Andrena quadrifasciata Viereck, 1918, Proc. boil. Soc. Wash. 31: 59, nom.nov. for *Andrena quadrifasciata* Morawtiz, 1876 (nec *quadrifasciata* Gmelin, 1790).
Andrena (Simandrena) quadrifasciata: Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 623-624.

Female. BL 9.5 mm; WL 7.3 mm.

Color: Flagellum brownish beneath; mandibles black with apical half reddened; wing membranes subhyaline, pale brownish, veins and pterostigma yellowish brown;

tibial spur yellowish; posterior depressions of metasomal terga brownish.

Pubescence: Hairs on head sparse except antennal area, whitish; those on clypeus sparse, short 100-250 μ m, whitish, with lateral fringes; those on vertex long 300-400 μ m, whitish, those on genal area dense, long 200-300 μ m, whitish; facial fovea brownish above, whitish below. Hairs on mesoscutum sparse, long 300-350 μ m, whitish; those on scutellum sparse, long 400 μ m, whitish; those on mesepisternum dense, long 400-550 μ m, whitish; propodeal corbícula complete developed, whitish, without internal hairs; trochanteral floccus perfect, whitish; femoral floccus dense, long, pale brownish; tibial scopa not developed, simple, silver whitish hairs. Hairs on metasomal terga T₁₋₂ scanty, suberect, short, whitish; T₃₋₄ with scanty, suberect, brownish, short; T₁₋₂ without hair band; T₃₋₄ with complete hair bands; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 2.3 mm, head width 3.0 mm, HL/HW = 0.77. HW: MsW: MtW: 3.0: 2.2: 3.0. Vertex round in frontal view, finely tessellate, shiny, with fine, obscure PP 30 μ m, IS = 1. OOD: POD: OCD: = 0.65: 0.4: 0.2. FL1 < FL2+FL3, FL2 = FL3 which are as broad as long. Eyes with inner margins subparallel. Supraclypeal area convex, shiny, with small, roughened PP. Facial fovea long, occupying 1/2 the space between eye and lateral ocellus, much extending to a line at lower margins of antennal fossae, FVL = 1.2 mm, FVW = 0.3 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (3.0:2.3). Clypeus convex, weakly tessellate, shiny, punctate with dense, distinct PP 25-30 μ m, IS = 05, without longitudinal median impunctate space, CPL = 0.9 mm. Process of labrum trapezoidal. Lower paraocular area smooth, shiny, punctate with dense, minute PP 25-30 μ m, IS = 1. Malar space linear. Genal area broader than eye, GW: EW = 0.75:0.6, tessellate and shiny with minute PP 25 μ m, IS = 1. Mesosoma: Pronotum with lateral suture and without humeral angle, densely tessellate, shiny with fine, sparse PP 20 μ m. Mesoscutum densely tessellate, punctate, shiny with fine, distinct, small PP 30 μ m, IS = 1. Scutellum weakly tessellate, punctate, shiny with dense, distinct, fine, small PP 25-30 μ m, IS = 1. Propodeal enclosure large, triangular, well indicated, rugose basally, tessellate apically; dorsal face of propodeum shagreened, with roughened, small PP 25 μ m. Mesepisternum tessellate, with roughened, small PP 30 μ m. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga tessellate, punctate, shiny, T₁₋₄ with finely dense, microscopic, small PP 20-25 μ m, IS = 1-2; posterior depressions of terga

weakly indicated; pygidial plate V shaped with raised internal triangular area. S₂₋₅ tessellate and shiny with dense, minute PP 25 µm.

Specimen examined. [KAZAKHSTAN] 1 female, Jabagly 1080-1250 m, S. Kazakhstan Prov., 11. v. 2004 (R. Murao).

Floral record. Not available.

Distribution. Kazakhstan (new record), Tajikistan.

**63. *Andrena (Simandrena) kazakhstanensis*
sp. nov.
(Fig. 15)**

Female. BL 8.8 mm; WL 7.4 mm (n = 2).

Color: Flagellum brownish beneath; mandible black, reddened apically, galea, maxillary palp and labial palp pale brownish; wing membranes subhyaline, brownish; veins and pterostigma red brownish; tibial spur yellow-

ish; posterior depressions of metasomal terga brownish.

Pubescence: Hairs on head dense, dull whitish; those on clypeus dense, slightly long 250-300 µm, dull whitish, with lateral fringes; those on vertex long 450-600 µm, dull whitish; those on genal area dense, slightly long 250-350 µm, dull whitish; facial fovea brownish above, whitish below. Hairs on mesoscutum slightly dense, short 150-250 µm, pale yellowish; those on scutellum dense, long 300-400 µm, pale yellowish; those on mesepisternum dense, long 450-600 µm, whitish; propodeal corbícula completely developed, dull whitish, without internal hairs; trochanteral floccus perfect, whitish; femoral floccus dense, long, pale brownish; tibial scopa not developed, simple, short, silver whitish hairs. Hairs on metasomal terga T₁₋₄ scanty, suberect, short; T₁ without hair band; T₂₋₃ with interrupted whitish hair band; T₄ with complete whitish hair band; caudal fimbria brownish; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 2.4 mm, head width 3.0 mm,

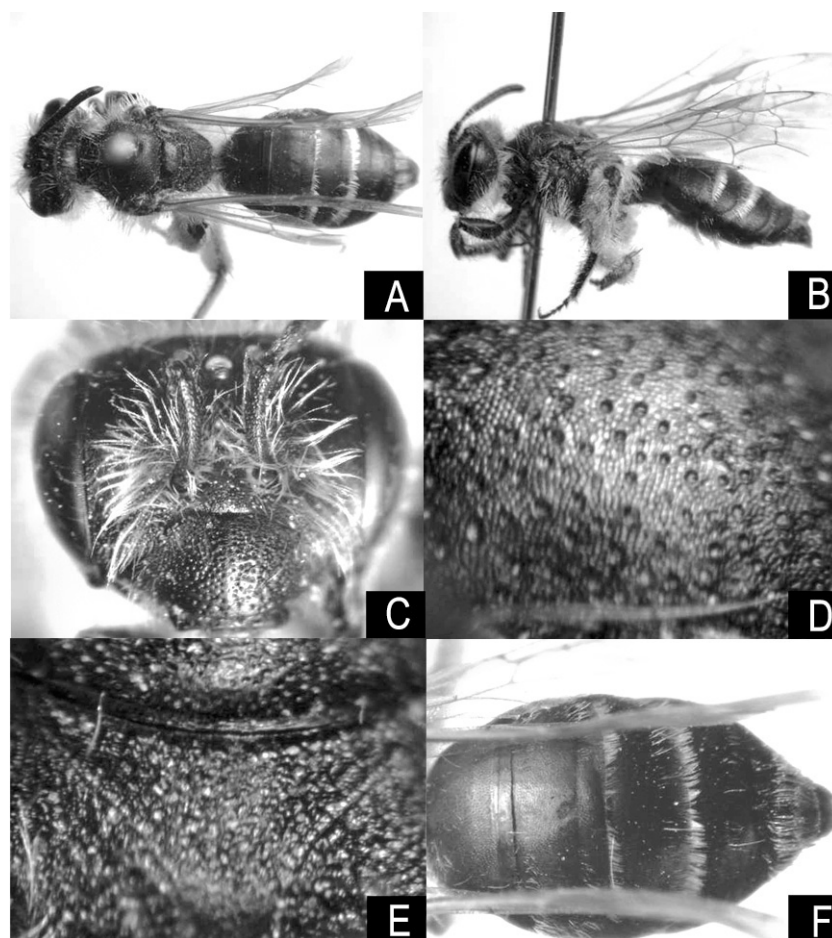


Fig. 14. *Andrena (Simandrena) quadrifasciata* Morawitz, female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

HL/HW = 0.8. HW: MsW: MtW: 3: 2.8: 3.2. Vertex rounded in frontal view, shagreening, shiny, with fine PP 30 μ m, IS = 0.5. OOD: POD: OCD: = 0.65: 0.4: 1.2. FL1 < FL2+FL3, FL2 = FL3 which are as broad as long. Eye with inner margins subparallel. Supraclypeal area convex, shiny, with small PP. Facial fovea long, broad, occupying 3/4 space between eye and lateral ocellus, much extending to a line at lower margins of antennal fossae, FVL = 1.25 mm, FVW = 0.45 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (3.0:2.4). Clypeus convex, polished, punctate with dense, distinct PP 30-40 μ m, IS = 0.5-1, with longitudinal median impunctate space, CPL = 1.0 mm. Process of labrum broad, rounded (semicircular). Lower paraocular area polished, punctate with dense, irregular PP 30-40 μ m, IS = 0.5-1. Malar space linear. Genal area broader than eye, GW: EW = 0.7:0.55, tessellate, shiny with minute PP 25-30 μ m, IS = 1. Mesosoma: Pronotum

with lateral suture and without humeral angle, densely tessellate, shiny with fine, sparse PP 20-25 μ m. Mesoscutum densely tessellate, punctate, shiny with fine, distinct, PP 30-40 μ m, IS = 0.5-1. Scutellum punctate, shiny with dense, distinct, fine, small PP 30-40 μ m, IS = 1. Propodeal enclosure triangular, well indicated, rugose at base, granulate apically; dorsal face of propodeum granulate with fine, PP 30-40 μ m. Mesepisternum tessellate, with fine, small PP 30 μ m. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga tessellate, punctate, shiny, T₁₋₄ with finely dense, distinct, microscopic PP less than 20 μ m, IS = 0.5-1; posterior depressions of terga well indicated; pygidial plate V shaped without raised internal triangular area. S₂₋₅ strongly tessellate and shiny with dense, minute PP 20 μ m.

Male. Unknown

Remarks. This new species is characterized from *Andrena combinata*, *A. dorsata*, and *A. quadarifasciata*

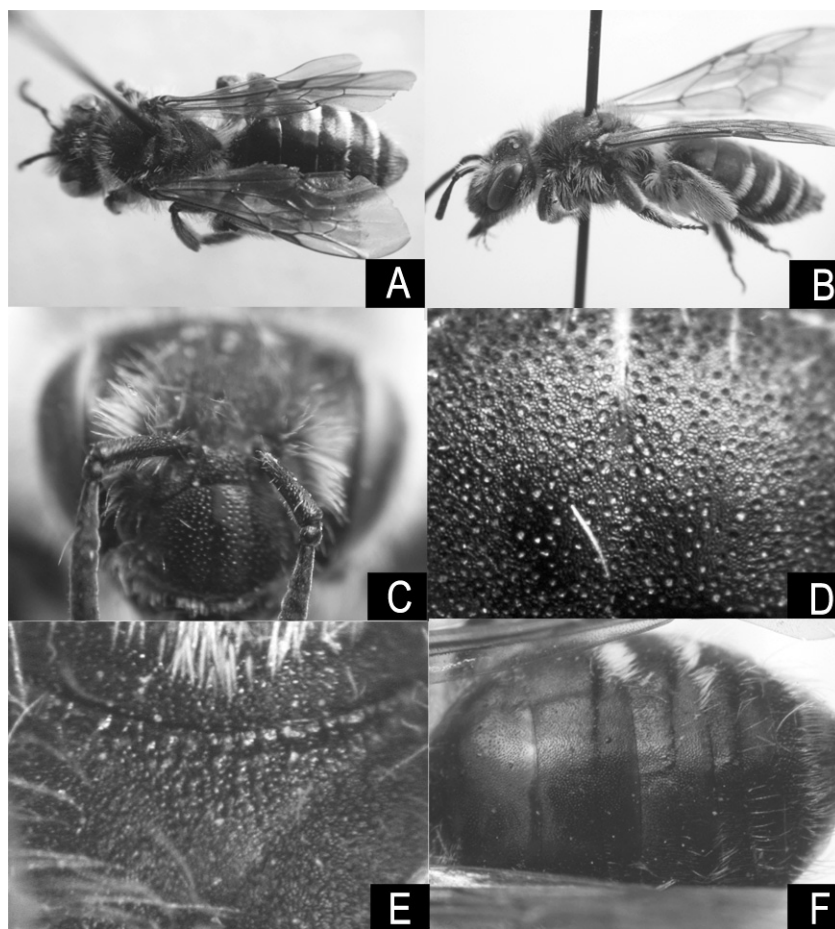


Fig. 15. *Andrena (Simandrena) kazakhstanensis* sp. nov., female, holotype. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

by the clypeus polished; the process of labrum rounded; the propodeal enclosure rugose at base, granulate apically; and the metasomal terga tessellate with microscopical punctures.

Type material: Holotype female, mer.-west, Alma-Ata 43, 2N 76, 8E, 15 km S Alma-Ata, Kazakhstan 27. v. 1994 (K. Denes, Jr).

Type depository: American Museum of Natural History, New York.

Floral record. Not available.

Distribution: Kazakhstan.

64. *Andrena (Simandrena) iliana* sp. nov.
(Fig. 16)

Female. BL 7.8 mm; WL 6.9 mm (n = 2).

Color: Flagellum brownish beneath; mandible black with apical half reddened; galea, maxillary palp and labial palp pale brownish; wing membranes subhyaline,

moderately brownish, veins and pterostigma red brownish; tibial spur yellowish; posterior margins of metasomal terga brownish.

Pubescence: Hairs on head dense, whitish except on clypeus; those on clypeus scattered or bare of hairs, short 100 μ m, whitish, with lateral fringes; those on vertex slightly long 300-450 μ m, whitish; those on genal area dense, short, 200-300 μ m, whitish; facial fovea whitish. Hairs on mesoscutum slightly dense, short laterally, 200-250 μ m, dull whitish; those on scutellum slightly dense laterally, short, 200-250 μ m, whitish, those on mesepisternum dense, long 450-500 μ m, whitish; propodeal corbicula completely developed, whitish, without internal hairs; trochanteral floccus perfect, whitish; femoral floccus dense, long, whitish; tibial scopa not developed, simple, silver whitish hairs. Hairs on metasomal terga T₁ laterally with sparse, short 150-300 μ m, whitish hairs; T₂₋₄ with scanty, suberect, short hairs; T₁ with interrupted whitish hair band; T₂₋₄ with completed

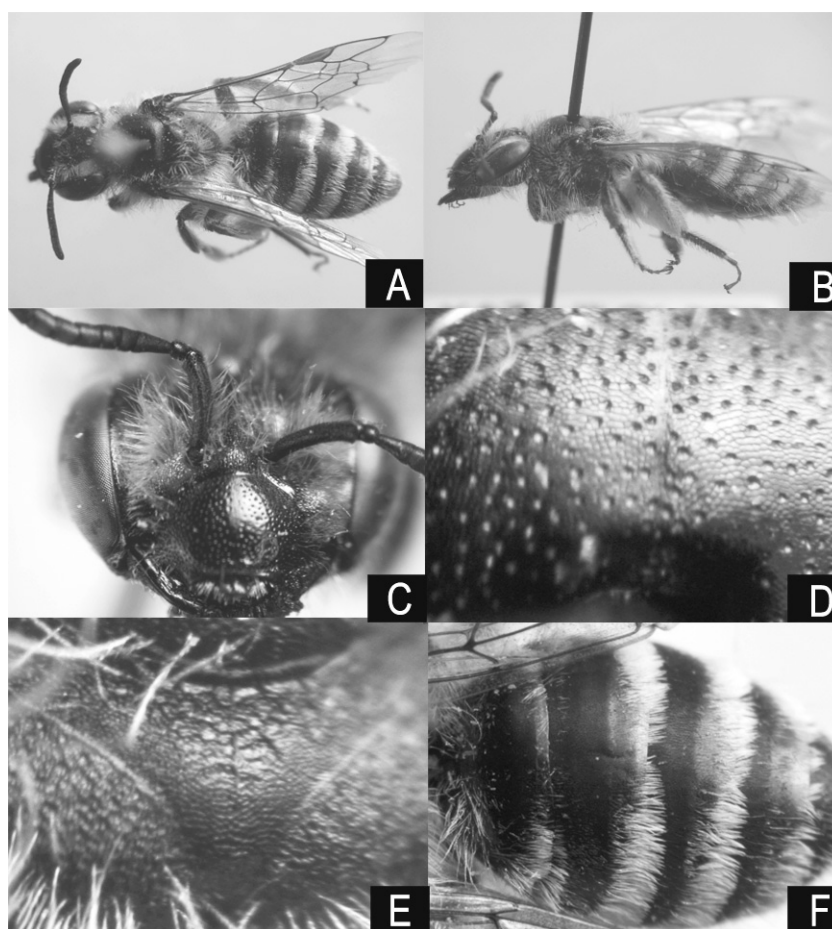


Fig. 16. *Andrena (Simandrena) iliana* sp. nov., female, holotype. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

whitish hair bands; caudal fimbria brownish; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 2.1 mm, Head width 2.7 mm, HL/HW = 0.78. HW: MsW: MtW: 2.7: 2.3: 2.7. Vertex flat in frontal view, tessellate, shiny, with minute PP 20 µm, IS = 1. OOD: POD: OCD: = 0.5: 0.43: 0.1. FL₁ > FL₂ + FL₃, FL₂ < FL₃ which are broader than long. Eyes with inner margins subparallel. Supraclypeal area convex, shiny, with small PP. Facial fovea long, broad, occupying almost the space between eye and lateral ocellus, much extending to a line at lower margins of antennal fossae, FVL = 1.25 mm, FVW = 0.375 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (2.7:2.1). Clypeus strongly convex, tessellate, punctate with slightly dense, distinct PP 25-30 µm, IS = 2, without longitudinal median impunctate space, CPL = 0.8 mm. Process of labrum broad, trapezoidal, not emarginated apically. Lower paraocular area punctate with dense, shiny with minute PP 20 µm, IS = 1. Malar space linear, small. Genal area as broad as eye, GW: EW = 0.65:0.65, tessellate and shiny with minute PP 25 µm, IS = 1. Mesosoma: Pronotum without lateral suture and humeral angle, densely tessellate, shiny with fine, microscopic PP 20 µm. Mesoscutum tessellate, punctate, shiny with fine, slightly dense, distinct, small PP 25-30 µm, IS = 1-2. Scutellum punctate, shiny with sparse, fine, small PP 25 µm, IS = 1-2. Propodeal enclosure large, triangular, well indicated, 1/3 rugose basally, 2/3 tessellate apically; dorsal face of propodeum roughened with fine, small PP 30 µm. Mesepisternum strongly tessellate, with fine, sparse, microscopic PP 20-25 µm. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga tessellate, shiny, T₁₋₄ with finely microscopic PP less than 10 µm, IS = 1-1.5; posterior depressions of terga weakly indicated; pygidial plate U shaped without raised internal triangular area. S₂₋₅ strongly tessellate and shiny with dense, minute PP 20-25 µm.

Male. Unknown

Remarks. This new species is distinguished from *Andrena sarta* by the clypeus more strongly convex; the process of labrum trapezoidal, not emarginated apically (strongly emarginated apically in *A. sarta*); propodeal enclosure 1/3 rugose basally, 2/3 tessellate apically (2/3 rugose basally, 1/3 tessellate apically in *A. sarta*); and the metasomal terga tessellate with microscopic punctures (densely punctate with small punctures in *A. sarta*).

Type material: Holotype female, Ili riv. area, Bakanas distr. Kazakhstan iv.-v. 2001 (Gurko).

Type depositary: Oberösterreichischen Landesmuseum, Linz Austria (OML).

Floral record. Not available.

Distribution: Kazakhstan.

**65. *Andrena (Taeniandrena) callopyrrha*
Cockerell, 1929
(Fig. 17)**

Andrena callopyrrha Cockerell, 1929, Entomologist 62: 205; Xu & Tadauchi, 1997, Esakia, (37): 181-183.

Andrena (Taeniandrena) callopyrrha: Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 149-150; Tadauchi & Xu, 2003, Esakia, (43): 79-81.

Female. BL 9.1 mm; WL 7.4 mm.

Color: Flagellum brownish beneath; mandible black; wing membranes subhyaline, moderately brownish, veins and pterostigma red brownish; tibial spur yellowish; posterior depressions of metasomal terga black.

Pubescence: Hairs on head dense, reddish yellow to foxy red; those on clypeus dense, long 300-400 µm, reddish yellow to foxy red, with lateral fringes; those on vertex long 400-500 µm, yellowish; those on genal area dense, long 400-500 µm, yellowish; facial fovea brownish above, whitish below. Hairs on mesoscutum slightly dense, slightly long 200-250 µm, reddish yellow to foxy red; those on scutellum dense, short, 150-200 µm, reddish yellow to foxy red; those on mesepisternum dense, long 500-650 µm, reddish yellow to foxy red; propodeal corbicular developed, reddish yellow to foxy red, with internal simple, sparse hairs; trochanteral floccus perfect, whitish, femoral floccus dense, long, yellowish; tibial scopa long, simple, golden yellowish hairs. Hairs on metasomal terga with dense, suberect, short; T₁₋₂ with interrupted whitish hair bands; T₃₋₄ with completed hair bands; caudal fimbria golden; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 2.9 mm, head width 3.5 mm, HL/HW = 0.83. HW: MsW: MtW: 3.5: 2.4: 3.5. Vertex flat in frontal view, tessellate, shiny, with fine PP 30 µm, IS = 1. OOD: POD: OCD: = 0.7: 0.5: 0.3. FL₁ > FL₂ + FL₃, FL₂ = FL₃ which are as broad as long. Eyes with inner margins subparallel. Supraclypeal area flattened, shiny, with small PP. Facial fovea long, broad, much extending to a line at lower margins of antennal fossae, FVL = 1.2 mm, FVW = 0.45 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (3.5:2.9). Clypeus flattened, densely tessellate, punctate with slightly dense, distinct PP 30 µm, IS = 1, with obscure longitudinal median impunctate space, CPL = 1.2 mm. Process of labrum trapezoidal, broad and short,

surface with curved rugulae, shiny medially with apex emarginate; surface below with process smooth and shiny with median crista. Lower paraocular area shiny, punctate with dense, minute PP 30 μ m, IS = 0.5. Malar space linear, broad. Genal area smaller than eye, GW: EW = 0.7:0.8, tessellate and shiny with minute PP 25 μ m, IS = 1. Mesosoma: Pronotum without lateral suture and humeral angle, densely tessellate, shiny with fine PP 20 μ m. Mesoscutum tessellate, punctate, shiny with fine, distinct, small PP 30 μ m, IS = 1. Scutellum weakly tessellate, punctate, shiny with dense, distinct, fine, small PP 30 μ m, IS = 0.5-1. Propodeal enclosure large, triangular, well indicated, rugulose, tessellate apically; dorsal face of propodeum roughened with fine, small PP 25 μ m. Mesepisternum tessellate, roughened, with fine, small PP 25 μ m. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga tessellate, finely punctate, shiny, T₁₋₄ with fine, weakly dense, microscopic PP 20 μ m, IS = 2; posterior depressions of terga

weakly indicated; pygidial plate V shaped without raised internal triangular area. S₂₋₅ strongly tessellate and shiny with dense, minute PP 20 μ m.

Specimens examined. [KAZAKHSTAN] 1 female, Ili riv. Area, Bakanas distr. iv.-v. 2001 (Gurko); 1 female, Cimkentska obl. Saryagac. 6. iv. 1989 (Biza V.).

Floral record. Not available.

Distribution. Mongolia, China, Kazakhstan (new record), Russia.

66. *Andrena (Taeniandrena) ezoensis* Hirashima, 1965 (Fig. 18)

Andrena (Taeniandrena) ezoensis Hirashima 1965, J. Fac. Agric., Kyushu Univ., 13: 506-509; Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 259; Tadauchi & Xu, 2003, Esakia, (43): 73-74.

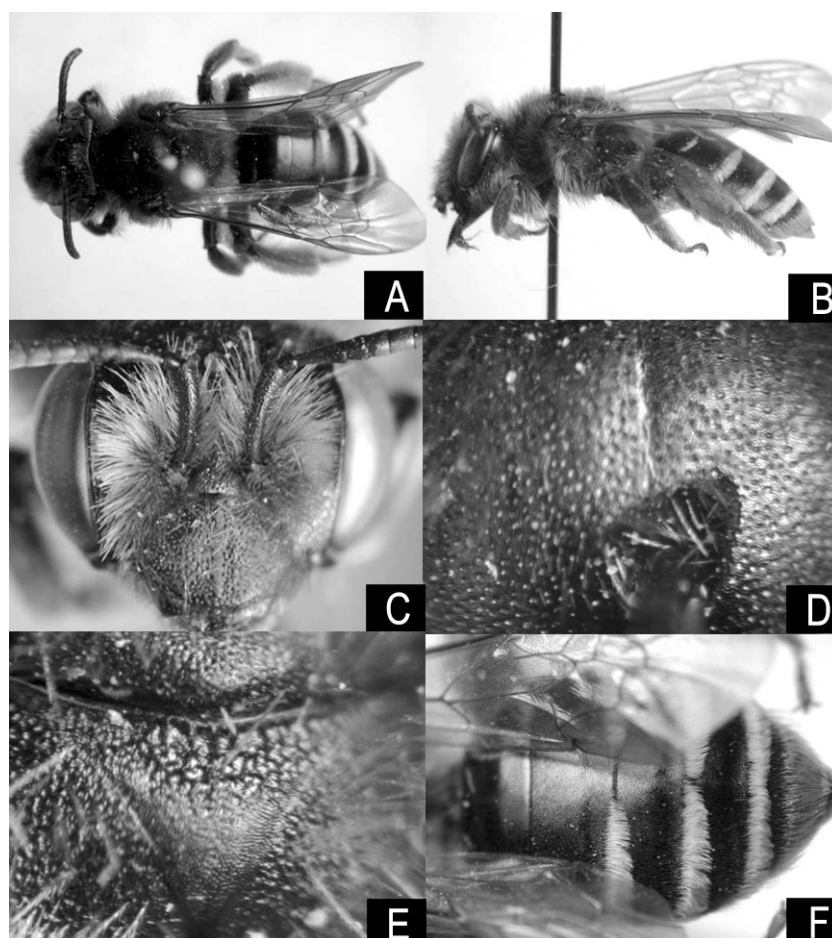


Fig. 17. *Andrena (Taeniandrena) callopyrrha* Cockerell, female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

Female. BL 9.6mm; WL 6.5 mm.

Color: Flagellum brownish beneath; mandible black; wing membranes subhyaline, yellowish brown, veins and pterostigma yellowish brown; tibial spur pale brownish; posterior depressions of metasomal terga brownish.

Pubescence: Hairs on head dense, whitish; those on clypeus sparse, short 200-250 μ m, dull whitish, with lateral fringes, those on vertex long 400-500 μ m, dull whitish; those on genal area dense, long 250-350 μ m, dull whitish; facial fovea light brownish above, whitish below. Hairs on mesoscutum slightly dense, short 200-250 μ m, dull whitish; those on scutellum sparse, short, 200-250 μ m, whitish; those on mesepisternum dense, long 550-600 μ m, whitish; propodeal corbicula developed, whitish, with internal simple, sparse hairs; trochanteral floccus perfect, whitish; femoral floccus dense, long, whitish brown; tibial scopa well developed, long, simple, whitish hairs. Hairs on metasomal terga T₁₋₄ scanty, short 100-150 μ m, whitish; T₁₋₃ with interrupted hair bands; T₄ with

completed hair band; caudal fimbria brownish covered with whitish hairs; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 2.8 mm, head width 3.4 mm, HL/HW = 0.82. HW: MsW: MtW: 3.4: 2.7: 3.5. Vertex flat in frontal view, shagreening, shiny, with PP 30 μ m, IS = 1. OOD: POD: OCD: = 0.7: 0.45: 0.3. FL1 = FL2+FL3, FL2 = FL3 which are as long as broad. Eyes with inner margins subparallel. Supraclypeal area flattened, shiny, with small PP. Facial fovea long, broad, occupying 3/4 the space between eye and lateral ocellus, much extending to a line at lower margins of antennal fossae, FVL = 1.3 mm, FVW = 0.5 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (3.4:2.8). Clypeus flattened, tessellate, punctate with dense, obscure PP 40 μ m, IS = 1, with obscure longitudinal median impunctate space, CPL = 1.1 mm. Process of labrum broad, trapezoidal, deeply emarginated apically.

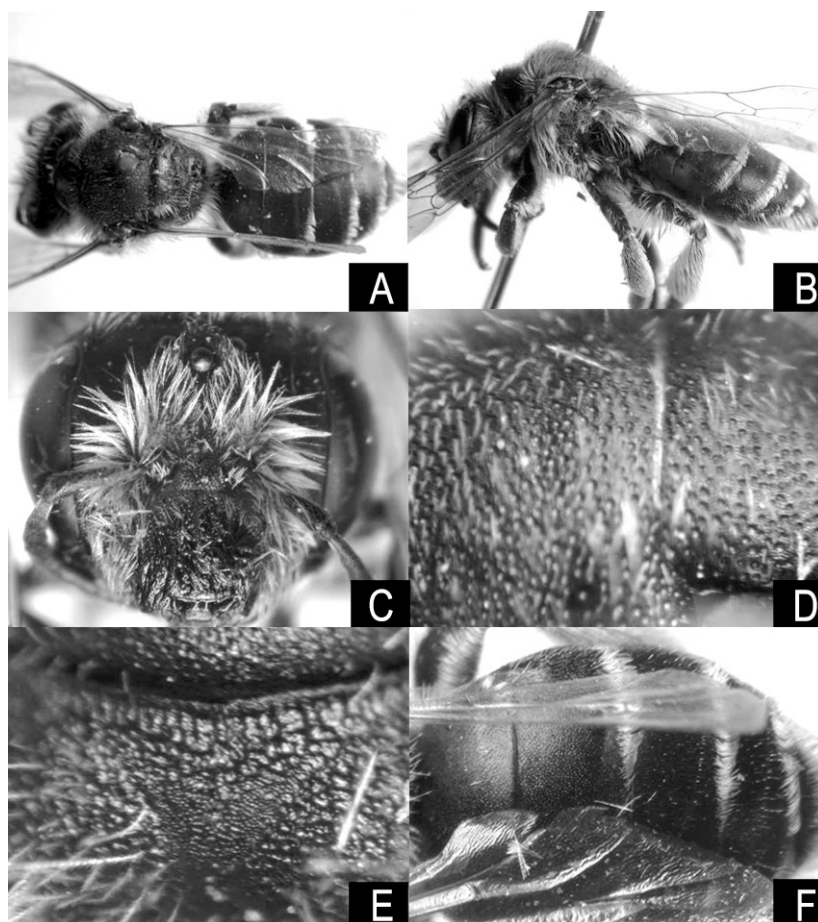


Fig. 18. *Andrena (Taeniandrena) ezoensis* Hirashima, female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

Lower paraocular area punctate with dense, shiny with minute PP 30 μ m, IS = 0.5. Malar space linear. Genal area as broad as eye, GW: EW = 0.6, finely tessellate and shiny with minute PP 25 μ m, IS = 1. Mesosoma: Pronotum with lateral suture and without humeral angle, densely tessellate, shiny with fine PP 25 μ m. Mesoscutum densely tessellate, punctate, shiny with fine, distinct, small PP 30-40 μ m, IS = 0.5-1. Scutellum finely tessellate, punctate, shiny with dense, distinct, fine, small PP 30 μ m, IS = 1. Propodeal enclosure triangular, well indicated, rugose basally, tessellate apically; dorsal face of propodeum roughened with fine, small PP 30 μ m. Mesepisternum tessellate, with fine, small PP 30 μ m. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasoma condensed oval, metasomal terga densely tessellate, punctate, nearly shiny, T₁₋₄ with finely dense, small PP 25 μ m, IS = 0.5-1; posterior depressions of terga weakly indicated; pygidial plate V shaped without raised internal triangular area. S₂₋₅ weakly

tessellate and shiny with dense, minute PP 20 μ m.

Specimen examined. [KAZAKHSTAN] 1 female, Almaty city, Almaty Prov., 29. v. 2000 (O. Tadauchi).

Floral record. *Achillea* sp.

Distribution. Japan, Korea, China, Kazakhstan (new record), Russia.

**67. *Andrena (Taeniandrena) wilkella*
(Kirby 1802)
(Fig. 19)**

Melitta wilkella Kirby, 1802, Monogr. apum Angl., 2: 145.

Melitta xanthura Kirby, 1802, Monogr. apum Angl., 2: 164.

Melitta conveziuscula Kirby, 1802, Monogr. apum Angl., 2: 166.

Melitta barbatula Kirby, 1802 (nec *Andrena barbatula*

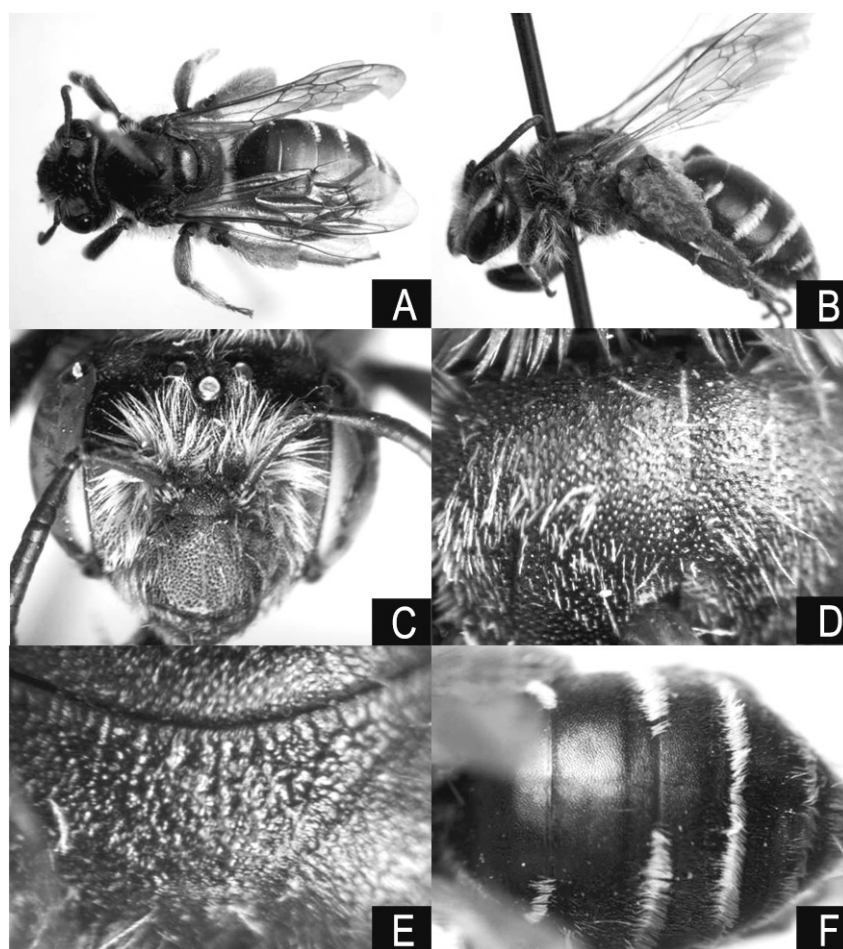


Fig. 19. *Andrena (Taeniandrena) wilkella* (Kirby), female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

Zetterstedt, 1838), Monogr. apum Angl., 2: 152.

Andrena convexa Schenck, 1853 (nec *Apis convexa* Schrank, 1781 nec *Andrena convexa* Provancher, 1888, Jb. Ver. Naturk. Nassau., 9: 125.

Andrena quadristrigata Schenck, 1853, Jb. Ver. Naturk. Nassau., 9: 125.

Andrena winkleyi Viereck, 1907, Ent. News, 18: 283-287.

Andrena meraca Cockerell, 1924, Ann. Mag. nat. Hist. (9) 14: 182.

Andrena Beaumonti Benoist, 1961, Bull. Soc. Sci. nat. phys. Maroc, 41: 91.

Andrena (Taeniandrena) wilkella: Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 832-833; Tadauchi & Xu, 2003, Esakia, (43): 87-91.

Female. BL 9.3mm; WL 7.1 mm.

Color: Flagellum brownish beneath; mandible black, reddened apically; wing membranes subhyaline, moderately brownish, veins and pterostigma red brownish; tibial spur yellowish; posterior depressions of metasomal terga black.

Pubescence: Hairs on head dense, whitish; those on clypeus dense, slightly long 200-300 μ m, whitish, with lateral fringes; those on vertex long 400-500 μ m, whitish; those on genal area dense, long 350-450 μ m, whitish; facial fovea brownish above, whitish below. Hairs on mesoscutum dense, short 150-300 μ m, whitish; those on scutellum dense, short 150-200 μ m, whitish; those on mesepisternum dense, long 500-600 μ m, whitish; propodeal corbícula developed, whitish, with internal simple, sparse hairs; trochanteral floccus perfect, whitish; femoral floccus dense, long, whitish brown; tibial scopa long, simple, silver whitish hairs. Hairs on metasomal terga T₁₋₄ scanty, suberect, short; T₁₋₂ with interrupted hair bands; T₃₋₄ with completed hair bands; caudal fimbria whitish brown; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 2.8 mm, head width 3.5 mm, HL/HW = 0.80. HW: MsW: MtW: 3.5: 2.5: 3.3. Vertex flat in frontal view, shagreening, shiny, with PP 25 μ m, IS = 1. OOD: POD: OCD: = 0.7: 0.5: 0.3. FL₁ = FL₂ + FL₃, FL₂ = FL₃ which are as long as broad. Eyes with inner margins subparallel. Supraclypeal area flattened, shiny, with small PP. Facial fovea long, broad, occupying 3/4 the space between eye and lateral ocellus, much extending to a line at lower margins of antennal fossae, FVL = 1.3 mm, FVW = 0.5 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (3.5:2.5). Clypeus flattened, with a median tessellate impunctate space, densely tessellate, punctate with dense,

obscure PP 30 μ m, IS = 1, CPL = 1.0 mm. Process of labrum trapezoidal, emarginated apically, surface with weak curved rugulae at base. Labrum apical to process with distinct median cristae. Lower paraocular area punctate with dense, shiny with minute PP 30 μ m, IS = 0.5. Malar space linear. Genal area slightly broader than eye, GW: EW = 0.96:0.88, densely tessellate and shiny with minute PP 30 μ m, IS = 1. Mesosoma: Pronotum with lateral suture and without humeral angle, densely tessellate, shiny with fine PP 25 μ m. Mesoscutum densely tessellate, punctate, shiny with fine, distinct, small PP 30-40 μ m, IS = 1. Scutellum tessellate, punctate, shiny with dense, distinct, fine, small PP 30 μ m, IS = 1. Propodeal enclosure triangular, well indicated, rugulose basally, tessellate apically; dorsal face of propodeum roughened with fine, small PP 30 μ m. Mesepisternum tessellate, roughened, with fine, small PP 30 μ m. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasoma condensed oval, metasomal terga densely tessellate-punctate, nearly shiny, T₁₋₄ with finely dense, small PP 25 μ m, IS = 1; posterior depressions of terga weakly indicated; pygidial plate V shaped without raised internal triangular area. S₂₋₅ strongly tessellate and shiny with dense, minute PP 20 μ m.

Specimens examined. [KAZAKHSTAN] 1 female, Near Sternjak, Kokchetav District, N. Kazakhstan Prov., 30. vi. 2002 (V. Kazenas, A. Jashenko & V. Kastchev); 1 female, Polevod, riverside Syrdarya R., S. Kazakhstan Prov., 8. v. 2004 (R. Murao); 1 female, Osh, Karakuldzha, Lajsu Ravine, 1815 m, 25. vi. 1999 (J. G. Rozen, J. K. Bouseman); [KYRGYZSTAN] 1 female, Ysyk-Kol, Region, Tosor lo Barkoon, 4. vii. 1999 (J. G. Rozen, J. K. Bouseman).

Floral record. Not available.

Distribution. China, Kazakhstan (new record), Kyrgyzstan (new record), Russia, middle to north Europe.

68. *Andrena (Taeniandrena) ovatula transcaspensis* Osytnshnjuk, 1994
(Fig. 20)

Andrena (Taeniandrena) ovatula transcaspensis Osytnshnjuk, 1994, Vest. Zool. 1: 32.

Female. BL 10.5 mm; WL 8.1 mm.

Color: Flagellum brownish beneath; mandible reddened apically; posterior margin of clypeus brownish, wing membranes subhyaline, moderately brownish, veins and pterostigma yellowish brown; tibial spur pale bor-

wnish; metasomal terga red brownish, posterior depressions of metasomal terga T₁₋₂ brownish, T₃₋₄ bronze.

Pubescence: Hairs on head sparse except antennal area, dull whitish; those on clypeus sparse, short 150-300 μ m, dull whitish, with lateral fringes; those on vertex slightly long 350-400 μ m, dull whitish; those on genal area dense, short 200-300 μ m, dull whitish; facial fovea brownish above, dull whitish below. Hairs on mesoscutum slightly dense, short 50-150 μ m, yellowish; those on scutellum scanty, short, 50-150 μ m, yellowish; those on mesepisternum dense, long 400-500 μ m, dull whitish; propodeal corbicula developed, whitish, with internal simple, sparse hairs; trochanteral floccus perfect, whitish; femoral floccus dense, long, pale brownish; tibial scopa long, simple, whitish hairs. Hairs on metasomal terga T₁₋₄ scanty, suberect, short; T₁₋₂ with interrupted hair bands; T₃₋₄ with completed hair bands; caudal fimbria pale brownish; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 3.0 mm, head width 3.6 mm, HL/HW = 0.83. HW: MsW: MtW: 3.6: 2.5: 3.5. Vertex flat in frontal view, tessellate, shiny, with PP 30 μ m, IS = 1. OOD: POD: OCD: = 0.65: 0.5: 0.3. FL1 = FL2+FL3, FL2 = FL3 which are as broad as long. Eyes with inner margins subparallel. Supraclypeal area flattened, shiny, shagreening, with small PP. Facial fovea long, broad, occupying 3/4 the space between eye and lateral ocellus, much extending to a line at lower margins of antennal fossae, FVL = 1.2 mm, FVW = 0.45 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (3.6:3.0). Clypeus flattened densely tessellate, punctate with dense, obscure PP 25 μ m, IS = 0.5-1, with longitudinal median tessellate impunctate space, CPL = 1.15 mm. Process of labrum broad, surface with curved rugulae at base, trapezoidal, weakly emarginated apically. Lower paraocular area shiny, punctate, with dense, minute PP 30-40 μ m, IS = 0.5. Malar space

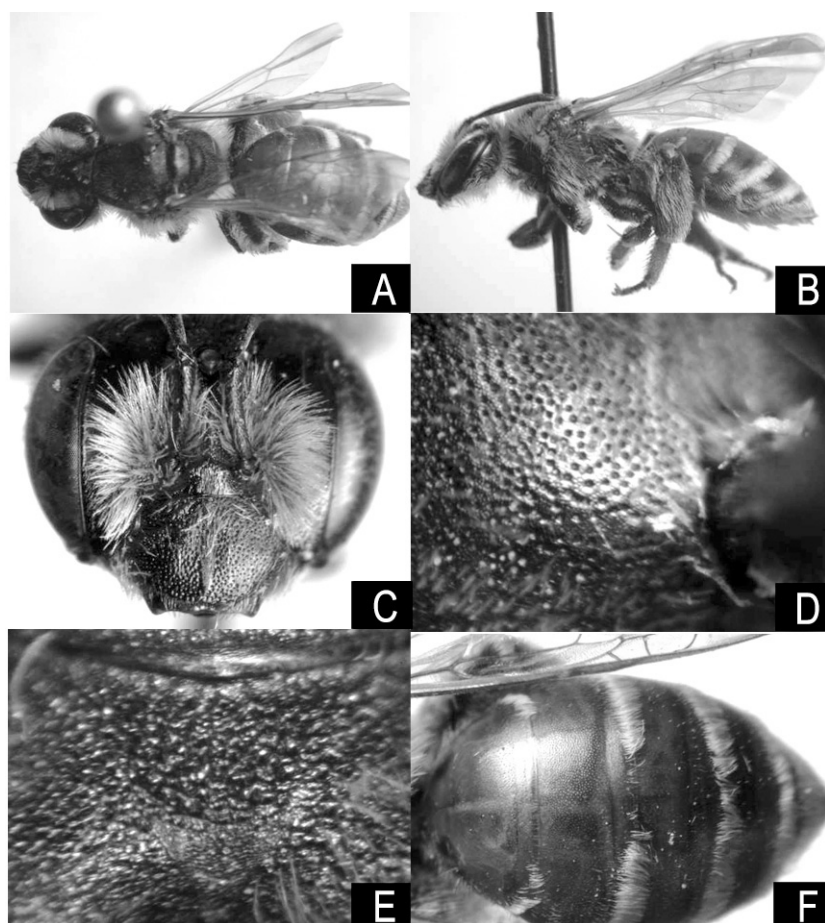


Fig. 20. *Andrena (Taeniandrena) ovatula transcaspensis* Osytshnjuk, female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

linear. Genal area slightly broader than eye, GW: EW = 0.9:0.8, tessellate and shiny with minute PP 25 μ m, IS = 1. Mesosoma: Pronotum with lateral suture and without humeral angle, densely tessellate, shiny with fine PP 25-30 μ m. Mesoscutum densely tessellate, punctate, shiny with fine, distinct, small PP 30-40 μ m, IS = <0.5. Scutellum tessellate, punctate, shiny with dense, distinct, fine, small PP 30-40 μ m, IS = <0.5. Propodeal enclosure triangular, weakly indicated, rugulose basally, tessellate apically; dorsal face of propodeum roughened with fine, small PP 30 μ m. Mesepisternum tessellate, with fine, roughened, small PP 30 μ m. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasoma condensed oval, metasomal terga densely tessellate, punctate, nearly shiny, T₁₋₄ with finely dense, small PP 20 μ m, IS = 1; posterior depressions of terga weakly indicated; pygidial plate V shaped without raised internal triangular area. S₂₋₅ strongly tessellate and shiny with dense, minute PP 20 μ m.

Specimen examined. [KYRGYZSTAN] 1 female, Ysyk-Kol, Region, Tosor, 4. vii. 1999 (J. G. Rozen, J. K. Bouseman).

Floral record. Not available.

Distribution. Kazakhstan, Kyrgyzstan (new record).

**69. *Andrena (Trachandrena) transhissarica*
Popov, 1958
(Fig. 21)**

Andrena discophora transhissarica Popov, 1958, Trudy vses. ent. Obshch., 46: 160.

Andrena (Trachandrena) transhissarica: Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 771.

Female. BL 9.8 mm; WL 8.6 mm.

Color: Flagellum brownish beneath; mandible black, reddened apically; wing membranes subhyaline, brownish, veins and pterostigma brownish; tibial spur brown-

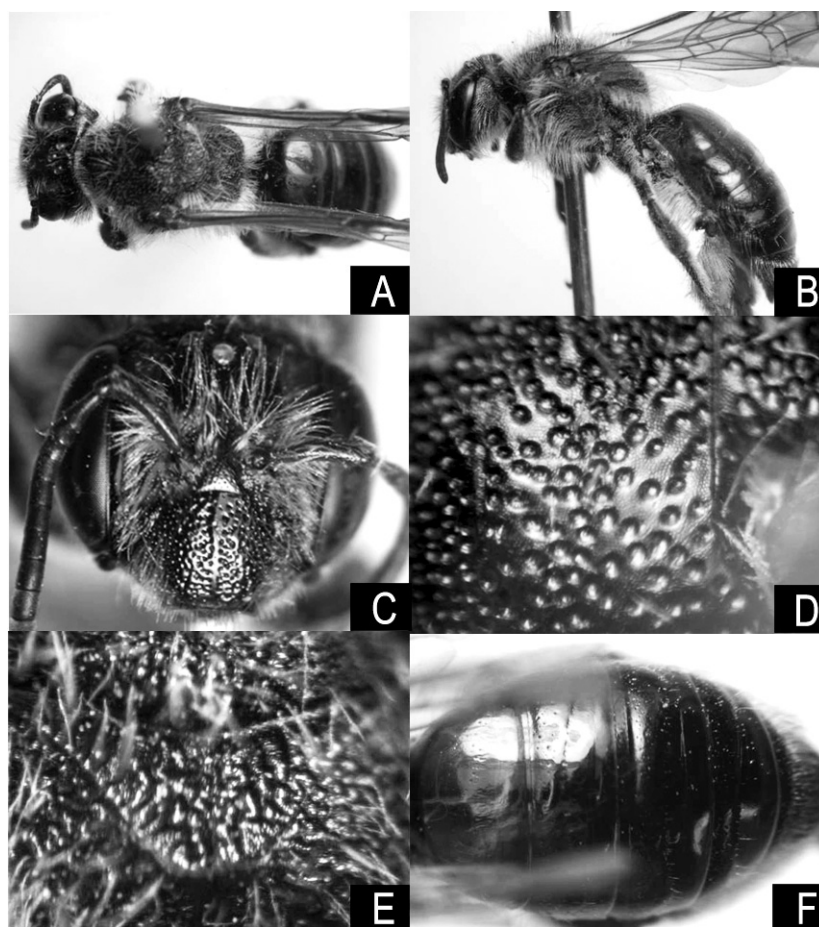


Fig. 21. *Andrena (Trachandrena) transhissarica* Popov, female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

ish; metasomal terga reddish brown, posterior depressions of metasomal terga reddish brown.

Pubescence: Hairs on head slightly dense, whitish; those on clypeus sparse, long 250-350 μm , whitish, with lateral fringes; those on vertex long 250-350 μm , whitish; those on genal area dense, long 250-350 μm , whitish; facial fovea whitish separated from eye margin by a wide shiny black space. Hairs on mesoscutum slightly dense, long 250-350 μm , whitish; those on scutellum dense, long 250-350 μm , whitish; those on mesepisternum dense, long 500-650 μm , whitish; propodeal corbicularia developed, well arranged with whitish hairs, long, with internal simple, sparse hairs; trochanteral floccus imperfect, scanty, whitish; femoral floccus dense, long, brownish; tibial scopa long, simple, whitish hairs. Hairs on metasomal terga T₁₋₄ with short, suberect, sparse, whitish; T₁₋₄ without hair bands; caudal fimbria brownish; S₂₋₅ with long, dense, whitish subapical fimbriae.

Structure: Head length 2.5 mm, head width 2.9 mm, HL/HW = 0.86. HW: MsW: MtW: 2.9: 2.3: 3.2. Vertex rounded in frontal view, very weakly tessellate, shiny, with sparse, distinct PP 40 μm , IS = 0.5. OOD: POD: OCD: = 0.5: 0.4: 0.25. FL1 < FL2+FL3, FL2 = FL3 which are as broad as long. Eyes with inner margins subparallel. Facial fovea long, broad, narrowing toward below, much extending to a line at lower margins of antennal fossae, FVL = 1.3 mm, FVW = 0.3 mm. Supraclypeal area convex, smooth, shiny, punctate, with small, fine PP. Face above antennal fossae punctate with distinct, fine PP 30 μm , smooth. Facial quadrangle slightly broader than long (2.6:2.2). Clypeus convex, smooth, shiny, punctate with dense, distinct PP 40-50 μm , IS = 1, with longitudinal median impunctate space, CPL = 1.1 mm. Process of labrum trapezoidal. Lower paraocular area smooth, shiny, punctate with dense, minute PP 25-30 μm , IS = 1. Malar space linear. Genal area slightly broader than eye, GW: EW = 0.75:0.7, smooth and shiny with dense, distinct, PP 40-50 μm , IS = 0.5. Mesosoma: Pronotum without lateral suture and humeral angle, tessellate, shiny with fine, dense, distinct, PP 30 μm , IS = 1. Mesoscutum weakly tessellate, punctate, shiny with fine, dense, deep, large PP 50-60 μm , IS = 1. Scutellum smooth, punctate, shiny with dense, deep, fine, large PP 50 μm , IS = 1. Propodeal enclosure large, triangular, well indicated, wrinkled; dorsal face of propodeum wrinkled. Mesepisternum tessellate, with roughened, large PP 50 μm . Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga smooth, nearly impunctate, very shiny, T₁₋₄ with finely, scattered, irregular, small PP 20-25 μm , T₅ with slightly dense, distinct PP 40 μm ; posterior depressions of terga well

indicated, at least half as long as length of each tergum; pygidial plate V shaped with raised internal triangular area. S₂₋₅ weakly tessellate, densely punctate, shiny with dense, distinct, large PP 40 μm .

Specimen examined. [KAZAKHSTAN] 1 female, Jabagly 1080-1250 m, S. Kazakhstan Prov., 28. v. 2003 (K. Mitai).

Floral record. *Salix* sp.

Distribution. Kazakhstan (new record), Tajikistan.

**70. *Andrena (Trunchandrena) truncatilabris*
Morawitz, 1877
(Fig. 22)**

Andrena truncatilabris Morawitz, 1877, Hor. Soc. ent. Ross., 14: 69.

Andrena (Trunchandrena) truncatilabris: Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 781-783.

Female. BL 11.4 mm; WL 8.4 mm.

Color: Flagellum brownish beneath; mandible black with apical half reddened; wing membranes subhyaline, brownish, veins and pterostigma brownish; tibial spur pale brownish; posterior depressions of metasomal terga brownish.

Pubescence: Hairs on head dense, whitish; those on clypeus dense, long 200-400 μm , dull whitish, with lateral fringes; those on vertex long 500-600 μm , whitish, mixed with brownish; those on genal area dense, long 350-400 μm , whitish; facial fovea brownish, separated from eye by shiny, black space. Hairs on mesoscutum dense, long 250-400 μm , dull whitish; those on scutellum dense, long 250-350 μm , yellowish; those on mesepisternum dense, long 700-800 μm , whitish; propodeal corbicularia well developed, well arranged, whitish, with internal simple, sparse hairs; trochanteral floccus imperfect, whitish; femoral floccus dense, long, brownish; tibial scopa developed, plumose, whitish hairs. Hairs on metasomal terga T₁₋₄ laterally dense, short 150-250 μm , whitish; medially with short, suberect, sparse, whitish hairs; metasomal terga T₂₋₃ with interrupted hair bands; T₄ with complete hair band; caudal fimbria brownish; S₂₋₅ with long, dense, whitish subapical fimbriae.

Structure: Head length 2.9 mm, head width 3.3 mm, HL/HW = 0.88. HW: MsW: MtW: 3.3: 2.6: 3.5. Vertex flat in frontal view, densely shagreening, shiny, with fine, distinct PP 30 μm , IS = 0.5-1. OOD: POD: OCD: = 0.65: 0.50: 0.25. FL1 > FL2+FL3, FL2 < FL3 which are as broad as long. Eyes with inner margins subparallel. Supraclypeal area convex, shiny, with small PP. Facial

fovea long, broad, occupying 1/2 the space between eye and lateral ocellus, much extending to a line at lower margins of antennal fossae, FVL = 1.25 mm, FVW = 0.35 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (3.3:2.9). Clypeus strongly convex, densely shagreening, punctate with fine, dense, distinct PP 25-30 μ m, IS = 1, with wide longitudinal median impunctate space, CPL = 1.15 mm. Process of labrum broad, long, trapezoidal, emarginated apically. Lower paraocular area shiny, weakly tessellate, punctate with dense, fine PP 25 μ m, IS = 1. Malar space linear. Genal area broader than eye, GW: EW = 0.9:0.7, densely tessellate and shiny with minute PP 20 μ m, IS = 1. Mesosoma: Pronotum with distinct lateral suture and without humeral angle, tessellate, punctate, shiny with fine PP 20 μ m. Mesoscutum densely tessellate, punctate, shiny with fine, dense, distinct, small PP 30 μ m, IS = 1. Scutellum densely tessellate, punctate, shiny with fine,

distinct, small PP 30 μ m, IS = 1-1.5. Propodeal enclosure large, triangular, well indicated, densely tessellate; dorsal face of propodeum tessellate, with roughened PP 40 μ m. Mesepisternum tessellate, with roughened PP 30 μ m. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga densely tessellate, punctate, dimly shiny, T₁₋₃ with scattered, minute PP 20 μ m, IS = 1-2, T₄₋₅ with slightly dense, minute PP; posterior depressions of terga strongly indicated; pygidial plate U shaped without raised internal triangular area, densely shagreening surface. S₂₋₅ strongly tessellate and shiny with dense, minute PP 20 μ m.

Specimen examined. [KAZAKHSTAN] 1 female, Ryn-KKum steppe NW, Kandagash, W. Kazakhstan, vi. 2000 (J. Miatleuski).

Floral record. Not available.

Distribution. Kazakhstan (new record), Caucasus, Spain, Algeria.

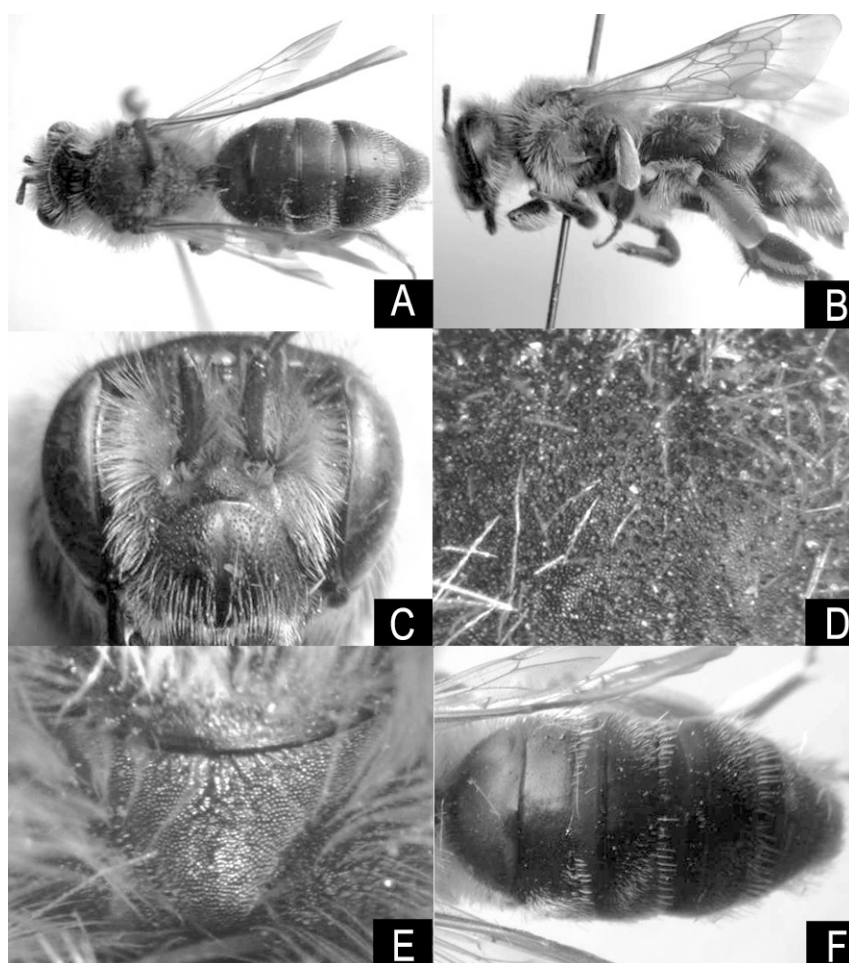


Fig. 22. *Andrena (Trunchandrena) truncatilabris* Morawitz, female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

**71. *Andrena (Zonandrena) chrysopyga*
Schenck, 1853**

(Fig. 23)

Andrena chrysopyga Schenck, 1853 (nec *Andrena chrysopyga* Dours, 1872), Jb. Ver. Naturk. Nassau, 9: 139.

Andrena integra Thomson, 1870 (nec *Andrena integra* Smith, 1853), Opusc. ent., 2: 155.

Andrena (Zonandrena) chrysopyga: Gusenleitner & Schwarz, 2002, Entomofauna, Suupl., 12: 175-176.

Female. BL 10.7 mm; WL 8.4 mm.

Color: Flagellum brownish beneath; mandible black with apical third reddened; wing membranes subhyaline, brownish, veins and pterostigma brownish; tibial spur pale brownish, posterior depressions of metasomal terga black.

Pubescence: Hairs on head dense, whitish; those on

clypeus dense, slightly long 200-300 μ m, with lateral fringes; those on vertex long 300-400 μ m, dense, whitish; those on genal area dense, long 300-400 μ m, whitish; facial fovea brownish above, whitish below, separated from eye inner margin by broad space. Hairs on mesoscutum dense, sparse medially, short 200-250 μ m, whitish; those on scutellum short 100-200 μ m, scanty, whitish; those on mesepisternum long 600-800 μ m, whitish; propodeal corbicula well developed, well arranged whitish hairs, with internal simple, sparse hairs; trochanteral floccus perfect, dense, whitish; femoral floccus dense, long, pale brownish; tibial scopa compact, pale brownish. Hairs on metasomal terga T₁ laterally sparse, long 300-500 μ m, whitish; T₂₋₄ with sparse, short, suberect; T₁ with interrupted hair band laterally; T₂₋₃ with incompleated whitish hair bands medially; T₄ with complete hair band; caudal fimbria pale brownish; S₂₋₅ with long, sparse, whitish subapical fimbriae.

Structure: Head length 3.0mm, head width 3.6 mm,

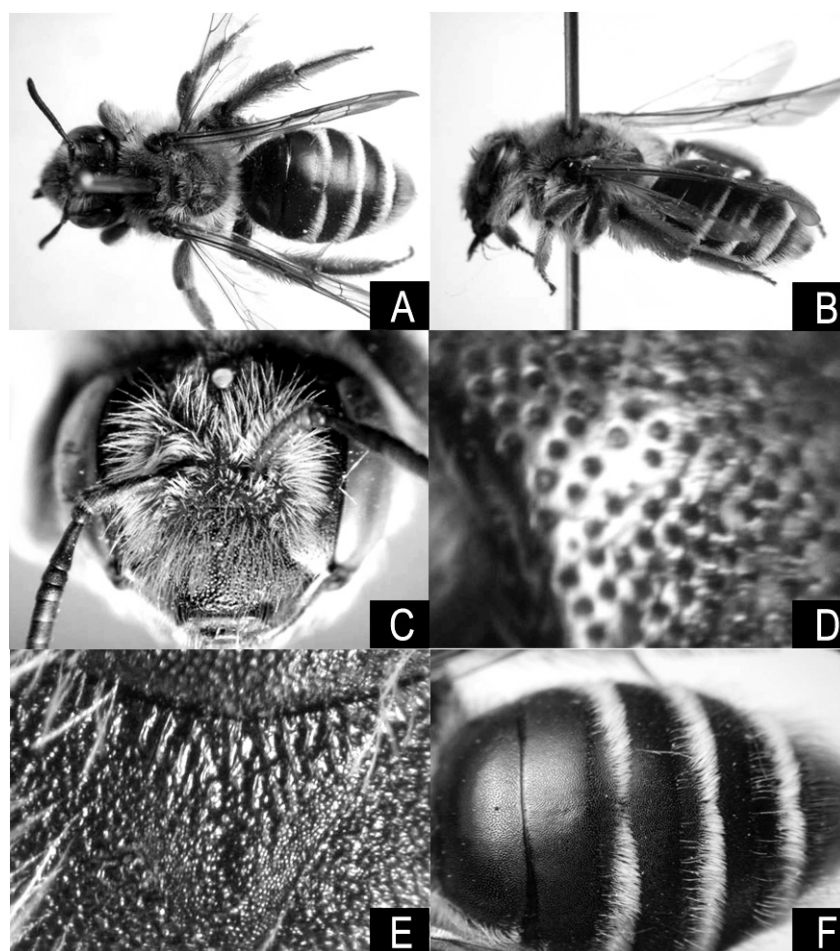


Fig. 23. *Andrena (Zonandrena) chrysopyga* Schenck, female. A: general habitus in dorsal view; B: the same in lateral view; C: head in frontal view; D: mesoscutum; E: propodeum; F: metasomal terga.

HL/HW = 0.83. HW: MsW: MtW: 3.6: 2.6: 3.9. Vertex flat, broad, tessellate, shiny, with dense, distinct, fine PP 30 μ m, IS = 1. OOD: POD: OCD: = 0.7: 0.5: 0.3. FL1 > FL2+FL3, FL2 < FL3 which are broader than long. Eyes with inner margins subparallel. Supraclypeal area convex, shiny, with small PP. Facial fovea long, broad, narrowing toward below, occupying 3/4 space between eye and lateral ocellus, much extending to a line at lower margins of antennal fossae, FVL = 1.6 mm, FVW = 0.5 mm. Face above antennal fossae with fine longitudinal rugulae and weak interrugal PP, shagreening. Facial quadrangle broader than long (3.6:3.0). Clypeus convex, smooth, punctate, with dense, distinct PP 40 μ m, IS = 0.5, without longitudinal median impunctate space, CPL = 1.1 mm. Process of labrum trapezoidal, emarginated apically. Lower paraocular area shiny with minute PP 25-30 μ m, IS = 0.5-1. Malar space small, linear. Genal area slightly broader than eye, GW: EW = 0.8 : 0.7, tessellate and shiny with minute PP 20 μ m. Mesosoma: Pronotum with lateral suture and without humeral angle, densely tessellate, shiny with dense, fine PP 20 μ m. Mesoscutum tessellate, shiny with fine, distinct, small PP 30-40 μ m, IS = 0.5-1. Scutellum smooth, shiny with small distinct PP 30 μ m, IS = 1. Propodeal enclosure triangular, well indicated, rugose basally, tessellate apically; dorsal face of propodeum strongly tessellate with fine PP 40 μ m. Mesepisternum densely tessellate, with fine, small PP 40 μ m. Vein 1st *m-cu* meeting second submarginal cell at middle of cell. Metasoma: Metasomal terga densely punctate, smooth, shiny, T₁₋₄ with small, distinct PP 25 μ m, IS = 0.5-1; posterior depressions of terga weakly indicated; pygidial plate V shaped without raised internal triangular area, S₂₋₅ strongly tessellate and shiny with dense, minute PP 25 μ m.

Specimens examined. [KAZAKHSTAN] 1 female, Near Sternjak, Kokchetav District, N. Kazakhstan Prov., 8. vii. 2002 (V. Kazenas, A. Jashenko & V. Kastcheev); 2 females, Near Sternjak, Kokchetav District, N. Kazakhstan Prov., 16. vi. 2002 (V. Kazenas, A. Jashenko & V. Kastcheev); 1 female, Near Sternjak, Kokchetav District, N. Kazakhstan Prov., 30. vi. 2002 (V. Kazenas, A. Jashenko & V. Kastcheev).

Floral record. Not available.

Distribution. Kazakhstan (new record), Germany, Italy, Sweden.

Acknowledgements

We are grateful to Prof. V. Kastcheev and Dr. R. Jaschenko of Zoological Institute, Kazakhstan Academy

of Sciences, Almaty, Dr. A. Dawut of Fukuoka City, Dr. R. Murao and Dr. K. Mitai of Kyushu Univ., Dr. R. Miyanaga of Shimane Univ., and Prof. S. Ikudome of Kagoshima Womens' College, for their help in our field survey in Kazakhstan and Kyrgyzstan. Tadauchi is appreciate to late Prof. A. Pesenko and Dr. S. Belokobylskij of Russian Academy of Sciences, St. Petersburg and Dr. A. S. Lelej of Russian Academy of Sciences, Vladivostok for their help in his examining *Andrena* collection in St. Petersburg. We also thank Mr. F. Gusenleitner of Oberösterreichischen Landesmuseum, Linz and Dr. J. G. Rozen and Dr. J. S. Ascher of the American Museum of Natural History, New York for their sending valuable collections of Kazakhstan and Kyrgyzstan for the present study. This is a Contribution from the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka (Ser. 6, No. 93). 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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