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ADDITIONAL DATA ON THE BEE FAUNA (HYMENOPTERA, APOIDEA: MEGACHILIDAE, APIDAE) OF SIBERIA AND THE RUSSIAN FAR EAST

T. G. Romankova

*Center for Biodiversity and Conservation Biology, Royal Ontario Museum,
Toronto, M5S 2C6, Canada*

Anthophora rudolfae sp. n. is described from Primorskii krai. *Osmia confusa* Morawitz, 1872, *Megachile desertorum* Morawitz, 1875, and *Coelioxys lanceolata* Nylander, 1852 are recorded from Siberia and the Russian Far East for the first time.

KEY WORDS: Hymenoptera, Megachilidae, Apidae, bees, taxonomy, Russia.

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Из Приморского края описан *Anthophora rudolfae* sp. n. *Osmia confusa* Morawitz, 1872, *Megachile desertorum* Morawitz, 1875 и *Coelioxys lanceolata* Nylander, 1852 указываются впервые для фауны Сибири и Дальнего Востока России.

Музей Онтаро, Торонто, Канада.

INTRODUCTION

During study of bee collections at museums in Russia and Ukraine, one new apid species is discovered from the Russian Far East, and the distributions of three megachilid species were found to extend eastwards into this region. While 58 megachilid species

were already known from this area (Romankova, 1984, 1994, 1995), the fauna of nest-building apids of the region has not been considered up to the present. The new species are described below.

Abbreviations used in the text are: T1-T7 – tergum 1-7 respectively; S1-S8 – sternum 1-8 respectively.

Acronyms for depositories of specimens are: IBSS, Institute of Biology and Soil Science, Russian Academy of Sciences, Vladivostok; IZK, Institute of Zoology, National Academy of Sciences of Ukraine, Kiev; ZIN, Zoological Institute, Russian Academy of Sciences, St. Petersburg; ZMMU, Zoological Museum of Moscow State University. New distribution records are marked with an asterisk (*).

FAMILY MEGACHILIDAE

Osmia confusa Morawitz, 1872

MATERIAL. Sakhalin: Novoaleksandrovsk, eastern slope, 18.IV-2.VI 1988, 2 ♀ (Basarukin) [IBSS]. Chitinskaya oblast: Yablonovyy Khrebet, 20.VII 1990, ♀ (T. Romankova) [IBSS]. Irkutskaya oblast: Padun, Tunguska, 1867, ♀ (Moskvin) [ZIN]. Kazakhstan: Kokchetavskaya oblast, Borovskiy Forest, 1.VII 1932, ♀ (V. Popov) [ZIN].

DISTRIBUTION. Russia: European part, Caucasus (Osychnyuk et al., 1978); *Irkutskaya oblast, *Chitinskaya oblast, *Sakhalin; *North Kazakhstan.

REMARKS. This is the first record for *O. confusa* from Asia. Several features distinguish this species from the other eight species of *Osmia* known from the Russian Far East and Siberia (Romankova, 1995): integument mostly black; female with ventral scopa orange; malar area linear; clypeus with two (sometimes three) small polished apical tubercles; body length 11-13 mm.

Megachile (Chalicodoma) desertorum Morawitz, 1875

MATERIAL. Buryatiya: Temnik River, 12.VI 1961, 1 ♀ [IBSS]. Tuva: Satagatoy, 10.VI 1972, 1 ♀ (Gyzenko) [ZIN]. West Kazakhstan: Aktyubinsk, Bernachir, step, 9.VI 1995, 1 ♀ (A. Osychnyuk) [IBSS].

DISTRIBUTION. Russia: *Buryatiya, *Tuva; Turkmeniya, Kazakhstan, Mongolia, China (Morawitz, 1875, 1880; Friese, 1911; Cockerell, 1931).

REMARKS. Bees of the subgenus *Chalicodoma* Lepeletier, 1841 have not been reported from this region before. The specimen from Buryatiya is similar to specimens described as *Megachile desertorum* var. *tsinanensis* from China (Cockerell, 1931). Similarities are that the antennae, mandibles (except the apical tooth), and basal half of femur are dark. The specimen from Tuva corresponds to redescription of this species (Friese, 1911): scapula reddish-brown; flagellum black; mandibles reddish brown, infuscated basally and along the cutting edge; legs black except coxae.

Coelioxys lanceolata Nylander, 1852

MATERIAL. Irkutskaya oblast: Lake Baikal, Cape Goloustnoye, Malta, VIII 1964, 1 ♀ [ZIN]. Amurskaya oblast: Tolbuzino, 13.VI-10.VII 1929, 1 ♀ (Prinada) [ZIN]. Yakutiya: Yakutsk, 30.VI 1962, 1 ♀ (Zhelokhovtzev) [ZIN].

DISTRIBUTION. Russia: European part, Yakutiya (Davydova & Pesenko, 2002), *Irkutskaya oblast, *Amurskaya oblast; Western Europe (Cockerell, 1928; Osychnyuk et al., 1978);

REMARKS. The host for this parasitic species remains unknown. Any of the 15 species of the genus *Megachile* Latreille, 1802 in Siberia are potential hosts for *C. lanceolata*. The shape of metasomal terminal part distinguishes females of *C. lanceolata* from all other species of *Coelioxys* Latreille, 1809 in the region; also, T6 narrower than S6, with posterior half flattened and broadly rounded apically. The following features distinguish *C. lanceolata* from *C. inermis* (Kirby, 1802), which is the most widespread species of *Coelioxys* in the region, and which most resembles *C. lanceolata*:

<i>C. lanceolata</i> , female	<i>C. inermis</i> , female
Body length 9-12 mm	Body length 10-14 mm
S6 not narrowed rearwards, without preapical teeth	S6 narrowed rearwards, with preapical teeth
S5 with rear edge clear	S5 with rear edge dark
S2 and S3 with round pits, interspaces greater than or equal to pit diameters	S2 and S3 with elongated pits, interspaces lesser than or equal to pit diameters
S4 with small round pits, interspaces greater than pit diameters	S4 with large elongated pits, interspaces less than or equal to pit diameters

FAMILY APIDAE

Anthophora (Pyganthophora) rudolphae Romankova, sp. n.

Figs 1-7

MATERIAL. Holotype – ♂, Primorskii krai, Benevskoye, on *Corydalis pallida*, 24.IV 1982 (T. Romankova), [IBSS]. Paratypes – 10 km E Benevskoye, on *Corydalis pallida*, 9.V 1981, 2♂ 2♀ (AR), 22.V 1981, 1♂ (AR); on *Vicia* sp., 9.VI 1981, 1♀ (AR); on *C. pallida*, 8.VI.1982, 1♂, 1♀ (AR); on *Dictamnus dasycarpus*, 23.VI 1983, 1♀ (AR); Benevskoye, 18.VI 1979, 1♀ (AR); on *C. pallida*, 24.IV 1982, 4♂ 1♀ (AR); on *Rhapunticum* sp., 6.VI 1982, 1♂ (AR); on *Chelidonium majus*, *Rhapunticum* sp., *C. pallida*, 16.VI 1982, 3♀ (AR); on *C. pallida*, 24.VI 1982, 2♂ (AR); 8 km S Sokolchi, 26.V 1981, 1♂ (AR); on *Dyctamnus dasycarpus*, 4.VI 1981, 1♂ (AR); Kiyevka, 13.VII 1978, 1♂ (AR); 13.VIII 1982, 1♀ (AR); 14 km N Kiyevka, 4.VII 1982, 1♀ (AR); 11.VII 1982, 1♀ (AR); Kamenka, Perekatnaya River, on *Dictamnus dasycarpus*, 16.VI 1980, 4♀ (AR); Khasan, from nest, 16.V 1983, 1♀,

(AR); 17.V 1983, 7♂ 4♀ (AR); 18.V 1983, 1♂ 2♀ (AR); Khasan, Golubiniy Utes, 26.V 1979, 1♀ (A. Lelej); on *Iris* sp. 14.V 1983, 4♂ 13♀ (AR); 14.V 1983, 9♂ (AR); Nikolaevka, 9.V 1981, 4♂ (A. Lelej); Gornotayozhnaya stantsia, 4.VII 1945, 1♀ (N. Konakov); 2.VII 1947, 1♀ (Z. Onisimova); Voroshilov-Ussuriyskiy [now Ussurijsk], Primorskaya Opytnaya Stantziya, on red clover, 22.VIII 1947, 1♀ (Z. Naumova); on red clover, 6.VII 1♀ (N. Konakov); Suyfun, 23.VII.1945, 1♀. AR – collector A. Romankov.

DESCRIPTION. MALE (holotype). Body length 15-18 mm. Integument mostly black. Scape on fore surface, labrum, clypeus except the black spots on base, lateral parts of face, supraclypeus basally, tarsal segments 2-4 yellow. Pubescence on head yellowish, on thorax and T1 long, dense, from orange (in fresh specimens) to pale yellowish; T2 with pubescence shorter than on T1, lighter, copious; T3-T6 with long black hairs; T2-T4 with white hair bands apically. Sterna with long light hairs. Middle and hind tibiae laterally with short, copious orange hairs. Hind basitarsus with black hairbrush and white hairs on apical part. Tarsal segments 1 and 5 with black hair brush, the rest of tarsi pubescent white. Head slightly transverse, 1.25 times wider than long. Mandibles with 2 teeth. Scape 1.3 times as long as flagellomere 2, flagellomere 2 equal in length to next three flagellomeres combined. Clypeus transverse (0.8), height (lateral view) is approximately equal to maximal width of eye. Paraocellar area depressed. Propodeum basally dull, pebbled. Metasoma with apical part curved ventrally. T7 with pygidial plate emarginated, narrowed behind; hind margin of T7 with rounded-triangular lateral lobes. S6 with pair of narrow transverse shiny depressions on hind third, hind edge with excavation. S7 with large marginal excavation, lateral parts divided into shorter dorsal and longer ventral lobes. S8 with hind edge 4-lobed, inner lobes narrow, with long hairs; outer lobes broad, pellucid, and without hairs. Genitalia strongly sclerotized.

FEMALE (paratype). Body length 15-18 mm. Metasoma 1.35 times as long as wide. Thorax 1.25 times as long as distance between tegulae. Malar space short. Clypeus 1.6 times as wide as long, its height (lateral view) approximately equal to maximal width of eye; fore edge of clypeus straight, apical third of surface with Y-shaped ridge. Mandibles bidentate. Scape 1.3 times as long as flagellomere 2; flagellomere 2 thin, enlarged to apex, as long as next four flagellomeres combined; apex of flagellum truncate. Ocello-ocular and interocellar distances equal. Pygidial plate apically narrowed and emarginate. Posterior edge of hind basitarsi elongate. Clypeus shagreened, with round pits separated by less than their diameter; apical pits smaller and deeper. Labrum roughly wrinkled. Terga shiny, with minute punctures. Tegulae dull. Sterna shiny. Propodeum with middle area dull, pebbled, with longitudinal groove. Head with pubescence mostly pale, blackish around hind ocelli. Scutum and ventral surface of thorax with black hairs; pleura, pronotum and scutellum with white hairs. T1 with long gray pubescence and white hair fringes apicolaterally; T2-T4 with black copious pubescence and wide apical white hair bands; T5 with long black hair on disc, sides with white hairs; T6 with black hairs. Sterna with long marginal fringes of black hair; S3 and S4 with patches of long white

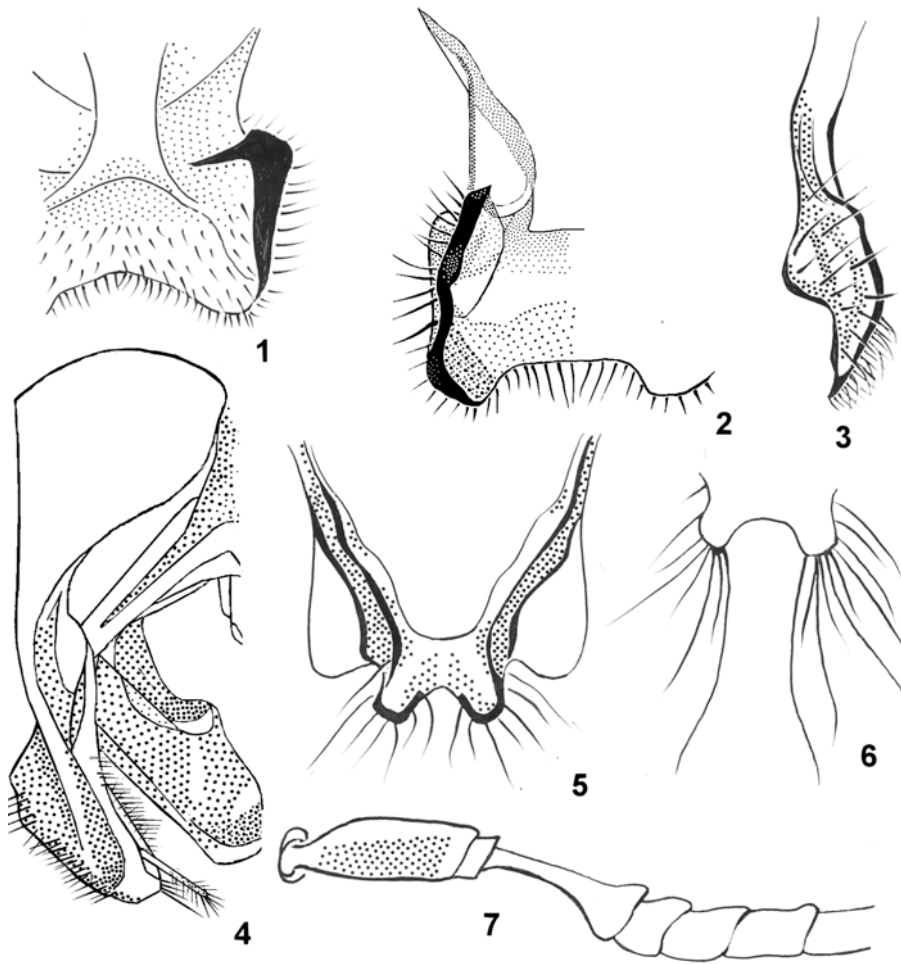


Fig. 1-7. *Anthophora rudolphae*, ♂: 1) S7, ventral view; 2) S7, dorsal view; 3) S7, lateral view; 4) genitalia, dorsal view; 5) S8, dorsal view; 6) S8 apex, ventral view; 7- antenna.

hairs on sides. Middle legs with black hairs, tibiae with white hairs laterally. Hind tibiae with white hairs laterally, basitarsi with patch of white hairs, tarsi with orange hairs on inner surface. Hind basitarsus with apical, dense hair brush, which reaches the apex of segment 2; segment 2 with a tuft of long hairs on apical third.

DISTRIBUTION. Russia: Primorskii krai.

ETYMOLOGY. The species is named in honour of late Vera Pavlovna Rudolph, whose life was dedicated to Entomology.

REMARKS. *A. rudolphae* has the largest body size among the local *Anthophora* species and cannot be confused with any of them. In the field female of *A. rudolphae*

can be recognized from same-sized bees of the genus *Amegilla* Friese, 1897 by the narrower, more parallel sided body, black face, black pubescence on the disk of scutum, and tergal white hair bands narrowed or disrupted medially; the body of *Amegilla* species is more robust, face is mostly yellow, scutal pubescence is without any black hairs, completely ochraeus, and the tergal bands are wide and complete. Fresh males of *A. rudolphae* have bright orange pubescence on the thorax and the base of metasoma; metasoma with white hair bands incomplete; middle tarsi with wide black brushes on basitarsus and distitarsus.

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