NEW AND LITTLE KNOWN BEES (HYMENOPTERA: COLLETIDAE, APIDAE) FROM THE RUSSIAN FAR EAST

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Biastes (Melittoxena) popovi sp. n. is described and illustrated from the Russian Far East (Evreiskaya autonomnaya oblast, Amurskaya oblast). Hylaeus noomen Hirashima, Ceratina satoi Yasumatsu, Tetralonia mitsukurii Cockerell are newly recorded from Russia. Anthophora plumipes (Pallas), Biastes truncatus (Nylander), Melecta luctuosa (Scopoli), Nomada roberjeotiana Panzer, N. sexfasciata Panzer are firstly mentioned from the Russian Far East.

KEY WORDS. Hymenoptera, Colletidae, Apidae, bees, cleptoparasite, taxonomy.

INTRODUCTION

New and little known species of the bees from the Russian Far East have been discovered during the study of collections deposited in the Institute of Biology and
Soil Science (Vladivostok) [IBSS] and Zoological Institute (St. Petersburg) [ZIS].
Distribution of hosts is given for Far Eastern species only. The classification of bees
and descriptive terminology follow Ch. Michener (2000). Metasomal terga and
sterna are referred to as T1, T2, etc., and S1, S2, etc. New distribution records are
asterisked (*).

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FAMILY COLLETIDAE

Hylaeus (Nesoprosopis) noomen Hirashima, 1977

Hylaeus noomen Hirashima, 1977: 35.

MATERIAL. Russia: Evreiskaya avtonomnaya oblast: Radde, 15.VII 2003, 3 ♂
[Hylaeus noomen Hirashima, Ikudome det.].

DISTRIBUTION. *Russia: Evreiskaya avtonomnaya oblast. – Japan (Hokkaido,

FAMILY APIDAE

Anthophora (Anthophora) plumipes (Pallas, 1772)

Apis plumipes Pallas, 1772: 24, pl. 1, fig. 14.
Anthophora acervorum villosula (sic!): Wu, 1965: 64.
Anthophora acervorum (non Linnaeus, 1758): auct.

MATERIAL. Primorskii krai: 15 km W Pokrovka, Nikoloi-L'vovskoe, 22.IV 2003,
1 ♂ (Proshchalykin) [IBSS]. 2 ♀, 2 ♂ from the European part of Russia [ZIS].

DISTRIBUTION. Russia: *Primorskii krai, European part (Osytshnjuk et al.,
1978), – Japan (Honshu, Kyushu, Shikoku) (Hirashima, 1989), China (Qinhai,
Hebei, Jiangsu, Zhejiang, Hubei, Sichuan, Fujian, Guangxi, Yunnan) (Wu, 1965),
Europe (Schwarz et al., 1996).

REMARKS. For a long time this species has been known under name
Anthophora acervorum Linnaeus, 1758 and placed this name in Bombus. The detail synonymy

Biastes (Melitoxena) popovi Proshchalykin et Lelej, sp. n.

Figs 1-3, 11-15

MATERIAL. Holotype – ♂, Russia: Evreiskaya avtonomnaya oblast, 40 km N
Amurzet, 27.VII 1981 (D. Kasparyan) [ZIS]. Paratype – 1 ♂, the same locality,
27.VII 1981(D. Kasparyan) [IBSS]; Amurskaya oblast, 30 km S Arkhara, 21.VII
2003, 1 ♂ (S. Belokobylskij) [IBSS].

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DESCRIPTION. MALE. Body length 7.2 mm, forewing length 4.8 mm, hindwing length 3.5 mm. Head wider than long; width 1.84, length 1.70. Inner border of mandible with preapical tooth. Labrum wider than long; width 0.60, length 0.37. Flagellum length 1.5 mm. Malar space exceedingly short, base of mandible almost touching compound eye. Hyposomal ridge carinate, anterior angle rounded. Gena well developed, 0.7 times as broad as compound eye (lateral view). Compound eye bare. Supraclypeal area convex, in posterior half with sharp longitudinal carina which ending by frontal longitudinal groove, latter touching frontal ocellus. Clypeus weakly convex, length 0.8 mm, width 1.2 mm. Antenna 12-segmented. Distance between antennal sockets 0.44 mm. Dorsolateral angle of pronotum well developed. Median (admedian) line of mesoscutum about half of mesoscutum length. Parapsidal line developed. Mesoscutellum convex bituberculate, longitudinally emarginated. Metanotum with median elevation well above level of adjacent part of mesoscutellum. Axilla posterad rounded. Propodeum 1.75 times as long as metapostnotum (dorsal view). Forewing venation as normal for genus. Hind- and midtibia apically with two short spines; arolium present. T7 with distinct pygidal area carinated laterally. S7 longer its width, posterior border with two distinct emarginations, posterolateral corner with sharp dent, posterior border with row of strong setae. S8 (hypopygium) distinctly enlarged apically with rounded base and apex.

Gonocoxite of male genitalia strongly widened dorso-laterally, equal length and width, gradually convergent to rounded apex. Gonostylus long, shorter than volsella, very thin, apically widened, inner side in apical third with setae longer than gonostylus apical width; basal lobe of gonostylus reduced to dent. Volsella 1.2 times longer than penial valve, wide, outside with dense short setae, inside spoon-like invaginated, apical part acuminated (ventral view), and lamellate with distinct apical dent (lateral view). Penial valve very wide, without sclerotized lamellae, apically rounded (dorsal view). Gonobase short, basally weakly emarginated.

Head with dense coarse deep punctures separated less than puncture width, integument shiny between punctures. Mesoscutum densely punctate, size of punctures smaller than those on head; mesoscutellum (especially lateral part) with deeper punctures. Metanotum medially densely punctate. Propodeal triangle (metapostnotum) coarsely longitudinally-rugose, remarkably coarser than those on lateral propodeal area. Metasomal terga with distinct punctures, broad apical part of T1 and narrow apical part of T2-T6 sparsely punctate. Pygidal area of T7 with dense deep punctures. Hind femora inside shiny with sparse small punctures.

Basal part of mandible, labrum, paraocular area and antennal socket with dense whitish hairs. Clypeus with long recumbent hairs not obscuring the sculpture. Gena with dense long suberect whitish hairs. Pronotum dorsally with subappressed plumose whitish hairs, mesoscutum and mesopleura with sparse recumbent whitish hairs. Mesoscutellum posterd with medial triangle spot of yellowish hairs. Metanotum medially with dense recumbent oriented anterad hairs. Lateral propodeal area with erect plumose hairs. T1 posterd with sparse white setae, T2-T7 with denser recumbent setae. T2, T3 and T5, T6 with two, T4 with four spots of silver plumose hairs. S2 apically, S3-S5 totally and S6 basally with dense yellowish hairs obscuring the sculpture; S6
with sparse pale setae. Leg except femora inside with long whitish setae. Apical part of mandible yellowish-red. Flagellomeres below yellowish. Head, mesosoma and metosoma black. Broad apical band of T1 and narrow apical band of T2-T5 reddish. Legs, especially hind femora, brownish-black, tarsal segments 2-5 brownish.

FEMALE. Unknown.

DISCUSSION. New species belongs to subgenus *Melittoxena* Morawitz, 1873 by having the similar male genitalia and shape of S7 and S8. The differences between new species and type species of this subgenus *Biastes truncatus* are given in the key below.

HOSTS. The hosts of related species *Biastes truncatus* in Europe are *Dufourea (Halictoides) dentiventris* (Nylander, 1848) and *D. (H.) inermis* (Nylander, 1848) (Hymenoptera, Halictidae) (Warncke, 1982). There are two known species of *Dufourea*
Lepeletier, 1841 from the Russian Far East: *D. (H.) inermis* (Khabarovskii krai, Amurskaya oblast, Primorski krai) and *D. (Halictoides) carinata* Popov, 1959 (Amurskaya oblast, Primorski krai) (Popov, 1959; Pesenko, 1998). Quite possible that *D. inermis* is the host of *Biastes truncatus* in the Russian Far East also, and *D. carinata* is the host of *B. popovi* sp. n. Furthermore, in Evreiskaya avtonomnaya oblast (type locality of *B. popovi*), *D. carinata* as a possible host collected only.

**DISTRIBUTION.** Russia: Evreiskaya avtonomnaya oblast, Amurskaya oblast.

**ETYMOLOGY.** The species is dedicated to Vladimir Veniaminovich Popov, who was an expert in Apoidea and revised the genus *Biastes*.

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**Key to the species of *Biastes* of the Russian Far East (males)**

1. Propodeal triangle (metapostnotum) coarsely longitudinally-rugose (Fig. 2); flagellomeres below yellowish; hind femora brownish; T1 posterad with wide reddish sparsely punctate band; T2, T3 and T5, T6 with two and T4 with four spots of silver plumose hairs (Fig. 1); S7 longer its width, posterior border with two distinct emarginations, posterolateral corner with sharp dent (Figs 12-13), S8 (hypopygium) with rounded base and apex (Figs 14, 15); basal lobe of gonostylus reduced to dent; apical volsellar part acuminated with distinct apical dent (lateral view) (Fig. 11); penial valve without sclerotized lamellae (Fig. 3).

2. Propodeal triangle (metapostnotum) coarsely reticulate (Fig. 4); flagellomeres below black; hind femora black; T1 posterad with narrow reddish sparsely punctated band; T2, T3 and T6 with two and T4, T5 with four spots of silver plumose hairs; S7 equal length and width, posterior border with two weak emarginations, posterolateral corner without sharp dent (Figs 6, 9), S8 (hypopygium) with weakly emarginated base and angulate apex (Figs 7, 10); basal lobe of gonostylus reduced to row of microsetae; apical volsellar part rounded without apical dent (lateral view) (Fig. 5); penial valve with sclerotized lamellae (like Y-shape) (Fig. 8).

1. .................................................. *B. popovi* sp. n.

2. .................................................. *B. truncatus* (Nylander)

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**Biastes (Melittoxena) truncatus** (Nylander, 1848)

Figs 4-10

Nomada truncata Nylander, 1848: 186.

Biastes truncatus: Popov, 1934: 56.

**MATERIAL.** Primorski krai: Benevskoe, 17.VIII 1978 1 ♂, 1 ♀ (Kasparyan); Khasan, 13.VIII 1998, 3 ♀ (Belokobylskij); 15 km E Pos’et, 16.VIII 1998, 1 ♀ (Belokobylskij); Spassk, 17.VIII 1998, 1 ♀, 1 ♂ (Belokobylskij).

Figs 5-15. Biastes truncatus, male (5-10; [6-8 – after Popov, 1934]) and B. popovi sp. n., male (11, 12, 14 – holotype; 13, 15 – paratype): 5, 11) apical volsellar part; 6, 9, 12, 13) S7; 7, 10, 14, 15) S8; 8) genitalia.
**Ceratina (Ceratina) satoi Yasumatsu, 1936**


DISTRIBUTION. *Russia: Amurskaya oblast, Primorskii krai. – Japan (Hokkaido, Honshu, Kyushu, Shikoku, Ryukyus: Takara-jima, Amami-oshima, Okinawa-jima, Yonaguni-jima), Korea, China (Yasumatsu, 1936; Yasumatsu & Hirashima, 1969; Hirashima, 1989; Yamane & Ikudome, 1999).*

**Melecta (Melecta) luctuosa (Scopoli, 1770)**


MATERIAL. Amurskaya oblast: Blagoveshchensk, 5.VI 2003, 1♀ (Bezborodov) [IBSS]. 2♀ from European part of Russia and Yakutia [ZIS].

DISTRIBUTION. Russia: *Amurskaya oblast, Yakutia, Irkutskaya oblast. – Western Asia, Europe (Osytshnjuk et al., 1978; Romankova, 1995; Davydova & Pesenko, 2002).*

HOSTS. *Anthophora aestivalis* (Panzer, 1801) and *A. retusa* (Linnaeus, 1758) (Hymenoptera, Apidae) (Popov, 1967; Osytshnjuk et al., 1978). *A. retusa* is known from the Russian Far East (Amurskaya oblast) (Davydova & Pesenko, 2002).

**Tetralonia (Tetralonia) mitsukurii Cockerell, 1911**


DISTRIBUTION. *Russia: Evreiskaya avtonomnaya oblast, Amurskaya oblast, Primorskii krai. – Japan (Honshu, Shikoku, Kyushu, North Ryukyus), Korea (Hirashima, 1989; Yamane & Ikudome, 1999).*
Nomada roberjeotiana Panzer, 1799


**HOSTS.** *Andrena fuscipes* (Kirby, 1802), *A. nigriceps* (Kirby, 1802), *A. dentircula* (Kirby, 1802) and *A. coitana* (Kirby, 1802) (Hymenoptera, Andrenidae) (Osytshnjuk et al., 1978). *A. denticulata* and *A. coitana* are known from the Russian Far East (Khabarovskii krai, Amurskaya oblast, Primorskii krai, Sakhalin) (Osytshnjuk, 1995).

Nomada sexfasciata Panzer, 1799


**MATERIAL.** Primorskii krai: Ussuriisk [=Voroshilov], 26.VI 1947, 1♂ (Konakov); Anisimovka, 19.VII 1976, 1♀, (Azarova); 20 km W Kamen'-Rybolov, 13.VI 1977, 1♀ (Lelej); Barabash-Levada, 17.VI 1980, 1♀, 1♂ (Moroz); 22.VI 1979, 1♂ (Krivolutskaya); Kamenshulka, 27.VI 1979, 1♂ (Moroz); Gornotayezhnoe, 24.VII 1983, 1♀ (Lelej); Evseyevka, 28.VI 1985, 1♀ (Lelej); Uglekamensk, 2.VI 1994, 1♂ (Lelej); Kaimanovka, 5.VII 1998, 1♂ (Klimov). Khabarovskii krai: Komsomolsk-na-Amure, Pivan', 12.VI 2002, 2♂ (Mutin) [IBSS]. 2♀, 2♂ from European part of Russia [ZIS].


**HOSTS.** *Eucera longicornis* (Linnaeus, 1758) and *E. nigrescens* Pérez, 1879 (Hymenoptera, Apidae) (Osytshnjuk et al., 1978). *E. longicornis* is known from the Russian Far East [Khabarovskii krai (Proshchalykin, 2003) and by material from *Amurskaya oblast and *Primorskii krai].

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REFERENCES


A one hectare plot have been selected in the vicinity of Kamenushka village on the top of the hill (200m above sea level) on left side of Volkha River (43°36.63' N, 132°14.18' E) in mixed coniferous-broad-leaved forest as a part of the International Biodiversity Observation Year (IBOY) in 2001. Detailed description of plot and collecting methods was published [1]. The 33619 specimens of arthropods from 118 samples have been collected totally in plot using 7 trapping methods. Among of them 10 specimens of Tipulidae and Cylindrotomidae were collected by Light traps (LT), Malaise traps (MT), Window traps (WT) and Pitfall traps (PT) in ground zone (GZ). The fauna of Tipulidae of Primorskii krai consists of 84 species from 11 genera [2]. Only 8 species from 3 genera were collected in plot, which consists of 23% of genera and 9.5% of species of the fauna of Primorye. There are no any records of family Cylindrotomidae from Primorskii krai [3]. A list of crane-flies is given below. Present study was supported in part by the grant of Far Eastern Branch of Russian Academy of Sciences (N 04-1-0BNS-100, S.Yu. Storozhenko, principal investigator).

**FAMILY TIPULIDAE**

*Dolichopeza (Nesopeza) geniculata* (Alexander, 1918)  

*Dolichopeza (Oropeza)* sp.  

*Tipula (Geotipula) apicispina* (Alexander, 1933)  

*Tipula (Geotipula)* sp. 2  

*Tipula (Yamatotipula) latemarginata latemarginata* Alexander, 1921  

*Tipula (Platytipula) luteipennis mediolobata* Alexander, 1933  
Tipula sp. 1

Nephrotoma sp. 1

FAMILY CYLINDROTOMIDAE

Cylindrotoma japonica Alexander, 1919


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