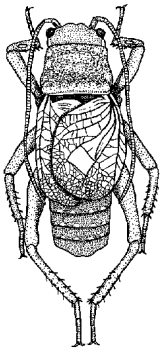

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THE BEES OF FAMILY COLLETIDAE (HYMENOPTERA, APOIDEA) OF TRANSBAIKALIA

M. Yu. Proshchalykin

Institute of Biology and Soil Science, Vladivostok-22, 690022, Russia

An annotated list of 19 species in two genera of colletid bees is given. Ten species: *Colletes cinicularius* (Linnaeus), *C. daviesanus* Smith, *C. pallescens* Noskiewicz, *Hylaeus annulatus* (Linnaeus), *H. confusus* Nylander, *H. gracilicornis* (Morawitz), *H. paradifformis* Ikudome, *H. paulus* Bridwell, *H. rinki* (Gorski), and *H. stentoriscapus* Dathe are newly recorded from Transbaikalia. The diversity of the colletid bees in the Transbaikalia, Yakutia, and Russian Far East are discussed.

KEY WORDS. Hymenoptera, Apoidea, Colletidae, bees, Transbaikalia.

М. Ю. Прощалыкин. Пчелы семейства Colletidae (Hymenoptera, Apoidea) Забайкалья // Дальневосточный энтомолог. 2008. № 187. С. 1-9.

При веден аннотированный список 19 видов пчёл из 2 родов. Впервые для фауны Забайкалья указаны 10 видов: *Colletes cinicularius* (Linnaeus), *C. daviesanus* Smith, *C. pallescens* Noskiewicz, *Hylaeus annulatus* (Linnaeus), *H. confusus* Nylander, *H. gracilicornis* (Morawitz), *H. paradifformis* Ikudome, *H. paulus* Bridwell, *H. rinki* (Gorski) и *H. stentoriscapus* Dathe. Обсуждается разнообразие пчел-коллетид в Забайкалье, Якутии и на Дальнем Востоке России.

Биолого-почвенный институт ДВО РАН, Владивосток-22, 690022, Россия.

INTRODUCTION

The Transbaikalia consists of three administrative regions of Russia (Fig. 1): Zabaikalskii krai (former Chitinskaya oblast), Republic of Buryatia (Buryatia), and

small southern part of Irkutskaya oblast (Predbaikal'e..., 1965). *Colletes roborovskyi* was the first species, which has been recorded from the Transbaikalia (Friese, 1913). Nine species of colletid bees have been recorded from the Transbaikalia until now (Noskiewicz, 1936; Osytshnjuk & Romankova, 1995; Proshchalykin, 2003, 2007; Proshchalykin et al., 2004; Ignatenko, 2004).

This study is based on 225 colletid specimens (*Colletes* – 83, *Hylaeus* – 142). The male genitalia as the sterna 7 and 8 have been used for the identification of species. This material is deposited in the collections of the Institute of Biology and Soil Science, Russian Academy of Sciences, Vladivostok [IBSS], Zoological Institute, Russian Academy of Sciences, St. Petersburg [ZISP], Zoological Museum of Moscow University [ZMMU], Institute of General and Experimental Biology, Russian Academy of Sciences, Ulan-Ude [IGBU], Institute of Animal Systematic and Ecology, Russian Academy of Sciences, Novosibirsk [ISEN], and I.I. Schmalgausen Institute of Zoology of National Academy of Sciences of Ukraine, Kiev [IZK]. The classification of bees follows Michener (2007), the distribution of bees outside of Transbaikalia follows Kuhlmann & Dorn (2002), and Proshchalykin (2007). Next acronyms are used for the collectors: AL – A.S. Lelej, DK – D.R. Kasparyan, MP – M.Yu. Proshchalykin, VL – V.M. Loktionov. New records in the distribution section are asterisked (*).

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LIST OF THE SPECIES

1. *Colletes cunicularius* (Linnaeus, 1761)

Apis cunicularia Linnaeus, 1761: 422 (type locality: Europe).

SPECIMENS EXAMINED. **Buryatiya:** Kyakhta, 29, 30.V 2008, 1♂ (MP).

DISTRIBUTION. Russia: *Buryatiya; Primorskii krai, European part. – Mongolia, Europe.

2. *Colletes daviesanus* Smith, 1846

Colletes daviesanus Smith, 1846: 1278 (type locality: Europe).

SPECIMENS EXAMINED. **Zabaikalskii krai:** Chita, VI-VII.1866, 2♂ (Chekanovskii) [ZISP].

DISTRIBUTION. Russia: *Zabaikalskii krai; Irkutskaya oblast, Yakutia, Siberia, European part. – Mongolia, Europe, North Africa.

3. *Colletes floralis* Eversmann, 1852

Colletes floralis Eversmann, 1852: 46 (type locality: "in prov. Orenburg., Saratov. et Astrachanensi ", Russia); Osytshnjuk & Romankova, 1995: 484 (Transbaikalia); Proshchalykin, 2007: 878 (Chitinskaya oblast).

SPECIMENS EXAMINED. **Zabaikalskii krai:** Chita, 13.VII 1912, 1♀ (Vorontsov-Vel`yami) [ZISP].

DISTRIBUTION. Russia: Zabaikalskii krai; Irkutskaya oblast, Khabarovskii krai, Amurskaya oblast, Primorskii krai, Sakhalin, Kuril Islands (Kunashir, Iturup), European part. – Japan (Hokkaido, Honshu), Mongolia, Europe.

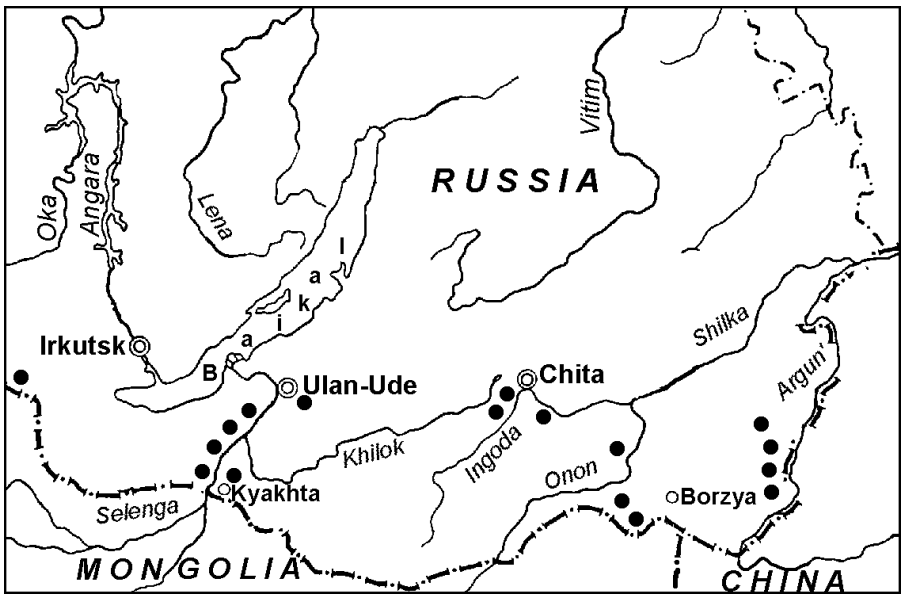

Fig. 1. The collecting places of the bees in Transbaikalia.

4. *Colletes fulvicornis* Noskiewicz, 1936

Colletes fulvicornis Noskiewicz, 1936: 416 (type locality: Mongolia); Osytshnjuk, Romankova, 1995: 483 (Chitinskaya oblast).

SPECIMENS EXAMINED. **Zabaikalskii krai:** 15 km W Borzya, 9.VII 1977, 1♂ (AL).

DISTRIBUTION. Russia: Zabaikalskii krai. – Mongolia, North-East China.

5. *Colletes impunctatus* Nylander, 1852

Colletes impunctatus Nylander, 1852: 249 (type locality: Finland); Proshchalykin, 2007: 879 (Transbaikalia).

SPECIMENS EXAMINED. **Zabaikalskii krai:** Bylyra, 21.VI 1975, 1♂ (DK).

DISTRIBUTION. Russia: Zabaikalskii krai; Yakutia, Kamchatskii krai, Khabarovskii krai, Amurskaya oblast, Primorskii krai, Sakhalin, Kuril Islands (Kunashir), European part. – Mongolia, Europe.

6. *Colletes pallescens* Noskiewicz, 1936

Colletes pallescens Noskiewicz, 1936: 468 (type locality: Europe).

SPECIMENS EXAMINED. **Buryatiya:** Gusinoe Lake, Baraty, 26.VII 2007, 14♂ (AL, MP, VL). **Zabaikalskii krai:** Nerchinsk, 15.VII 1910, 1♀ (Kychakov); 42 km SW Borzya, Durbachi, 23.VII 1984, 8♂ (AL); 20 km SSE Krasnokamensk, 3-5.VIII 2007, 1♀, 8♂ (AL, MP, VL).

DISTRIBUTION. Russia: *Buryatiya, *Zabaikalskii krai; Siberia; European part. – Mongolia, Middle Asia, Europe.

7. *Colletes perforator* Smith, 1869

Colletes perforator Smith, 1869: 205 (type locality: Japan); Proshchalykin, 2003: 6; 2007: 879 (Chitinskaya oblast).

Colletes vogti: Osytshnjuk & Romankova, 1995: 484 (Chitinskaya oblast); Ignatenko, 2004: 109 (Chitinskaya oblast).

SPECIMENS EXAMINED. **Zabaikalskii krai:** 20 km SSE Krasnokamensk, 4.VIII 2007, 4♂ (AL, MP, VL).

DISTRIBUTION. Russia: Zabaikalskii krai; Yakutia, Amurskaya oblast, Primorskii krai, Kuril Islands (Kunashir). – Japan (Hokkaido, Honshu, Tsusima), Mongolia, Europe.

8. *Colletes roborovskyi* Friese, 1913

Colletes roborovskyi Friese, 1913: 59 (type locality: Buryatia); Kuhlmann & Dorn, 2002: 91 (Buryatia).

SPECIMENS EXAMINED. No specimens examined.

DISTRIBUTION. Russia: Buryatia; European part. – Mongolia, Caucasus.

9. *Colletes seitzi* Alfken, 1900

Colletes seitzi Alfken, 1900: 76 (lectotype: ♀, Yokohama, Honshu, Japan, designated by Kuhlmann, 2000: 164); Osytshnjuk & Romankova, 1995: 483 (Chitinskaya oblast); Proshchalykin, 2007: 879 (Chitinskaya oblast).

SPECIMENS EXAMINED. **Buryatiya:** Dzhida, Dzhida River, 27.VII 2007, 2♀; Gusinoe Lake, Baraty, 26.VII 2007, 4♂ (AL, MP, VL). **Zabaikalskii krai:** Nerchinskii zavod, 20.VII 1975, 1♂ (DK); 20 km SW Tsatsuchei, 12.VII 1988, 2♀, 1♂; Solov`evsk, 17.VI 1988, 1♀ (Kirilyuk); 20 km SSE Krasnokamensk, 3-5.VIII 2007, 1♂ (AL, MP, VL).

DISTRIBUTION. Russia: *Buryatiya, Zabaikalskii krai; Primorskii krai. – Japan (Honshu), Mongolia, North China, Europe.

10. *Colletes sidemii* Radoszkowski, 1891

Colletes sidemii Radoszkowski, 1891: 252 (type locality: Vladivostok, Russia); Noskiewicz, 1936: 458 (Buryatiya, Chitinskaya oblast); Osytshnjuk & Romankova, 1995: 484 (Buryatiya, Chitinskaya oblast); Ignatenko, 2004: 109 (Buryatiya, Chitinskaya oblast); Proshchalykin, 2007: 879 (Buryatiya, Chitinskaya oblast).

SPECIMENS EXAMINED. **Buryatiya:** Verchneudinsk (=Ulan-Ude), 19.VII 1909, 1♂ (Matusevich); Armak, Dzhida River, 25.VII 1928, 1♂ (Mikhno); NE Baikal, Nevyrkuiskii Gulf, 5-7.VII 1954, 2♂ (Popov); Gusinoe Lake, Baraty, 6.VIII 1984, 2♂ (AL). **Zabaikalskii krai:** Kharankhor, 19.VII 1958, 15♂ (Grunin); 25 km NE Solov`evsk, 21.VII 1977, 1♀ (AL); 42 km SW Borzya, Durbachi, 23.VII 1984, 2♂ (AL); Gydyrgun, Zun-Torei Lake, 2.VII 1988, 2♂; Teli, Borun-Torei Lake, 8.VII 1988, 1♂; 20 km SW Tsachuchei, 12.VII 1988, 1♂; Solov`evsk, 17.VII 1988, 1♂ (Kirilyuk).

DISTRIBUTION. Russia: Buryatiya, Zabaikalskii krai; Irkutskaya oblast, West Siberia, Altai, Amurskaya oblast, Primorskii krai, European part. – Mongolia, North China.

11. *Hylaeus* (*Hylaeus*) *annulatus* (Linnaeus, 1758)

Apis annulata Linnaeus, 1758: 578 (type locality: Europe).

SPECIMENS EXAMINED. **Buryatiya:** Gusinoe Lake, Baraty, 26.VII 2007, 2♂ (AL, MP, VL). **Zabaikalskii krai:** 12 km N Darasun, Tura River, 26, 27.VI 1975, 2♀, 1♂ (DK).

DISTRIBUTION. Russia: *Buryatiya, *Zabaikalskii krai; Yakutia, Irkutskaya oblast, Magadanskaya oblast, Kamchatskii krai, Khabarovskii krai, Amurskaya oblast, Primorskii krai, Sakhalin, Kuril Islands (Kunashir), European part. – Mongolia, Europe, North America.

12. *Hylaeus* (*Hylaeus*) *cardioscapus* Cockerell, 1924

Hylaeus cardioscapus Cockerell, 1924: 276 (type locality: "Kudia-River", Primorskii krai, Russia); Ignatenko, 2004: 110 (Chitinskaya oblast).

Prosopis cardioscapus: Osytshnjuk & Romankova, 1995: 486 (Chitinskaya oblast).

Hylaeus miyakei: Proshchalykin et al., 2004: 156 (Chitinskaya oblast); Proshchalykin, 2007: 882 (Chitinskaya oblast).

SPECIMENS EXAMINED. **Zabaikalskii krai:** Bylyra, 20, 23. VI 1975, 5♀; 9♂ (DK); Shara, 20.VI 1975, 1♂ (Sokolov); 12 km N Darasun, Tura River, 26, 27.VI 1975, 6♀, 5♂; Kyra, 24.VI 1975, 1♂; Kalga, 12, 13.VII 1975, 1♂ (DK); Aleksandrovskii zavod, Gazimur River, 18.VII 1977, 2♂; 50 km SW Borzya, 23.VII 1984, 2♂ (AL); 55 km SW Chita, Yablonevyi Ridge, 4.VI 1994, 1♂ (Pesenko).

DISTRIBUTION. Russia: Zabaikalskii krai; Siberia, Magadanskaya oblast, Kamchatskii krai, Khabarovskii krai, Amurskaya oblast, Primorskii krai, Sakhalin, European part. – Mongolia, Europe.

13. *Hylaeus* (*Hylaeus*) *gracilicornis* (Morawitz, 1867)

Prosopis gracilicornis Morawitz, 1867: 56 (type locality: "St. Moritz", St. Petersburg, Russia).

SPECIMENS EXAMINED. **Zabaikalskii krai:** Bylyra, 20, 23. VI 1975, 2♂; 12 km N Darasun, Tura River, 26, 27.VI 1975, 2♀, 3♂; 15 km SE Chita, 28.VII 1975, 1♂ (DK).

DISTRIBUTION. Russia: *Zabaikalskii krai; Yakutia, Siberia, Magadanskaya oblast, Kamchatskii krai, Khabarovskii krai, Amurskaya oblast, Primorskii krai, Sakhalin, Kuril Islands (Kunashir), European part. – Mongolia, Europe.

14. *Hylaeus* (*Hylaeus*) *paradifformis* Ikudome, 1989

Hylaeus paradifformis Ikudome, 1989: 224 (holotype: □, Ashoro, Hokkaido, Japan, 14.VIII 1953, Y. Maeta).

SPECIMENS EXAMINED. **Zabaikalskii krai:** 12 km N Darasun, Tura River, 26, 27.VI 1975, 1♂; 15 km SE Chita, 28.VII 1975, 1♂ (DK).

DISTRIBUTION. Russia: *Zabaikalskii krai; Yakutia, Khabarovskii krai, Amurskaya oblast, Primorskii krai, Sakhalin. – Japan (Hokkaido, Honshu, Kyushu).

15. *Hylaeus* (*Hylaeus*) *paulus* Bridwell, 1919

Hylaeus paulus Bridwell, 1919: 154 (type locality: "Karuizawa", Honshu, Japan).

SPECIMENS EXAMINED. **Buryatiya:** Dzhida, Dzhida River, 27.VII 2007, 2♀, 1♂ (AL, MP, VL); Selenduma, 24.V 2008, 3♀; Kaykhta, 29, 30.V 2008, 1♂ (MP). **Zabaikalskii krai:** Bylyra, 21. VI 1975, 1♂ (DK).

DISTRIBUTION. Russia: *Buryatiya, *Zabaikalskii krai; Yakutia, Siberia, Khabarovskii krai, Amurskaya oblast, Primorskii krai, South Sakhalin, Kuril Islands (Kunashir). – Japan (Hokkaido, Honshu, Kyushu), Mongolia.

16. *Hylaeus* (*Hylaeus*) *stentoriscapus* Dathe, 1986

Hylaeus stentoriscapus Dathe, 1986: 271 (holotype: □, Charchiraa uul, Ulaangom Umgebung, Mongolia, 29.VII 1971).

SPECIMENS EXAMINED. **Buryatiya:** Kaykhta, 29.VI 1977, 2♂; 5 km N Naushki, Kharankhoi, 1.VIII 1977, 1♂ (AL); Gusinoe Lake, Baraty, 26.VII 2007, 38♀, 19♂ (AL, MP, VL). **Zabaikalskii krai:** Kyra, 24.VI 1975, 1♀, 1♂ (DK).

DISTRIBUTION. Russia: *Buryatiya, *Zabaikalskii krai; Khabarovskii krai, Siberia, Amurskaya oblast, Primorskii krai. – Mongolia.

17. *Hylaeus* (*Lambdopsis*) *rinki* (Gorski, 1852)

Prosopis rinki Gorski, 1852: 181 (type locality: Vilnius, Lithuania)

SPECIMENS EXAMINED. **Zabaikalskii krai:** 12 km N Darasun, Tura River, 26, 27.VI 1975, 1♂; Kalga, 12, 13.VII 1975, 1♂ (DK).

DISTRIBUTION. Russia: *Zabaikalskii krai; Yakutia, Siberia, Khabarovskii krai, Amurskaya oblast, Primorskii krai, Sakhalin, Kuril Islands (Kunashir, Iturup), European part. – Mongolia, Europe.

18. *Hylaeus* (*Prosopis*) *confusus* Nylander, 1852

Hylaeus confusus Nylander, 1852: 232 (type locality: Finland).

SPECIMENS EXAMINED. **Zabaikalskii krai:** 12 km N Darasun, Tura River, 26, 27.VI 1975, 1♀, 2♂ (DK).

DISTRIBUTION. Russia: *Zabaikalskii krai; Yakutia, Khabarovskii krai, Amurkaya oblast, Primorskii krai, Sakhalin, Kuril Islands (Kunashir). – North-East China, Middle Asia, Caucasus, Europe.

19. *Hylaeus* (*Prosopis*) *variegatus* (Fabricius, 1798)

Millinus variegatus Fabricius, 1798: 265 (type locality: "Halae Saxonum", Germany).
Prosopis variegata: Osytshnjuk & Romankova, 1995: 486 (Buryatiya).
Hylaeus variegatus: Ignatenko, 2004: 114 (Buryatiya); Proshchalykin, 2007: 883 (Buryatiya).

SPECIMENS EXAMINED. **Buryatiya:** Kaykhta, 27, 28.VI 1977, 6□ (AL); Ulan-Ude, 26.VII 1990, 4□ (Romankova); Dzhida, Dzhida River, 27.VII 2007, 2□; Gusinoe Lake, Baraty, 26.VII 2007, 4□ (AL, MP, VL). **Zabaikalskii krai:** 9 km W Urulyungui, 5.VII 1975, 1□ (DK); 25 km NE Solov`evsk, 20.VII 1977, 1□ (AL).

DISTRIBUTION. Russia: Buryatiya, *Zabaikalskii krai; Siberia, Khabarovskii krai, Amurskaya oblast, Primorskii krai, European part. – Mongolia, Europe, North Africa.

PATTERNS OF DIVERSITY

The colletid fauna of Transbaikalia numbers 18 species in two genera. Eight species in two genera are distributed in Buryatia and 17 species in two genera are in Zabaikalskii krai. There are no endemic colletid species in this region. The colletid fauna of Transbaikalia is very similar with one of the adjacent regions (Fig. 2). The fauna of Mongolia numbers 54 species in two genera. Most of the Transbaikalian species of colletid bees are found in Mongolia, except (*Hylaeus paradifformis* Ikudome, and *H. confusus* Nylander). Of 30 colletid species of the Russian Far East 15 species also are distributed in Transbaikalia. Four Transbaikalian species (*Colletes daviesanus* Smith, *C. fulvicornis* Noskiewicz, *C. pallescens* Noskiewicz, and *C. roborovskyi* Friese) are not represented in the Russian Far East. Twelve species are known from Yakutia, of them nine are known from Transbaikalia.

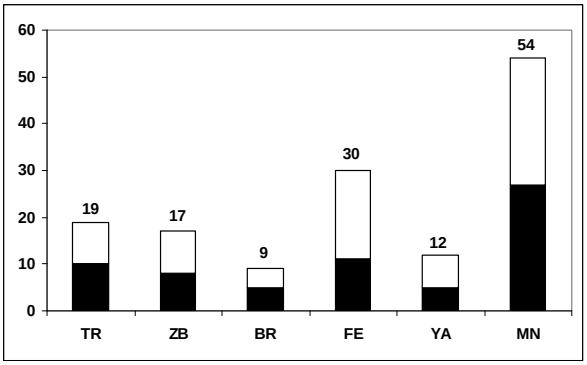

Fig. 2. Number of species (■ – *Colletes*; □ – *Hylaeus*) which are distributed in the Transbaikalia, Russian Far East, Yakutia, and Mongolia. (TB – Transbaikalia, ZB – Zabaikalskii krai, BU – Buryatia, FE – Russian Far East; YA – Yakutia; MN – Mongolia). The data for Yakutia follow Davydova & Pesenko, 2002; for Mongolia follow Dathe, 1986; Kuhlmann & Dorn, 2002; for Russian Far East follow Proshchalykin, 2007.

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