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CONTRIBUTION TO THE KNOWLEDGE OF BEE FAUNA OF THE GENUS *SPHECODES* LATREILLE (HYMENOPTERA: HALICTIDAE) OF THE REPUBLIC OF BELARUS

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An annotated list of 16 species of bees of the genus *Sphecodes* of the Republic of Belarus deposited in the collection of the Zoological Institute, Russian Academy of Sciences (St. Petersburg) is given. The list of the *Sphecodes* species of Belarusian fauna is increased up to 18 species. *Sphecodes spinulosus* Hagens is newly recorded from Belarus. Patterns of *Sphecodes* diversity in the Belarus and Europe are discussed.

KEY WORDS: Apoidea, Apiformes, Palaearctic region, biodiversity, new records.

А. В. Астафурова¹⁾, М. Ю. Прошалыкин²⁾, А. С. Шляхтенок³⁾. К познанию фауны пчел рода *Sphecodes* Latreille (Hymenoptera, Halictidae) Республики Беларусь // Дальневосточный энтомолог. 2014. N 280. С. 1-8.

Приведен аннотированный список 16 видов пчел рода *Sphecodes* Республики Беларусь, хранящихся в коллекции Зоологического института РАН (г. Санкт-Петербург). Общий список *Sphecodes* фауны Беларуси увеличен до 18

видов. *Sphcodes spinulosus* Hagens впервые указывается для фауны Беларуси. Обсуждаются особенности разнообразия *Sphcodes* в Беларуси и Европе.

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INTRODUCTION

The genus *Sphcodes* Latreille, 1804 currently includes 318 described species and widespread on all continents except Australia, where it is known only from the northeast. In the Palaearctic Region it occurs from the Canary Islands and Britain to Japan, and as far north as north-central Finland; in North America, it is found from coast to coast and reaches subarctic Alaska and central Canada (Michener, 2007; Ascher & Pickering, 2014). About 50 species are known from the Palaearctic Region (Pesenko, 2007) and 33 species from central Europe (Bogush & Straka, 2012) but little has been known about the *Sphcodes* fauna of Belarus.

Republic of Belarus is a landlocked country in Eastern Europe bordered by Russia to the northeast, Ukraine to the south, Poland to the west, and Lithuania and Latvia to the northwest. Its extension from north to south is 560 km, from west to east is 650 km. Belarus is divided into six regions, which are named after the cities that serve as their administrative centers (Fig. 1).

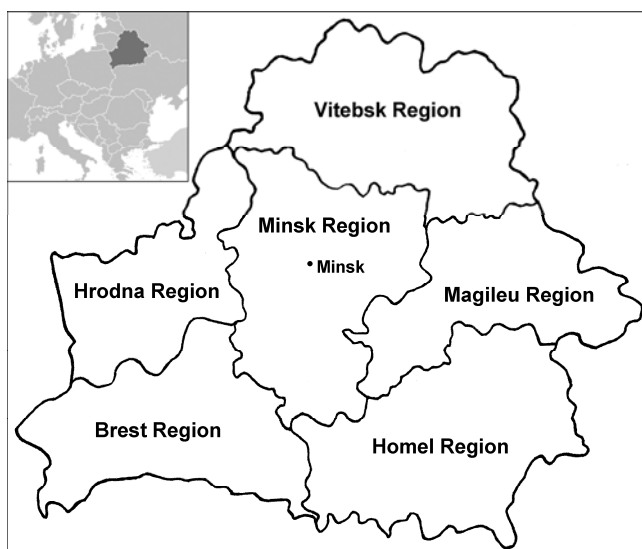


Fig. 1. Administrative map of the Republic of Belarus (from Wikipedia).

There were no special research of the *Sphecodes* of Belarus. There are only two papers on bees of Belarus (Arnold, 1902; Prishchepchik, 2000) where 17 species of *Sphecodes* are listed. The results presented in this paper are based on 165 specimens collected in the last few decades by A.A. Birulya, A.S. Schljachtenok and A.S. Lelej in Belarus, that are currently housed in the Zoological Institute, Russian Academy of Sciences, St. Petersburg (ZISP). We have used the following abbreviations for collectors: AB – A.A. Birulya, AS – A.S. Shlyakhtenok, AL – A.S. Lelej. New distribution records are marked with an asterisk (*). The distribution of *Sphecodes* follows A. Osyshnjuk et al. (1978), K. Warncke (1992), M. Proshchalykin (2012), P. Bogush and J. Straka (2012).

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LIST OF THE SPECIES

***Sphecodes albilabris* (Fabricius, 1793)**

Nomada albilabris Fabricius, 1793: 349 (type locality: Germany).

Sphecodes fuscipennis: Arnold, 1902: 104.

SPECIMENS EXAMINED. **Belarus:** *Minsk Region:* Minsk, 30.IV 2014, 1 ♀ (AS); *Homel Region:* Zhitkovichi, 22.VIII 1987, 1 ♂ (AS); Mozyr', Pkhov, 17.VIII 2007, 20.V–31.VII 2008, 1 ♀, 2 ♂ (AS); Khvoensk, Pripyat', 24.VI 1999 (AS); *Brest Region:* Brest, 6.V 2009, 1 ♀ (A. Zamotailov).

DISTRIBUTION. Belarus, Russia (European part), Europe (north to Finland and Sweden), Israel, Turkey, Central Asia, North Africa, India.

***Sphecodes crassus* Thomson, 1870**

Sphecodes crassus Thomson, 1870: 100 (type locality: S Sweden); Prishchepchik, 2000: 6.

SPECIMENS EXAMINED. **Belarus:** *Vitebsk Region:* Ambrosovich, 21.VII 1911, 2–20.VI 1912, 27.VII 1924, 17.VIII 1927, 6 ♀, 2 ♂ (AB); Berezinskii Nature Reserve, 8.VII 1985, 2–9.VIII 2009, 2 ♀, 1 ♂ (AS); *Minsk Region:* Minsk, Botanical garden, 12–19.V 1987, 12.V 1998, 1 ♀, 1 ♂ (AS); Osecheno, 28.VII 2003, 6.VII 2008, 19.VII–23.VIII 2009, 3 ♀, 1 ♂ (AS); *Homel Region:* Khvoensk, Pripyat', 18.V–7.VII 1987, 15.V 1988, 3.VIII 1993, 9.VIII 2001, 7 ♀, 1 ♂ (AS); *Brest Region:* 5 km W Pinsk, 16.VI 1973, 1 ♀ (AL); Druzhilovich, 13.V–13.VIII 2007, 2 ♀ (AS); Baranovich, 5.V 2008, 2 ♂ (AS).

DISTRIBUTION. Belarus, Russia (European part, Far East), Europe (north to 64°), Turkey, Iran, North Africa.

***Sphecodes ephippius* (Linnaeus, 1767)**

Sphex ephippia Linnaeus, 1767: 944 (type locality: Austria).

Sphecodes ephippia: Arnold, 1902: 104.

Sphecodes rufescens: Arnold, 1902: 104.

SPECIMENS EXAMINED. **Belarus:** *Vitebsk Region*: Ambrosovichi, 1.VIII 1911, 1 ♂ (AB); Berezinskii Nature Reserve, 8–15.VII 1985, 6.VI 1986, 4.VII–3.IX 1987, 3 ♀, 2 ♂ (AS); *Minsk Region*: Minsk, 15.V 2007, 1 ♀ (AS); Osecheno, 3.VIII 2008, 1 ♀ (AS); *Homel Region*: Khvoensk, 10.VI 1987, 2 ♀ (AS); Petrikovskii distr., Belanovichi, 24.VI 2008, 1 ♀ (AS); Shestovichi, 25.VI 2008, 1 ♀ (AS); *Brest Region*: Druzhilovichi, 13.V–10.VI 2007, 2 ♀ (AS).

DISTRIBUTION. Belarus, Russia (European part), Europe (north to 62°N), North Africa, Turkey, Central Asia, Japan.

***Sphecodes ferruginatus* Hagens, 1882**

Sphecodes ferruginatus Hagens, 1882: 221 (type locality: Germany); Prishchepchik, 2000: 6.

SPECIMENS EXAMINED. **Belarus:** *Vitebsk Region*: Ambrosovichi, 2–19.VIII 1911, 14–17.V 1926, 2 ♀, 2 ♂ (AB); *Minsk Region*: Osecheno, 6–13.VII 2008, 7–21.VI 2011, 1 ♀, 1 ♂ (AS); *Homel Region*: Khvoensk, Pripyat', 17.V–9.VI 1987, 2 ♀ (AS).

DISTRIBUTION. Belarus, Russia (European part, Far East), Europe (north to 66°), Turkey.

***Sphecodes geoffrellus* (Kirby, 1802)**

Melitta geoffrella Kirby, 1802: 45 (type locality: England).

Sphecodes geoffrellus: Prishchepchik, 2000: 6.

SPECIMENS EXAMINED. **Belarus:** *Vitebsk Region*: Ambrosovichi, 20.VII–13.VIII 1911, 5 ♀, 3 ♂ (AB); *Minsk Region*: Osecheno, 28.VII 2003, 6–13.VII 2008, 19.VII 2009, 7–24.VII 2011, 14 ♀, 6 ♂ (AS); *Homel Region*: Khvoensk, 2.VI 1987, 1 ♀ (AS); *Brest Region*: 5 km W Pinsk, 2.VI 1973, 1 ♀ (AL).

DISTRIBUTION. Belarus, Russia (European part, Siberia, Far East), Europe (north to 66°), Turkey, Near East, North Africa, Japan.

***Sphecodes gibbus* (Linnaeus, 1758)**

Sphex gibba Linnaeus, 1758: 571 (type locality: Germany).

Sphecodes gibbus: Arnold, 1902: 104.

SPECIMENS EXAMINED. **Belarus:** *Vitebsk Region*: Berezinskii Nature Reserve, 25.VIII 2011, 1 ♀ (AS); *Minsk Region*: Minsk, 2.X 1987, 12.X 1998, 2 ♀ (AS); Osecheno, 19.V–25.VIII 2007, 3.VIII 2008, 16–24.VII 2011, 2 ♀, 1 ♂ (AS); *Homel Region*: Khvoensk, 7.VII 1987, 1 ♀ (AS); *Brest Region*: Pinsk, 20.IX 1977, 1 ♀ (AL).

DISTRIBUTION. Belarus, Russia (European part), Europe (north to 63° N), North Africa.

***Sphecodes longulus* Hagens, 1882**

Sphecodes longulus Hagens, 1882: 226 (type locality: Germany); Prishchepchik, 2000: 6.

SPECIMENS EXAMINED. **Belarus:** *Vitebsk Region:* Berezinskii Nature Reserve, 1.VIII–3.IX 1987, 1 ♀ (AS); *Homel Region:* Pripyatskii National Park, 27.VII 1987, 1 ♀ (AS).

DISTRIBUTION. Belarus, Russia (European part), Europe (north to Finland, Sweden, Denmark, England), Turkey, Syria, Tajikistan.

***Sphecodes marginatus* Hagens, 1882**

Sphecodes marginatus Hagens, 1882: 83 (type locality: NW Germany); Prishchepchik, 2000: 6.

SPECIMENS EXAMINED. **Belarus:** *Minsk Region:* Osecheno, 14–28.VII 2007, 1 ♀ (AS).

DISTRIBUTION. Belarus, Russia (European part), Europe.

***Sphecodes miniatus* Hagens, 1882**

Sphecodes miniatus Hagens, 1882: 223 (type locality: Germany); Prishchepchik, 2000: 6.

SPECIMENS EXAMINED. **Belarus:** *Vitebsk Region:* Berezinskii Nature Reserve, Domzheritsy, 3.VI–3.VII 1987, 2 ♀ (AS); *Homel Region:* Khoinikskii distr., Dronki, 19.VI–24.VII 1990, 1 ♀ (AS); Pripyatskii National Park, 27.VII 1987, 2 ♀ (AS).

DISTRIBUTION. Belarus, Russia (European part), Europe (north to south Sweden).

***Sphecodes monilicornis* (Kirby, 1802)**

Melitta monilicornis Kirby, 1802: 47 (type locality: England).

Sphecodes monilicornis: Prishchepchik, 2000: 6.

SPECIMENS EXAMINED. **Belarus:** *Vitebsk Region:* Ambrosovichi, 14.V 1926, 13.VIII 1927, 1 ♀, 1 ♂ (AB); Berezinskii Nature Reserve, 30.VII 1987, 2–9.VIII 2009, 25.VIII 2011, 3 ♀, 3 ♂ (AS); *Minsk Region:* Osecheno, 14–28.VII 2007, 19.VII–23.VIII 2009, 16–24.VII 2011, 10 ♀, 11 ♂ (AS); *Homel Region:* Oktyabrskii, 30.VI 2000, 1 ♀ (AS); Mozyr', Pripyat' River, 16.VIII 2007, 1 ♀ (AS); Dimamerki, 7.VII 2009, 1 ♀ (AS); *Brest Region:* Pinsk, 20.IX 1977, 1 ♂ (AL); Baranovichi, 5.V 2008, 2 ♂ (AS).

DISTRIBUTION. Belarus, Russia (European part), Europe (north to 64°), Turkey, Caucasus, Turkmenistan, North Pakistan, North Africa.

***Sphecodes pellucidus* Smith, 1845**

Sphecodes pellucidus Smith, 1845: 1014 (type locality: England); Prishchepchik, 2000: 6.

SPECIMENS EXAMINED. **Belarus:** *Vitebsk Region:* Berezinskii Nature Reserve, 2–6.IX 1987, 6.VI–9.VIII 2009, 4 ♂ (AS); *Minsk Region:* Minsk, 9.VI 1997, 1 ♀ (AS); *Homel Region:* Khvoensk, Pripyat', 17.V–11.VII 1987, 25.VI–24.VIII 1993, 23.V–29.VI 1994, 8 ♂ (AS); *Brest Region:* Pinsk, 5.V 1973, 1 ♀ (AL); Druzhilovichi, 13.V–13.VIII 2007, 1 ♀, 1 ♂ (AS).

DISTRIBUTION. Belarus, Russia (European part, Far East), Europe (north to 66°), Turkey, North Africa, Turkmenistan, North China.

***Sphecodes puncticeps* Thomson, 1870**

Sphecodes puncticeps Thomson, 1870: 99 (type locality: Sweden); Prishchepchik, 2000: 6.

SPECIMENS EXAMINED. **Belarus:** *Vitebsk Region:* Ambrosovich, 7.VIII 1911, 22.VII 1912, 2♂ (AB); *Minsk Region:* Stakhovo, Berezina River, 18.VI 1986, 1♀ (AS); Osecheno, 16–23.VIII 2009, 16–24.VII 2011, 2♀ (AS).

DISTRIBUTION. Belarus, Russia (European part), Europe (north to Finland and Sweden), Israel, Turkey, North Africa, Central Asia.

***Sphecodes reticulatus* Thomson, 1870**

Sphecodes reticulatus Thomson, 1870: 98 (type locality: S Sweden); Prishchepchik, 2000: 6.

SPECIMENS EXAMINED. **Belarus:** *Vitebsk Region:* Berezinskii Nature Reserve, 25.VIII 2011, 2♂ (AS); *Homel Region:* Khoimnikskii distr., 3–23.VIII 1989, 1♀ (AS).

DISTRIBUTION. Russia: Belarus, Russia (European part), Europe (north to 62°N).

***Sphecodes rufiventris* (Panzer, 1798)**

Tiphia rufiventris Panzer, 1798: 4 (type locality: Germany).

Sphecodes rufiventris: Arnold, 1902: 104.

SPECIMENS EXAMINED. **Belarus:** *Minsk Region:* Minsk, 30.IV 2014, 1♀ (AS); *Homel Region:* Mozyr', Pkhov, 17.VIII 2007, 1♂ (AS); Khvoensk, Pripyat', 9.VIII 2001, 1♀ (AS).

DISTRIBUTION. Belarus, Russia (European part), Europe (north to 57°N), Kazakhstan, North Africa.

***Sphecodes scabricollis* Wesmael, 1835**

Sphecodes scabricollis Wesmael, 1835: 429 (type locality: Belgium); Prishchepchik, 2000: 6.

SPECIMENS EXAMINED. **Belarus:** *Homel Region:* Khvoensk, 9.VIII 2001, 1♀ (AS); Pripyatskii National Park, Verkhovoe boloto, 10.VI–2.VII 1987, 1♀ (AS).

DISTRIBUTION. Belarus, Russia (European part, Far East), Europe (north to Finland), Turkey, Japan.

***Sphecodes spinulosus* Hagens, 1875**

Sphecodes spinulosus Hagens, 1875: 85 (type locality: NW Germany).

SPECIMENS EXAMINED. **Belarus:** *Homel Region:* Pripyatskii National Park, 27.VII 1987, 1♂ (AS).

DISTRIBUTION. *Belarus, Russia (European part), Europe (north to 56°N), Turkey, North Africa.

PATTERNS OF DIVERSITY

Sixteen species of *Sphecodes* have been identified based on material deposited in ZISP, one species is newly recorded from Belarus. The list of the *Sphecodes* species is increased to 18 species (Table 1). In the future additional species which are known from the adjacent territories can be found in Belarus: *Sphecodes ruficrus* (Erichson, 1835) (Russia, Ukraine), *S. hyalinatus* Hagens, 1882 (Russia, Ukraine, Poland, Lithuania, Latvia), *S. alternatus* Smith, 1853 (Russia, Ukraine), *S. majalis* Pérez, 1903 (Russia, Ukraine).

The *Sphecodes* fauna of Belarus has most similarity with ones of Russia (18 common species), Poland (18) and Ukraine (17), somewhat less with Lithuania (13). *Sphecodes* fauna of Belarus is a typical fauna of Eastern Europe.

Table 1. Distribution of *Sphecodes* species in the regions of Belarus

№	Species	Regions					
		I	II	III	IV	V	VI
1	<i>Sphecodes albilabris</i> (Fabricius, 1793)	-	+	-	+	+	+
2	<i>S. crassus</i> Thomson, 1870	+	+	-	-	+	+
3	<i>S. cristatus</i> Hagens, 1882	-	+	-	-	-	-
4	<i>S. ephippius</i> (Linnaeus, 1767)	+	+	-	+	+	+
5	<i>S. ferruginatus</i> Hagens, 1882	+	+	-	-		+
6	<i>S. geoffrellus</i> (Kirby, 1802)	+	+	-	-	+	+
7	<i>S. gibbus</i> (Linnaeus, 1758)	+	+	-	+	+	+
8	<i>S. longulus</i> Hagens, 1882	+	+	-	-	-	+
9	<i>S. marginatus</i> Hagens, 1882	-	+	-	-	-	-
10	<i>S. miniatus</i> Hagens, 1882	+	+	-	-	-	+
11	<i>S. monilicornis</i> (Kirby, 1802)	+	+	-	-	+	+
12	<i>S. niger</i> Hagens, 1874	-	+	-	-	-	-
13	<i>S. pellucidus</i> Smith, 1845	+	+	-	-	+	+
14	<i>S. puncticeps</i> Thomson, 1870	+	+	-	-	-	-
15	<i>S. reticulatus</i> Thomson, 1870	+	+	-	-	-	+
16	<i>S. rufiventris</i> (Panzer, 1798)	-	+	-	+	-	+
17	<i>S. scabricollis</i> Wesmæl, 1835	-	+	-	-	-	+
18	<i>S. spinulosus</i> Hagens, 1875	-	-	-	-	-	+
Total:		11	17	0	4	7	14

I – Vitebsk Region; II – Minsk Region; III – Hrodna Region; IV – Magileu Region; V – Brest Region; VI – Homel Region.

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