SOCIAL WASPS (HYMENOPTERA, VESPIDAE: POLISTINAE, VESPINAE) OF THE BASTAK NATURE RESERVE (JEWISH AUTONOMOUS PROVINCE, AMUR BASIN)

V.V. Dubatolov

A list of social wasps occurring in the Bastak Nature Reserve (Middle Amur, Jewish Autonomous Region, Russia) is given, with 4 species of Polistes, 6 species of Vespa, 4 species of Vespula and 2 species of Dolichovespula. Vespa mandarinia and V. analis are reported from their north-western limits of range, two other (Vespula koreensis and Dolichovespula media) are firstly recorded in the Jewish Autonomous Region. Lesser Khingan mountains situated in the western part of Jewish Autonomous Region and the eastern part of Amur Province, are considered to be a serious barrier for several social wasp species (Vespa mandarinia, Vespa analis, Vespa ducalis, Vespa shidai) to disperse into eastern.

Summary. A list of social wasps occurring in the Bastak Nature Reserve (Middle Amur, Jewish Autonomous Region, Russia) is given, with 4 species of Polistes, 6 species of Vespa, 4 species of Vespula and 2 species of Dolichovespula. Vespa mandarinia and V. analis are reported from their north-western limits of range, two other (Vespula koreensis and Dolichovespula media) are firstly recorded in the Jewish Autonomous Region. Lesser Khingan mountains situated in the western part of Jewish Autonomous Region and the eastern part of Amur Province, are considered to be a serious barrier for several social wasp species (Vespa mandarinia, Vespa analis, Vespa ducalis, Vespa shidai) to disperse into eastern.

The social wasp fauna in the Middle Amur territory is not yet well studied, with information available for the following local faunas: Eastern Transbaikalia [Dubatolov, 1998, 1999; Dubatolov et al., 2004]; Amur Province (Blagoveshchensk vicinities) [Dubatolov et al., 2002]; the Khingansky Nature Reserve (south-eastern part of the Amur Province) [Kurzenko, 1992]; the Khabarovsk suburbs and the Lower Amur territory [Dubatolov, Dolgikh, 2009]. These reports outlined the western and northeastern limits in distribution for many Amur-Manchurian social wasp species. Nevertheless, several species are still known only from the Khabarovsk suburbs within the Amur River basin.

The Bastak Nature Reserve is situated on the eastern slopes of the Lesser Khingan Mountains and neighboring plain in the Jewish Autonomous Province. Social wasps within this territory were previously studied by professors and students of Blagoveshchensk Pedagogical University in 2004-2007 [Sreetzov, Kogdina, 2005; Malikova et al., 2006, 2007; Malikova, Dolya, 2008]. They recorded 11 social wasp species near Ivakin’s apiary (49º N 133º 01’E) in mixed boreal (bogs on plain) and nemoral (broad-leaved forests isolated on mountain slopes) phytocenoses.

In October 1-3, 2009, I visited mountain parts in the Nature Reserve Bastak, and obtained two sets of social wasps, collected by Mr. I. Polkovnikov at his apiary (48º 59’ N 132º 54’E) by sinking them in bottles with home-brewed honey beer. This is a local traditional trap for hornets to protect beehives. One bottle was set in late June, another one – in September 2009; both worked till the end of September. The wasps were cleared in pure water with a little amount of detergent and then dried up.

The traps contained 6 species of Vespa, 3 species of Vespula, 1 species of Dolichovespula and 4 species of Polistes. The samples include several new records for the territory, marking the northwestern distribution limit for some social wasp species. An annotated list of Vespinae and Polistinae from the Bastak Nature Reserve is given below.

Polistinae

*Polistes snelleni* de Saussure, 1862
Malikova et al., 2006: 119 (1 ♀, Ivakin’s apiary, 16-27.06.2005); Malikova, Dolya, 2008: 78 (1 ♀, Ivakin’s apiary, 19-30.06.2007).

This species is distributed in East Asia from Transbaikalia in the northwest to Kiselevka in Lower Amur in the northeast [Dubatolov, Dolgikh, 2009], and in the south it occurs in China and Japan. The species is rather rare in the Bastak Nature Reserve, mainly found in broad-leaved forests.

*Polistes chinensis antennalis* Pérez, 1905
Malikova et al., 2006: 119 (1 ♀, Ivakin’s apiary, 16-27.06.2005).

This species and subspecies is widely distributed in East Asia, from Blagoveshchensk [Dubatolov et al., 2002] in the northwest to Komsomolsk-na-Amure [Dubatolov, Dolgikh, 2009] in the northeast. It seems rare in the Bastak Nature Reserve.

*Polistes nimpha* (Christ, 1791)


This species is subtranspalearctic, penetrating into Yakutsk [Pekkarinen, Gustaffson, 1999] and into the Amur River valley upto Komsomolsk-na-Amure and Kiselevka in the east [Dubatolov, Dolgikh, 2009]. It is not common in the Bastak Nature Reserve.
Polistes riparius Sk. Yamane et S. Yamane, 1987
Malikova et al., 2006: 119 (2 ♀ ♂, Ivakin’s apiary, 16-27.06.2005).

This species is widely distributed in North Asia from West Siberia [Dubatolov, 1998] to the Amur River delta [Dubatolov, Dolgikh, 2009] and Hokkaido of Japan. It does not seem to be common in the Nature Reserve Bastak.

Vespinae

Vespa Crabro Linnaeus, 1758
Streltzov, Kogdina, 2005: 45 (5 ♀ ♂, [Bastak, Ivakin’s apiary], 2-10.06.2004); Malikova et al., 2006: 118 (1 ♀, Bastak, Ivakin’s apiary, 16-27.06.2005); Malikova et al., 2007: 55 (2 ♀ ♂, Bastak, Ivakin’s apiary, 1-9.07.2006); Malikova, Dolya, 2008: 77 (1 ♀, Bastak, Ivakin’s apiary, 19-30.06.2007).

Material examined. Bastak Nature Reserve, Polkovnikov’s apiary (48° 59’ N 132° 54’ E): 26 ♀ ♂, 1 worker, from a honey beer trap set from June to September; 8 ♀ ♂, 13 worker, 1 ♀, from a honey beer trap set in September.

This hornet species is transpalearctic and one of the most common social wasp in the Bastak Nature Reserve. Percentage of specimens of this species among all Vespa species was the highest in the honey bee trap exposed for June-August (47%), and then dropped to 20% in the honey bee trap for September.

Vespa Simillima Smith, 1868
Streltzov, Kogdina, 2005: 45 (10 ♀ ♂, [Bastak, Ivakin’s apiary], 2-10.06.2004); Malikova, Kirillova, Streltzov, 2006: 118 (1 ♀, 1 ♂, Bastak, Ivakin’s apiary, 16-27.06.2005); Malikova et al., 2007: 55 (1 ♀, Bastak, Ivakin’s apiary, 1-9.07.2006).


This species is distributed from the Zeya River to the Amur River mouth [Dubatolov, Dolgikh, 2009], in Sakhalin, Japan, Korea and NE China [Kurzenko, 1995; Carpenter, Kojima, 1997].

It was rare in June-July (12% among all Vespa species collected in a honey bee trap), but common in autumn; its amount in September rose to 35%.

Vespa Dybowskii André, 1884

Material examined. Nature Reserve Bastak, Polkovnikov’s apiary (48° 59’ N 132° 54’ E): 20 ♀ ♂, 1 worker, from a honey beer trap set from June to September; 43 workers, 1 ♀, from a honey beer trap set in September.

This species is known as a social parasite on Vespa Carbro and V simillima [Matsuura, 1995]. This is the most widely distributed species among the Far Eastern Vespa, occurring in the area from Eastern Transbaikalia to Lower Amur [Dubatolov, 1998; Dubatolov, Dolgikh, 2009], south to Japan, Korea, China, Burma, Thailand [Kurzenko, 1995; Carpenter, Kojima, 1997]. The species is one of the most common species in the Bastak Nature Reserve, percentage of specimens of this species among all Vespa species was 37% in the honey bee trap exposed for June-July, and then rose to 40% in the honey bee trap for September.

Vespa Ducalis Smith, 1852


This species is rare in the Far Eastern Russia; in the Amur basin it is distributed from SE part of Amur Province (Kundur) [Dubatolov, Streltzov, Malikova, 2002] to Khabarovsk suburbs [Dubatolov, Dolgikh, 2009], and probably, slightly further downstream along the Amur valley, but does not reach Komsomolsk-na-Amure. This species has its range expanding southwards to Indo-China, India and Nepal [Carpenter, Kojima, 1997].

Vespa Mandarina Smith, 1852

This is the largest social wasp species in Russia as well as in the world. In the Amur River basin this hornet was previously known only from Khabarovsk suburbs [Dubatolov, Novomodyni, 2006; Dubatolov, Dolgikh, 2009]. The Nature Reserve Bastak is the new distribution locality of this species. Probably, it is not distributed west of the Lesser Khingan mountains, but Mrs. E. Ignatenko (Zeya, Amur Province) kindly informed me that this species was once recorded from Lebedevskoe Forestry in the Nature Reserve Khingansky in SE part of Amur Province; this record was not included in the review of insect species of this Nature Reserve [Kurzenko, 1992]. The species is widely distributed in East and South Asia, to Indo-China, India and Sri Lanka [Kurzenko, 1995; Carpenter, Kojima, 1997].

Vespa Analis Fabricius, 1775

This species is rare in the Far Eastern Russia. In the Amur River basin it was previously known from the area from Khabarovsk to Komsomolsk-na-Amure [Dubatolov, Dolgikh, 2009]. The Bastak Nature Reserve is the new north-westernmost locality for this species. This hornet is widely distributed in East Asia, continental South-Eastern Asia and so-called Sundaland [Kurzenko, 1995; Carpenter, Kojima, 1997].

This is the East Asian species widely distributed in the Amur river basin, from Blagoveshchensk [Dubatolov, Streltzov, Malikova, 2002] in the west to Kiselevka (NE limits of rich broad-leaved forests) [Dubatolov, Dolgikh, 2009] in the east. It penetrates into Indo-China and NE India [Kurzenko, 1995]. The species is common in the Nature Reserve; percentage of specimens of this species among all wasp species was 12% in the honey beer trap exposed for June-July. Formerly the author found a single dried female of this species on a window in Ivakin’s apiary (49° N 133° 01’ E) at 17-19 June, 2005.

**Vespula vulgaris** (Linnaeus, 1758)
Streltzov, Kogdina, 2005: 45-46 (2 ♀ ♂, [Ivakin’s apiary], 2-10.06.2004); Malikova, Dolya, 2008: 78 (1 ♀, Ivakin’s apiary, 19-30.06.2007).


This is a transpaleartcic species; generally rare in the Bastak Nature Reserve. This species is more often found in human settlements.

**Vespula shidai** Ishikawa, Sk. Yamane et Wagner, 1980


This species is widely distributed in the Amur river basin from the Bureya river in SE part of Amur Province [Dubatovol, Novomodnyi, 2006] in the west to Kiselevka (Lower Amur) in the east [Dubatolov, Dolgikh, 2009]; also in Japan, Korea and NE China in the south [Kurzenko, 1995]. The species is not rare in Nature Reserve; percentage of specimens of this species among all wasp species was 9% in the honey beer trap exposed for September.

**Dolichovespula media** (Retzius, 1783)

This is a transpaleartcic **Dolichovespula** species, probably not common in the Bastak Nature Reserve.

**Dolichovespula saxonica** (Fabricius, 1793)
Malikova, Dolya, 2008: 78 (1 ♀, Ivakin’s apiary, 19-30.06.2007).

One more transpaleartcic species. Also is not common in the Nature Reserve.

A total of 16 species of social wasps (Vespinae and Polistinae) is known from the Bastak Nature Reserve. Among them, four species (**Vespa analis, Vespa mandarinia, Vespa korreensis, Dolichovespula media**) are reordered here for the first time. The Lesser Khingan mountains, situated in the western part of Jewish Autonomous Region (including the Bastak Nature Reserve territory) and eastern part of Amur Province, act as a geographical barrier for several species (**Vespa mandarinia, Vespa analis, Vespa ducalis, Vespa shidai**) to disperse in the western direction.

**REFERENCES**


