

## Ants (Hymenoptera: Formicidae) from the Kamchatka Peninsula and Paramushir Island, North Kuril Islands

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**Abstract** Four ants species belonging to three genera and two species belonging to two genera are recorded from the Kamchatka Peninsula and Paramushir Island in the North Kuril Islands, respectively. A list of ants of Kamchatka, Sakhalin and the Kuril Islands is also presented.

**Key words:** Hymenoptera, Formicidae, Kamchatka, Kuril Islands.

The distribution records of ants from the Kamchatka and the North Kuril Islands are scarce, since it has political and traffic difficulties to make a survey by travelling through those areas. Fourteen and five species of ants have been known from the Kamchatka and the North Kuril Islands up to the present, respectively (Kupyanskaya, 1990).

The Natural History Museum and Institute, Chiba, carried out the Biological Expedition to the Kamchatka Peninsula and the North Kuril Islands in 1996 and 1997. This is a part of the project entitled "The Origin and Biogeography of the Northeast Asian Biota", in co-operation with the Institute of Biology and Pedology and the Institute of Marine Biology belonging to the Far Eastern Branch of the Russian Academy of Sciences, Vladivostok. In this paper, a list of the ants is presented based on the material collected during the expeditions.

The specimens were collected by looking for under stone or decaying wood, sweeping with entomological net in a grassland, and baited pit trap with a powder of acetic acid ("Sushinoko" in Japanese). They are deposited in the Natural History Museum and Institute, Chiba (CBM with code of ZI).

### Results

Two hundred twenty-four individuals of

ants were collected from the Kamchatka Peninsula and Paramushir Island in the North Kuril Islands. These are identified as four species.

#### 1. *Myrmica kamtschatica* Kupyanskaya, 1986

**Material Examined.** **Kamchatka Peninsula:** 11 workers, Bystraya River Basin, 30 km north of Ganaly, alt. 390 m, 30.VII.1997, baited pit trap, A. Saito leg., CBM-ZI 82923–82932; 8 workers, Mt. Vachkazhets, Upper part of Takhkoloch River, alt. 550 m, 4.VIII.1997, baited pit trap, A. Saito leg., CBM-ZI 82933–82940; 10 workers, Poperechnaya River, Bystraya River basin, alt. 320 m, 29.VII.1997, baited pit trap, A. Saito and R. B. Kuranishi leg., CBM-ZI 82941–82950.

**North Kuril Islands.** Paramushir Island: 11 workers, Shelekhovo, alt. 10 m, 16.VII.1997, A. Saito leg., CBM-ZI 82951–82960; 6 workers, Shelekhovo-Shimoyur River, alt. 0–100 m, 17.VII.1997, A. Saito leg., CBM-ZI 82961–82965.

**Distribution.** Russian Far East: Kamchatka Peninsula, North Kuril Islands.

**Remarks.** This species is restricted to the Far Eastern Russia. The nests were found in soil or under stones.

## 2. *Formica lemani* Bondroit, 1917

**Material Examined.** **Kamchatka Peninsula:** 55 workers, Bystraya River Basin, 30 km north of Ganalv, alt. 390m, 30.VII.1997, baited pit trap, A. Saito leg., CBM-ZI 82966-83020; 13 workers, Poperechnaya River, Bystraya River basin, alt. 320 m, 29.VII.1997, baited pit trap, A. Saito and R. B. Kuranishi leg., CBM-ZI 83021-83033; 5 workers, Poperechnaya River, Bystraya River basin, alt. 320 m, 28.VII.1997, baited pit trap, A. Saito leg., CBM-ZI 83034-83038; 17 workers, Bystraya Rivers Basin, 30 km north of Ganalv, 30.VII.1997, A. Saito leg., CBM-ZI 83039-83054, 83146; 4 workers, Bystraya River, 10.VII.1997, A. Saito leg., 83055-83057, 83138; 1 worker, Poperechanaya River, Bystraya River basin 17 km from main road, 29.VII.1997, R. B. Kuranishi leg., CBM-ZI 83058; 1 worker, Poperechanaya River, Bystraya River basin 17 km from main road, 27.VII.1997, A. Saito leg., CBM-ZI 83059; 1 worker, Poperechanaya River, Bystraya River basin 17 km from main road, 28.VII.1997, R. B. Kuranishi leg., CBM-ZI 83060; 2 workers, Pravaya River, Upper part, 23 km south of Pushchino, alt. ca. 540 m, 7.VII.1996, sweeping, R. B. Kuranishi leg., CBM-ZI 83061-83062; 1 worker, 25 km west of Klyuchi, riverside, alt. 150 m, 10.VII.1996, R. B. Kuranishi leg., CBM-ZI 83149, 1 worker, Bystraya Rivers Basin, 30 km north of Ganalv, 30.VII.1997, A. Saito leg., CBM-ZI 83063.

**North Kuril Islands.** Paramushir Island: 14 workers, 3 km south of Severo-Kuril'sk, alt. 0-10 m, 12.VII.1997, A. Saito leg., CBM-ZI 83064-83070, 83139-83145; 2 workers, Matrosskaya River, near Severo-Kuril'sk, alt. 30-128 m, 12.VII.1997, A. Saito leg., CBM-ZI 83147-83148.

**Distribution.** *Formica lemani* ranges from Europe, through northern parts of Eurasia, to Korea and Japan (Hokkaido, Honshu, Shikoku).

**Remarks.** This species nested in soil or under stones.

## 3. *Formica lugubris* Zetterstedt, 1840

**Material Examined.** **Kamchatka Peninsula:** 55 workers, 2 queens, Bystraya River Basin, 30 km north of Ganalv, alt. 390 m, 30.

VII.1997, baited pit trap, A. Saito leg., CBM-ZI 83071-83072, 83073-83121; 1 queen, Bystraya River Basin, 30 km north of Ganalv, alt. 390m, 30.VII.1997, R. B. Kuranishi leg., CBM-ZI 83122; 3 workers, Poperechnaya River, Bystraya River basin, alt. 320 m, 29.VII.1997, baited pit trap, A. Saito and R. B. Kuranishi leg., CBM-ZI 83123-83125; 1 worker, Poperechnaya River, Bystraya River basin, alt. 320 m, 28.VII.1997, baited pit trap, A. Saito leg., CBM-ZI 83126; 4 workers, Poperechanaya River, Bystraya River basin 17 km from main road, 28.VII.1997, R. B. Kuranishi leg., 83127-83130; 1 queen, 25 km west of Klyuchi, riverside, alt. 150 m, 10.VII.1996, R. B. Kuranishi leg., CBM-ZI 83150; 2 workers, Pravaya River, upper part, 23 km south of Pushchino, alt. ca. 540 m, 7.VII.1996, R. B. Kuranishi leg., CBM-ZI 83131-83132; 3 workers, Poperechnaya River, Bystraya River basin, 17 km from main road, 27.VII.1997, A. Saito leg., CBM-ZI 83133-83134, 83151; 1 queen, near Petropavlovsk-Kamchatskiy, 26.VII.1997, R. B. Kuranishi leg., CBM-ZI 83135.

**Distribution.** *F. lugubris* is found in the northern Eurosiberia and European mountains.

**Remarks.** This species built discrete nests in well insulated situations. Mounds were constructed from dead grass or conifer needles.

## 4. *Leptothorax acervorum* (Fabricius, 1793)

**Material Examined.** **Kamchatka Peninsula:** 1 worker, Bystraya Rivers Basin, 30 km north of Ganalv, 30.VII.1997, A. Saito leg., CBM-ZI 83136; 1 worker, Mt. Vachkazhets, upper part of Takhkoloch River, Basin of Plotnikova, 2.VIII.1997, A. Saito leg., CBM-ZI 83137.

**Distribution.** This species is widely distributed in the Palaearctic and Nearctic regions.

**Remarks.** The nests were found in soil or decaying wood in forest margins, grasslands, or sunny open areas.

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1996-1997年に採集されたカムチャツカ半島と北千島のアリ類

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1996年と1997年に、カムチャツカ半島と北千島で千葉県立中央博物館とロシア科学アカデミーの生物学共同調査が行われ、倒木や転石おこし採集、スイピング法やベイトトラップ法でアリ類を採集した。カムチャツカ半島から3属4種、北千島のパラムシル島から2属2種のアリ類を記録した。*Myrmica kamtschatica* Kupyanskaya は、極東ロシアに限って分布する種で、今回カムチャツカと北千島から得られた。*Formica lemmani* Bondroit は、ヨーロッパから韓国、日本にかけて広く分布する種である。今回カムチャツカと北千島から採集された。*Formica lugubris* Zetterstedt は、ユーラシア大陸の高緯度地域や山地に生息する種類である。今回カムチャツカから採集された。*Leptothorax acervorum* (Fabricius) は、旧北区亜区と新北区亜区に広く分布する種であり日本でも山岳地域に生息する。今回カムチャツカから採集された。カムチャツカ半島、サハリン、北千島、南千島からこれまで記録されたアリ類をまとめ、リストに一覧し提示した。

Appendix

A list of ants of Kamchatka, Sakhalin, and Kuril Islands. Kamchatka (K), Sakhalin (S), North Kuril Islands (NK) and South Kuril Islands (SK). L: record in literature; P: present collection; —: no record.

	K	S	NK	SK
Subfamily Ponerinae				
<i>Ponera japonica</i> Wheeler	—	—	—	L
Subfamily Myrmicinae				
<i>Myrmica displicentica</i> Bolton 1)	L	—	—	—
<i>Myrmica kamtschatica</i> Kupyanskaya	LP	—	LP	—
<i>Myrmica kasczenkoi</i> Ruzsky	L	—	—	—
<i>Myrmica kotokui</i> Forel	—	L	—	L
<i>Myrmica orientalis</i> Karavaiev	—	L	—	L
<i>Myrmica kurokii</i> Forel	—	L	—	—
<i>Myrmica luteola</i> Kupyanskaya	—	—	—	L
<i>Myrmica sulcinodis</i> Nylander 2)	L	L	—	—
<i>Myrmica jessensis</i> Forel	—	L	—	L
<i>Myrmica taediosa</i> Bolton 3)	—	L	—	L
<i>Stenammina kurilense</i> Arnoldi	—	—	—	L
<i>Aphaenogaster sinensis</i> Wheeler	—	—	—	L
<i>Pheidole fervida</i> F. Smith	—	—	—	L
<i>Crematogaster matsumurai</i> Forel	—	—	—	L
<i>Solenopsis japonica</i> (Wheeler)	—	—	—	L
<i>Myrmecina nipponica</i> Wheeler	—	—	—	L
<i>Leptothorax acervorum</i> (Fabricius)	LP	L	L	L
<i>Leptothorax musorum</i> (Nylander)	L	L	—	—
<i>Leptothorax volgensis</i> Ruzsky	—	—	—	L
<i>Leptothorax tuberum sachalinensis</i> Kupyanskaya	—	L	—	—
<i>Leptothorax nassanowi</i> Ruzsky 4)	—	L	—	—

	K	S	NK	SK
Subfamily Formicinae				
<i>Camponotus sachalinensis</i> Forel	L	L	L	—
<i>Camponotus saxatilis</i> Ruzsky	—	L	—	—
<i>Camponotus japonicus</i> Mayr	—	L	—	L(?)
<i>Camponotus obscuripes</i> Mayr	—	—	—	L
<i>Camponotus yessensis</i> Yasumatsu and Brown	—	—	—	L
<i>Formica fusca</i> Linnaeus	L	L	L	L
<i>Formica lemani</i> Bondroit	LP	—	LP	L
<i>Formica hayashi</i> Terayama and Hashimoto	—	—	—	L
<i>Formica japonica</i> Motschoulsky	—	L	—	L
<i>Formica gagatoides</i> Ruzsky	L	L	—	L
<i>Formica caudida</i> F. Smith 5)	L	L	—	L
<i>Formica exsecta</i> Nylander	L	—	—	—
<i>Formica lugubris</i> Zetterstedt	LP	—	—	—
<i>Formica sanguinea</i> Latreille	L	L	—	L
<i>Formica truncorum</i> Fabricius	—	L	—	L
<i>Formica yessensis</i> Wheeler	—	L	—	L
<i>Formica kupyanskayae</i> Bolton 6)	—	L	—	—
<i>Formica dluskyi</i> Bolton 7)	—	L	—	—
<i>Lasius japonicus</i> Santschi	—	L	—	L
<i>Lasius hayashi</i> Yamauchi and Hayashida	—	—	—	L
<i>Lasius flavus</i> (Fabricius)	—	L	—	L
<i>Lasius umbratus</i> (Nylander)	—	L	—	L
<i>Lasius citrinus</i> (Emery) 8)	—	L	—	L
<i>Lasius teranishii</i> Wheeler	—	L	—	L
<i>Lasius fuliginosus</i> (Latreille)	—	L	—	L
<i>Paratrechina flavipes</i> (F. Smith)	—	—	—	L

1) = *Myrmica bicolor* Kupyanskaya; 2) Sakhalin population is regarded as subspecies *eximia* Kupyanskaya; 3) = *Myrmica carinata* Kupyanskaya; 4) this species is frequently misspelled as *L. nassonovi*; 5) = *Formica picea* Nylander; 6) = *Formica opacus* Kupyanskaya; 7) = *Formica longiceps* Dlussky; 8) = *Lasius affinis* Leach.

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