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SOCIAL WASPS (HYMENOPTERA, VESPIDAE: POLISTINAE, VESPINAE) OF SIBERIA IN THE COLLECTION OF SIBIRIAN ZOOLOGICAL MUSEUM

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Based on the collections of the Siberian Zoological Museum of the Institute of Animal Systematics and Ecology of the Siberian Branch of the Russian Academy of Sciences (Novosibirsk) the ranges of 18 species of social wasps (Vespidae: Polistinae, Vespinae) in Siberia are outlined. Two species: *Vespa dybowskii* (Chitinskaya oblast') and *Dolichovespula omissa* (Altai Mts.) are recorded from Siberia for the first time.

KEY WORDS: Vespidae, Vespinae, Polistinae, Siberia.

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На основе коллекционных материалов Сибирского зоологического музея Института систематики и экологии животных СО РАН (Новосибирск) уточняется распространение в Сибири 18 видов общественных складчатокрылых ос подсемейств Polistinae и Vespinae. При этом 2 вида указываются для этого региона впервые: *Vespa dybowskii* из Читинской области и *Dolichovespula omissa* с Алтая.

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INTRODUCTION

The social wasps from the European part of the former USSR and the Russian Far East are well known (Tobias, 1978; Kurzenko, 1995), while in Siberia, especially in its Western and Central parts, they are poorly studied. To fill this gap I tried to arrange a collection of this wasps in the Siberian Zoological Museum (SZMN) based on large formerly unstudied material comprising more than 1500 specimens. The specimens which deposited in SZMN were occasionally collected in 1950-1990 by the author and A.I.Tsherepanov, G.A. Zolotareno, N.A. Violovich, Yu.P. Korshunov, A.Z. Ermolenko, V.K. Stroganova, A.V. Barkalov, V.V. Dubatolov, A. Dudko, R. Dudko, O.E. Kosterin, B.P. Zakharov, V.K. Zintshenko, D.V. Logunov, S.V. Vasilenko and others. Besides I used the material from the Kurgan Pedagogical Institute (Kurgan, Russia), Ust'-Kamenogorsk Museum of Local Lore, History and Economy (Ust'-Kamenogorsk, Kazakhstan) and personal collection of I.A. Artemov (Novosibirsk). This study covers the territory from the Urals Mts. and Kazakhstan Hill Land eastward to Yakutia and Transbaikalia.

SUBFAMILY POLISTINAE

***Polistes (Polistella) snelleni* (Saussure)**

MATERIAL. Chitinskaya oblast': 10♂, 29♀, Nerchinskii Zavod; 3 km N of Argunsk.

NOTES. According to studied material *P. snelleni* inhabits in Siberia the forest-steppe zone only.

***Polistes (Polistes) dominulus* (Christ) (= *P. gallicus* auct., nec. Linnaeus)**

MATERIAL. Kazakhstan: Vostochno-Kazakhstanskaya oblast': 2♀, Zhilytau; Manrak Mts., 15 km upstream of the Taizhuzgen River mouth. Russia: Altaiskii krai: 1♀, Klyuchi.

NOTES. A very rare species was recorded from the steppe zone of West Siberia.

***Polistes (Polistes) biglumis* (Linnaeus) (= *P. chinensis* auct., nec. Fabricius)**

MATERIAL. Kazakhstan: Vostochno-Kazakhstanskaya oblast': 1♂, 6♀, Zaisan Hollow, Chakelmes; Ayuda; Serebryansk vic., Pikhtovka; 10 km N of Nikitinka; Manrak Mts., 15 km upstream of the Taizhuzgen River mouth; 20 km NE of Karatal, Bozaigyrkum sands. Russia: Chelyabinskaya oblast': 1♀, Chebarkul. Novosibirskaya oblast': 2♀, Novosibirsk; valley of the Zyryanka River. Altaiskii krai: 3♂, 2♀, Kolyvan; Bobrovskii pine forest. Altai Republic: 4♂, 8♀, Saidys; Malyi Yaloman River; Teletskoe Lake: Chiri; Kyga; cordon Kokshi; the Chulyshman River, cordon Chodro; cordon Katuyaryk; lower part

of the Chuya River. Kemerovskaya oblast': 3 ♀, Gornaya Shoriya Mts., Kuzedeevo; Chilis-Anzas. Tuva: 16 ♀, M. Achin; Il'inka; Sosnovka; Znamenka; Ust'-Uyuk; Shuurmak. Chitinskaya oblast': 4 ♀, Nerchinskii Zavod; 30 km up from the Budyumkan village, left side of the Budyumkan valley.

NOTES. Rather common in South Siberia species occurred in the forest-steppe zone and in the southern part of the taiga (forest) zone. At the same time, the species range is poorly studied. In Russia it was recorded from Caucasus, Altai Mts., southern parts of Irkutskaya oblast', Buryatia and Amurskaya oblast' (Kurzenko, 1995). As *P. chinensis* it was reported from Altai Mts. (Artemov, 1987) and from south-east of the European part of the ex-USSR (Tobias, 1978). So, this species occurs from southern part of Europe up to the southern regions of Siberia.

***Polistes (Polistes) nimpha* (Christ)**

MATERIAL. Kazakhstan: Vostochno-Kazakhstanskaya oblast': 3 ♂, 8 ♀, Serebryansk; Glubokoe; Zhilytau; Zaisan Hollow, Chakelmes; Ayuda; 10 km N of Nikitinka; 16-19 km N of Chernyaevka; 9 km S of Karaoi; 5 km N of Alekseevka. Russia: Chelyabinskaya oblast': 1 ♀, 7 km N of Oktyabr'skoe. Kurganskaya oblast': 1 ♂, 10 ♀, Kurgan; Ust'-Uiskoe; Utyak; Temlyakovo. Tyumenskaya oblast': 1 ♀, 6 km S of Salairka. Novosibirskaya oblast': 1 ♂, 5 ♀, Sergovka, Om' River; Sherstobitovo; Menzelinskoe Lake; Novyi Sharap; Chingisy. Altaiskii krai: 1 ♂, 4 ♀, Tulata; Bykovo; Soldatovo. Altai Republic: 1 ♂, 9 ♀, Cherga; Teletskoe Lake: Artybash; Chiri; Kyga; cordon Kokshi. Khakasia: 4 ♀, 8 km SE of Birikchul; 9 km NW of Abaza, Sartaban. Tuva: 1 ♂, 28 ♀, Kyzyl; Znamenka; Sosnovka; Boyarovka; Torgalyg; Orokhin-Gol River valley, 20 km E of Amtaigan-Khol'. Buryatia: 5 ♀, Tazhnyi; Kokorino, Gilbera River. Chitinskaya oblast': 5 ♂, 16 ♀, Chita; Kyra; Nerchinskii Zavod; the Budyumkan River, 5 km from the mouth.

NOTES. This species is widely distributed in the southern parts of the forest-steppe and steppe zones. The males from Chitinskaya oblast' have almost completely yellow tibia, without traces of black or red patches.

***Polistes (Polistes) riparius* Sk. Yamane et S. Yamane**

MATERIAL. Kurganskaya oblast': 1 ♂, without exact locality. Tomskaya oblast': 3 ♂, Ust'-Churul'ka. Novosibirskaya oblast': 2 ♂, Korolevka; Novyi Sharap. Altaiskii krai: 1 ♂, Soldatovo. Kemerovskaya oblast': 4 ♂, Gornaya Shoriya Mts., 6 km NNE of Kuzedeevo; Sokol'niki. Khakasia: 2 ♂, 9 km NW of Abaza, Sartaban. Tuva: 1 ♂, M. Achin. Chitinskaya oblast': 15 ♂, Nizhnii Tsasuchei; 25 km NE of Argunsk, valley Zapisina; 5-7 km NE of village Budyumkan; 10 km S of Uryupino.

NOTES. This species was described from the East Asia (Yamane & Yamane, 1987). In Russia it has been recorded from the southern part of the Far East, Transbaikalia and Yakutia (Kurzenko, 1995). Females of this species are very similar to

those of *P. nimpha* but differ in having the slightly longer clypeus, with the character being poorly marked so that females for the most part cannot be separated. Males of these species are distinguishable much better - in *P. riparius* middle and hind tibiae always with black patches, sometimes totally black (in *P. nimpha* middle and hind tibia yellow, without black and red patches). That is why I included into «Material» males only. Based on the studied specimens, *P. riparius* is distributed throughout the southern parts of West and Middle Siberia, with the westernmost point being the Kurganskaya oblast'; northwards it penetrates into the south taiga zone.

SUBFAMILY VESPINAE

Vespa crabro Linnaeus

MATERIAL. Kazakhstan: Vostochno-Kazakhstanskaya oblast': 2 ♀, 5 workers, 30 km NE of Ust'-Kamenogorsk, Topikha; Serebryansk. Russia: Chelyabinskaya oblast': 1 ♀, Kisegach. Kurganskaya oblast': 1 ♂, 22 ♀, 5 workers, Bashkirskoe; Berezovo; Red'kino; Makushino; Utyak; Temlyakovo; Sumki. Tyumenskaya oblast': 1 ♂, 1 ♀, 1 worker, 6 km SW Tyunevo; Tyumen. Khanty-Mansi Autonomous Region: 1 ♀, 1 worker, Oktyabr'skoe. Tomskaya oblast': 4 ♂, 2 ♀, 5 workers, Ust'-Churul'ka; Kolomino; Tomsk. Novosibirskaya oblast': 2 ♂, 16 ♀, 1 worker, Novodubrovka; Skala; Menzelinskoe Lake; Novosibirsk; 15 km from Erestnaya; Shelkovichikha; Vorob'evskii; 5 km E of Zherebtsovo. Altaiskii krai: Klyuchi; Bykovo; Kolyvan; Tulata; Barnaul; Soldatovo. Altai Republic: 1 ♂, 2 ♀, 9 workers, 7 km W of Katanda; Artybash. Kemerovskaya oblast': 1 ♀, 2 workers, Gornaya Shoriya Mts.: Kuzedeevo; 10 km E from Kemerovo, Zhuravli. Khakasia: 1 worker, 9 km NW of Abaza, Sartaban. Krasnoyarskii krai: 3 workers, Nature Reserve "Stolby". Chitinskaya oblast': 3 ♀, 2 workers, 6-7 km NE of Budyumkan village; 10 km S of Uryupino; Chita.

NOTES. In West Siberia this species is widely distributed in the north taiga and the forest-steppe zones; but very rare in the steppe zone: there is a single observation in the Altaiskii krai (Klyuchi) in field-protecting forest stripes. In East Siberia it was not found northwardly of the Baikal Lake. It is.

Vespa dybowskii Andre

MATERIAL. Ekaterinburgskaya oblast': 1 ♀, Irbit. Chitinskaya oblast': 6 workers, Argun valley, 10 km S of Uryupino, 12.VIII 1996 (Dubatolov).

NOTES. Here this species firstly recorded from Siberia. It was found in the Argun River basin in a larch-birch forest with participation of *Quercus mongolicus*, i.e. in the westernmost isolated relic forest of the Mongolian oak, which is thought to be an indicator species for the Mandshurian type of communities.

Vespula (Vespula) austriaca (Panzer)

MATERIAL. Ekaterinburgskaya oblast': Irbit. Kurganskaya oblast': 1 ♀, without exact locality. Khanty-Mansi Autonomous Region: 1 ♂, 2 ♀, Oktyabr'skoe. Tomskaya oblast': 3 ♀, Asino; Ust'-Churul'ka. Novosibirskaya oblast': 2 ♀, Novyi Sharap; Chingisy. Altai Republic: 1 ♂, 2 ♀, Cherginskii Range, Mukhorikha Rivulet; Kurai, alpine meadow; Artybash. Khakasia: 1 ♀, 9 km NW of Abaza, Sartaban. Kemerovskaya oblast': 1 ♀, Sinerechka village Krasnoyarskii krai: 2 ♀, Podkamennaya Tunguska. Chitinskaya oblast': 1 ♀, Chita.

NOTES. Nest parasite of *Vespula rufa* was reported from the whole forest zone (Kurzenko, 1995).

Vespula (Vespula) rufa (Linnaeus)

MATERIAL. Kurganskaya oblast': 3 ♀, 1 worker, Zharnikovo; Temlyakovo. Tyumenskaya oblast': 1 ♀, 3 workers, Andreevskoe; 6 km S of Salairka. Khanty-Mansi Autonomous Region: 2 ♀, 1 worker, Oktyabr'skoe; Nature Reserve "Yuganskii", Kytne-lor Lake. Omskaya oblast': 1 worker, Solyanoe. Tomskaya oblast': 1 ♂, 1 ♀, 2 workers, Asino; Ust'-Churul'ka; Chizhapka. Novosibirskaya oblast': 2 ♂, 9 ♀, 11 workers, Kargat River mouth; Chernyi Mys; Polovinnoe; Novyi Sharap; Chingisy; Cordon Krasnoyarskii; Pikhtovka; Novosibirsk; Moshkovo; Maslyanino. Altaiskii krai: 1 ♀, 1 worker, Barnaul; Bykovo. Altai Republic: 1 ♂, 2 ♀, 2 workers, Turochak; Artybash; Ydyp (Teletskoe Lake). Kemerovskaya oblast': 1 ♀, 1 worker, Gornaya Shoriya Mts., Kuzedeevo; 25 km NW from Kemerovo, Pod'yakovo. Khakasia: 1 worker, 9 km NW of Abaza, Sartaban. Taimyr: 1 worker, Nature Reserve "Taimyrskii", Ary-Mas. Tuva: 1 ♀, 1 worker, Khaibar; Kara-Khol'. Irkutskaya oblast': 3 worker, north part of the Baikal'skii Range, Kunerma; 25 km from Irkutsk to Lake Baikal, hostel "Elochka". Buryatia: 1 ♀, Kokorino. Chitinskaya oblast': 1 ♂, 6 workers, Nizhnii Tsasuchei; 5-7 km NE of the village Budyumkan; Yakutia: 3 ♀, 232 km of the road from Khandyga to Magadan, upper flow of the Vostochnaya Khandyga River; 40 km low from Srednekolymsk.

NOTES. One of the most widespread species. It is distributed from the northernmost forest plot Ary-Mas in the Taimyr Peninsula, southwards to the steppe zone, where restricted to forest localities.

Vespula (Paravespula) germanica (Fabricius)

MATERIAL. Kazakhstan: Vostochno-Kazakhstanskaya oblast': 3 ♀, 1 worker, 30 km NE of Ust'-Kamenogorsk, Topikha; Kuludzhun sands; 35 km NW of Nikitinka, Airtau Mt.; Topolevka. Russia: Kurganskaya oblast': 25 ♀, 5 worker,

Zverinogolovskoe; Lebyazh'e; Lis'e; Kurgan; Pes'yanoe; Prosvet; Temlyakovo. Tyumenskaya oblast': 1 ♂, 1 ♀, 1 worker, Tyumen, 6 km S of Salairka. Omskaya oblast': 3 ♀, Omsk; Solyanoe. Tomskaya oblast': 5 ♂, 1 ♀, 6 workers, Ust'-Churul'ka; Kolomino; Filonovo. Novosibirskaya oblast': 3 ♀, 5 workers, Karasuk; Kaily; Tropino; Novosibirsk. Altaiskii krai: 1 ♀, Zarinsk, Golubtsovo. Altai Republic: 1 ♂, 1 worker, 5 km from the Bulukhta River mouth; Artybash. Kemerovskaya oblast': 2 ♀, Kalary; 30 km SE from Krapivinskii, Azhendarovo. Krasnoyarskii krai: 3 ♂, 3 workers, Taseevo. Tuva: 3 ♀, 2 worker, Teli; Khemchik (Ust-Chirchik); Chaa-Khol'; Irbitei; 45 km W of Oo-Shinaa; 30 km W of Erzin, Onchalaan. Buryatia: 3 ♀, 6 workers, 5 km NNW of Chikoi, Dureny. Chitinskaya oblast': 2 males, 6 females, 21 workers, Chita; Nizhnii Tsasuchei.

NOTES. Widely distributed and very common in South Siberia species. Distribution of *V. germanica* northwardly is limited by the south taiga zone: Tobol'sk, Krasnoyarsk in West Siberia and upper flow of Shilka River in Trasbaikalia (Kurzenko, 1982).

***Vespula (Paravespula) vulgaris* (Linnaeus)**

MATERIAL. Kurganskaya oblast': 8 ♀, 1 worker, Kamyshnoe; Temlyakovo; Pes'yanoe. Tyumenskaya oblast': 1 worker, 6 km S of Salairka. Khanty-Mansi Autonomous Region: 4 ♀, Oktyabr'skoe; Nature Reserve "Yuganskii", Yurt-Achimovy. Tomskaya oblast': 2 ♀, 1 worker, Tomsk; 60 km SSW of Kozhevnikovo, Chilino. Novosibirskaya oblast': 1 ♂, 11 ♀, 5 workers, 7 km NE of Sergovka, Om' River; Novodubrovka; Kargat River mouth; Boyarka; Novosibirsk; 40 km E of Novosibirsk; Linevo; Zherebtsovo; Maslyanino. Altaiskii krai: 3 ♀, Kalmanka; Soldatovo, Bykovo. Altai Republic: 1 ♂, 5 ♀, 6 workers, Gorno-Altai; Chermal; 7 km W of Katanda; Kurai; Artybash. Kemerovskaya oblast': 1 ♀, 3 workers, Tyazhinskii forest, square 114; 25 km NW from Kemerovo, Pod'yakovo. Khakasia: 1 worker, 9 km NW of Abaza, Sartaban. Krasnoyarskii krai: 1 ♀, Nature Reserve "Stolby", Maslenka. Tuva: 2 ♀, 2 workers, Kyzyl; Tannu-Ola Mts., Khundurgun Pass. Irkutskaya oblast': 1 worker, 25 km from Irkutsk to Lake Baikal, hostel "Elochka". Buryatia: 8 ♀, 6 workers, Nature Reserve "Baikal'skii", the headwaters of the Osinovka River; Baikal, Dogarskaya Hollow; Shchuch'e Lake; Tazhnyi; Kokorino; 5 km NNW from Chikoi, Dureny. Chitinskaya oblast': 9 ♀, 13 workers, Chita; Nature Reserve "Sokhondinskii": the Verkhni Bukukun and Agutsa cordons; Nizhnii Tsasuchei; Zun-Torei Lake; 5-7 km NE of the village Budyumkan; 10 km S of Uryupino. Yakutia: 3 ♀, 1 worker, Yakutsk; upper flow of the Vostochnaya Khandyga River, 232 km of the road Khandyga-Magadan; 40 km low from Srednekolymsk.

NOTES. One of the most widespread species in Siberia ranging from the forest-tundra to the steppes zone.

***Dolichovespula media* (Retzius)**

MATERIAL. Kazakhstan: Semipalatinskaya oblast': 1 worker, Kalguty. Russia: Kurganskaya oblast': 4 ♀, P. Kamag, Prosvet; Utyak; Ukrainets. Tyumenskaya oblast': 3 ♂, 6 km S of Salairka; 15 km W of Tyumen. Khanty-Mansi Autonomous Region: 4 workers, Oktyabr'skoe. Tomskaya oblast': 2 ♂, 1 ♀, Ust'-Churul'ka, Chizhapka; Kolomino; Tomsk. Novosibirskaya oblast': 4 ♀, 4 workers, Polovinnoe; Boyarka; Pikhtovka; Menzelinskoe Lake; 4 km NE of Burmistrovo; Novosibirsk. Altai Republic: 2 workers, Artybash. Kemerovskaya oblast': 4 workers, Gornaya Shoriya Mts., Kuzedeevo. Krasnoyarskii krai: 2 ♀, 1 worker, Achinsk; Yenisei River, Verkhneimbatskoe. Tuva: 1 worker, Irbitei. Buryatia: 1 worker, 5 km NNW from Chikoi, Dureny. Chitinskaya oblast': 7 ♂, 24 workers, low flow of the Budyumkan River; 10 km S of Uryupino; Nerchinskii Zavod; Zapisina Pad' valley.

NOTES. Widespread throughout the whole forest zone of Siberia, from the forest-tundra to forest plots within the steppe zone. Recorded also from Yakutia (Kurzenko, 1995).

***Dolichovespula adulterina* (Buysson)**

MATERIAL. Russia: Yamal-Nenets Autonomous Region: 1 ♀, the Polar Urals, 156 km from the Chum railway station. Novosibirskaya oblast': 1 ♀, Boyarka. Yakutia: 6 ♀, upper flow of the Vostochnaya Khandyga River, 232 km of the road Khandyga-Magadan.

NOTES. Hitherto known from Siberia in Buryatia being reported by the same author as a nest parasite of *D. saxonica* (Kurzenko, 1995). Very rare species in South Siberia, but more common in the north and middle taiga. It ranges throughout the whole forest zone, from the forest-tundra south to the northern parts of the forest-steppe zone.

***Dolichovespula omissa* (Bischoff)**

MATERIAL. Kazakhstan/Russia: 1 ♀, the Altai Mts., the Listvyaga Range, near the Tesninskii Belok Mt., 2200 m, 27.VII 1997 (Dudko, Zintshenko).

NOTES. A single specimen of this European species was firstly found in Siberia in the Central Altai Mts., just on the Kazakhstan-Russia border. It is a nest parasite of *D. sylvestris* (Tobias, 1978).

***Dolichovespula sylvestris* (Scopoli)**

MATERIAL. Kazakhstan: Vostochno-Kazakhstanskaya oblast': 4 ♀, 6 workers, Serebryansk; Katunskii Range, Rakhmanovskie Klyuchi; Ivanovskii Range, Cherepanovskii Belok Mt.; 20 km SE of Leninogorsk; 10 km W of Basterekty; Urunkhaika; Zaisan Hollow; Saikan Mts.; Manrak Range, Tai-zherzgen; Saur Range, Chaganovo, right tributary of the Tok-bulak River.

Russia: Kurganskaya oblast': 1 ♀ (without exact locality). Tyumenskaya oblast': 2 workers, 6 km S of Salairka. Tomskaya oblast': 1 ♂, 2 workers, Ust'-Churul'ka; Kolomino; Tomsk. Novosibirskaya oblast': 2 ♀, Sergovka; Maslyanino. Altaiskii krai: 4 workers, Tulata. Altai Republic: 1 worker, Cherginskii Range, Mukhor-Cherga. Kemerovskaya oblast': 2 ♀, Filonovo; Gornaya Shoriya, Kuzedeevo. Khakasia: 1 ♂, 9 km NW of Abaza, Sartaban. Tuva: 2 ♀, 10 workers, Sosnovka; Tannu-Ola Mts., Khundurgun Pass; 13-15 km W of Khandagaity; Irbitei; 10 km N of Sesslerig. Buryatia: 4 ♀, 1 worker, Kokorino; 5 km NNW from Chikoi, Dureny. Chitinskaya oblast': 3 ♂, 1 ♀, 32 workers, Nizhnii Tsasuchei.

NOTES. This species was recorded from the south-eastern parts of Siberia up to the east of the Irkutskaya oblast' (Kurzenko, 1995). Here it is firstly mentioned from West Siberia and Kazakhstan. It is common in the steppe and forest-steppe zones of South Siberia, but in the south taiga zone it is much rarer.

***Dolichovespula pacifica* (Birula)**

MATERIAL. Kazakhstan: Vostochno-Kazakhstanskaya oblast': 2 ♀; Katunskii Range, near Belukha Mt., Berel'; Zaisan Hollow: Saikan Mts. Russia: Yamal-Nenets Autonomous Region: 1 ♀, the Polar Urals, 156 km from the Chum railway station. Omskaya oblast': 1 worker, Omsk. Novosibirskaya oblast': 1 ♀, Novosibirsk. Kemerovskaya oblast': 2 workers, upper flow of the Ters' river. Krasnoyarskii krai: 2 workers, Yenisei River, Verkhneimbatskoe; Podkamennaya Tunguska. Tuva: 2 workers, Tannu-Ola Mts., S slope of Khundurgun Pass. Irkutskaya oblast': 1 worker, 23 km S of Slyudyanka.

NOTES. A poorly known boreal species, distributed from Norway and Sweden up to Russian Far East. A. Pekkarinen (1995) treated it as conspecific to the North American *D. norvegicoides* (Sladen), but according to the latest check list of subfamily Vespinae of the World (Carpenter & Kojima, 1997) *D. pacifica* is considered as a separate species. In Siberia this species was recorded from Yamal-Nenets Autonomous Region, Altai Mts., Irkutskaya oblast', northern part of Chitinskaya oblast' and southern part of Magadanskaya oblast' (Kurzenko, 1995; Pekkarinen, 1995). Here it is firstly recorded from the southern part of West Siberia and Tuva.

***Dolichovespula norvegica* (Fabricius)**

MATERIAL. Kazakhstan: Vostochno-Kazakhstanskaya oblast': 1 ♂, 5 ♀, 4 workers, Listvyaga Range, Seredchikha near Yazovoe; Katunskii Range, Rakhmanovskie Klyuchi; 17 km NNE from Urunkhaika, Alatau Mts.; 10 km WSW from Urunkhaika; 10 km NNE from Urunkhaika, Sorvenok River; Tarbagatai Range,

Burkhat Pass. Russia: Kurganskaya oblast': 1 ♂, Kurgan. Tyumenskaya oblast': 1 ♀, 2 workers, Priural'sk; Tyumen. Yamal-Nenets Autonomous Region: 5 ♀, 9 workers, Labytnangi; Shchuch'ya River; left side of Tanlovayakha River; the Polar Urals, 156 km from the Chum railway station. Khanty-Mansi Autonomous Region: 2 workers, Oktyabr'skoe. Novosibirskaya oblast': 2 workers, Nikolaevka; Novosibirsk. Altai Republic: 2 ♂, 6 workers, Tuskol'; Artybash; 15 km SW of Artybash; Nature Reserve "Altaiskii", Kolyushtu Mt.; Teletskoe Lake, Kyga. Taimyr: 2 ♂, 2 ♀, 8 workers, between Noril'sk and Snezhnogorsk; Talnakh; Laide River, right tributary of Malaya Kheta River; Nature Reserve "Taimyrskii", Ary-Mas forest. Krasnoyarskii krai: 1 ♀, the Yenisei River, Verkhneimbatskoe. Tuva: 2 ♀, 16 workers, Tannu-Ola Mts., Khundurgun Pass; Torgalyg; 15 km W of Khandagaity; Khol'-Oozhu; Aryskannyg-Khem. Irkutskaya oblast': 1 ♂, 3 workers, 7 km S of Slyudyanka; 10 km S of Slyudyanka, Cherskii Mt.; Snezhnaya River, 10 km of the mouth, on a border with Buryatia. Buryatia: 1 ♀, 1 worker, Nature Reserve "Baikal'skii", the headwater of the Osinovka River. Chitinskaya oblast': 5 ♂, 2 ♀, 2 workers, Nature Reserve "Sokhondinskii": the Bukukun River, winter house "klyuch Ernisty"; Nizhnii Tsasuchei; mountain 5 km N of Akatui. Yakutia: 8 ♀, 2 worker, Yakutsk; 10 km NNE of Yakutsk, on the road to Magan; the upper flow of the Vostochnaya Khandyga River, 232 km of the road Khandyga-Magadan.

NOTES. A widely distributed boreal species being very common in the high mountains and in the northernmost forest plot in Taimyr (Ary-Mas). In the forest-steppe zone of West Siberia it inhabits peat-moss raised bogs ("ryam"); sometimes penetrates into the steppe zone (for example, in the Chitinskaya oblast' it is rare and occurs in moist forest floodlands).

***Dolichovespula saxonica* (Fabricius)**

MATERIAL. Kazakhstan: Vostochno-Kazakhstanskaya oblast': 1 worker, 20 km SE of Nikitinka. Russia: Chelyabinskaya oblast': 2 workers, Chelyabinsk. Kurganskaya oblast': 1 ♂, 1 ♀, 3 worker, Kurgan; Chumlyak; Uval. Tyumenskaya oblast': 1 ♂, 1 ♀, 5 workers, Andreevskoe Lake, settlement Melioratorov; 6 km S of Salairka; 15 km W of Tyumen. Tomskaya oblast': 2 workers, Ust'-Churul'ka; Chizhapka. Novosibirskaya oblast': 1 ♂, 17 ♀, 10 workers, Polovinnoe; Pikhtovka; Boyarka; Novosibirsk; Zherebtsovo. Altaiskii krai: 1 worker, Zarinsk. Altai Republic: 4 ♂, 1 ♀, 6 workers, Saragol; Khabarovka; Teletskoe Lake: Artybash; Chiri, Chelyush River, Nature Reserve "Altaiskii", Kolyushtu Mt. Kemerovskaya oblast': 6 workers, Tyazhin; Gornaya Shoriya Mts., Kuzedeevo; Kemerovo; 15 km WSW from Mariinsk, Pervomaiskii. Khakasia: 2 ♀, 3 workers, Shira; 15-25 km NNE of Balyksu; Birikchul'; 9 km NW of Abaza, Sartaban. Taimyr: 2 ♂, between Noril'sk and Snezhnogorsk. Krasnoyarskii krai: 1 worker, East Sayan, Kurtushibinskii Range, Shivilig. Tuva: 2 workers,

Irbitei. Irkutskaya oblast': 2 ♀, 3 workers, Irkutsk; Ust'-Kut District; 25 km from Irkutsk to Lake Baikal, hostel "Elochka". Buryatia: 18 ♀, 7 workers, Nature Reserve "Baikal'skii", the headwaters of the Osinovka River; Shchuch'e Lake; Kokorino; 5 km NNW of Chikoi, Dureny; the northern part of Baikal, Dogarskaya Hollow; the Vitim table land, Baisa. Aginskii Buryat Autonomous Region: 1 worker, Nature Park "Alkhanai". Chitinskaya oblast': 41 ♂, 4 ♀, 33 workers, Chita; Nature Reserve "Sokhondinskii", Bukukun River, the winter house "klyuch Ernisty"; Nizhnii Tsasuchei; Uryupino; 10 km S of Uryupino; 3-rd valley S of the Budyumkan River mouth; Budyumkan River, 5 km from the mouth; 5-7 km NE of village Budyumkan; Nerchinskii Zavod.

NOTES. One of the most common and widespread species occurring from the forest-tundra to the steppe zone, where it is rare and inhabits forest localities only. Here it is recorded for the first time from North-Eastern Kazakhstan.

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