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**SPECIES OF THE WEEVIL GENUS *DORYTOMUS* GERMAR  
(COLEOPTERA: CURCULIONIDAE) ASSOCIATED WITH POPLARS  
IN THE USSURIYSKY NATURE RESERVE AND ADJACENT AREA**

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**Summary.** The paper provides data on seven species of the weevil genus *Dorytomus* Germar found on three species of the genus *Populus* L. in the Ussuriysky Nature Reserve and adjacent territory in 2023. *Dorytomus chinensis* Faust, 1883 is for the first time recorded from Russia. New host records for several *Dorytomus* species and additional data on their distribution are given.

**Key words:** Curculioninae, *Dorytomus*, distribution, Russian Far East, Kazakhstan, Mongolia, China, host plants, *Populus*.

**Б. А. Коротяев, Т. О. Маркова, М. В. Маслов. Жуки-долгоносики рода *Dorytomus* Germar (Coleoptera: Curculionidae), связанные с тополями в Уссурийском заповеднике и на сопредельной территории // Дальневосточный энтомолог. 2024. N 505. С. 17-24.**

**Резюме.** Приведены данные о семи видах жуков-долгоносиков рода *Dorytomus* Germar, обнаруженных на трех видах рода *Populus* L. в Уссурийском природном заповеднике и на сопредельной территории в 2023 г. *Dorytomus chinensis* Faust, 1883 впервые указан из России. Для нескольких видов рода *Dorytomus* установлены новые виды кормовых растений.

**INTRODUCTION**

Genus *Dorytomus* Germar of the subfamily Curculioninae in the true weevils (Curculionidae) is distributed in the Holarctic and comprises 65 species in the Palaearctic (Alonso-Zarazaga *et al.*, 2023) and 21 species in the Nearctic fauna (O'Brien, 1970; Korotyayev, 1976a), of which three species, *D. rufulus* (Mannerheim, 1853), *D. imbecillus* Faust, 1883, and *D. leucophyllus* (Motschulsky, 1845), are common to these faunas (Korotyayev, 1976a). Species of *Dorytomus* are associated with all the three genera of the predominantly Holarctic family Salicaceae, which harbours the most diversified herbivorous Coleoptera complexes in the boreal forests (Ivliev *et al.*, 1968). In these, *Dorytomus* is the most species-rich weevil

genus in the south of the Russian Far East (Konstantinov et al., 2009) even though broadleaf forests occupy large areas there and also have diversified weevil fauna. Including *D. chinensis* Faust, first recorded from this region herein, *Dorytomus* comprises 29 species in the south of the Russian Far East. The diversity is rapidly decreasing southward: only 10 species are known from Japan (see Morimoto & Enda, 1962, plus *D. galloisi* Korotyaev, 1996), 7 from Eastern China (Alonso-Zarazaga et al., 2023), and 7 from Korea, mostly from the central and south-central Stenopean parts of the peninsula (Hong et al., 2000).

*Dorytomus* was intensely collected in the course of the faunistic survey of the weevil fauna of Northeast Asia (Eastern Yakutia, Chukchi Autonomous Okrug, Magadan Oblast, Kamchatka Krai, and northernmost part of Khabarovsk Krai) (Korotyaev, 1976a, 1976b, 1977). Out of the 20 species known from the region, 11 are associated with willows, four, with *Chosenia arbutifolia* (Pall.) A.K. Skvortsov, and five, with poplars, which are represented over most of Northeast Asia by the common aspen (*Populus tremula* L.) and *P. suaveolens* Fisch. In the south of the Russian Far East (Primorsky Krai), there are five native species of poplars: *Populus jezoensis* Nakai, *P. koreana* Rehd., *P. maximowiczii* A. Henry, *P. suaveolens* Fisch., and *P. tremula* (Kozhevnikov et al., 2019). Data on the *Dorytomus* species associated with them are quite poor.

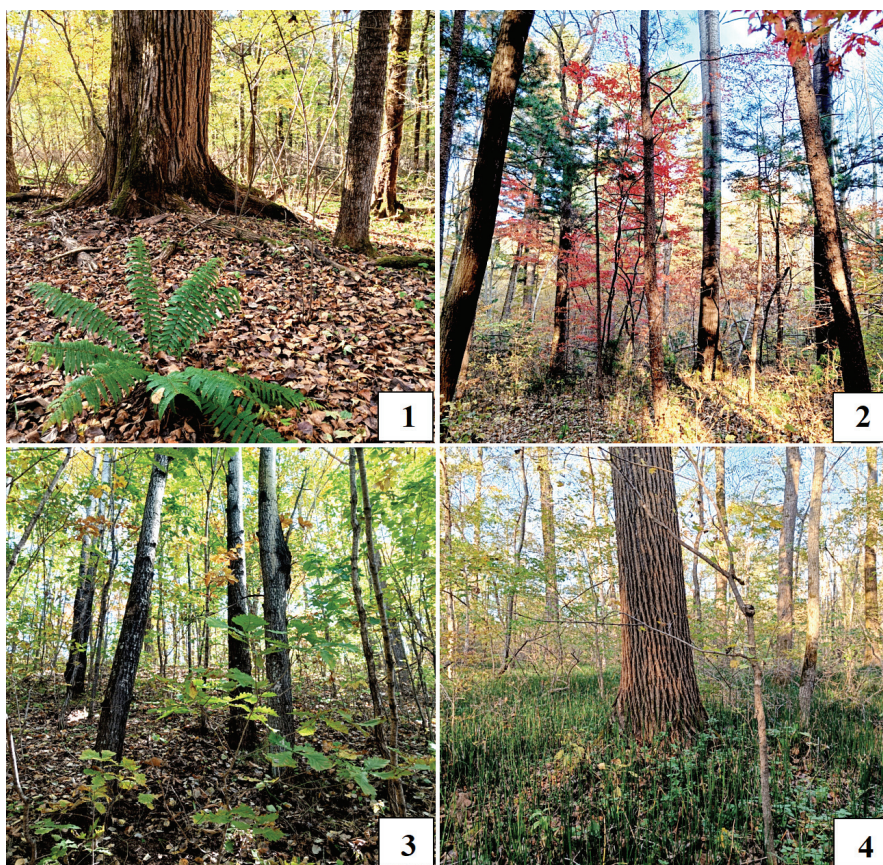
#### MATERIAL AND METHODS

Investigation was carried out in the south of Primorsky Krai in October and November, 2023. Trees were inspected on a route, the biotopes were described and photographed, and forest litter around the tree bases was examined. Eighty-nine trees have been examined as following: *Populus koreana* – 32, *P. tremula* – 45, and *P. maximowiczii* – 12 specimens. In total, 84 m<sup>2</sup> of soil around trees was examined, and 1.2 m<sup>3</sup> of the litter was sifted. The litter was sifted and examined in the laboratory; weevils were identified by the first author and are stored in the collection of the Zoological Institute, Russian Academy of Sciences (St. Petersburg; ZIN). Fifty-five specimens of seven species of the genus *Dorytomus* have been revealed in the material. All specimens in the MATERIAL sections for which collector name is not given are collected by T.O. Markova and M.V. Maslov.

The following biotopes have been investigated.

1. Korean pine (*Pinus koraiensis* Siebold et Zucc.)-broadleaf forest with *Ulmus japonica* (Rehd.) Sarg. and *Fraxinus mandshurica* Rupr. (Ussuriysky Nature Reserve, Pravaya Komarovka River flood plain) (Fig. 1). The forest is formed by *Pinus koraiensis* Siebold et Zucc., *Abies nephrolepis* (Trautv.) Maxim., *Fraxinus mandshurica* Rupr., *Ulmus japonica* (Rehd.) Sarg., *Juglans mandshurica* Maxim., *Populus koreana*, *Alnus hirsuta* (Spach) Fisch. ex Rupr., *Acer mandshuricum* Maxim., and *A. mono* Maxim. The shrub layer is composed of *Corylus mandshurica* Maxim., *Eleutherococcus senticosus* (Rupr. et Maxim.) Maxim., and *Philadelphus tenuifolius* Rupr. et Maxim., without dominance of any species. The herbage layer is dominated by the ferns, *Athyrium sinense* Rupr. and *Dryopteris crassirhizoma* Nakai. Twenty-one *Populus koreana* trees have been investigated, of which under 12 (57.1%) *Dorytomus* were found.

2. Korean pine forest with *Quercus mongolica* Fisch. ex Ledeb. and *Abies holophylla* Maxim. (Kaimanovka Vill. vicinity) (Fig. 2). The forest stand is dominated by *Pinus koraiensis*, *Quercus mongolica*, and *Abies holophylla* Maxim., accompanied by *Populus tremula*, *P. koreana*, *Acer mandshuricum*, *A. mono*, *A. pseudosieboldianum* (Pax) Kom., *Betula costata* Trautv., *Fraxinus mandshurica*, and *Phellodendron amurense* Rupr. The shrub layer without dominants is formed by *Corylus mandshurica*, *Eleutherococcus senticosus*, and *Philadelphus tenuifolius*. The herbage layer is represented by forbs. Thirty *Populus tremula* trees were investigated, under 7 trees (23.3%) *Dorytomus* were found, and four *P. koreana* trees, one of them (supposedly) infested (25%).



Figs 1–4. Investigated biotopes: 1 – Korean pine-broadleaf forest with *Ulmus japonica* and *Fraxinus mandshurica*; 2 – Korean pine-broadleaf forest with *Quercus mongolica* and *Abies holophylla*; 3 – oak-aspen forest (*Quercus mongolica* and *Populus tremula*); 4 – floodplain forest with *Populus maximowiczii*.

3. Oak-aspen forest (*Quercus mongolica* + *Populus tremula*); Gornotayozhnoe Vill. vicinity (Fig. 3). The tree stand is formed by *Quercus mongolica*, *Populus tremula*, *Betula costata*, and *Acer mono*. In the shrub layer, single specimens of *Philadelphus tenuifolius* and *Euonymus sacrosancta* Koidz. are scattered. The herbage layer is underdeveloped and is formed by sedges. Fifteen *P. tremula* trees have been investigated, under one tree (6.7%) *Dorytomus* were found.

4. Floodplain forest with *Populus maximowiczii* (Kaimanovka Vill. vicinity, Barsukovka River) (Fig. 4). The tree stand is formed by *Populus maximowiczii* A. Henry, *Acer mono*, *A. mandshuricum*, *Ulmus laciniata* (Trautv.) Mayr, and *Ligustrina amurensis* Rupr. The shrub layer is dominated by *Lonicera maackii* (Rupr.) Herd., and single plants of *Corylus mandshurica* are present. The herbage layer is dominated by *Equisetum hyemale* L. Twelve *P. maximowiczii* trees have been inspected, under four trees (33.3%) *Dorytomus* were found.

5. Floodplain forest with *Populus koreana* (Kamenushka Vill. vicinity). The tree stand is formed by *Ulmus japonica*, *Fraxinus mandshurica*, *Populus koreana*, *Acer mono*, *A. mandshuricum*, *Ligustrina amurensis*, and *Alnus hirsuta*. The shrub layer is dominated by *Lonicera maackii*, and single plants of *Philadelphus tenuifolius*, *Euonymus sacrosancta*, and *Ribes komarovii* A. Pojark. occur. The herbage layer is represented by sedges and *Equisetum hyemale*. Under three out of the seven inspected *P. koreana* trees (42.8%) *Dorytomus* were found.

New distributional data for most species based on the material in the Zoological Institute of the Russian Academy of Sciences (St. Petersburg; ZIN) are also reported.

## RESULTS

### *Dorytomus artjuchovi* Korotyaev, 1976

**MATERIAL. Russia:** Khabarovsk Krai: Selemdzha River basin, Deremikan River, 24.VIII 1979, 1 ♂ (teneral, re-examined and dissected), leg. O.N. Kabakov (ZIN).

Primorsky Krai: Ussuriysky Nature Reserve. Pravaya Komarovka River flood plain, 43°39'13" N; 132°25'12" E, in litter under *Populus koreana*, 17.X 2023, 4 ex.; 31.X 2023, 8 ex.; 05.XI 2023, 5 ex. Kaimanovka Vill.: 43°38'29" N; 132°15'19" E, in litter under *P. koreana*, 22.X 2023, 2 ex.; Barsukovka River, 43°38'32" N; 132°14'58" E, in litter under *Populus maximowiczii*, 03–08.X 2023, 12 ex. Kamenushka Vill., 43°37'36" N; 132°14'49" E, in litter under *P. koreana*, 04.XI 2023, 1 ex. In total, 32 ex. have been collected in the study area.

**China:** Jilin Prov., 7 km W of Erdaobaihe Town, Toudaobaihe River, 800 m, 42.365° N, 128.024° E, 14.VII 2012, 1 ♂, leg. R.Yu. Dudko (SZMN).

**HOST PLANTS.** Only *Populus suaveolens* is known as a host in Magadanskaya Oblast (Korotyaev, 1976b), thus *Populus koreana* and *P. maximowiczii* are first recorded as hosts for this species.

**DISTRIBUTION.** Russia: Far East (Magadanskaya Oblast, Kamchatka, Khabarovsk Krai, Primorsky Krai) (Korotyaev, 1996), China (new country record). Records from Irkutskaya Oblast and Buryatia by Legalov (2010; 2020) need to be confirmed.

### *Dorytomus chinensis* Faust, 1883

**MATERIAL. Russia:** Primorsky Krai, Kaimanovka Vill., 43°38'39" N; 132°15'59" E, in litter under *Populus tremula*, 14.X 2023, 1 ♂.

**HOST PLANTS.** This is the first record of *Dorytomus chinensis* from a host. Its closest ally is *D. roelofsi* Faust, 1883, which was collected in numbers by the first author in Khabarovsk City and Khabarovsk Krai on a narrow-leaved *Salix* sp. and is reported as developing on *Salix* spp. in Japan (Morimoto & Enda, 1962). It is thus not unlikely that the only found specimen of *D. chinensis* was only hibernating in litter under the aspen tree, and is associated actually with some *Salix* sp. growing nearby. The two females from Suwon City in South Korea (Hong *et al.*, 2000) are unlikely to have been collected from aspen which is not common in the area whereas willows are rather common there.

**DISTRIBUTION.** Russia (new country record): Far East (southern Primorsky Krai); North-Eastern China, South Korea (Hong *et al.*, 2000). The species was included in the key to *Dorytomus* species from the Russian Far East with a note that it was known only from North-Eastern China (Korotyaev, 1996), and we have seen no material from Russia since then, so the records from Primorsky Krai (Legalov, 2010; 2020) have not been verified.

### ***Dorytomus inexpectatus* Korotyaev, 1976**

**MATERIAL. Russia:** Primorsky Krai, Ussuriysky Nature Reserve, Pravaya Komarovka River flood plain, 43°39'13" N; 132°25'12" E, in litter under *Populus koreana*, 05.XI 2023, 1 ♂.

**HOST PLANTS.** In Magadanskaya Oblast *D. inexpectatus* is known as a very rare species collected only by shaking a crown of *Populus suaveolens* (Korotyaev, 1976a). It is known also from a few specimens collected in Primorsky Krai (Korotyaev, 1996). *Populus koreana* is for the first time recorded as a host here.

**DISTRIBUTION.** Russia: Far East (Magadanskaya Oblast, Primorsky Krai) (Korotyaev, 1976a).

### ***Dorytomus nordenskioldi* Faust, 1883**

**MATERIAL. Russia:** Khakasia (first record): 50–60 km SE of Abaza City, West Sayan Mt. Range, southern slope of Kantegirsky Mt. Range, trail along Sambyl River, 1–2.VII 1993, leg. G.E. Davidian, 1 ♀ (ZIN). Tuva (first record): southern slope of Uyuksky Mt. Range, ~55 km NW of Kyzyl, sweeping canopy of young aspens, 5.VIII 1980, leg. B.A. Korotyaev, 85 ex., mostly with integument not fully pigmented (ZIN); north-western extremity of the Akademik Obruchev Mt. Range, Khertesh-Taiga Mt. Range, 50 km NNE of Kyzyl, 2200–2400 m, mountain tundra, 19–21.VI 2001, leg. R. and A. Dudko, I. Lyubechanskii, 1 ♀ (SZMN). Buryatia (first record): Kabansky Distr., Khamar-Daban Mt. Range, Vydrinaya River upstream of Rechka Vydrinaya Vill., 51°28'51.97" N; 104°51'05.26" E, flood plain, 31.VII 2018, leg. B.A. Korotyaev, 1 ♀ (ZIN). Zabaikalsky Krai. Krasno-chikoy sky Distr.: 3.5 km W of Zhindo Vill., Chikoy River left bank, floodplain forest with *Populus ?suaveolens*, 9–10.VI 2019, leg. B.A. Korotyaev, 1 ♀ (ZIN); Yamarovka Vill., 15.VI 1905, leg. P.S. Mikhno, 2 ♀ (teneral) (ZIN); 30.VI 1905, leg. P.S. Mikhno, 2 ♀ (teneral) (ZIN); Mt. Sherlovaya, 15.VI 1988, leg. O.N. Kabakov, 1 ♂ (ZIN). Khabarovsk Krai: Bolshekhkhtsirsky Nature Reserve, Bychikha Stn., 48°17.5' N; 134°49.7' E, 2005, leg. Yu.M. Marusik, 1 ♂, 1 ♀ (ZIN); Khabarovsk, Khkhtsirsky Mt. Range, 1.X 1956, leg. O.N. Kabakov, 1 ♀ (ZIN); Lower Amur course, Nizhnetambovskoe Vill., 12.VI 1957, leg. O.N. Kabakov, 1 ♀ (ZIN); NE of Lake Chlya, 26.VI 1957, leg. O.N. Kabakov, 1 ♂, 1 ♀ (ZIN).

Primorsky Krai: Kaimanovka Vill., 43°38'29" N; 132°15'19" E; 43°38'39" N; 132°15'59" E, in litter under *Populus tremula*, 14.X 2023, 2 ex.; 17.X 2023, 9 ex.; 22.X 2023, 1 ex. Gornotayozhnoye Vill., 43°41'37" N; 132°08'32" E, in litter under *P. tremula*, 09.X 2023, 1 ex. In total 13 ex. have been collected in the study area.

**Kazakhstan.** Mts Aktau, 80 km S of Zhana-Arka, 7.VI 1958, leg. M.M. Loginova, 1 ♂; Mts Aktau, 60 km S of Zhana-Arka, 8.VI 1958, leg. V.I. Tobias, 1 ♂, 2 ♀; Taldy-Manak River flood plain, S of Zhana-Arka, 8.VI 1958, leg. V.I. Tobias, 1 ♂. Eastern Kazakhstan, Ulbinsky Mt. Range, N of Zyryanovsk, southern slope of Mt. Schebnyukha, 800 m, 22.VI 2001, leg. V.Yu. Savitskii, 1 ♀. Karkaraly, 22.VII 1897, leg. Kinits, 2 ♀ (ex coll. P.P. Semenov-Tian-Shanskii). Alma-Ata, Nature Reserve, 1550, aspen, 11.VII 1937, leg. E. Samojlovitsh, 1 ♀ (teneral); 1600, 16.VII 1937, leg. A. Agapova, 1 ♀ (all in ZIN).

**Mongolia.** Central Aimak, somon Mungen-Mort, litter in a birch forest, 18.IX 1989, leg. Ye.M. Veselova, 2 ♂, 2 ♀ (ZIN). Ubur-Changai Aimak, 15 km W of Bat-Ulzii, Orkhon River downstream of the waterfall, in litter under aspen, 22.IX 1981, leg. B.A. Korotyaev, 120 ex. (ZIN).

HOST PLANTS. The only recorded host throughout the range is *Populus tremula*, although a single specimen was swept by the first author from *P. suaveolens* in a floodplain forest on the left bank of the Chikoi River in Zabaikalsky Krai in the absence of the aspen nearby.

DISTRIBUTION. Central (reaching Great Britain in the West) and Eastern Europe including Latvia and Lithuania (but absent from Scandinavia, Finland, and Estonia: Alonso-Zarazaga *et al.*, 2023), Northern and Central European Russia south to Gremyachka Village in Ryazan Oblast, West and southern East Siberia (but not known from Altai: Legalov, 2020) including Khakasia (first record) and Tuva (first record); the Russian Far East: Kamchatsky Krai (Milkovo and Kozyrevsk villages in the Central Kamchatka (Korotyaev, 1976b), Amurskaya Oblast, Primorsky Krai (Korotyaev, 1996), Sakhalin (Legalov, 2010); Kazakhstan (Korotyaev, 1976a, 1996; overlooked in the Palaearctic Catalogue: Alonso-Zarazaga *et al.*, 2023), Mongolia Korotyaev, 1996 (overlooked in the Palaearctic Catalogue).

#### ***Dorytomus suvorovi* Reitter, 1911**

MATERIAL. **Russia:** Primorsky Krai, Ussuriysky Nature Reserve. Pravaya Komarovka River flood plain, 43°39'13" N; 132°25'12" E, in litter under *Populus koreana* Rehd., 17.X 2023, 1 ♂. Kamenushka Vill., 43°37'36" N; 132°14'49" E, in litter under *P. koreana*, 04.XI 2023, 1 ♂.

HOST PLANTS. Formerly was known only from *Populus suaveolens* Fisch. (Korotyaev, 1996).

DISTRIBUTION. Russia: Southern Siberia east of South-Eastern Altai and southern Tuva, southern Transbaikalia, Chukchi Autonomous Region, Magadanskaya Oblast, Kamchatky Krai, Amurskaya Oblast, Primorsky Krai; Mongolia (Korotyaev, 1979, 1996; overlooked in the Palaearctic Catalogue: Alonso-Zarazaga *et al.*, 2023).

#### ***Dorytomus urakoae* Morimoto et Enda, 1962**

MATERIAL. **Russia:** Primorsky Krai, Ussuriysky Nature Reserve. Pravaya Komarovka River flood plain, 43°39'13" N; 132°25'12" E, in litter under *Populus koreana* Rehd., 31.X 2023, 2 ex. Kamenushka Vill., 43°62'67" N; 132°24'71" E, in litter under *P. koreana*, 04.XI 2023, 3 ex. In total, 5 ex. have been collected in the study area.

HOST PLANTS. The species was found in Ussuriysky Nature Reserve only under *Populus koreana* Rehd. In Japan (Yamagata Prefecture, Honshu I.) adults damage *Populus glandulosa* Moench, now considered a synonym of the North American *Populus deltoids* subsp. *monilifera* (Aiton) Eckenwalder (Goeverts *et al.*, 2021), ovipositing in flower buds in March–April and in October (Morimoto & Enda, 1962).

DISTRIBUTION. Russia: southern Far East (Primorsky Krai) (first record), Sakhalin (Korotyaev, 1996); Japan (Alonso-Zarazaga *et al.*, 2023).

#### ***Dorytomus ? ussuricus* Korotyaev, 1996**

MATERIAL. **Russia:** Primorsky Krai, Ussuriysky Nature Reserve, Kaimanovka Vill., 43°38'39" N; 132°15'59" E, in litter under *Populus tremula* L., 14.X 2023, 1 ♀.

HOST PLANTS. Unknown.

DISTRIBUTION. Russia: Far East (Primorsky Krai) (Korotyaev, 1996).

### **CONCLUSION**

In the studied area, four *Dorytomus* species have been found in litter under *Populus koreana*: *D. artjuchovi*, *D. inexpectatus*, *D. suvorovi*, and *D. urakoae*; one species, *D. artjuchovi*,

was found under *Populus maximowiczii*; and three species have been found under *Populus tremula*: *D. chinensis*, *D. nordenskioldi*, and *D. ussuricus*. *Dorytomus chinensis* is new to the fauna of Russia; *D. artjuchovi* is recorded in China for the first time; *D. urakoe* is new to the fauna of Primorsky Krai; and *D. nordenskioldi* is firstly recorded from three Russian regions (Khakasia, Tuva, and Buryatia).

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