

**Data sheets on quarantine pests**  
**Fiches informatives sur les organismes de quarantaine**

## *Xylotrechus altaicus*

### Identity

**Name:** *Xylotrechus altaicus* Gebler

**Synonym:** *Xyloclytus altaicus* Gebler

**Taxonomic position:** *Insecta: Coleoptera: Cerambycidae*

**Common Name:** Altai longhorn beetle, Altai larch longhorn beetle, Altai larch cerambycid (English); алтайский усач, алтайскийлиственничный дровосек (Russian)

**EPPO code:** XYLOAL

**Phytosanitary categorization:** EPPO A2 action list no. 312

### Hosts

*X. altaicus* attacks only *Larix* spp.: *Larix sibirica*, *Larix gmelinii*, *Larix olgensis*, *Larix kamschatica*, *Larix x maritima* (*L. gmelinii* × *L. kamschatica*). It is not specifically reported whether it attacks the *Larix* spp. mainly grown in Europe (*Larix decidua*, *Larix leptolepis* and their hybrids).

### Geographical distribution

The name ‘*altaicus*’ refers to the Altai region in southern Siberia where the species mainly occurs

**EPPO region:** Russia (southern Siberia, Transbaikalia, Far East)

**Asia:** Russia (Southern Siberia, Transbaikalia, Far East) and Mongolia (North) (Pavlovskii & Shtakelberg, 1955; Issaev, 1966; Vorontsov, 1995)

**EU:** absent

### Biology

Mass flight of *X. altaicus* usually occurs in July (or in August in the Far East). Adults do not feed and do not fly much. They usually attack trees situated at a distance not exceeding 400 m from the tree in which they developed. Nevertheless, they are sometimes able to fly distances of up to 20–30 km. Females lay eggs during two weeks, and most intensively during the first 5–6 days after emergence. They lay eggs one by one in slit-like niches in the bark along the trunks usually

on the south-facing side. *X. altaicus* attacks trees that are healthy or only slightly stressed; it never attacks cut, dying or dead trees. The egg stage lasts 13–16 days. Neonate larvae feed in the bark and, periodically, in the cambium under the bark. They overwinter in the bark. The following spring, larvae continue to feed under the bark, making horizontal tunnels around the trunk. In July or August, they enter the wood to a depth of up to 20–30 cm and pass their second winter there. In the third year, the larvae continue to feed in the wood and gradually approach the surface. They prepare pupation cells close to the surface (3–5 mm below the bark). Pupation occurs in these cells and, after 16–20 days, adults appear, making round exit holes of 4–6 mm in diameter. *X. altaicus*, thus, takes two full years to develop (Cherepanov, 1952, 1981; Pavlovskii & Shtakelberg, 1955; Issaev, 1966; Maslov *et al.*, 1973; Mamaev, 1985; Maslov, 1988; Shamaev, 1994; Vorontsov, 1995).

### Detection and identification

#### Symptoms

Characteristic symptoms are: flow of resin coming from the places where young larvae have entered the cambium, horizontal tunnels made by large larvae, large emergence holes in trunks, borings at the basis of infested trees. The leaves of attacked trees often show yellowing and wilting. The adults can sometimes be seen sitting on the bark.

#### Morphology

##### *Larva*

The larva is pale yellowish, covered with reddish-brown hairs, up to about 35 mm long, with black mandibles and two reddish-brown spots on the thorax

##### *Adult*

The adult (Fig. 1) has an elongated reddish-brown body, 12–22 mm long, with black head and thorax, reddish-brown legs and antennae, yellowish-brown elytra covered with dense

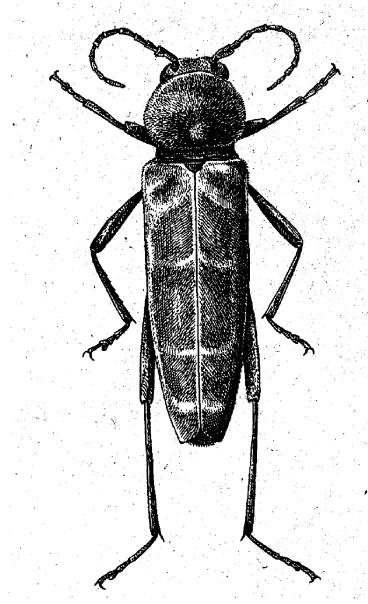


Fig. 1 Adult of *Xylotrechus altaicus*.

short hairs. There are two or three barely visible, whitish bands crossing the elytra.

### Pathways for movement

Natural spread of the pest by adult flight is not very fast. Adults usually attack trees situated at a distance not exceeding 400 m from the tree in which they developed. Nevertheless, they are sometimes able to fly for distances up to 20–30 km (Cherepanov, 1952; Issaev, 1966). Because *X. altaicus* may be hidden in the wood and therefore difficult to detect, it would be easily transported with untreated larch wood moving in trade. However, it is unlikely to be transported in planting material since it does not attack branches, small trunks or rootstocks. The pest could also be carried as a contaminant on other commodities.

### Pest significance

#### Economic impact

*X. altaicus* is one of the most important pests of *Larix* spp. in the region of its present distribution. It attacks slightly stressed and healthy trees of different ages and continues to damage the same trees during several consecutive years causing their death (Fig. 2). Often, larvae encircle a tree feeding on the cambium, which leads to the death of the infested tree.

This species prefers to attack mature trees and, even in cases when it does not kill them, the infestation results in significant loss of vigour and of wood marketability (because of the bore holes). The most severe damage is usually observed in larch forests previously attacked by *Dendrolimus sibiricus* (OEPP/



Fig. 2 Larval galleries of *Xylotrechus altaicus* on larch.

EPPO, 2005a). In turn, outbreaks of *X. altaicus* are followed by outbreaks of other xylophagous insects, most often *Scolytus morawitzi* (OEPP/EPPO, 2005b). Because larch is a major component of Siberian forests, *X. altaicus* has the potential to cause significant environmental damage. See also Cherepanov (1952, 1981), Pavlovskii & Shtakelberg (1955), Rozhkov *et al.* (1966), Issaev (1966), Rozhkov & Rafes (1972), Maslov (1988), Vorontsov (1995).

#### Control

Major control efforts are undertaken in the area of the present distribution of *X. altaicus*. Control measures include silvicultural and sanitary measures (improving the resistance of forests, cutting and elimination all infested trees), treatments with chemical and biological preparations (Rozhkov & Rafes, 1972; Maslov, 1988; Vorontsov, 1995).

#### Phytosanitary risk

*X. altaicus* is absent from practically all the EPPO region (present only in some Asian parts of Russia). An EPPO PRA concluded that *X. altaicus* is a very serious forest pest where it occurs. It has the potential to establish in all areas where *Larix* spp. grow naturally or are planted within the EPPO region. Larch is an important plantation tree, and component of near-natural mountain forests, in northern and central parts of the EPPO region.

## Phytosanitary measures

*X. altaicus* was added in 2002 to the EPPO A2 action list, and endangered EPPO member countries are thus recommended to regulate it as a quarantine pest. Phytosanitary measures for its exclusion could include origin of consignments from a pest-free area. Wood packaging should respect ISPM no. 15 (ICPM, 2003). Wood of host species should be free from bark and from grub holes greater than 3 mm, or heat-treated, or otherwise treated.

## References

- Cherepanov AI (1952) [*The Larch Cerambycid and Measures for its Control.*] Nauka, Novosibirsk (RU) (in Russian).
- Cherepanov AI (1981) [*Longhorn Beetles of Northern Asia (Cerambycinae).*] Nauka, Novosibirsk (RU) (in Russian).
- ICPM (2003) *International Standards for Phytosanitary Measures* no. 15. *Guidelines for Regulating Wood Packaging in International Trade.* FAO, Rome (IT).
- Issaev AS (1966) [*Borer Pests of Larix dahurica.*] Nauka, Moscow (RU) (in Russian).
- Mamaev BM (1985) [*Borer Pests of Forests of Siberia and the Far East.*] Agropromizdat, Moscow (RU) (in Russian).
- Maslov AD (1988) [*Guide to the Protection of Forests against Pests and Diseases.*] Agropromizdat, Moscow (RU) (in Russian).
- Maslov AD, Kuteev FS & Pribylova MV (1973) [*Xylophagous Forest Pests.*] Lesnaya Promyshlennost, Moscow (RU) (in Russian).
- OEPP/EPPO (2005a) Data sheets on quarantine pests – *Dendrolimus sibiricus* and *Dendrolimus Superans*. *Bulletin OEPP/EPPO Bulletin* **35**, 390–395.
- OEPP/EPPO (2005b) Data sheets on quarantine pests – *Scolytus morawitzi*. *Bulletin OEPP/EPPO Bulletin* **35**, 396–398.
- Pavlovskii EN & Shtakelberg AA (1955) [*Guide to Forest Pests.*] Izdatel'stvo Akademii Nauk SSSR, Moscow–Leningrad (RU) (in Russian).
- Rozhkov AS & Rafes PM (1972) Possible ways for the promotion of resistance to *Xylotrechus altaicus* in larch. In: *Proceedings of the XIII<sup>th</sup> International Congress of Entomology*, Section, 11, Forest Entomology, Vol. 3, pp. 85–86. Akademiya Nauk SSSR, Leningrad (RU).
- Rozhkov AS, Raigorodskaya IA, Belaya IV *et al.* (1966) [*Pests of Siberian Larch.*] Nauka, Moscow (RU) (in Russian).
- Shamaev AV (1994) [*Guide to the Identification of Pests of Forest Tree Trunks subject to Phytosanitary Import Requirements.*] Viktoriya, Syktyvkar (RU) (in Russian).
- Vorontsov AI (1995) [*Forest Entomology*], 5th edn. Ekologiya, Moscow (RU) (in Russian).