DAFM Plant Pest Factsheet

Dendrolimus sibiricus
Siberian silk moth

EU Priority Pest!

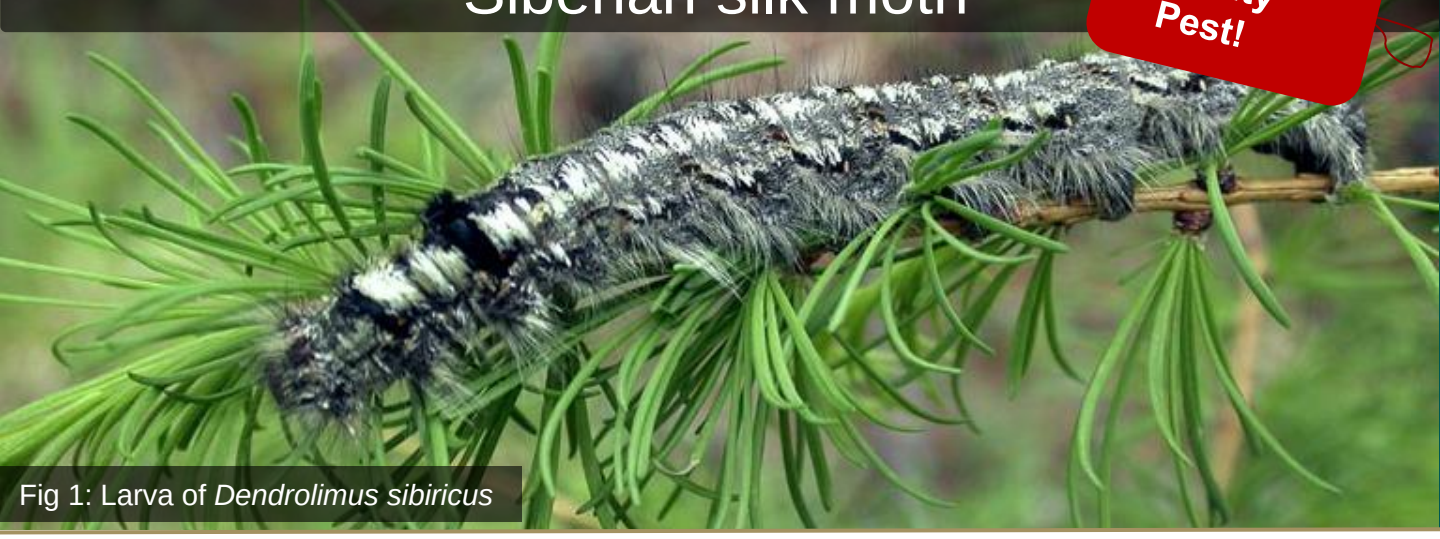

Fig 1: Larva of *Dendrolimus sibiricus*

Pest Characteristics

- **Pest:** *Dendrolimus sibiricus*
- **Common name:** Siberian silk moth
- **Hosts:** Throughout its current distribution, *D. sibiricus* damages a wide range of coniferous species of Abies, Pinus, Larix, and Picea.
- **Invasive Risk:** It is likely that *D. sibiricus* will be able to attack the coniferous species that are grown in Europe. The pest is found in a range of climate types with the most suitable climatic conditions in the Siberian region of Russia. The exact invasive risk to Ireland is uncertain due to complexity of this species biology and its responses to climate.
- **Entry Pathways:** Adults can spread by flight, with estimates of up to 50km per year. All immature stages (eggs, larvae, pupae) can be transported on plants moving in trade. Eggs and larvae may be moved long distances with wood that is not bark-free, or in isolated bark. It has been noted that cocoons are often transported on branches collected for firewood.
- **Impact:** *Dendrolimus sibiricus* is considered to be the most important defoliator of coniferous species in Russia and Kazakhstan and of *Larix gmelinii* in China. Outbreaks occur over vast areas of forests.
- **Symptoms & signs:** The main symptom is defoliation of trees, which can be significant during outbreaks of the pest Fig (a). The presence of larvae can be detected visually, particularly in dense populations (b). Other signs include characteristic cocoons in trees (c). Adult moths can be captured using pheromone traps. Forewings are marked by two characteristic dark stripes and a white spot in the centre (d)

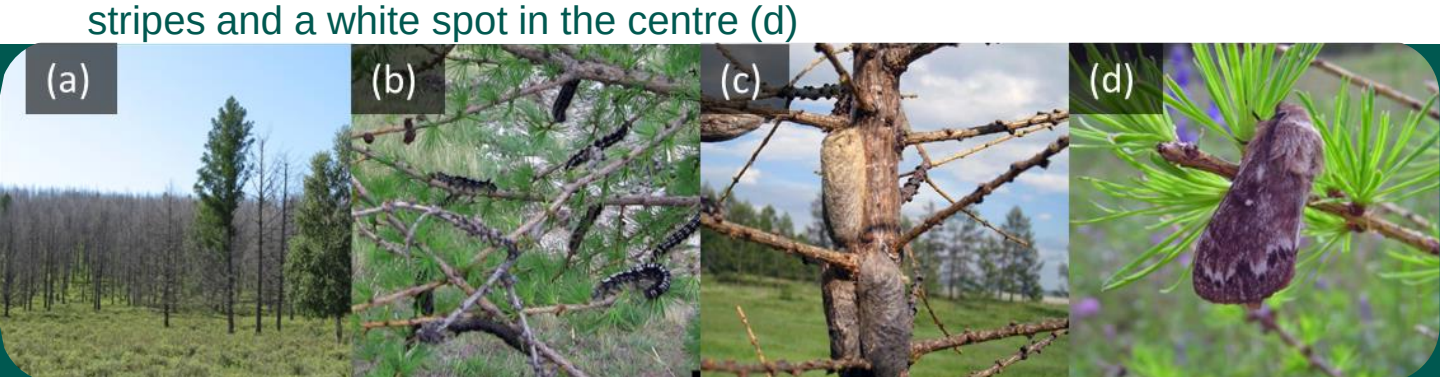

Fig 2: (a) Defoliation in a larch forest (b) Several larvae during outbreak (c) cocoons (d) Adult male on larch
More photos are available on the EPPO Database

An Roinn Talmhaíochta, Bia agus Mara
Department of Agriculture, Food and the Marine

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- **Lifecycle:** *Dendrolimus sibiricus* usually completes one generation within two years but this can be shortened or extended. In the summer, adults emerge, mate and lay groups of eggs on needles and branches in the lower part of the crown (a & b). Larvae hatch, feed and then overwinter in the litter (c & d). Larvae that are not able to reach maturity overwinter a second time. Most significant damage is caused by mature larvae (the two last instars) accounting for nearly 90% of all the biomass consumed during larval stage (e). Larvae pupate mainly in the tree crown (f).
- **Adaptability:** The adaptation of the pest outside of its current distribution is uncertain. Suitability to hosts in Europe is likely (based on observational and experimental data) however the suitability of the pest to climatic conditions present in Ireland and in Europe is uncertain.
- **Dispersal:** The adults spread by flight, but the pest can also disperse through the movement of infested plants, plant products and wood. **Distribution:** China, Mongolia, Korea, Russia (eastern Russia, eastern and western Siberia and central Russia) and Kazakhstan (Fig 3).
- **If suspected:** DAFM perform annual surveys to substantiate Irelands pest free status for *D. sibiricus.* If you find suspected symptoms/specimens, please submit images to DAFM at: plantpestreport@agriculture.gov.ie

Photo credits: Fig 1 & Lifecycle (d) © John Ghent, Bugwood.org; Fig 2 (a) Vladimir Petko, V.N. Sukachev Institute of Forest SB RAS, Bugwood.org; Fig 2 (b), (c) & (d), Lifecycle (b) & (e) © Yuri Baranchikov, Institute of Forest SB RASC, Bugwood.org; Lifecycle (a), (c) & (f) © EPPO;

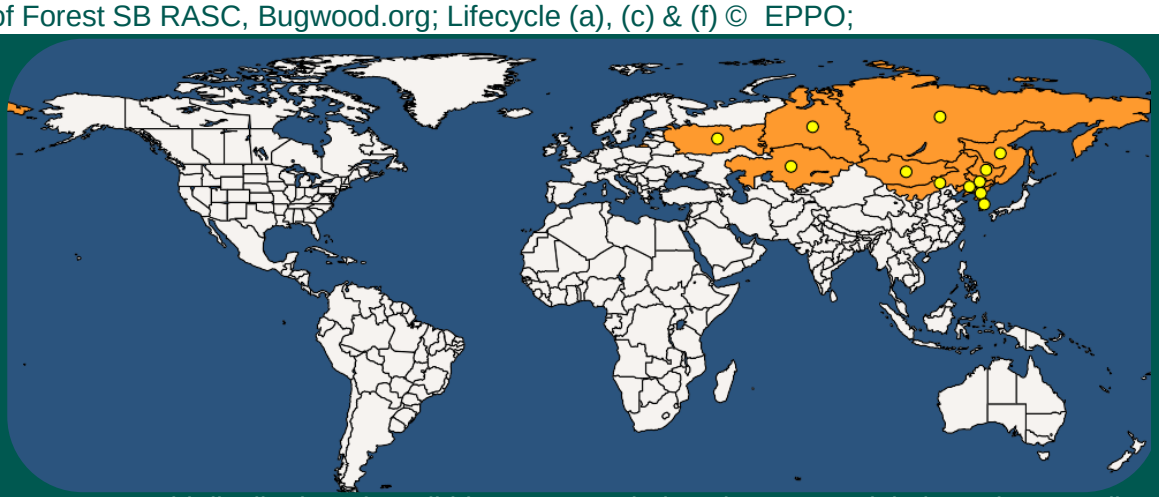

Fig 3: Known world distribution of *D. sibiricus* as recorded on the EPPO Global Database April 2023

An Roinn Talmhaíochta, Bia agus Mara
Department of Agriculture, Food and the Marine