Forest Health

Pest Information Note 1 of 2022

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

Large larch bark beetle (*Ips cembrae)*

Findings in Scottish Pest Free Area

Image credit: Stanislaw Kinelski, Bugwood.org

Ips cembrae in the Pest Free Area (PFA) in Scotland

It is believed that the bark beetle *Ips cembrae* was introduced to Great Britain in timber shipments from Germany in the late 1940s.

Scottish Forestry has informed the Department of Agriculture Food and the Marine the bark beetle *Ips cembrae* has been detected in traps at three locations within the Pest Free Area (PFA) of Scotland. This is the first recording of the beetle inside the Scottish PFA.

Scottish Forestry has conducted inspections in surrounding areas and no evidence of beetle activity or the presence of a breeding population have been found.

As a result of this finding, the Department in association with authorities of NI have agreed that exports of larch roundwood and bark from the PFA to the Island of Ireland are suspended. Scottish Authorities have stated that they will not be issuing Phytosanitary Certificates for roundwood of larch from the PFA while wider surveillance is completed.

What is the Pest Free Area and what are Protected Zones?

Under International Plant Protection Convention (IPPC) standards, a Pest Free Area is defined as 'an area in which a specific pest is absent as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained for a defined period'. The Pest Free Area (PFA) is an area in the west of Scotland with designated and recognised status of freedom from the following six damaging bark beetles; *Dendroctonus micans, Ips cembrae* and *Ips sexdentatus, Ips duplicatus, Ips typographus* and *Ips amitinus*. Outside this PFA three of these species are known to occur in Great Britain, namely *D. micans*, *I. cembrae* and *I. sexdentatus* and in recent years *I. typographus* has been detected in the southeast of England.

Ireland has Protected Zone status for these six bark beetles which means that while Ireland has favourable conditions for the establishment of these six bark beetles, which could potentially be damaging to the forest estate in Ireland, they are currently officially recognised by the EU as absent from Ireland. Northern Ireland also has Protected Zone status for these 6 bark beetle species. Trade in roundwood with bark is permitted between the PFA in Scotland and Ireland as a result of the UK PFA status being maintained through annual surveys.

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Ips cembrae

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What is *Ips cembrae* and what damage does it do?

Ips cembrae, known as the large larch bark beetle, is a pest of mainly larch trees that is native to much of mainland Europe.

Ips cembrae is considered a secondary forest pest, breeding in logs, wind - blown stems and dying trees. *Ips cembrae* has been introduced into areas where *Larix* spp. are planted (mainland UK, Netherlands, Sweden), and to date has behaved there in the same way as in its natural range (EPPO). It has also been observed to occasionally breed in fallen Pinus and Picea species when there is a limited availability of larch hosts. (Forest Research). As such, it is considered a much less damaging pest than *Ips typographus* and presents a much lower risk to protected zones (EPPO).

As in the case for other conifer bark beetle species *Ips cembrae* is associated with fungi, including non quarantine 'blue stain'fungi. With regard to *Ips cembrae* EPPO reference the most important of these as '*Ceratocystis laricicola* which kills bark and cambium in the host tree, stains the sapwood and likely contributes the dieback of and killing of larch during *Ips cembrae* outbreaks'.

Image credit: Beat Forster, Swiss Federal Institute for Forest, Snow and Landscape Research, Bugwood.org; Forest damage caused by Ips cembrae

What are the host tree species of *Ips cembrae*?

Larix decidua (European larch), is the main host of *Ips cembrae*, but exotic *Larix* species planted in Europe, such as *Larix kaempferi (*Japanese larch) and *Larix x eurolepis (*Hybrid larch) are also attacked. The beetle typically breeds in freshly-cut logs, windthrown stems or storm-damaged or dying trees, but it sometimes attacks standing live trees subject to localized stress, such as drought. *Ips cembrae* may occasionally breed in species of the genera *Pinus* and *Picea*, but only when larch hosts are limited in availability, **and never as primary pests** (EPPO).

See host list from EPPO below:

Organism	Type
Larix decidua (LAXDE)	Major host
Larix (1LAXG)	Host
Larix kaempferi (LAXLE)	Host
Larix sibirica (LAXSI)	Host
Larix x eurolepis (LAXEU)	Host
Picea abies (PIEAB)	Host
Pinus cembra (PIUCE)	Doubtful host

How has *Ips cembrae* managed to get into the PFA?

Scottish Forestry has indicated that dispersal of these beetle species tends to be very local, especially at low population densities, with most new attacks being within 500 m and mainly <100 m from the source where suitable host material is available. However, long distance flights, >50 km, can take place when they are wind-assisted. Warm temperatures in spring and summer may also have a significant role in insect spread as the beetles will only emerge and take flight when it is warm enough, so dispersal events can result from specific weather conditions. Movement of beetles in wood and wood products in trade is considered the main pathway for longer distance dispersal. Bark material that might not get brushed off vehicles and machinery is also thought to pose a risk for transporting beetles and larvae.

Image credit: Maja Jurc, University of Ljubljana, Bugwood.org; Adult Ips cembrae (5 mm long; 2 mm wide)

Has *Ips cembrae* ever been found in Ireland?

The Department of Agriculture, Food and the Marine conducts surveys annually for the presence of *Ips cembrae* through a network of Fixed Observation Points situated in forests across the country. These survey reports are submitted to the European Commission and the other EU Member States and are the basis for the maintenance of Ireland's Protected Zone. Over a long number of years of surveillance *Ips cembrae* has never been detected in Irish forests (or at Irish ports).

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Why is the finding of Ips cembrae in the PFA in Scotland a concern in Ireland?

Ips cembrae is a pest of larch (*Larix*) species. Approximately 3% of the forest estate in Ireland is composed of larch species and maintaining freedom from the presence of Ips cembrae will help maintain good forest health and vitality. The disease, *Phytophthora ramorum*, has though caused extensive damage to Japanese larch in Ireland (and in the UK) since first detected in 2010 and larch species are no longer grant aided in Ireland for afforestation.

The detection of *Ips cembrae* in the Pest Free Area of Scotland is important in particular in the context of current trade lines between Ireland and Scotland. The importation of roundwood with bark from Scotland to Ireland is permitted but only if it originates from the UK officially recognised PFA in the south west of Scotland and is accompanied by a Phytosanitary Certificate issued by the Forestry Commission to attest to its origin and health. The trade in larch roundwood could act as a potential pathway for the movement of the beetle from one place to another – the PFA in Scotland to Ireland in this case.

While the volume of trade of roundwood of larch is low and there has been no trade in roundwood of larch in 2022, continuation of the trade of larch roundwood currently presents a risk for the introduction of *Ips cembrae* from the PFA into Ireland, pending further investigation within the PFA.

What is the Department doing to prevent its introduction into Ireland and survey for its presence in Ireland?

Import Controls

As a result of this finding, the Department of Agriculture, Food and the Marine in association with authorities of NI have agreed that exports of larch roundwood and bark from the PFA to the Island of Ireland are suspended. Scottish Authorities have stated that they will not be issuing Phytosanitary Certificates for roundwood of larch from the PFA while wider surveillance is completed.

As a general point, Ireland imposes stricter import requirements than would apply outside protected zones. Specifically coniferous wood with bark cannot be imported into Ireland unless:

- It is accompanied by an Official Statement (Phytosanitary Certificate) certifying that the wood originates from an area known to be free from the pest OR
- The wood is free of bark OR
- The wood has been kiln dried to <20% M/C and is marked "KD"

Image credit: DAFM; Theysohn bark beetle trap and bait logs.

Annual surveys for Protected Zone species

The Department conducts annual surveys for the presence of protected zone bark beetles. A network of observation points is in place for the six Protected Zone coniferous bark beetle species.

The Department established a supplementary network of 18 risk-based fixed observation points in *Picea* plantations was also maintained resulting in an increased number of inspections and samples which is reflected in the survey returns for the six Protected Zone bark beetle species. Risk based trapping was further enhanced in 2021 by placing Theysohn bark beetle traps and pheromones at a number of ports.

Other points

- The Department is maintaining close liaison with UK (GB & NI) authorities will keep the developing situation under close review pending receipt of more information.
- As always, foresters, forest owners and other stakeholders are asked to be vigilant for unusual ill-health in trees and report any concerns to:
  forestprotection@agriculture.gov.ie
- Please also see the Department's Forest Health webpage:
  https://www.gov.ie/en/publication/a8885-forest-health/
- A growing proportion of Japanese larch in Ireland is impacted by *Phytophthora ramorum* which may provide the type of conditions preferred by *Ips cembrae*.

Image credit: Beat Forster, Swiss Federal Institute for Forest, Snow and Landscape Research, Bugwood.org; Larval tunnels under bark of *Ips cembrae*.