# Pine Sawyer Beetle (PSB)

*Monochamus galloprovincialis*

## Description:

***Adults:***

Cylindrical body shape sometimes colored in contrasting bands, spots, or stripes with a body length of 0.5-1 in (1.2-2.5 cm) long. The antennae are at least half as long or longer than its body. They are commonly referred to as long horned beetles.

***Eggs:***

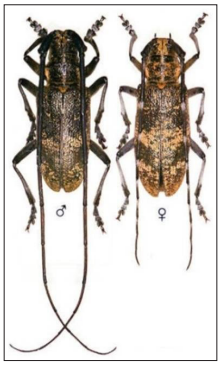
White in color and elongated shape. Eggs are laid in small cavities in the bark chewed by females.

***Larvae:***

Legless, white to yellowish in color with round bodies. Mostly found underneath bark where they make wide galleries.

***Pupae:***

Pupation occurs inside the tree at the end of the gallery within a pupal chamber. After pupation is completed, adults chew through the wood, creating round exit holes.



*Left: adult male and female PSB (source: Haran 2015, researchgate.net). Center: PSB adult (source: Hungary Forest Research Institute, bugwood.org). Right: larva (source: OK State Entomology).*

## Hosts:

Mainly the Scots pine and Black pine, and other pines including the Norway Spruce, common fir, and larch.

## Damage:

- Attacks mainly weakened trees.
- When abundant can attack healthy trees weakened by complementary feeding of adults and incisions made by females.
- Heavy larval feeding causes the death of trees and lowers timber value.
- Vector of the pathogenic pine wood nematode which causes pine wilt disease in the pine trees.

*Left: PSB galleries in wood (source: Milan Zubrik, bugwood.org).*
*Right: PSB larva in wood gallery (source: Kolk A. and Starzyk J. R., bugwood.org)*

## Phenology:

- One generation per year. In colder regions, development may extend to the following year, requiring two years to complete.
- Overwinter as larvae in the wood.
- Majority of adults emerge from May through late September, with peak emergence in July.

## Lure Type and Maintenance:

- PHEROCON® PSB controlled release lure.
- Replace PHEROCON® PSB lures every 8 weeks.

## Lure Storage:

- Store in unopened factory sealed packages in a cool place (< 74° F or 24° C maximum) for short periods or refrigerate longer term.
- Refrigerate or freeze unopened packages to carry over for annual storage

## Trap Design:

- Cross Vane Trap.

## Placement Time:

- Traps should be placed in late April before adult emergence.

## Placement Pattern:

- Traps should be hung from trees or metal stakes at least 6.6 ft (2 m) from the ground or higher in the tree canopy.
- Traps should be placed no further than 325 ft (100 m) from the pine forest edge.
- Trees with thin bark should be selected for trap placement.
- Traps should be placed in pine stands as well as in clear cut stands.

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# **PINE SAWYER BEETLE** (PSB), *Monochamus galloprovincialis*

## Trap Density:

- Use 6 traps per hectare in 20 – 40-year-old stands.
- Use 2 traps per hectare in older stands.
- Place traps 1-2 trees every 325 ft (100 m) of the forest edge in open areas.

## Trap Maintenance:

- Service traps weekly.

## Recommendations:

- Continuous removal of dying trees, unbarked timber including thick branches during the year to limit populations.
- Use of trap trees is recommended; a trap tree should be used 2 or 3 times per year at targeted times.

*Source: Recommendations and certain other sections were sourced from Kolk A. and Starzyk J. R: The Atlas of Forest Insect Pests, The Polish Forest Research Institute, Agricultural and Forest Entomology, and CABI Invasive Species Compendium for Monochamus galloprovincialis.*

## *Note, always:*

- Use only one lure per trap.
- Count and record captures as recommended.
- Change trap as needed.
- Discard lures in trash far from the area of use and remove trash afterwards.
- Follow recommendations.
- Contact local extension authorities and consultants for regional advice.

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