

# Data on how regional climate affects habitat associations and thermal sums required for development of the Eurasian spruce bark beetle, *Ips typographus*

**SND-ID:** 2022-260-1.

## Associated documentation

readme.txt (6.41 KB)

## Citation

Lindman, L Data on how regional climate affects habitat associations and thermal sums required for development of the Eurasian spruce bark beetle, *Ips typographus* [Data set]. Swedish University of Agricultural Sciences. Available at: <https://hdl.handle.net/20.500.12703/4013>

## Creator/Principal investigator(s)

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## Research principal

[Swedish University of Agricultural Sciences](#) - Department of Ecology

## Principal's reference number

SLU.ekol.2023.4.4.IÄ-2

## Description

The data was collected for the publication "Regional climate affects habitat associations and thermal sums required for development of the Eurasian spruce bark beetle, *Ips typographus*".

The data includes:

- 1) data of ambient and internal (under the bark) temperature, which was collected with two types of data-loggers. Based on that, microclimatic variables (mean, fluctuations, and thermal sums) were calculated. Thermal sums were calculated based on 5-degree and 8.3-degree models for each developmental stage as well as thermal sum reached in particular site and shade level;
- 2) data of habitat characteristics, including variables measured in the field (like diameter, basal area and direction of the stand) as well as variables that were not directly measured (like canopy openness was analysed from fish eye lens pictures, or regional average temperature was calculated from the data of weather stations);
- 3) data about the dates colonisation and development of *Ips typographus*. These dates allowed to specify the time frame for calculating thermal sums for different development stages, thermal sums reached etc.

The data was collected from April to September 2020 in 6 regions from southern to northern Sweden (ca 1300 km gradient). Each region consisted of 5 study sites, which were mature forest stands next to 1-2 years old clear-cut.

The dataset includes variables that are related to a) identification of loggers and logs, b) location, c) measured/calculated habitat variables, d) binary variables for colonisation and development (life

stages) experiments, e) dates of the beginning and the end of colonisation as well as development experiments, f) calculated thermal sums from the data of ambient and internal loggers.

File "local\_logger.csv" includes raw data collected with ambient data loggers (ambient air). The number in the first row identifies the ID number of ambient loggers. There are 3891 rows and 92 columns in the table.

File "logger.csv" includes raw data collected from internal data loggers (under the bark). The number in the first row identifies the ID number of internal loggers. There are 3890 rows and 178 columns in the table.

In the file "Ips\_data.csv", the numbers of these loggers are in columns "local\_logger" and "logger", respectively. There are 451 rows and 63 columns in the table.

### **Data contains personal data**

Yes

### **Type of personal data**

Indirect connection to information about land owners of study locations

### **Language**

[English](#)

### **Time period(s) investigated**

2020-04-14 - 2020-09-23

### **Data format / data structure**

[Numeric](#)

### **Species and taxons**

[Insecta](#)

[Ips typographus](#)

[Dyntaxa](#)

### **Data collection 1**

- Mode of collection: Experiment
- Description of the mode of collection: Habitat variables, dates, colonisation and developmental stages were measured or assessed in the field. Thermal sums were calculated from the data of placed data loggers.
- Time period(s) for data collection: 2020-03-15 - 2020-10-01
- Data collector: Swedish University of Agricultural Sciences
- Instrument: EL-USB-1 (Lascar Electronics) data logger - Records temperature according to programmed schedule.
- Instrument: Fish eye lens + camera - To take pictures of canopy openness.
- Instrument: Caliper - To measure diameter.
- Instrument: SL52T (Signatrol) data logger - Records temperature according to programmed schedule. Small in size.
- Instrument: Compass - To measure direction.
- Temporal resolution: 6 month
- Spatial resolution: 1300 kilometres

## Geographic spread

Geographic location: [Sweden](#)

Geographic description: The data is collected in 6 climatically different regions in Sweden from south to north: Tönnersjöheden, Asa, Siljansfors, Järpen, Vindeln and Ätnarova.

## Responsible department/unit

Department of Ecology

## Contributor(s)

### Funding 1

- Funding agency: Carl Tryggers Foundation

### Funding 2

- Funding agency: Brattåsstiftelsen Foundation

## Research area

[Zoology](#) (Standard för svensk indelning av forskningsämnen 2011)

[Ecology](#) (Standard för svensk indelning av forskningsämnen 2011)

[Biota](#) (INSPIRE topic categories)

## Keywords

[Vegetation](#), [Living environment](#), [Life cycle](#), [Light](#), [Biology](#), [Life cycle](#), [Habitats and biotopes](#), [Species distribution](#), [Lifetime \(period of time\)](#), [Animals](#), [Spruce bark beetle](#)

## Polygon (Lon/Lat)

10.938726, 58.951425

13.840579, 56.850474

18.149392, 59.580242

23.601359, 65.983388

20.78744, 68.107126

15.159648, 65.983388

10.938726, 58.951425

## Accessibility level

Access to data through an external actor

Data are freely accessible

## Download metadata

[DataCite](#)

[DDI 2.5](#)

[DDI 3.3](#)

[DCAT-AP-SE 2.0](#)

[JSON-LD](#)

[PDF](#)

[Citation \(CLS\)](#)

[File overview \(CSV\)](#)