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- Food source sharing
- Multiple recordings of the same flowering bee-plant and same location of
  - 1)flowering period: recordings from begin flowering till end flowering
  - 2) counting of pollinating insects foraging on that plant at each recording; one glance counting.
  - 3) Location and time are recorded by default
- Objective: Citizen Science (CS) study on foraging patterns of pollinating insects during the course of the day and different wheather conditions of the same plant same location.
- Result CS beekeeper: by default building your own beeplant catalogue and contribution to and involvement in bee-science



Hoover fly: Eristalis pertinax
Hoover fly Eristalis nemorum
Bumblehee Bombus pascuorum







## Citizen science

#### 250 citizen scientist from

- Finland
- Latvia
- Denmark
- Norway
- -Netherlands
- Belgium
- France
- Switserland

20247000 Observations

Regulars AskMeAnything (AMA) meetings



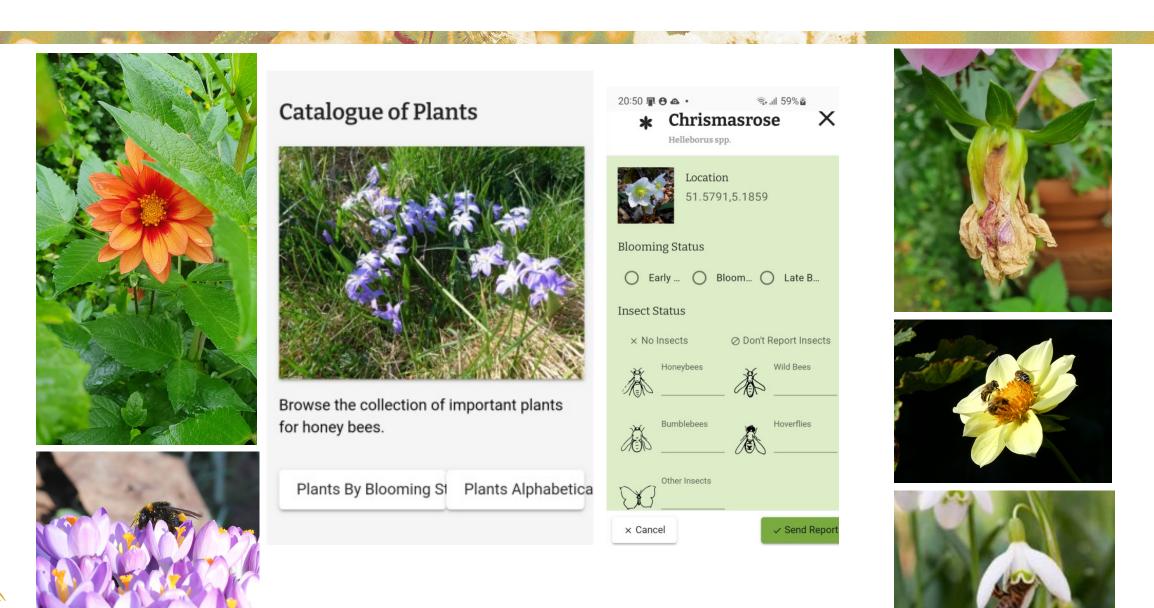


Harmonie en evenwicht tussen honingbijvolken en hun omgeving bieden een solide basis voor een weerkrachtige bijenhouderij. Een aspect dat Better-B onderzoekt is de beschikbaarheid van bloemen (stuijmeel en nectar) voor bijen en andere bestuivers. We verzamelen gegevens over bloeiende planten en het bezoeken van insecten als onderdeel van de Better-B studie naar het delen van voedsel, uitgevoerd in samenwerking met de Deense Bijenhoudersvereniging. Dit is een burgerwetenschap studie woarbij waarnemingen worden doorgegeven via het web portoal Beeplants.eu.



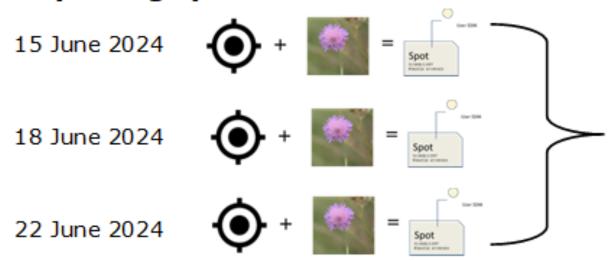








## Reporting spot



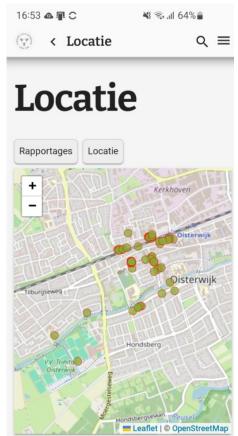
Data about blooming period and visiting insects as a function of

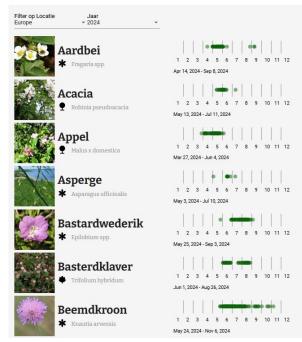
- 1.Location;
- 2.Date;
- 3.Observation period;
- 4. Time of the day;
- Impact weather conditions;
- 6.Impact land-use (in combination with landuse data.



• Citizen science data: J. van der Steen









Sommerfuglebusk Sep 3, 2024, 2:57:21 PM 51.5792,5.1859 Late Bloei Andere Insecten: 7



Sommerfuglebusk Sep 23, 2024, 11:51:13 AM 51.5802,5.1847 Late Bloei

Hommel: 2 Zweefvlieg: 1 Andere Insecten: 4



Merian, Alm. Aug 29, 2024, 5:08:28 PM 51.5792,5.1857 Late Bloei Honingbij: 1



Merian, Alm. Jul 25, 2024, 11:14:28 AM 51.5791,5.1857 Bloeiend

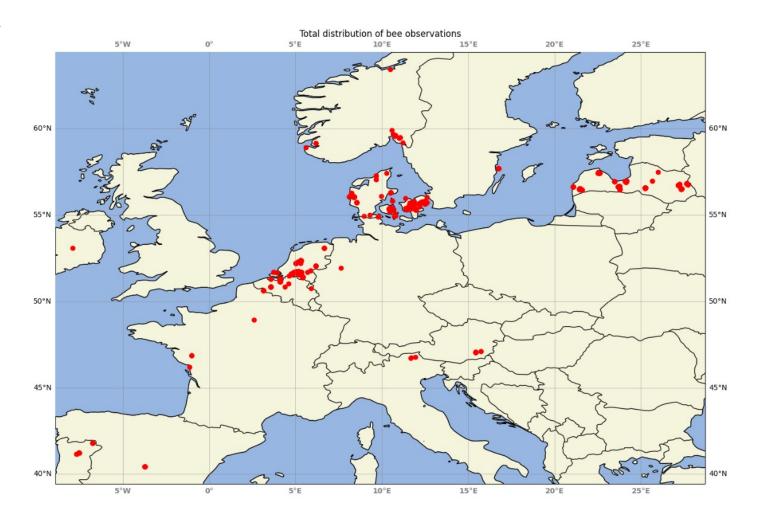
Honingbij: 1 Solitaire bijen: 1 Zweefvlieg: 1



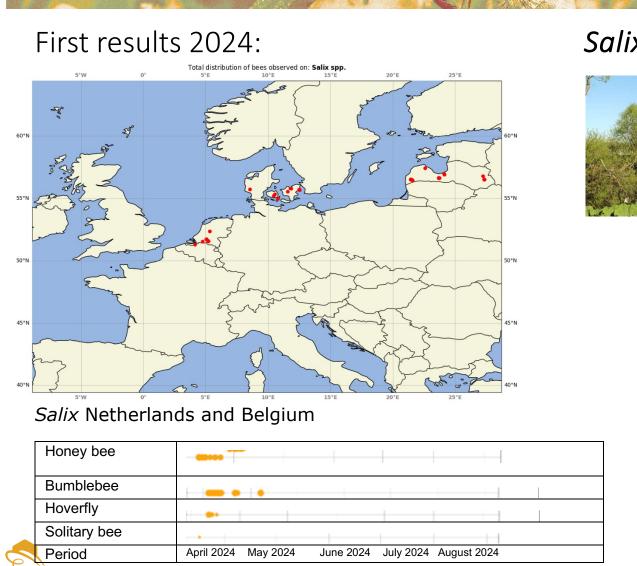
Merian, Alm. Jul 31, 2024, 11:05:53 AM 51.5791,5.1858 Late Bloei Honingbij: 1

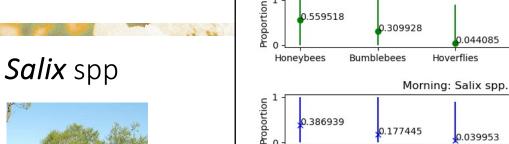


# First results 2024

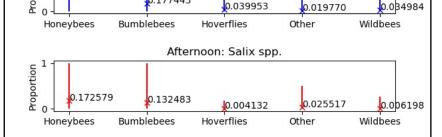








0.559518



Total: Salix spp.

**6**.041182

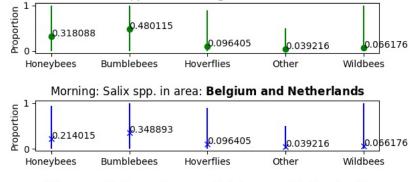
Wildbees

0.045286

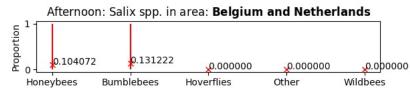
Other

0.309928

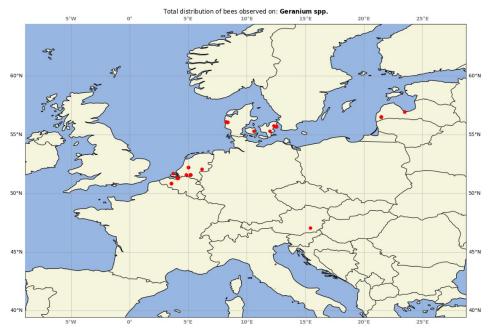
0.177445



Total: Salix spp. in area: Belgium and Netherlands



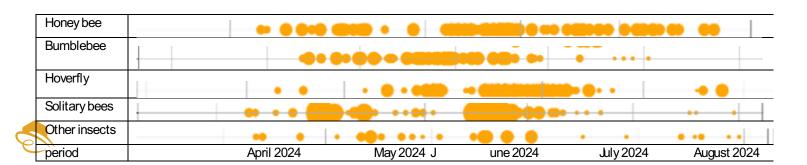
## First results 2024:

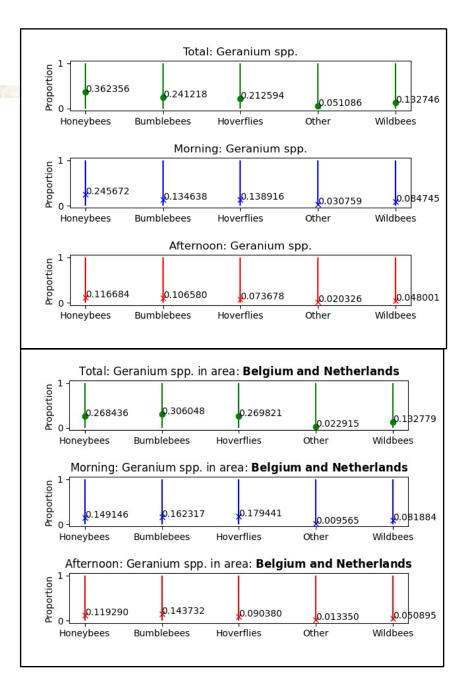


# Geranium spp

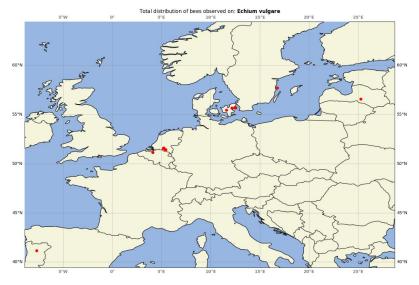


Geranium spp: Netherlands and Belgium





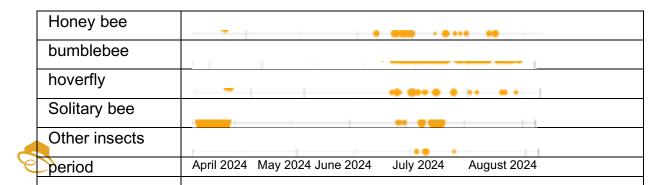


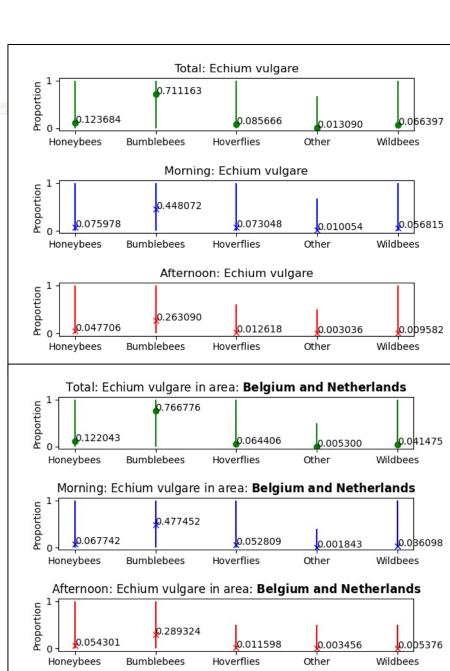


# Echium vulgare slangekruid



Echium vulgare Netherlands and Belgium

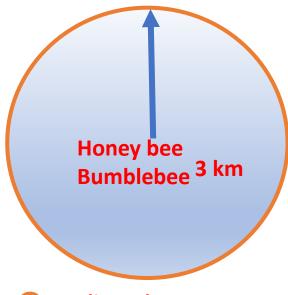




## Interpretation

- Multiple species simultaneous

- Before noon / afternoon
- Land-use
- Temperature
- Flight distance
- Foodsources
- Nesting



plantSpecies	honeybees	bumblebees	hoverflies	other	wildbees
Helianthus annuus	5	2	0	2	0
Corylus avellana	5	1	0	0	0
Nepata spp.	3	0	0	1	0
Melilotus alba	2	2	0	2	0
Acer platanoides	0	0	0	0	0
Salix spp.	8	2	0	0	0
Salix spp.	0	0		0	0
Solidago spp.	2	0	6	2	4

Solitary bee 150 meter, 0,15 meter













#### **Aknowledgement**

- 250 citizen scientists
- Elena Fini AU (maps)
- Xiaodong Duan AU (data analyses)
- Danish Beekeepers Association DBF(beeplants-eu website)
- Matthias Frey frey-It (IT)

#### **Information**

- J. van der Steen alveusab@outlook.com
- BetterB website https:// www.better-b.eu
- BetterB website **citizen science page** <a href="https://www.better-b.eu/learning-platform/citizen-science/">https://www.better-b.eu/learning-platform/citizen-science/</a>







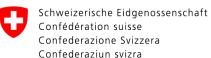


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Swiss Confederation