Visual Exploration of Edible Wild Flora:
A foraging-Oriented Map Tool

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Introduction

With the world becoming more digital, finding activities to encourage people to spend more time outside is increasingly important. One such activity is foraging. Foraging is not only a means to encourage people to spend time outside, but also a means to save money on groceries, forge stronger bonds across generations and has been linked to better health. To assist people's foraging habits, we set out to build an interactive map that can provide an overview of which edible plant species are present across Denmark.

What?

Observations for a curated list of edible species were sourced from the Global Biodiversity Information Facility (GBIF), covering the period from January 2023 to November 2025. Species were manually classified into eight categories (see filters in Figure 1(a)). The data cleaning process retained only records with open licenses and valid geographic coordinates for use in the final visualization.

Why?

The purpose of the dashboard is to support exploratory discovery of edible plant observations in Denmark. Users typically do not have predefined questions which makes the exploratory analysis important. The visualization is needed to give insights into patterns, trends, and distributions that cannot be identified using a table alone.

The dashboard supports several actions and targets.

- Users **discover** spatial and temporal **trends** to gain an overview of where observations are concentrated.

- Users **compare distributions** of observations across regions, time periods, and plant categories.

- Users **summarize** temporal **distributions** of observations to understand how observation activity varies over time.

- Users **locate** known species when their **spatial location** is unknown.

- Users **browse attributes of observations** within a selected region when species are unknown.
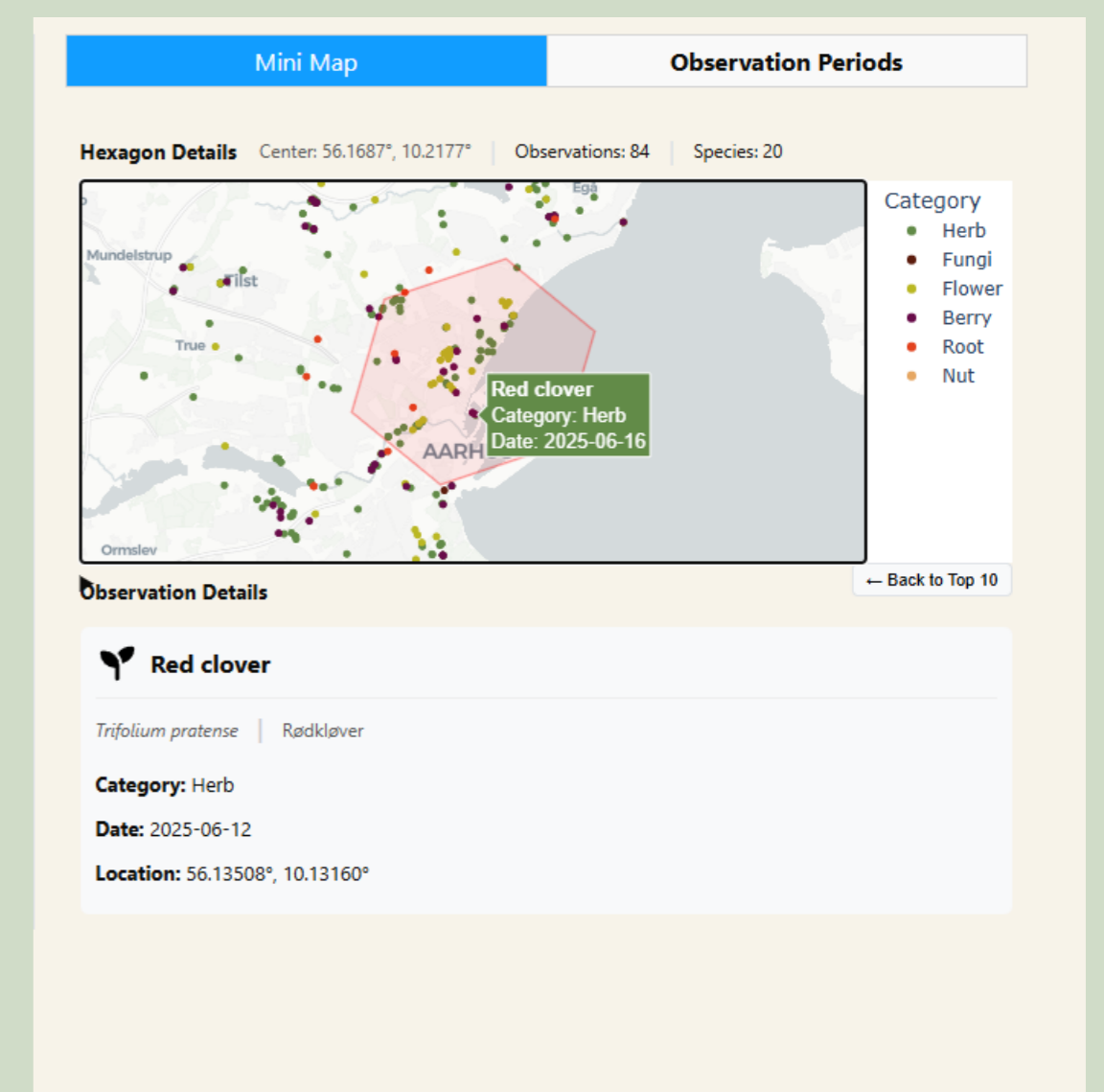
Visualization of the Foraging Tool
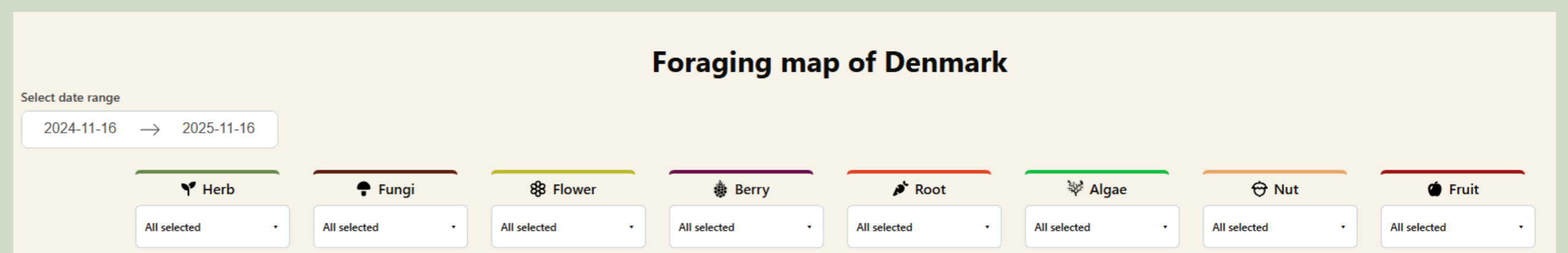
(a) Filter and time selection.
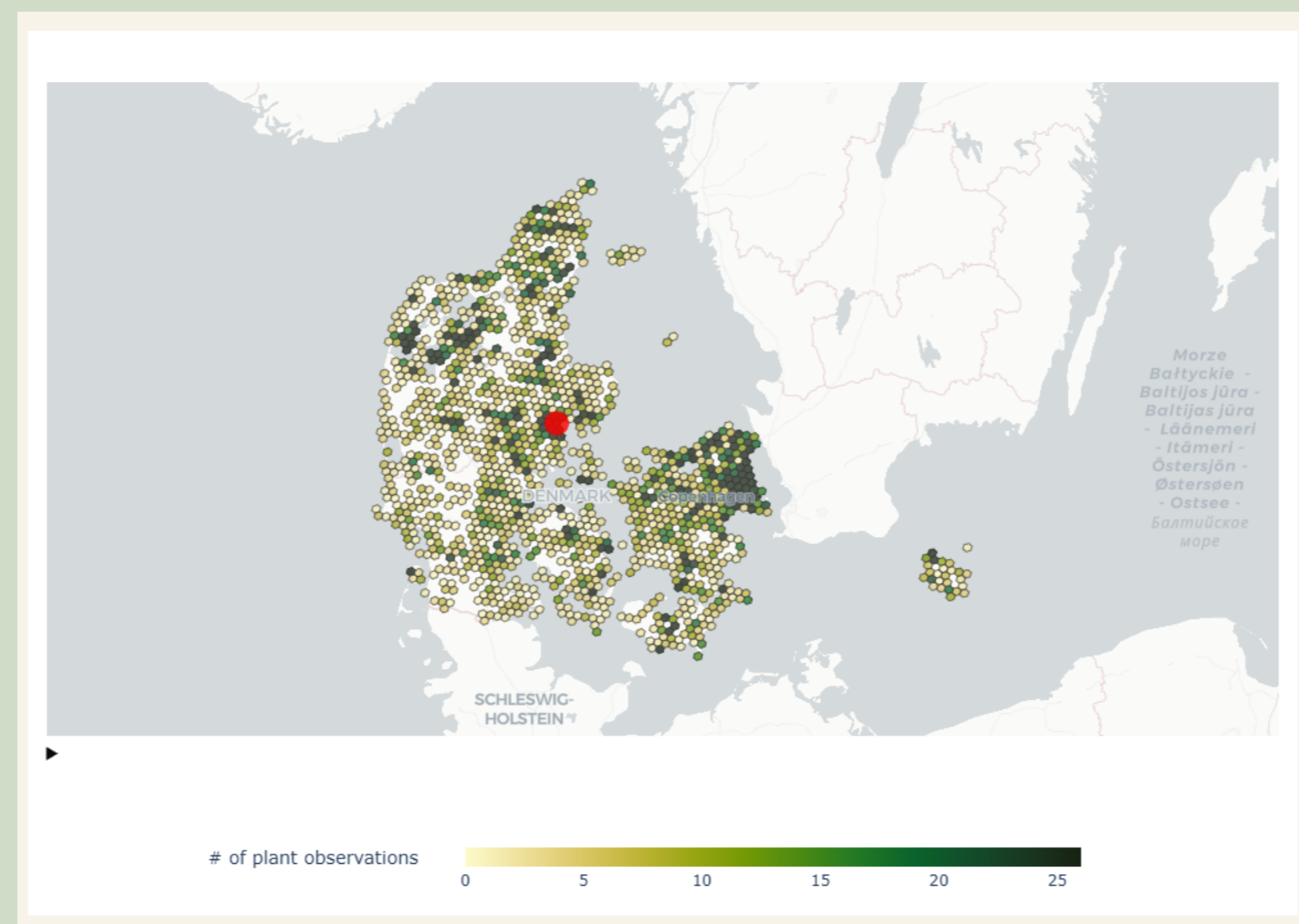
(b) Main foraging map.

(c) Minimap.

Figure 1: Dashboard interface and spatial distribution.

How

The dashboard uses multiple visualization encodings to represent the data at different levels.

Marks

- Area marks (hexagons) to represent aggregated spatial regions
- Point marks to represent individual observations in the Minimap
- Line marks to represent aggregated temporal data in the Observation Period

Channels

- Position encodes geographic location (map)
- Color Luminance encodes observation density using sequential color scale
- Color Hue encodes plant categories (categorical)

Furthermore, the dashboard utilizes **Manipulate**: select and navigate, **Facet**: juxtaposition, and **Reduce**: aggregation and filter.

Conclusion

Our dashboard uses principles of scientific visualization to create an interactive map that is simple for people to use. It utilizes different features to provide a simple and clear overview of edible plant observations around Denmark.