Mapping plant-pollinator interactions across Europe

Abstract

Pollinators play a crucial role in maintaining Earth's terrestrial biodiversity and human food production by mediating sexual reproduction for most flowering plants. However, their diversity and role as pollinators are increasingly compromised by rapid human-induced environmental changes. One of the major challenges for pollinator conservation, is the lack of robust generalisable data across space and time to comprehend the conservation status and population trends among different pollinator species. Here, we present a dataset of plant-pollinator interactions at European level that consists of 50 studies distributed across 17 countries that comprise over a million of interactions between plants and pollinators. The dataset includes a total of 1927 pollinator and 1249 plant species that accounts approximately for 30% of each of the main pollinator groups (i.e., bees, syrphids and butterflies) and 5% of flowering plants that inhabit the European continent.

Introduction

1st paragraph

General introduction of how global change impacts plant-pollinator interactions

Maybe expand on some drivers? Climate change, habitat fragmentation, agricultural intensification, urbanization, pollution, pesticides and species' invasions

Highlight the relevance of large scale datasets

2nd paragraph

3rd paragraph

4paragraph

Introduce research questions

LIST THEM HERE (Main ideas so far)

Questions that we would like to answer:

1) What are the most common plant a pollinator species? Are those shared across networks? Most common interactions across Europe? Interaction fidelity

2) Is generalization the rule? Or specialization? How this impacts indirect interactions? Go in the direction of pollinator importance?

Methods

Dataset description

This European metaweb consist of datasets of plant-pollinator interactions compiled initially by a wide number of researchers and institutions within the European continent. This dataset covers 17 countries and consist of 50 independent published and unpublished studies conducted during the time period 2004 - 2021, and accounts for a total of 1,151,803 interactions from 1,927 pollinator and 1,249 plant species.

Shared species across studies (describe trend), added now in graph 1?

Update graph 1 (Add shared species of plants and pollinators?)

Species coverage

To calculate the completeness of the dataset

Results

Discussion

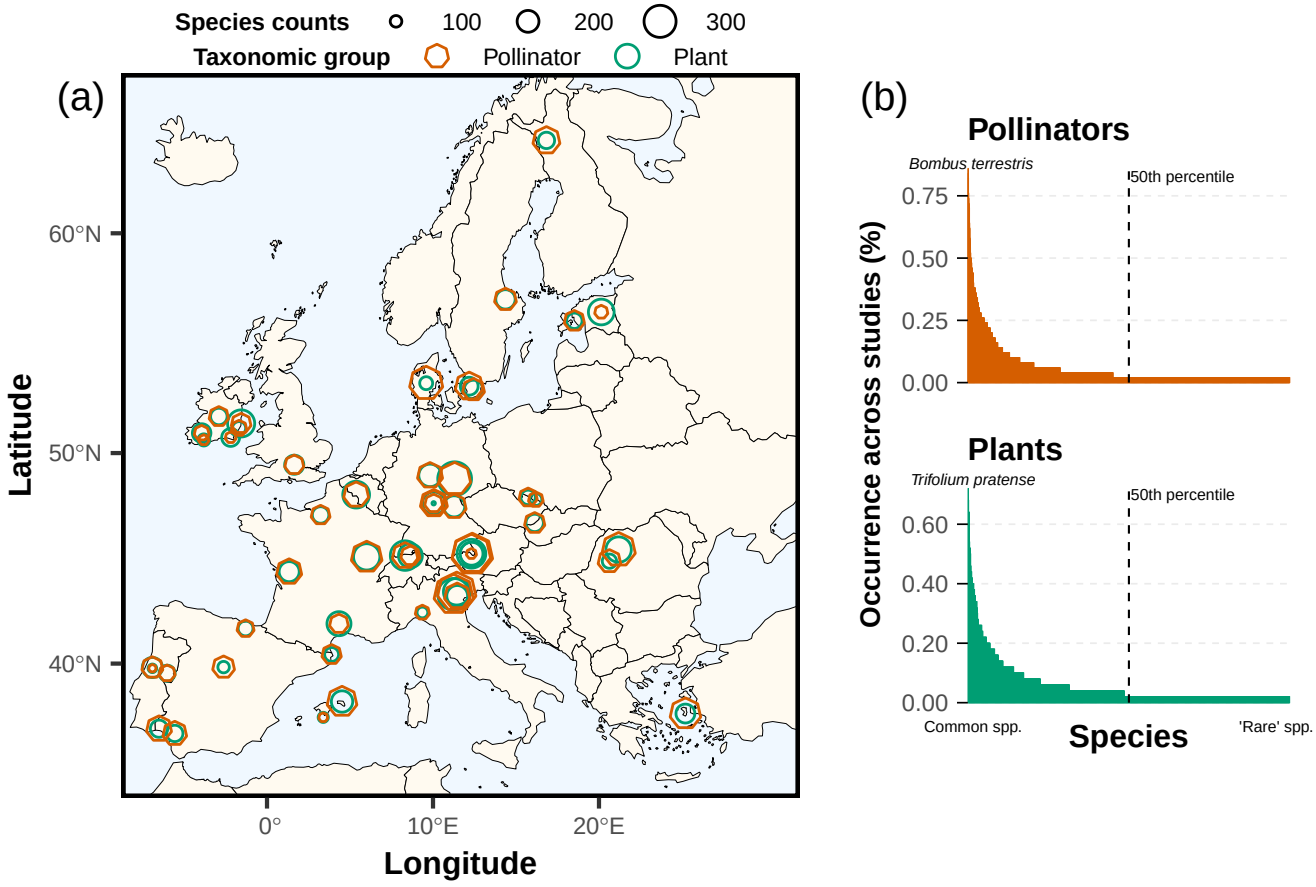

Figure 1: Figure 1