sOilFauna - A GLOBAL SYNTHESIS EFFORT ON THE DRIVERS OF SOIL MACROFAUNA COMMUNITIES AND FUNCTIONING

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BACKGROUND

- Soil macrofauna is a **highly diverse** group distributed **worldwide**, strongly sensitive to human-induced envionmental changes.
- They are involved in many important **ecosystem functions and services** on which humanity depends.
- We **know little** about the **global drivers** of macrofauna communities and potential consequences for ecosystem functioning.

JOIN US!

sOilFauna is a **community of researcher** welcoming anyone willing to **increase our knowledge** on soil macrofauna diversity and to **standardize sampling and data collection**.

DATABASE

- All data collected whith **hand sorted soil monolith** method (TSBF) including transects, monoliths, and layers.
- Good **representation** of **tropics** and **biomes**, but **blindspots** in Northern America and Western/Northern Asia.
- Abundance and sometimes biomass of **17 major groups**
  Crassiclitellata, Formicidae, Termitidae, Coleoptera, Arachnida, Diplopoda, Chilopoda, Isopoda, Diptera, Blattidae, Hemiptera, Dermaptera, Lepidoptera, Orthoptera, Gastropoda, Diplura, Thysanoptera

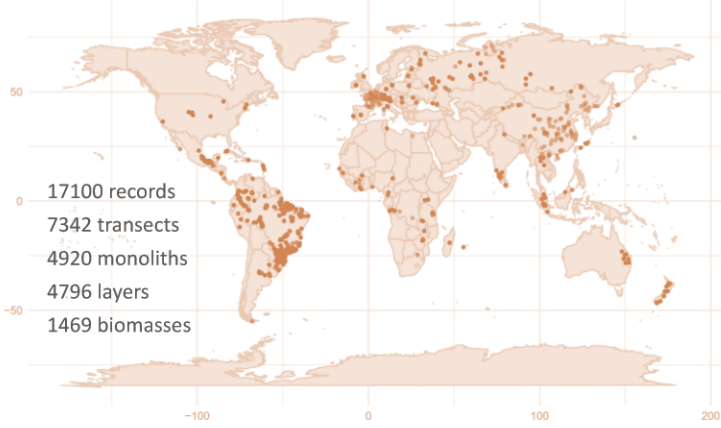

Fig. 1 - Global distribution of community dataset in the database. Each point represent a transect.

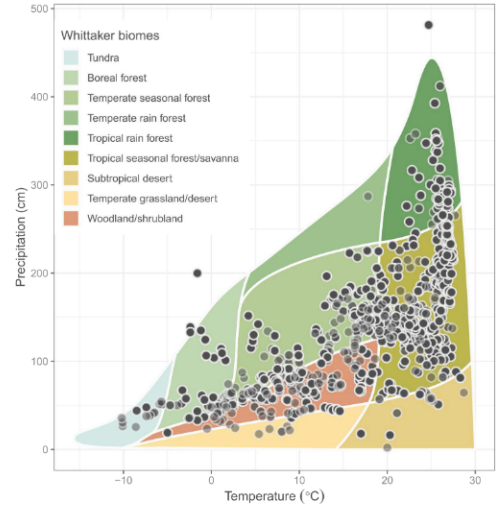

Fig. 2 - Location of the data in relation to the biomes

QUESTIONS

A. **Global patterns** of diversity, abundance, and body size along **latitudinal, productivity,** and **perturbation gradients**

B. Relative importance of **climate**, **soil**, and **habitat cover** in driving community composition and structure

C. **Spatial heterogeneity** of soil communities at different scales, and the importance of **landscape diversity**, **land-use intensity**, and **conservation practices**

D. **Food web** structure, stability, **energy flows**, and **multifunctionality** and consequences for ecosystem functioning

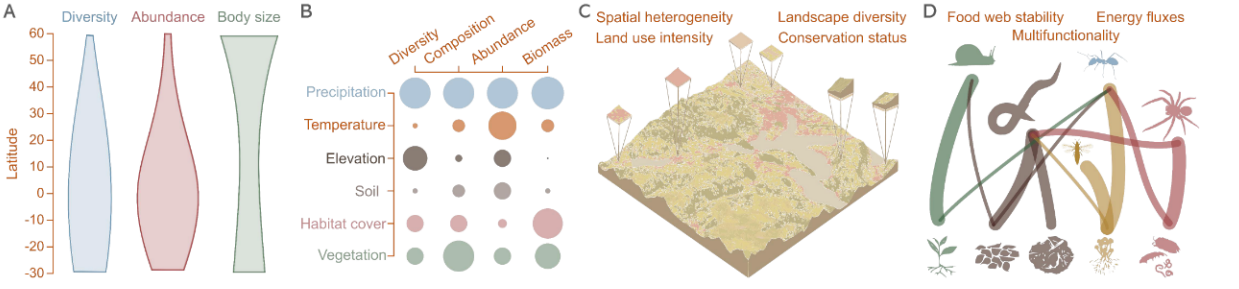

Fig. 3 – Schematic representation of the main research questions of our project. Capital letters refer to scientific questions listed above.

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