

Are Collembola flying onto green roofs ?



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Increase of interest for urban green spaces

- **Key role** of green spaces in urban ecosystem services
- **Green roofs**: opportunity to create green space
- **Technosol** is the support
- The effectiveness of green roofs in supporting biodiversity, especially soil biodiversity, has **rarely been studied**



⇒ Which are soil biodiversity in green roofs ?

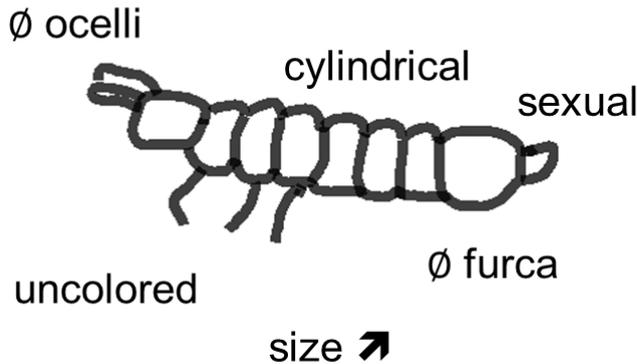
Hypothesis of green roofs colonisation in Paris - France

8 vegetable green roofs

- Compost
- Irrigation
- 20-30 cm



By compost

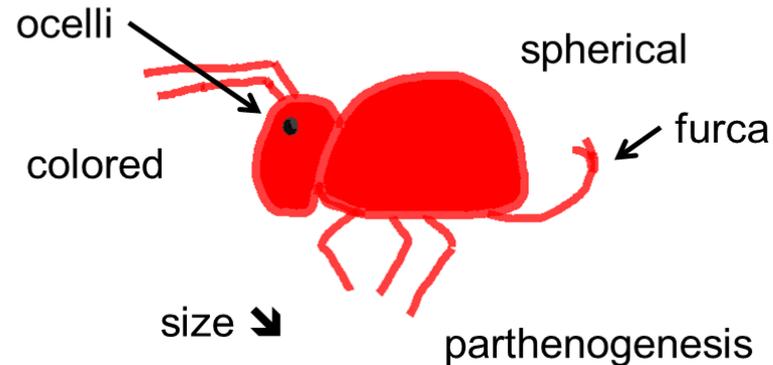


7 extensive green roofs

- ↘ Organic matter
- ↘ Humidity
- 5-10 cm



« Flying »

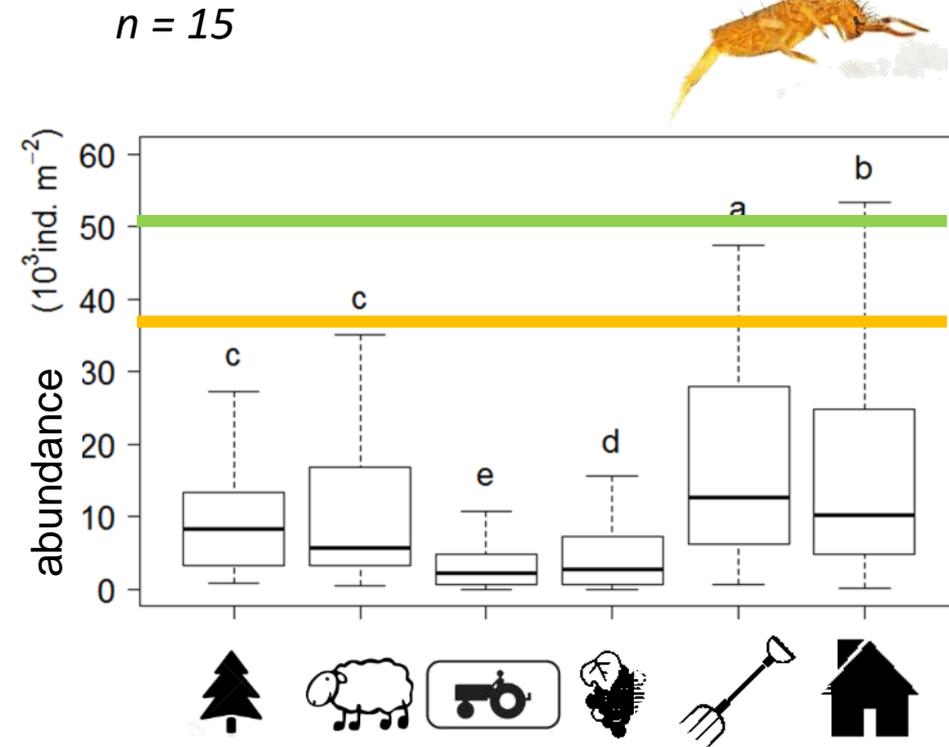
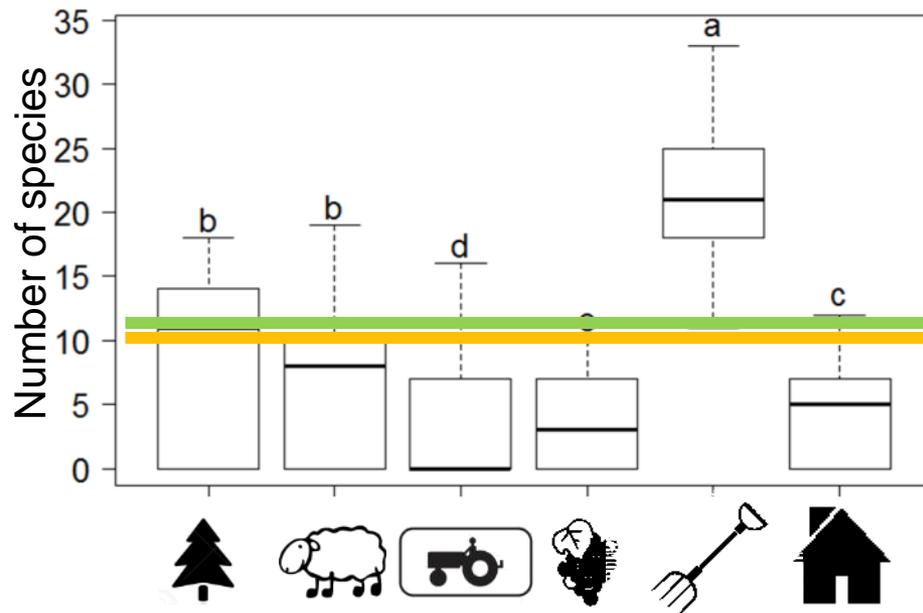


- H1: low abundance and diversity in extensive green roofs**
- H2: high abundance and diversity in vegetable green roofs**
- H3: Functional communities different in each green roofs**

Green roofs : Support of high soil biodiversity



— Vegetable green roofs
— Extensive green roofs

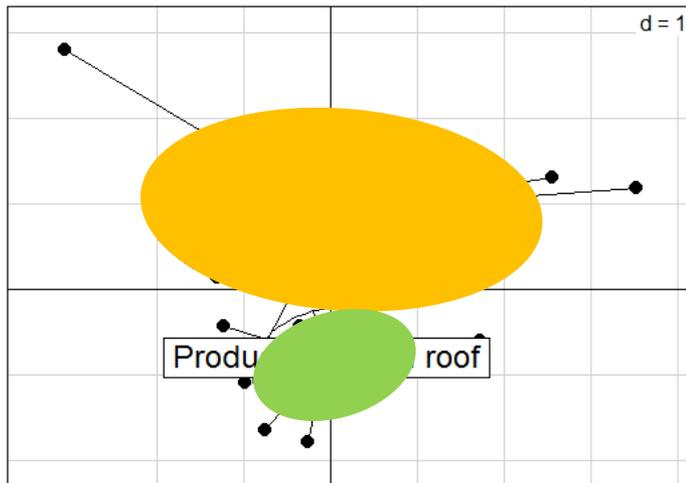


- **High diversity and abundance** of Collembola in green roofs \neq H1

Functional trait for each green roofs...

— Vegetable green roofs
— Extensive green roofs

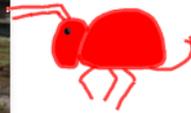
ACP (n=15), 6 traits



Vegetable



Extensive



∅ ocelli

coloration

ocelli

sexual

size

parthenogenesis

cylindrical

spherical

∅ furca

furca

- **Euedaphic** on vegetable green roofs:
 - Accidental input by **compost**
- **Epedaphic** on both roofs:
 - « **Flying** » **Collembola**



Conclusion & Perspectives

- Green roofs:
 - **support of soil biodiversity**
- Collembola « **fly** »...
- But could arrive by others sources
- Need of connectivity between green spaces