

# 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 ?

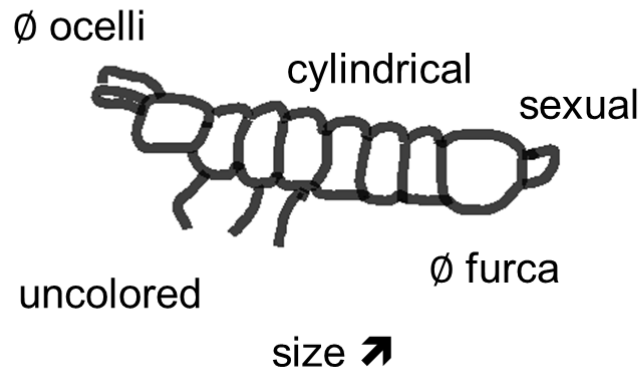
# Hypothesis of green roofs colonisation in Paris - France

## 8 vegetable green roofs

- Compost
- Irrigation
- 20-30 cm



### By compost

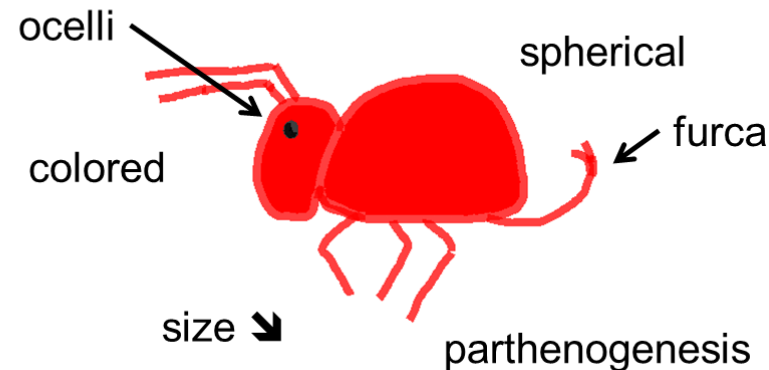


## 7 extensive green roofs

- ➤ Organic matter
- ➤ Humidity
- 5-10 cm

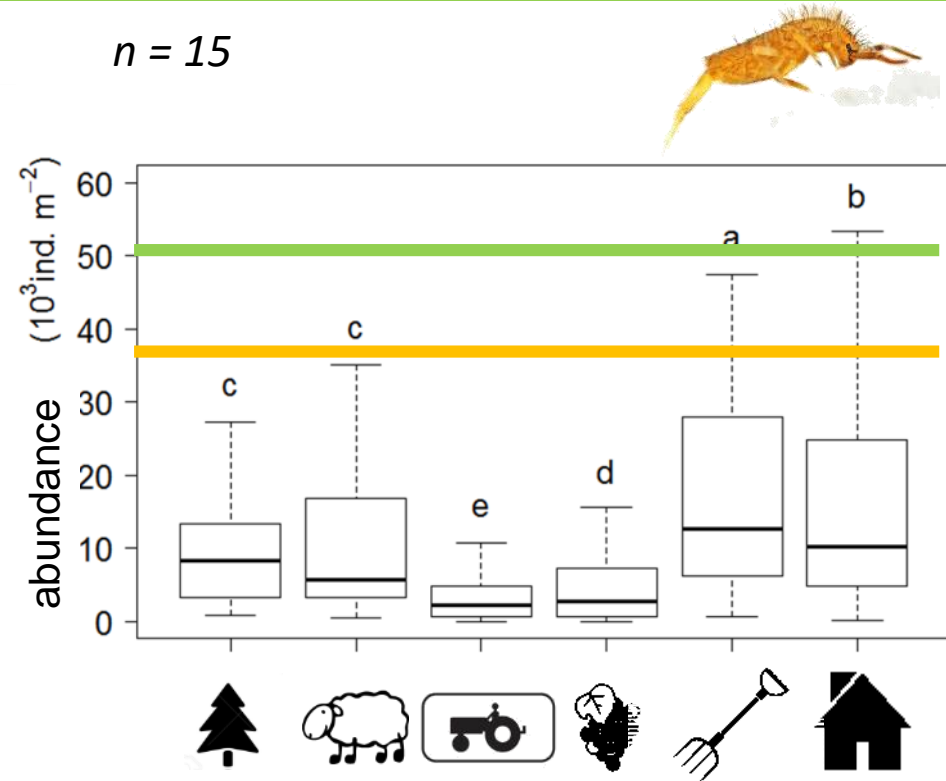
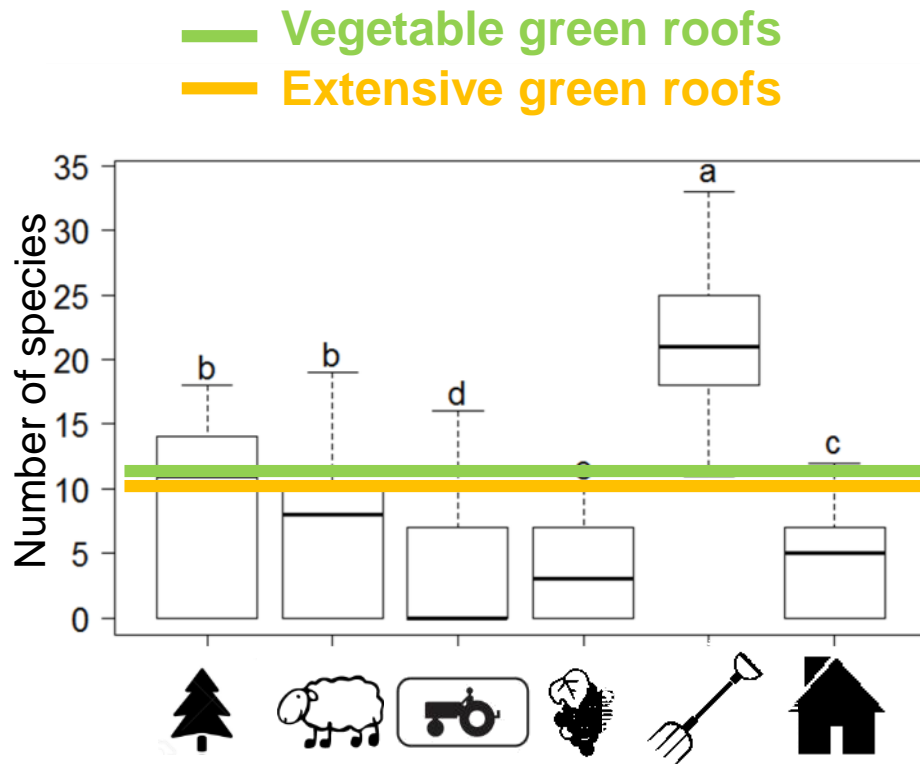


### « Flying »



- 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



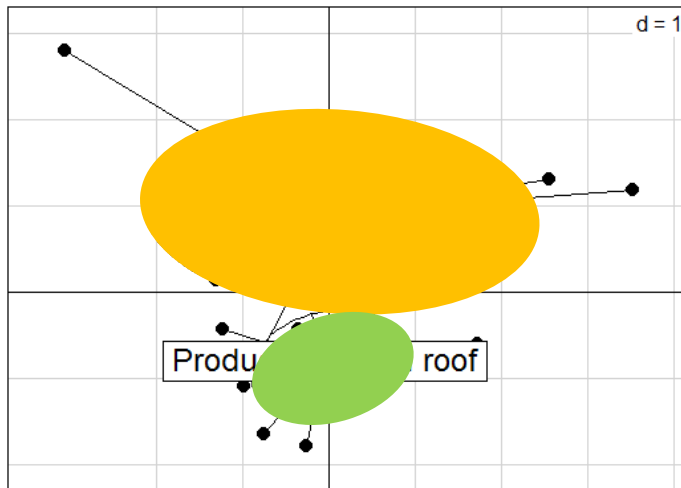
- **High diversity and abundance** of Collembola in green roofs  $\neq$  H1



# Functional trait for each green roofs...

— Vegetable green roofs  
— Extensive green roofs

ACP (n=15), 6 traits



Vegetable



Ø ocelli

sexual

cylindrical

Ø furca

coloration

size

Extensive



ocelli

parthenogenesis

spherical

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