

**The ground spiders (Arachnida:
Araneae) from Latium (central Italy):
diversity, community structure and
distribution**

**XXXIX ciclo formativo – A.A. 2023/2024
Dottorato BMCA
Curriculum Biologia ambientale**

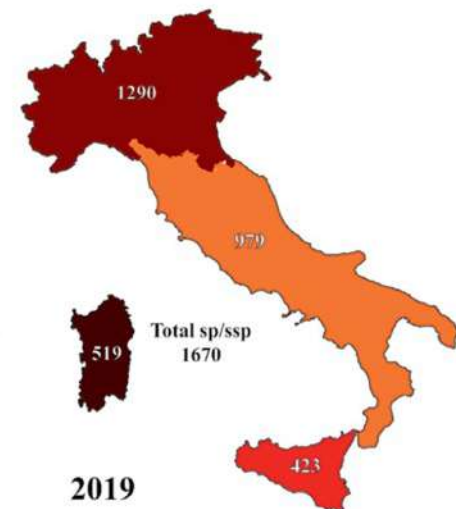
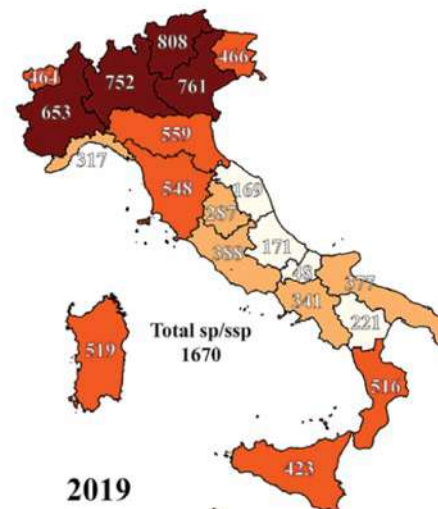
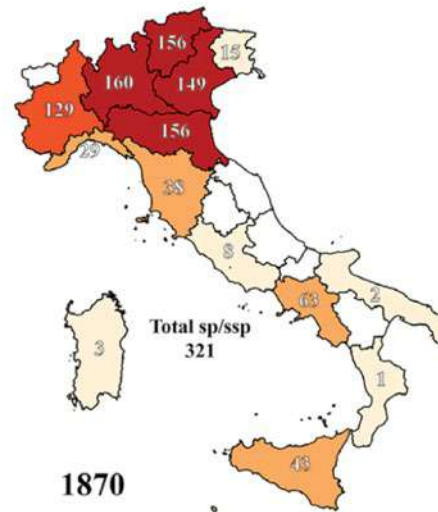
**TOMMASO FUSCO
TUTOR: ANDREA DI GIULIO**



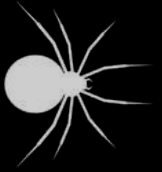
STATE OF KNOWLEDGE



- In 2019 creation of www.araneae.it
- **1727 species** known from Italy, 342 are endemic
- **Lack of knowledge** in Center of Italy
- In **Latium 391 species** but this number is underestimated



GROUND-DWELLING SPIDERS



- Represent most families of Araneae
- Rare and poorly studied species whose ecology and distribution is almost unknown
- Regulate arthropod populations in soil and litter
- Indicators of environmental health



PROJECT AIMS



1. Creation of a **checklist of ground-dwelling spiders** for Latium with illustrations of habitus and genitals
2. Investigate how **spider communities** change in different habitats of the Tolfa mountains using pitfall traps
3. investigate the **diversity of spiders in the litter** of different forests using Winkler extractors
4. Characterize and redescribe the **morphological features** of interesting specimens with focus stacking light microscopy and Scanning Electron Microscopy (SEM)



SAMPLING METHODS

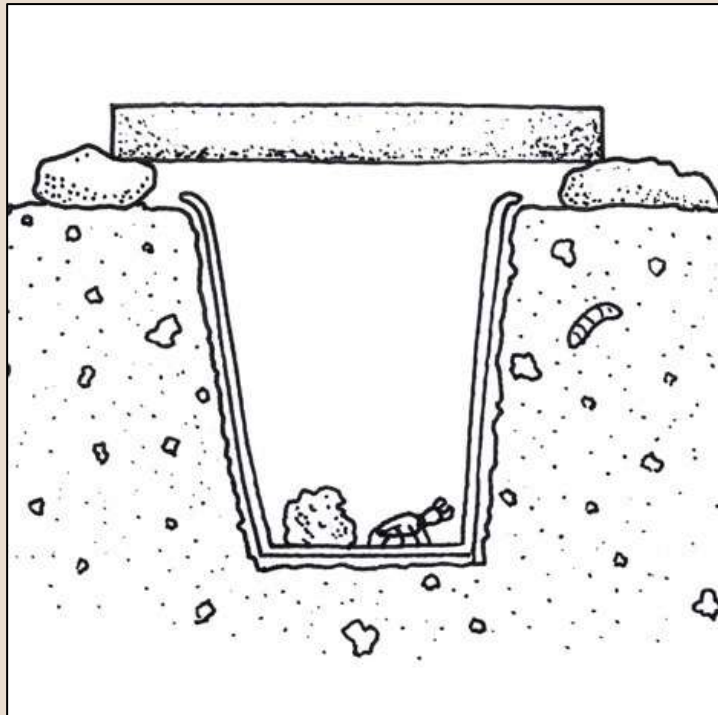


PITFALL TRAPS

WINKLER EXTRACTOR

ACTIVE CAPTURE

Ideal for larger ground-dwelling spiders, especially active hunters



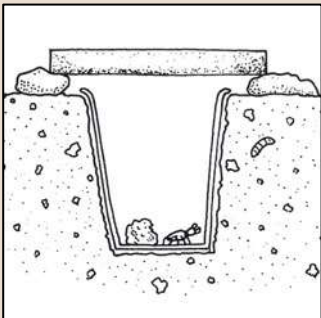
Lycosidae,
Gnaphosidae,
Salticidae,
Nemesiidae

SAMPLING METHODS



PITFALL TRAPS

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WINKLER EXTRACTOR



ACTIVE CAPTURE



Lycosidae,
Gnaphosidae,
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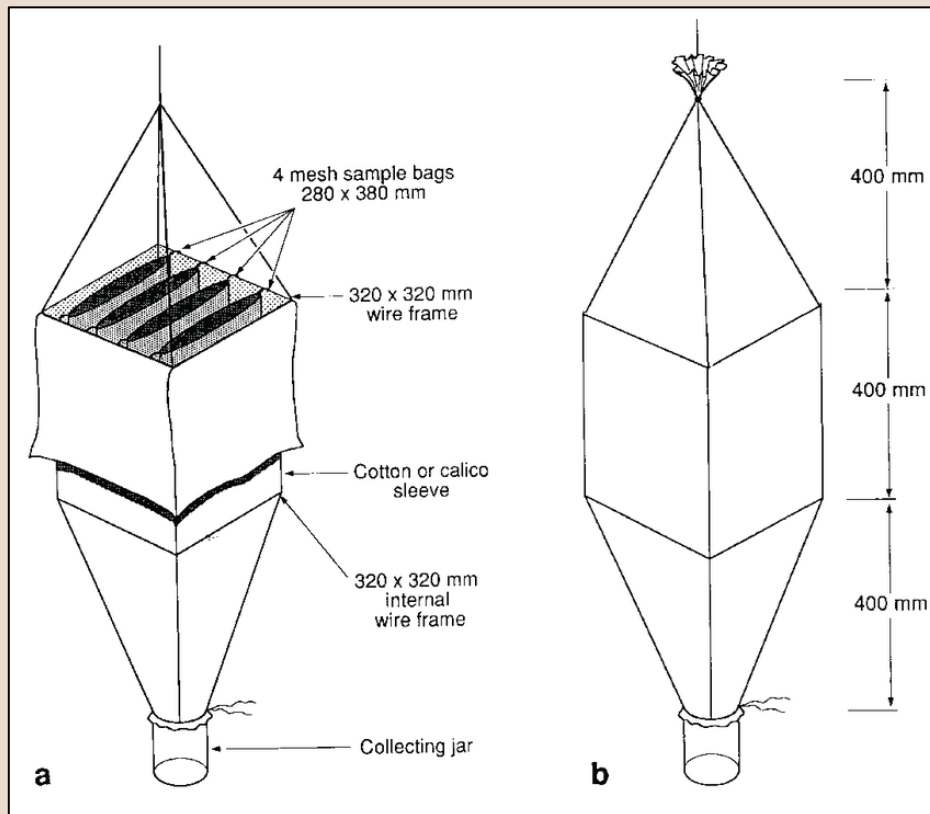
SAMPLING METHODS



PITFALL TRAPS

WINKLER EXTRACTOR

ACTIVE CAPTURE



5 mm sieve
Ideal for species that
live in litter



Linyphiidae, Hahniidae,
Agelenidae, Dictynidae,
Zodariidae

SAMPLING METHODS



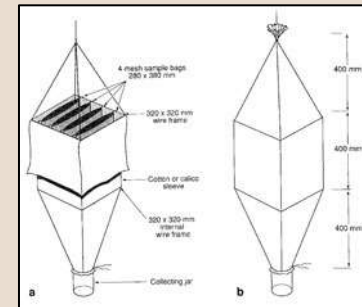
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SAMPLING METHODS



PITFALL TRAPS

WINKLER EXTRACTOR

ACTIVE CAPTURE



Content emptied on
white sheet



Species of high
taxonomic interest



SAMPLING METHODS



PITFALL TRAPS

WINKLER EXTRACTOR

ACTIVE CAPTURE



Species of high
taxonomic interest

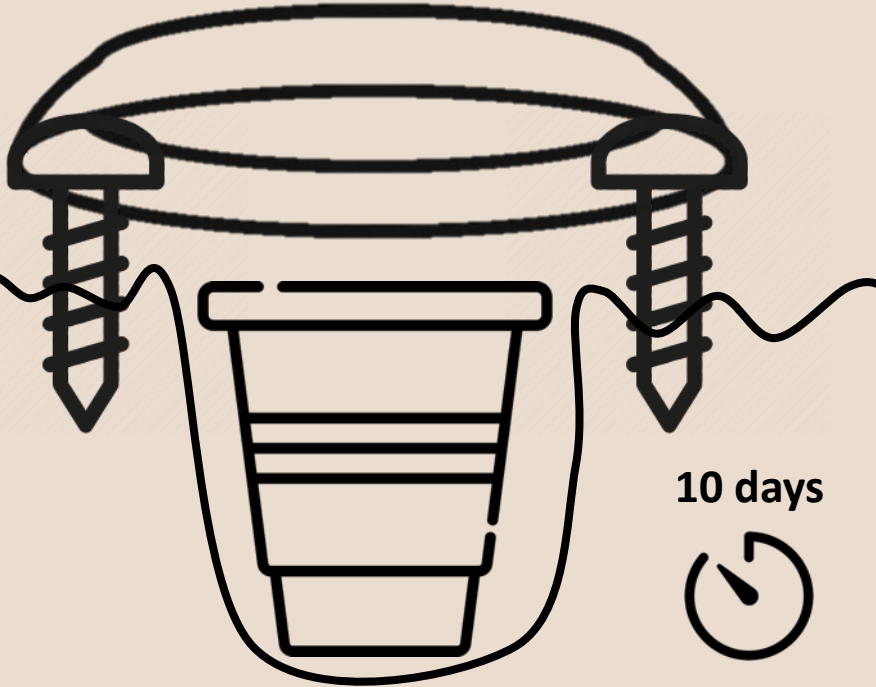


PITFALL SAMPLINGS



FIRST YEAR

Water + soap + salt + alcol + glycerin



March → September



PITFALL SAMPLINGS



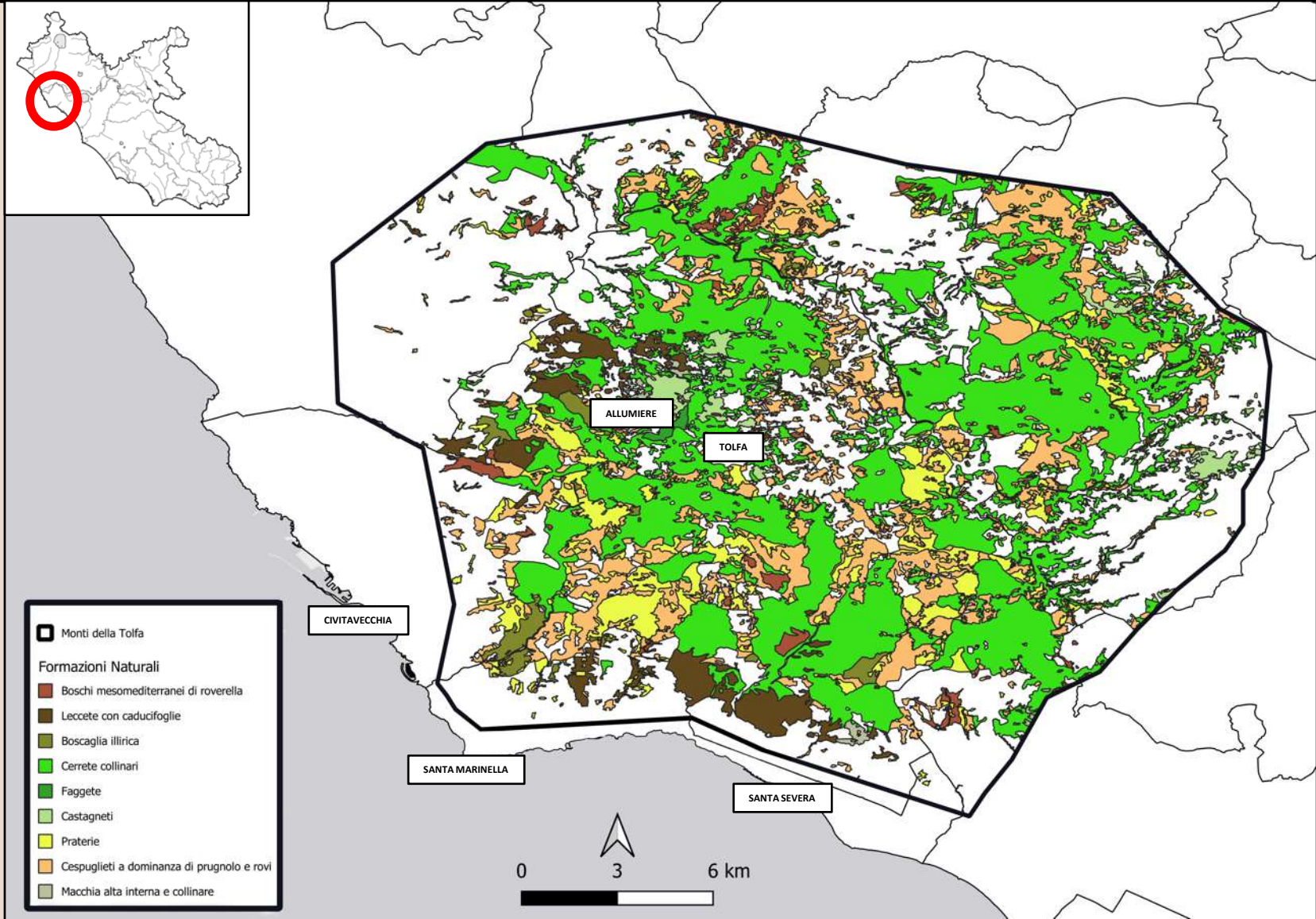
FIRST YEAR



PITFALL SAMPLINGS



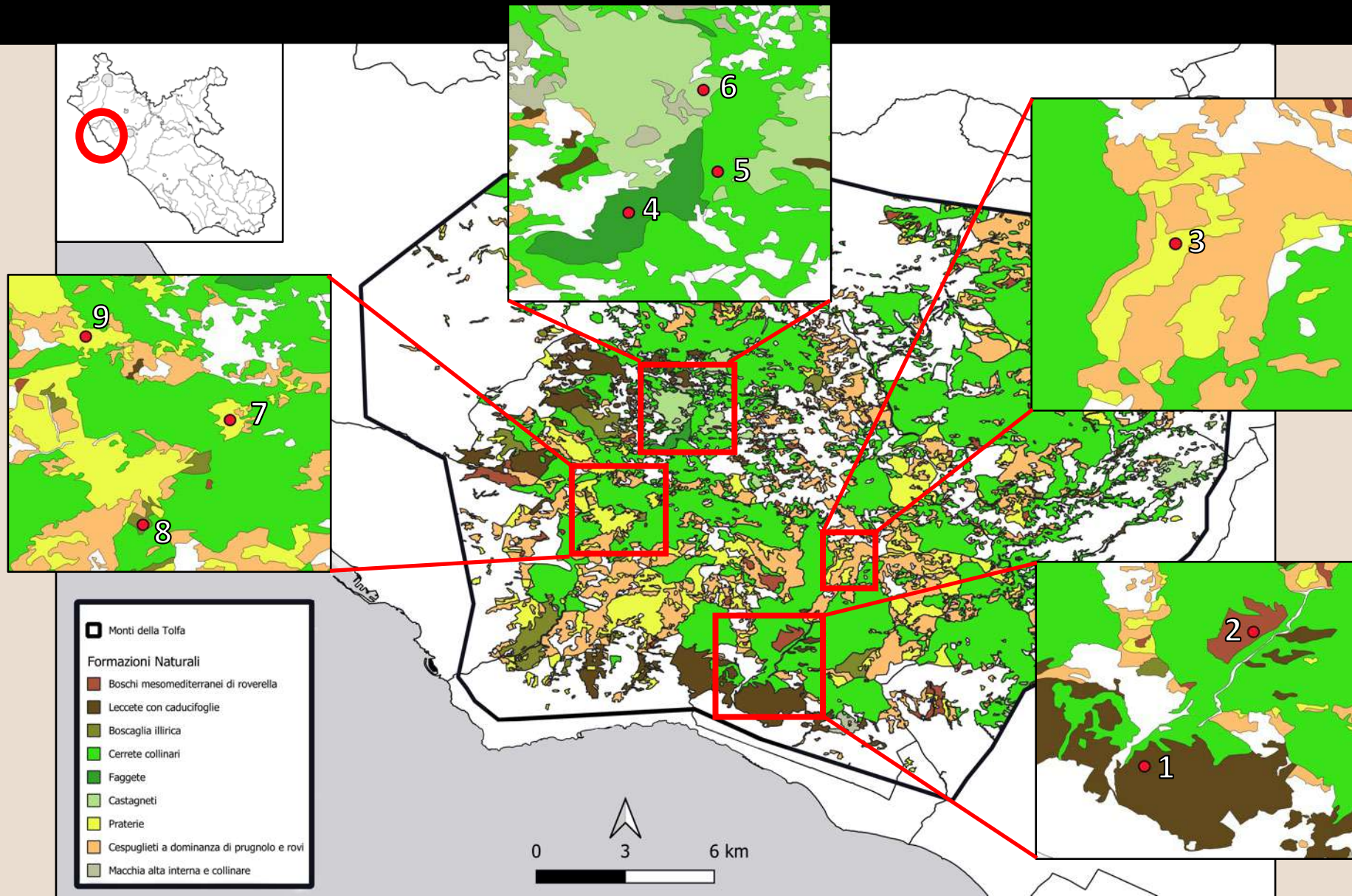
FIRST YEAR



PITFALL SAMPLINGS



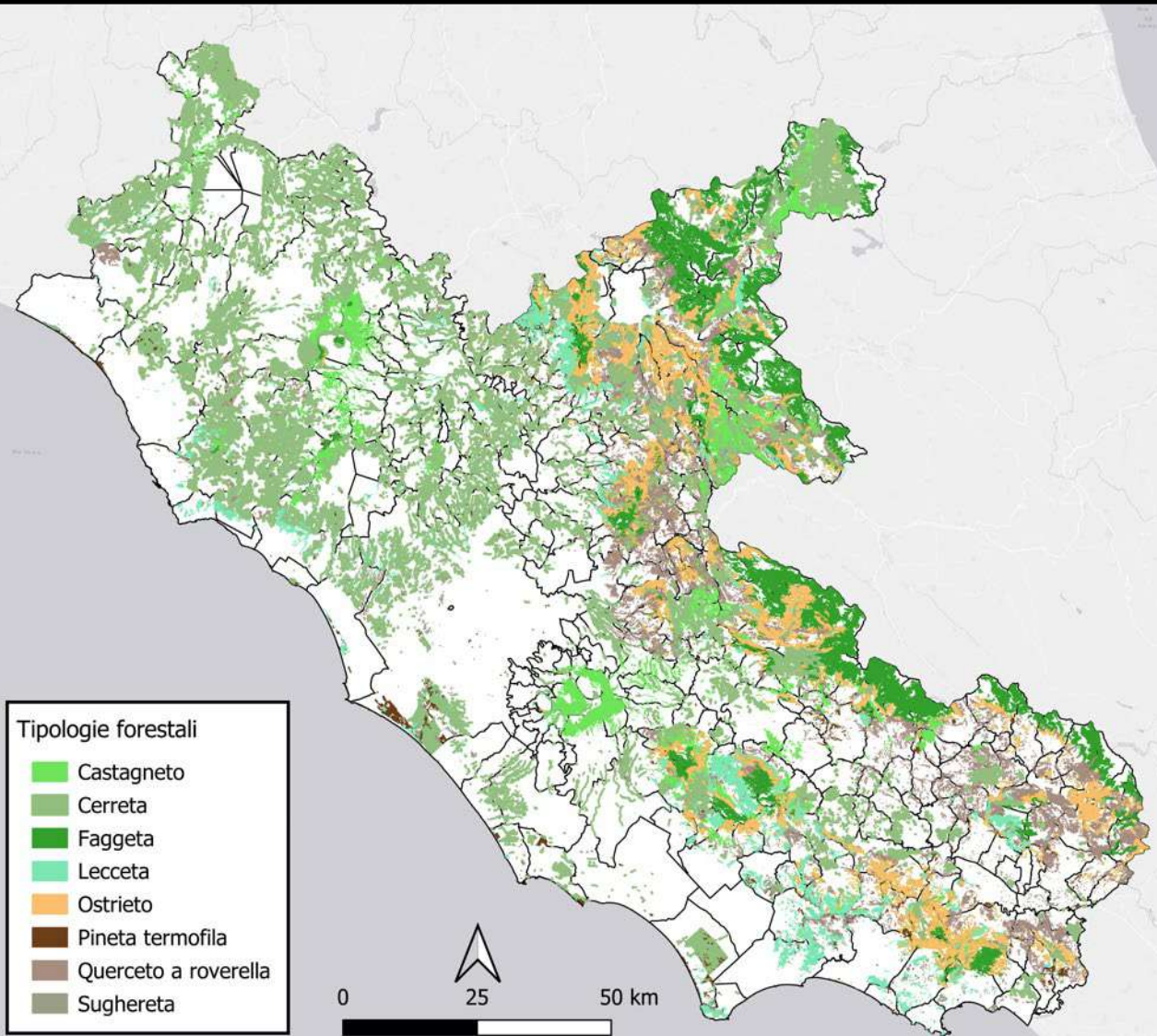
FIRST YEAR



LITTER SAMPLINGS



SECOND YEAR



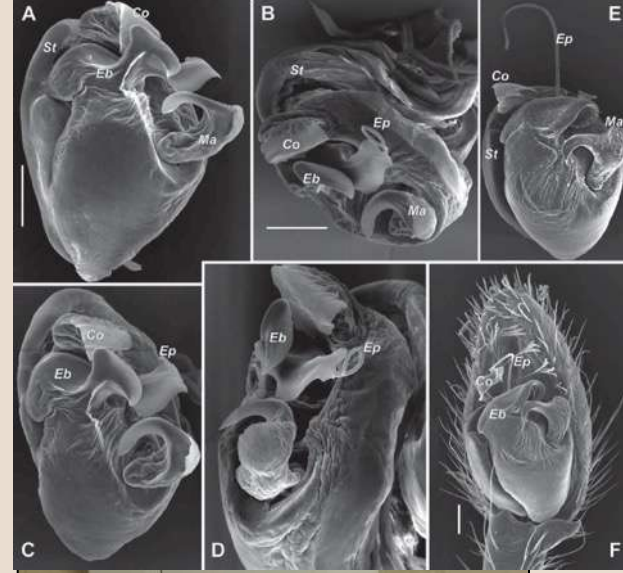
ILLUSTRATIONS



Stereo microscope



Optical microscope



FE-SEM Zeiss Gemini 300

Identify species, describe and highlight morphological peculiarities of specimens

ILLUSTRATIONS



Identify species, describe and highlight morphological peculiarities of specimens

TIMELINE OF WORK

[illegible]

**GRAZIE PER
L'ATTENZIONE**

