

2ND VIRTUAL CAREER DAY

Research opportunities in molecular microbiology of anaerobic systems



Roey Angel, Soil and Water RI & Institute of Soil
Biology

SOWA 

Research
Infrastructure



Who are we?

SoWa RI and ISB are part of the Biology Centre CAS



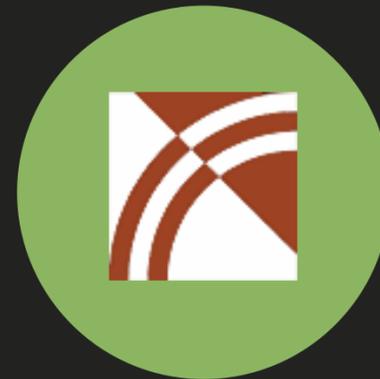
Hydrobiology



Entomology



Soil & Water



Soil Biology



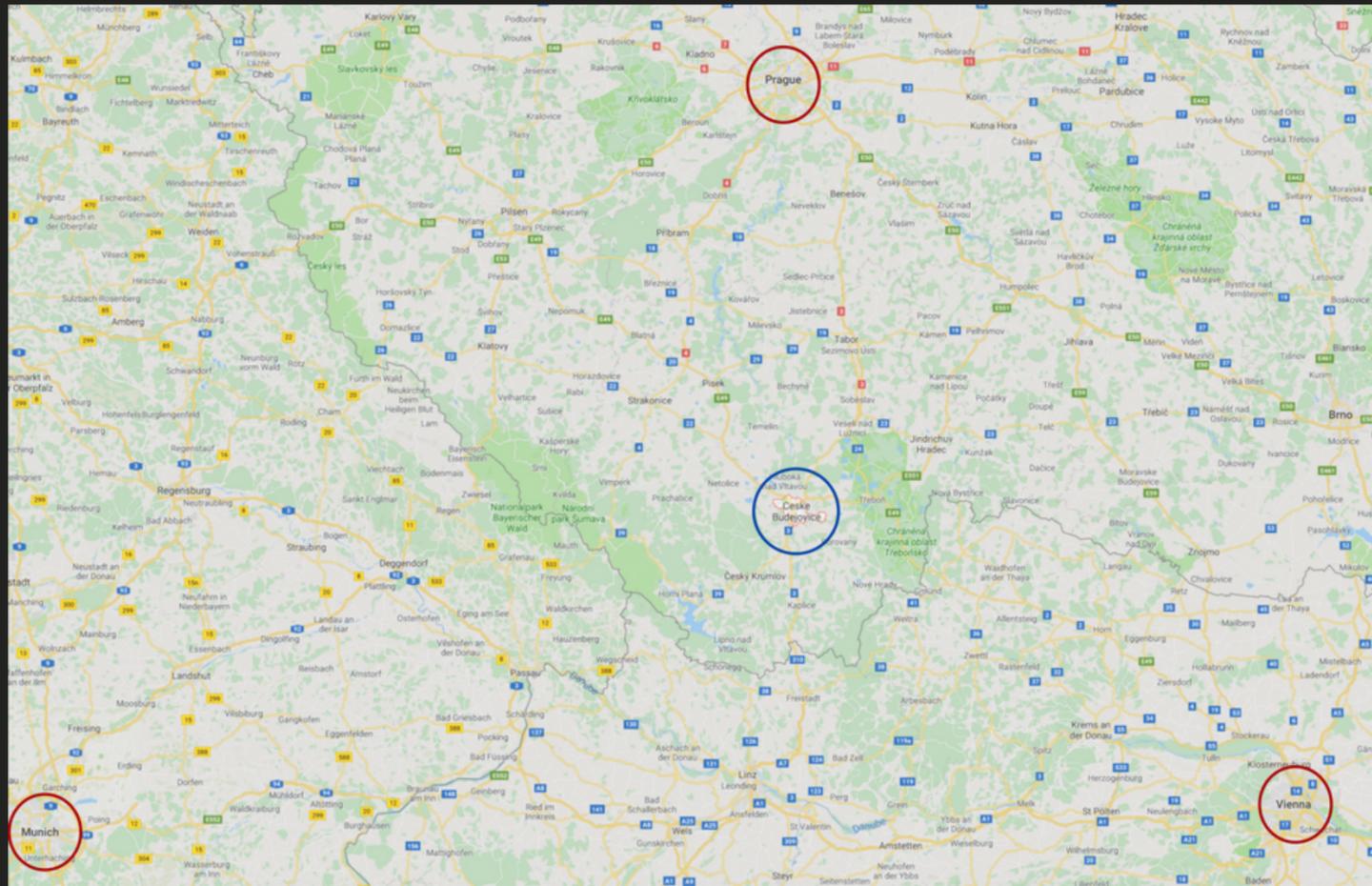
Plant Mol. Biol.



Parasitology

Where are we?

České Budějovice (Budweis)



Post-doc position: millipede microbiome metagenome and functions

BACKGROUND

Millipedes are one of the largest and most ecologically important invertebrate classes. All eat leaf litter but it's unclear whether they digest cellulose.

QUESTIONS

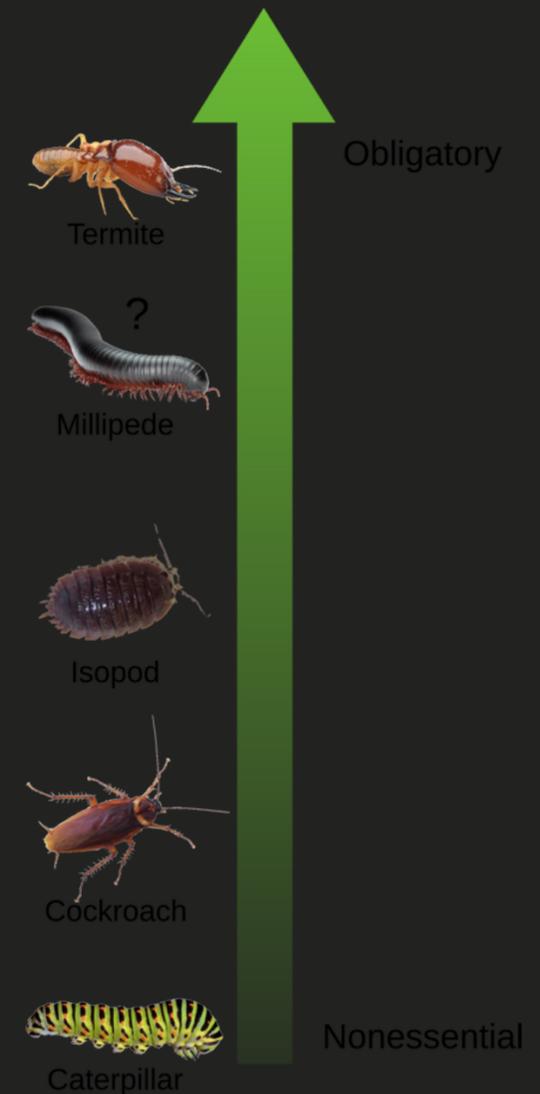
How dependent are millipedes on their microbiome? Do they digest cellulose anaerobically like termites? or only consume sugars like caterpillars?

METHODS

Stable-isotope probing targeted metagenomics and metatranscriptomics

DURATION AND FUNDING

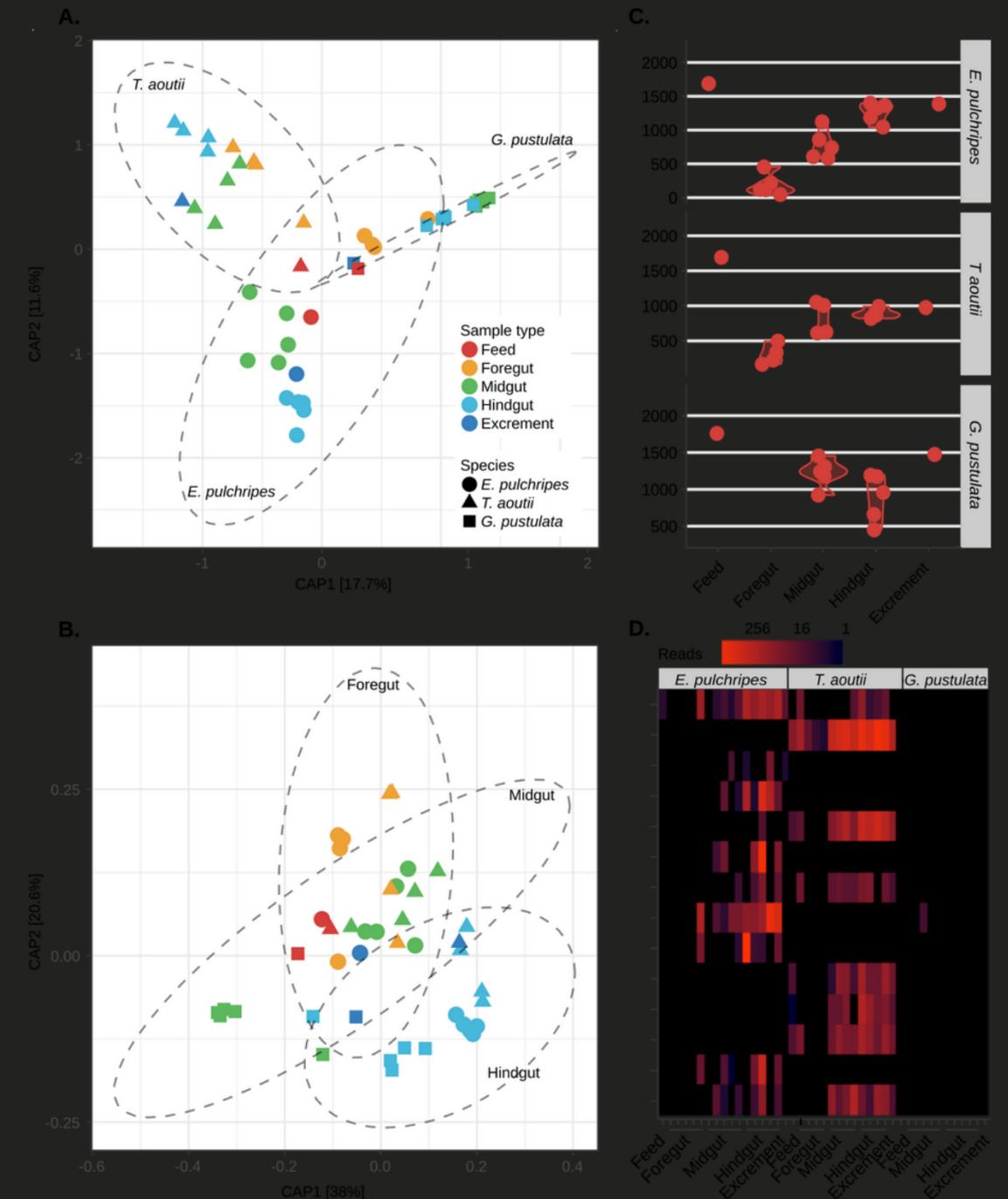
Three years; fully funded by GACR



Post-doc position: millipede microbiome metagenome and functions

PRELIMINARY RESULTS

- The microbiome of three model species, raised in the lab on identical feed was analysed using amplicon sequencing
- The results show different alpha and beta diversities per species and gut section
- But gut sections were similar in terms of phylodiversity
- Two species were methanogenic and also had methanogens in their gut. Indicating cellulose fermentation
- One species was devoid of methanogens



Student project/ M.Sc. thesis: RNA-SIP in the transcriptomic era

BACKGROUND

Stable isotope probing (SIP) is a leading technique in microbial ecology but the method has not been updated and its full potential isn't realised

PROJECT

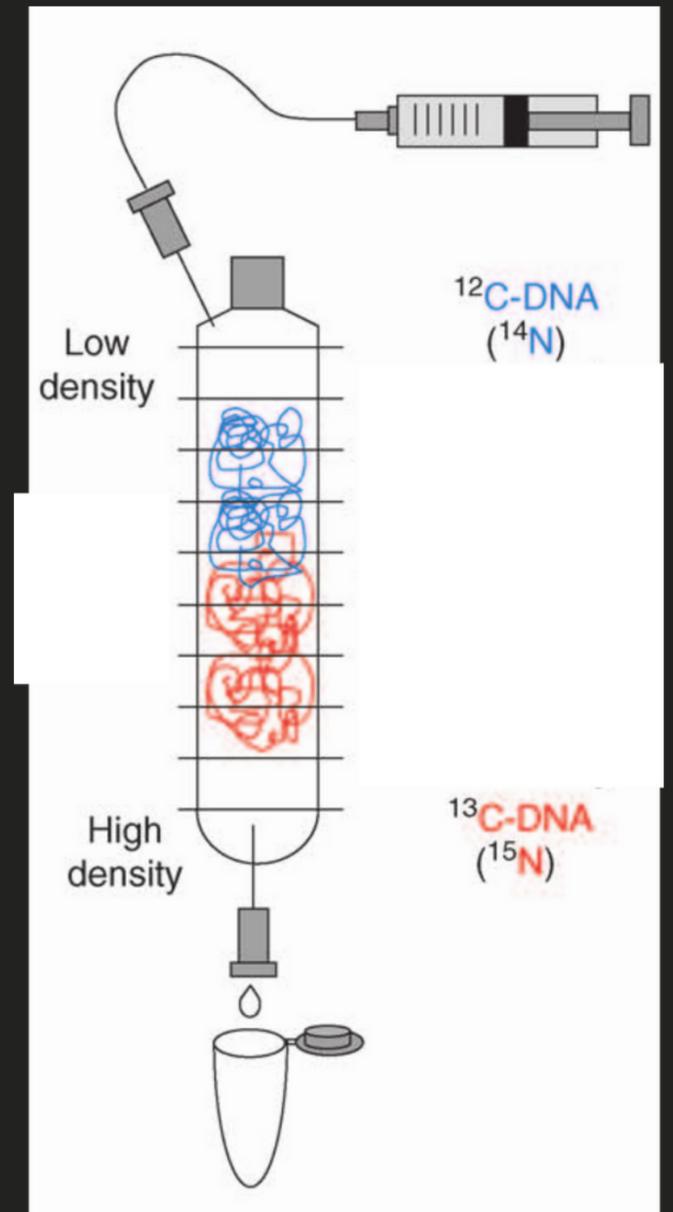
Increase the sensitivity of the method and the information we get from it through modelling and testing

METHODS

Bioninformatics modelling followed by lab validation

DURATION

Three months to one year



Secret student project/ M.Sc. thesis: Who is the elusive atmospheric methanotroph?

BACKGROUND

Methane is a highly potent greenhouse gas. Fortunately some bacteria in the soil eat methane from the atmosphere, but who are they?

PROJECT

Top secret

METHODS

Top secret

DURATION

Three months to one year



Biology Centre offers

- Newly equipped labs for millipede breeding, soil analysis, classical and molecular microbiology, stable isotopes, computational analyses 
- Skilled technical staff and scientists 
- Financial support from running projects 
- Friendly and international colleagues (>25% international; >85% friendly) 
- Great surrounding for nature, historical towns and villages, water sport, skiing, climbing 
- More beer types than you could ever try... 



We require

- Highly motivated microbiologists with background in molecular microbiology and bioinformatics



Interested?



CONTACT ME TODAY!

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