

# THE MICROBIOMES OF SYMPATRIC CRYPTIC NEMATODE SPECIES REFLECT RESOURCE DIFFERENTIATION WHICH IS ALTERED BY ECOLOGICAL INTERACTIONS



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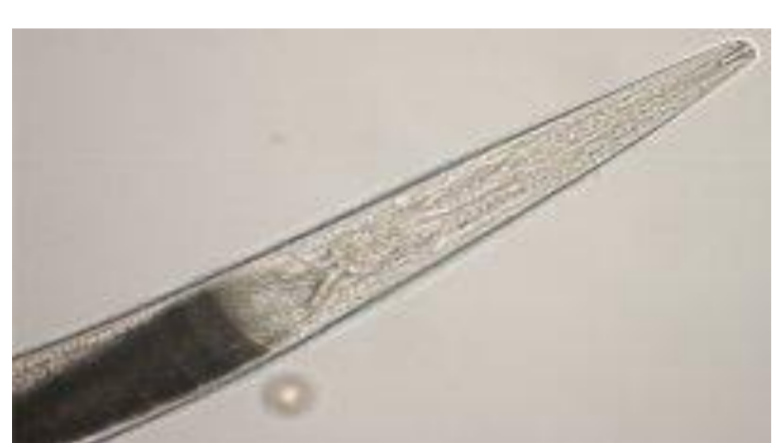
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## INTRODUCTION

- Behind the **morphological similarity** of many species hides a substantial **cryptic genetic diversity**
  - **Coexistence** of cryptic species **challenges** competition theory because fierce competition is expected between highly similar species
  - Coexistence can be achieved by **ecological differences (i.e. resource differentiation)** between cryptic species
- ??? Are there differences in **microbiomes** and **feeding strategies**???

## MATERIAL & METHODS

- Cryptic species of marine nematode *Litoditis marina*: Pm1; Pm3 and Pm4
- Ten individuals subjected to

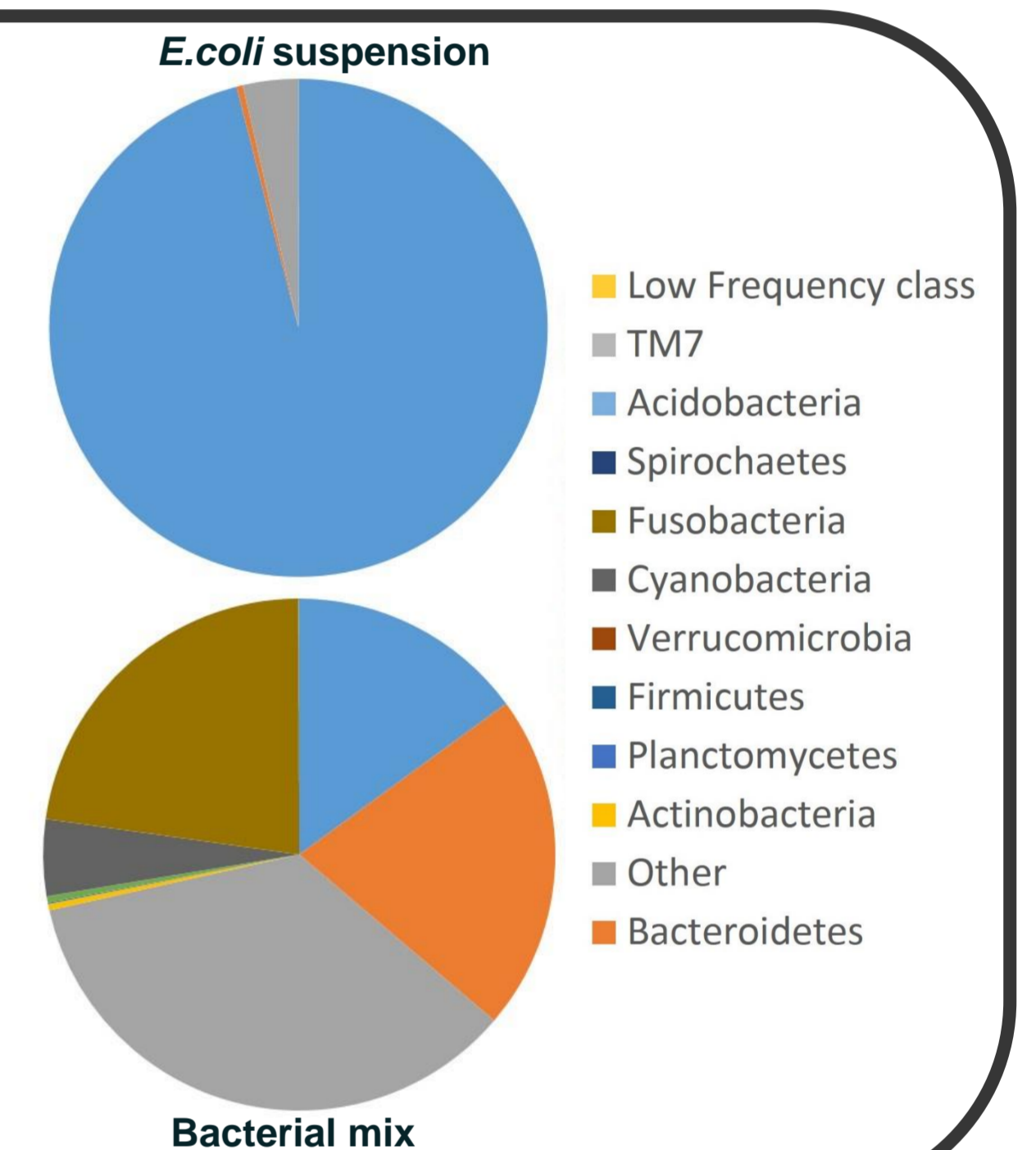


A) interspecific competition (food = a 'natural' bacterial mix)

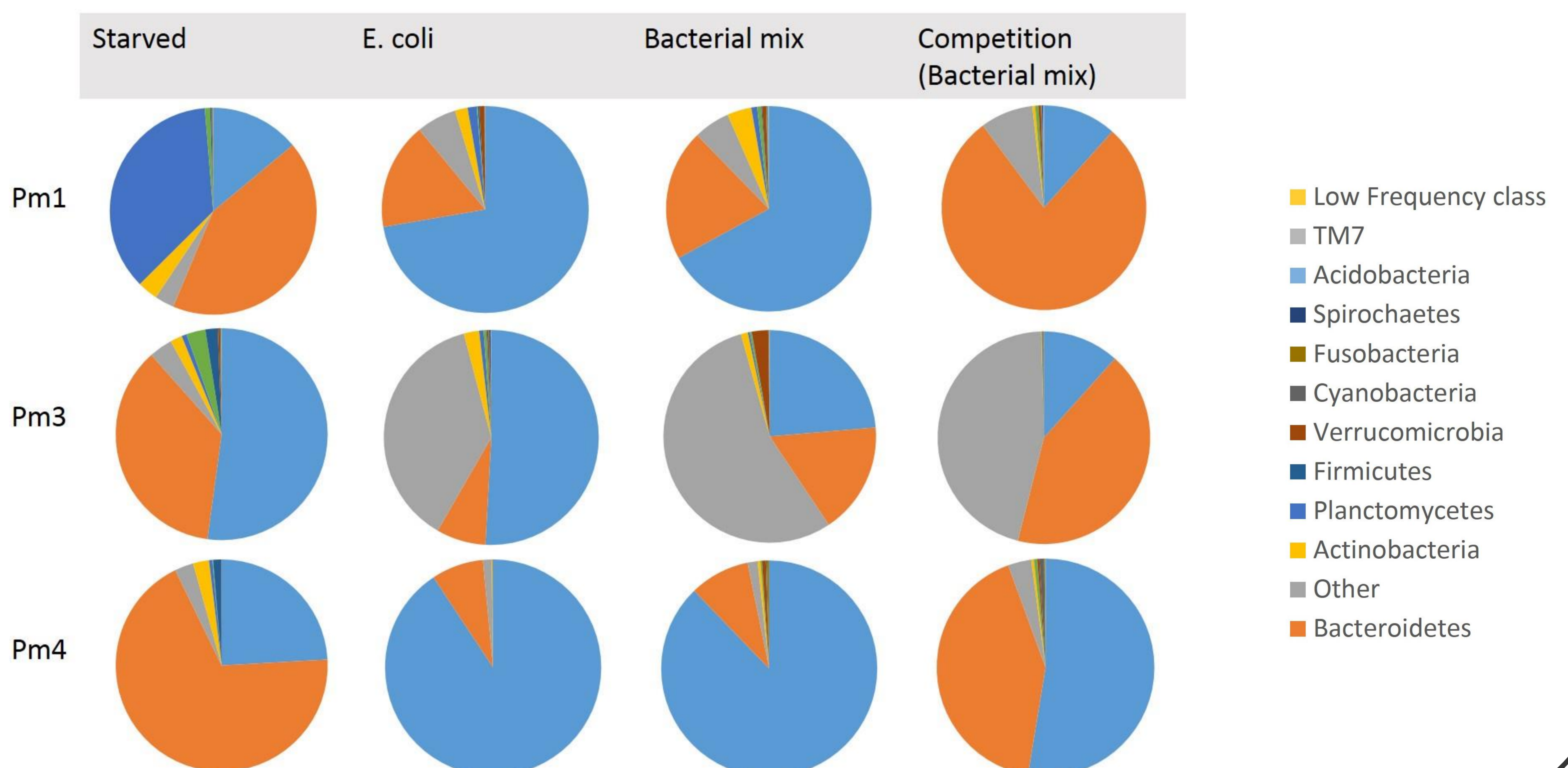
B) different feeding conditions:

starved, *Escherichia coli* suspension and a 'natural' bacterial mix

- 16S rRNA Next Generation Sequencing (Illumina MiSeq) to characterize the microbiomes of individual nematodes



## RESULTS



## CONCLUSIONS



- The microbiome **differs between species**
- **Food conditions alter** the microbiome of the species
- **Interspecific interactions** change the microbiome of the species

→ **Niche differentiation may be an important mechanism for coexistence of cryptic species**