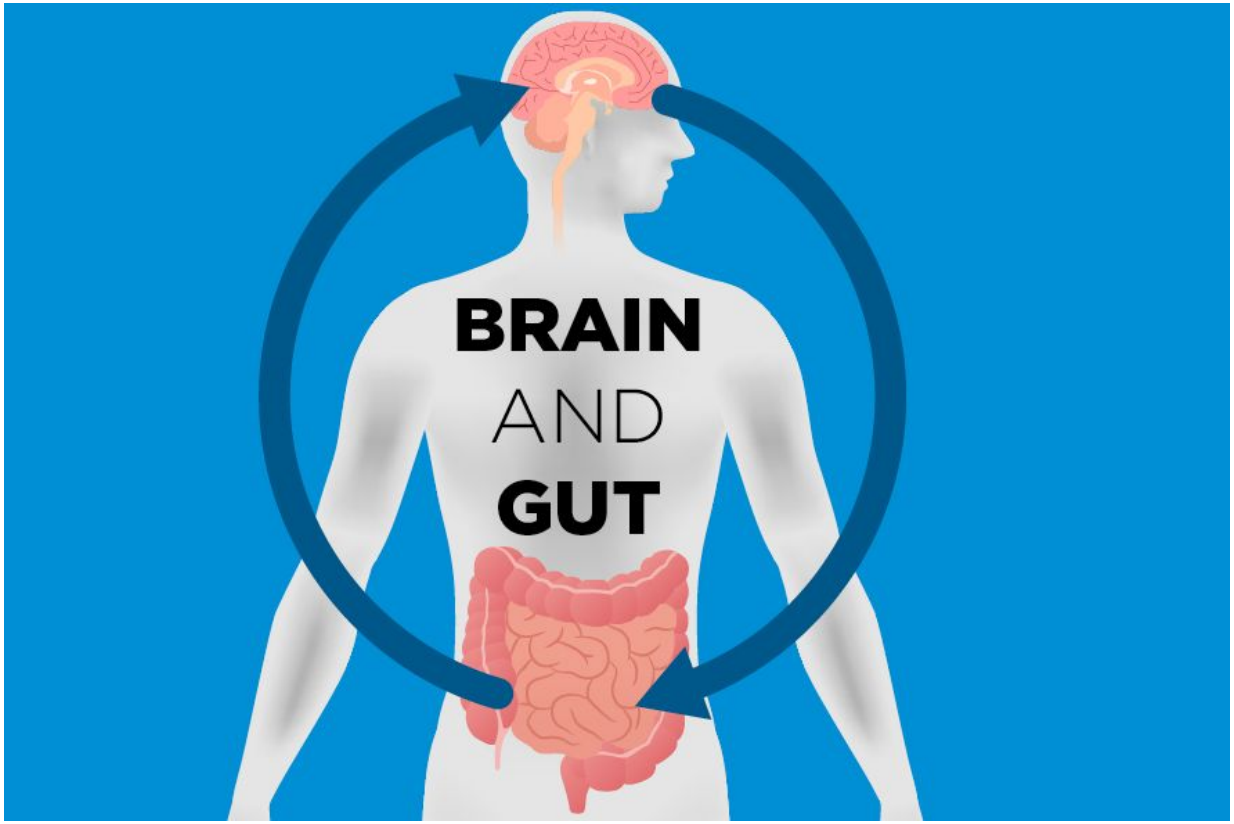
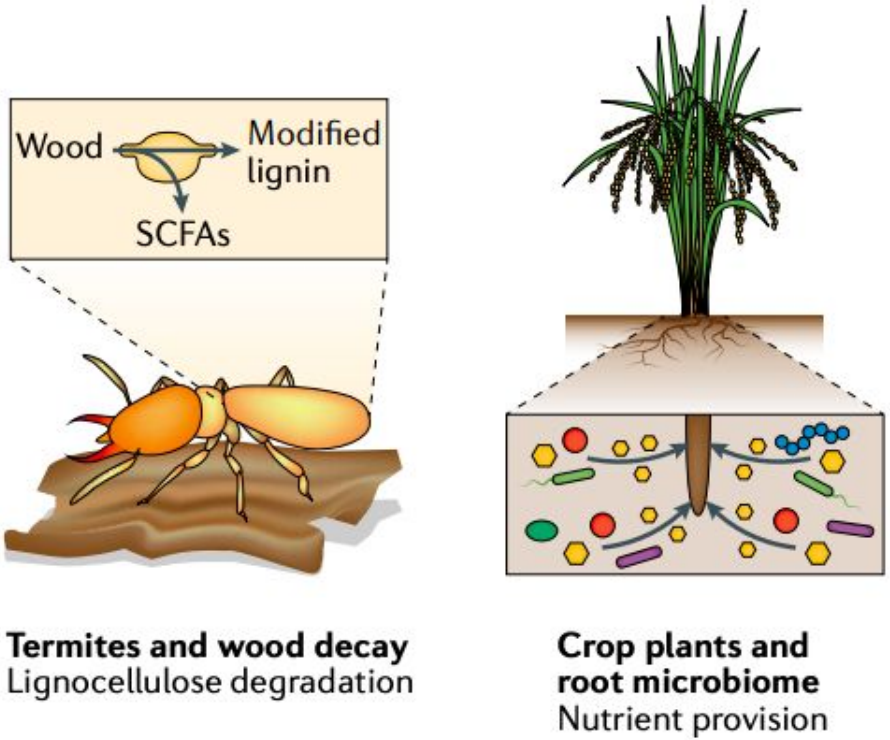
HoloFood sampling and experimental design and Q&A

About perspectives

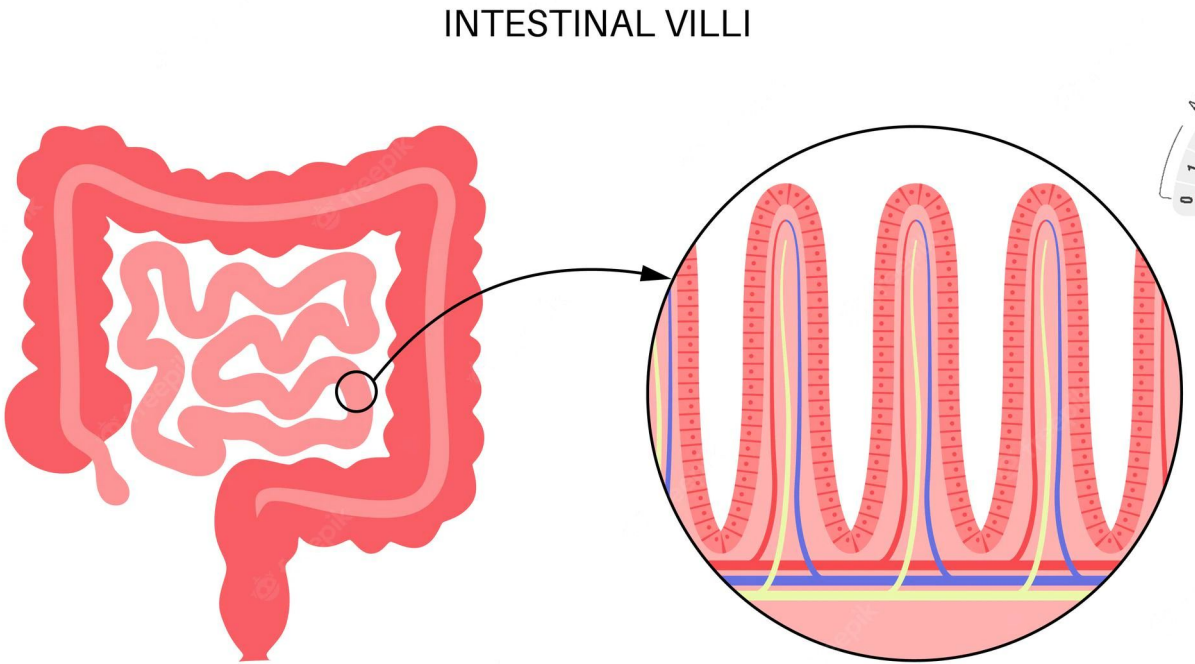


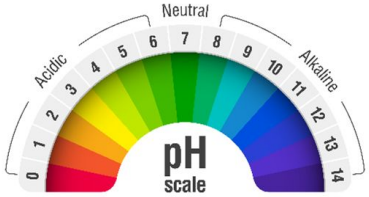
The host perspective

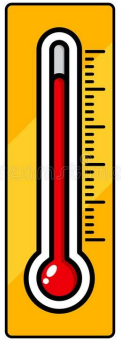


Alberdi et al. 2021 NRG

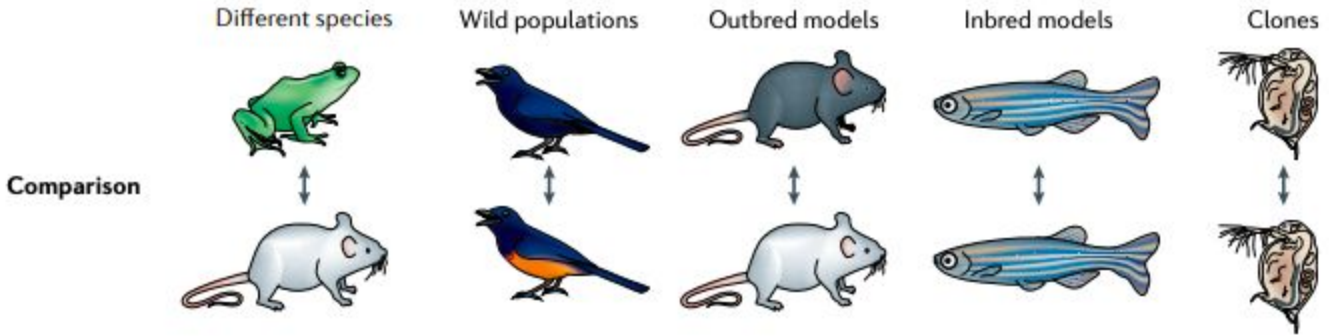
The microbiota perspective



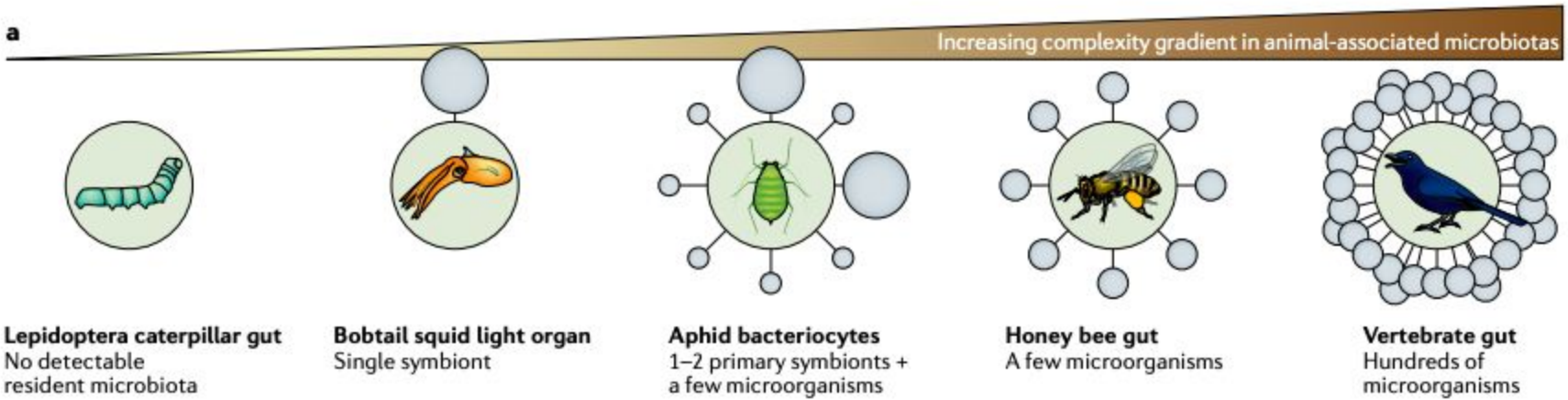




About complexity



Different levels of complexity in real world



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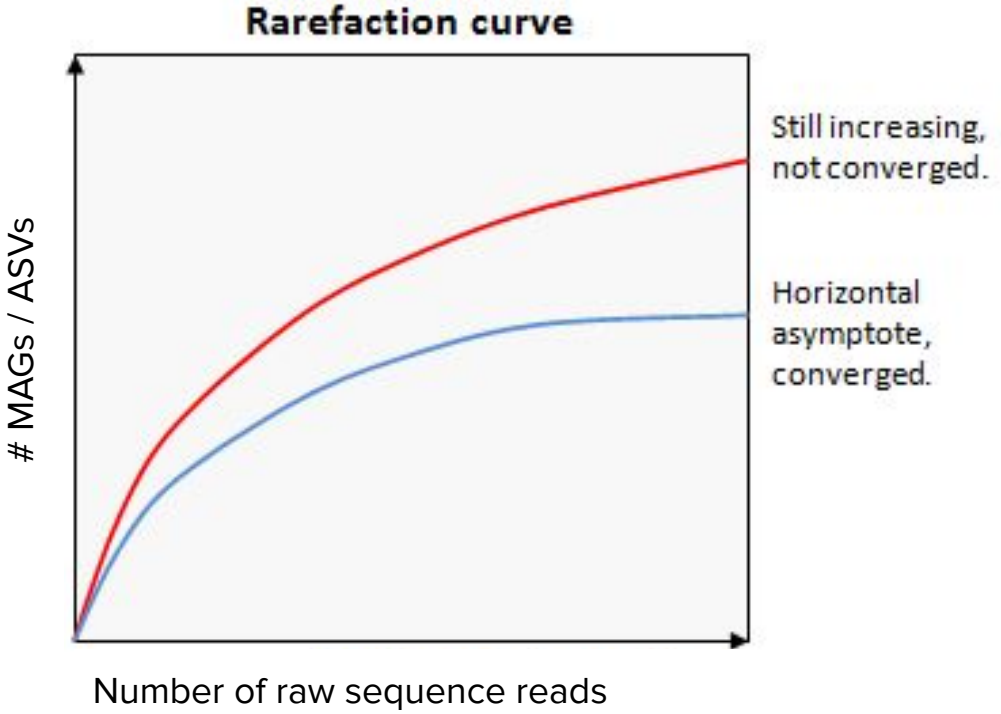
Rarefaction curve



Rarefaction curve

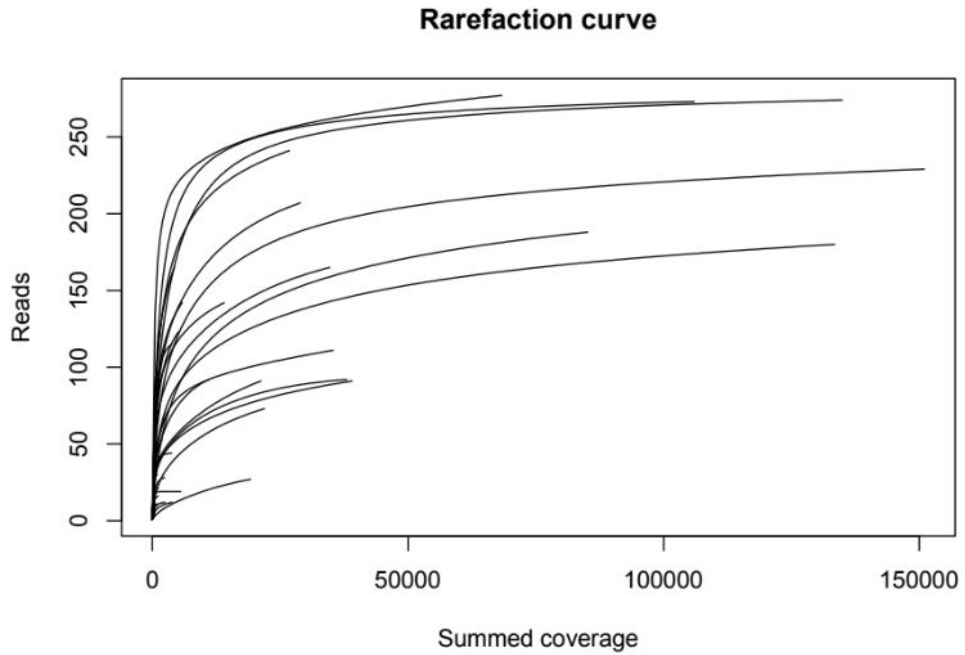
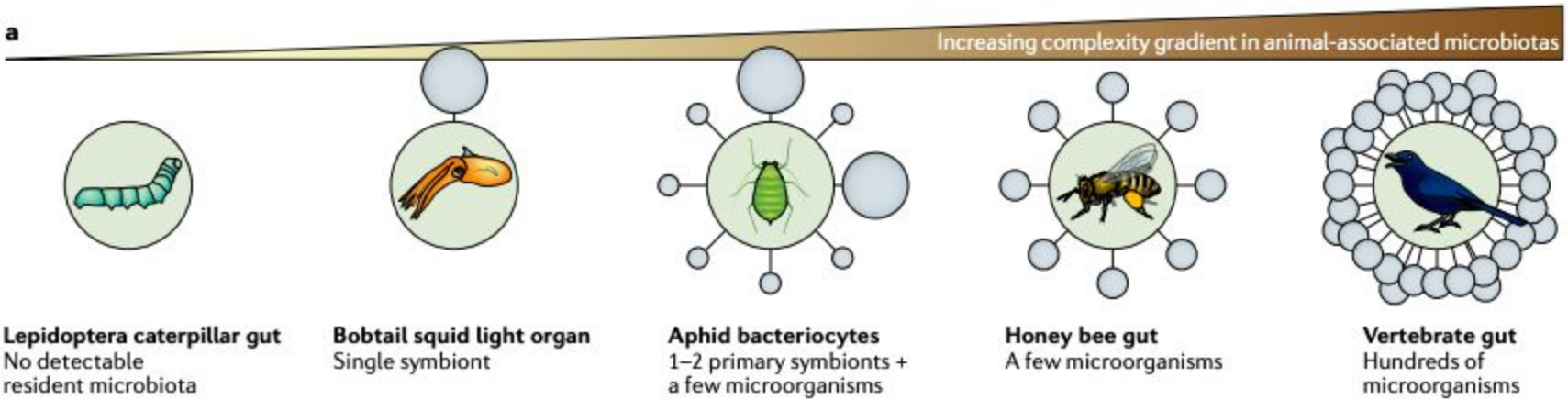


Figure S1. Rarefaction curve showing the sequencing saturation of the samples. Only a few samples reached saturation.

Winther-Have et al. 2022 *in prep*

Where do you need the deepest sequencing?



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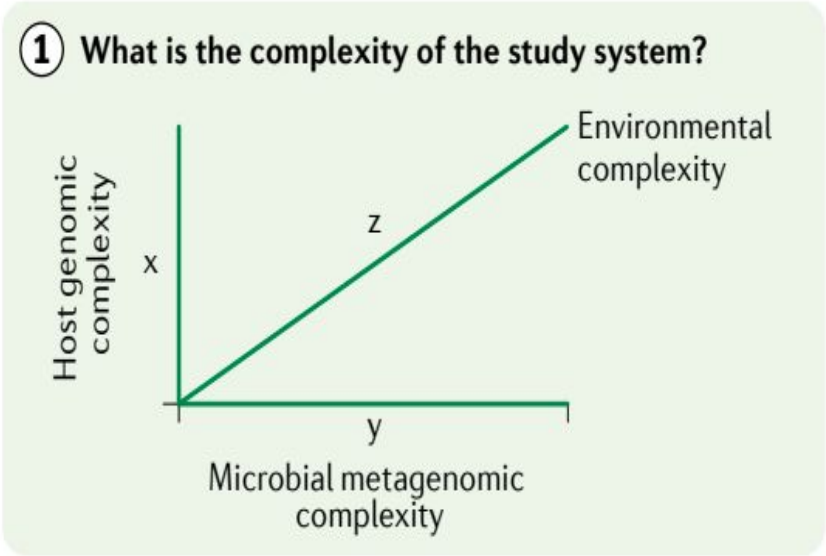
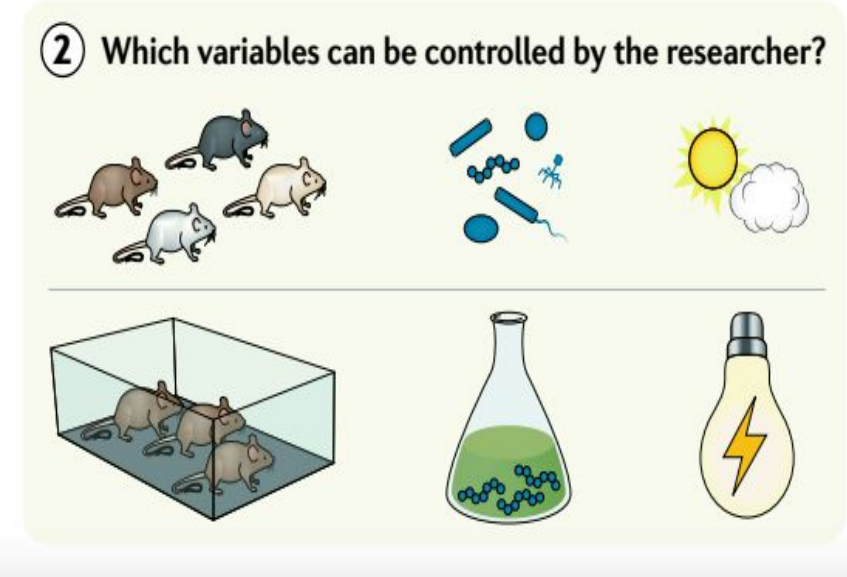
Assessing the complexity of your study system





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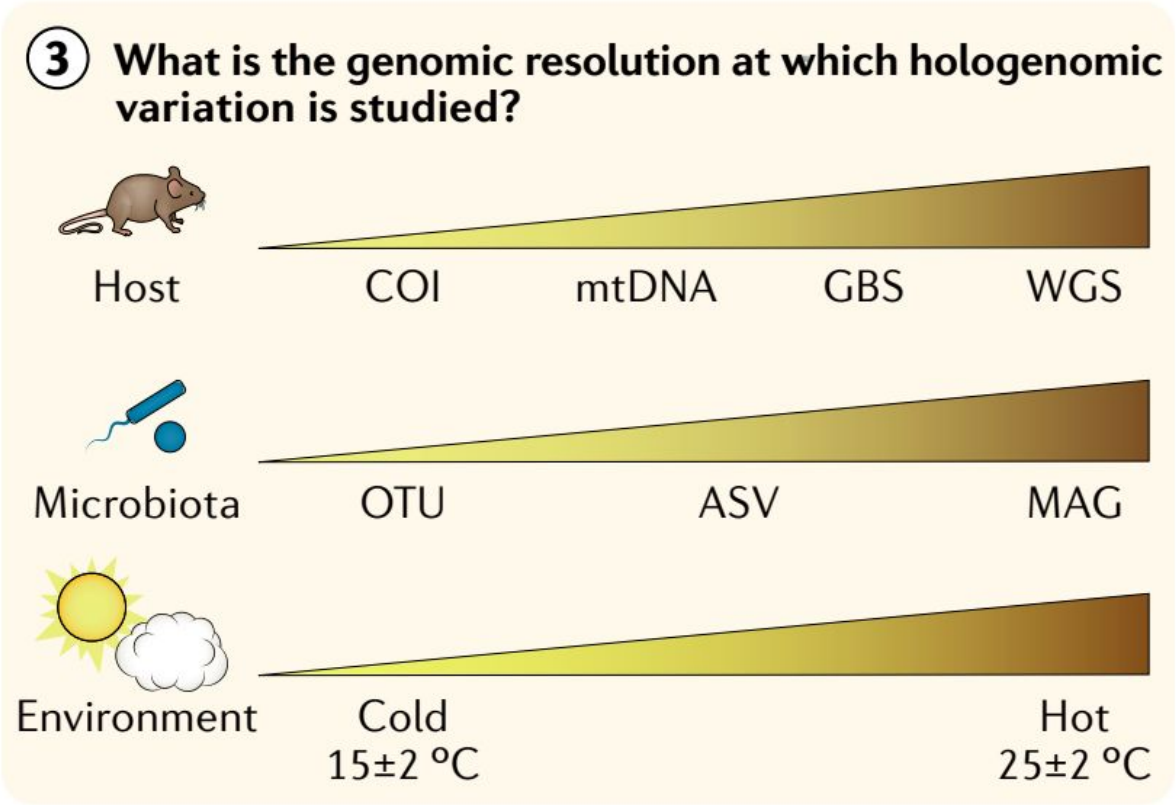
Can you control this complexity?



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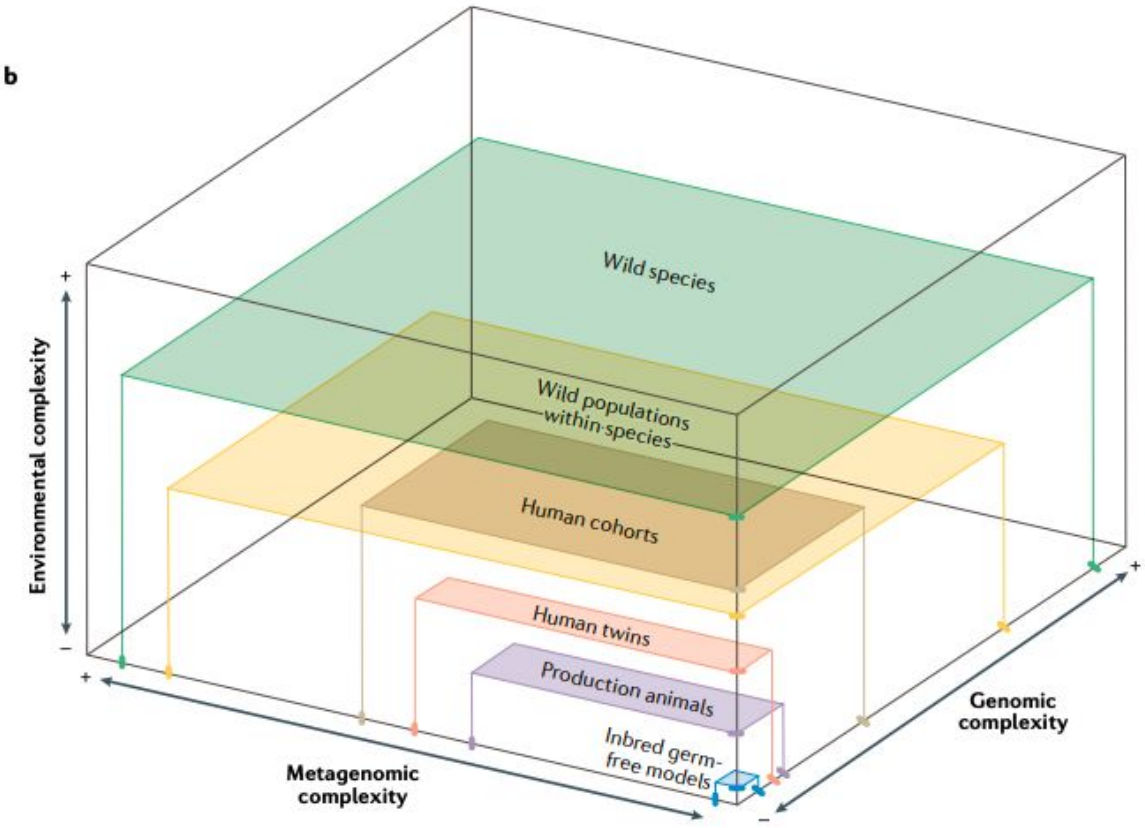
Study systems and varying complexity



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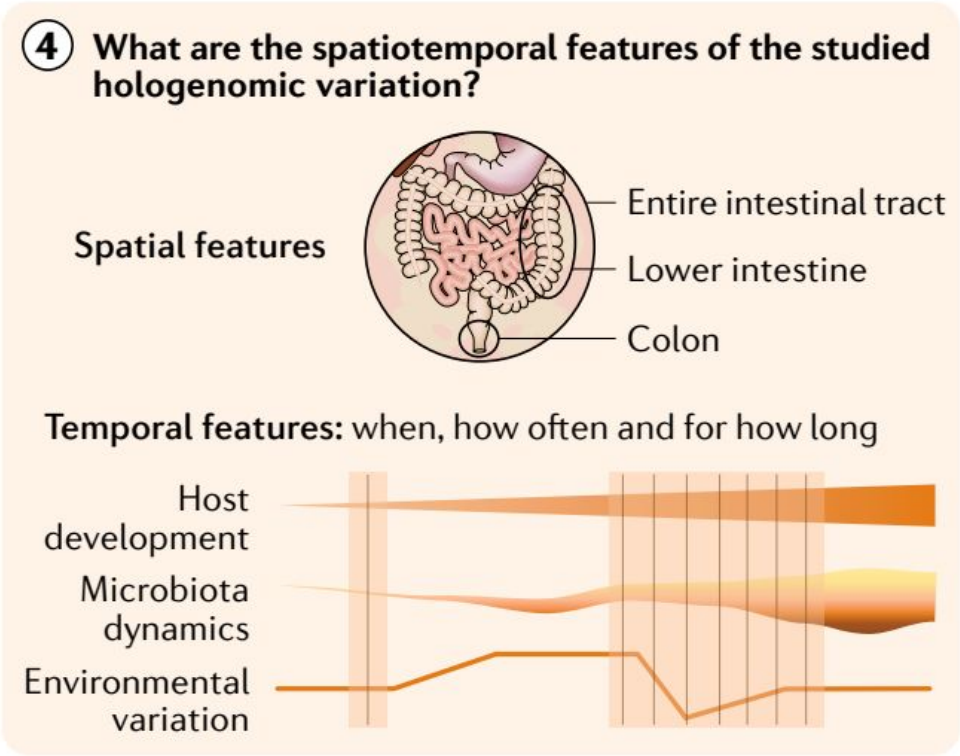
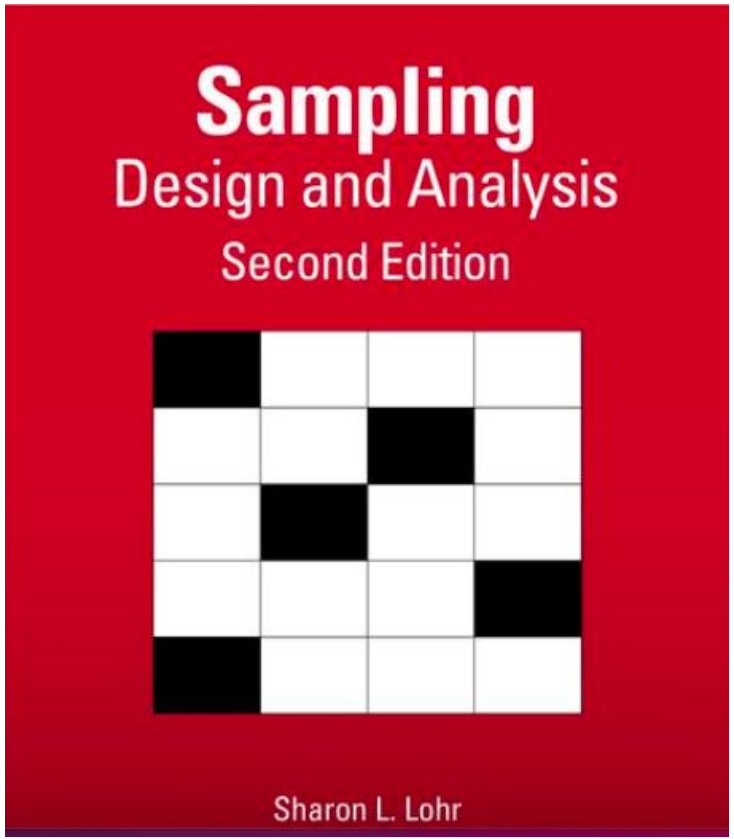
About space and time and complexity

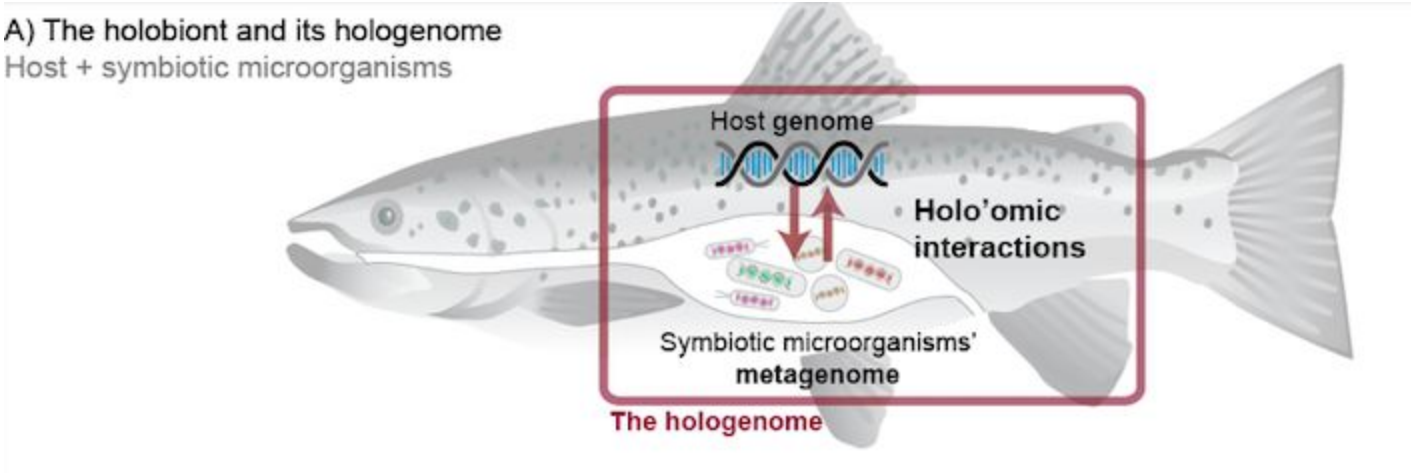


Alberdi et al. 2021 NRG

About sampling design



There are many holo-omics layers



Limborg et al. 2018 TIBTECH

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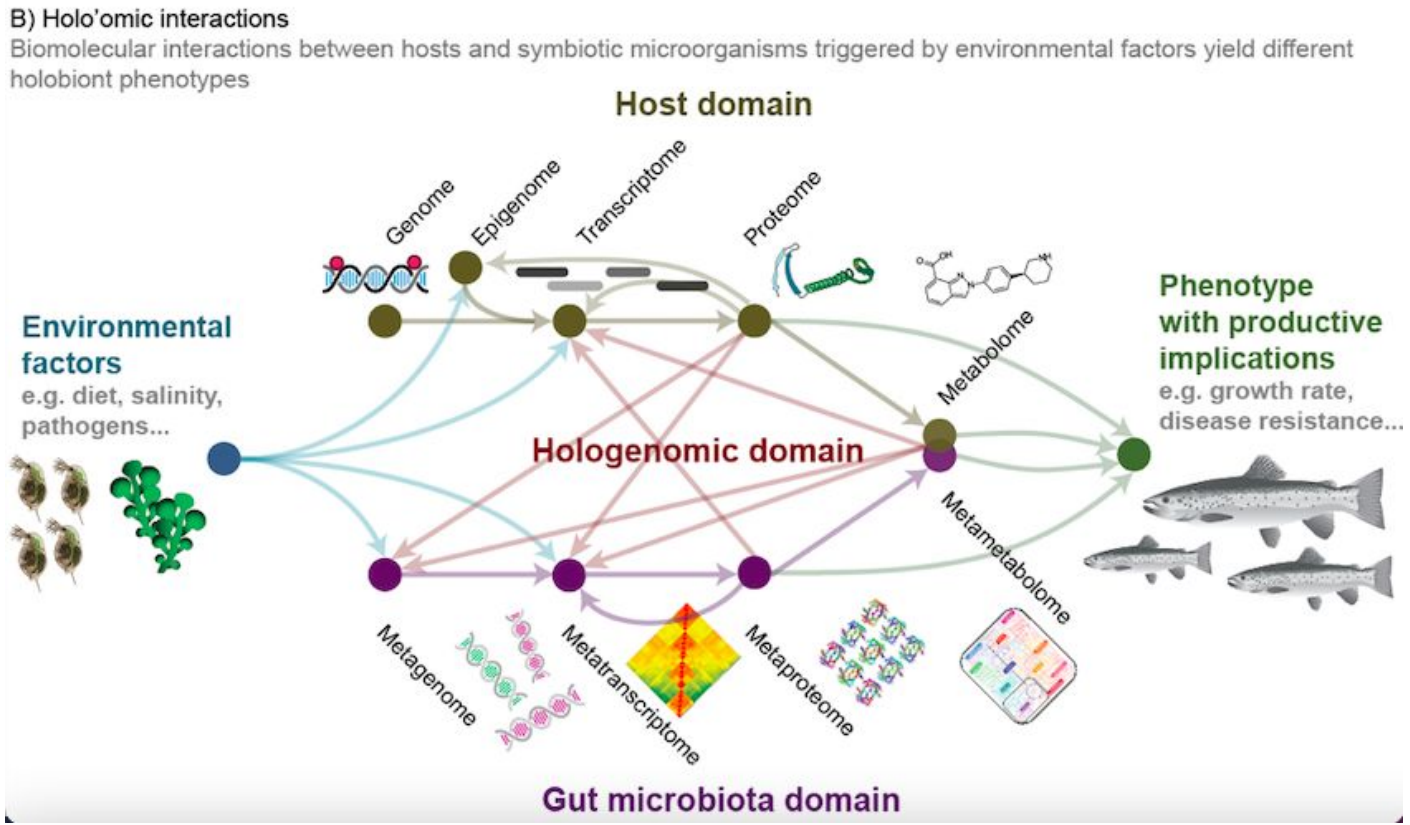

Limborg et al. 2018 TIBTECH

Shall we generate data for all layers?

Limborg et al. 2018 TIBTECH

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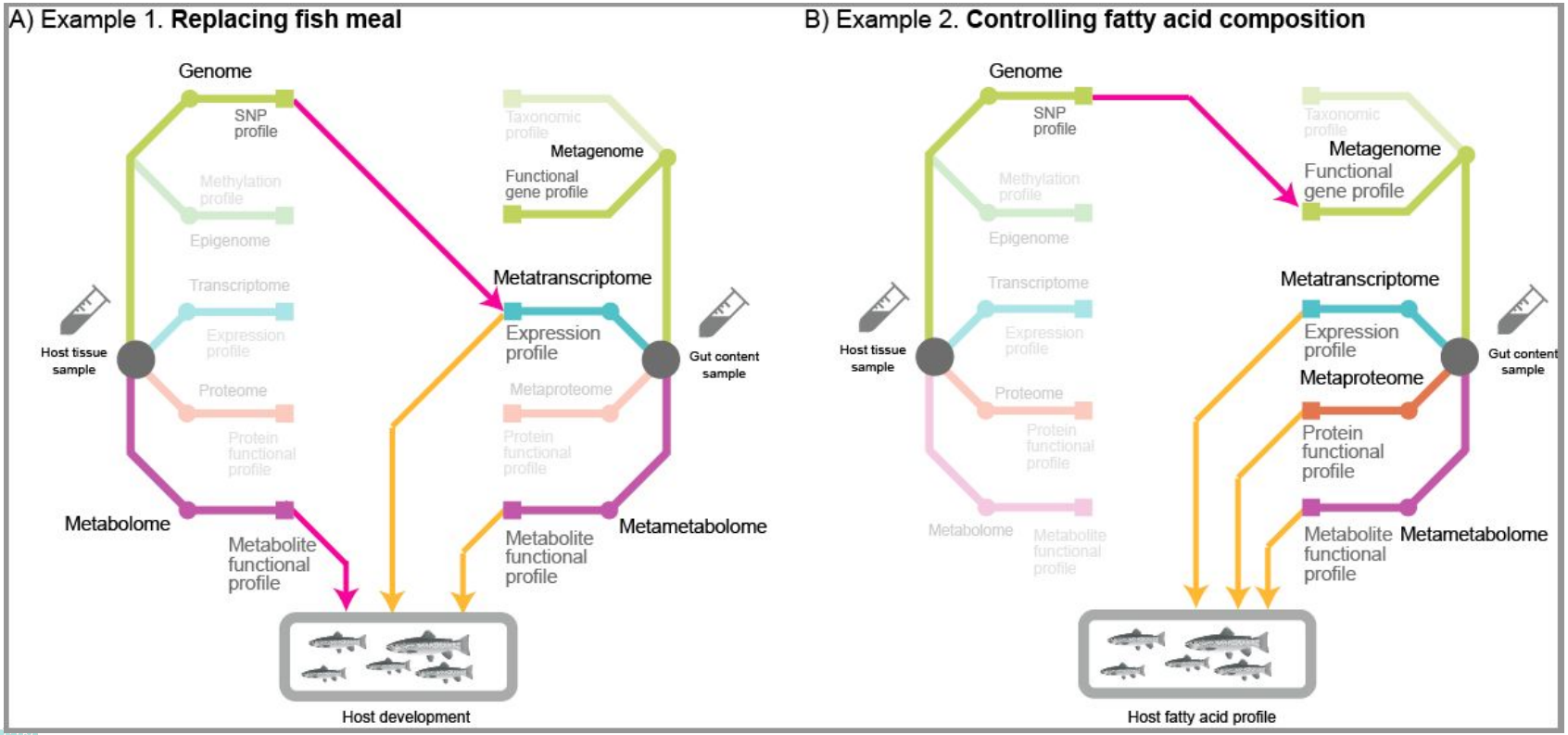
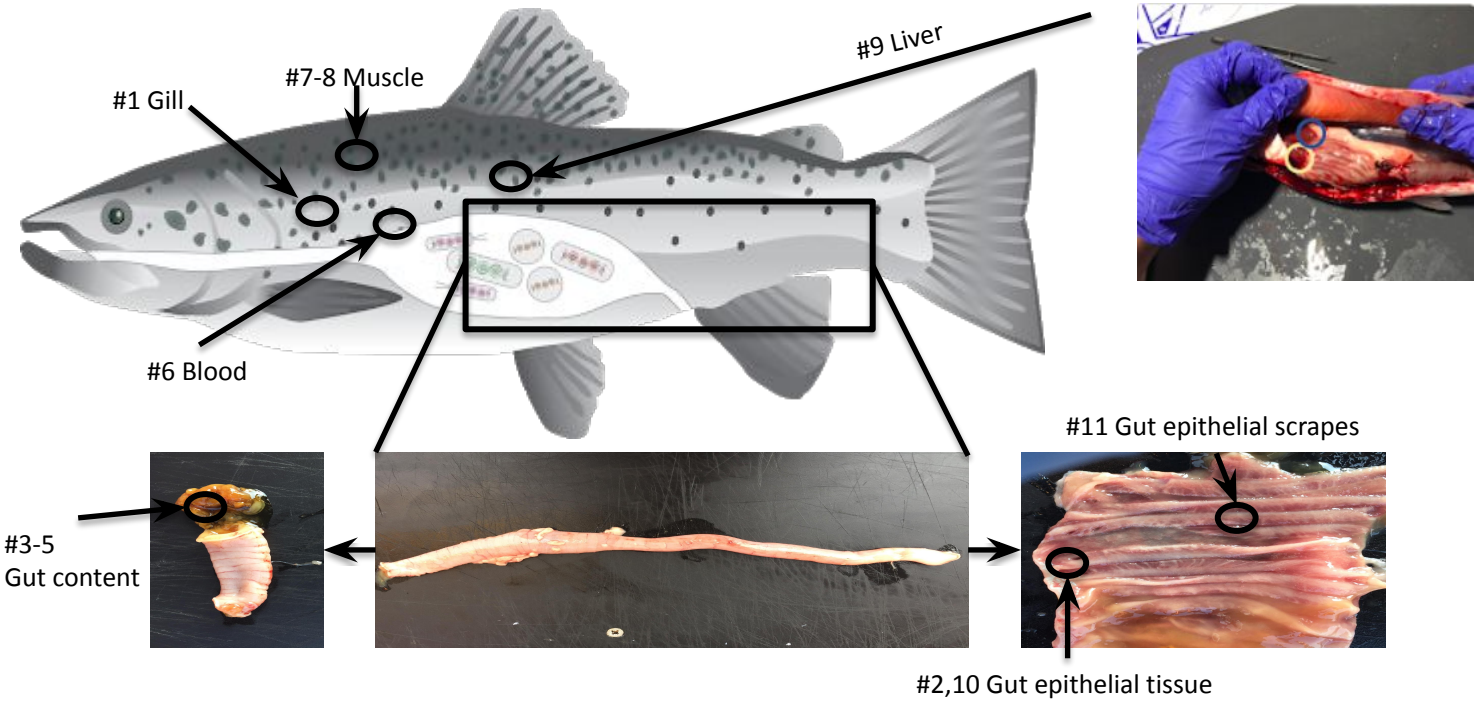


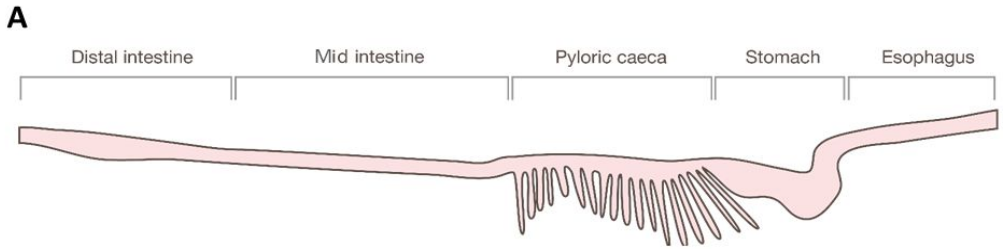
Limborg et al. 2018 TIBTECH

About sampling protocols

Multiple potential sites to sample



Gut content vs gut mucosa sampling



About Preservation methods

Preservation methods

Journal of Microbiological Methods 160 (2019) 42–48

Contents lists available at ScienceDirect

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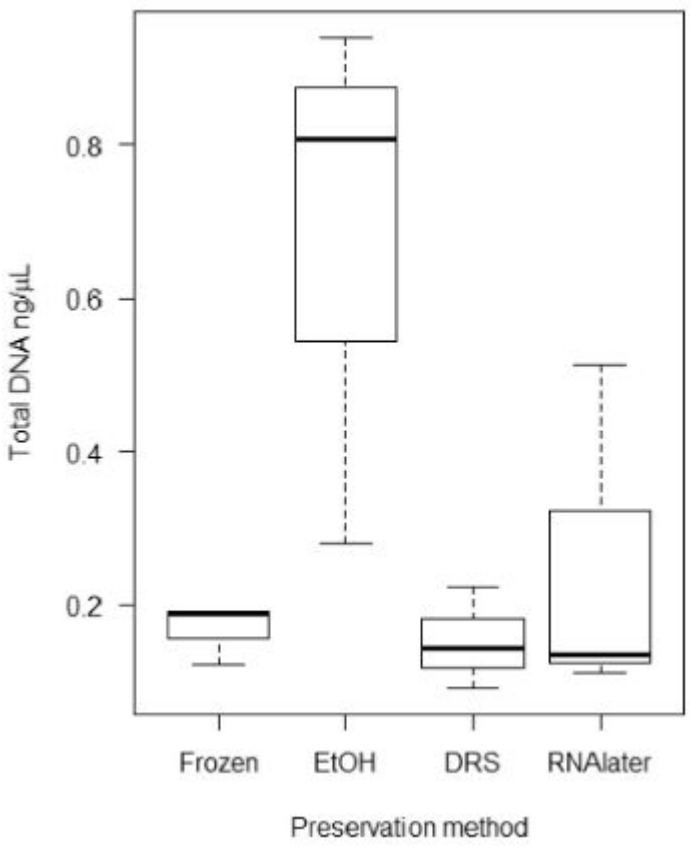
Metagenome libraries



Hildonen et al. 2019 JoMM

Ok - that’s enough background

Alberdi et al. 2021 NRG

Group exercise - take 2

1. Re-visit exercise from lecture 1

2. Now design a sampling protocol for the hologenomic study you proposed in exercise 1

3. Consider for example:
   - What data do you want?
   - Types of samples from host
   - Types of samples from microbiota
   - Tissues?
   - Buffer or no buffer?
   - *More steps of the protocol to obtain your samples ?*

4. Speed presentations by all + discussions

HoloFood sampling and experimental design and Q&A