

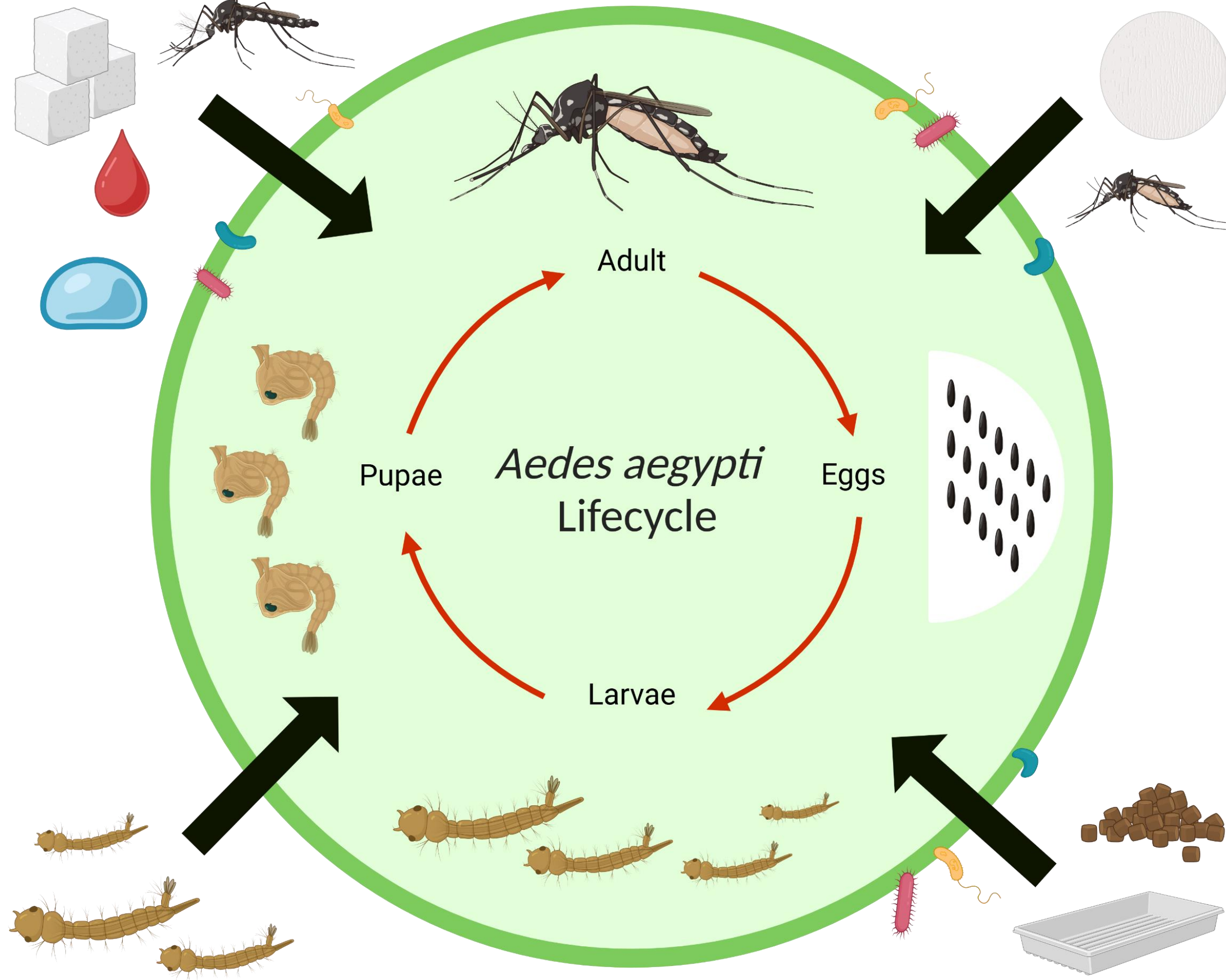
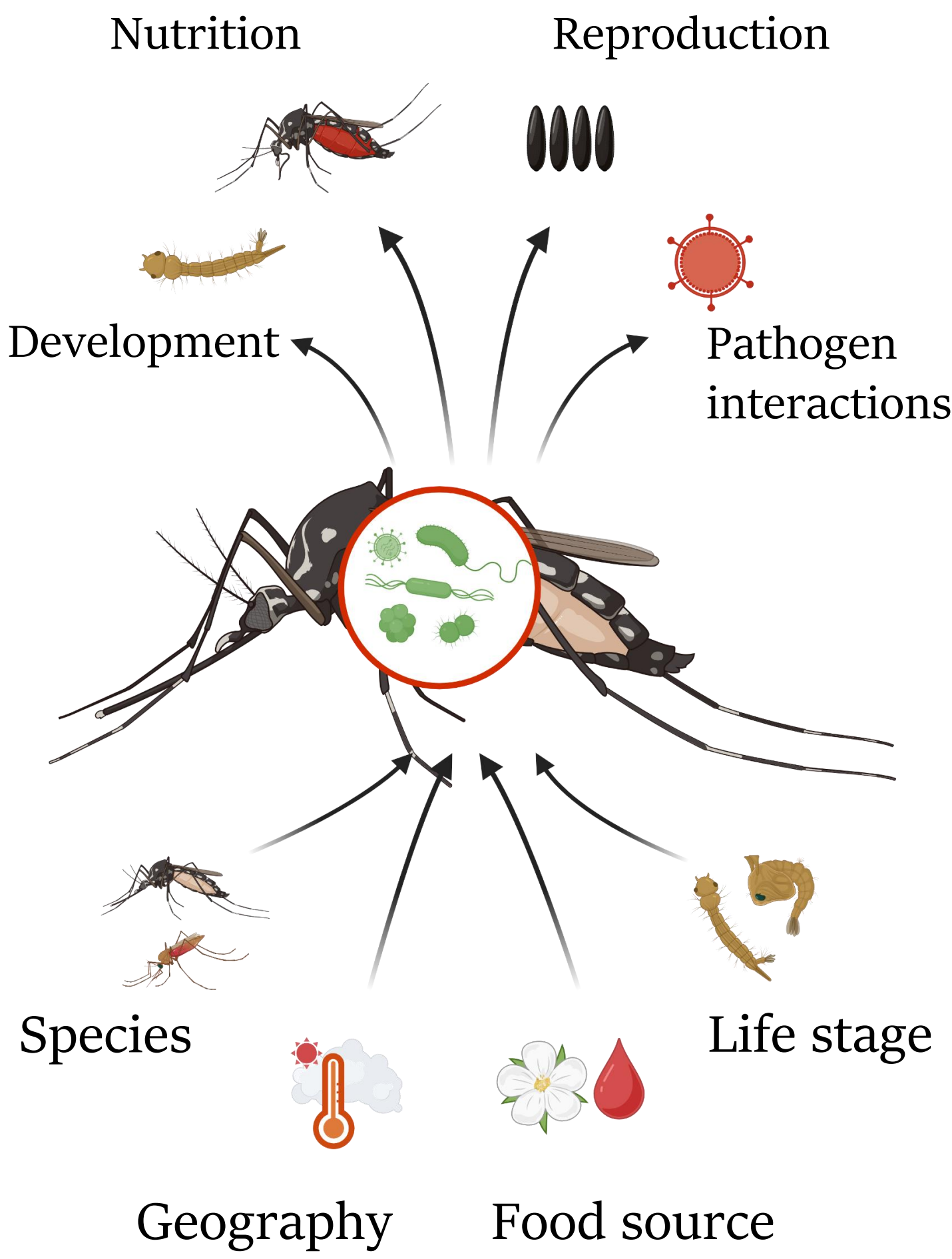
Mosquitoes reared in distinct insectaries within an institution in close spatial proximity possess significantly divergent microbiomes



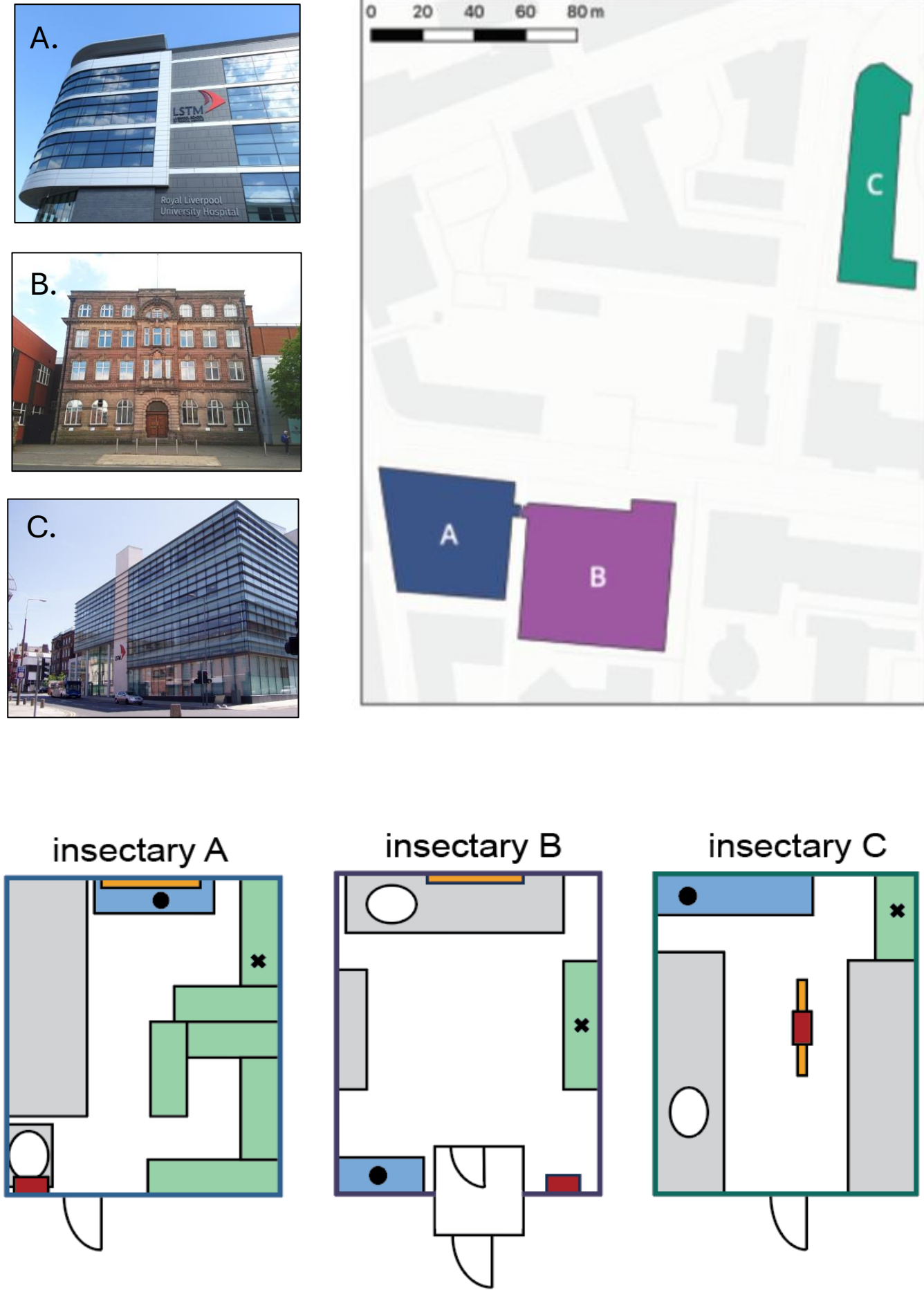
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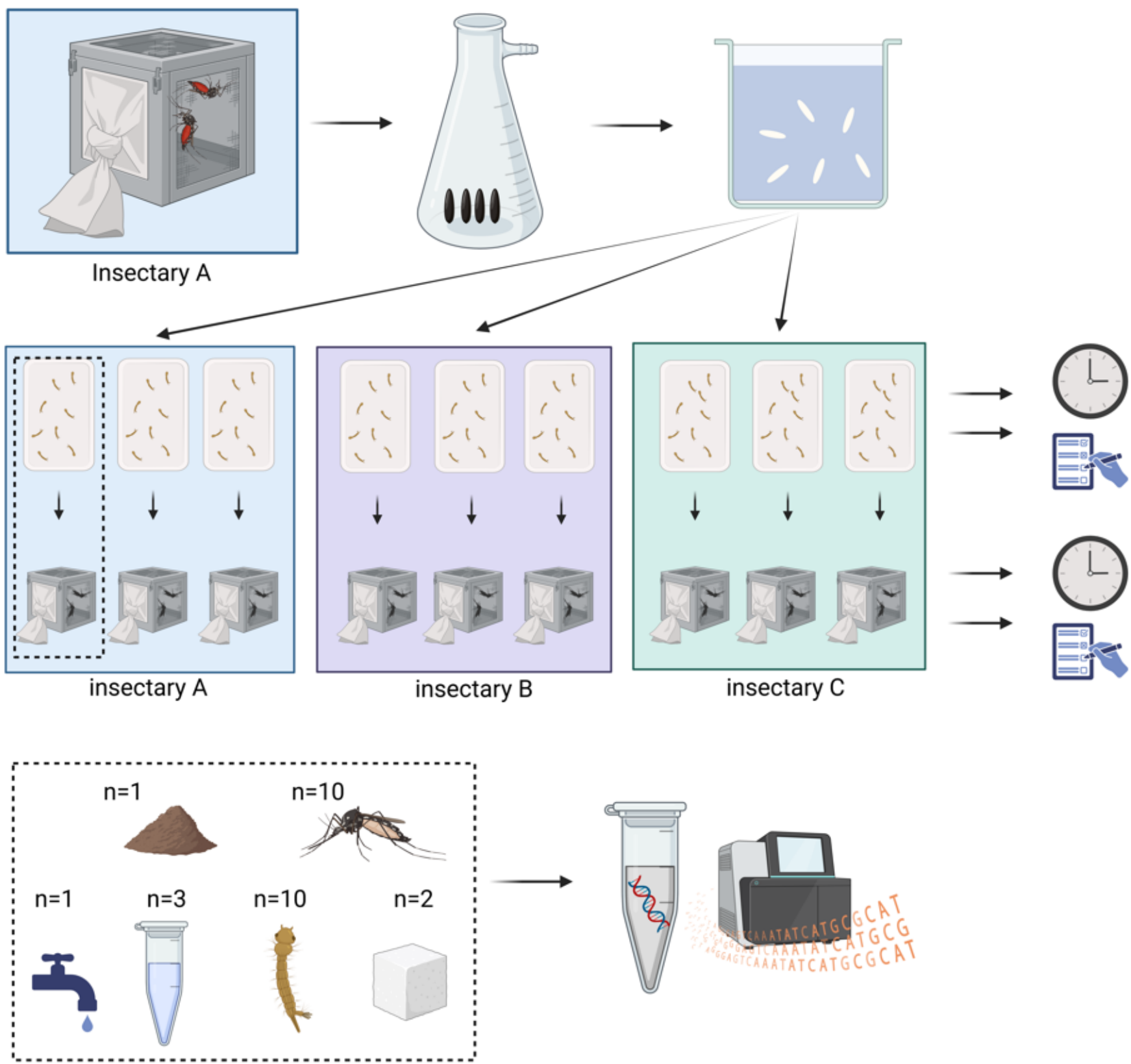
The Mosquito Microbiome



Study Site



Methods

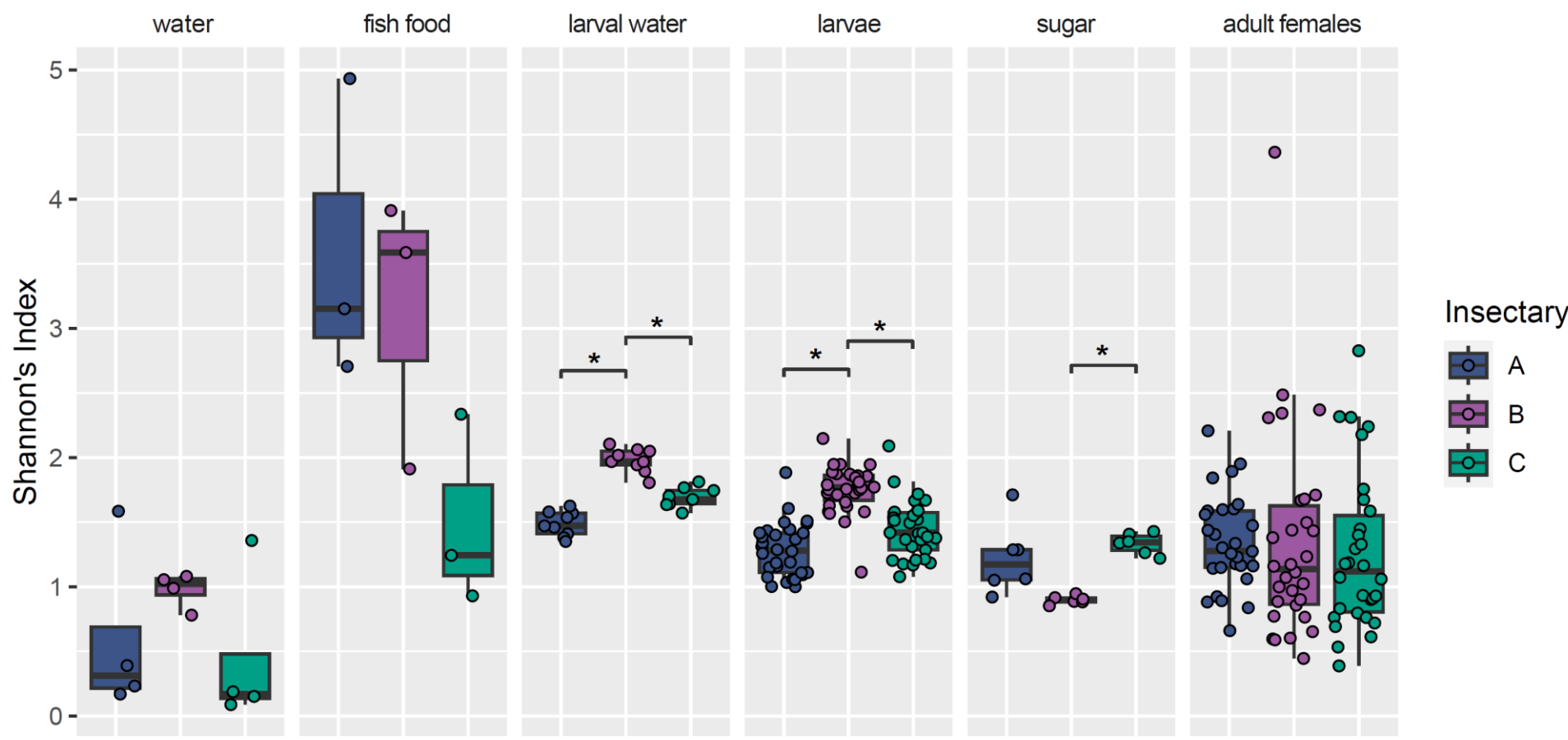


Results

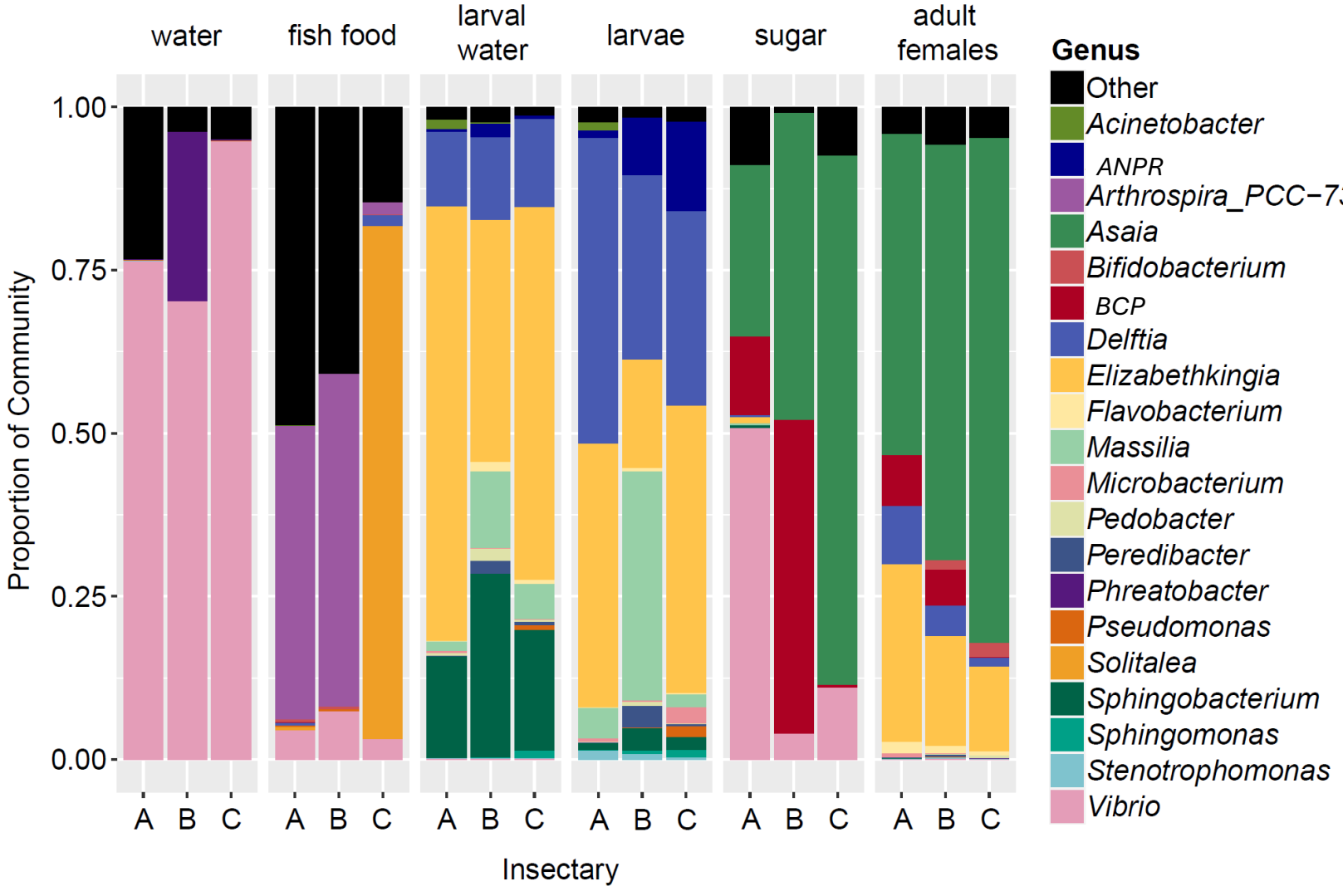
1. Mosquitoes varied in their microbiome diversity

Larvae and larval water samples showed statistically significant pairwise differences.

Significant differences are seen in the sugar solution samples which feed the microbiome of adults. This suggests an inability for some of these microbes to colonise the adult gut microbiome.



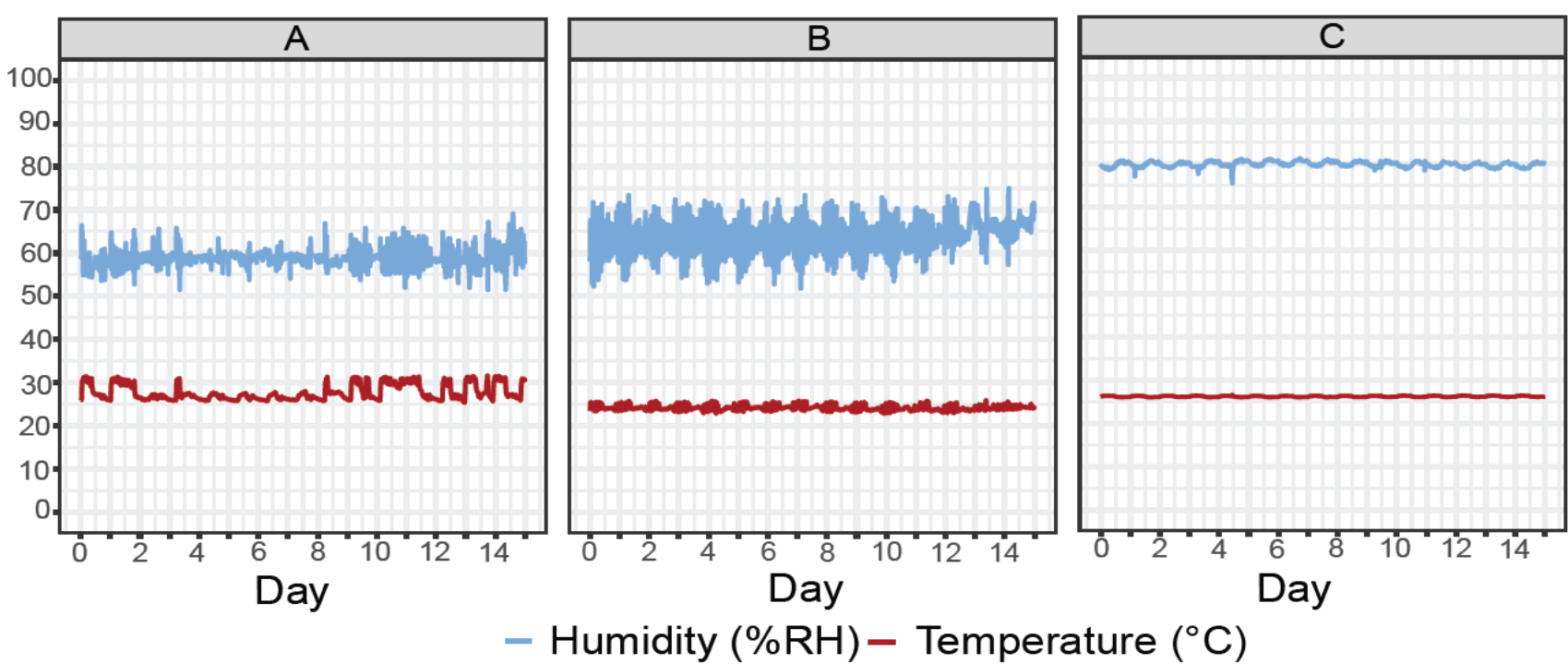
2. Relative abundances varied between insectaries



Larvae and larval water samples were similar in composition, being dominated by *Delftia* and *Elizabethkingia*. Samples from adult female mosquitoes were dominated by *Asaia* and *Elizabethkingia*. The sugar samples also contained a high proportion of *Asaia*.

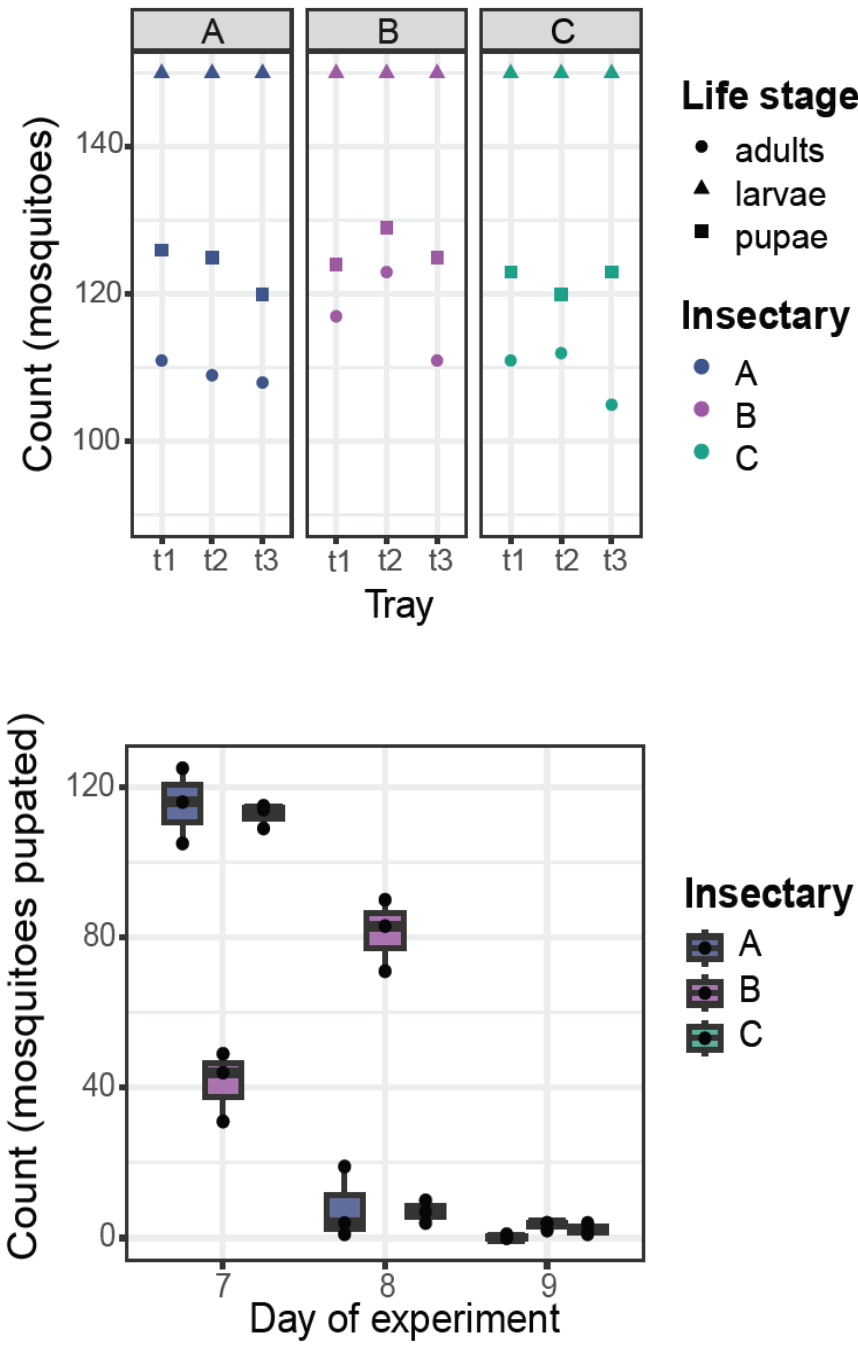
While the different sample types were compositionally similar, the relative abundances of these genera varied by insectary.

Environmental Conditions



Temperature and humidity stability varied

No significant changes were found within mosquito development. However, there is a notable change in the pupation time of insectary B with the majority of larvae pupating a day late.



3. Patterns confirmed at ASV level

The ASV data revealed differences that were not apparent at the genus level.

One *Asaia* ASV was present in adult and sugar samples from insectary C, but not present in others. An ASV within the Enterobacteriaceae was common in samples from insectary C but reduced in Insectary A, and absent in B.

