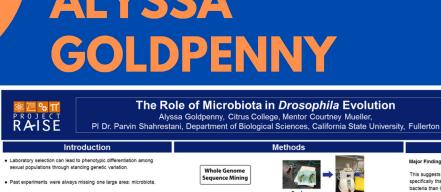
ALYSSA GOLDPENNY

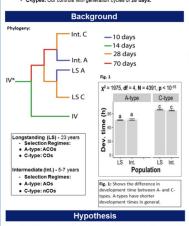




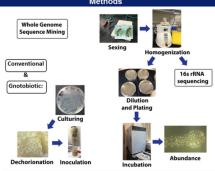




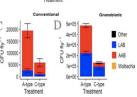
- . To study the relationship between host and microbiota, we worked with the Drosophila melanogaster species of fruit fly.
- sampled in Massachusetts in 1975.
- Populations have undergone longevity selection.
 - A-types: Our evolved populations with accelerated development cycles of just 10-days.
- C-types: Our controls with generation cycles of 28 days



 Populations selected for faster development become differentiated from founder populations in both development time and microbiota



Common bacterial Acetobacter or AAE 2. Lactobacillus or LAB (lactic acid bacteria) 345123451234512345 S Int. LS Int. A-type Treatment C-type 3. Wolbachia A-type C-type Findings



C-types (standard development - 28 days Higher abundance of types it is relatively

A-types (accelerated development - 10 days Higher bacterial load than C-types.

This suggests that populations do select for microbiota, and specifically that the A-types are more open to colonization by bacteria than C-types are

Overall Conclusion:

Major Finding:

Populations selected for faster development did indeed show significant differences from their founder populations in microbiota



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In general, we took different populations of Drosophila melanogaster, each one has undergone various levels of longevity selection and compared their microbial compositions. We had a population whose generation cycle was 28 days, which is the standard, and we had a population with an accelerated generation cycle of just 10 days. The two main bacterial genus' we looked for were Acetobacter and Lactobacillus. All in all, it was found that populations who have undergone different selection pressures will have distinctly different bacterial compositions and/or abundances as well.

Alternate Text:

Alyssa Goldpenny

Quote: "In general, we took different populations of Drosophila melanogaster, each one has undergone various levels of longevity selection and compared their microbial compositions. We had a population whose generation cycle was 28 days, which is the standard, and we had a population with an accelerated generation cycle of just 10 days. The two main bacterial genus' we looked for were Acetobacter and Lactobacillus. All in all, it was found that populations who have undergone different selection pressures will have distinctly different bacterial compositions and or abundances as well."

Image of Alyssa Goldpenny

Image of text and graphic laden project presentation entitled "The Role of Microbiota in Drosophila Evolution. Alyssa Goldpenny, Courtney Mueller"