



The Courtship of Fruit Flies

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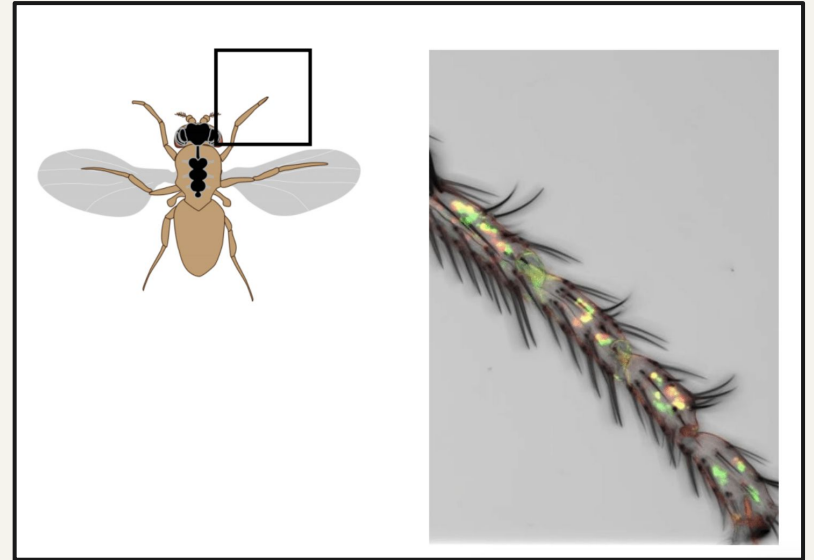
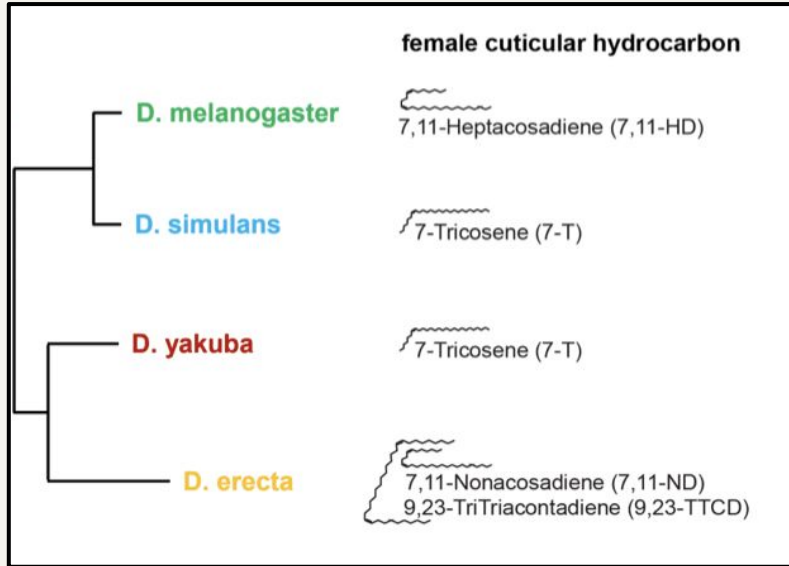


Objective

- Observe the mating behavior of male fruit flies
- Learn about the different hormones and neurons that cause the male fruit flies' to pursue female fruit flies
- Create our own experiment to decipher any differences in courtship behavior
- Develop and analyze data from different trials in the experiment
- Experimental Question: Will drugs affect the fruit flies' courting interaction?



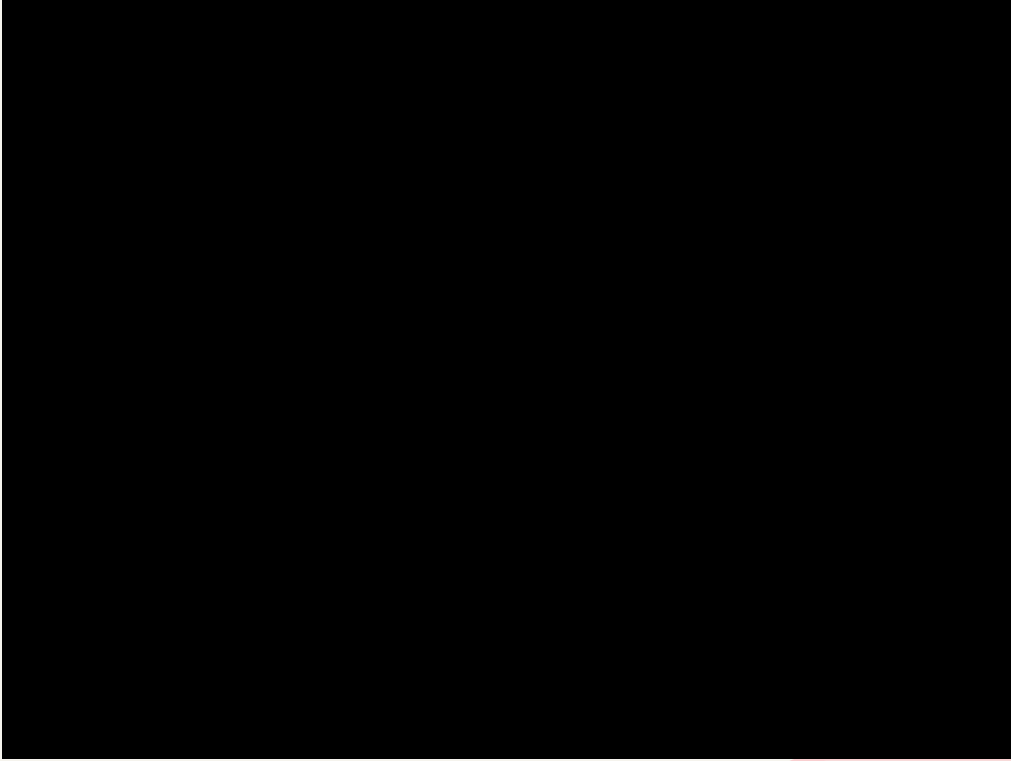
Pheromones



Drosophila melanogaster vs. *Drosophila simulans*

- Female *D. melanogaster* express pheromone 7,11-heptacosadiene (7,11-HD)
- Female *D. simulans* express pheromone 7,11-Tricosene (7,11-T)

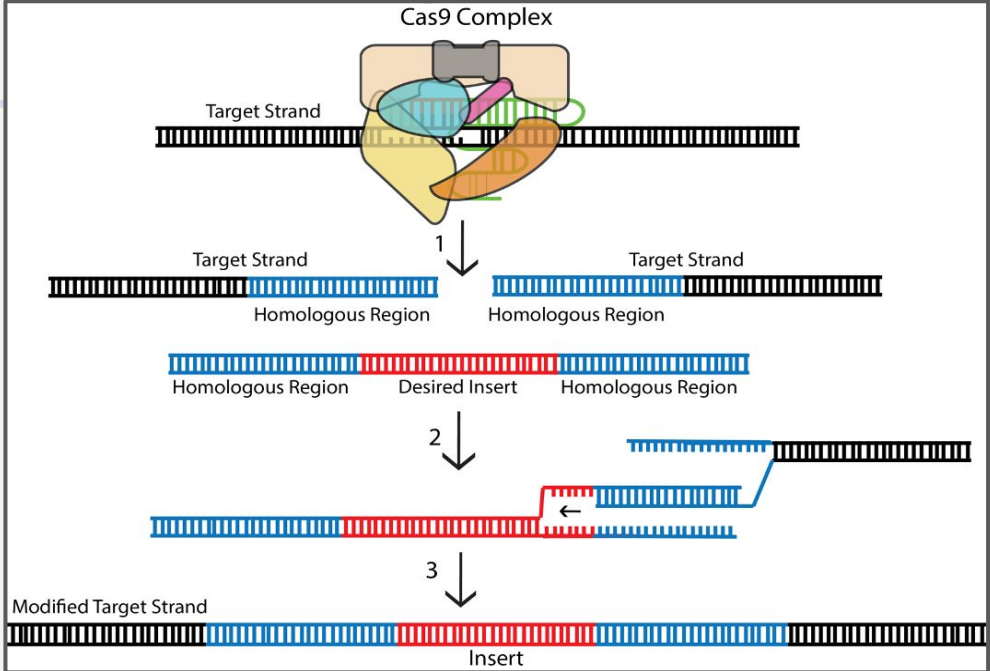
Courting Flies



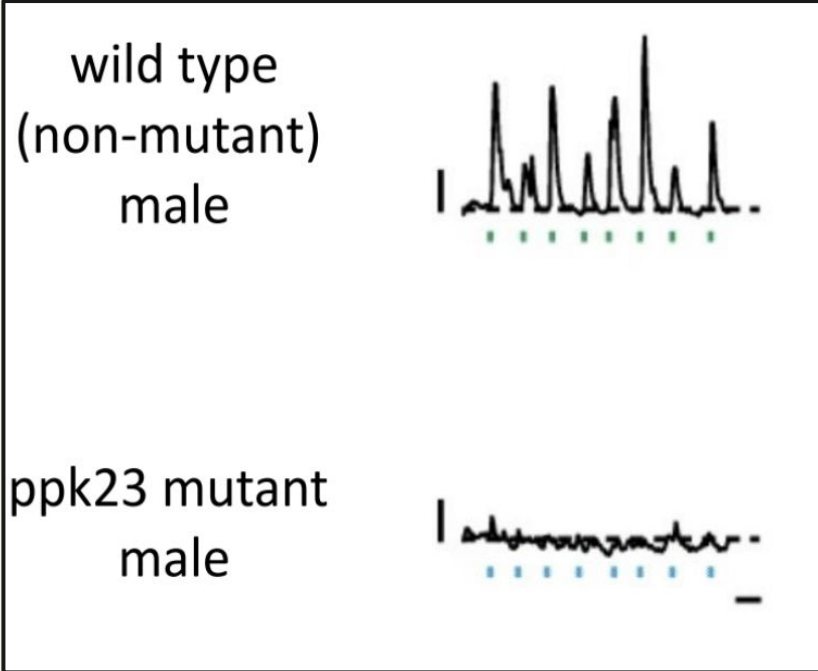
Fly Song



CRISPR

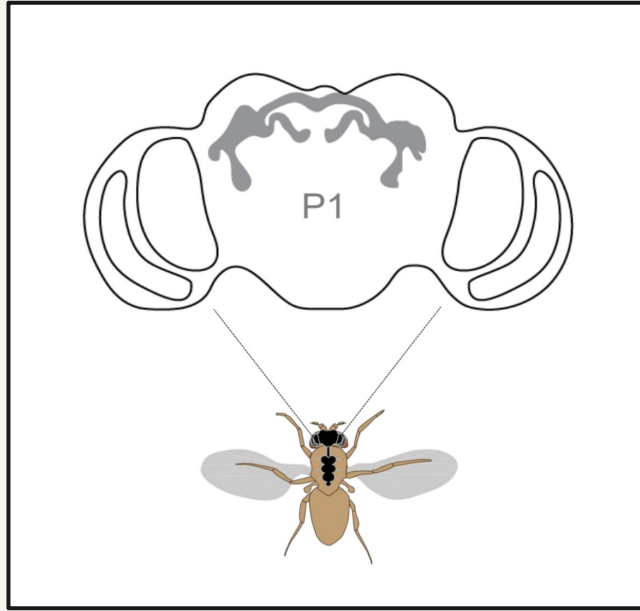


Process of CRISPR

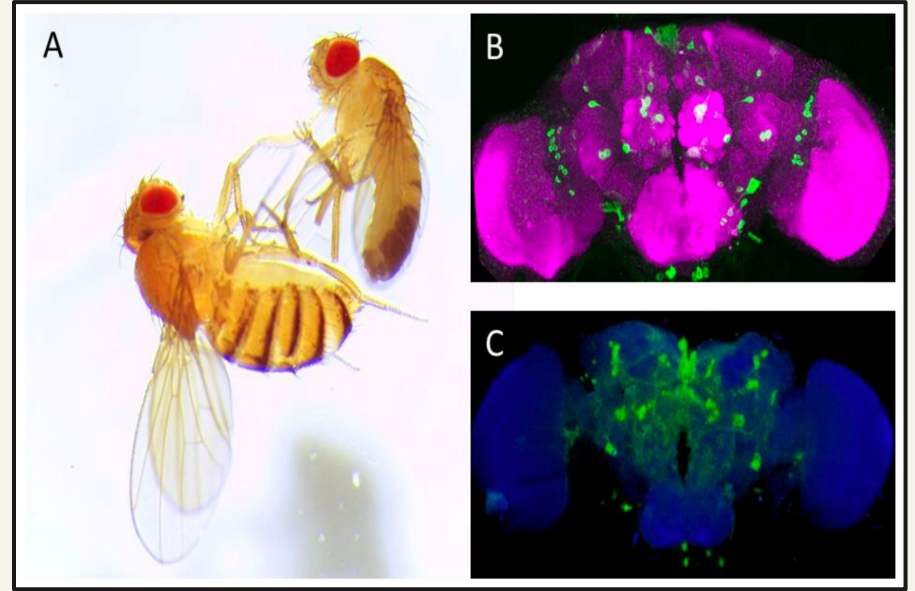


Neurons Response to Female Pheromones

Neurotransmitters



An illustration of the P1 neuron within a fly's brain



A: Images of a male and female *Drosophila melanogaster*

B: Anterior view of an adult fly brain with a serotonin transporter protein

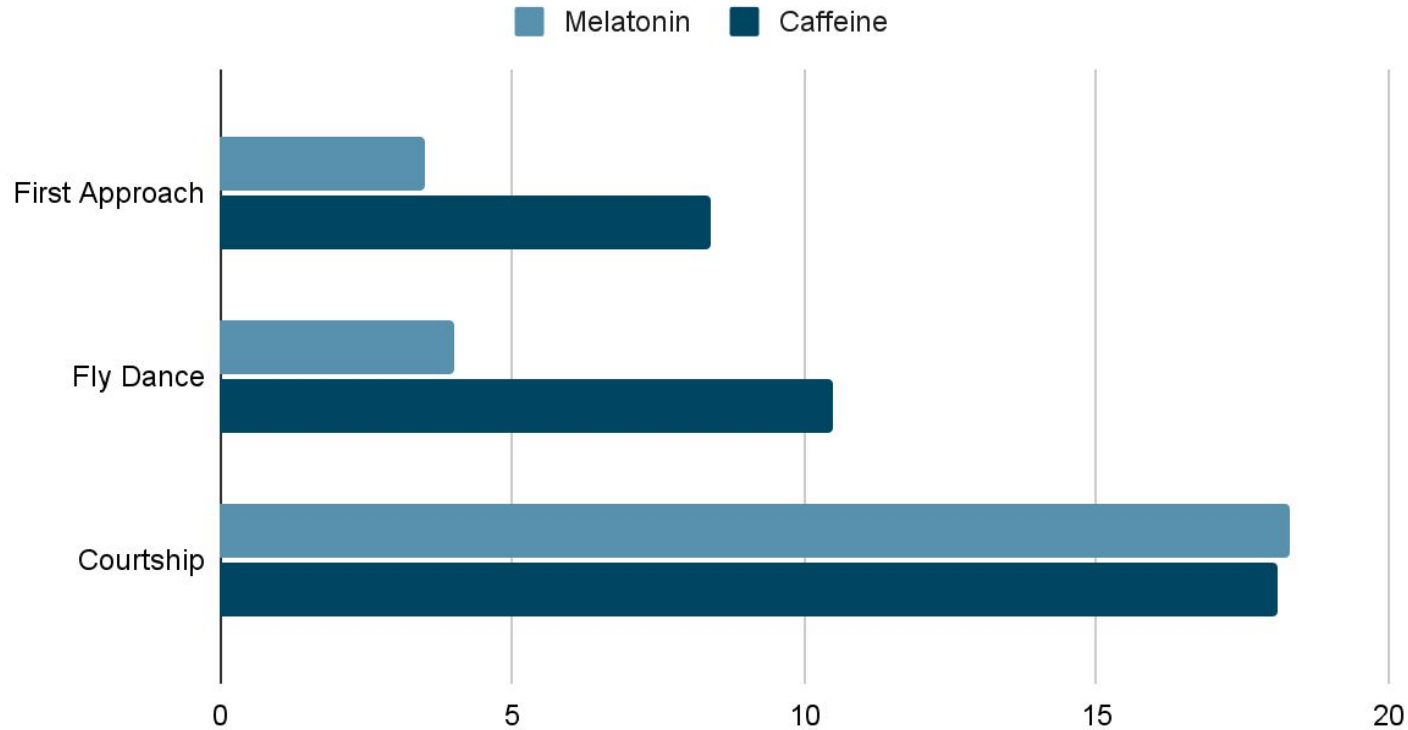
C: Posterior view of dopamine in the adult fly brain

What Will My Experiment Be?



Data

Courtship Behaviors



Takeaways

Experiment

- Constants
- Videotape
- Further Investigation

Skills

- Coding on Google Collab
- Using Microsoft Excel to track my data



Thank You!

- Anna Ryba
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 - Sophia Virkar
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