

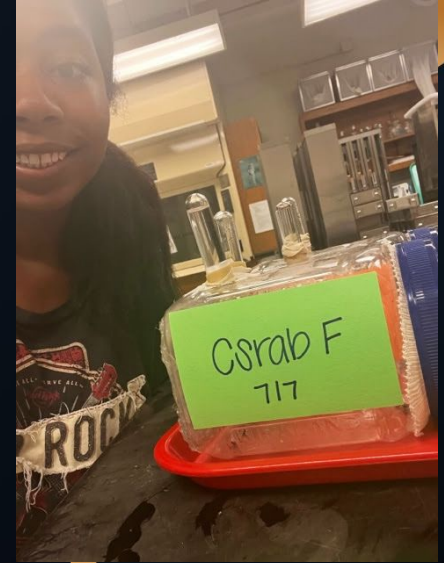


Aging Differences in Sex Chromosomes using Houseflies and *Drosophila*

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Background & Hypothesis

Housefly

Pseudoobscura

Background Information

CSrab and IsoCS are the same except for IsoCS having a Y chromosome and Csrab lacking a Y chromosome and instead having its sex determination gene on the 3rd chromosome.

Pseudoobscura contains a neo-X chromosome which is when an autosome fuses with the X chromosome.

Purpose

Observe the effects of aging due to the Y chromosome.

Observe any impact the neo-X chromosomes has on aging.

Hypothesis

- Females will live longer than males
- Isocs M will live longer than CSrab M
- Isocs F and CSrab F will have similar lifespan

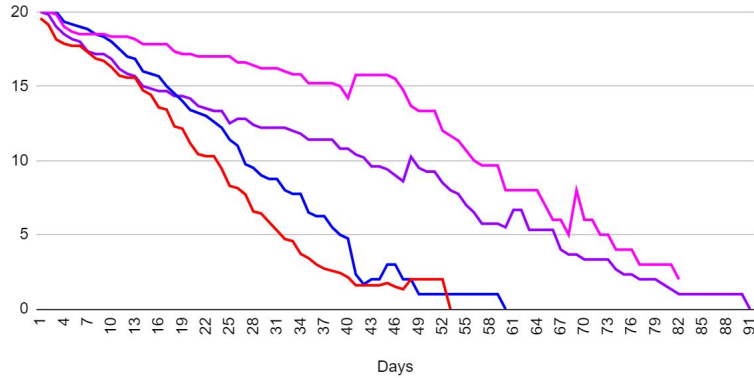
- Females will live longer than males

Methods and Results

Housefly

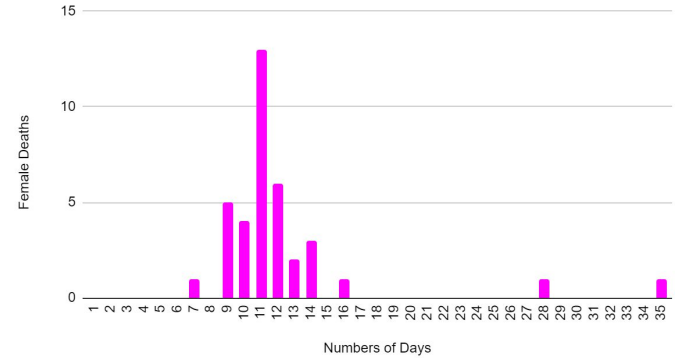
Housefly Aging Averages

— Csrab F — Csrab M — Isocs F — Isocs M



D. Pseudoobscura

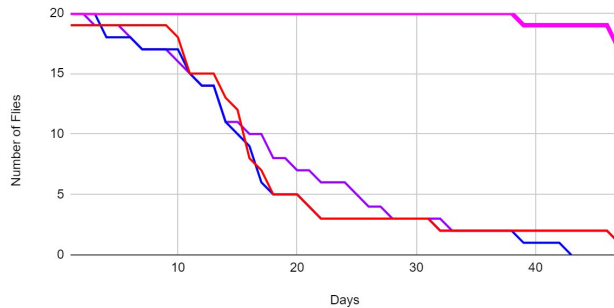
Pseudoobscura Female Deaths



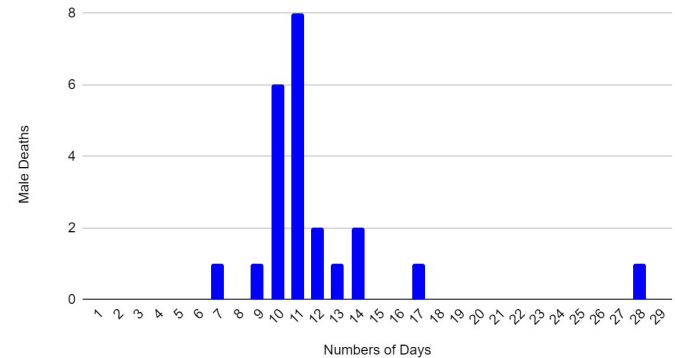
Sample Trial:

June 8 Cages

— Csrab Female — Csrab Male — Isocs Female — Isocs Male



Pseudoobscura Male Deaths



Conclusion

Housefly

- Isocs F has the most longevity and possibly even lifespan of all the strains
- While, Isocs M has the shortest lifespan and typically does NOT outlive Csrab M
- Isocs and Csrab females do live longer than their male counterparts

Pseudoobscura

Average Age

- Females: 12.27 days
- Males: 11.91 days

Longest

- Female: 52 days and ongoing
- Male: 48 days and ongoing

A little over half of the flies are still alive.

So far, male and female flies appear to have a similar lifespan.