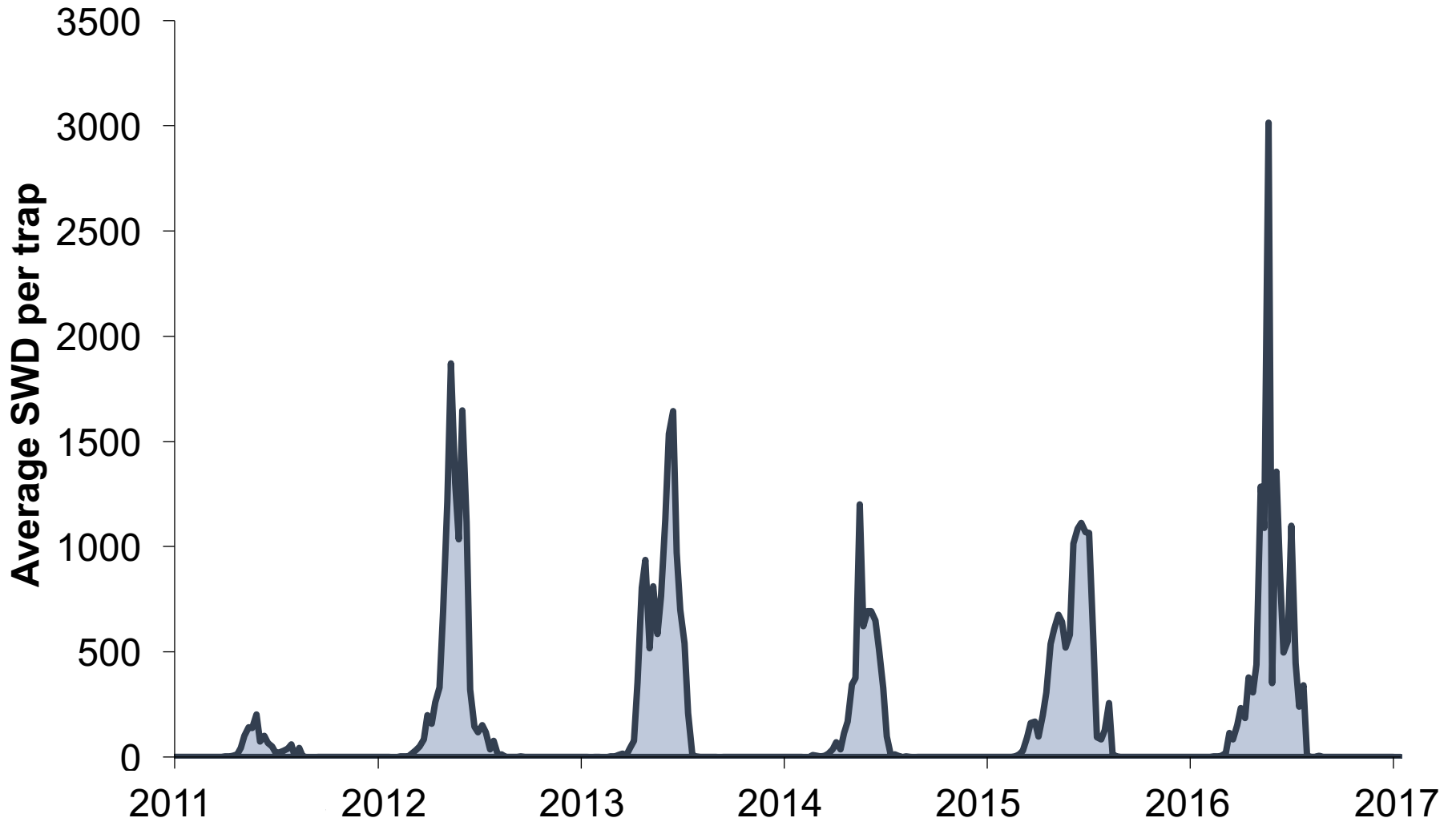


SWD WINTER MORPHS: THEIR ARRIVAL, SURVIVAL, AND REPRODUCTION

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SEASONAL TRENDS IN SWD CAPTURE



Data from Steve Van Timmeren

SUMMER MORPH



LT₅₀: -1 °C

♀

WINTER MORPH



LT₅₀: Unknown

PHENOTYPIC

- ↑ Melanization
- ↓ Body size
- ↑ Wing length

METABOLIC

- ↑ Cold tolerance
- ↓ Egg production
- ↓ DNA replication
- ↓ Cell division



♂



OBJECTIVES

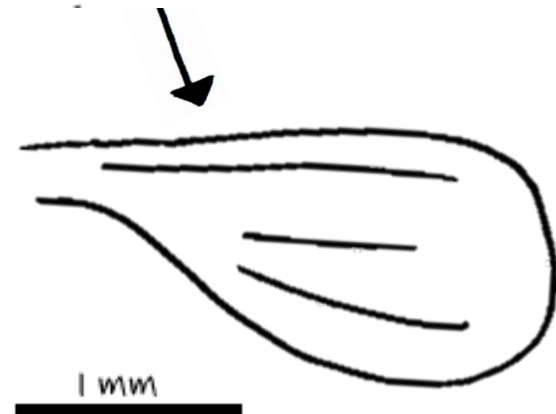
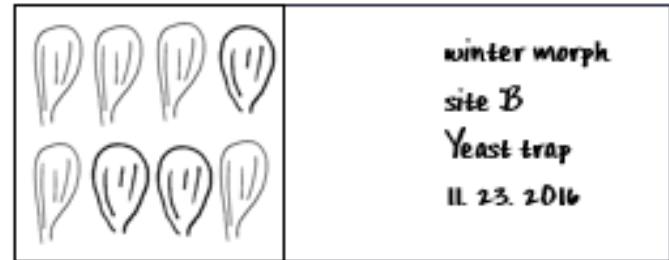
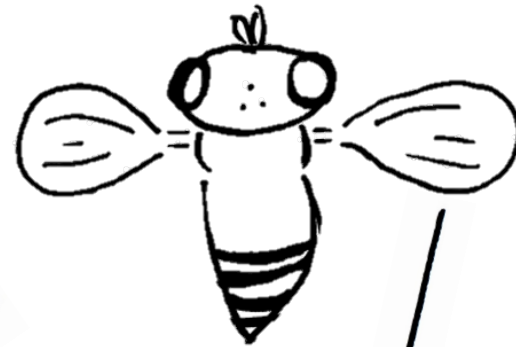
- ▶ Determine the **seasonal phenology** of winter morphs
- ▶ Determine the **reproductive capacity** of winter morphs at three different temperatures
- ▶ Determine **survival rates** of lab-reared winter morphs in field conditions



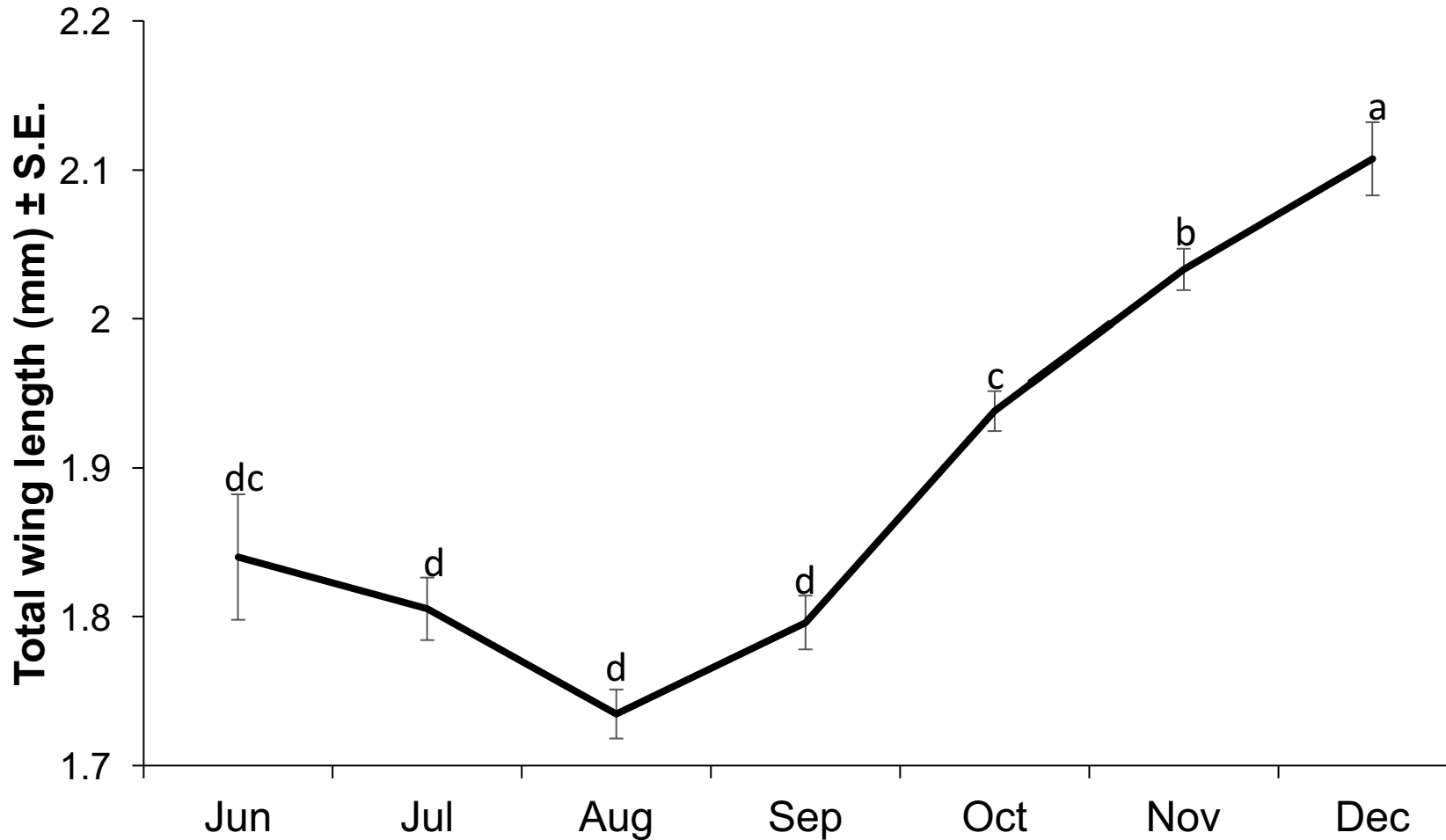
METHODS



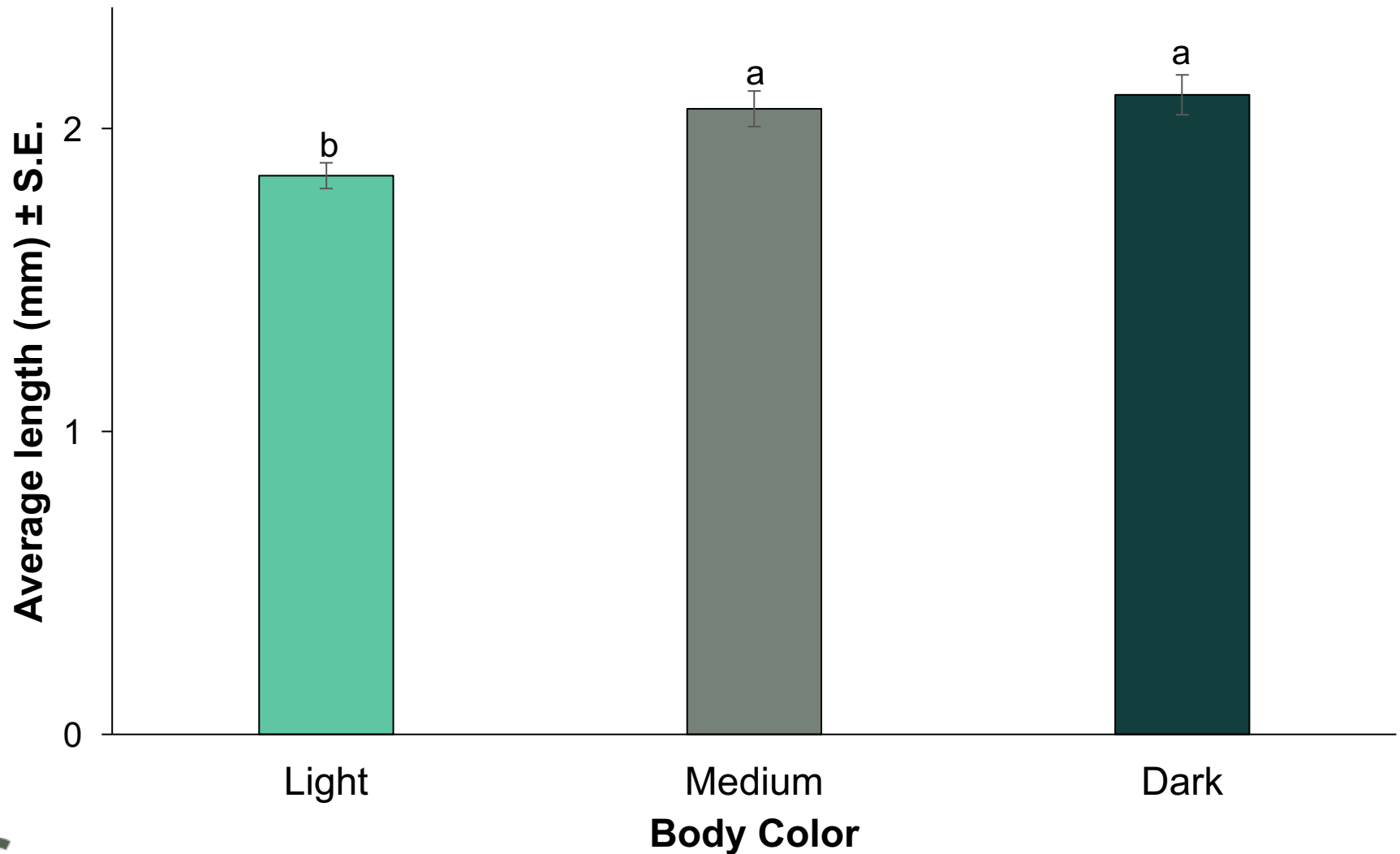
June → December



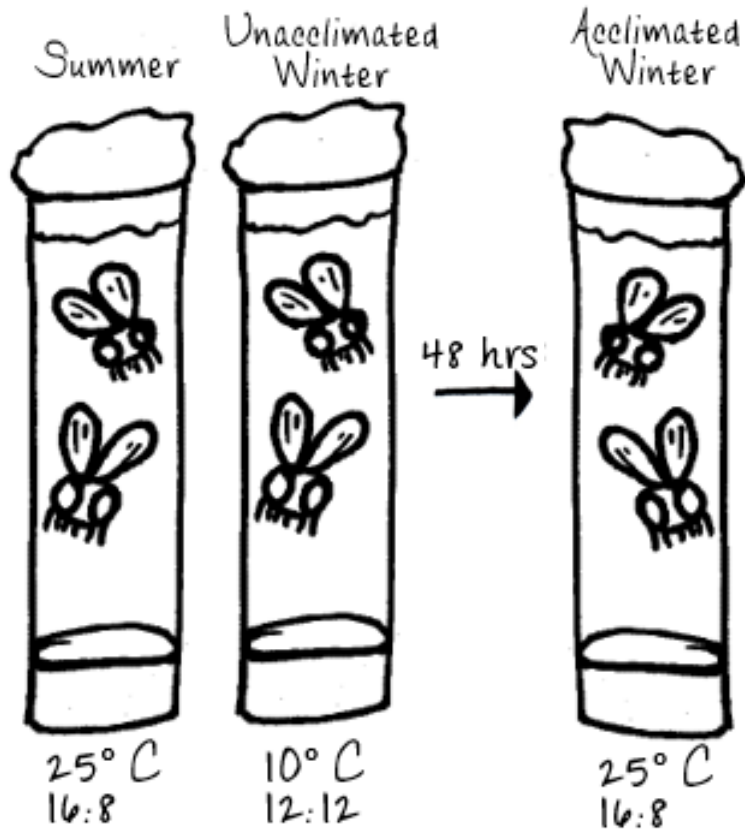
WINTER MORPHS OCCUR OCTOBER- DECEMBER



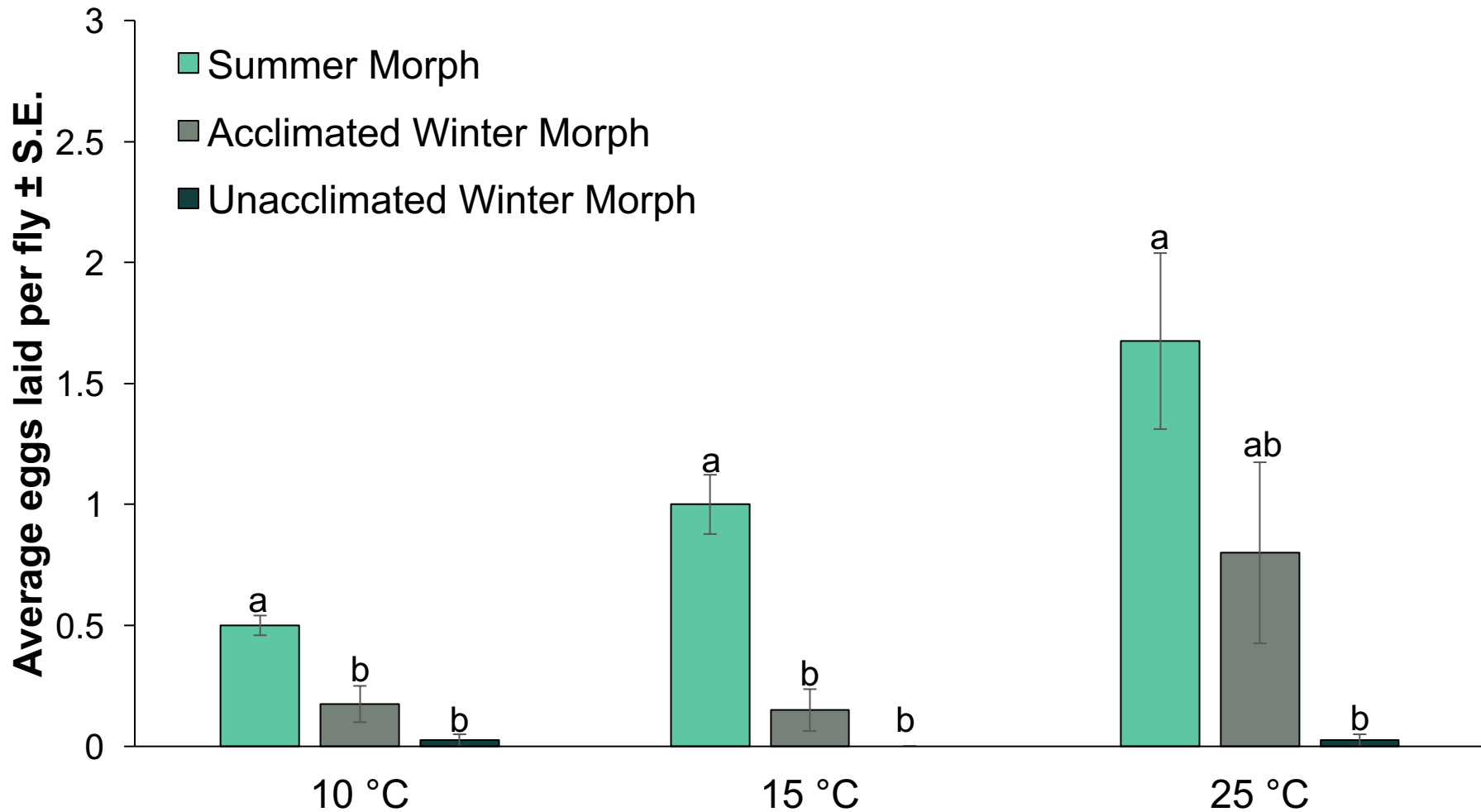
BODY COLOR CAN HELP DETERMINE MORPH



METHODS



LOWER REPRODUCTIVE CAPACITY BY WINTER MORPHS



METHODS



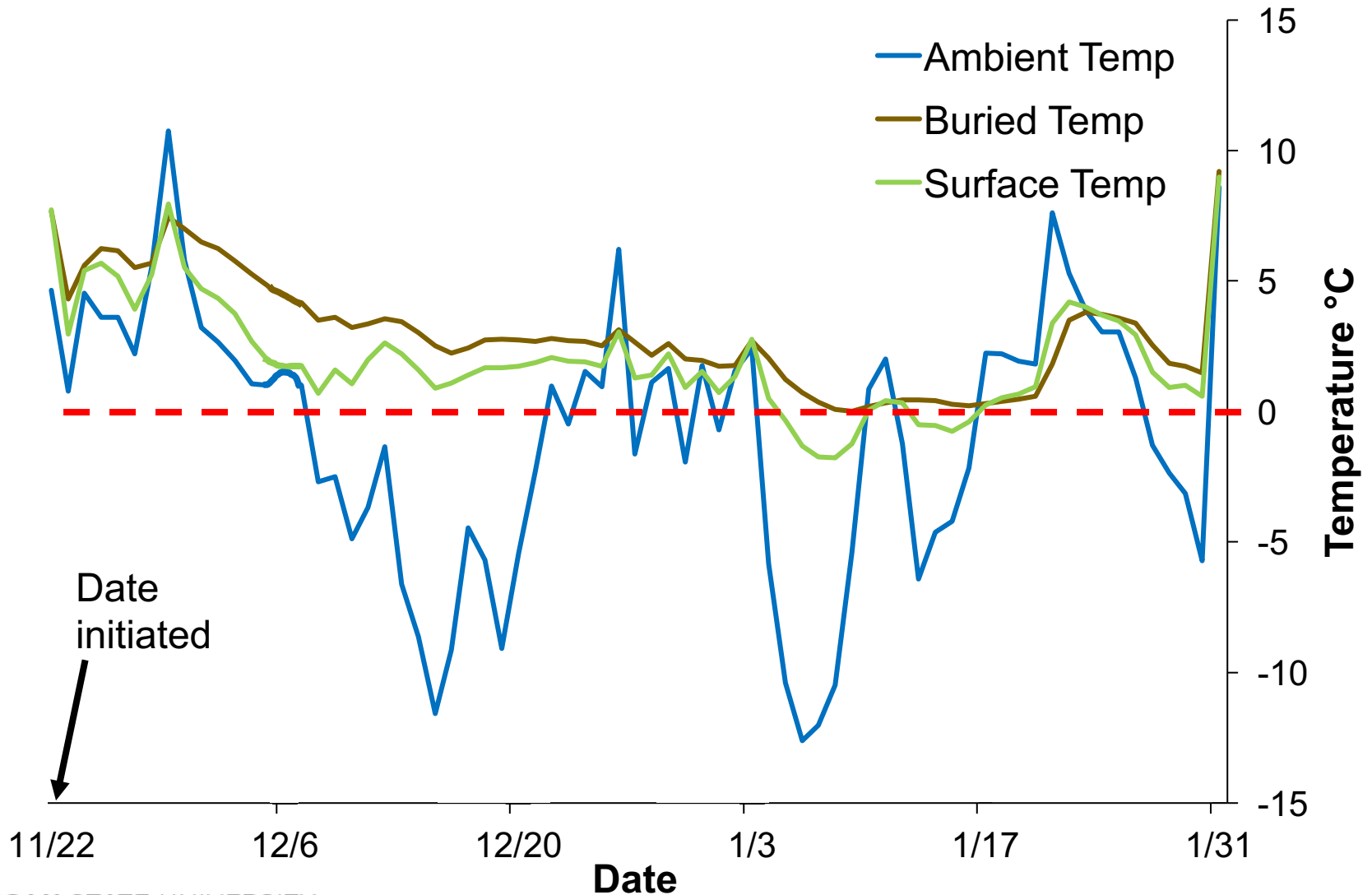
10° C
12:12



Survival
Temperature



POOR WINTER SURVIVAL BY LAB-REARED WINTER MORPHS



SUMMARY

ARRIVAL:

Longer wings and darker bodies occur in October and until no more flies are caught in December

REPRODUCTION:

Winter morphs don't lay many eggs or mate in cold environments

But, if they are allowed a few days of warm-up, their reproductive activity increases

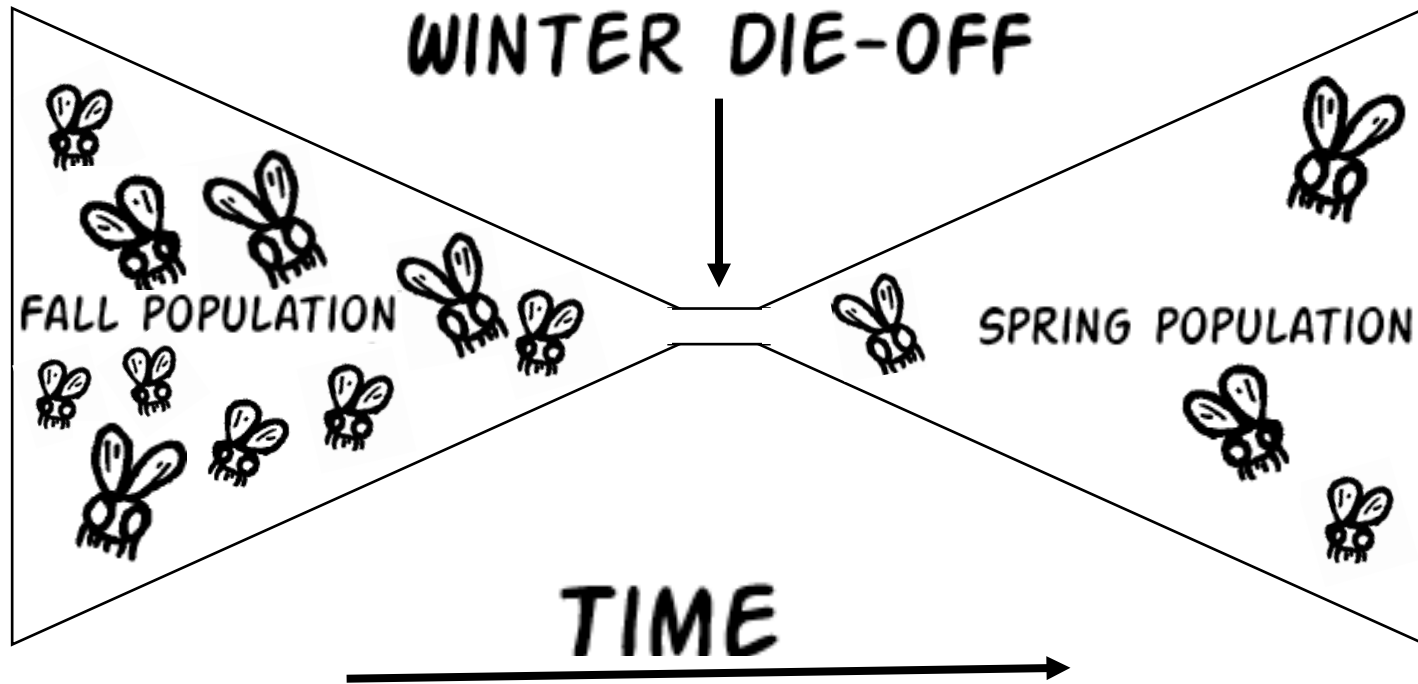
SURVIVAL:

In our experiments, there were no survivors past 6 weeks

However, if flies are underneath the leaf litter in soil, they can avoid below freezing temperatures



BOTTLENECK EFFECT



WHAT'S NEXT?

Ongoing survival studies

Comparison of attractants and repellents between morphs

Trapping in the spring



THANK YOU!

Jaclyn Stone, Patrick Stillson, Steve Van Timmeren,
Phil Fanning, Danielle Kirkpatrick, Elizabeth Espeland

