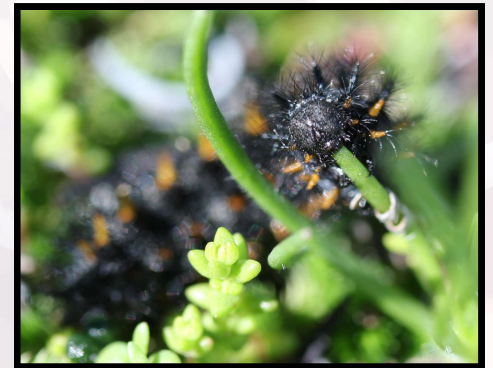


And now for something completely different...

***Using stop motion photography to monitor
Quino checkerspot butterfly larvae***



Context: Quino augmentation program

Goal 1: to increase the resilience of Quino checkerspot butterfly.

Goal 2: to learn how to rear and release Quino for augmentation.



Camera monitoring objectives

- Curiosity
- Emergence date
- Avoid disturbance



Methods

- Informal and descriptive
- 2 Wingscapes cameras
 - Fixed position
 - Manual photo review
 - “Index of Activity”
- Digital SLR with macro
 - Placed opportunistically
 - 10-20 minutes



Results: spring in under a minute



Results



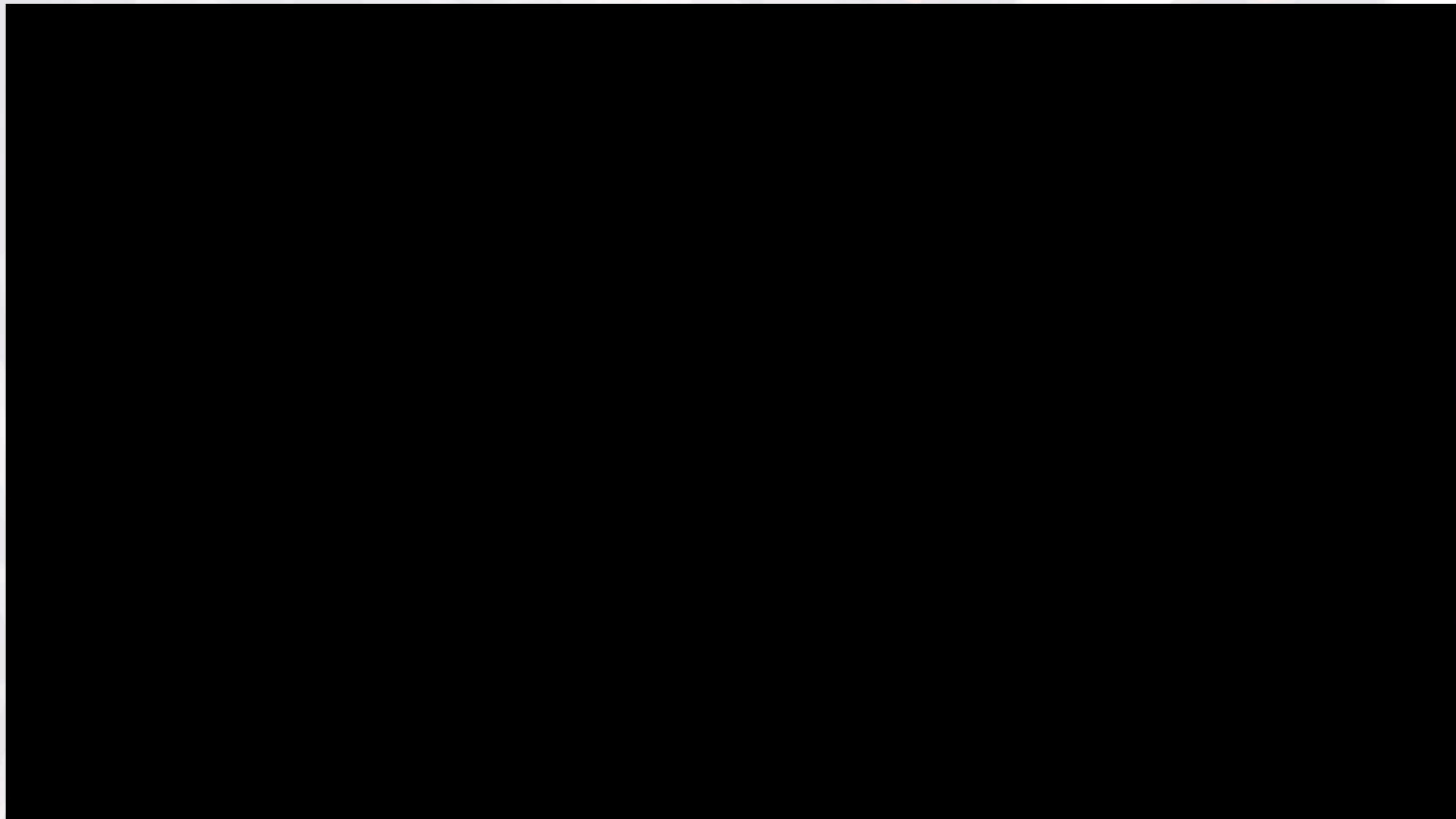
Results



Results

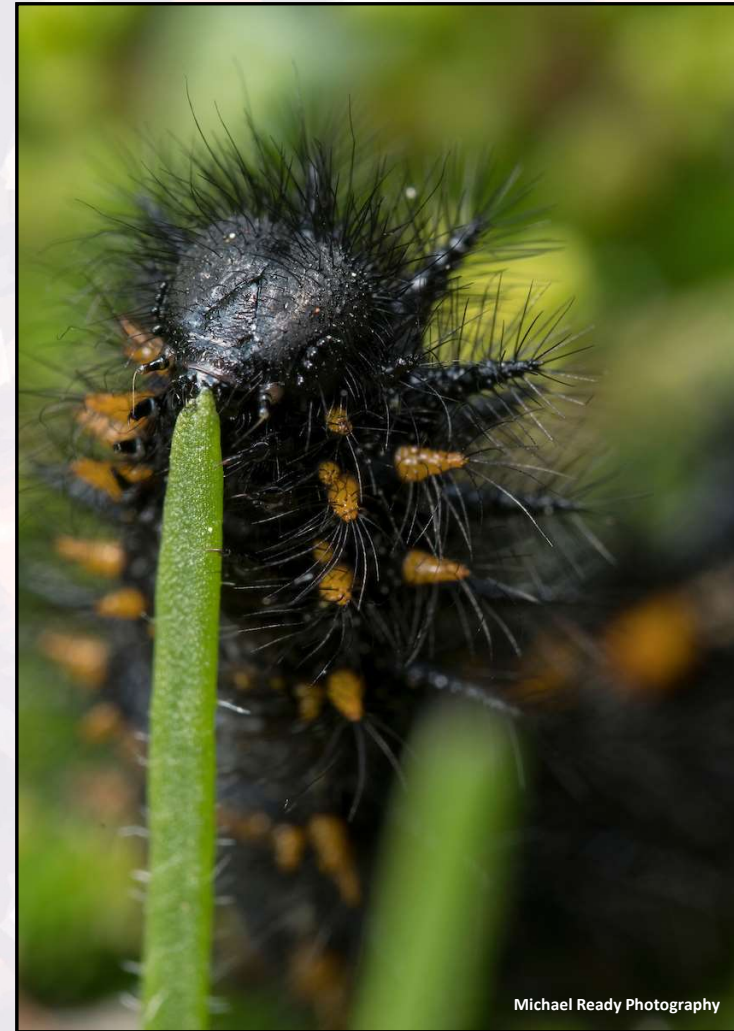


Digital SLR

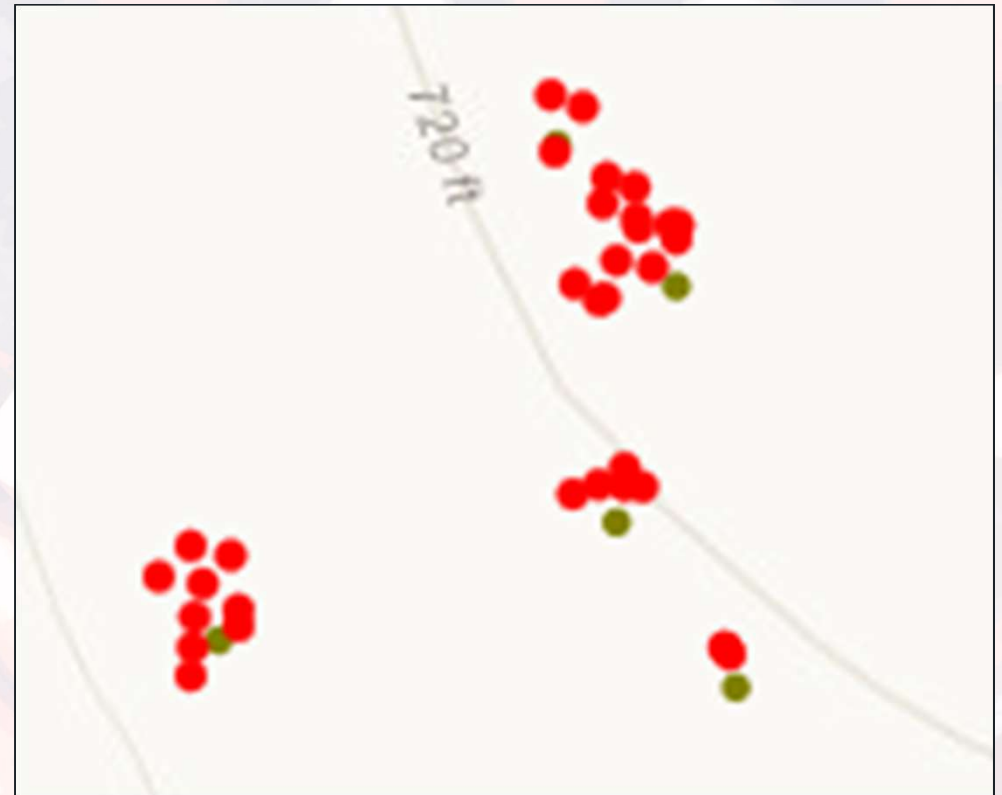
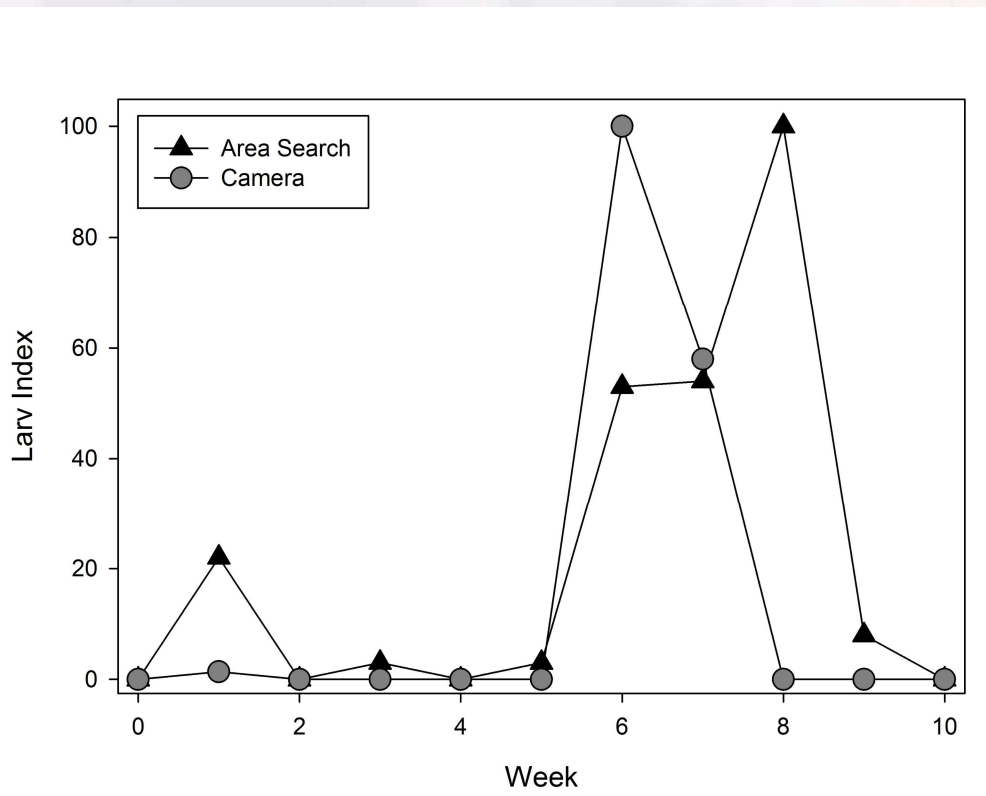


Conclusions

- Yes, photo monitoring can work for larvae!
 - Timing of emergence
 - Moisture
 - Activity period
 - Host-plant condition
 - Behavior
- No, can't replace searching



Results: comparison



Issues/ Recommendations

Problems

Small and cryptic

Camera positioning

Larval dispersal

Solutions

Better resolution, focal control

90 deg. angle

Mobile camera



Questions?

Thank you to:

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