

What animal walks on one foot and eats
with their foot?



Basic Information About Mountainsnails



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Mountainsnails (*Oreohelix*)

- Largest terrestrial snails in Wyoming (~1 inch diameter)
- Mainly in mountainous areas
- Break down organic matter
- Food for many predators
 - Small mammals, reptiles, etc.
- Water conservation vital to survival
- Aestivate during dry summer periods
- Active during wet, cool periods
- Need calcium to make their shell



Life History Information

- Hermaphrodites
- Unknown if they can self-fertilize
- Carry young internally
- Snails are born at ~2.5 whorls



Mountainsnails in Wyoming

- ~9 taxa of *Oreohelix* in Wyoming
- 2 endemic subspecies
- 4 taxa were petitioned for Endangered Species Act listing
- Taxonomy needs revision
- Use internal anatomy to identify species



Petitioned Mountainsnails

- *Oreohelix strigosa cooperi*
 - Black Hills
- *Oreohelix carinifera*
 - Montana and possibly Wyoming
- *Oreohelix pygmea*
 - Bighorn Mountains
- *Oreohelix yavapai*
 - Bighorn Mountains



Information Needs

- Basic information lacking
- How long do they live?
- How quickly do they grow?
- How far can they move?



Mark & Recapture Study

- *Oreohelix subrudis* in Snowy Mountains
- Began 2011
- Marked 97 individuals
- *Snail* polish
- Unique markings to identify individuals
- Measured
 - Mass
 - Shell height
 - Shell width
 - Whorls
 - Status
 - Distance moved



Mark & Recapture Study

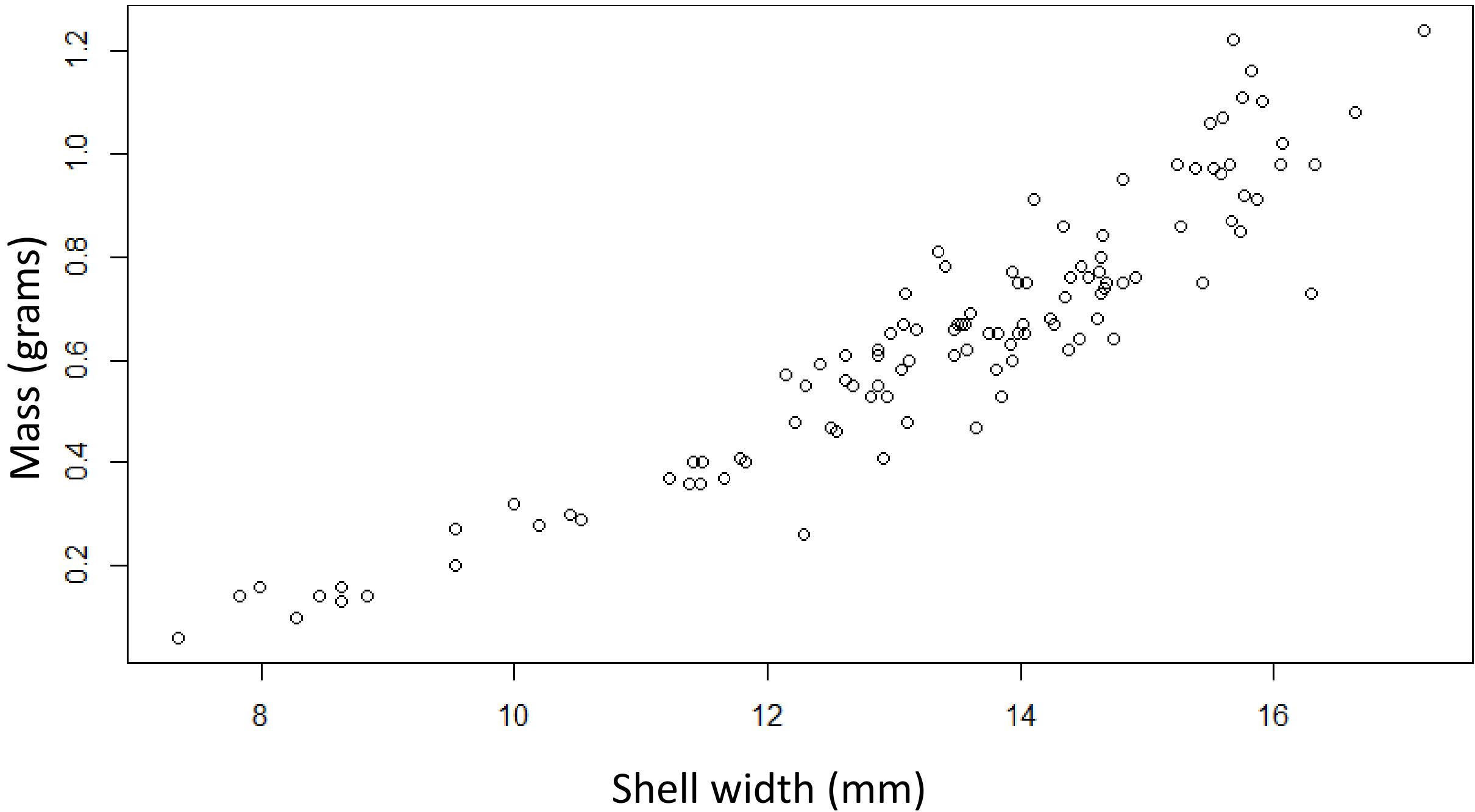
- Used bee tags starting in 2012
 - Easier identification
 - Longer lasting
- Annual site visits
- Search for marked snails
- Mark new juvenile snails



Results

- Marked 292 individuals since 2011
- Recaptured 41% of individuals
- 11% of individuals died
- 2% died from predation
- Life span at least 5 years





Annual movement (meters/year)

80
60
40
20
0

6

8

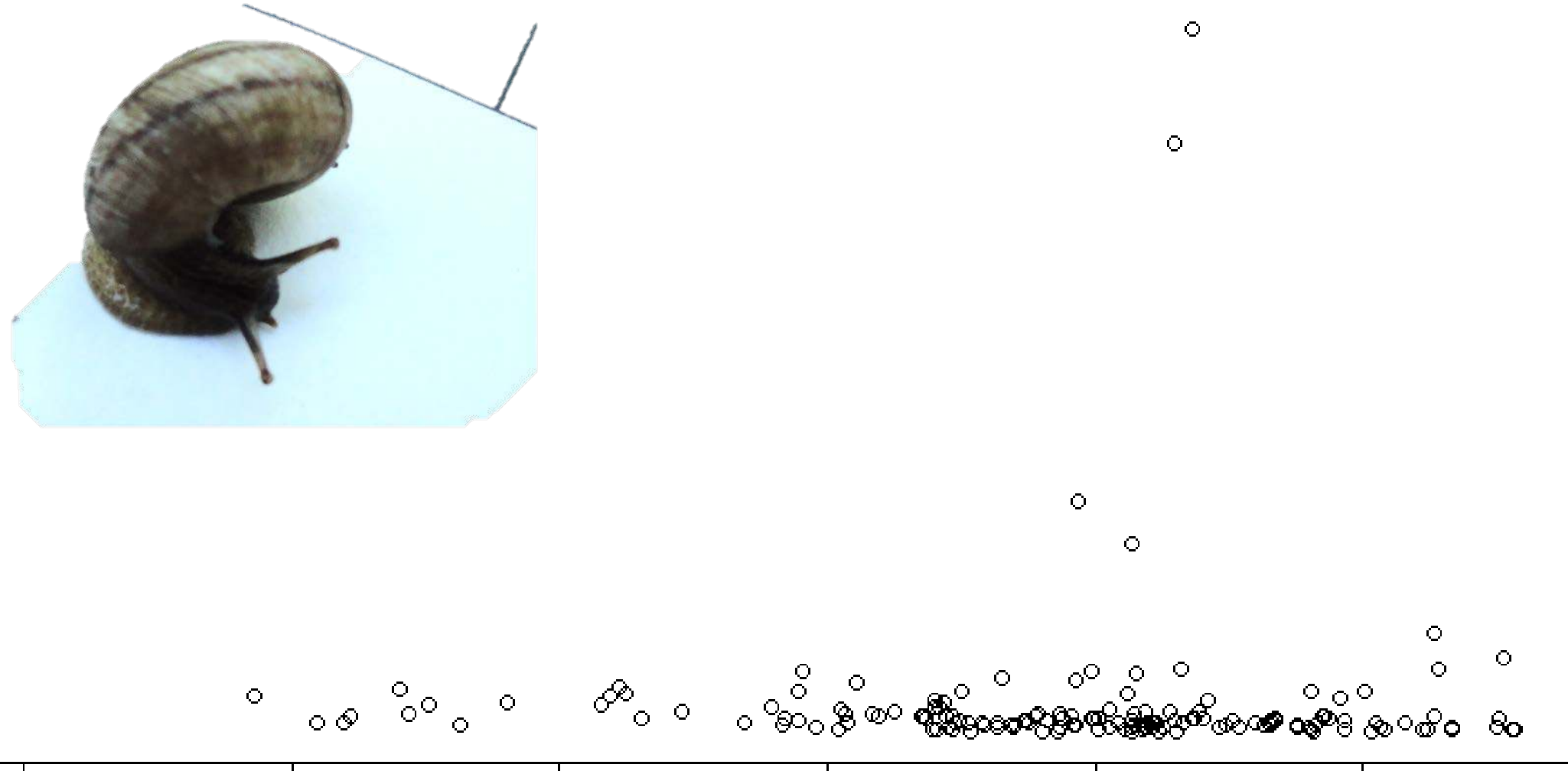
10

12

14

16

Shell width (mm)



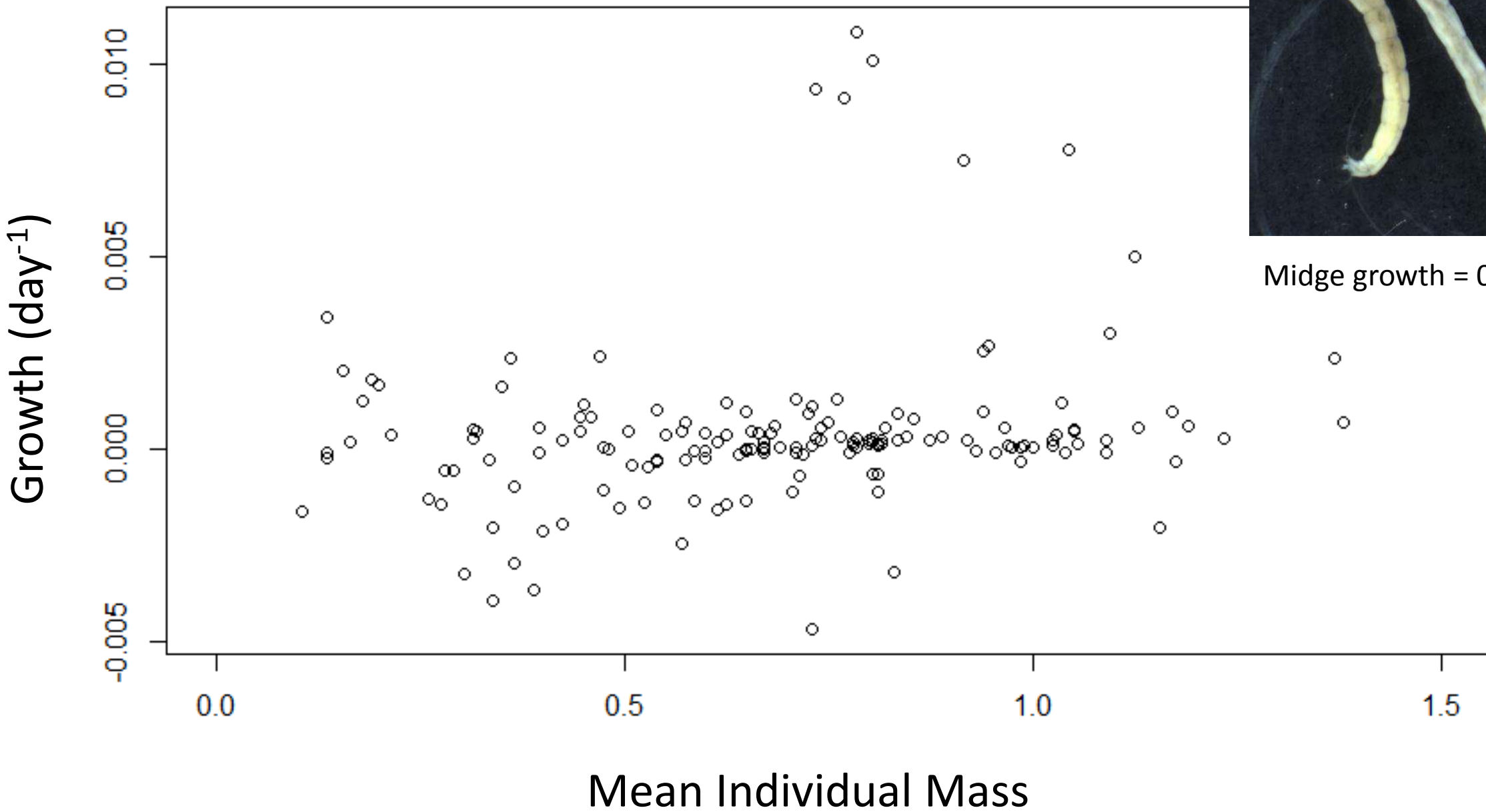
Snails moved 2.6 meters on average

0.25 meters/month

3 meters/year



$$\text{Growth} = \ln(W_F/W_I)/\Delta\text{time}$$



Midge growth = 0.1-0.6 per day

Future directions

- Continue to follow *Oreohelix* population
- Use Program MARK for further analysis
- Investigate taxonomy using genetics and morphology



Questions and Thanks!

Funding

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