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The Influence of Spines on Predation of Devonian Brachiopods

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The Influence of Spines on Predation of Devonian Brachiopods

Broc Kokesh

April 18, 2015

Undergraduate Research Symposium

A long, long time ago...

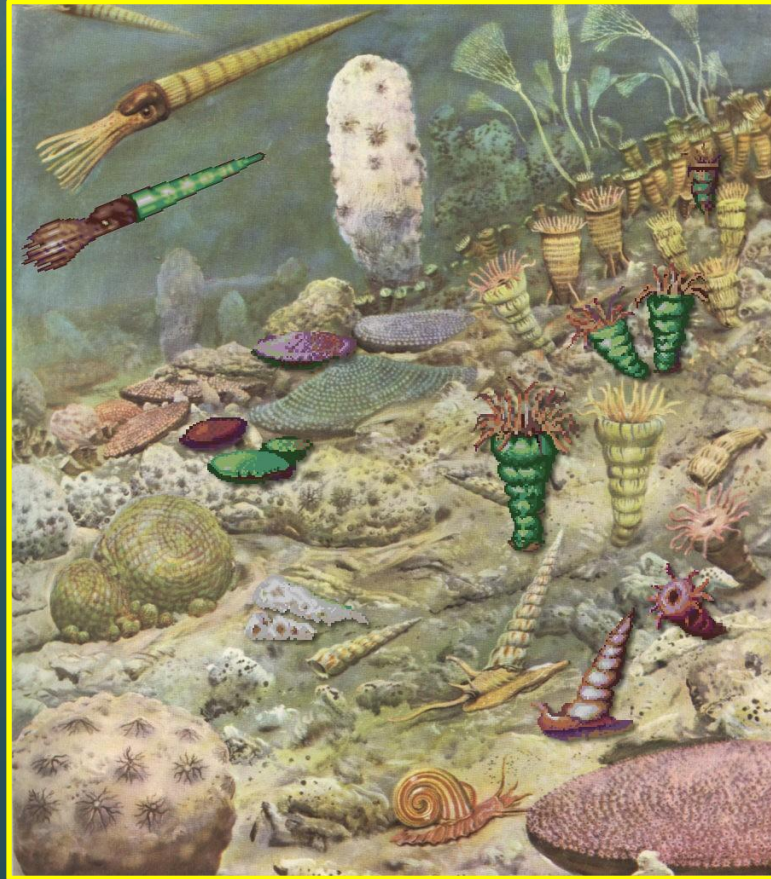


Photo:
<http://web8.orcaserver.de/ecco/stories/articles/prehistoric.php>

In an ocean very near here...

Brachiopod Morphology

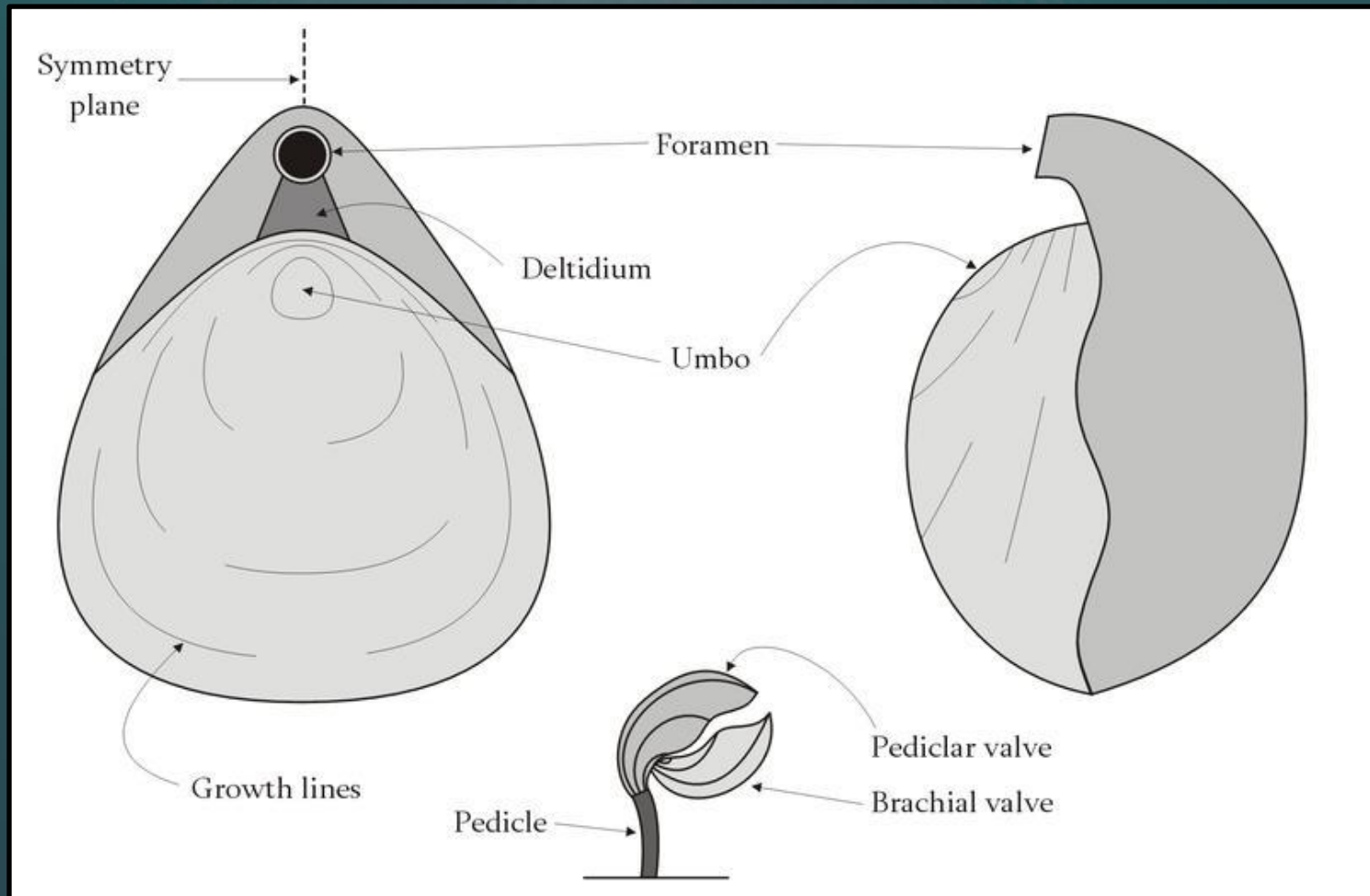


Photo: University of Bristol

Brachiopod Spines

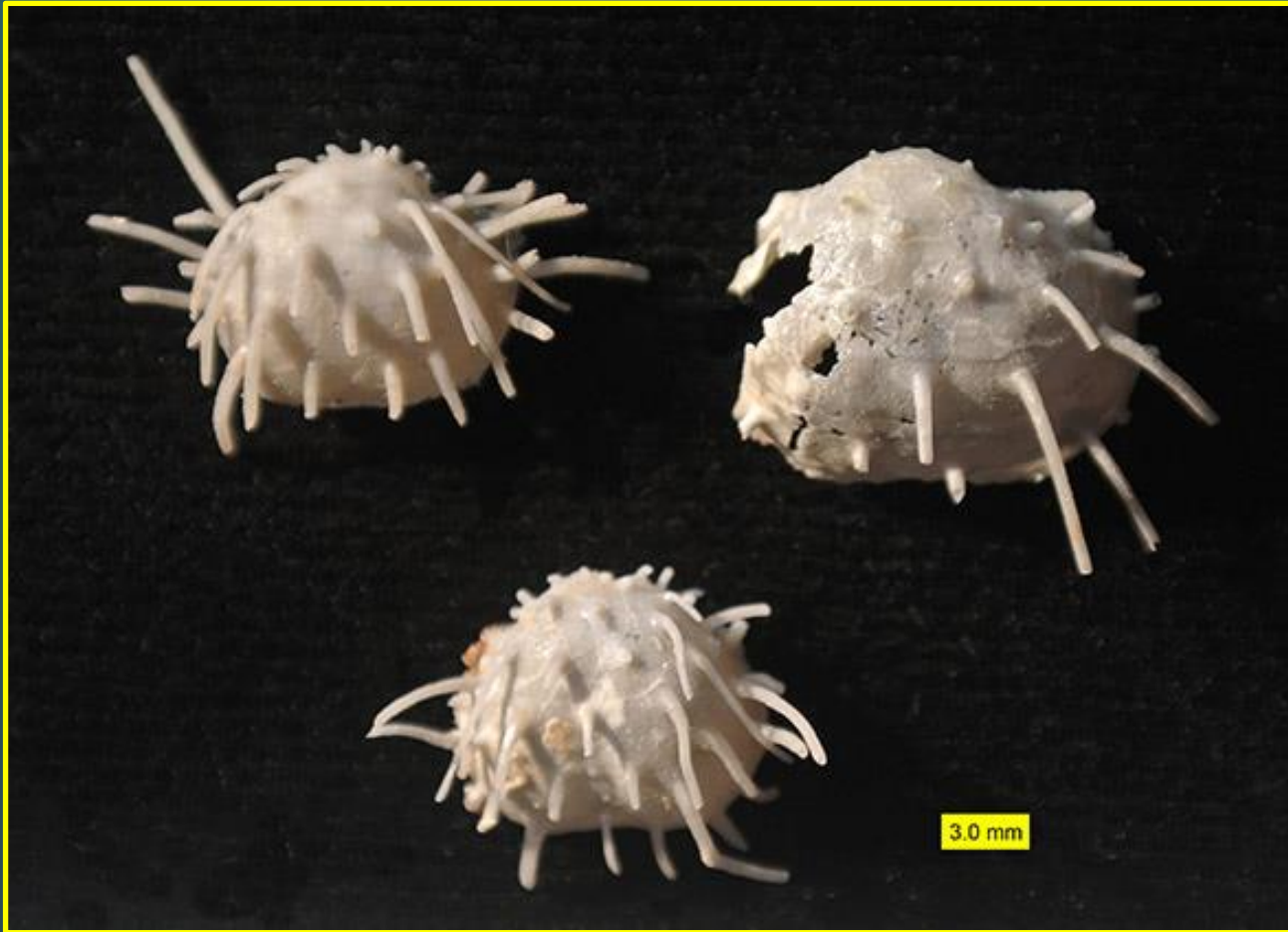
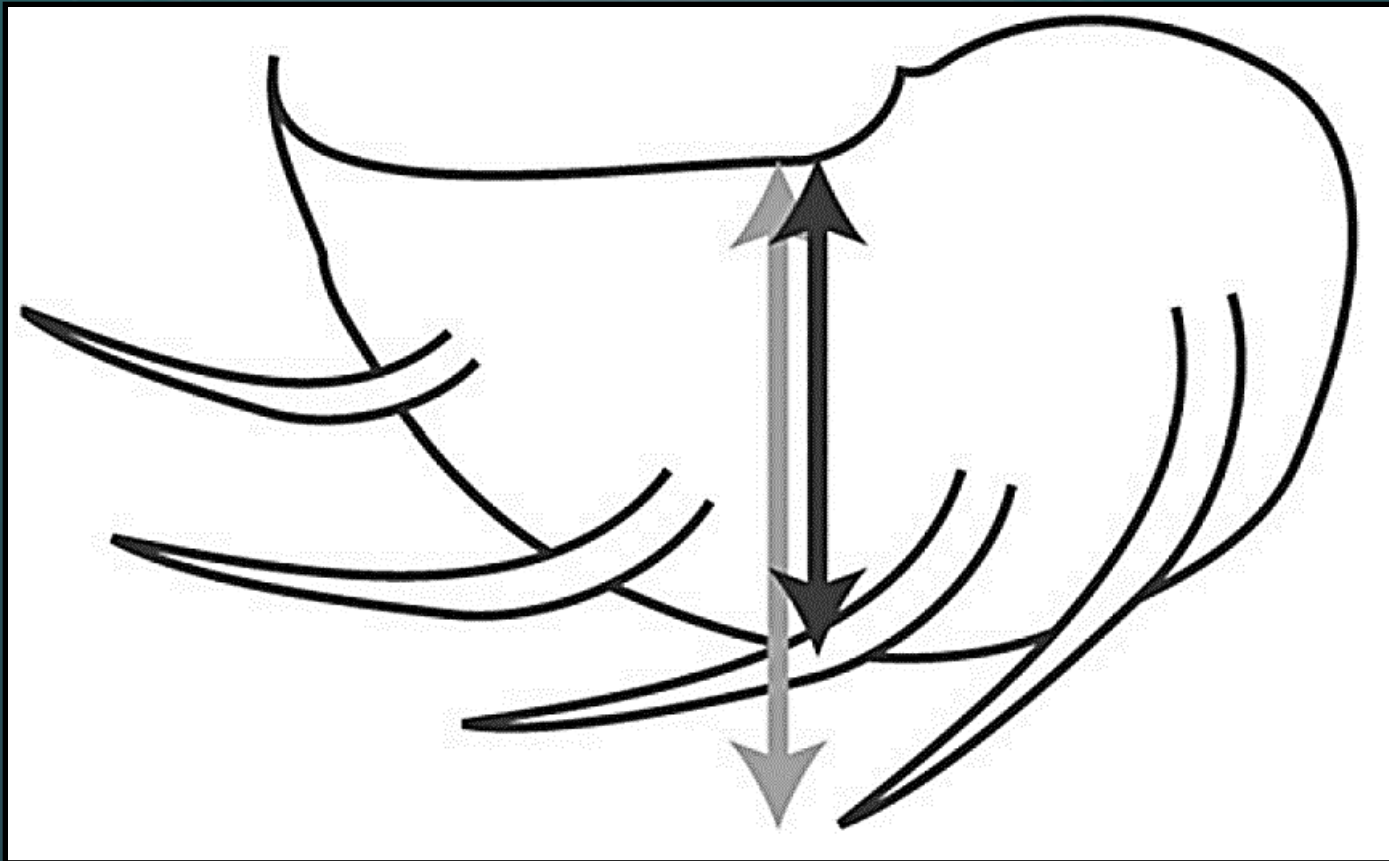


Photo: Mark Wilson

Brachiopod Spines



From Johnsen *et al.*, 2013

Question

Do spines assist brachiopods in avoiding predation?



Photo: Fossilid

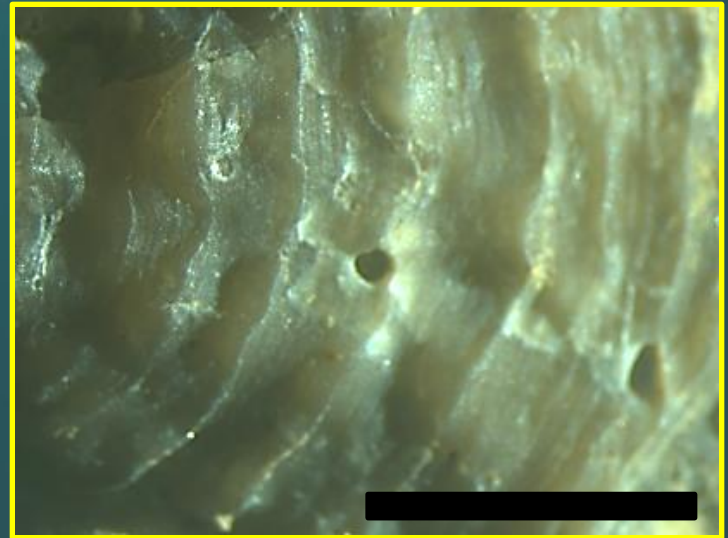


Photo: naris.go.kr

Signs of Predation

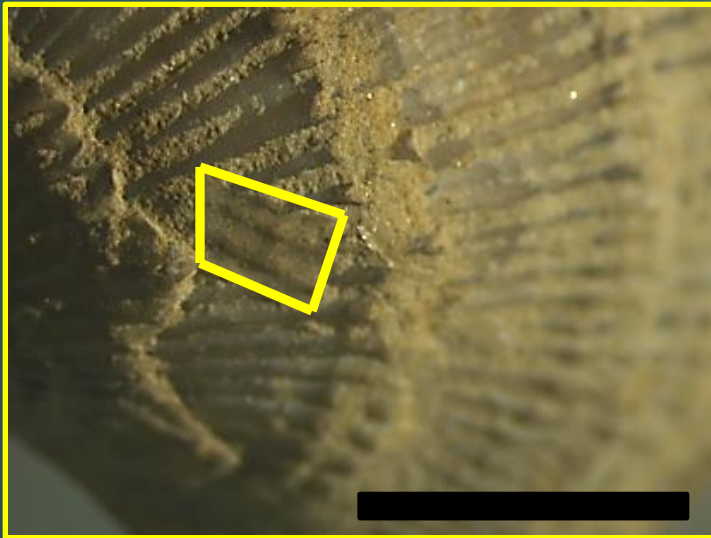


Atrypa devoniana

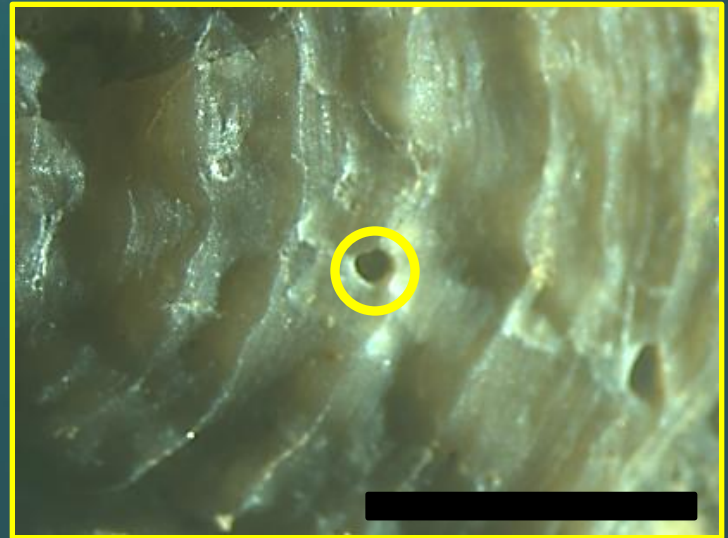


Atrypa rockfordensis

Signs of Predation

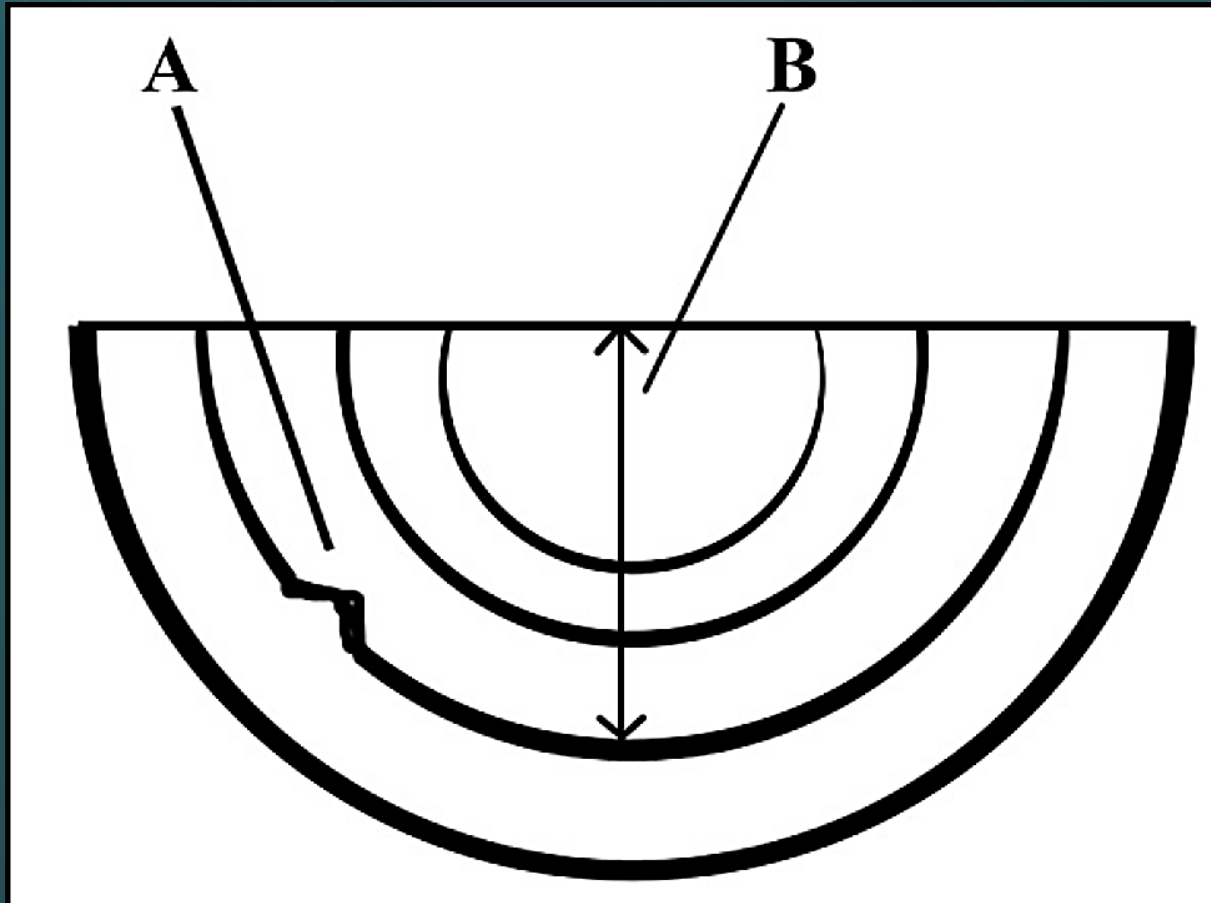


Atrypa devoniana



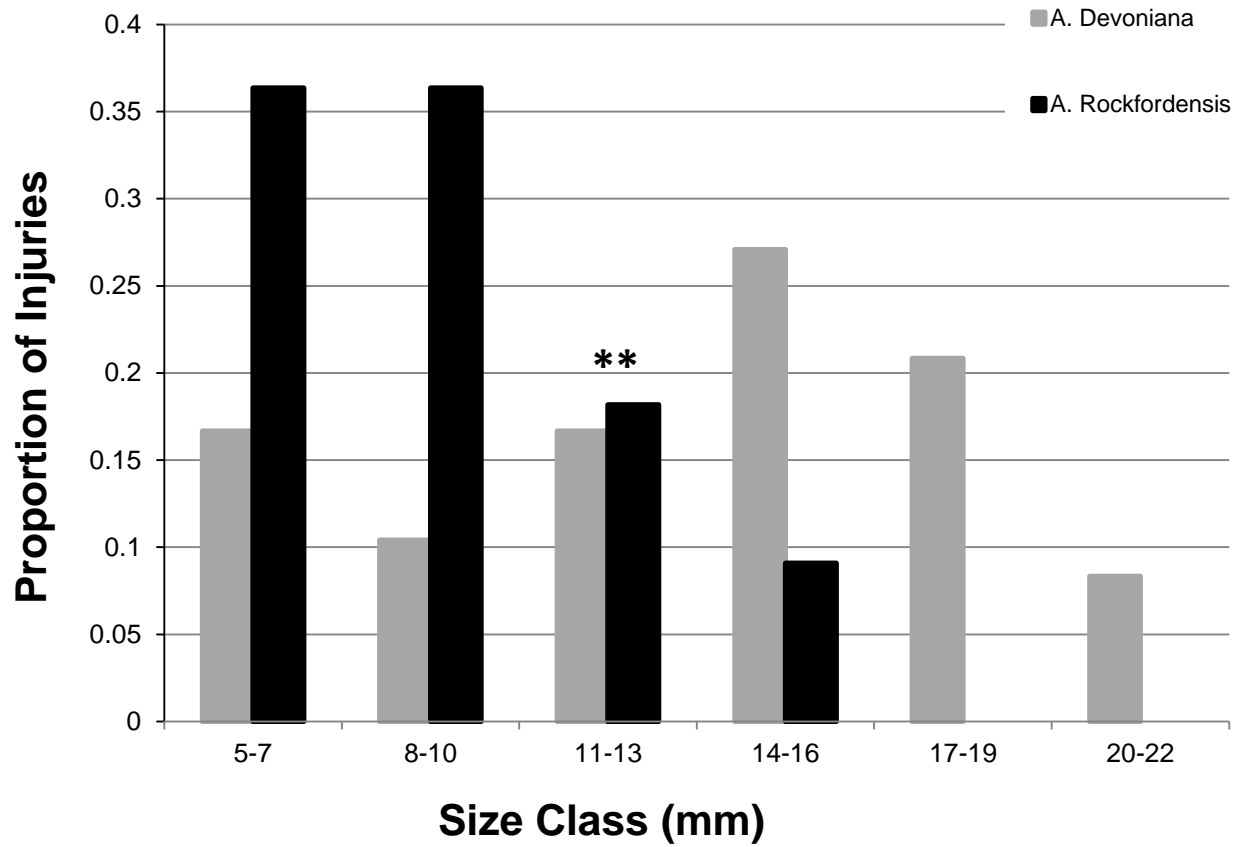
Atrypa rockfordensis

Measurements

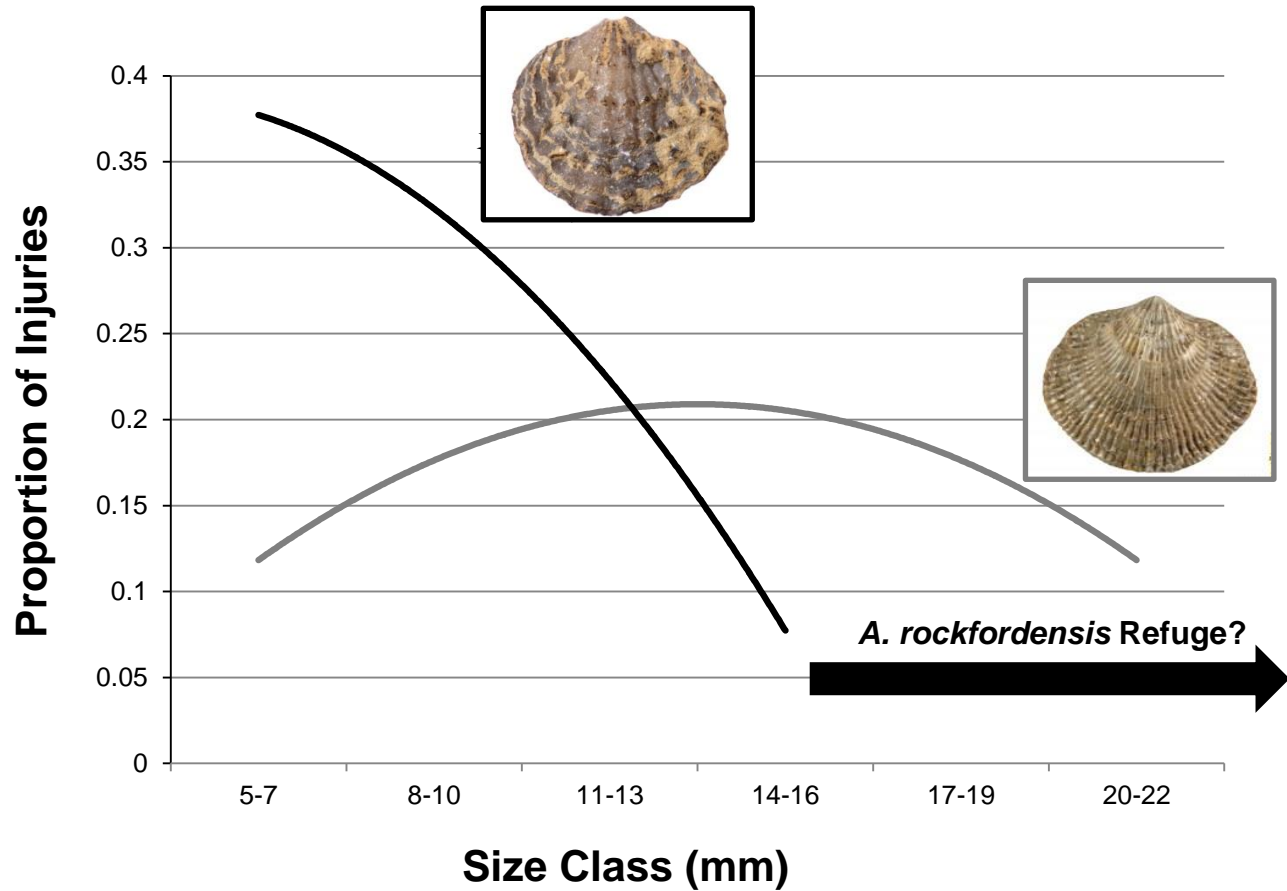


From Johnsen *et al.*, 2013

Results



Results



Results

	Healed Scar	Borehole
<i>A. devoniana</i>	0.917	0.083
<i>A. rockfordensis</i>	0.636	0.364

- ~36% injuries to *A. rockfordensis* caused by boreholes
- Spines help prevent valve damage
- Boring predators need less surface area

Conclusions

- *A. rockfordensis* attacked less often
- *A. rockfordensis* not attacked above 17mm
- *A. devoniana* attacked at +22mm
- Boring predators less inhibited by spines

Questions?



<http://bustedtees.com>