

Effect of ocean acidification on the early life stages of the Baltic tellin *Macoma balthica*

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DANGER

ACID



Macoma balthica



D-larvae (~150 μm , 3 d)



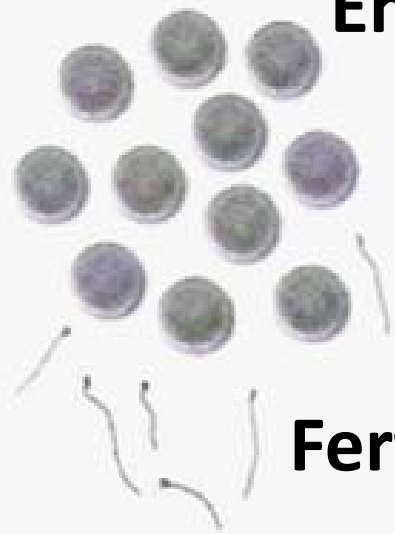
veliger larvae (~200 μm , 2 wk)



metamorphosed larvae (~250 μm , 3 wk)

Larval development

Embryonic development



eggs (~100 μm) + sperm (March, April)

Fertilization

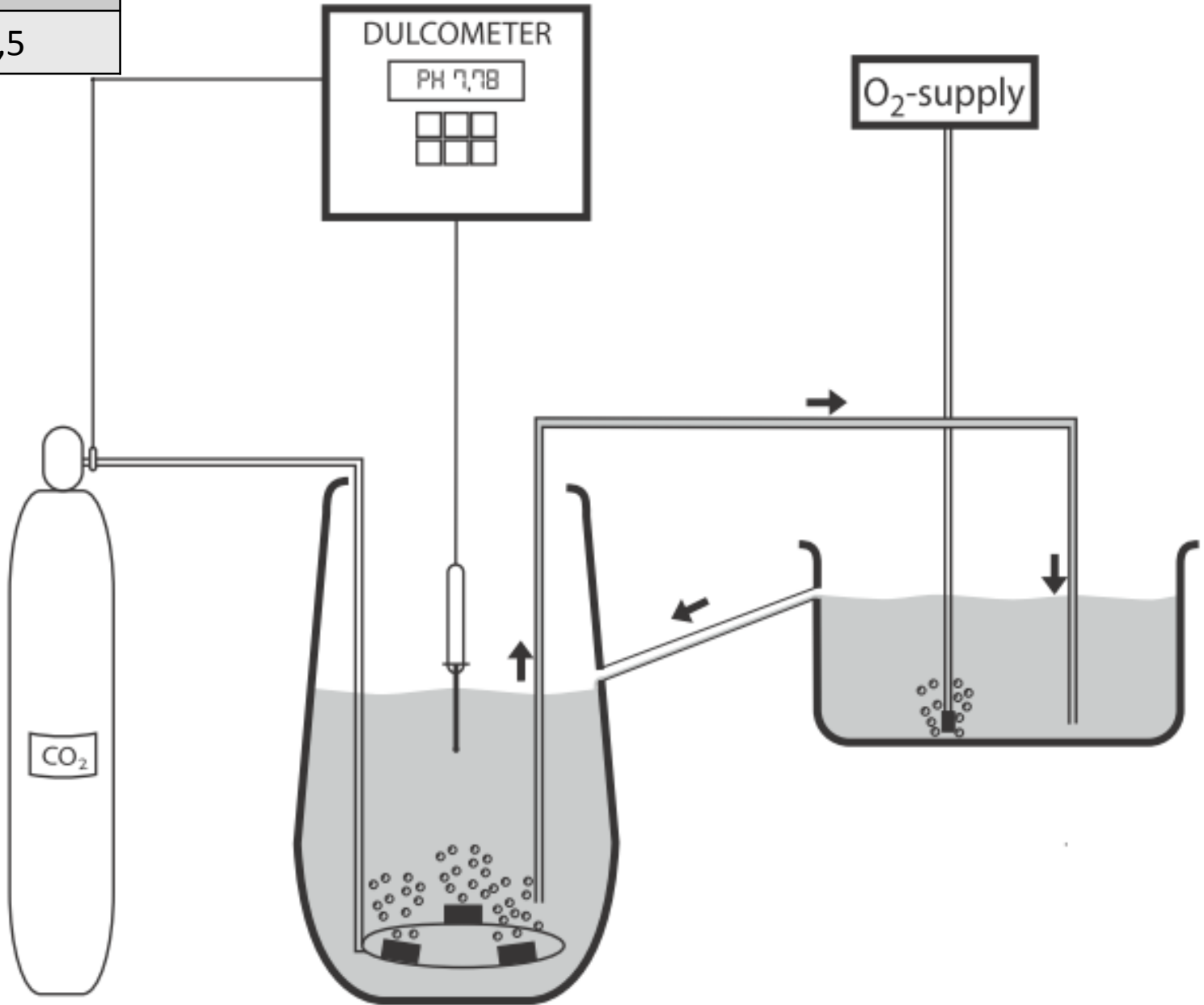


recruits (>1 mm, 5 mo)

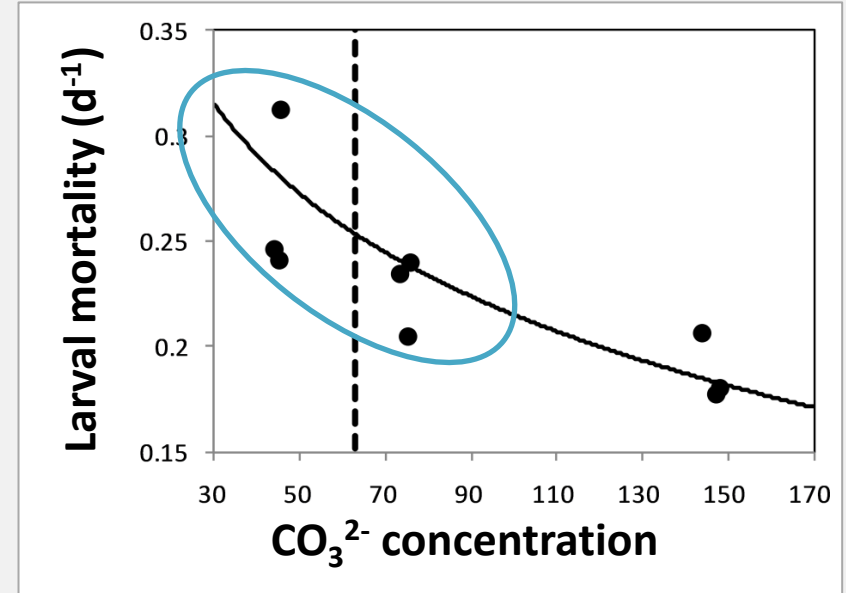
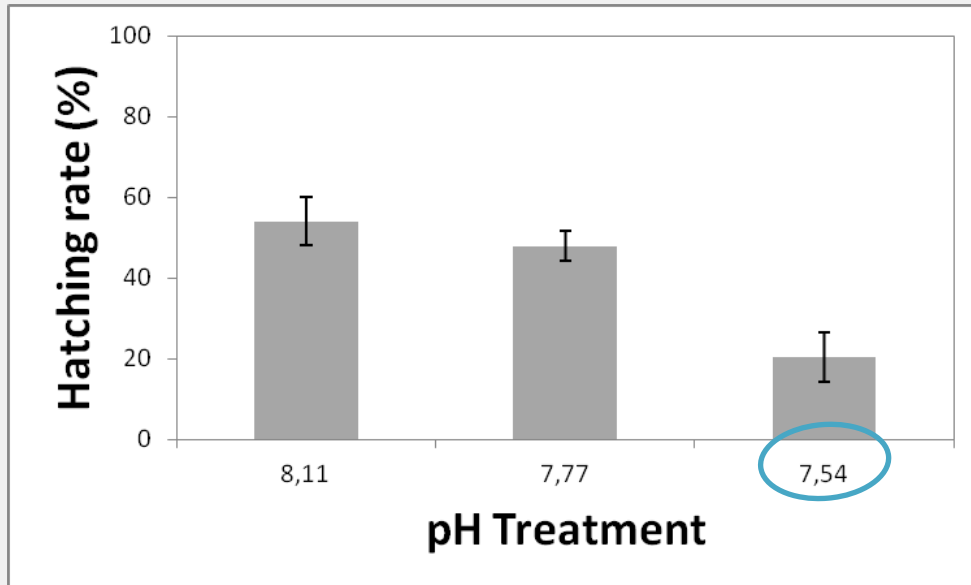
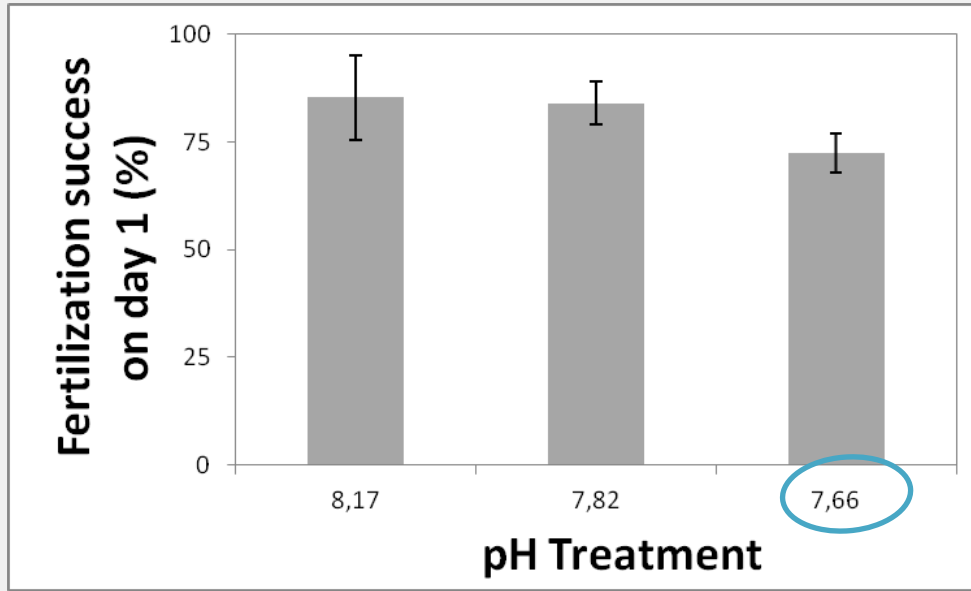


adults (<2.5 cm, 1-12 y)

Current pH	8,1
pH in 2100	7,8
pH in 2300	7,5

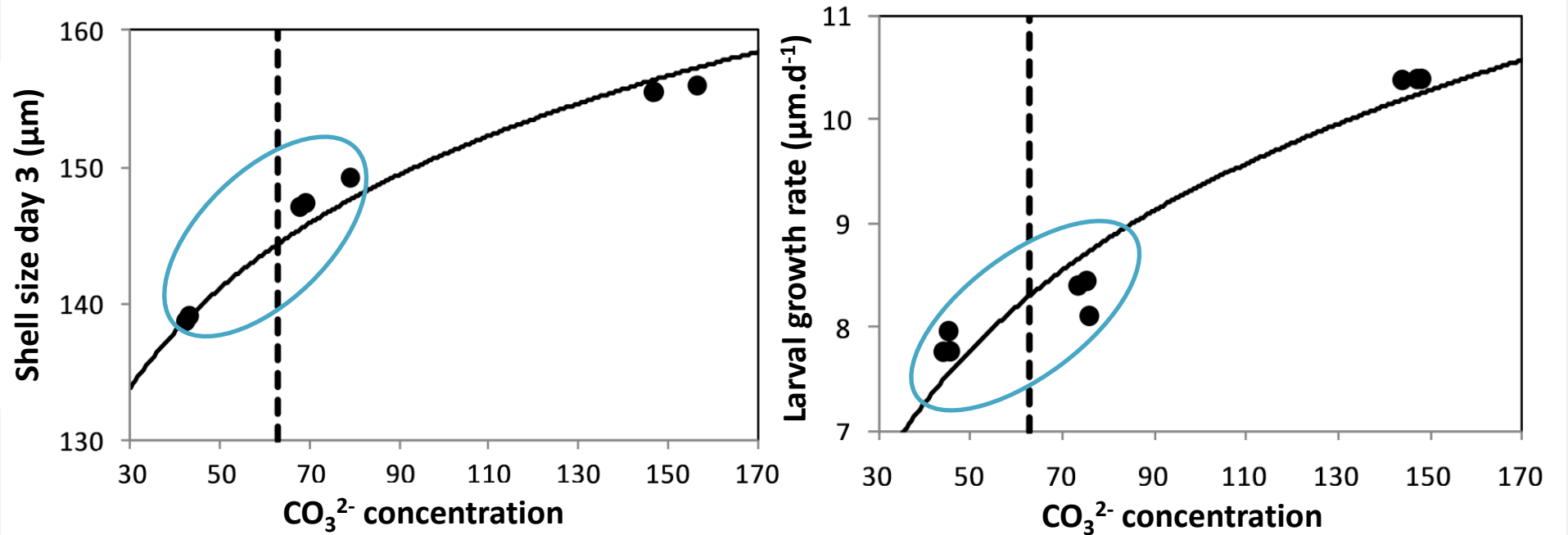


Early life processes



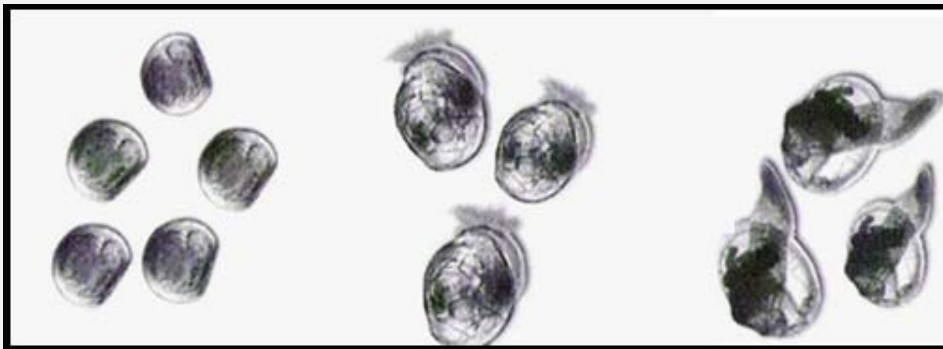
saturation level $CaCO_3$

Shell production



saturation level CaCO_3

saturation level CaCO_3



Macoma balthica in a changing world

Cumulative impact on pre-settlement period:

	OA
pH reduction	pre-settlement mortality
~ 0,32 unit	24%
~ 0,55 unit	73%

➔ Effect on ECOSYSTEM FUNCTIONING

➔ OA is not the only threat

Acknowledgements

