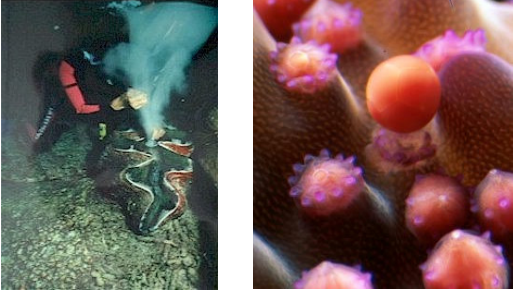
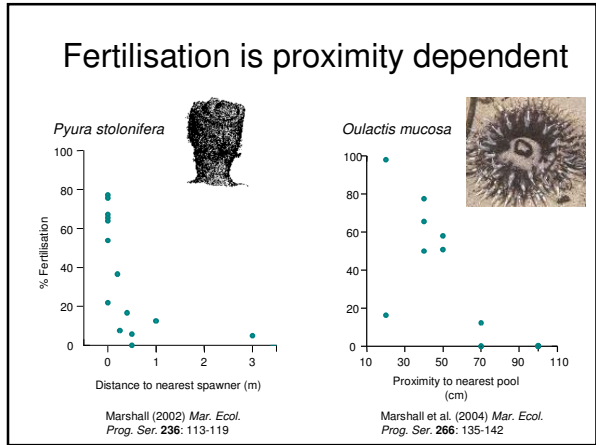





Sexual selection in marine free-spawners

Dustin Marshall
University of Queensland

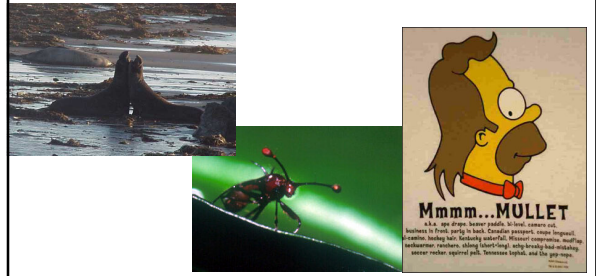
Marine Free-spawners

Sexual Selection



Sexual selection can explain traits that don't make sense from a natural selection perspective




Mmm...MULLET

A.k.a. egg drop, beaver paddle, toilet, concrete oil, kitchen oil, fresh spring to bath, Christmas presents, water, lamp, wooden, hockey bat, football, water, Mullet's composite, multi-functional, reusable, strong, hard-wearing, long-lasting, hard-wearing, water-repellent, approved, safe, stainless steel, and the egg drop.

Few obvious sexually selected traits.





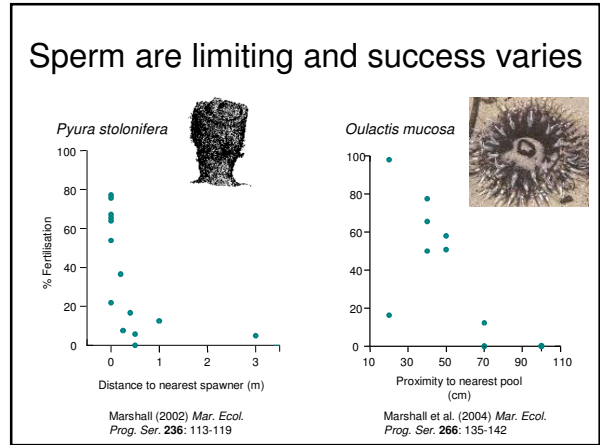
But...



Where to start?

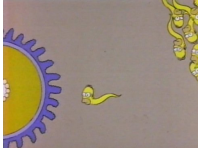
A paradigm in evolutionary biology

- Bateman's principle – Females choosy, males compete






Male reproductive success

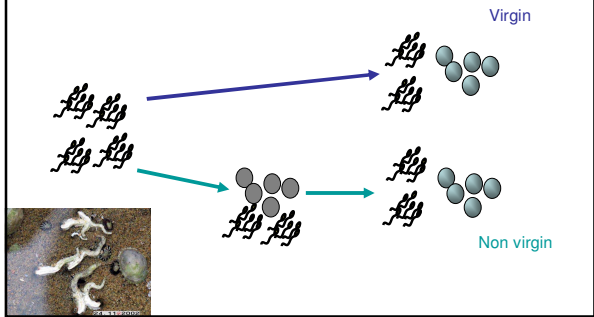
- Bateman's principle – Females choosy, sperm abundant
- Variable female reproductive success
- Sperm are not abundant
- Does Bateman's apply?



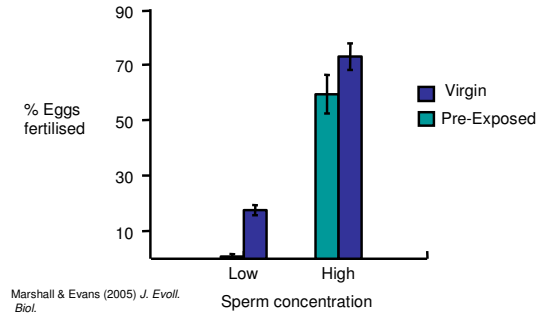
Do females compete for fertilisations?



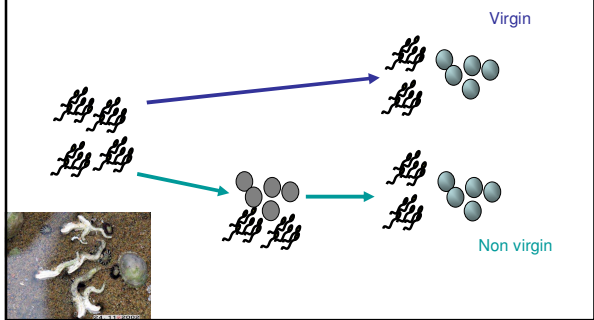
Does egg competition occur?



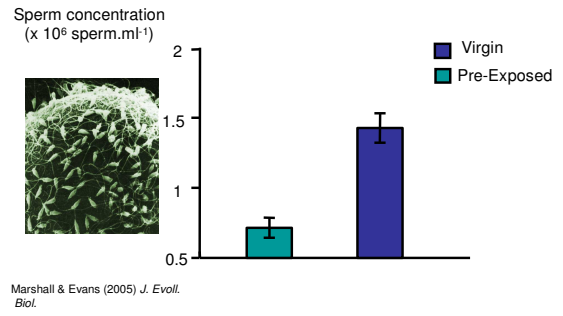
The 'mating history' of sperm affects female fertilisation success



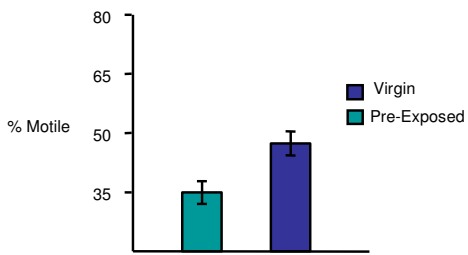
Does egg competition occur?



Large numbers of sperm removed by first female



Not only are sperm removed, the 'best' sperm are removed first

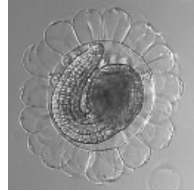
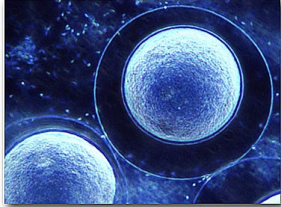


Implications of female-female competition

- Sex ratios much more important than previously thought



Implications of female-female competition



Egg size: a sexually selected trait?

Implications of female-female competition

- *Natural* selection to be close to males
- *Sexual* selection pressure for females to be *closer* to males than other female



Kid in a candy store...

- Sperm Precedence (Marshall et al. 2004, *Proc. Roy. Soc. Lond. B*)
- Male x Female interactions at fertilisation (Evans and Marshall 2005, *Evolution*)
- Benefits of Polyandry (Marshall and Evans 2005, *J. Evol. Biol.*)