

Ectosymbioses in coral reefs

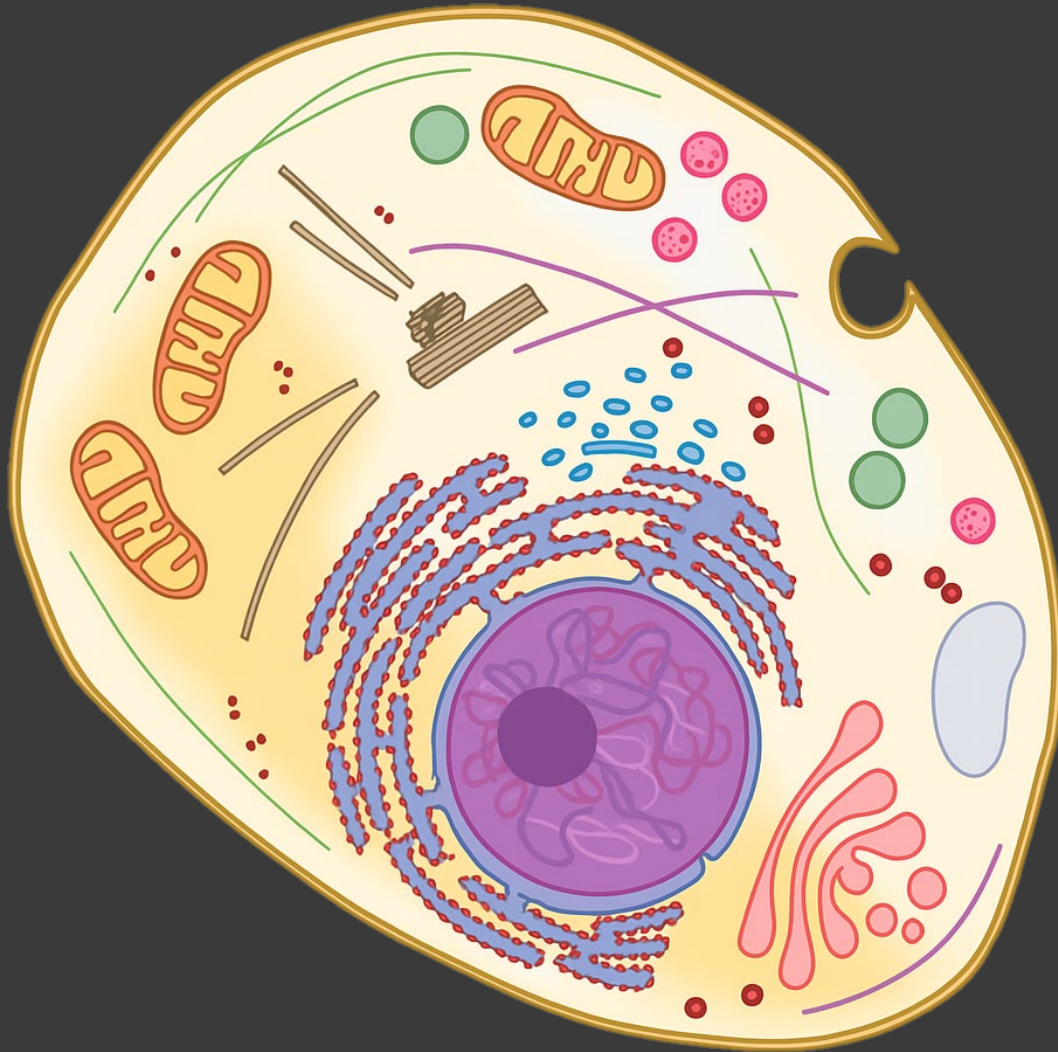
When invertebrates make the difference



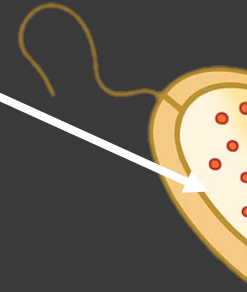
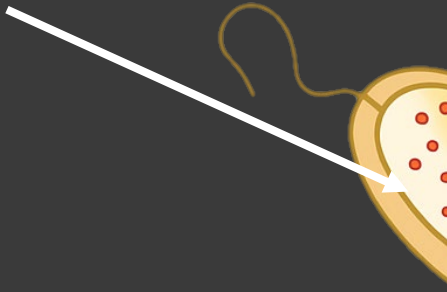
Killian Ver Hoeye: PhD student

Elise Kim: Internship student

Origine of symbiotic interactions



Eukaryotic cell

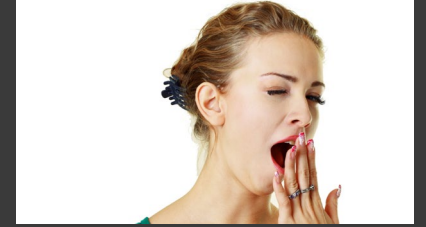


Proka



But... What's a **symbiosis**?

→ A close and long-term relationship between at least two heterospecific organisms



Endosymbiosis



Ectosymbiosis

Ectosymbionts of corals



850

species of ectosymbiotic invertebrates



The case of branching corals: *Acropora* spp.

Tetralia fulva



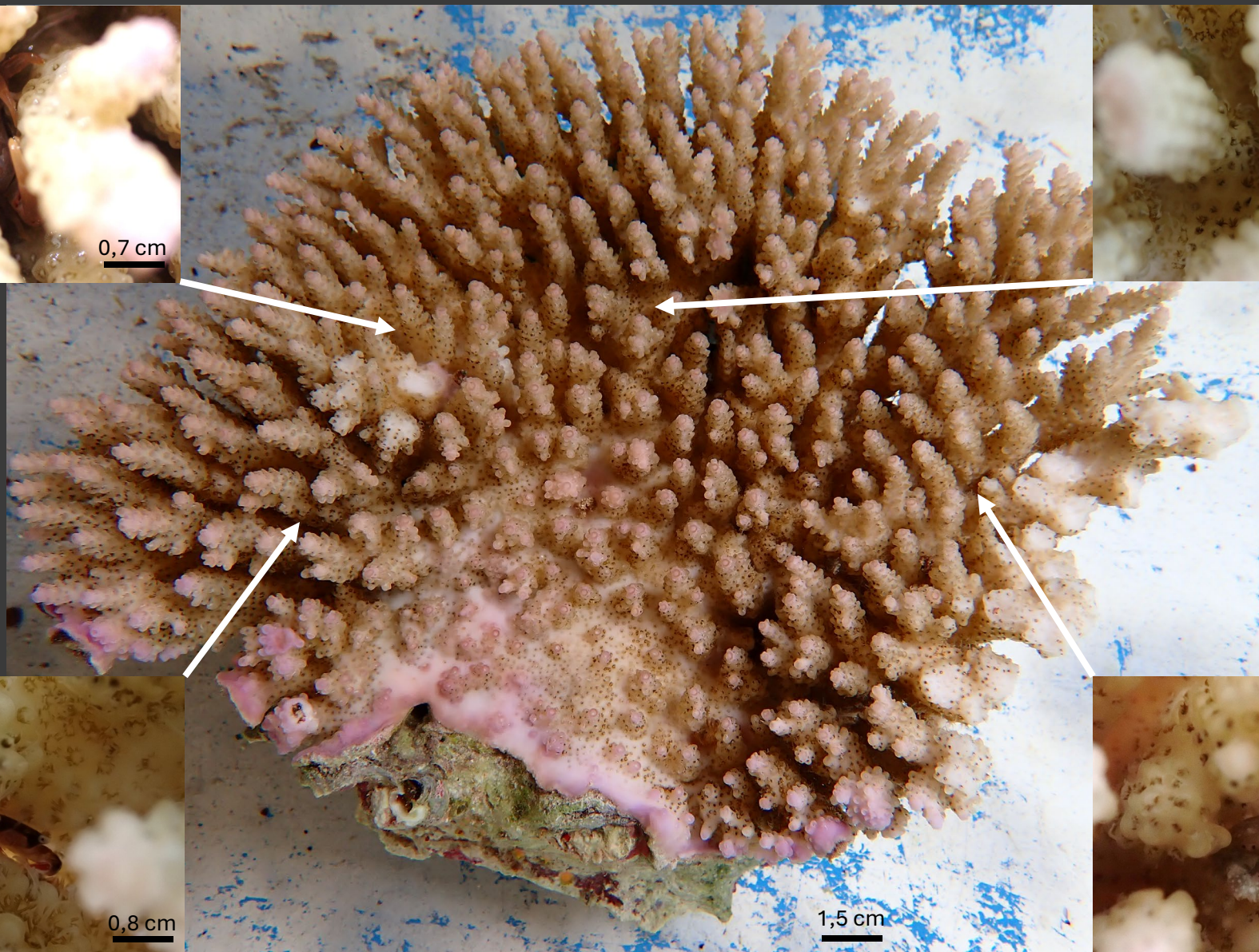
Tetralia cinctipes



Coralliocaris
graminea

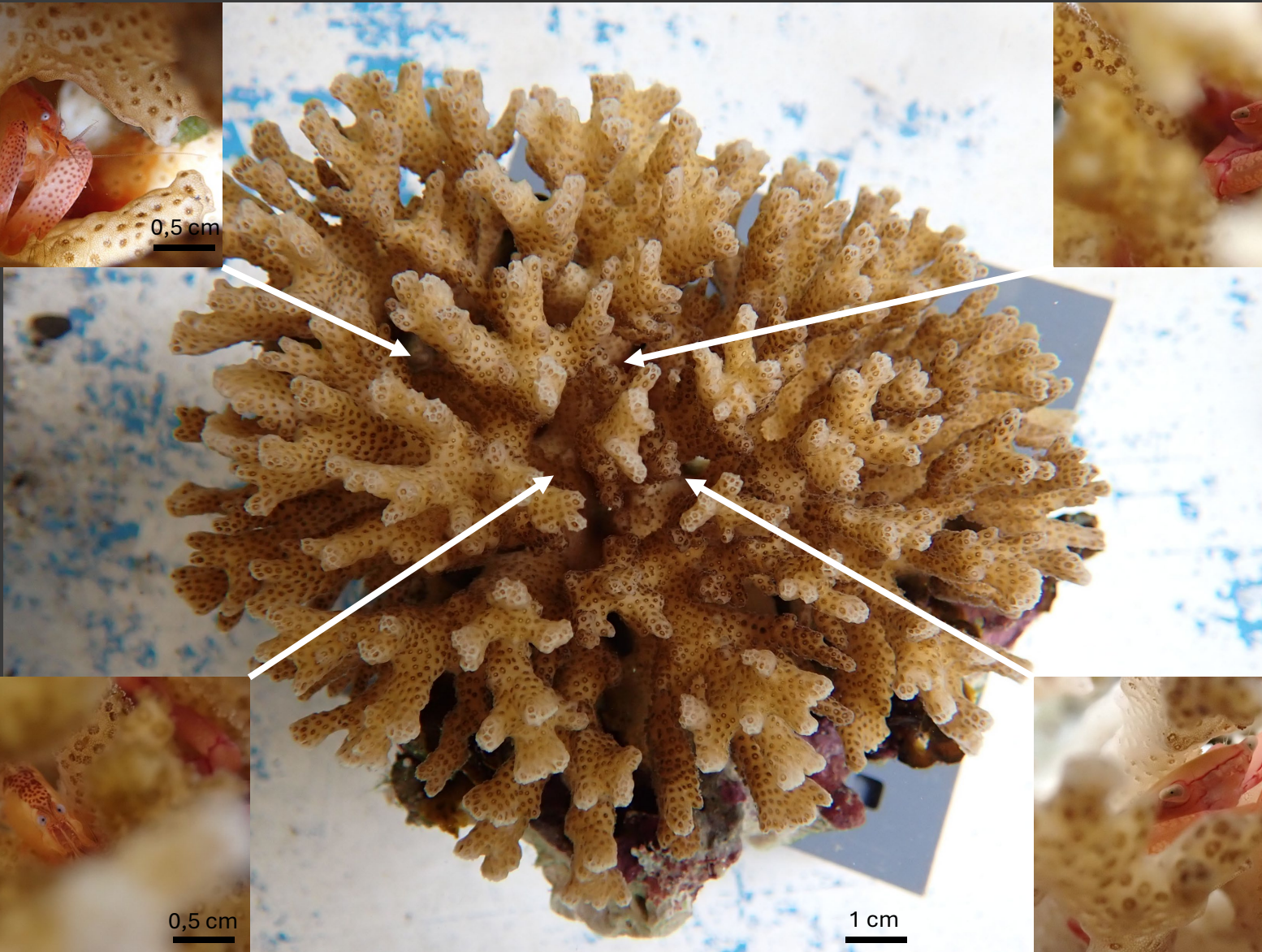


Cymo sp.



The case of branching corals: *Pocillopora* spp.

Alpheus lottini

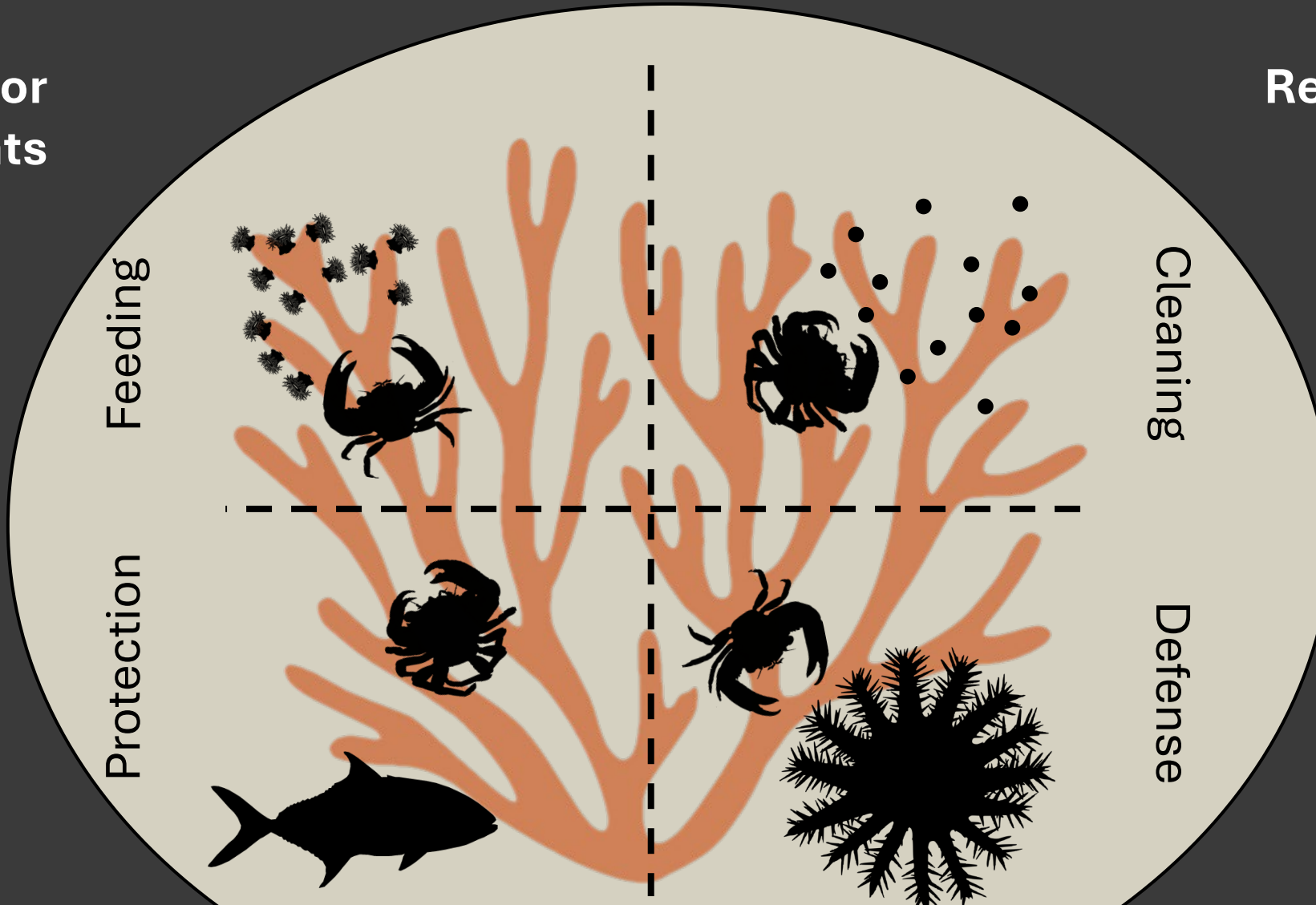


Trapezia serenei

A mutualistic relationship

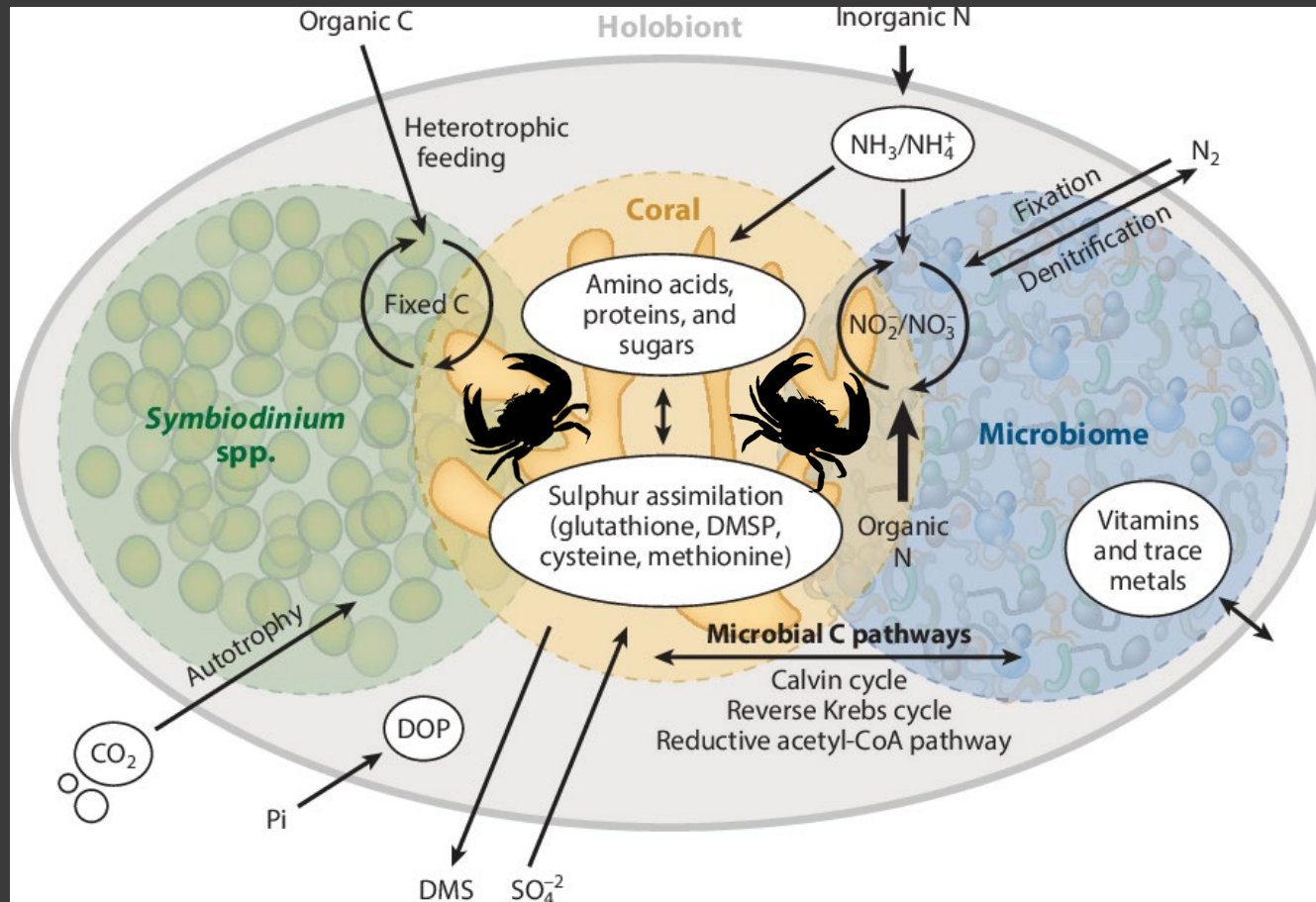
**Advantages for
ectosymbionts**

**Returns for the
host**



How can they make the difference?

All together: the holobiont

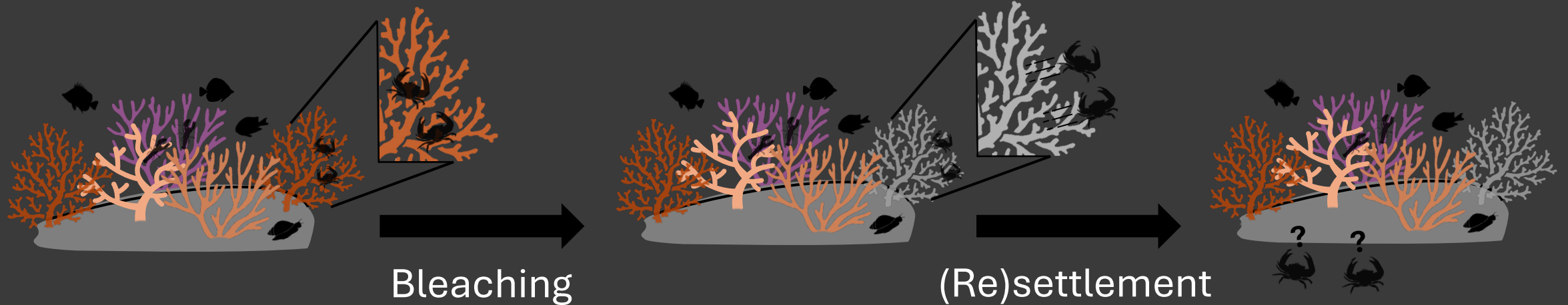


Protection of corals

=

Protection of a
whole ecosystem

Our research work



IRMS
(Isotope Ratio Mass
Spectrometry)

^{13}C

^{15}N

NMR
(Nuclear Magnetic
Resonance)

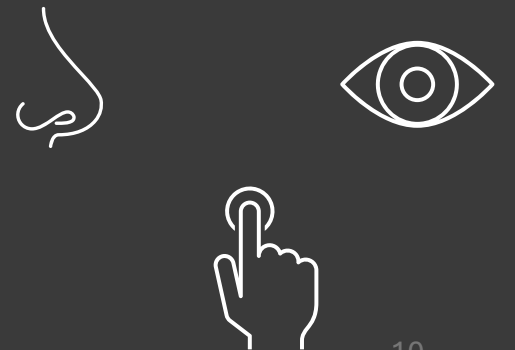
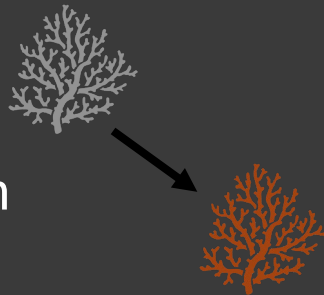


Multimodal
recognition

Metagenomic



Migration

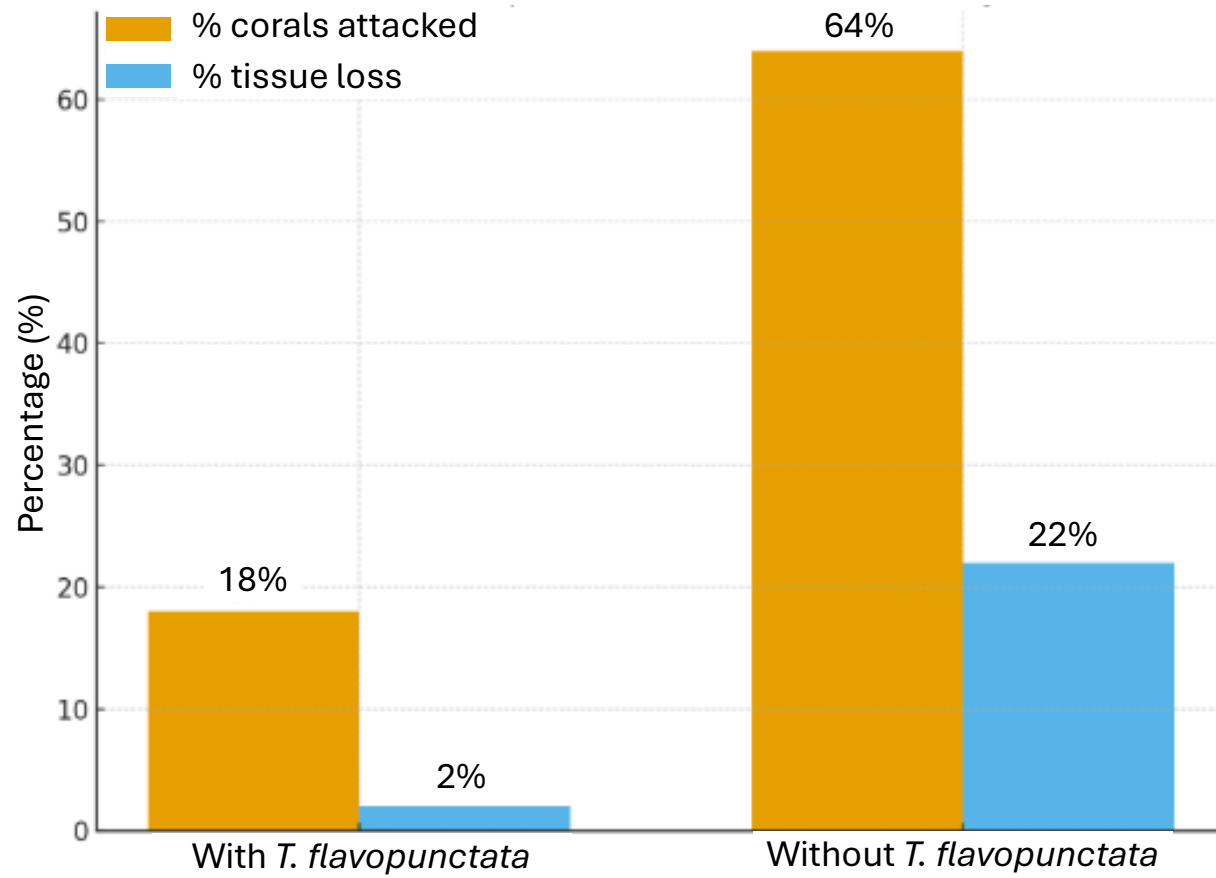


References

Images:

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Effect of *Trapezia flavopunctata* on defense of *Pocillopora* corals



McKeon CS, Moore JM. 2014

