



Divergent Adaptive Strategies of Coral-Dwelling Decapods to Host Bleaching

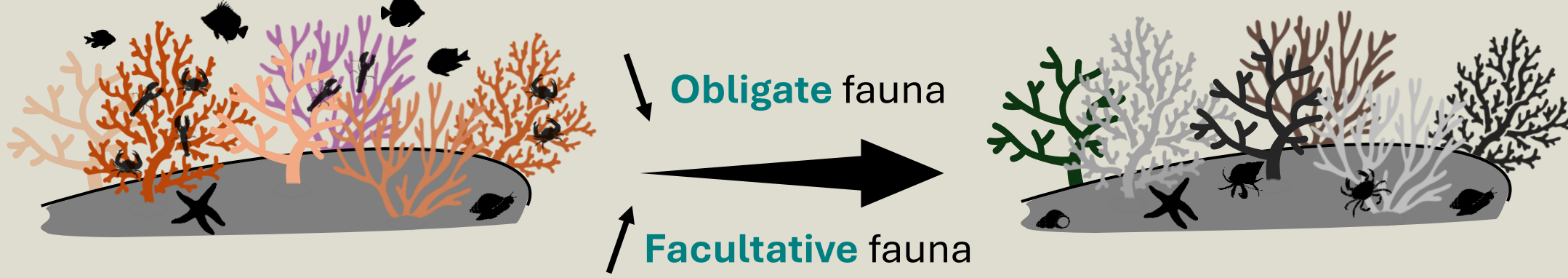
Contact: killian.verhoeve@umons.ac.be

Ver Hoeve Killian¹; Hédouin L.² and Caulier G.¹

1. Biology of Marine Organisms and Biomimetic unit, University of Mons, Mons, Belgium
2. PSL Université Paris: EPHE-UPVD-CNRS, USR 3278 CRIOBE, Moorea, French Polynesia

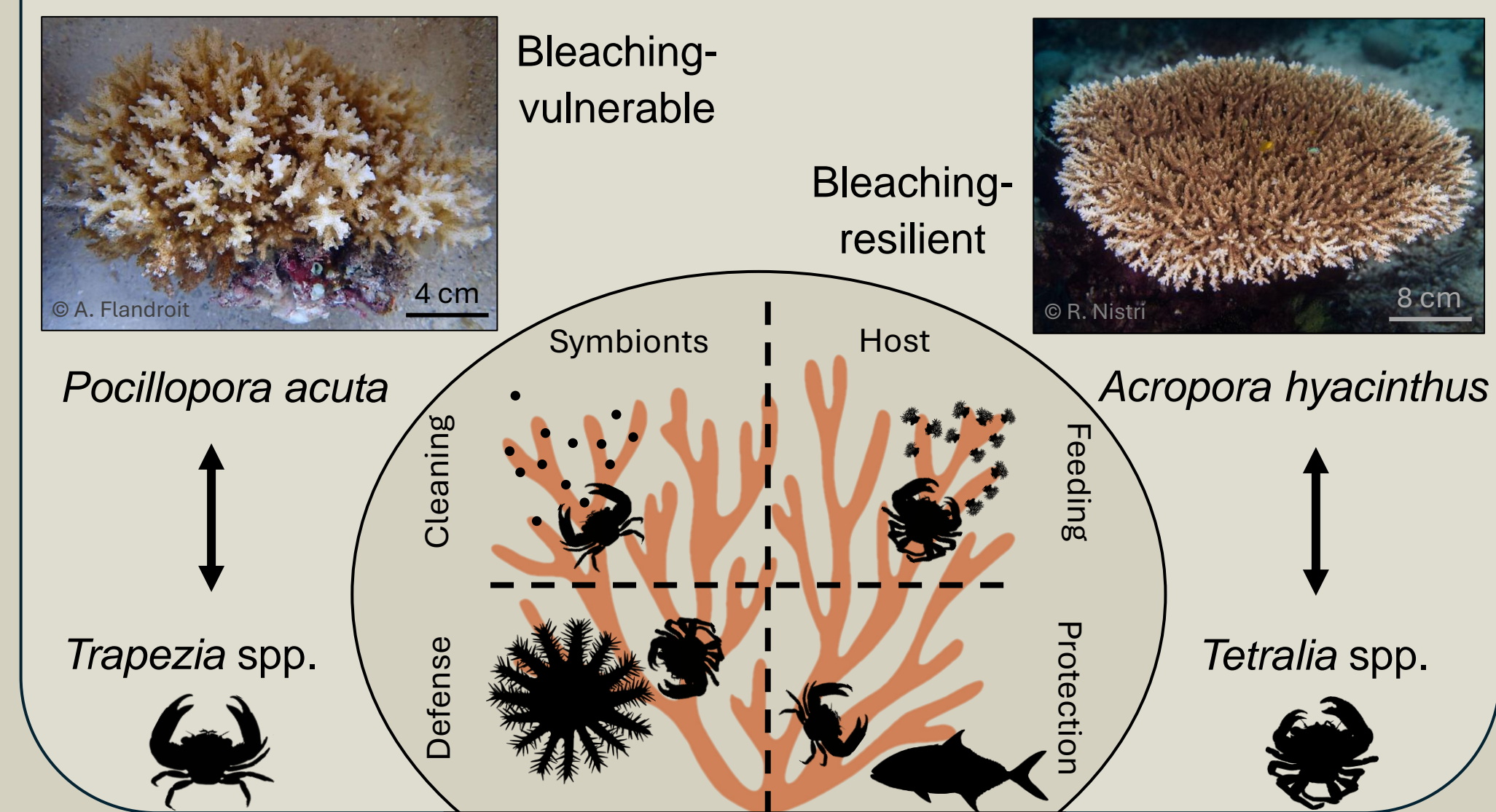
From Healthy to Dead Reef

Coral reefs face increasing threats from different (a)biotic factors, notably causing **bleaching** (i.e., the loss of endosymbiotic zooxanthellae) that may lead to the death of corals and their associated symbiotic fauna.



Between life and death, corals experience an intermediate bleaching phase, where the fate of their symbionts remains uncertain.
How do coral **ectosymbionts** cope with this bleaching?

Model Species & the Value of Symbiosis



Trapezia crabs



Tetralia crabs



Abundance & Diversity

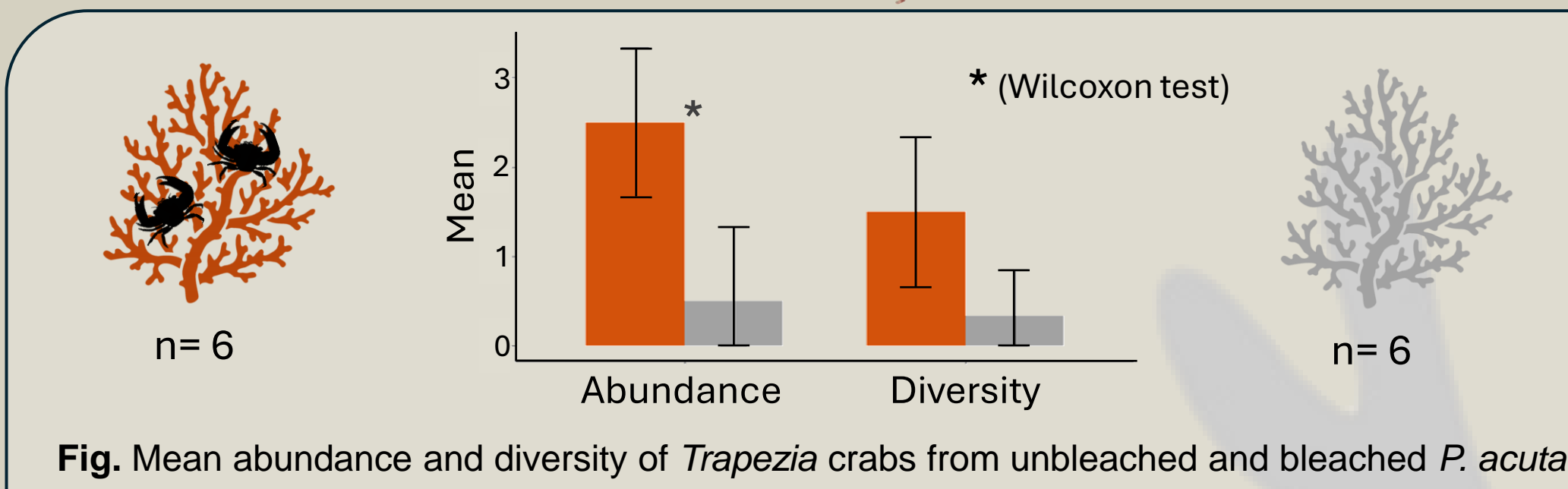


Fig. Mean abundance and diversity of *Trapezia* crabs from unbleached and bleached *P. acuta*

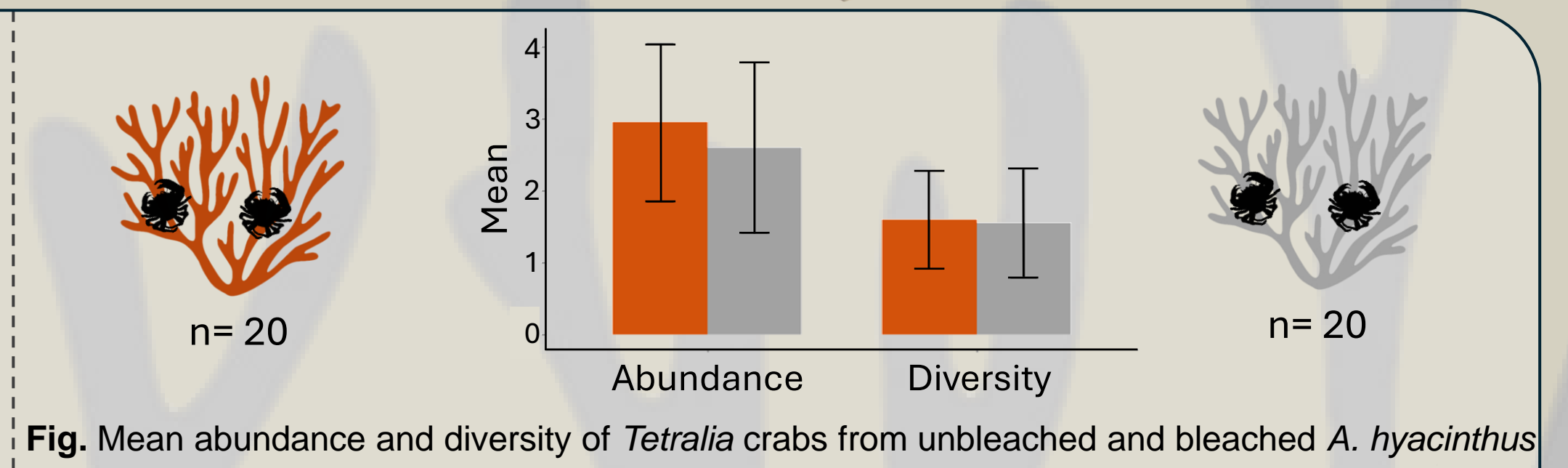


Fig. Mean abundance and diversity of *Tetralia* crabs from unbleached and bleached *A. hyacinthus*

Reproduction

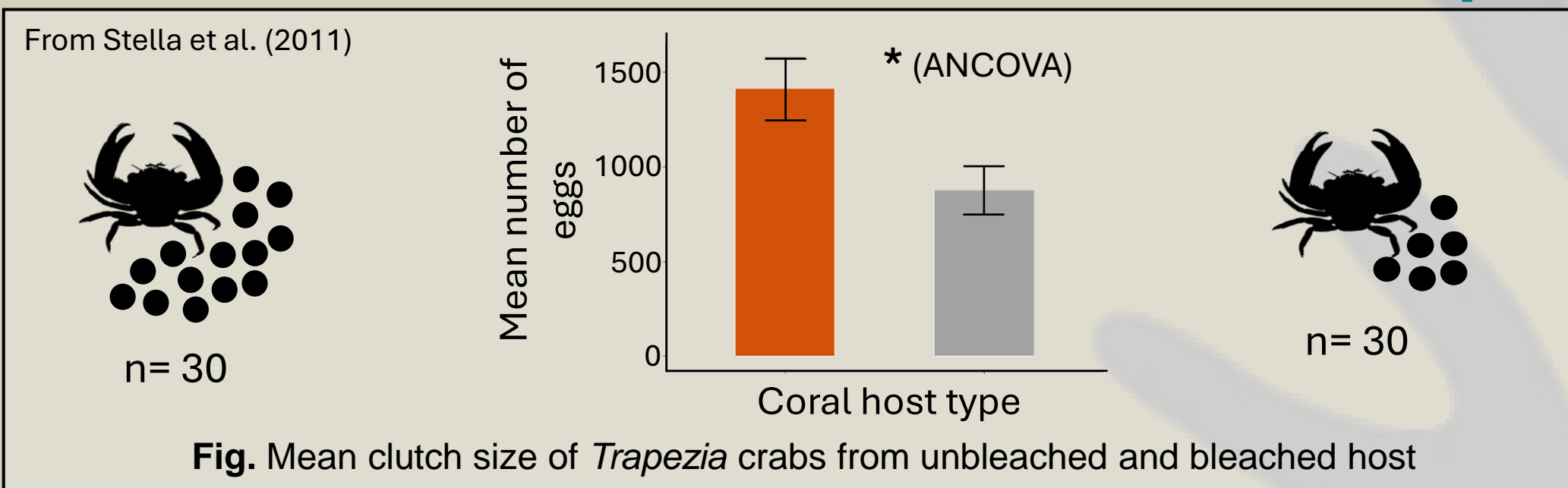


Fig. Mean clutch size of *Trapezia* crabs from unbleached and bleached host

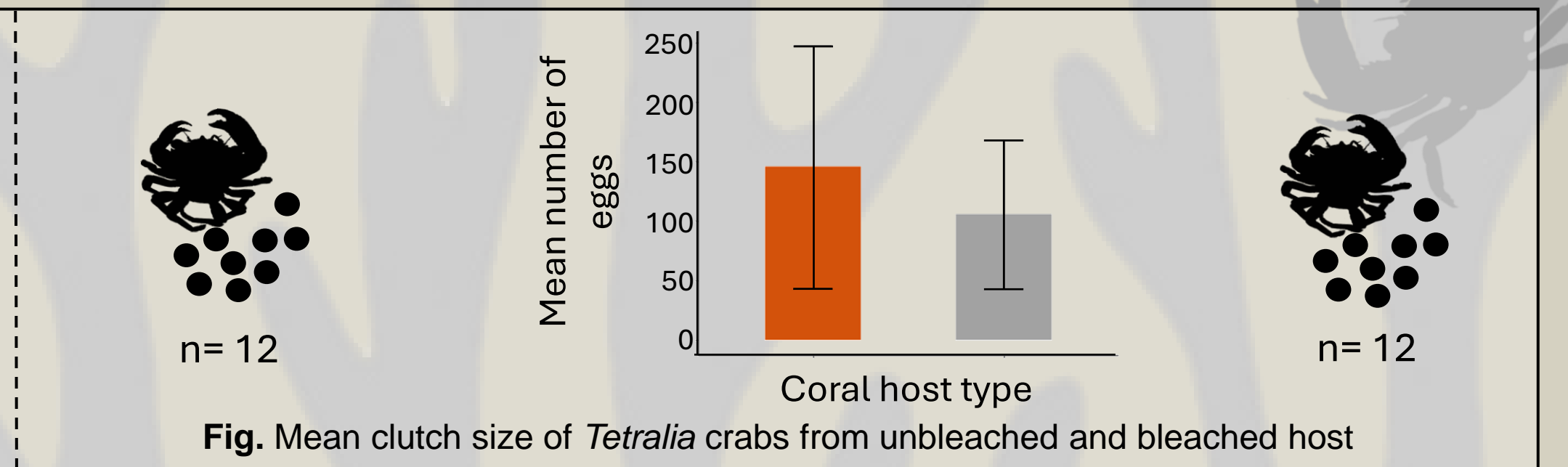


Fig. Mean clutch size of *Tetralia* crabs from unbleached and bleached host

Migration

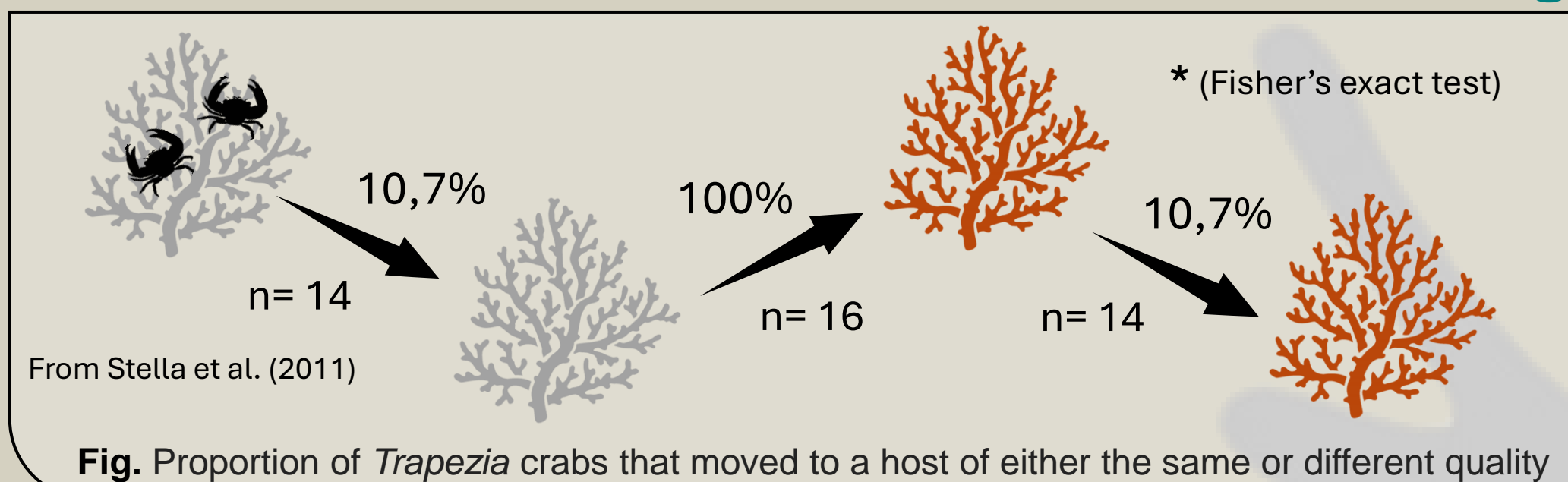


Fig. Proportion of *Trapezia* crabs that moved to a host of either the same or different quality

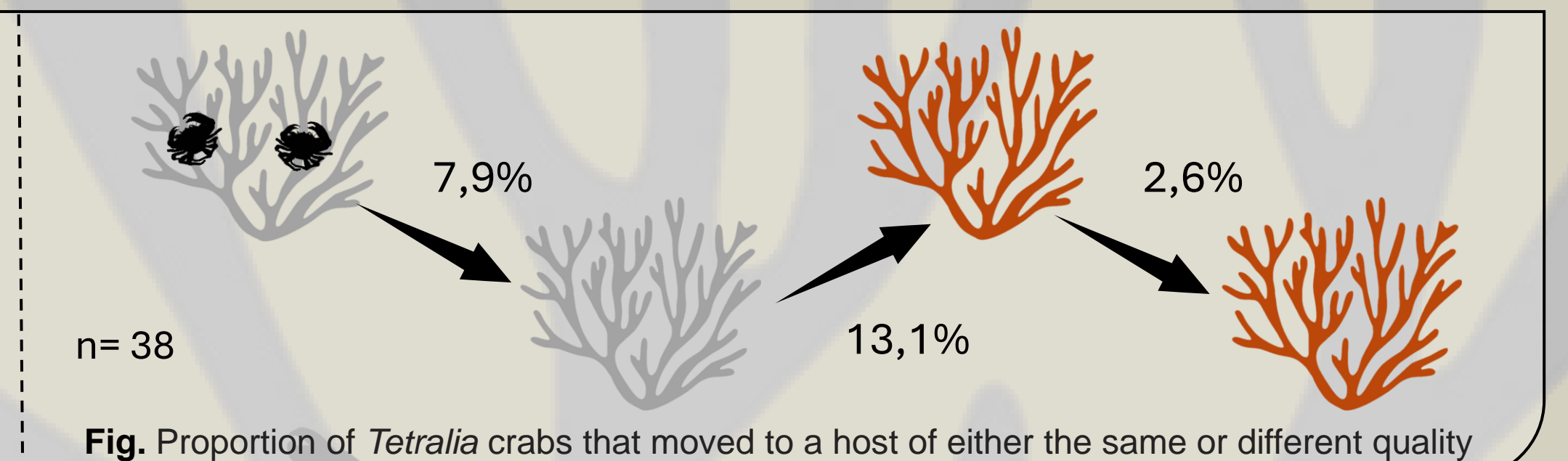
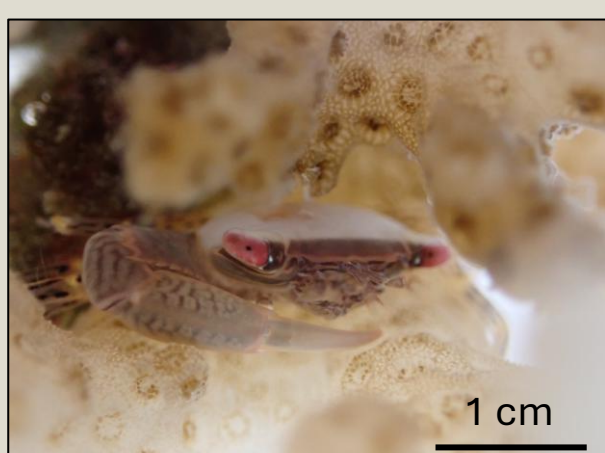


Fig. Proportion of *Tetralia* crabs that moved to a host of either the same or different quality

Vulnerable to Host Bleaching

Tolerant to Host Bleaching

Take-Home Message



Crabs on bleaching-resilient hosts adapt to the stress, while those on bleaching-vulnerable hosts are affected and leave when bleaching occurs, seeking alternatives.

? What drives them to leave their host, and how can they find another one?

