**GCB questions (50 words max for each)**

**What scientific question is addressed in this manuscript?**

How heritable are traits of reef-building corals, and does this vary depending on trait type, growth form, life stage, and across temperature conditions likely given future climate change?

**What is/are the key finding(s) that answer this question?**

Heritability was generally higher than assumed in many models projecting adaptation to climate change, and differed across trait types. and life stages. Temperature had a negligible effect on heritability, suggesting that high heritability is unlikely to be rapidly lost under future conditions.

**Why is this work important and timely?**

Heritability is a key determinant of the rate of adaptation. Coral reefs worldwide remain extremely vulnerable to anthropogenic climate change, thus knowing the heritability of coral traits, and their sensitivity to future temperature conditions, will improve our ability to anticipate coral responses to climate change and inform potential management interventions.

**Describe how your paper fits within the scope of GCB; What biological AND global change aspects does it address?**

Our paper considers potential adaptation to climate change extracted from studies on reef-building corals globally, including the Indo-Pacific, Atlantic, and Red Sea. Heritability determines population-level responses to selective pressures, and thus our results inform how coral populations across the globe are likely to respond to climate change.

**What are the three most recently published papers that are relevant to this manuscript?**

Cropp R, Norbury J. 2020. The potential for coral reefs to adapt to a changing climate - an eco-evolutionary modelling perspective. Ecol Modell. 426:109038. doi:10.1016/j.ecolmodel.2020.109038.

Matz M V., Treml E, Haller BC. 2020. Estimating the potential for coral adaptation to global warming across the Indo-West Pacific. Glob Chang Biol. 26:3473–3481. doi:10.1111/gcb.15060.

Wright RM, Mera H, Kenkel CD, Nayfa M, Bay LK, Matz M V. 2019. Positive genetic associations among fitness traits support evolvability of a reef-building coral under multiple stressors. Glob Chang Biol. 25(10):3294–3304. doi:10.1111/gcb.14764.