

## **To be plastic is fantastic: delineate coral species niches for assessing their tolerance to changes**

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Climatic and anthropogenic disturbances alter coral reefs by reconfiguring existing coral assemblages. Surviving species are selected by the new environment based on particular traits that they may exhibit. The plasticity in traits will define ecological strategies associated with contrasted degrees of tolerance to changes. In this process, specialists are expected to tolerate few changes to the environmental conditions and are restricted to specific habitat. To contrast, generalists can cope with a wider range of environmental conditions by readjusting traits according to the habitat's features. Ecological strategies in corals have been exclusively defined according to species' trait averages, irrespective of individual variations. Challenges representing the acquisition and use of energy have also tended to be oversimplified, specifically by the choice of easy traits in the absence of strong scientific evidence. Here, we propose a framework to re-examine strategies in scleractinian corals by focusing on the intraspecific variation of traits. We will show how the characteristics of a given species niche can help coral species to tolerate changes, illustrating this approach with examples taken from high-latitude locations and mesophotic coral ecosystems. We will demonstrate that multidisciplinary approach focusing on three major characteristics of the coral holobiont (its physiology, trophic ecology, and associated microbiome), we can enhance the comprehension of ecological plasticity of coral species and predict future ecosystem reconfiguration.