

**BONAIRE (SOUTHERN CARIBBEAN) CORAL RESTORATION  
PROJECT: *Acropora cervicornis* (LAMARCK, 1816)  
GENOTYPE PERFORMANCE ASSESSMENT IN THE NURSERY  
PHASE**

**P. Alós<sup>1</sup> and F. Virdis<sup>2</sup>**

<sup>1</sup> Marine Sciences, UCV, Valencia, SPAIN.  
paula.alos@mail.ucv.es

<sup>2</sup> Chief Operating Officer, Reef Renewal Foundation Bonaire, Kralendijk, CARIBBEAN  
NETHERLAND.  
francesca@reefrenewalbonaire.org

**Abstract:** Coral reefs are some of the most diverse and valuable ecosystems worldwide. Since the 1970's the coral populations of *Acropora* spp. around the island of Bonaire have been declining due to White Band Disease (WBD) and due to heavy storms and hurricanes (i.e., hurricane Lenny in 1999) (Bries, 2004; Summer, 2011). *Acropora cervicornis* is one of the species selected as restoration target because of its critically endangered status according to the IUCN red list and its ecological value as reef builder. Promoting genetic diversity is key to aid the recovery of degraded populations and gives this species higher chances of survival in the long-term (Drury, 2017). In this study, we measure growth and healing (Shopmeyer, 2017), as phenotypic traits of propagated corals to assess the different genotypes performances in the nursery phase (Calle-Triviño, 2020). Linear length and tissue regeneration have been monitored for 8 weeks for 10 different genotypes (n=5), respectively with in situ measurement and image analysis (Kiel, 2012). The preliminary results suggest that some individual fragments can grow up to one centimeter per week and achieve complete tissue regeneration from cutting and handling damage in 15 days. Being able to determinate the differences in performance from various coral genotypes can help nursery based coral restoration to be more performant (Hollarsmith, 2012). Indeed, selecting coral genotypes that can grow and regenerate faster is a considerable advantage for coral restoration practitioners that could therefore optimize their outplanting efforts (Meesters, 2015).

**Key words:** *Acropora cervicornis*, Staghorn coral, genotype, growth, healing, nursery.

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