Título: DIVERSITY AND ECOLOGY OF ZOANTHARIANS IN THE CANARY ISLANDS, AND THEIR POTENTIAL TO PROLIFERATE IN A CLIMATE CHANGE CONTEXT

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Localización: DIVERSITY AND ECOLOGY OF ZOANTHARIANS IN THE CANARY ISLANDS, AND THEIR POTENTIAL TO PROLIFERATE IN A CLIMATE CHANGE CONTEXT

Resumen: The aim of this PhD dissertation was to address the biodiversity and ecology of Zoantharia Suborden Brachycnemina species and their potential as bioindicators of ocean warming in the Canary Islands. Through morphological and genetic analyses, we have demonstrated that the biodiversity of zooxanthellate zoantharians increases as seawater temperature rises towards the tropics, with a total of nine species inhabiting in the Macaronesia and Cape Verde ecoregions, being several of them recorded for the first time in the East Atlantic Ocean. Results of this thesis highlighted a wide variability in distribution patterns of zoantharians along the Canary Islands and only intertidal and subtidal populations of Palythoa aff. clavata and P. caribaeorum respectively, followed patterns related to contrasting sea water temperatures regimens recorded at benthic habitats of different islands. Furthermore, the combined effects of experimental high temperature and low pH predicted for a future climate change scenario in the Canary Islands region, have demonstrated they tropical

affinities. Contrary to what was expected for coral species without carbonate in their body wall, low pH had greater effect than temperature in both species. Although predicted ocean acidification seemed to negatively affect Palythoa spp., their populations are expected to increase at short-term favoured by ocean warming, especially in the warmer western islands of the Archipelago. Monitoring programs of abundances of Palythoa aff. clavata and P. caribaeorum should be specially considered to early detect phase-shifts in temperate ecosystems worldwide.