Last Interglacial fossiliferous sequences from Santiago Island (Cabo Verde Archipelago): the palaeoecology of the Nossa Senhora da Luz section, a rare example of a protected bay in volcanic oceanic islands

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The world-wide study of the geological record of the Last Interglacial is key to reconstruct the climatic and oceanographic conditions during that time interval. Here we present preliminary results of a comprehensive field analysis of one of the most extensive and least studied Quaternary fossiliferous sequences in Cabo Verde attributed to the Last Interglacial. It is located at Nossa Senhora da Luz, which is a protected inlet at the SE coast of Santiago Island. The studied sequence shows a set of transitions between fluval and marine environments, and emersion and immersion events within a confined, highly protected bay environment. The presence, in the upper part of the sequence, of a thick layer of very fine-branched rhodoliths indicates particular ecological conditions within this bay (e.g., shallow and turbidity free waters, stable environmental conditions and/or fast growth) that are absent today and presumably played an important role for the presence of particular invertebrate species during that time. The presence of tidal specimens of the clam Senilia senilis in life position at an altitude of ~12m above sea-level allowed a re-
interpretation of relative sea-level changes, suggesting that the uplift trend of Santiago Island for the Last Interglacial period onwards (3m/100ky) is possibly 70% lower than previously calculated (10m/100ky). Fossils include five phyla, with molluscs being the most diverse and abundant. Despite the abundance of some species (e.g., the bivalves *Saccostrea cucullata*, *S. senilis*, and *Aequipecten opercularis*, and the gastropods *Persististrombus latus* and *Thais nodosa*), the general biodiversity is low. The presence of *S. cucullata* and *S. senilis*, absent from extant Cabo Verdean faunas, indicates a more humid climate, unlike the dry climate found today. Some horizons are intensively bioturbated with the crustacean burrow *Thalassinoideas suevicus*. Our new data agree with the hypothesised palaeoclimatic framework of more wet conditions than today for the Last Interglacial in the archipelago.

Keywords: Eemian, Cabo Verde Archipelago, sheltered bay, *Senilia senilis*, volcanic oceanic islands, NE Atlantic

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