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ABSTRACT BOOK

CS12.6 - MOUNTAIN BIOGEOGRAPHY: DOES THE TEMPORAL EVOLUTION IN “SKY ISLAND” AREA MATTER?

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The idea of considering higher elevation areas as islands with own, unique biological communities and surrounded by an “ocean” of unsuitable lands is not new in biogeography. However, a quantitative assessment of the effects of past climate fluctuations on islands’ dimension is crucial in view of climate warming. During the Holocene, islands’ boundaries experienced repeated altitudinal fluctuations due to climate changes. As a consequence islands’ areas were subject to variations of different intensity and alterations in inter-island connectivity. During the warmer phases some islands reduced strongly or disappeared, provoking the partial or complete extinction of local biotas. The subsequent cooling allowed a new rise and expansion of these islands, but, depending on the distance from a stable source and on the dispersal abilities of the species, the failure in the recolonization process could have provoked strong immigration credits. Aim of the present contribution is to discuss the combined effects of landscape and historical factors in shaping the current communities of mountain islands. Specifically, we modelled past island dynamics at a millennial scale in the last 11000 years in Italy and analysed the effects of mountain islands fluctuations, by using montane butterflies, ground beetles, grasshoppers and crickets as biological models.