



PLENARY LECTURES

THE REPTILES OF THE ARABIA AS A MODEL TO STUDY THE DYNAMICS OF DIVERSIFICATION AND ECO-PHENOTYPIC EVOLUTION IN ISLANDS

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Islands are very important hotspots of biodiversity and provide premier settings for studying the evolutionary and ecological processes that have resulted in such unique biotas. Unfortunately, in most cases the lack of a similar taxonomic and ecological knowledge of the associated continental faunas prevents any comparison between continental and island faunas. During the last years we have been trying to improve our knowledge on the systematics, biogeography and evolution of Arabian reptiles, including the endemic reptile fauna of the Socotra Archipelago and continental related taxa. This archipelago, situated in the western Indian Ocean, is a case example of an ancient continental fragment, a block of Precambrian Gondwanaland with a long biogeographic history. With 93.5% of the 31 species and 41% of the 12 genera being found nowhere else in the world, reptiles constitute the most relevant vertebrate group of the Socotra Archipelago and an excellent model to study in depth the role of historical and contemporary factors (i.e., island size and geographic isolation, biogeographic history and ecological disparity) in the origin and diversification of this unique faunal assemblage. In this talk I will review the work that we are doing on the reptiles of the Socotra Archipelago and continental Arabia to assess their origin and real diversity, to test the relative role of adaptive processes in the diversification of Socotran reptiles and compare the patterns of diversification and phenotypic differentiation of continental and Socotran sister groups to see whether island and continental species differ in their dynamics of diversification and eco-phenotypic evolution. Despite being the size of Mallorca, the endemism and habitat specialization of the reptiles of Socotra is much higher than in any other Mediterranean Island, the possible causes of these differences will be analyzed.