47. ESTIMATING INTRASPECIFIC DIVERSITY AT DIFFERENT GEOGRAPHIC SCALES IN THE MEDITERRANEAN SEA: THE CASE OF *SPONGIA OFFICINALIS* (PORIFERA: DEMOSPONGIAE)

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Identifying spatial patterns of intraspecific variation of marine sessile invertebrates is crucial for the establishment of comprehensive conservation strategies, particularly given the threat of recent climate change effects on their coastal Mediterranean habitats. The harvested bath sponge *Spongia officinalis*, having recently undergone several mass mortality incidents, is a model species in this context since it is distributed throughout the Mediterranean. A sample set from three distinct regions of the Mediterranean was analyzed, corresponding to its main biogeographic zones (eastern - western Mediterranean and the Alboran Sea), thus allowing for the identification of barriers to gene flow occurring along the basin. A supplementary network of sampling locations inside each region, separated by a distance range of 10 to 500 kilometers was additionally surveyed for fine-scale estimation of diversity patterns. Variation was evaluated with partial mitochondrial cytochrome oxidase subunit I sequences, along with a set of high-resolution polymorphic microsatellite loci we recently developed for the species. While mitochondrial markers distinguished individuals only between the main Mediterranean basin and the Alboran Sea, microsatellites showed a more complex pattern, providing evidence for additional separation across the biogeographic zones, and revealed considerable structuring at the level of different geographic locations.

48. SPECIALIZATION IN HUMMINGBIRD-PLANT NETWORKS: THE ROLE OF ASSEMBLAGE SIZE, CLIMATE AND CLIMATE CHANGE

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Biotic specialization is implicated as a driver of speciation and species coexistence and, hence, may determine biodiversity patterns, such as the latitudinal species richness gradient. Despite its importance, large-scale geographic variation in specialization and the underlying drivers remain to be determined. Hence we related specialization in plant-hummingbird networks sampled at 31 localities across the Americas to latitude and a series of putative historical and contemporary drivers. There is a trend toward increased biotic specialization at lower latitudes and favorable contemporary climates, mainly high precipitation. However, strong specialization is primarily associated with diverse assemblages and areas that have experienced relatively high spatiotemporal climatic stability during the Late Quaternary. As expected from their abilities to track changing climates, relative climatic stability affects plants more than hummingbirds. Our results are consistent with theories claiming that climate-driven range dynamics diminish local adaptations.