



ORAL COMMUNICATIONS

VISUAL ECOLOGY AND COLOUR DIVERSITY IN LACERTID LIZARDS: SIGNAL DESIGN IS RELATED TO HABITAT SELECTION

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Lacertids show three types of conspicuous lateral colour patches (i.e. ultraviolet-blue, ultraviolet-green, and ultraviolet-yellow), that appear repeatedly as alternative phenotypes across the phylogeny of this lizard family. Theory predicts that chromatic signals have evolved to be more conspicuous in their own visual ecosystem. Thus, there should be a relationship between a species' habitat and the type of conspicuous coloration it shows, considering all observers that might exploit these conspicuous colour patches (i.e. conspecifics, predators). In this work we tested if three sympatric species, *Psammodromus algirus*, *P. edwardsianus*, and *Acanthodactylus erythrurus* (which show the three alternative phenotypes), (1) present differences in conspicuousness, and (2) are segregated by habitat (i.e. light spectral quality, openness, and available refuges). We hypothesized a relationship between the degree of conspicuousness and microhabitat selection, with the most conspicuous species occupying the most vegetated and refuge-rich habitats, and the less conspicuous species occupying more open habitats with less refuges. Our results confirmed our initial hypothesis, and suggest that lizards with the most conspicuous colorations select those microhabitats in which they are less vulnerable to visual predators. These results agree with the idea of a direct relationship between habitat and colour signal design.