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Evolutionary Traits of Reptiles in Harsh Desert Ecosystems

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Abstract: Desert-dwelling reptiles have evolved a diverse array of adaptations to survive in the harsh and variable conditions of arid environments. These reptiles face extreme temperatures, limited water availability, and scarce food resources. Through a combination of physiological, behavioral, and morphological adaptations, desert reptiles have developed unique strategies to conserve water, regulate temperature, and thrive in their ecosystems. This review explores these evolutionary strategies, highlighting key adaptations across various reptilian families, including mechanisms for thermoregulation, water conservation, and feeding habits. We also discuss the role of ecological factors in shaping these traits and the implications of climate change on the future of desert reptile populations.

Keywords: Thermoregulation, Water Conservation, Ectothermic Adaptations

