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Welfare of Zoo Animals

Environmental enrichment and cognitive complexity in reptiles and amphibians: Concepts, review, and implications for captive populations

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Abstract

Reptiles and amphibians have been neglected in research on cognition, emotions, sociality, need for enriched and stimulating environments, and other topics that have been greatly emphasized in work on mammals and birds. This is also evident in the historic lack of enriching captive environments to reduce boredom and encourage natural behavior and psychological well-being. This paper provides those responsible for the care of reptiles and amphibians a brief overview of concepts, methods, and sample findings on behavioral complexity and the role of controlled deprivation in captive herpetological collections. Most work has been done on reptiles, however, and so they are emphasized. Amphibians and reptiles, though not admitting of easy anthropomorphism, do show many traits common in birds and mammals including sophisticated communication, problem solving, parental care, play, and complex sociality. Zoos and aquariums are important resources to study many aspects of these often exotic, rare, and fascinating animals, and rich research opportunities await those willing to study them and apply the wide range of methods and technology now available.

Keywords

Reptiles; Amphibians; Enrichment; Controlled deprivation; Welfare; Behavior; Cognition; Emotion; Play

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