

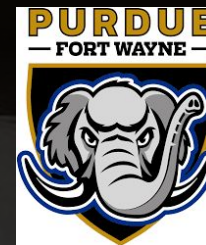


BALL STATE
UNIVERSITY

The Mathematical Laws of Morphology and Biomechanics

Tuesday 15th February 2022 noon EST

Virtual Presentation: <https://purdue.webex.com/meet/aselvite>



Prof. Philip Bergmann

Clark University

Department of Biology



On the existence and persistence of intermediate varieties: A new take on one of Darwin's evolutionary worries

For Darwin Day, Darwin's thoughts on the rarity of intermediate varieties and the importance of phylogenies in evolutionary biology are reviewed. Some fossil examples of intermediate varieties are presented, along with consideration of the limitations of those examples, as far as intermediate fossil forms may or may not represent ancestors of extant species. Extant intermediate species also sometimes exist, and allow us to study the functional and ecological implications of important evolutionary transitions. One such example, is the evolution of snake-like forms from quadrupedal ones. Snake-like forms have convergently evolved dozens of times among vertebrates. Dr. Bergmann's work on body form evolution in lizards provides some two contrasting examples of how intermediate forms can inform the evolution of an extreme phenotype. Intermediate varieties do exist, and provide powerful examples for reconstructing the evolutionary history of various clades.



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