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Title: Causes and consequences of evolution in wing allometry in Odonata

Authors: Dosanjh, Ashmeet Singh

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Abstract:

Allometry refers to the study of the relationship between the size or shape of a body part and the overall size or shape of an organism. This phenomenon has been observed across a wide range of organisms, from bacteria to whales, and is thought to reflect the underlying biological constraints and trade-offs that govern growth and development. A well-studied example of allometry is the scaling of limb length or wing size with body size in animals, which can affect locomotion, feeding, and predator avoidance. Allometry can also have evolutionary implications, as changes in the relative size or shape of body parts can drive morphological diversification and adaptation to new environmental niches. Thus, by studying allometry, we can gain insights into the fundamental principles of organismal biology, as well as the mechanisms underlying the diversity of life on Earth. I have focused on wing allometry which refers to the relationship between the size and shape of an animal's wings and its overall body size. It is observed across a wide range of flying animals, from insects to birds and bats, and is a critical determinant of their flight performance and behavior. The study of wing allometry has important implications for understanding the evolution and ecology of flying organisms, as well as for predicting the effects of environmental change on their populations. For example, differences in wing size and shape can affect an animal's aerodynamic properties, manoeuvrability, and energy expenditure during flight, which in turn can influence its foraging strategies, migration patterns, and mating success.

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