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Embracing variability in comparative physiology: why it matters and what to do with it

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About this issue

Environmental variability and variability amongst individuals are inherent to nearly all biological systems, yet they have been somewhat overlooked by comparative physiologists. Disciplines such as ecology and evolutionary biology have long embraced the complexity of natural systems and the attendant variability. Yet, for decades, many physiologists have laboured under “The Tyranny of the Golden Mean” - trying to minimize variation both in experimental design and data analysis to better see overarching patterns but potentially obscuring important findings in the process. To better predict and understand organismal responses in the wild, researchers are increasingly incorporating environmental variability into laboratory experiments while also adopting more sophisticated statistical methods.

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