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Heat & Life

The Science of Animal Thermoregulation

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PENULIS



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PREFACE

The ability to regulate body temperature is fundamental to the survival and adaptation of animals across different environmental conditions. Thermoregulation stands as a complex physiological, behavioral process and morphological properties that enables organisms to maintain homeostasis and optimize biological function. Book “Heat & Life: The Science of Animal Thermoregulation” explore the complex mechanisms that regulate thermal balance in animal by providing comprehensive understanding of thermoregulation of animal and the factors that affect it.

This book is designed for researchers, students and professionals in the field of biology and environmental science. It integrates empirical research with theoretical insight to present a systematic and logical approach about animal thermoregulation. By examining both ectothermic and endothermic strategies, as well as behavioral and physiological adaptations, this book offers in-depth perspective on the animal thermal control.

Furthermore, the book addresses the implications of the climate change on animal thermoregulation by highlighting the challenges that global temperatures shift poses to biodiversity. By drawing upon established scientific theories and contemporary studies, this work aims to bridge the gap between fundamental biological principles and empirical research results.

I extend my gratitude to researchers and scholars that contribute to enrich our understanding of animal thermoregulation. It is my hope that this book will serve as a valuable resource for those seeking to deepen their knowledge in this vital area of life sciences and inspire further research into

the remarkable adaptation that enable animals to balance heat and life.

28 March 2025

Yadi Oktariansyah

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