



antioxidants



Special Issue Reprint

Redox Metabolism in Ecophysiology and Evolution

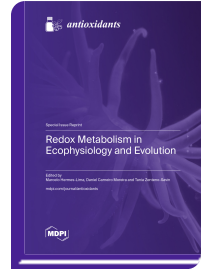
www.mdpi.com/books/reprint/8036

Edited by

Marcelo Hermes-Lima

Daniel Carneiro Moreira

Tania Zenteno-Savín



ISBN 978-3-0365-9012-7 (Hardback)

ISBN 978-3-0365-9013-4 (PDF)

Due to the accumulation of oxygen in Earth's atmosphere, endogenous antioxidants in aerobic organisms evolved. More than a simple attack (reactive species) or a defense (enzymatic and non-enzymatic antioxidants) duel, redox metabolism also comprises non-radical redox metabolites, redox-sensitive transcription factors, and redox-sensitive proteins that form a network of signaling pathways. These pathways are now known to mediate important processes in aerobic organisms, from circadian rhythms to ageing and lifespan regulation. Indeed, oxidative stress is considered to be important to living organisms. Unsurprisingly, environmental stresses might disrupt the redox balance, triggering compensatory adaptive responses. The modulation of redox metabolism has been documented for phylogenetically diverse species exposed to a myriad of environmental stressors, such as warming, freezing, dehydration, exposure to UV radiation, exposure to pollutants, and variations in oxygen availability. In natural settings, several of these environmental factors (e.g., temperature, water availability, oxygen availability, and radiation incidence) fluctuate over time (e.g., daily and seasonally). This Special Issue focuses on the responses of organisms' redox metabolism when exposed to single or combined changes, biotic or abiotic, in environmental factors (e.g., oxygen availability, temperature, drought, radiation, and pollutants) and provides insights into the adaptive responses of antioxidant systems to environmental perturbations.



Order Your Print Copy

You can order print copies at

www.mdpi.com/books/reprint/8036

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.