OBITUARY

In memory of Barry Gordon Lovegrove

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Barry Gordon Lovegrove was born on 5 December 1956 and spent most of his childhood in Cape Town. After completing his BSc and BSc Honours degrees in the University of Cape Town's Department of Zoology, Barry went on to obtain a PhD under the supervision of Professor Gideon Louw, a leading desert biologist and co-author with Mary Seely of the influential Ecology of Desert Organisms. At the time, the UCT Zoology department was an epicentre for ecophysiological research in southern Africa. The academic staff included Gideon Louw, Jenny Jarvis and Sue Nicolson, while the postgraduate student cohort included Barry, Nigel Bennett and John Lighton, who would all go on to prominent careers in the field. Barry's PhD focused on the thermal physiology and sociality of bathyergid mole-rats in the Kalahari Desert. He also found time to work with Roy Siegfried on the processes responsible for forming the 'heuweltjies' that characterise many of southern Africa's arid landscapes.

After postdoctoral fellowships at the University of California Los Angeles and then at Philipps University of Marburg in Germany as a fellow of the Alexander von Humboldt Foundation, Barry returned to South Africa. Unexpectedly finding himself at a loose end on account of the sudden withdrawal of funding he had been promised, Barry ventured once again into southern Africa's arid western regions to research the book he had decided to write, The Living Deserts of Southern Africa. This magnificent volume, which won the 1995 University of Natal Book Prize, combined eloquent explanations of desert ecology with mesmerising photographs of stark desert landscapes and the exquisite diversity of organisms inhabiting them. It rapidly became the classic reference for anyone with more than a passing interest in the region's arid biomes. Barry's life-long passion for science communication and his mastery of explaining complex scientific concepts in terms intelligible to the interested lay-

person would bear more fruits in later years, just one of which being a second edition of The Living Deserts,published in 2021 less than a year before his death. This new edition includes an entirely new chapter on the ancient Karoo, and a stark warning about the devastating toll rapid climate change is exacting on our deserts.

The A-rating Barry received from the National Research Foundation in 2017 was fitting recognition of his stature as one of the most globally influential evolutionary physiologists of the last decade. During the early part of his 30-year career at the University of KwaZulu-Natal, Barry's early interests in physiological and behavioural adaptation to aridity evolved into a broader focus on global patterns of mammal physiology and what they can tell us about the ways in which endotherms evolve in response to climate. He was one of the pioneers of macrophysiology, and the comprehensive global datasets of mammalian basal metabolic rates he synthesized early in his career led to a new understanding of global patterns and variability in mammalian physiology (e.g. Lovegrove 2000, 2003). These data form the basis for many macro-analyses and global datasets in use today by comparative physiologists globally. In collating data from around the world, as well as in-depth studies of his own on Afrotropical and Australian mammals, Barry formed a holistic picture of energetics in endotherms. By demonstrating that the tropics, sub-tropics, and the Southern Hemisphere exerted differing energetic and seasonal constraints on physiology than the Northern Hemisphere, Barry, along with several Australian colleagues, challenged the existing "Holarctic Paradigms" in endotherm evolutionary physiology and provided new important global perspectives (Lovegrove 2006).

Not content with having shed light on present patterns, Barry's next major research focus would use global variation in the thermal physiology of extant mammals to gain insights into extinct taxa and answer grand questions about the evolution of endothermy. His quest to reconstruct the ways in which endothermy evolved led him on an adventurous international research phase, collecting new data on little-studied animals like Malagasy tenrecs and Bornean tarsiers. These data would eventually contribute to his triphasic model for the evolution of endothermy presented elegantly in a series of papers (Lovegrove 2012, 2017) and finally in his second book, The Fires of Life: Endothermy in Birds and Mammals. Published in 2019, Fires of Life is a masterpiece of science communication, providing non-scientific readers with a highly readable and entertaining window into how mammals and birds have evolved over the last 250 million years of Earth's history.

Many academics of Barry's stature build large research groups of postgraduate students, postdoctoral fellows and research fellows. This approach usually requires inordinate amounts of time writing research funding proposals to multiple agencies. Barry neither held multiple large research grants nor had numerous students. He understood that building an impactful research career required time, financial resources, networks, infrastructure and partnerships. His approach was to select a handful of postgraduate students and devote all his energies into moulding them to build solid research profiles. This took generous provision of often-limited funds to attend national and international conferences, visiting international research collaborators, and ensuring that his students published early, and published often, in high impact journals. Perhaps because of his strong personality, exacting scientific rigour and uncompromising work ethic, he produced only four doctoral graduates throughout his entire career. Notably, all four proceeded to secure academic positions in various institutions in South Africa and abroad, testament to his influence, mentorship and support. A large contributor to Barry's success as an academic was his creativity, ingenuity and dogged tenacity, all

of which spilled over into his home and personal life. These characteristics manifested as a beautiful Mexican-themed house, Casa Mexicana, nestled in the leafy suburb of Athlone in the KwaZulu-Natal Midlands, which he shared with his partner, the pianist Christopher Duigan, and their beloved miniature dachshunds. The home boasts a magazine-worthy indigenous garden that has been showcased at multiple open gardens events.

Barry and Christopher graciously offered Casa Mexicana as a home-away-from-home to all of Barry's postgraduate students. There would be nightly discussions around the dinner table, all while enjoying a delicious, yet spicy, home-cooked meal, washed down with a glass or three of sauvignon blanc. Unbeknownst to them at the time, when postgraduate students joined the Lovegrove Lab, they also gained a second family and embarked on what would become an unforgettable journey that more-often-than-not led to exotic destinations and fascinating study species. The South African and global scientific communities have suffered a tremendous loss with Barry's passing on 6 March 2022 following a brief illness. He leaves a unique legacy of providing answers to profound "why?" questions about the physiology of extant and extinct animals, challenging paradigms, and inspiring future generations of evolutionary and ecological physiologists.

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