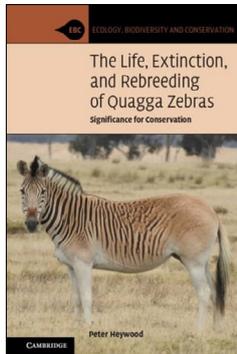




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The life, extinction, and rebreeding of quagga zebras: Significance for conservation



**AUTHOR:**

Peter Heywood

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Brian W. van Wilgen<sup>1</sup>

**AFFILIATION:**

<sup>1</sup>Centre for Invasion Biology, Department of Botany and Zoology, Stellenbosch University, Stellenbosch, South Africa

**EMAIL:**

bvanwilgen@sun.ac.za

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# The ecology, extinction and resurrection of the quagga

There are many global icons of extinction – the best known of which is the dodo (*Raphus cucullatus*), a flightless relative of pigeons that lived on Mauritius until the 17th century. In South Africa, our icon is undoubtedly the quagga (*Equus quagga quagga*), a subspecies of the plains zebra, which once occurred in astounding numbers across the karoo and grasslands of South Africa. It was hunted to extinction in the late 19th century, and the last living specimen died in a zoo in Amsterdam in 1883. This book is an account of where quaggas fit into the family of equines, their distinguishing features, their interactions with people, and the causes of their extinction. It deals further with the subsequent futile endeavours to locate unlikely survivors well into the 20th century, the later ongoing attempts to breed animals that resemble extinct quaggas, and the philosophical arguments for and against this rebreeding campaign.

The author, Peter Heywood, is a professor of biology at Brown University in the USA. His interest in quaggas began in 2006, and he has published several papers that cover biological and social perspectives (including art and poetry) relevant to quaggas. His interests have motivated him to examine almost all of the extant illustrations, paintings, photographs and museum specimens of quaggas, both in Europe and South Africa. The historical accounts of the quagga's discovery, description and, ultimately, their extinction make for interesting reading, but the material of most scientific interest is dealt with in the last two chapters on attempts to recreate the species, and on the place and value of such attempts in the modern world.

The book describes the key role played by the German-born taxidermist Reinhold Rau (1932–2006), who joined the staff of the South African (now Iziko) Museum in Cape Town in 1959. The museum held a quagga foal specimen that he re-mounted to meet his exacting standards, initiating his interests in quaggas, and later his passion to rebreed them. The major breakthrough came with the cloning and sequencing in 1984 of quagga DNA that Rau had managed to glean from museum specimens. The DNA revealed that the quagga was a subspecies of the extant plains zebra, and not a separate species as was believed at the time. This suggested that selective breeding to diminish striping on the legs and hindquarters could be used to produce animals that resembled quaggas. The programme began with selected zebras from Namibia and northern KwaZulu-Natal in 1986, and is ongoing. Today a sizeable population of 'Rau quaggas' (so named to distinguish them from true quaggas) occurs on several protected areas and farms within the quagga's historical range.

The final chapter focuses on the identity of rebred quaggas and the value of rebreeding for conservation. Biologists clearly recognise that the phenotypes (specimens that externally resemble quaggas) will never be true genotypes, with all of the behavioural and physiological features that distinguished the extinct subspecies, but they may have cultural or symbolic value. The question is asked as to whether the funds expended on trying to revive an extinct species should not rather be spent on saving extant species that face extinction right now. For example, the Selous' zebra (*Equus quagga selousi*) is another distinctive subspecies of the plains zebra with a small remnant population in Mozambique – if we act now, we could avoid having to attempt rebreeding it later – or losing it forever. These and other debates are very relevant to how we handle the accelerating sixth extinction. The book is an enjoyable account of this interesting case of demise and attempted resurrection, and will appeal to conservation scientists as well as wildlife enthusiasts.

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