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An osteological comparison between bontebok Damaliscus pygargus pygargus and blesbok, Damaliscus pygargus phillipsi and its bearing on the evolution of bontebok

Vilakazi, Nonhlanhla

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AN OSTEOLOGICAL COMPARISON BETWEEN BONTEBOK, *Damaliscus pygargus pygargus,* AND BLESBOK, *Damaliscus pygargus phillipsi* AND ITS BEARING ON THE EVOLUTION OF BONTEBOK.

By

Nonhlanhla Vilakazi

A dissertation submitted to the Faculty of Science, University of the Witwatersrand, Johannesburg, in fulfilment of the requirements for the degree of Master of Science.

Johannesburg, 2008.

DECLARATION

I declare that this dissertation is my own, unaided work. It is submitted for the Degree of Master of Science at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other University.

Signature: _____

Date: _____

ABSTRACT

The alcelaphine species *Damaliscus pygargus* has two subspecies: the bontebok *Damaliscus pygargus pygargus* and the blesbok *Damaliscus pygargus phillipsi.* On analogy with black wildebeest evolution, it is thought that the two subspecies became biogeographically distinct during the Last Glacial, when lowered sea levels exposed additional plains habitat on the continental platform. This would have caused reproductive isolation between interior and coastal populations with the Cape Fold Mountains acting as biogeographic barrier. The aim of this study was to test the possibility of the osteological discrimination between the two subspecies by using reference specimens from the National Museum, Bloemfontein, and Iziko South African Museum, Cape Town. It was hypothesized that bone morphology and measurements would serve to differentiate between the subspecies, which are adapted to different environments, and thus experience different stresses. However, results showed no significant differences between the two subspecies osteologically.

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Rebecca Dube and Nonkululeko Vilakazi

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