



A new species of African Mole-rat (*Fukomys*, Bathyergidae, Rodentia) from the Zaire-Zambezi Watershed

PAUL A.A.G. VAN DAELE^{1,3}, PIETER BLONDÉ², ROBERT STJERNSTEDT & DOMINIQUE ADRIAENS¹

¹Research group for Evolutionary Morphology of Vertebrates – UGent – KL Ledeganckstr 35 – 9000 Ghent – Belgium

²Braambrugstr 28 – 9700 Oudenaarde – Belgium

³Corresponding author. E-mail: paagmys@gmail.com

Abstract

A new species of bathyergid mole-rat, *Fukomys vandewoestijneae*, is described from an area on the Zaire-Zambezi watershed, centred on the Ikelenge pedicle in the North-Western province of Zambia. It is diagnosed by a unique combination of morphological (size, lack of clear headmarks), chromosomal ($2n=44$) and DNA sequence characteristics. This medium-sized species belongs to the Giant mole-rat “*F. mechowii*” clade, which was hitherto considered monotypic. Its known distribution is limited to the Ikelenge pedicle of Zambia and adjacent areas in the Democratic Republic of Congo (DRC) and presumably Angola. Colonies of this social mole-rat were observed in the chanas (dambos), degraded miombo woodland and in villages. Although presumably sympatric in historical times with *F. mechowii*, no overlap in the species current distribution could be established. This local endemic species adds further evidence to the conservation importance of the two-pedicle region (Ikelenge pedicle (Zambia)—Katanga pedicle (DRC)).

Key words: chromosomal evolution, conservation, Ikelenge pedicle, Zambia, Democratic Republic of Congo, Angola, dambo, miombo

The true mystery of the world is the visible, not the invisible. (O. Wilde)

Introduction

The systematics of the cryptomyid African mole-rats is muddled (e.g. Faulkes *et al.* 2004, Van Daele *et al.* 2007a, b). Based on DNA sequence data and life history characteristics *Cryptomys* s.l. was recently split into two genera, one containing southern African mole-rats, *Cryptomys* s.s. and one containing lineages distributed throughout the savannahs of the rest of sub-Saharan Africa, *Fukomys* (Faulkes *et al.* 1997, Faulkes *et al.* 2004, Ingram *et al.* 2004, Kock *et al.* 2006). While it is commonly agreed that *Fukomys* is a very speciose genus (Appendix 1), which has diverged in six or seven major clades (op. cit.), species limits have formed a challenge to various researchers due to cryptic variation that has been uncovered from DNA sequence routines (op. cit.), chromosomal studies (Nevo *et al.* 1986, Kawalika *et al.* 2001, Van Daele *et al.* 2004 and references there-in, Deuve *et al.* 2008) and geometric morphometric analyses (De Hauwer 2005, Corkery 2006, Van Daele *et al.* 2006, Murtas *et al.* 2007, Robbens 2008, Neutens 2009, Van Haelst 2010). The *Fukomys* group has a disjunct distribution range. The so-called Sudanian clade occurs north of the African rainforest belt and a Zambezian clade ranges throughout south-central Africa (Van Daele *et al.* 2007b). Often termed blesmoles because of the conspicuous headmark in some species, recent phylogenetic studies indicate that this characteristic has been lost in some lineages, viz. the *F. mechowii* and *F. whytei* clades (Van Daele *et al.* 2007a, b). Using these new phylogenetic insights, new samples from Zambia and critical examination of museum material revealed that a peculiar mole-rat exists in the Ikelenge pedicle of Zambia and adjacent areas. The species first came to our attention during expeditions between 2002 and 2006, when it was singled out on the basis of external morphology (pelage colour, lack of headspot, size). Other researchers (Mathias