

Aardvarks

Among the numerous fossil fragments of ancient mammals, over 40 specimens of aardvarks (Family: Orycteropodidae) have been identified at Langebaanweg. These specimens consist mostly of isolated teeth, foot and hand bones and very few long bone elements. Really good preserved aardvark skeletons are rare in the fossil record. What do these discoveries of fossil aardvarks tell us about the past life history of these animals?



Figure 1: Elvis the male aardvark from Frankfurt Zoo (Germany)

First of all, they imply that aardvarks lived near Langebaanweg and Baards Quarry around 4 Million years ago. Nowadays, aardvarks are not common in this area and favour a rather more savannah-like type of environment. The Langebaanweg aardvarks may also be compared in terms of the morphology (shape and size) of the fossil bones with those of living ones. The conclusions of such studies are still a matter of debate between specialists. On the one hand, Martin Pickford (2005) considered these specimens to be the oldest known representatives of the extant aardvark – *Orycteropus afer* (Pallas, 1766). This is unexpected in that the otherwise oldest fossil *Orycteropus afer* is less than 500 000 year old. This jump of almost 4 million years is supported by the apparent large (extant-aardvark-like) size of the Langebaanweg fossil aardvarks that contrasts with the smaller size of fossil aardvarks from older sediments. On the other hand, Lehmann (2006) found that "the

assignment of the aardvark from Langebaanweg to *O. afer* has not been undoubtedly established." In fact, Lehmann pointed out that other fossil aardvark species lived in Africa around 4 Million years ago and that the Langebaanweg fossil aardvark shares some common characteristics with these species. Even slightly younger fossil aardvarks found in Makapansgat and Swartkrans (Gauteng, South Africa) show interesting similarities (Lehmann 2004).

The question to answer is whether or not the Langebaanweg aardvarks belong to the same species as the extant aardvark. Unfortunately, the fossil material recovered from the site is comprised of body parts which are not particularly informative. In a recent study, Lehmann (In press) suggested that, in absence of more complete material, the Langebaanweg aardvark could be related to *Orycteropus afer* as much as it could be to *Orycteropus crassidens*, an African species who lived in Kenya some 1.6 Million years ago (see MacInnes, 1956; Lehmann, 2008). It is even possible that the Langebaanweg and the Baards Quarry aardvarks belong to two different forms (Lehmann, 2006).

It is not yet possible to determine to which species the Langebaanweg material belongs to. Accordingly, this species has been allocated *Orycteropus* cf. *afer* – following Hendeby (1973) - until further diagnostic material is discovered. It

is however possible to state that the LBW fossils are very different to the older aardvarks living in Africa up to some 5 Millions years ago. They are related to the group of large African aardvarks (like *O. afer*, *O. crassidens*, and *O. djourabensis*) proposed by Lehmann *et al.* (2004). It is probable that 7 to 6 Million years ago, large aardvarks spread from Kenya into Central and South Africa and replaced the older species present there. As suggested by Pickford (2005), a derived South African form (like the one from Langebaanweg) might then have spread back northwards and might have given rise to the last living species of the aardvarks which is found today.



Figure 2: Large Aardvark metacarpals from Baards Quarry (SAM-PQL 908)

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