Micromammals

A micromammal is a small mammal such as a shrew, mouse, rat or mole rat. What can these small animals tell us? Micromammals can provide a great deal of information about the environment in which they live, and micromammal assemblages from fossil sites are usually used for palaeoenvironmental research. There are several advantages to studying this group of small animals. Firstly, they do not migrate like the larger mammals such as game animals, but stay within a relatively small area, secondly, they have small home ranges, and finally, some species have very precise habitat requirements. For example, the gerbils are a family which frequents open, sandy and relatively dry areas and can be used as an environmental indicator for aridity (dryness).

All the micromammal species found at Langebaanweg are extinct, but, remarkably, some nine of the micromammal genera found at Langebaanweg are found in the region today, and also in much younger west coast fossil sites, which date from 250 000 to 5000 years ago. This indicates the endurance of many of the genera present at Langebaanweg from the Mio- Pliocene, up until the present.

Two of the genera found at Langebaanweg, namely, *Acomys* (which is a mouse) and *Bathyergus* (which is a mole rat), are represented today by species endemic to the Cape region (*Acomys subspinosus* and *Bathyergus suillus*). The micromammal population of Langebaanweg provides good support for the suggestion made by Denys (1999) that regional differentiation of the southwest Cape Province and the South West Arid biomes in terms of rodent taxa took place in South Africa between 6 and 4 Ma.

On the basis of the micromammal population at Langebaanweg, it appears that certain fynbos components may have been well established in the environment at Langebaanweg around 4 to 5 million years ago, and that relatively dry microhabitats with an open, scrub vegetation, similar to that seen in the west coast Sandveld today, existed. The large mole rat population at Langebaanweg provides evidence that geophytes (the staple food of mole rats) were well-established in the area around 5 million years ago. Geophtyes are a common component of west coast vegetation today, and Lovegrove and Jarvis (1986) have suggested that some of the Iridaceae coevolved with mole rats.

Both the fynbos and micromammal genera present at Langebaanweg have families resident in the west coast area today, and further north in the Namib and South West Arid Regions. This suggests the endurance and continuation of certain aspects in the environment of the west coast from the Mio-Pliocene, until the present, and lends support to the suggestion that fynbos microhabitats were well established at the time of deposition of the Langebaanweg sediments.

Some of the micromammal species at Langebaanweg are represented by only a single jawbone or tooth. We are currently expanding our sample sizes so we can identify these new species, and work out their palaeoenvironmental significance.

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