

## Elephants

Proboscideans (elephants and their close relatives) are found in abundance at Langebaanweg, and some three species are present. The most primitive of these species is a kind of elephant called a gomphothere, *Anancus capensis*, which has only upper tusks (like modern elephants) and molars which are formed of individual cusps, or conelets, which are transversely offset across the crown to enhance interlocking precision of upper and lower molars during mastication. *Anancus capensis* has a combination of primitive and advanced features in its teeth, compared to other anancine gomphotheres, and is unique to southern African and Langebaanweg.

Also present at Langebaanweg is an ancestor of the modern African elephant, *Loxodonta cookei*. This species showed primitive dental features in that it retained permanent premolars (modern elephants develop only three milk molars and three permanent molars in each dental quadrant, and have lost permanent premolars), but unlike the most archaic elephants did not have lower tusks. Like all elephants, its molar cusps were incorporated into enamel plates that were highly efficient at horizontally slicing through plant material during chewing. Though having only moderately high crowned teeth, isotope analyses of this species from eastern African sites suggests it was a grazer (and that, along with all other early elephants, anancine gomphotheres were grazers, as well).

The most impressive proboscidean from Langebaanweg is a very large-bodied elephant, the first of the mammoths, *Mammuthus subplanifrons*. This elephant had long, spiraled upper tusks, and is the earliest known ancestor of woolly mammoths, which are generally better known from younger, Pleistocene-aged sites in the Northern Hemisphere. Its age and biogeography demonstrate that mammoths had an African origin. *Loxodonta cookei* and *Mammuthus subplanifrons* are known from sites more broadly distributed throughout Africa than *Anancus capensis*. Together, the presence of these species suggest a geological age for Langebaanweg of close to 5 million years, and indicate the proximity of open environments, including grasslands, near Langebaanweg during that time.

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