

Hyenas

Hyenas are members of the Family Hyaenidae. Despite their outward appearance, they are more closely related to cats, civets, and mongooses than they are to dogs. However, during their evolution, they came to adapt to many of the ecological roles that are today fulfilled by dogs, which are a North American carnivore family (the Canidae) that only reached Africa about 7 million years ago (very recently by geological standards).

In the Miocene (23.5-5.3 million years ago), hyenas were even more dog-like than they are today, and many of them looked, and probably behaved like, the jackals, wolves or hunting dogs of today. This was a very large radiation – over 60 species of hyenas are known from the Miocene, compared to the 4 living today. However, when dogs reached the Old World from North America, they out-competed hyenas in many of these ecological settings, and hyenas changed in appearance and ecology, becoming the hunters and scavengers we see today (except for the aardwolf, of course, which is a termite-eater but also a hyena).

The change in hyena ecology took place very rapidly in geological time, and Langebaanweg is right in the middle of it. The four or possible five hyena species known from Langebaanweg include the last survivors of the old “dog-like” hyenas, but also some of the earliest members of the new “scavenging hyenas”. Langebaanweg thus provides a direct window into the process of change in hyena evolution, making it an invaluable source of information on this process. The four well-known Langebaanweg hyena species are as follows (from smallest to largest).

- *Ikelohyaena abronia*: A close relative of the living brown and striped hyenas and very similar to, but more primitive than, the latter. It is at present not clear whether it is the ancestor to both the above-mentioned species or only to the striped hyena. It probably had a life-style similar to that of a striped hyena, partly scavenging meat, partly feeding on invertebrates or fruits and other vegetable matter.
- *Hyaenictitherium namaquensis*: The last surviving of the Miocene “dog-like” hyenas. It was slightly larger than the previous species, but only slightly. It probably was relatively omnivorous but was likely to have been a good runner that would hunt a significant amount of its own prey.
- *Hyaenictis hendeyi*: A primitive member of the “hunting-hyena” lineage to which the next species also belongs. It was somewhat larger than the previous species and probably was an active hunter, but also scavenged when hunts were unsuccessful.
- *Chasmaporthetes australis*: The largest of the Langebaanweg hyenas. Also a member of the “hunting-hyena” lineage, in which the cheek teeth became less adapted to cracking open bones and other hard food and more adept at slicing meat. Members of the genus had relatively long, slender limbs and probably had a life-style reminiscent of that of modern-day Cape hunting dogs.

There is a possible fifth species of hyena at Langebaanweg, designated only as “hyaenid species E”. It is known from only a single specimen that has a dentition that strongly resembles members of the lineage leading to the living spotted hyena. Time will tell if this analysis is valid.

The Langebaanweg hyenas do not all occur together in the same depositional horizons. For example, *Hyaenictitherium namaquensis* and *Hyaenictis hendeyi* are never found together. This may be related to their respective ecologies and is a topic for future research on the Hyaenidae of Langebaanweg.

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