

## Birds

Langebaanweg is probably the richest fossil bird site older than 2 million years in the world!

The 10 000 skeletal parts studied to date have indicated that an amazing 80 species are represented, from a wide spectrum of families and orders, and ranging from tiny passerines to an ostrich slightly larger than the modern species of ostrich found today. Because fossil birds are scarce in the Cenozoic of Africa in general, Langebaanweg provides unique insights into the history of many groups. Passerines are numerous at Langebaanweg, whereas in the rest of Africa they are represented by an extremely small number of fossils. The most abundant birds at the site are gamefowl, that is, birds such as francolins and guineafowl. Beside these terrestrial birds, the site yielded a high number of fossils of marine and oceanic birds. The exceptional diversity of species of several taxa, compared with today, is extremely interesting as it reveals very different climatic conditions existed in the past as compared with today.

Some bird groups make their first appearance in the fossil record at Langebaanweg. This means that Langebaanweg provides the earliest recorded appearance of these animals. Such **taxa** are the secretive buttonquails, small birds with habits similar to quails, but which are unrelated; hamerkops, small heron-like birds which use their own shadows to help them fish; and painted snipes, which are beautiful, colourful waders. Other animals which appear for the first time at Langebaanweg are the fascinating honeyguides. These birds indicate the presence of bee colonies to people, and also animals such as the honey badger, and in return benefit from having beeswax exposed and made accessible to them.

Some of the birds found at Langebaanweg live in a variety of different environments, and their presence at Langebaanweg helps us to recreate the various habitats which existed at Langebaanweg 5 million years ago. For example sandgrouse live today in arid to semi-arid, open habitats. Bustards and thick-knees also need very open vegetation, with few trees. By contrast, birds such as some parrots, mousebirds and honeyguides need woodlands or forests. Other birds need open water (ducks, grebes), or swamps (abundant shorebirds such as plovers or snipes).

There were at least four species of penguins present at Langebaanweg, as compared to the one species living in the southern Cape today. In the pelagic birds, there were an albatross, a storm petrel, three prions, and a diving petrel, and some of these species bred in the area. In addition, there were other marine birds including a booby and two marine cormorants. All these marine birds indicate that the conditions in the southwestern Cape Province in the early Pliocene were much more sub-Antarctic than at present, with a strong Benguela upwelling system. The time that the Benguela current became established is important to scientists as it is one of the environmental features which affect the climate of the west coast today ( see 'The Benguela current..') and would indicate that winter-rainfall patterns had become established at that time.

Many of the species of Langebaanweg, when studied in detail, appear to represent lineages that are extinct, or which are now absent from southern Africa, like the albatross, the petrels and prions, the booby, and small lovebirds. It seems strange that darters and herons, which live today in southern Africa, are not found at the site as they are generally well-represented in other parts of Africa at fossil sites of a similar age to Langebaanweg.

The diversity of birds at Langebaanweg reveals that some profound changes have occurred since 5 million years in the southwestern Cape Province, in terms of climate and hence environment. Much remains to be elucidated, but continuing investigations will certainly provide new, precious information, and more surprises.

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