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# The palaeoecology of the Upper Ndolanya Beds at Laetoli, Tanzania

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### Abstract

The palaeoecology of the fauna from the Ndolanya Beds, Laetoli, Tanzania, has been analysed to reconstruct the environment of this 2.6 Ma site. Community profiles have been constructed in relation to three variables that carry ecological meaning: body weight, locomotor adaptations and feeding preferences. Comparing the similarities and differences in the structure of the fossil faunas with those of modern environments allows us to draw inferences about palaeoenvironmental conditions, and this is based on a comparative dataset of 15 modern environments (44 localities) covering a wide range of climatic and ecological conditions across Asia, Africa and Central America. In addition, 16 fossil sites in East and South Africa have been analysed in the same way, and both sets of comparative data have been used as the basis for comparison with an ecological diversity analysis of the fauna from the Upper Ndolanya Beds. The Ndolanya fauna is

characterized by a predominance of medium to large sized terrestrial and herbivorous species.

There is evidence of taphonomic bias that eliminated many of the smaller species. A comparison of multivariate analyses of 23 selected modern localities conducted both with and without the small species included, indicates that the loss of these species does not adversely influence the results of an ecological diversity analysis. The evidence suggests that at the time of the deposition of the Ndolanya Beds the Laetoli region was a semi-arid bushland. This is considerably drier and more open than is suggested for the earlier Laetoli Beds.



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## Keywords

Laetoli, body size, diet, locomotion, palaeoenvironment, ecovary, palaeoecology

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