

## What is palaeoecology?

**Paleoecology** is the investigation of individuals, populations, and communities of organisms which lived in the past, and their interactions with, and dynamic responses to, changing environments. Modern ecosystems are only a very small part of all ecosystems that have existed throughout time. Any modern ecosystem which exists today is a product of the trials and tribulations of ancient ecosystems, thus, an understanding of these past associations provides insight into the present. **Paleoecology** uses data from fossils to reconstruct the ecosystems of the past.



## Ecology and the study of modern eco-systems

There are still many unknown or incompletely understood variables influencing the distribution of modern-day animal and plant communities and research is constantly improving our understanding of how these communities interact, and are affected by changes in climatic variables. Niche theory has attempted to cope with these and other questions regarding living communities with the development of concepts such as niche width and overlap, specialization and inter- and intra-specific competition. Increases in the mean body size of the individuals of a species, fluctuations in availability of food supply and in rainfall, competition (intra- or inter-specific), predation and the environment in which the animals live are all suggested as factors which may affect mammal populations. These concepts have provided explanations for the behaviour observed within many animal communities with competition appearing to be a significant driving force behind species diversity and density.