

ATLAS OF MAMMAL DISTRIBUTION  
THROUGH AFRICA FROM THE LGM  
(~18 KA) TO MODERN TIMES  
THE ZOOARCHAEOLOGICAL RECORD

**Hélène Jousse**

ARCHAEOPRESS PUBLISHING LTD

Gordon House  
276 Banbury Road  
Oxford OX2 7ED

[www.archaeopress.com](http://www.archaeopress.com)

ISBN 978 1 78491 540 7  
ISBN 978 1 78491 541 4 (e-Pdf)

© Archaeopress and Hélène Jousse 2017

All rights reserved. No part of this book may be reproduced, in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of the copyright owners.

Printed in England by Oxuniprint, Oxford  
This book is available direct from Archaeopress or from our website [www.archaeopress.com](http://www.archaeopress.com)

## TABLE OF CONTENTS

<i>ACKNOWLEDGEMENTS</i>	11
<i>CHAPTER 1 INTRODUCTION</i>	13
<i>CHAPTER 2 DATA AND METHODS</i>	15
<i>CHAPTER 3 SITE DATA : GEOGRAPHY, ARCHAEOLOGICAL CONTEXT</i>	19
<i>CHAPTER 4 CHRONOLOGICAL DATA</i>	49
<i>CHAPTER 5 SPECIES DISTRIBUTION</i>	97
<b>ORDER AFROSORICIDA</b> .....	98
<b>Afrosoricidae</b>	98
<i>Chrysochloris asiatica</i>	98
<i>Eremitalpa granti</i>	98
<b>ORDER MACROSCELIDEA</b> .....	99
<b>Macroscelidae</b>	99
<i>Elephantulus</i>	99
<i>Elephantulus rupestris</i>	100
<i>Elephantulus brachyrhynchus</i>	100
<i>Petrodromus tetradactylus</i>	100
<i>Macroscelides proboscideus</i>	100
<i>Elephantulus edwardii</i>	100
<i>Rhynchocyon cirnei</i>	100
<b>ORDER TUBULIDENTATA</b> .....	101
<i>Orycteropus afer</i>	101

TABLE OF CONTENTS

<b>ORDER HYRACOIDEA</b> .....		103
<b>Hyracoidae</b>		103
<i>Dendrohyrax</i>		103
<i>Dendrohyrax</i>	<i>arboreus</i>	104
<i>Heterohyrax</i>	<i>brucei</i>	104
<i>Procavia</i>	<i>capensis</i>	104
<b>ORDER PROBOSCIDEA</b> .....		107
<i>Loxodonta</i>	<i>africana</i>	107
<b>ORDER SIRENIA</b> .....		109
<i>Dugong</i>	<i>dugon</i>	109
<i>Trichechus</i>	<i>senegalensis</i>	109
<b>ORDER PRIMATES</b> .....		110
<b>Galagidae</b>		110
<i>Galago</i>	<i>senegalensis</i>	110
<i>Galago</i>	<i>demidoff</i>	110
<i>Otolemur</i>	<i>crassicaudatus</i>	110
<b>Lorisidae</b>		111
<i>Perodicticus</i>	<i>potto</i>	111
<b>Cercopithecidae</b>		111
<i>Macaca</i>	<i>sylvanus</i>	111
<i>Cercocebus</i>	<i>torquatus</i>	111
<i>Cercopithecus</i>		111
<i>Cercopithecus</i>	<i>mona</i>	111
<i>Cercopithecus</i>	<i>mitis</i>	111
<i>Chlorocebus</i>	<i>aethiops</i>	111
<i>Chlorocebus</i>	<i>pygerythrus</i>	111
<i>Erythrocebus</i>	<i>patas</i>	111
<i>Papio</i>		114
<i>Papio</i>	<i>cynocephalus</i>	114
<i>Papio</i>	<i>ursinus</i>	114
<i>Papio</i>	<i>hamadryas</i>	114
<i>Papio</i>	<i>anubis</i>	114
Colobinae		117
<i>Colobus</i>		117
<i>Colobus</i>	<i>guereza</i>	117
<i>Procolobus</i>	<i>verus</i>	117
<b>Hominidae</b>		118
<i>Gorilla</i>	<i>gorilla</i>	118
<i>Pan</i>	<i>troglodytes</i>	118
<b>ORDER RODENTIA</b> .....		119
<b>Sciuridae</b>		119
<i>Atlantoxerus</i>	<i>getulus</i>	120
<i>Xerus</i>		120
<i>Xerus (Euxerus)</i>	<i>erythropus</i>	120
<i>Xerus (Geosciurus)</i>	<i>inauris</i>	120
<i>Xerus (Geosciurus)</i>	<i>princeps</i>	120
<i>Funisciurus</i>		120
<i>Funisciurus</i>	<i>leucogenys</i>	120
<i>Heliosciurus</i>		120

ATLAS OF MAMMAL DISTRIBUTION THROUGH AFRICA

	<i>Heliosciurus</i>	<i>rufobrachium</i>	120
	<i>Paraxerus</i>		120
	<i>Paraxerus</i>	<i>poensis</i>	120
	<i>Protoxerus</i>	<i>stangeri</i>	120
<b>Gliridae</b>			122
	<i>Graphiurus</i>	<i>platyops</i>	122
	<i>Graphiurus</i>	<i>ocularis</i>	122
	<i>Eliomys</i>	<i>quercinus</i>	122
<b>Dipodidae</b>			122
	<i>Jaculus</i>		122
	<i>Jaculus</i>	<i>jaculus</i>	122
<b>Nesomyidae</b>			123
	<i>Petromyscus</i>	<i>collinus</i>	123
	<i>Cricetomys</i>		123
	<i>Cricetomys</i>	<i>gambianus</i>	123
	<i>Saccostomus</i>		123
	<i>Saccostomus</i>	<i>campestris</i>	123
	<i>Dendromus</i>		125
	<i>Dendromus</i>	<i>mesomelas</i>	125
	<i>Dendromus</i>	<i>melanotis</i>	125
	<i>Malacothrix</i>	<i>typica</i>	125
	<i>Steatomys</i>		125
	<i>Steatomys</i>	<i>krebsii</i>	125
	<i>Mystromys</i>	<i>albicaudatus</i>	125
<b>Cricetidae</b>			125
<b>Muridae</b>			127
	Deomyinae		127
	<i>Acomys</i>		127
	<i>Acomys</i>	<i>cahirinus</i>	127
	<i>Lophuromys</i>	<i>flavopunctatus</i>	127
	<i>Nesokia</i>	<i>indica</i>	127
	Gerbillinae		128
	<i>Tatera</i>		128
	<i>Tatera</i>	<i>leucogaster</i>	129
	<i>Tatera</i>	<i>afra</i>	129
	<i>Tatera</i>	<i>nigricaudata</i>	129
	<i>Tatera</i>	<i>brantsii</i>	129
	<i>Taterillus</i>		129
	<i>Desmodilliscus</i>	<i>braueri</i>	129
	<i>Dipodillus</i>	<i>campestris</i>	129
	<i>Gerbilliscus</i>	<i>validus</i>	129
	<i>Gerbilliscus</i>	<i>robustus</i>	129
	<i>Gerbillurus</i>	<i>paeba</i>	129
	<i>Gerbillus</i>		129
	<i>Gerbillus</i>	<i>mauritaniae</i>	129
	<i>Gerbillus</i>	<i>gerbillus</i>	129
	<i>Gerbillus</i>	<i>pyramidum</i>	129
	<i>Gerbillus</i>	<i>nanus</i>	129
	<i>Meriones</i>		133
	<i>Meriones</i>	<i>crassus</i>	133
	<i>Meriones</i>	<i>shawi</i>	133
	Murinae		134
	<i>Praomys</i>		134
	<i>Praomys</i>	<i>jacksoni</i>	134

TABLE OF CONTENTS

	<i>Praomys natalensis</i>	134
	<i>Praomys sylvaticus</i>	134
	<i>Aethomys</i>	135
	<i>Aethomys kaiseri</i>	135
	<i>Aethomys chrysophilus</i>	135
	<i>Aethomys namaquensis</i>	135
	<i>Arvicanthis niloticus</i>	136
	<i>Arvicanthis abyssinicus</i>	136
	<i>Dasymys incomtus</i>	136
	<i>Lemniscomys</i>	136
	<i>Lemniscomys barbarus</i>	136
	<i>Mastomys</i>	138
	<i>Mastomys natalensis</i>	138
	<i>Mus spretus</i>	138
	<i>Mus minutoides</i>	138
	<i>Mus musculus</i>	138
	<i>Mylomys dybowskii</i>	138
	<i>Oenomys hypoxanthus</i>	138
	<i>Pelomys fallax</i>	138
	<i>Rattus</i>	138
	<i>Rattus rattus</i>	138
	<i>Rhabdomys pumilio</i>	138
	<i>Thallomys</i>	138
	<i>Thamnomys venustus</i>	138
	Otomyinae	141
	<i>Otomys</i>	141
	<i>Otomys irroratus</i>	141
	<i>Otomys tropicalis</i>	141
	<i>Otomys saundersiae</i>	141
	<i>Otomys angoniensis</i>	141
	<i>Otomys unisulcatus</i>	141
	<i>Myotomys unisulcatus</i>	143
	<i>Parotomys brantsii</i>	143
<b>Spalacidae</b>		144
	<i>Tachyoryctes</i>	144
	<i>Tachyoryctes splendens</i>	144
	<i>Tachyoryctes ruandae</i>	144
<b>Pedetidae</b>		145
	<i>Pedetes capensis</i>	145
	<i>Pedetes surdaster</i>	145
<b>Ctenodactylidae</b>		146
	<i>Ctenodactylus gundi</i>	146
	<i>Massoutiera mzabi</i>	146
<b>Bathyergidae</b>		146
	<i>Bathyergus janetta</i>	146
	<i>Bathyergus suillus</i>	146
	<i>Cryptomys</i>	146
	<i>Cryptomys hottentotus</i>	148
	<i>Cryptomys mehowi</i>	148
	<i>Cryptomys damarensis</i>	148
	<i>Cryptomys natalensis</i>	148
<b>Hystricidae</b>		148
	<i>Atherurus africanus</i>	148
	<i>Hystrix</i>	148

ATLAS OF MAMMAL DISTRIBUTION THROUGH AFRICA

	<i>Hystrix</i>	<i>africaeaustralis</i>	149
	<i>Hystrix</i>	<i>cristata</i>	149
<b>Petromuridae</b>			<b>151</b>
	<i>Petromus</i>		151
	<i>Petromus typicus</i>		151
	<i>Petromus cunealis</i>		151
<b>Thryonomyidae</b>			<b>152</b>
	<i>Thryonomys</i>		152
	<i>Thryonomys</i>	<i>swinderianus</i>	152
	<i>Thryonomys</i>	<i>gregorianus</i>	152
<b>ORDER LAGOMORPHA</b>	.....		<b>155</b>
<b>Leporidae</b>			<b>155</b>
	<i>Lepus</i>		155
	<i>Lepus</i>	<i>capensis</i>	156
	<i>Lepus</i>	<i>saxatilis</i>	158
	<i>Bunolagus</i>	<i>monticularis</i>	158
	<i>Pronolagus</i>		159
	<i>Pronolagus</i>	<i>crassicaudatus</i>	159
	<i>Pronolagus</i>	<i>randensis</i>	159
	<i>Pronolagus</i>	<i>rupestris</i>	159
<b>ORDER ERINACEOMORPHA</b>	.....		<b>160</b>
<b>Erinaceomorpha</b>			<b>160</b>
	<i>Atelerix</i>	<i>albiventris</i>	160
	<i>Atelerix</i>	<i>algirus</i>	160
	<i>Atelerix</i>	<i>frontalis</i>	160
	<i>Hemiechinus</i>	<i>auritus</i>	160
	<i>Paraechinus</i>	<i>aethiopicus</i>	160
<b>ORDER SORICOMORPHA</b>	.....		<b>162</b>
<b>Soricidae</b>			<b>162</b>
	<i>Crocidura</i>		162
	<i>Crocidura</i>	<i>olivieri</i>	162
	<i>Crocidura</i>	<i>religiosa</i>	162
	<i>Crocidura</i>	<i>cyanea</i>	162
	<i>Crocidura</i>	<i>flavescens</i>	162
	<i>Crocidura</i>	<i>hirta</i>	162
	<i>Suncus</i>	<i>varilla</i>	162
	<i>Scutisorex</i>	<i>somereni</i>	164
	<i>Myosorex</i>	<i>varius</i>	164
<b>Talpidae</b>			<b>164</b>
	<i>Talpa</i>		164
<b>ORDER CHIROPTERA</b>	.....		<b>166</b>
	<i>Rousettus</i>		166
	<i>Rousettus</i>	<i>aegyptiacus</i>	167
	<i>Rousettus</i>	<i>angolensis</i>	167
	<i>Hypsignathus</i>	<i>monstrosus</i>	167
	<i>Hipposideros</i>	<i>commersoni</i>	167
	<i>Taphozous</i>	<i>perforatus</i>	167
	<i>Coleura</i>	<i>afra</i>	167
	<i>Miniopterus</i>	<i>schreibersii</i>	167

TABLE OF CONTENTS

<b>ORDER PHOLIDOTA.....</b>		<b>168</b>
	<i>Manis temminckii</i>	168
	<i>Manis gigantea</i>	168
	<i>Manis tricuspis</i>	168
<b>ORDER CARNIVORA .....</b>		<b>169</b>
<b>Felidae</b>		<b>169</b>
	<i>Acinonyx jubatus</i>	169
	<i>Caracal caracal</i>	169
	<i>Felis serval</i>	171
	<i>Felis silvestris</i>	172
	<i>Felis silvestris libyca</i>	172
	<i>Felis silvestris f. catus</i>	174
	<i>Felis aurata</i>	174
	<i>Felis nigripes</i>	175
	<i>Felis margarita</i>	175
	<i>Felis chaus</i>	175
	<i>Panthera leo</i>	176
	<i>Panthera pardus</i>	177
<b>Viverridae</b>		<b>178</b>
	<i>Civettictis civetta</i>	178
	<i>Genetta</i>	180
	<i>Genetta genetta</i>	181
	<i>Genetta tigrina</i>	181
<b>Nandiniidae</b>		<b>181</b>
	<i>Nandinia binotata</i>	181
<b>Herpestidae</b>		<b>182</b>
	<i>Atilax paludinosus</i>	182
	<i>Crossarchus</i>	182
	<i>Crossarchus alexandri</i>	182
	<i>Bdeogale nigripes</i>	182
	<i>Cynictis penicillata</i>	182
	<i>Helogale parvula</i>	184
	<i>Galerella sanguinea</i>	184
	<i>Galerella pulverulenta</i>	185
	<i>Herpestes ichneumon</i>	186
	<i>Herpestes naso</i>	187
	<i>Ichneumia albicauda</i>	187
	<i>Mungos mungo</i>	187
	<i>Suricata suricatta</i>	187
<b>Hyaenidae</b>		<b>189</b>
	<i>Crocuta crocuta</i>	189
	<i>Hyaena hyaena</i>	190
	<i>Hyaena brunnea</i>	190
	<i>Proteles cristata</i>	190
<b>Canidae</b>		<b>192</b>
	<i>Vulpes</i>	192
	<i>Vulpes vulpes</i>	192
	<i>Vulpes rueppellii</i>	192
	<i>Vulpes chama</i>	193
	<i>Vulpes zerda</i>	193
	<i>Vulpes pallida</i>	193
	<i>Vulpes atlantica</i>	193
	<i>Canis aureus</i>	194



**ATLAS OF MAMMAL DISTRIBUTION THROUGH AFRICA**

	<i>Canis</i>	<i>mesomelas</i>	194
	<i>Canis</i>	<i>adustus</i>	194
	<i>Canis</i>	<i>lupus f. familiaris</i>	196
	<i>Otocyon</i>	<i>megalotis</i>	197
	<i>Lycaon</i>	<i>pictus</i>	198
<b>Mustelidae</b>			<b>199</b>
	Mustelidae		199
	<i>Mustela</i>	<i>putorius</i>	199
	<i>Ictonyx</i>	<i>libyca</i>	199
	<i>Ictonyx</i>	<i>striatus</i>	199
	<i>Poecilogale</i>	<i>albinucha</i>	199
	<i>Mellivora</i>	<i>capensis</i>	200
	<i>Aonyx</i>	<i>capensis</i>	201
	<i>Lutra</i>	<i>maculicollis</i>	201
<b>Phocidae</b>			<b>203</b>
	<i>Mirounga</i>	<i>leonina</i>	203
	<i>Monachus</i>	<i>monachus</i>	203
<b>Otariidae</b>			<b>204</b>
	<i>Arctocephalus</i>	<i>pusillus</i>	204
	<i>Arctocephalus</i>	<i>gazella</i>	204
<b>Ursidae</b>			<b>205</b>
	<i>Ursus</i>		205
	<i>Ursus</i>	<i>arctos</i>	205
<b>ORDER PERISSODACTYLA</b> .....			<b>206</b>
<b>Equidae</b>			<b>206</b>
	<i>Equus</i>		206
	<i>Equus</i>	<i>burchellii</i>	207
	<i>Equus</i>	<i>quagga</i>	209
	<i>Equus</i>	<i>zebra</i>	209
	<i>Equus</i>	<i>capensis</i>	209
	<i>Equus</i>	<i>grevyi</i>	209
	<i>Equus</i>	<i>africanus</i>	209
	<i>Equus</i>	<i>mauritanicus</i>	209
	<i>Equus</i>	<i>przewalskii f. caballus</i>	211
	<i>Equus</i>	<i>africanus f. asinus</i>	211
<b>Rhinocerotidae</b>			<b>213</b>
	Rhinocerotidae (indet.)		213
	<i>Ceratotherium</i>	<i>simum</i>	214
	<i>Diceros</i>	<i>bicornis</i>	215
<b>ORDER ARTIODACTYLA</b> .....			<b>216</b>
<b>Suidae</b>			<b>216</b>
	<i>Sus</i>	<i>scrofa</i>	216
	<i>Sus</i>	<i>scrofa f. domestica</i>	216
	<i>Phacochoerus</i>	<i>aethiopicus</i>	218
	<i>Hylochoerus</i>	<i>meinertzhageni</i>	220
	<i>Potamochoerus</i>		220
	<i>Potamochoerus</i>	<i>larvatus</i>	220
	<i>Metriodichoerus</i>		220
	<i>Potamochoerus</i>	<i>porcus</i>	221
<b>Hippopotamidae</b>			<b>223</b>
	<i>Hippopotamus</i>	<i>amphibius</i>	223
	<i>Hippopotamus</i>	<i>lemerlei</i>	224

TABLE OF CONTENTS

	<i>Hippopotamus madagascariensis</i>	224
	<i>Hippopotamus laloumena</i>	224
<b>Camelidae</b>		226
	<i>Camelus</i>	226
	<i>Camelus dromedarius</i>	226
	<i>Camelus bactrianus</i>	226
<b>Bovidae</b>		228
	Antilopinae	228
	<i>Neotragus moschatus</i>	228
	<i>Neotragus pygmaeus</i>	228
	<i>Neotragus batesi</i>	228
	<i>Oreotragus oreotragus</i>	228
	<i>Ourebia ourebi</i>	230
	<i>Raphicerus</i>	230
	<i>Raphicerus melanotis</i>	232
	<i>Raphicerus sharpei</i>	232
	<i>Raphicerus campestris</i>	232
	<i>Antidorcas</i>	234
	<i>Antidorcas marsupialis</i>	234
	<i>Antidorcas bondi</i>	234
	<i>Gazella</i>	235
	<i>Gazella atlantica</i>	235
	<i>Gazella cuvieri</i>	236
	<i>Gazella leptoceros</i>	236
	<i>Gazella (Nanger) soemmerringii</i>	236
	<i>Gazella dorcas</i>	236
	<i>Gazella (Nanger) dama</i>	237
	<i>Gazella rufifrons</i>	237
	<i>Gazella (Nanger) granti</i>	237
	<i>Gazella thomsonii</i>	237
	<i>Litocranius walleri</i>	237
	<i>Madoqua</i>	241
	<i>Madoqua kirkii</i>	241
	<i>Madoqua saltiana</i>	241
	<i>Madoqua guentheri</i>	241
<b>Bovinae</b>		242
	<i>Taurotragus</i>	242
	<i>Taurotragus oryx</i>	242
	<i>Taurotragus derbianus</i>	243
	<i>Tragelaphus eurycerus</i>	244
	<i>Tragelaphus angasii</i>	244
	<i>Tragelaphus imberbis</i>	244
	<i>Tragelaphus buxtoni</i>	244
	<i>Tragelaphus scriptus</i>	245
	<i>Tragelaphus strepsiceros</i>	246
	<i>Tragelaphus speki</i>	247
	<i>Bubalus (Homoioceras) antiquus</i>	249
	<i>Pelorovis antiquus</i>	249
	<i>Bos primigemius</i>	250
	<i>Bos primigenius f. taurus</i>	251
	<i>Syncerus caffer</i>	255
<b>Reduncinae</b>		257
	<i>Kobus</i>	257
	<i>Kobus kob</i>	257

ATLAS OF MAMMAL DISTRIBUTION THROUGH AFRICA

	<i>Kobus</i>	<i>leche</i>	257
	<i>Kobus</i>	<i>vardonii</i>	257
	<i>Kobus</i>	<i>ellipsiprymnus</i>	259
	<i>Redunca</i>		259
	<i>Redunca</i>	<i>arundinum</i>	259
	<i>Redunca</i>	<i>fulvorufula</i>	260
	<i>Redunca</i>	<i>redunca</i>	261
	<i>Pelea</i>	<i>capreolus</i>	263
<b>Aepycerotinae</b>			<b>264</b>
	<i>Aepyceros</i>	<i>melampus</i>	264
<b>Alcelaphinae</b>			<b>265</b>
	<i>Alcelaphus</i>	<i>buselaphus</i>	266
	<i>Alcelaphus</i>	<i>caama</i>	267
	<i>Alcelaphus</i>	<i>lichtensteinii</i>	267
	<i>Connochaetes</i>		268
	<i>Connochaetes</i>	<i>taurinus</i>	269
	<i>Connochaetes</i>	<i>gnou</i>	269
	<i>Damaliscus</i>	<i>dorcus</i>	269
	<i>Damaliscus</i>	<i>lunatus</i>	270
	<i>Damaliscus</i>	<i>pygargus</i>	270
	<i>Megalotragus</i>		270
	<i>Megalotragus</i>	<i>priscus</i>	270
<b>Caprinae</b>			<b>272</b>
	<i>Ammotragus</i>	<i>lervia</i>	272
	<i>Capra</i>	<i>ibex</i>	272
	<i>Ovis/Capra</i>		273
	<i>Capra</i>		276
	<i>Capra</i>	<i>aegagrus f. hircus</i>	276
	<i>Ovis</i>		278
	<i>Ovis</i>	<i>ammon f. aries</i>	278
<b>Cephalophinae</b>			<b>281</b>
	<i>Cephalophus</i>		281
	<i>Cephalophus</i>	<i>rufilatus</i>	281
	<i>Cephalophus</i>	<i>silvicultor</i>	281
	<i>Cephalophus</i>	<i>nigrifrons</i>	281
	<i>Cephalophus</i>	<i>natalensis</i>	281
	<i>Cephalophus</i>	<i>leucogaster</i>	281
	<i>Cephalophus</i>	<i>dorsalis</i>	281
	<i>Cephalophus</i>	<i>niger</i>	281
	<i>Philantomba</i>	<i>maxwellii</i>	283
	<i>Philantomba</i>	<i>monticola</i>	284
	<i>Sylvicapra</i>	<i>grimmia</i>	285
<b>Hippotraginae</b>			<b>287</b>
	<i>Hippotragus</i>		287
	<i>Hippotragus</i>	<i>equinus</i>	287
	<i>Hippotragus</i>	<i>leucophaeus</i>	287
	<i>Hippotragus</i>	<i>niger</i>	287
	<i>Addax</i>	<i>nasomaculatus</i>	289
	<i>Oryx</i>		289
	<i>Oryx</i>	<i>beisa</i>	289
	<i>Oryx</i>	<i>dammah</i>	289
	<i>Oryx</i>	<i>gazella</i>	289

## TABLE OF CONTENTS

<b>Cervidae</b>			291
	<i>Megaceroides</i>	<i>algericus</i>	291
<b>Giraffidae</b>			292
	<i>Giraffa</i>	<i>camelopardalis</i>	292
	<i>Okapia</i>	<i>johnstoni</i>	293
<b>ORDER CETACEA</b>	.....		294
<b>Delphinidae</b>			294
	<i>Delphinus</i>	<i>delphis</i>	294
	<i>Sousa</i>	<i>teuszii</i>	294
	<i>Tursiops</i>		294
<b>CHAPTER 6 REFERENCES</b>			295

# ACKNOWLEDGEMENTS

The author is grateful to the Lise Meitner Program from the Austrian FWF Der Wissenschaftsfonds (Fonds zur Förderung der wissenschaftlichen Forschung) that supported two years of post-doctoral research during 2007-2008 when this atlas was composed.

This work was hosted by the Mammals Collection at the Naturhistorisches Museum Wien. Dr. Barbara Herzig supervised the study, helped for the administrative work and facilitated all research in the collection and is thoughtfully acknowledged. The team at the Naturhistorisches Museum Wien is thanked for their help and collaboration and especially Dr. Spitzenberger, M. Bibl and Ms. Windl are thanked for their availability.

The post-doctorate was also reviewed by a senior researcher and referee, Prof. Christian Sturmbauer (University of Graz, Austria). Prof. Fiona Marshall (University of California), Joris Peters (University of Munich), Wim Van Neer (Institute for Natural Sciences, Brussels) and Jean-Denis Vigne (MNHN, Paris) are acknowledged for their scientific and friendly support. The author also addresses her thanks to Kris Kovarovic, who kindly commented and improved the English text, and to Jean-Marc Richard, who archived the formatting work.



# CHAPTER 1 INTRODUCTION

This work provides the first overview of mammal species distributions in Africa since the Last Glacial Maximum (LGM, 18 ky) to modern time. It is derived from data published mainly in the zooarchaeological literature until 2009. During a post-doctoral project hosted in the zoological department of mammal collection at the Naturhistorisches Museum in Vienna (Austria), the occurrences of taxa in archaeological sites on the African continent were recorded in a database, integrating geographical and chronological information. This record offers the opportunity to produce a chronological atlas of mammalian distributions by presenting their occurrences on successive maps over the last 18 ky.

Similar works were conducted previously at a smaller scale, including the macromammals of the southern subcontinent (Plug and Badenhorst, 2001) and studies restricted to individual countries (eg. Gautier and Van Neer, 2005 for Ghana). The aim of the present project is to take all of the African mammalian fauna into account without taxonomic or geographic restrictions. Every effort has been made to record the fauna as accurately as possible, however there may be some omissions or inconsistencies due to a lack of data, missing publications, poorly referenced ages or faunal lists or incorrect ages attributed to excavation levels.

This work is useful for zooarchaeologists dealing with one particular species by providing a bibliographical work that documents its past locations. It must be noted that fauna are mainly documented through their presence at archaeological sites and are therefore tied to the presence of humans and their activities. This may only partially reproduce their true past distribution. However, the sites offer a good coverage throughout space and time and generally reflect the extent of mammalian distributions, although the limits of their distributions may be further refined.

The atlas will aid in the investigation of palaeoecological issues, such as the capacity of mammals to adapt to climatic change and respond to human disturbance in the recent past of Africa. Since the LGM, drastic climatic changes occurred on the African continent, with alternating periods of aridity (~18-10 ky and 5-0 ky) and humidity (~10-5 ky). Concomitantly, human economy and behaviour changed as populations migrated and adapted their dietary patterns, mainly with food production (agriculture and pastoralism), diet specialisation, social organisation, semi-nomadic or sedentary way of life. All together, climatic and anthropogenic impacts have an influence on the natural environment, and directly or indirectly on mammals (reduction of distribution area, of population size, of individual size, etc). Other questions than can be investigated through this atlas are: What was the mammal's former distribution? Did refuge areas exist and, if so, what were their geographical barriers and the potential migration routes of species between them? Did some species face extinction during the hyper-arid LGM? How rapidly did distribution areas decrease for each taxa? Finally, these data presented here can indicate which species suffered more from the recent climatic degradation, and thus which are potentially more endangered by climatic change today.

The database also provides information that is fundamental to a better understanding of what influenced the present-day distribution, dynamism and structure of mammalian communities in Africa. By incorporating a larger temporal scale to modern ecological studies, it may help control their conservation since desiccation and human disturbance in Africa is still a worrying question for their future.