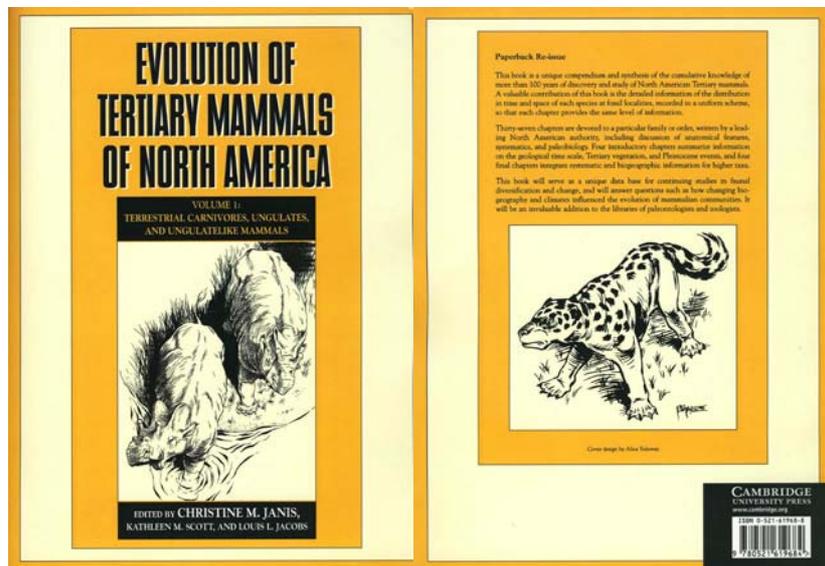


Janis, C., K. Scott & L. Jacobs. Eds. 1998 (2005 paperback re-issue). Evolution of Tertiary mammals of North America. Volume 1. Terrestrial carnivores, ungulates, and ungulatelike mammals. – Cambridge, Cambridge University Press

Book review by B.L. Beatty



This text has already become a classic and necessary foundation of any library for anyone working in Tertiary North American mammal palaeontology. However, up until the publication of this less expensive paperback edition it was virtually unattainable to students and many professionals. As massive an undertaking as this book was at its initial publication, it is sure to be in need of revision within the next decade or so. Still, while new fossils, new localities, and new analyses of relationships and anatomy are always being published, this first edition, unchanged from its original 1998 publication, is still very pertinent and useful, making a second edition less important. Until then, it seems relevant to review this paperback edition again in light of these new developments for the sake of those whom have not already used the well-worn copies belonging to their libraries or advisors.

This huge text is broken into six logically differentiated parts: 1) Overview; 2) Carnivorous mammals; 3) Archaic ungulates and ungulatelike mammals; 4) Artiodactyla; 5) Perissodactyla and Proboscidea; and 6) Eutheria incertae sedis. Additionally and equally useful are the subsequent three appendices detailing localities and museums. While the systematist in me shudders at the grouping of Perissodactyla and Proboscidea at the exclusion of the Sirenia and Desmostylia, the designation of this book as one focused on terrestrial mammals is important to remember. Similarly unusual, and certainly a sign of the dated nature of this material, is the exclusion of the Cetacea from the Artiodactyla after the glorious findings published in September 2001 (Gingerich *et al.*, 2001; Thewissen *et al.*, 2001). It is worth recognising that this sort of terrestrial versus aquatic organisation is practical not only for the uses of maintaining the close ties between taxon and locality records, but it also reflects the realistic separation between work done on a day today basis in which this book is useful. Outside of phylogeny, this is a very practical and functional approach that makes this text unique in that it rarely requires the use of other books with it.

The first chapter (chapter 0 Introduction by Christine Janis) serves to briefly convey the general goals, organisation and judgements made in the text with regard to the variety of versions of locality details, chronology and taxonomy ascribed to. The ‘Overview’ consists of three concise chapters covering the basics of the Tertiary world with respect to its chronology, climate, geography (all in chapter 1 by Donald Prothero) and vegetation (by Scott Wing) and the subsequent fauna of the Pleistocene (by Russell Graham). It is my opinion that these chapters should be required reading for any new graduate student undertaking research on North American Tertiary mammals. Context is essential to understanding the importance of our work, and you cannot go wrong with such a concise but detailed look at these three essential aspects of the setting.

With regard to the taxon-specific chapters that form the main body of the text, it is perhaps not worth rehashing details of their contents that the reviews of the first hardcover edition handled so well. More appropriately, it is worth noting that the editors successfully managed to edit/cram/force so many authors to cooperate and form such uniformly organised chapters. Each chapter has the same format of: 1) Defining features; 2) Systematics; 3) Included Genera; 4) Biology and Evolutionary Patterns. The ‘Defining Features’

section outlines cranial, dental and postcranial features of the group and includes illustrations of examples of each of these characteristics in most cases. The 'Systematics' section covers most important issues related to superfamilial and infrafamilial details and always includes at least one cladogram for reference. The 'Included Genera' section is great, and includes characteristics of each genus, details on the holotypes, some average molar length data when available, and references to included species and the localities from which these are found (possibly THE most useful part of the book). The 'Biology and Evolutionary Patterns' section serves its purpose as a concise introduction to the palaeobiological issues important to the group and usually includes a figure detailing the temporal ranges of each genus with considerable detail. Some chapters have added appendices with further details (Gregg Gunnell's chapter on Creodonta comes with an appendix of synonyms and valid species: a true asset to keeping the all-too-common taxonomic messes of such early groups understood).

The 'Appendices', together with the 'Included Genera' sections of the preceding chapters, ultimately make this book such a unique and useful resource. The amount of work it must have been to coordinate and gather all of this data is simply horrifying to consider. Hats off to Janis and all the others that did this. Still, it is worth noting that the codes used in these sections for the individual localities take some getting used to. Each locality is given an alpha-numerical code that corresponds to an acronym for the general geographic region (Northern Great Basin = NB; Central America = CA) and a number that corresponds to the sequence in which they are listed. This can get confusing if one fails to keep the geography straight and instead rely on what we are more accustomed to with states being referred to as acronyms themselves (NB easily gets confused as Nebraska instead of Northern Great Basin). This quirk is by no means a real problem or error, merely something that needs getting used to.

As someone whom has actively and regularly used this book (usually copies owned by libraries or by others) ever since it was first published (when I was an undergraduate just beginning serious regular research), I can honestly say that this re-issue will prove to be a wise move on the part of the publishers and a much-needed opportunity for students and all of us to get our hands on this wonderfully organised resource.

Janis, C., K. Scott & L. Jacobs. Eds. 1998 (2005 paperback re-issue). *Evolution of Tertiary mammals of North America. Volume 1. Terrestrial carnivores, ungulates, and ungulatelike mammals.* – Cambridge, Cambridge University Press. 691 pp. ISBN 0-521-61968-8. Price \$85.00/£50.00 (paperback).

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