
Rose excels in his presentation of creodonts and carnivorous. His treatment of Insectivora is also excellent, and departs from McKenna and Bell (1997) in including lepidictids as sister taxon to lipotyphlans. Obviously, Rose is partial to Archontans, which is shown especially by the thirty pages devoted to Primates.

Ungulates are difficult to manage in a book because one has to juggle artiodactyls, perissodactyls, and tethytheres? Well, for a book, you just put them in separate chapters. Cladistically, one must remind the reader that all of these, with South American ungulates, appear to be related to a core radiation of early Cenozoic mammals traditionally called condylarths. In Chapter 12, Ken first expands upon condylarths, one of his favorite groups, plus South American ungulates (but I have to say that typotheres don’t appear to be monophyletic).

Tethytheres, including sirenians, proboscideaens, and those lovable desmostylians, are one of the more robust higher level taxa. Their unity with hyracoids and perissodactyls is defended by McKenna and Bell (1997) and accepted in Chapter 13, but called into molecular question and linked with Afrotheria elsewhere (see Rose and Archibald, 2005). All are treated here as Afrotheria, but that higher taxon may not stand the test of continued research. Ken’s thorough presentation of the fossil records of these groups is exemplified by his discussion of early perissodactyls, with its informative analysis of their postcranial anatomy.

Cete Artiodactyla follow, and their relationships are explored. Artiodactyla — that diverse taxon with lots of early Cenozoic family-level groupings — are considered monophyletic here, but alternative relationships with Cete are discussed. Morphological and molecular data converge on the conclusion that Cete are the sister taxon to anthracothers + hippos. All Paleocene-Eocene artiodactyl groups receive good coverage in this chapter. Pecoran ruminants are one of the mammalian groups that underwent a tremendous Neogene radiation. Although diverse in the early Miocene, many family level groups are unknown in the Paleogene. Consequently, these are barely noted in this volume (and dromomerycids don’t even appear in the classification).

Which brings us to Anagalida, the core of which is the Cenozoic radiation of Glires (rodents plus lagomorphs). Anagalida is an inclusive taxon meant to incorporate potential Glires relatives, namely Cretaceous zalambdalestids, early Cenozoic Anagale and Pseudictops, and the living Order Macroscelidea (elephant shrews). Whether any of these has a special relationship with Glires is controversial, and molecular work now argues that Macroscelidea belong with Afrotheria. Rose notes the intriguing idea that macroscelideans share postcranial features with hyopsodontids. Despite the tradition of aligning Glires with the groups noted above, there is little that holds them together, and the evolutionary story here is really that of Glires. This chapter mentions mimotonids and eurymylids, and lagomorphs are covered quickly. Probably we underestimate pre-ochotonid, pre-leporid lagomorph diversity (by the way, generally their incisors are not laterally compressed as they are in rodents).

Rodents receive traditional treatment that encapsulates their morphological range, which is reasonable for the allotted space. However, morphologists (see McKenna and Bell, 1997, who attempt to break away from traditional suborders by adding suborders Sciuravida and Anomalauromophora to Sciuromophya, Myomorpha, Hystricognatha) and molecular biologists (e.g., Horner et al., 2007, who also distinguish anomalurids) are revolutionizing our notions of how rodents evolved. In a few years, rodent classifications will look entirely different from those of the 20th century. For now, Rose offers a brief global survey of latest Paleocene, Eocene, and some Oligocene rodents, sufficient to underscore diversity, paleobiogeography, and the obvious room for future