# Fur and milk, getting and spending

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Walker's Mammals of the World, revised by R.M. Nowak and J.L. Paradiso. 1983. 4th edition. Baltimore: Johns Hopkins Univ. Press. xliv + 1362 + xxv pp. in 2 volumes. $65.00.

Orders and Families of Recent Mammals of the World, edited by S. Anderson and J.K. Jones, Jr. 1984. New York: Wiley. xii + 686 pp. $54.95.

The Encyclopedia of Mammals, edited by D. Macdonald. 1984. London: Allen and Unwin; New York: Facts on File. xlviii + 895 pp. $45.00.

Mammals: Notes for a Short Course, edited by P.D. Gingerich and C.E. Badgley. 1984. Univ. Tennessee (Knoxville), Dept. Geological Sciences, Studies in Geology, vol. 8. 234 pp. $9.00 (North America) or $10.50 (overseas), payable to Paleontological Society; includes shipping.

The Australian Museum Complete Book of Australian Mammals, edited by R. Strahan. 1983. Sydney and London: Angus & Robertson. xxi + 530 pp. £25.00.

The Evolution of Mammalian Characters, by D.M. Kermack and K.A. Kermack. 1984. London: Croom Helm; Washington: Kapitan Szabo. x + 149 pp. $35.00.

[Lower Cricetid Mice (Cricetidae) of the World Fauna, Part I: Morphology and Ecology.] Nizshie Khomyakoobraznye (Cricetidae) Mirovoi Fauny, Chast' I: Morfologiya i Ekologiya, by N.N. Vorontsov. 1982. Fauna SSSR (Novaya Seriya, No. 125), Mlekopitayushchie [Mammals], volume 3, section 6. Leningrad: "Nauka," Leningradskoe Otdelenie. 451 pp. + 52 plates. Price and availability unknown.

Lovers of mammals (and aren't we all, in one way or another?) have recently been blessed by several books which not merely update but appreciably improve on what predecessors they may have. All except the last above are useful for both professionals and nonprofessionals. I exclude some published before 1983. In the review I abbreviate titles.

Walker's, Encyclopedia, Australian, and Orders concentrate on modern mammals, the first two exclusively so. Except for the even more restrictive Encyclopedia, their Rubicon is a phenomenon in one of the human cultures, the time of the European Renaissance and its consequent voyages. A major distinction between taxa surviving and extinct about then is even made by some cladistic taxonomists, although mercifully not in the books reviewed here, especially when they relegate the latter to unranked "plesions." The distinction is cultural, not biological, and so provides no basis for a first-order biological demarcation.

Common names are also getting to be a problem, especially at the species level. Australian, the only book here centered at that level, has such gems as the Lesser Wart-nosed Horseshoe Bat. Note the capitalization practiced in some quarters. What people like this are trying to do is to create a completely parallel nomenclature of all species of popular groups like vertebrates and butterflies and terrestrial plants, presumably in every language, exactly in the image of the international standard names. When the concept of a species changes, then so must the "common" name. But Baltimorons were right to protest against the sinking of their oriole. Real common names, like "Baltimore oriole," can apply to part of one species or to several or even many species. So what? Presumably some people find international names forbidding, but they needn't, with a little practice. There is a class of

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people who have come to demand parallel nomenclature, quite possibly because they are encouraged by editorial staffs of publishers. Encouraging ignorance is counterproductive and, since as a result the international names are sometimes not used at all, it means that even the peripheral user must know at least two (and more, if foreign literature is involved) names for every species. Not good.

Enough grumbling. Walker's is the first major revision of the only treatment of the biology of each "modern" genus of mammals. There is a photograph for nearly all genera, usually of a living animal, and commonly more than one for such things as feet, head, or different-looking species. The text is much improved. For each genus there is discussion or listing of size, general anatomy, habitat, diet, behavior, reproduction, economic relationships, and survival status. All species are listed, with distributions. The more popular genera get several pages, and there are general discussions for orders and families. Major alternative classifications are mentioned, and many recent references document changes in the texts. The useful summary chart of generic distribution is retained and revised. There are brief mentions of many extinct Pleistocene genera but none for the Pleistocene history of surviving genera even when, as with Panthera, this appreciably extends the geographic range. A pseudo-common name is coined here for the Megalonychidae, "West Indian ground sloths," despite their first description (by Thomas Jefferson) from Virginia and their range from Alaska to Argentina. The only inaccuracies I noted were paleontological, a topic which is peripheral to the book but which really should have been checked. The little phylogeny given is relatively uncritical. But this is a valuable (and inexpensive) book.

Orders is a major revision of a book with a slightly different title, but the same editors, published in 1967. For each family (or subfamily for Muridae, sensu lato) there is a (usually extensive) formal diagnosis or description, other anatomical comments, and notes on habitat, behavior, food, and geographical and temporal distribution. For Hominidae, "the habits of humans are many and varied and are beyond the scope of this synopsis." The "modern" genera are listed, with the numbers of "modern" species recognized, and a distribution map is given for each family for which it is useful. A large bibliography is included. There is a whole chapter on paleontology, not restricted to "modern" families but excluding extinct orders. Family treatments have brief paleontological notes, and in some chapters (only) the diagnoses take account of extinct genera. There are some figures, barely enough to be helpful and sometimes too small for appropriate use or even for good printing. A notable innovation is the inclusion of the tree sloth Choloepus in the otherwise extinct Megalonychidae. In several chapters (Insectivora, Lagomorpha, Cetacea, Tubulidentata, Hyracoidea) there are errors which a specialist shouldn't have made, usually paleontological. Perhaps the most serious, because involving a "modern" genus, is the unusual inclusion of the insectivoran Nesophontes in the Solenodontidae despite the diagnosis of the family saying that zalambdodont teeth are characteristic. One or the other is O.K., but not both. I can't let pass the superb and critical treatment, by Carleton and Musser, of the vast assemblage of muroid rodents.

Encyclopedia is a giant picture-book to sweeten the taste of the well-written text. There are color photographs and drawings throughout, indeed on perhaps every page before the appendix. They are superb. Through the whole book they are superb. The text is more variable in quality, from quite good to unfortunate. Most is good, though, and presents interesting and mostly accurate information. The book is in units of species or (usually) groups of species, for which appropriate discursive information, emphasizing behavior, is given. Each such unit has a box with body size, longevity, and reproduction listed, together with a distribution map. More inclusive groups receive more general treatment, with more emphasis on structure and comparisions. Many special topics of interest have short sections of their own. There is serious misinformation presented in most of the brief treatments of paleontology, especially in the phylogenetic diagrams, which it would have been better to omit altogether than to have as they stand. The same is true of the glossary. Big mammals get big treatment in this book, with marsupials getting a

brush-off. There is very little space given to the vast world of bats, but what is done is largely good and the pictures are, as usual, memorable. Because an uninformed reader can't rely on the accuracy of the text here as much as in the other books reviewed (although, I repeat, most is good), it is unfortunate that there are only 2 pages of references, all more or less general books and omitting some key sources. The book is a nice idea, and it is, on the whole, largely successful.

Short Course has an almost exclusive emphasis on paleontology and would have been better without the single chapter on modern mammals. There are good to excellent brief reviews of most mammalian groups, but none of most groups of Mesozoic mammals, the Insectivora, Chiroptera, Lagomorpha, edentates, most of the African and South American ungulate orders, the Oligocene, and the Neogene outside North America. The reviews emphasize phylogeny, structural evolution, and adaptation.

Australian treats each "modern" species of Australian mammal, including bats and rats and seals but not whales. It is most notable for magnificent color photographs, often several for a single species; the book was unobtrusively subsidized by a brewery. No other book on mammals, except Encyclopedia, bears close comparison with respect to photographs. Nevertheless, the text is also valuable. More than a hundred authors wrote on their specialties. For each species there is given its size, field identification, relative abundance, present and historic distribution maps, and a general biological description. There is a little on higher taxa and biogeography, but the focus is on the species themselves. A menagerie of introduced species that are now feral receives full treatment, and this is even true for one species which has not yet been named scientifically. It has, though, true to form, a capitalized "common" name here.

Evolution is a personal book about the origin of mammals and their evolution through the early Cretaceous. It reflects the Kermacks' interests and prejudices more than would a generally useful treatment, and it omits various relevant work by others. Nevertheless it is a valuable and moderately readable, if somewhat pedestrian, book. It summarizes a lot of work not well reviewed elsewhere. The emphasis is on character evolution and animals and faunal succession, rather than phylogeny; adaptation is treated as functional anatomy. The book is not exciting and frustrating like Kemp's recent Mammal-like Reptiles and the Origin of Mammals, which is, however, less clearly written.

Cricetidae is a more specialized treatment but is included because it is a first-rate treatise published in a way that makes it likely to be overlooked. It is a general treatment of most groups of cricetids, considered broadly, and is much the best available treatment of their comparative anatomy. Ecology is treated, with behavior, only in a short introductory section, and most taxonomy awaits Part II. The author published in 1967 an excellent, but largely ignored, evolutionarily oriented monograph on the alimentary system (including jaw muscles and teeth) of muroid rodents. The subjects included are external anatomy (with color variability), 26 pp.; jaw muscles, 46 pp., co-authored with G.G. Potapova; skull, 58 pp.; teeth, 84 pp.; soft alimentary system, 72 pp.; nose and lung, 17 pp.; male reproductive system, 30 pp. All are treated in a broadly comparative way, with function emphasized. There are hundreds of excellent new illustrations. Paleontological comparisons are made when appropriate, as are comparisons with non-cricetid rodents. The comparisons lead to sometimes extended treatments of the evolution of character complexes, with new and interesting results. I hope that, perhaps together with the forthcoming Part II, this valuable monograph can be translated.