

AN ECOETHOLOGICAL REASSESSMENT OF THE LIVING MAMMALS¹

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John F. Eisenberg's book entitled "The mammalian radiations; an analysis of trends and evolution, and behavior" is a volume not easily rivalled in the literature either before it, or in the future. The 610-page tome embodies enormous amounts of information, much synthesis and literature summaries, an extremely useful hundred page bibliography, index, and uniquely useful graphic and tabular summaries.

The book is divided into four parts. Part 1, with eight chapters, is the Historical Perspective, with sections, among others, on mammalian history, miscellaneous information on "early" (read here to mean: "more primitive" than other living mammals) radiations, and a brief chapter on the phylogeny of behavior.

Part 2, "Mammalian radiations on the contiguous continental land masses", is a very useful guide to "who is who" among living mammals, a brief, but highly expert natural history of the various familial and suprafamilial groups, and a host of stimulating hypotheses on the evolution of ecological, behavioral, and some morphological attributes, sifted from literature and from the author's repertoire of important contributions. This whole section is interspersed with numerous "diagrams of classifications" which are neither "stufenreihe" type (Hennigian-comb) cladograms, nor are they phylogenetic trees, but are essentially the "pre-cladism" type cladograms with taxonomic information added to the "earlier" or "lower" parts of the branches (comments on these below). In the last chapter of this section ("Trends in the adaptation and distribution of the Mammalia") the author bravely and with apparent ease tackles such topics as "Feeding niches and their constraints", "Competition between higher taxa", "Mammalian species diversity and niche occupancy", and "The loss of species and the problem of extinction" - each a megatopic, worth a chapter or a book of its own.

Part 3 is on "Macrophysiology and adaptation". In this section Eisenberg examines "... physical and biological factors contributing to variation in life-history strategies". Various chapters consider mammalian size and metabolic rates, body size and life history relationships, size constraints on feeding and foraging categories, mammalian size classes, reproduction and development, and reproduction and life history strategies.

Part 4, the last of the major divisions, is on "Behavior as a subject for study", is perhaps the most diffuse, varied, and theoretically the most challengeable in its syntheses. Chapter topics include "The genetic basis for behavior patterns", "A consideration of biological rhythms and temporal patterning", "Description and classification of the behavioral elements common to

¹Eisenberg, J.E. 1982. The Mammalian Radiations. Chicago: The University of Chicago Press. 610 pp. \$45.00.