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Reviews

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REVIEWS

S. KEITH ELTRINGHAM. ELEPHANTS. Blanford Press, Poole, Dorset (England), 262 pp., 1982. Price £10.95 or \$19.95.

Elephantologists of all ages will find this book informative, interesting and worth its price tag. A background about elephant biology and natural history would help to better understand some of the technical messages conveyed in this book. Reading is light and charming at times. The general tone is directed towards dry facts delivered with competence. Illustrations include black and white and color photographs, graphs, sketches, diagrams, maps and tables.

Both the African and the Asian elephants are covered in this book but material on the former by far exceeds that of the latter. Furthermore, within the African continent, material on the elephants in Uganda (where the author has had most of his field experience) exceeds that of the elephants in other African countries. In addition, although all aspects of elephant biology and natural history are touched upon in the book, aspects of elephant ecology and behavior are discussed in more detail than all others. An astute reader may deduce that patterns of ecology and behavior of the Ugandan elephants fall within the normal range of patterns of elephants in other parts of Africa. This deduction is generally true as the author refers to these subjects and supports them by evidence from other workers.

Of the 13 chapters in this book, chapter 9 ("The elephant problem") interested me the most. The compression hypothesis (not "theory" as stated on page 147) and the accompanying Fig. 9.2 are well presented. The description of damage to Acacia trees is also well conveyed (page 154). Especially tantalizing are the thoughts shared with the readers in the sections "A possible explanation of tree felling" (pages 157-160) and the classical question "To kill or not to kill" (pages 160-168). Eltringham believes that destruction of trees by elephants "...is positively adaptive for, in wrecking trees, the elephants convert primary forest to secondary forest, which is superior habitat for them." (page 158). As for culling (reducing by systematic and controlled killing) elephant populations, the author does not come forward and declare whether or not he is for culling or laissez-faire (a sign of good writing) but there is a slight inclination towards the former as reducing elephants appears to be effective management in addition to the revenue which is raised from by-products, a revenue which can be channelled towards conservation.

Ecological interaction between and among elephants and other species - animals and plants - is well documented in the literature (see for example in Carrington, 1958; Sikes, 1971; Olivier, 1978; and Elephant Supplement to Vol. 1, page 78). On page 110, I learned for the first time how a mass of up to 7 tons of an elephant lying on cotton or bluegrass will trigger the growth of tender young shoots which are delicacies for grazing antelopes. Also interesting are the writings on the painting of the elephants on a wall tomb at Thebes (Egypt) dating from 1500 B.C. (page 186); "Elephants in war" (pages

187-188, though it would help if original references were cited; it was particularly interesting to read about the origin of the phrase "Elephant and Castle", page 187); and terminology applied to different kinds of ivory (page 205, references here would also be helpful).

I have mixed feelings about the last chapter ("The ancestry of elephants"), perhaps because I am a mammalogist who has an interest in elephants coupled with interest in systematics. Most parts of this chapter are well written (e.g., the third paragraph on page 213, beginning with "Most" and ending with "inevitable."), but the phraseology and the errors in this chapter stood out more than in any other chapter. For example some statements are phrased as facts without leaving a loophole or "possibly" attached; let me illustrate with a few examples: page 216 "...the earliest fossil that can be assigned to the order (Proboscidea) comes from the upper Eocene of Egypt." (Asian moeritheres from Pakistan appear to be earlier in geological age than the Egyptian counterparts; see for example article by West in *J. Paleontology*, 54(3):508-533, 1980, also later publications); page 220 "...which is clearly where the group originated."; page 231 "There is no doubt..."; and page 237 "M. primigenius migrated right across northern Europe...". Other statements in this chapter are ambiguous, e.g., "It (the Moeritherium) probably did not become extinct but rather evolved into later types." (page 216). A similar sentence appears on page 234 presumably referring to E. planifrons or perhaps to E. hysudricus (cf. Maglio, 1973:77, 79). Most distracting to me were the errors (although minute and at times unimportant, but which often made me look for additional errors!). These include: a) "Period" instead of "Epoch" (Table 13.1, page 212); b) the classification of the Proboscidea (pages 214-215) is, on the whole, well organized but some authors would disagree on certain names of genera and higher categories, the two minor errors that I encountered are: Zyglorhodon instead of Zygorhodon (page 214), and Phiomanae instead of Phiominae (page 214); c) Mastodon americanus instead of Mammut americanum (pages 217 and 219); d) Anancus instead of Mammut (page 219; and e) "E. hn" and "E. h." are not listed in the key to Fig. 13.6 (page 230). I do not intend to give the impression that his chapter is loaded with errors, on the contrary it is adequately summarized (although too "heavy" in places) and well presented. In a few places (e.g., characters of the woolly mammoth) a reference or two would be useful.

Many of the other errors are typographical, e.g., "Protungulates" should be "Protungulata" [(page 1, paragraph 2, line 3; also in Index) the super-order Protungulata was given by Weber in 1904 (see Simpson, 1945, *Bull. Amer. Mus. Nat. Hist.*, 85:123) and unfortunately has been mis-spelled in many publications] and "summatranus" should be "sumatranus" (3,3,6 and in Index). Other items involved subject matters. For example, Sirenia (manatees and dugongs) and not Hyracoidea (hyraxes) are, according to many authors, the closest living relatives of Proboscidea (elephants) (2,2,3; see Shoshani, 1986, *J. Mol. Biol. Evol.*, 3(3):222-242 and references therein; "never" should be "rarely" (6,1,8; and 55,1,2); and "i 1/1 c 0/0 pm 3/3 m 3/3" should be "i 1/0 c 0/0 dpm 3/3 m 3/3" (7,3,5). On page 2, paragraph 5, line 1, "30" should be "at least 26" and on 17,5,1 "19" should be "29" or "30" (see also Elephant, 2(1):58). The term "always" (in "Asian females are always

tuskless...") should be "usually (plate 11, between pages 150-157); also 151,3,16-17; see Elephant 2(1):92-93, and Stewart, J. (1982, Elephant school, page 43) and many personal observations. Also, on the question of the country of origin of "Jumbo" the elephant ("Zimbabwe" according to the author, 198,2,2) see article on Jumbo in this issue, and the skeleton of Jumbo is no longer on display at the AMNH (200,1,4; see article in this issue); I was surprised that the Washington Park Zoo (WPZ) was not mentioned in this paragraph (201,2). The WPZ is renowned for its successful breeding program of Asian elephants which began in the early 1960's. As of today there have been 23 births of Asian elephants in WPZ (see Elephants, 1(3):41, and Elephant, 2(1):148-150). Records of births of African elephants in recent years in North America can also be found at the above references. The African elephant distribution map (244) is missing the locations of Addo Elephant National Park and Knysna Forest; Asian elephant distribution map (246) is missing the location in Borneo. Some citations were mentioned in the text (e.g., Cumming, 1981 on page 165 and Olivier, 1975 on page 167) but were not in the bibliography and vice versa (e.g., Carrington, 1957 and Sikes, 1968).

To recap my impression of this book: it is a comprehensive account of elephant natural history, light reading of up-to-date information on aspects of elephant biology interdigitated with the author's field work and personal experiences. The errors and problems mentioned above should not detract from enjoying this compilation; I learned 41 new words, although some are in abeyance. On the whole this book is an invaluable addition to elephantologists; it fits well on my Elephant Library shelf among the books by Deraniyagala, Carrington, and Sikes.

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