

discussions of some species and many genera that are also present in our area. And, besides, we can often learn how to study our own species by reading what has been found in related species in another area. This volume should prove very useful, especially to those interested in the biology of beetles. I have never seen so much detailed biological information on beetles assembled in one place.

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## Aardvark to Zorilla

**The Management of Wild Mammals in Captivity.** Lee S. Crandall. University of Chicago Press, Chicago, 1964. xv + 761 pp. Illus. \$13.50.

The modern zoological park has come a long way from the earlier menagerie, but its basic purpose is still the same—public exhibition, with emphasis on large, unusual, exotic animals. Bars and screen fencing have given way to moats or glass enclosures, but their purpose is still restraint of the animals and ease of viewing them. Maintenance is aimed at satisfying the animals' physical and psychological needs and displaying them with at least a suggestion of their normal habitats and ways of life. Today another objective is often the perpetuation of threatened species. Curators and keepers measure their success by the number and rarity of the species displayed, and by the general health of their specimens, as indicated by longevity records and breeding performance. Most of their technique has been acquired by dint of hard labor, trial and error, and frequent disappointment. There has long been a need for a compilation of husbandry data—a bible as well as a record-book—for the profession. Lee Crandall now provides such a book dealing with the mammals. No one is better qualified than he to do so, and he has done it magnificently.

At an early age the author forsook a medical tradition in favor of zoology. Schooled at Cornell and Columbia universities, in 1908 he joined the staff of the New York Zoological Park, without salary, and began learning the game the hard way, as a keeper's assistant. His talents were soon recog-

nized, and he ascended through the ranks to the position of general curator in 1943. He worked as an associate of William T. Hornaday, Raymond L. Ditmars, and William Beebe. He participated in collecting expeditions to British Guiana (1909), Costa Rica (1914), New Guinea (1928), Australia (1929, when he was shipwrecked between Port Moresby and Sydney), and made frequent visits to zoos in Europe and elsewhere. He developed special interests in the breeding and speciation of marmosets, in birds of paradise, and in display forms for birds. Besides numerous journal articles, he wrote two books—*Pets and How to Care for Them* (1919) and *Paradise Quest* (1931). Known and honored internationally for his knowledge, judgment, and warm personality, he is a fellow or honorary member of many American and foreign societies. But above all, in the present connection, is that rare trait of mutual understanding between him and his charges, his intuitive perception of the animals' personalities and problems. In 1952 he was retired as Curator Emeritus. The years since have been just as busily occupied in gleaning, from his many friends throughout the world, from his personal experiences, and from an exhaustive survey of the literature, the materials for this volume.

In scope, the book considers all kinds of mammals with definite captivity histories. Cetaceans are excluded as inappropriate, but treated in detail are countless species, and occasionally subspecies, representing 82 families of 18 orders. Common and technical names are given; descriptions deal with color, general appearance, weight, shoulder height, and such external characters as may be observed on living animals; habits are discussed, particularly as they affect treatment in captivity; longevity records are presented; breeding habits, gestation periods, quantities and kinds of food, general care, and management methods employed are all covered as fully as may be. Related, among others, are accounts of the highly specialized care accorded a pair of platypuses, of the reception of a rhinoceros newly arrived from Africa, and of the attention that resulted in successful breeding by a pair of Florida oters. Data for each order are assembled by chapters, together with appropriate references. A good index is included. Far from a recital of dry technicalities, the book is filled with interesting observations, is written in

an engaging style, and is enlivened with frequent anecdotes. It surely will prove indispensable to zoo keepers, pet dealers, and others concerned with the care of wild mammals, and will be of much popular and technical interest to a far larger audience.

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## Botany in India

**Maheshwari Commemoration Volume.** *Journal of the Indian Botanical Society*, vol. 42-A. T. S. Sadasivan, Ed. Indian Botanical Society, Madras, 1963. xxxiv + 330 pp. Illus. \$7.

This commemorative volume is dedicated to the distinguished botanist, Professor P. Maheshwari, on the occasion of his 60th birthday. The honor is bestowed on Maheshwari for his many accomplishments and for the great influence he has exerted on the development of botany in India. In the words of the editor of the volume, Maheshwari is "regarded as the father, mother, and attending gynaecologist for the subject of plant morphology and embryology in India." His writings, which number 134 titles over a broad range of topics in a span of 34 years, including several authoritative books, represent a tremendous accomplishment.

There is a dedication and a biography with a list of Maheshwari's publications, but the main body of the volume consists of 37 articles contributed by botanists from all over the world. Among the subjects and fields represented by the articles are algae, mycology and plant pathology, bryophytes, pteridophytes, angiosperm morphology and taxonomy, anatomy, palynology, embryology, cytology, cytogenetics, plant breeding, in vitro culture studies, and paleobotany. The character of the articles ranges from reports of original studies to limited reviews and discussions.

It is perhaps appropriate that emphasis on morphology should prevail, but the coverage should hold some interest for all readers. Most articles are timely, and many of them undoubtedly deserve to be considered as significant contributions. Notations concerning the specific topics presented cannot be made here. In general, the volume is well done. The Commemoration Com-