

out to study Science-and-all-that: but no; he had the true scientific humility to study that with which he was most familiar.

If I have made this review rather an obituary notice than a deeper examination of Errington's research it is because Paul was a dear friend and lovable man whose philosophy was native and truthful. His contributions to science we can take for granted; he sought truth with a burning intensity. One last word: Errington held a research chair at Iowa State University for thirty years, relieved of formal lecturing and departmental management; we owe thanks to that institution for such enlightenment.

FRANK DARLING

**Desert Animals.** By **K. Schmidt-Nielsen.** Oxford University Press, 45s.

Man may be versatile, but he is no match for a hot, dry desert. Many animals, however, have become specialised for life in this hostile environment. Dr. Schmidt-Nielsen examines them in turn and analyses the various ways in which they have managed to solve this difficult problem. The more important and interesting desert species, such as the camel, donkey, sheep, rabbit, ground squirrel, pack rat and kangaroo rat, are each allocated a whole chapter. In addition there are chapters dealing with cattle, carnivores, rodents, marsupials, birds and reptiles. Members of the Fauna Preservation Society will be surprised to learn that the Arabian oryx receives no mention, probably because so little is known about it.

What are the basic solutions to existence under the desert sky? One is to be very small and to burrow underground during the heat of the day. Another is to be very large, so that cooling can be achieved by the loss of large amounts of water by evaporation. This water loss can be stepped up by sweating and panting, but there are obviously limits to the quantities of liquid that can be used up in an environment where there is no easily available drinking water. Of the bigger species, the camel is the best at coping with high temperatures. Contrary to popular opinion it does not store water, either in the hump or in the stomach, but relies on its ability to withstand remarkable degrees of dehydration and fluctuating body temperatures. It also has a carefully controlled system of water losses. There is evidence to show that a camel can tolerate a dehydration loss of over a quarter of its total body weight; half this loss would kill any other mammal.

Beautifully written, well produced and expertly presented, this will no doubt remain the standard work on the subject for many years to come. The summaries at the end of each chapter are extremely helpful; if only more books of this sort would follow this practice, how much easier it would be to check basic facts quickly.

DESMOND MORRIS

**Animal Worlds.** By **Marston Bates.** Nelson, 84s.

The high price, large quarto format and dazzling collection of photographs (nearly 250, of which 100 are in colour) suggest that this may be another 'glossy' production with a perfunctory text. Nothing could be further from the truth. The photographs are, admittedly, superbly reproduced, and illustrating animals and habitats from all parts of the world, so that many 'readers' will find the book worth the price for these alone. But Professor Bates has provided also a detailed and well-judged text in which the pleasure and enthusiasm of the naturalist are blended with the biologist's eye for discerning the patterns and processes in habitats and animal communities. The author, after a brief introductory background about ecological principles in which technical terms are kept to the minimum, proceeds to a survey of