

Book Reviews

Marine Mammals, by **Richard J. Harrison & Judith E. King**. Hutchinson, 15s.

This book deals with what is, at first sight, an absurd biological success. The ability of animals to colonise the land was the first prerequisite for the evolution of the mammals; why then did some mammals, having evolved specifically for the land, go back to the water, basically an alien environment where they have to compete with the highly evolved natural water-dwellers? But they did so and succeeded to a phenomenal extent.

The three main groups of the most specialised marine mammals are described here, namely the Cetacea (whales, porpoises and dolphins), Sirenia (sea-cows), and Pinnipedia (seals, sealions and walrus). Obviously the prime considerations in such a book are the main anatomical and physiological specialisations whereby these animals have, during the process of evolution adapted to coping with the problems of being mammals in water. Not only must they be able to swim well enough to catch food from among the aquatic denizens (though the Sirenia are herbivores) but they must maintain sufficient contact with the air for respiration throughout the 24 hours of the day. Of these forms only the Pinnipedia ever leave the water and even they may be at sea continuously for weeks or months. Also, with the exception of the Pinnipedia, the young must be born into the water and get to the surface for their first breath; then they must be able to suckle under the surface. The authors describe the wide variety of specialisations which have occurred, and they are to be congratulated on the remarkable amount of information they have managed to pack into such a small book. But I suspect that it is largely because of this compression that they have sometimes failed to give a balanced picture on some controversial matters. For instance only one theoretical explanation of the mechanism of dolphin wave-riding is considered, and this is one which is only hydrodynamically acceptable under conditions rarely observed by dolphins and ships. Also, with the far too few illustrations, the descriptions of taxonomic differences are hard for someone unfamiliar with skull anatomy. But these are small matters in an excellent compact story of mammalian colonisation of the sea.

Perhaps the most remarkable aspect is that not merely has the sea been conquered by mammals but the process has occurred in a variety of ways. The three groups are all highly efficient marine mammals but they appear to have evolved by fundamentally different paths: even the seals and the sealions have followed entirely different routes to a roughly similar end point. In fact the only real similarity among the groups is a common ability to swim well and to be a success in the water.

K. M. BACKHOUSE.

Water and Life, by **Lorus & Margery Milne**. Deutsch, 25s.

The urgent need for long-term planning for water conservation is a subject that crops up only too frequently in our own national press and it does not require a strong imagination to visualise a world water shortage in the future if populations continue to increase at their present rate and man continues to squander or despoil his limited water resources as he does at present. This book, although concerned mainly with North American conditions and experiences, contains a great deal of information, pleasantly presented, on the problem.

According to the authors less than 3 per cent. of all the water in the world is fresh, and of that almost four-fifths is locked away in polar ice-caps and glaciers. Another tenth or more is in rock crevices or between