

in 1969, whereas the scientific report issued by the Natural Environment Research Council goes no further than saying that no one factor, natural or artificial, can be regarded with certainty as the main cause of the incident.

A. J. LEE

Sea Turtles: Their Natural History and Conservation, by **Robert Bustard**. Collins, £3.

Kay's Turtles, by **Robert Bustard**. Collins, £1.95.

Dr. Bustard is well known for his work on the ecology and conservation of Australian reptiles. He is one of the several dedicated men who have contributed so much to our knowledge of sea turtles during recent years, and who are making great efforts to ensure the survival of these attractive and fascinating creatures. This book embodies the results of nearly ten years' research, mainly on the shores of Queensland. It reviews the natural history of the seven living species in considerable detail, including an excellent account of the flatback turtle *Chelonia depressa*, which shows convincingly that this form, found only in Australian waters, is specifically distinct from the green turtle *C. mydas*. There is, too, an interesting account of the author's own research programme, involving the tagging and recapture of many adults, together with extensive studies on nesting, egg development and emergence of the hatchlings.

A substantial part of the book deals with conservation. For several hundreds of years turtles have been ruthlessly persecuted by man, and as Bustard remarks, all early nautical and colonial activity in the New World tropics was in some way dependent on these luckless animals. Accounts of turtle exploitation make harrowing reading since much needless cruelty has been involved. Large populations have been virtually exterminated in recent years, especially in the Caribbean. It is particularly sad that the huge leathery turtle, so distinct from other living species, should be critically endangered.

The government of Queensland has already introduced enlightened measures of protective legislation and it may be hoped that the turtle population will be able to flourish there with the minimum of disturbance. However, turtles, especially the green turtle, represent a great potential asset to mankind, since both eggs and adults are suitable food. Bustard advocates properly controlled farming as the best method of rational exploitation. The farms must, of course, be self-supporting, breeding from their own stock and not depleting the nests of local wild populations. The rearing of a quota of young turtles through the vulnerable period of early infancy and their subsequent release into the wild would be an essential part of such projects.

This is a stimulating book on an important subject. It is well illustrated by original photos, with an identification key and a bibliography.

It must be very difficult to write a good book about a 'personal' relationship between a human being and another kind of animal—especially when that animal is a turtle. Dr. Bustard has told very well his story about a friendly association between Kay, a Melanesian girl from the Torres Strait, and two or three green turtles which come to mate and nest on the Great Barrier Reef, described in his article in *Oryx*, May 1973. The association begins when Kay helps one of these turtles called Ruth, handicapped by an injured flipper, to dig her nest. Turtles are very shy, and Kay must have some special affinity with these creatures since she is able to lie alongside them on the beach and swim with them in a way which few if any other observers have succeeded in doing. The author describes their association in an objective and unsentimental fashion and takes us through

the whole range of turtle breeding behaviour, seen as it were through the eyes of a young girl. The cycle is a remarkable one since the female turtle comes ashore perhaps eight times at fortnightly intervals to dig her nest and lay her eggs, about 150 in each clutch. Then she disappears into the sea, only returning three or four years later to repeat the process. Courtship, mating, digging of the nest, and the hatching of the vulnerable babies are all described. The pleasing photos do justice to the charm of Kay and her turtles alike.

This book has a significance beyond the intrinsic interest of its story. Dr. Bustard is deeply concerned both with turtles and with the native inhabitants of the Torres Straits. The Commonwealth Government of Australia is giving enlightened support to his efforts to establish turtle farming on a properly controlled basis in this area. His schemes are designed both to ensure the survival of large turtle populations and to bring prosperity and employment to the islanders. Conservationists will wish him and Kay every success in their admirable project.

A. d'A. BELLAIRS

The Search for Morag, by Elizabeth Montgomery Campbell, with David Solomon. Tom Stacy, £1.90.

Loch Ness Monster, by Tim Dinsdale. 2nd edition. Routledge, £2.50.

Mysteriouser and mysteriouser. I have always felt that Loch Morar was a better bet than Loch Ness for solving the mystery of the 'Loch Ness phenomena', but until reading this book I did not realise just how much better its smaller size and greater quietness make it. In two years the Loch Morar team have turned up as much, and better, evidence for Morar than the much larger Loch Ness team have managed to do in ten years for Nessie. But the central mystery remains. How is it that never once has an individual animal—for it clearly is an animal—died under circumstances that enabled any part of it to be examined by a zoologist. Until this happens—and even a small gobbet of flesh or skin would enable something to be learned—the water kelpie or whatever will remain in the shadows from which the giant squid emerged only comparatively recently.

For it is clearly quite impossible to do more than guess at its possible identity until this happens. As Desmond Morris pointed out some years ago, no solution has hitherto been propounded to which there do not appear to be insuperable objections. This very strongly points to the animal not being a member of the known fauna of Scotland and the Scottish seas, but also to it not being a member of the known living fauna of the planet. David Solomon grasps this nettle when he says, 'we must also consider the possibility that over perhaps (seventy million years) a creature has evolved to be very unlike its known ancestors, without leaving fossil evidence of its development'.

Tim Dinsdale has brought his book, one of the classics of the Loch Ness saga, up to date to the end of 1971. The first eight chapters are virtually unchanged, apart from the revelation that the anonymous witness was the late Torquil Macleod and the dropping of one unreliable witness. The last two chapters are quite new. He does not take us any nearer the solution of the mystery—nobody can without better evidence—but he does underline once more the fact that there is an unknown animal in the loch, and that to prove that the phenomena have inanimate causes, such as waves or mats of rotting vegetation, or are misidentifications of otters or salmon, requires many more intellectual contortions than to admit that, even in an age when men can walk on the moon, a completely unknown animal can exist in more than one loch in Scotland.

What the combined efforts of the Loch Ness and Loch Morar